mobile easykey®

Modular Fleet Management

for your intralogistics.

Manual

Mobile Easykey Database VI.2
Mobile Easykey Service 2025.0
Mobile Easykey Manager 2025.0
Mobile Easykey Communicator

manufacturer independent | Europe's №1 | VDI interface ready | FFZ KPI | mobileeasykey.com

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Notes on the manual



For fastest access to the software the most important chapters are marked with a star icon. This icon guides you on the quickest route through the manual, until you have programmed a module for the first time and have read out the logbook.



Text passages which are not necessary for the actual operation of the software, but in more complicated situations and to help administrators, are marked with a gear wheel icon. Typically, you can skip these sections.



Hints, tips and text passages which are particularly pointed out, are marked with this icon.



Displays particularly important passages of text



If a function is not included in the standard groupage and can be acquired additionally as a so-called software module, the corresponding passage is marked with the icon for the software modules (see on the left).



This icon marks program functions which deal with the software-operating rights. See also chapter **5.21 Software Operating Rights**.



This symbol identifies program functions related to data protection (see **5.14.3 Data Protection – In the Information Central Office**).



Functions that are only operable with certain configurations are marked with this icon. (See also **5.14 The database configuration** and **5.12 Global settings**

If functions are depending on the Firmware version of the hardware (module version), the text is marked with the following icons:



These functions are only available or are relevant in **module version D**.



These functions are only available from **module version E**



These functions are only available from **module version F**

Should a certain sub version (e.g., **F-17**) be necessary, this will be mentioned in the text beside these icons.

If your administrator has already installed and set up the software, you can skip chapters **2 Installation** and **3 Mobile Easykey Database**

1 Short description

1.1 What is Mobile Easykey?



Mobile Easykey is an electronic system for **contact free connection** and **user detection** of vehicles and machines by means of transponder technology. Employees receive an **electronic key** (transponder) which authorises them to operate certain vehicles and machines. Beside the authorisation of driving the vehicle or to use certain machines, also different **activities and events** can be registered.

1.2 Your advantages at a glance

- Drastic reduction of damages and repair costs
- Safer, cautious driving
- Exclusion of unauthorised use
- **Optimum condition** of the fleet by generating relevant data, e.g., for maintenance and UVV (accident prevention inspection)
- Quick amortisation of costs
- Utilisation becomes transparent
- Fast and easy assembly
- Contact free access with transponder technology
- **Wide range of accessories** to expand functions, e.g., current sensor (determination of hours of utilisation), attendance detection, electrolyte sensor and more (see **1.4 Accessories**)
- More than 70,000 units in operation throughout Europe

1.3 Hardware

1.3.1 smart

The products of the category smart are a cost effective start into the Mobile Easykey world. All equipped devices can be managed with the Mobile Easykey Software.



1.3.2 modular

With the classic range, all individual requirements are fulfilled. With the modular system an extension is possible by a wide range of accessories. The configurations basic and crash have become own brand names in the Mobile Easykey family and will be retained.



1.3.3 modular plus

So sind z.B. Easy Report, eine App z.B. zur Dokumentation von Schäden, sowie eine moderne and sichere Abfahrtskontrolle mit dem Display möglich.



The latest generation of Mobile Easykey impresses with a display and intuitive menu navigation. At the forefront of the development were the requirements of fleet customers, i.e., wanting an interaction with the operator. Therefore, with for example Easy Report, an app i.e., for the documentation of damages, a modern and safe departure control is possible with the display. Integrated in this preconfigured module, of course, is the patented digital crash sensor remote as well as the possibilities for data transmission via WI-FI or Bluetooth. Implementation on the vehicle is carried out by the MEK interface, which can be ordered ex works from all well-known forklift manufacturers.

1.4 Accessories

1.4.1 Load Sensor EKZ-068



The load sensor provides new insights into intra logistic processes. An ultrasonic sensor attached to the fork carrier scans the fork prongs. It determines whether there is a load on the fork. Via Bluetooth the data is transferred from the sensor to the Mobile Easykey module. Each change “loaded / unloaded” is entered with a time stamp in the logbook of the software.

The sensor can be retrofitted at any time without complex cabling and is compatible with the Mobile Easykey modules: modular plus, modular and smart lock 3. The installed battery has a service life of several months and can be changed. In combination with the Indoor Locator software option, it is precisely determined at the access point where and how often empty trips take place in operation, and can thus be prevented in the long term. The data obtained is another building block in determining the OEE key figure – to avoid loss of effectiveness.

The SLOC SDM app is required for independent calibration of the load sensors. This app is currently only available for Android devices in the store.

1.4.2 Battery Tool 2 EKZ-065



The Mobile Easykey Battery Tool 2 and the MEKM Battery app in combination with unique battery IDs provide valuable data for intralogistics. First of all, the monitoring of the electrolyte level increases the service life of the expensive batteries. In this example, the driver ignores both the red-lit diode on the Battery Tool 2 and the warning on the modular plus display. The fleet manager receives a warning in the Mobile Easykey software – and can react.

Like all events, this is registered in the logbook with a timestamp. With corresponding alarm profiles for electrolyte level, operating times, battery change, continuous power supply, etc. the Battery Tool 2 and the MEKM Battery APP form the basis for battery management without major investments – which can also answer a crucial question, namely how many batteries are really needed in operation.

1.4.3 Presence detection EKZ-095



. The radar presence detection is used to safely detect the presence of a driver and the automatic shutdown of the truck when leaving and thus also to save energy. It is used when the vehicle itself has no sensors for detection (for example, seat contact switch), or you do not want to intervene in the vehicle electronics. With this presence detection also the usage hours can be displayed. The Plug & Play setup takes only a few minutes.

1.4.4 Crash Sensor Remote EKZ-140



The patented digital Crash Sensor Remote is unique worldwide. The dual system has a three-axis acceleration sensor and an impact sound microphone. Its settings are determined by a “learning trip” during operation and defined in three “crash stages” in the Mobile Easykey software. Scheduled actions are defined for each level. Thus, e.g., level one is only documented in the logbook, an additional e-mail is sent to the safety officer at level two, and at stage three the vehicle is stopped or slowed down in speed. The sensor is already included in the modules fleet and crash+remote.

1.4.5 EBZ Power Sensor EKZ-056



The EBZ Power Sensor generates log entries for the usage hours for electric vehicles. These entries appear automatically every 15 minutes in the logbook and record the period of use in a 15-minute period. The data can be used to get detailed evaluations of the actual use of the vehicles.

1.4.6 LED Departure Control EKZ-048



With the LED Departure Control, drivers can record the condition of the truck in the logbook of the Mobile Easykey software, before starting the journey by pushing a green or red button.

1.4.7 Event Tool EKZ-066



The Event Tool can be used to record the usage hours and two other events. Channel 1 is used to record the hours of use of the vehicle. These entries appear automatically every 15 minutes in the logbook and record the period of use in a 15-minute period. The data can be used to get detailed evaluations of the actual use of the vehicles.

Channels 2 and 3 can be freely assigned with a switching signal: for example, the recording of journeys with and without load (corresponding sensor necessary) or warnings by the vehicle. These data also appear in the logbook and can be used for reports and statistics. The efficient use of the event tool is made possible by the software module Maintenance, UVV and Mail.

1.4.8 MEK Interface modular basic EKZ-708 and modular crash+remote EKZ-709





The Mobile Easykey interface ensures easy and fast installation in forklift trucks. For new vehicles, many manufacturers offer the interface already ex-factory. The effort for the assembly of the module is thus very low. The conversion of our durable hardware to another forklift is also simplified by the interface. The cost of assembling the module will be greatly reduced when the work is carried out by trained personnel.

1.4.9 Base Plate Crash Sensor Remote EKZ-075



For the safe and easy assembly, we offer a base plate. This can also be installed in advance, so the subsequent assembly runs significantly faster.

1.4.10 Universal holder modular EKZ-077



The universally applicable bracket can be fitted to the A-pillars or spars of all standard forklifts. It is securely fastened and can be adjusted for optimum operability. Several joints enable ergonomic positioning. The Universal Holder can be used for all modular-modules. For some vehicles, an additional special “fixing claw” of the manufacturer is required for the A-pillar!

1.4.11 Universal holder modular | modular plus EKZ-077M8



If it is not possible to attach the adhesive pad on the vehicle side, the attachment can be made with an M8 thread. On the module side, the attachment is made with an adhesive pad.

1.4.12 Transponder EKS-001



The passive transponder provides users with access to forklifts, if they have the permission to use it.

We have different colours and styles on offer. The transponder is also available in a special EX protection version. We guarantee for our transponders that each ID has only been assigned once and the activation of the module also takes place at up to 3 cm.

With the Universal Card Reader, we support the following variants:

125 kHz

- EM4100/4102/4200
- (Unique – Standard Mobile Easykey
- Transponder)
- EM4150, EM4450
- HITAG 1
- HITAG 2
- HITAG S
- HID Proximity

13,56 MHz

- MIFARE Classic
- MIFARE DESFire
- LEGIC prime
- LEGIC advant
- HID iCLASS

The supported variants are constantly being expanded. On our own test bench, we check the customer's transponder for compatibility and red range.

1.4.13 Desktop Reader Mobile Easykey EKZ-006



The Easykey transponders (EM4100/ 4102/ 4200) can be easily assigned to the various users or batteries via the Mobile Easykey desktop reader. The Mobile Easykey software contains all necessary drivers and functions. The desktop reader can also be used as an additional authentication point for logging on to the software.

1.4.14 Desktop Reader Universal EKZ-007



Via the Universal Desktop Reader all common (125 kHz and 13.56 MHz) transponders can be conveniently assigned to the various users or batteries. The Mobile Easykey software contains all necessary drivers and functions. The desktop reader can also be used as an additional authentication point for logging on to the software.

1.4.15 Retractable Transponder Holder EKS-001



This retractable transponder holder is used for the practical attachment of the transponder "to a person". Its coil can be pulled out up to approx. 70 cm and automatically carries the transponder back safely. This tool is available in different colours. Therefore, lost transponders are now a thing of the past.

1.5 Software

The "Mobile Easykey" software consists of several, different components. These are made available as following software groupages:

- ***Mobile Easykey Database***
- ***Mobile Easykey Service***
- ***Mobile Easykey Manager***
- ***Mobile Easykey Communicator***

All components are applicable on "standard PCs" under the **64-bit** Microsoft operating systems Windows 10 / 11. "Mobile Easykey Database" and "Mobile Easykey Service", additionally run with Windows Server 2016 up to 2022.



Only 64-bit operating systems are supported!

Following, it is briefly explained what the tasks of the single components are. A detailed description is found in corresponding chapters of this manual.

1.5.1 Mobile Easykey Database

The Mobile Easykey Database is central to the entire software. This component runs constantly as a Windows service in the background. The individual “Mobile Easykey Manager” and “Mobile Easykey Service “log into this service, as soon as a data bank is opened. Therefore, changes made on one network PC, are automatically distributed to all the other computers on which Mobile Easykey Manager run.

In addition, the service is used to be able to create backups of the data bank with any Mobile Easykey Manager and to be able to save locally.

See also chapter **3 Mobile Easykey Database** and **2.5.2 Used network ports**.

1.5.2 Mobile Easykey Service

The Mobile Easykey Service makes available a small subset of the Mobile Easykey Manager functions as Windows service. Thus, following important functions can run 24 hours on a server:

- the automatic data exchange between the software and the modules
  see also chapters:
  5.13.3.1.1 Easy Point driver (via cable or network),
  5.13.3.1.3 Bluetooth ,
  5.13.3.1.4 Wi-Fi and
  5.13.3.1.5 mobile radio driver
- monitoring alarm functions see **5.10 Alarm profiles** and **5.5.22 Module-alarm central office**
- the execution of automatic tasks, see **5.20 Scheduled Tasks**.
- the background calculations for online statistics, see **5.18 Online Statistics**

When using Mobile Easykey Service, Mobile Easykey Manager functions solely as a client for data entry or output. Are no Mobile Easykey Services active, Mobile Easykey Manager takes over the above-mentioned tasks.

1.5.3 Mobile Easykey Manager

The **administration software** "Mobile Easykey Manager" offers the possibilities to control and monitor your vehicle fleet.

The functions of the software

- Registration and setup of transponders for users as well as the **modules** (vehicles, machines etc.), **notifications** for different events (e.g., oil level, battery water etc.)
- Set up of **master transponders** to activate locked modules (for example, on account of an accident
- Set up of **workshop transponders** for repair-destitute modules to lock other transponders fast and efficient.
- **Organise** users, modules and batteries **in groups** with specific rights and properties
- **Allocation** of users and batteries to specific modules (authorisations assign)
- **Temporal control** of authorisations with the help of an expiry date
- Automatic and manual data interchange between the software and the modules
- **Logbook** for recording all processes (registration/log in), log off, crash, workshop stays and other, including date, time and involved user
- Recording of cut-in hours and operating hours
- Administration of **shift work models**
- Generation of clear **reports and statistics** of the different areas
- Notification in an accident
- Notification for **due maintenance appointments**
- Individual software-operating rights (Who is authorised to do what?)
- And much more...

You find a detailed description of the Mobile Easykey Manager in chapter **5 Mobile Easykey Manager**.

1.5.4 Mobile Easykey Communicator

The Mobile Easykey Communicator is always used when no direct connection (**5.13.2.1.1 Cable driver (directly)**) between the Mobile Easykey Manager and the modules is possible.

If orders are saved in the Manager as a file (see **5.5.20.4.1 Select connection**) the Communicator is automatically saved together with the order (e.g., on an USB-Stick). The Communicator can be launched directly from the USB-Stick. It only needs .NET 4.5 up to 4.x which is included in the Windows 8+ operating system) and if necessary, the drivers of the USB cable.
The Mobile Easykey Communicator is usually used on a laptop by which a direct contact with the modules via cable can be established.

You find a detailed description of the Mobile Easykey Communicator in chapter **6 Mobile Easykey Communicator**

Note:
If you establish a direct cable connection between the Mobile Easykey Manager and the modules, the Mobile Easykey Communicator is not required.

2 Installation

2.1 What belongs where?

The software "Mobile Easykey" consists of following components (see **1.5 Software**).

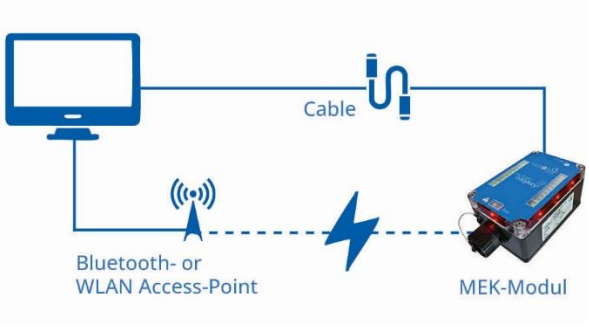
- **Mobile Easykey Database**
- **Mobile Easykey Manager**
- **Mobile Easykey Service**
- **Mobile Easykey Communicator**

In the easiest case all components are installed on one computer only.
However, in more complicated situations the components can be distributed on the entire network. Besides, the Mobile Easykey Database is usually installed only once. However, all the other components can also be installed several times

In the following three example scenarios are presented, however, still many other combinations are possible.

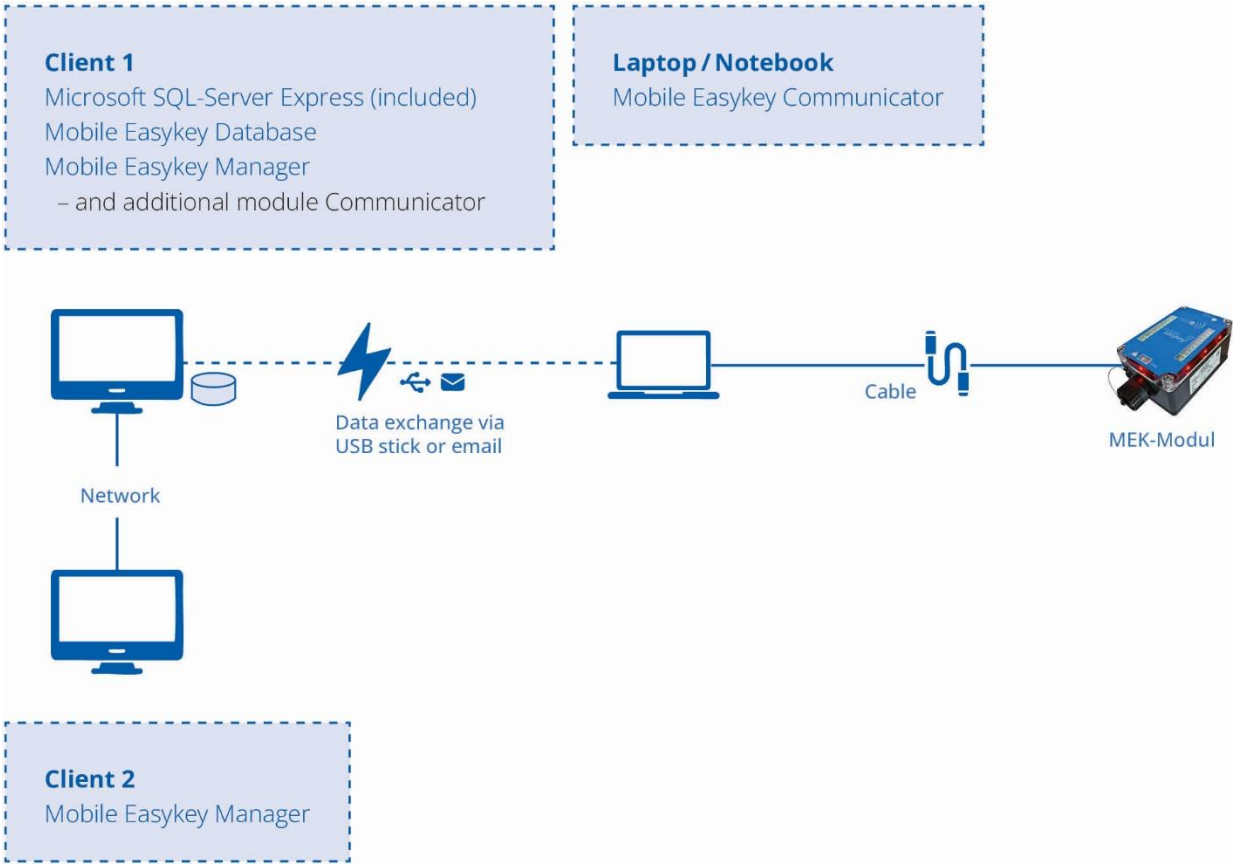
2.1.1 Scenario 1

Installed software
Microsoft SQL-Server Express (included)
Mobile Easykey Database
Mobile Easykey Manager
– with connection driver cable/Easy Point
– and / or connection driver Bluetooth
– and / or connection driver WLAN



In this simplest of all cases the "Mobile Easykey Database" and the "Mobile Easykey Manager" were installed on the same (and only one) computer. As an interface to the modules any "connection driver" can be used. Establishing the connection via cable the "direct driver" is always necessary. By use of WI-FI modules or Bluetooth modules, the WI-FI connection driver or the Bluetooth connection driver can be used in addition to the wireless communication with these modules. More about connection drivers see also **5.13.2 Direct connections** and **5.13.3 Connections**.

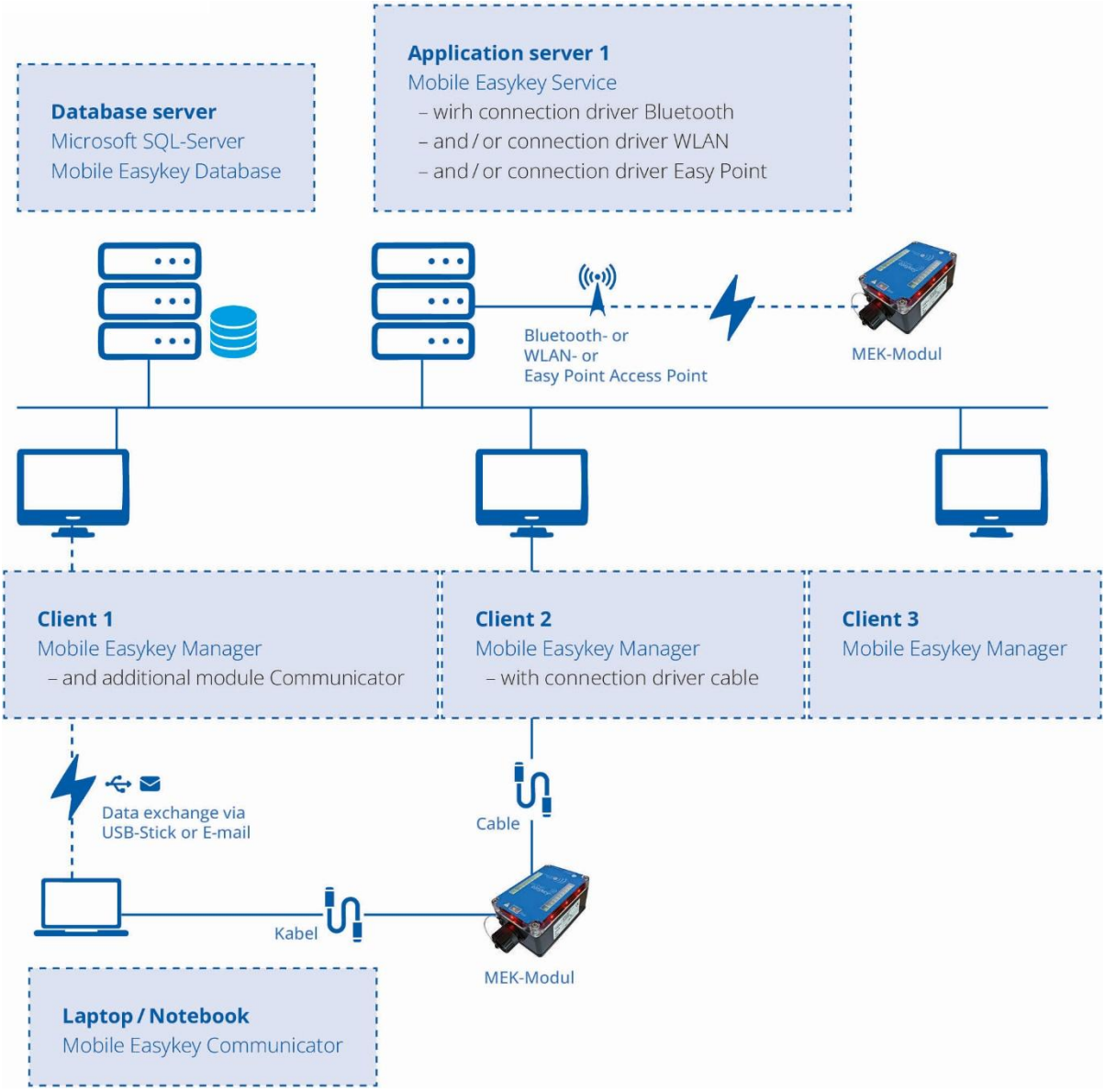
2.1.2 Scenario 2



In this second example no direct network connection exists between the modules and the "Mobile Easykey Manager". Hence, the modules are programmed and read out exclusively through the "Mobile Easykey Communicator". Here “Mobile Easykey Manager” is used on two computers at the same time. Because in this case client 1 also installed the "Mobile Easykey Database", it must always run, if client 2 is to work with the data bank. In this case client 2 can generate orders too, which can then be copied to client 1 with an USB-stick or be dispatched directly by email to the "Mobile Easykey Communicator". If preferred the add-on module “Communicator” can also be installed on client 2 to copy generated orders directly from there onto an USB-Stick.

Thus, orders executed by the "Mobile Easykey Communicator" are sent back the “Mobile Easykey Manager” via USB-Stick or by email to client 1 (or client 2). See also chapter **6 Mobile Easykey Communicator**.

2.1.3 Scenario 3



In this complex example the variety of possibilities is shown. Here an own server is used for the "Mobile Easykey Database" and the accompanying Microsoft SQL server. This is recommendable with very large data banks or when using a lot of modules and clients.

Here, additionally an application server with the Mobile Easykey Service is used for communication through WI-FI or Bluetooth. With higher security requirements the data bank server and the application server can be run in its own network zone.

All clients access the "Mobile Easykey Database" or the SQL server directly. If necessary, further connection drivers can be set up for clients (here client 1-3), see **5.13.2 Direct connections** and **5.13.3 Connections**. The utilisation of "Mobile Easykey Communicator" (see **6 Mobile Easykey Communicator**) can be helpful if one of the modules, for any reason, is not accessible anymore by WI-FI or Bluetooth. New modules must be programmed first via cable or the "Mobile Easykey Communicator", before they are recognised by WI-FI or Bluetooth.

2.2 Requirements

2.2.1 For the Mobile Easykey Database

System requirements software:	
Operating system	Windows 10 up to Windows 11 in **64 bit** Windows Server 2016 up to Windows Server 2025 in **64 bit**
Virtualization	Yes (it is recommended to shut down the SQL server, before the virtual computer is shut down)
Required software (will be installed if necessary)	• .NET 4.7.2 or higher • Microsoft SQL Server 2017 • Microsoft SQL Server 2019 • Microsoft SQL Server 2022 (Kompatibel bis Microsoft SQL Server 2012)

Requirements hardware:	Minimum	Recommended
Processor	Dual Core	Dual Core
Clock frequenzy	1 GHz	2 GHz or faster
Main memory (Working storage) **	2 GB	4 GB or more
Hard disk	Quick hard disk	SSD or RAID0
Hard drive space*	• Approx. 5 GB (for server SQL Express) • 10 MB (for MEKM database service) • Approx. 1 GB per 1 million log book entries*	

*) a typical operation (without actual data) will result in approx. 30,000 (1-shift operation) to 60,000 (3-shift operation) log book entries per year, for every module. Warehouse data keeping of one year with a data bank of 50 modules would have an approx. volume of 2 to 4 GB.
If actual data is registered too (when was the module actually in use and, e.g., how much energy was drawn) the number of the log book entries increases typically around factor 10! **
To limit the data bank size, an automatic task (see **5.20 Scheduled Tasks**) can be set up. Thus, for example, on a monthly basis, all logbook data which is older than a year can automatically be deleted.



With activated statistics module (see **5.18.1 Statistics module activation / configuring**) another 10 MB per module are added depending on settings.

**) The provided, free server SQL can only edit data banks up to a size of maximum 10 GB and uses a maximum 1 GB of main memory! Should the data bank become bigger, you must use a paid version of Microsoft SQL. A 64 bits version is recommended. The main memory should be at least half as large, the same size or greater than the expected data bank size. In this case, please follow the system requirements recommended by Microsoft for the respective SQL server variation.
The use of a SSD or a RAID0 is also recommended, at least however, a quick hard disk.

2.2.2 For the Mobile Easykey Service

System requirements software:		
Operating system	Windows 10 up to Window 11 in **64 bit** Windows Server 2016 up to Windows Server 2025 in **64 bit**	
Database	Mobile Easykey Database VI	
Virtualization	Yes	
Software Will be installed if required	• .NET 4.7.2	
Requirements hardware:	Minimum	Recommended
Processor	Dual Core	Dual Core
Clock frequency	1 GHz	1.8 GHz
Main memory (Working storage)	2 GB	4 GB
Hard disk memory	• Approx. 250 MB	

2.2.3 For the Mobile Easykey Manager

System requirements software:		
Operating system	Windows 10 up to 11 in **64 bit** Windows Server 2016 up to Windows Server 2025 in **64 bit**	
Database	Mobile Easykey Database VI	
Virtualization	Yes	
Software (will be installed if necessary)	• .NET 4.7.2 or higher	
Optional software (it is not installed)	• Microsoft Excel in 2013 or higher (for the statistics module, see **5.22.1 Offline Statistics** and some export functions.)	
Requirements hardware:	Minimum	Recommended
Processor	Dual code	Dual Core
Clock frequency	1 GHz	2 GHz or more
Main memory (Working storage)	2 GB	4 GB or more
Graphics (Image)	1024x768	1600x900 or more
Hard disk memory	• 400 MB (for Mobile Easykey Manager)	

2.2.4 Database and Manager or Service on one computer

Higher requirements and recommendations apply respectively.
The main memory should be slightly greater in dimension (plus 1 GB).

2.2.5 Network requirements

Requirements network:	Speed (net)	Latency time
Between the modules and the Service	At least 2 MBit in both directions	Maximum 100 ms
Between Services and SQL server	At least 2 MBit in both directions	Maximum 100 ms
Between Managers and SQL server	At least 2 MBit from the SQL server to the Manager	Maximum 100 ms

Notes on WI-FI:
With the utilisation of WI-FI modules a signal level of at least -67 db is required.

2.2.6 For the Mobile Easykey Communicator

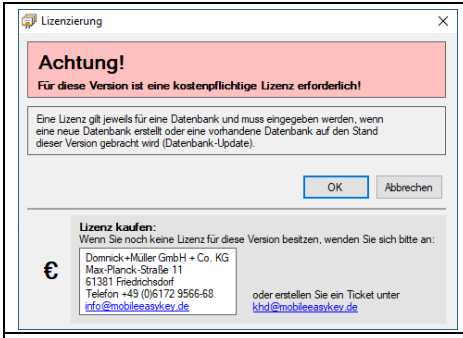
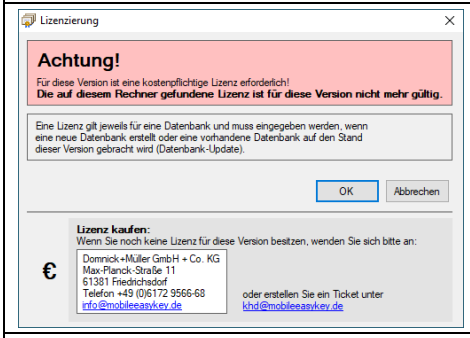
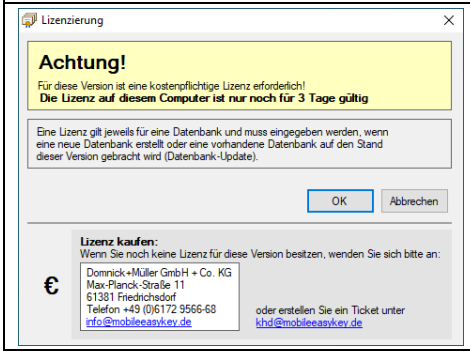
Requirements software:	
Operating system	Windows 10 up to Windows 11 **in 32 or 64 Bit** Windows Server 2016 up to Windows Server 2025 **in 32 or 64 Bit**
Virtualization	Yes
Software (will be installed if necessary)	.NET 4.7.2 or higher are supported
Optional software (is not installed)	Microsoft Excel in 2013 or higher (for some export functions)

Requirements hardware:	Minimum	recommended
Processor	Atom	Dual Core
Clock frequency	1 GHz	1.8 GHz
(Working storage (RAM)	1 GB	2 GB
Graphics (Image)	1024x768	1280x960 or more
Hard disk memory	Approx. 40 MB	

2.3 Licensing model

Please note that from version 2019.1 a license for the Mobile Easykey system is required. The licensing takes place per database. Accordingly, the license is also stored in the respective database. In addition, however, the license is copied locally to the computer (for administrative purposes only).

The installer can recognize these local copies. If the installer does not find a license (copy) valid for the version to be installed, the following warning is displayed:

	No license was found on this computer
	A license was found on this computer, but it is no longer valid for the current version.
	A time-limited license was found on this computer and is only valid for a few more days. You can work with this license, but after expiration you must apply for a new license.

The installer cannot access any existing databases and therefore relies on the local copies. If your database already contains a valid license, you can ignore this warning.

If you do not already have a valid license, please contact:

Mobile Easykey GmbH
Max-Planck-Straße 11
61381 Friedrichsdorf
Phone: +49 (0)6172 9566-68
E-Mail: info@mobileeasykey.de

Or create a ticket at khd@mobileeasykey.de

2.4 Installation of the software components

You receive a short abstract about the different components of the Mobile Easykey Software in chapter **1.5 Software**.

To install the Mobile Easykey System start the programme „Mobile Easykey Setup “.

If you want to repeat the installation on several computers, it is advisable to copy the setup programme on an USB-Stick. The downloaded installation files are saved on the USB-Stick in a sub folder called “MobileEasykeySetup” and therefore, must not be downloaded every single time.

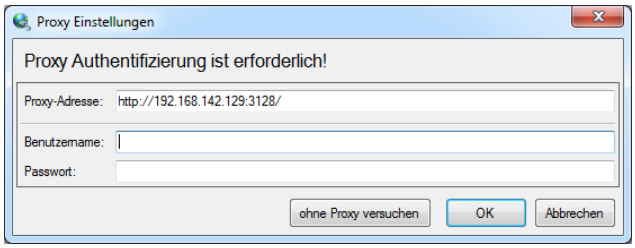
2.4.1 Online installation

The setup programme searches automatically (in online mode) for the newest version of the programme. Should you not have an internet connection on your target computer, you can download the installation files on another computer (in online mode). Without internet connection the setup programme starts in the offline mode and can only execute already downloaded (and in the sub folder “MobileEasykeySetup” saved) installation files.

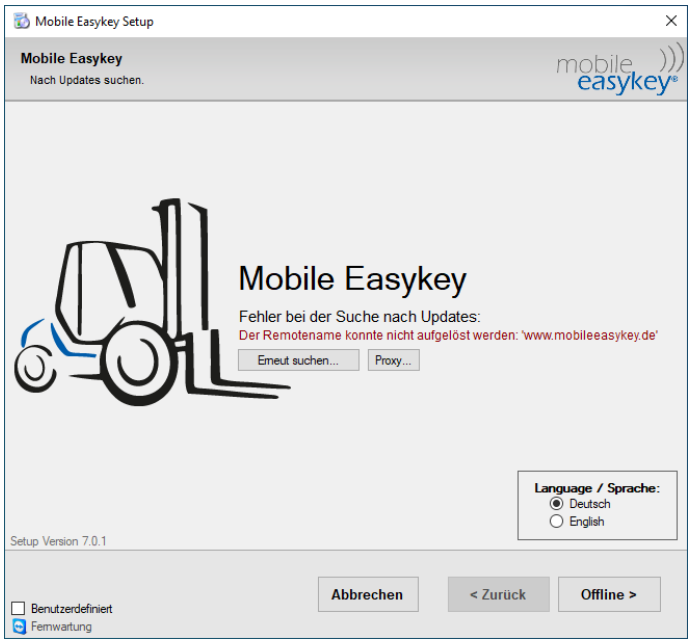
2.4.1.1 Proxy

If a proxy is required for the Internet connection, it will be automatically read and used from the Internet settings of Windows.

If user name and password are required to use the proxy, a corresponding dialog will be opened for input.



If the proxy configuration cannot be read from Windows, or if it is not connected to the Internet, the following screen appears:



Click on ***Search again*** to restart the search for program versions.

Click on ***Proxy*** to manually enter a proxy configuration.

2.4.1.2 Search for updates and choice of the version



First select the looked-for program version.

By default, only the most actual versions as well as already downloaded versions are visible.
Tick the box with ***also display older versions*** to install an older version.

Here the installation language can be selected. This has no influence on the language the programme is installed in.

Click on ***remote maintenance*** if you are requested to do so by the support team. The TeamViewer, a remote maintenance program is launched (after your approval) and enables the technician to see your display and to enter data.

In the user-defined installation the directory, can be selected in which "Mobile Easykey Database", „Mobile Easykey Service “or „Mobile Easykey Manager “is to be installed.

Click on ***Next*** to select the type of installation.



It will now automatically search for a valid license. If no license is found on this machine, a warning is displayed here (see **2.3 Licensing model**).

2.4.1.3 Select Installation Type



Select what you want to install.

Depending on the type of installation, more or fewer components are displayed and, if necessary, pre-selected.

2.4.1.3.1 Server

Komponenten	Bereits installiert	Updaten/Installieren	Nur Download
SQL-Server	nein	☐ SQL Server SQL 2022 (x64)	X
Database	nein	☑ Database VI.1 (x64)	X
Service	nein	☑ Service 2023.0 SR1 (x64)	X
Manager (Client)	nein	☑ Manager 2023.0 SR1 (x64)	X

All components that are required for server operation are displayed and preselected (except for the SQL server).

If you don't have your own SQL Server or don't want to use it, activate the SQL Server option and select the SQL version you want to install. This version will then be installed as a free express version

2.4.1.3.2 Client

Komponenten	Bereits installiert	Updaten/Installieren	☐ Nur Download
Manager (Client)	nein	☑ Manager 2023.0 SR1 (x64)	X

Only the client is displayed and pre-selected. That's all that's required for a client-only installation.

2.4.1.3.3 Standalone

Komponenten	Bereits installiert	Updaten/Installieren	☐ Nur Download
SQL-Server	nein	☑ SQL Server SQL 2019 (x64)	X
Database	nein	☑ Database VI.1 (x64)	X
Manager (Client)	nein	☑ Manager 2023.0 SR1 (x64)	X

If you want the Mobile Easykey system to run only when needed and only on a single computer, select the stand-alone installation method. All required components are displayed and pre-selected. If you already have a SQL server installed, you can disable the SQL Server option. Otherwise, a SQL Server Express in the specified version will be installed (if necessary).

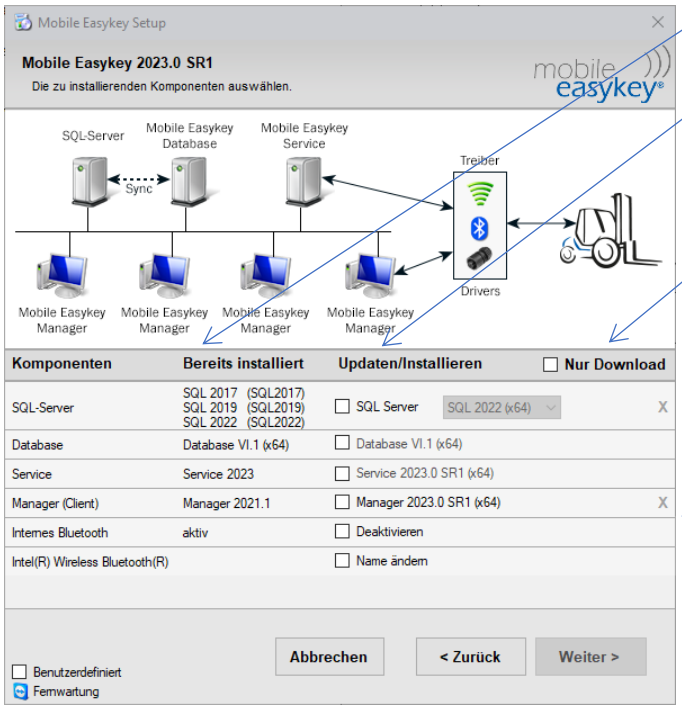
2.4.1.3.4 Custom - User Defined

Komponenten	Bereits installiert	Updaten/Installieren	☐ Nur Download
SQL-Server	nein	☐ SQL Server SQL 2022 (x64)	X
Database	nein	☐ Database VI.1 (x64)	
Service	nein	☐ Service 2023.0 SR1 (x64)	
Manager (Client)	nein	☐ Manager 2023.0 SR1 (x64)	X
Internes Bluetooth	aktiv	☐ Deaktivieren	
Intel(R) Wireless Bluetooth(R)		☐ Name ändern	

In the Custom variant, all possible components are displayed, but are not pre-selected.

Select the components you want to install.

2.4.1.4 Select Components to be installed



All already installed components are displayed.

Select here which components should be installed or be updated. You can select all preferred components and install them at the same time.

Select the option ***only download*** not to install the selected components but only to down load. The downloaded installation files can then be installed in offline mode on another computer (without internet connection). Also see **2.4.2 Offline installation**).

The X in this column specifies that the accompanying installation file still needs to be downloaded. This happens automatically in one of the next steps.

Click on ***NEXT***

2.4.1.4.1 The Components

The individual components have the following meanings:

SQL Server
Installs a SQL Express Server in the specified version.
As a rule, only a single SQL server is used, i.e., this component only needs to be installed on one machine. Alternatively, you can use your own SQL server, in which case you don't need to install this component at all.

Database
The database is a small utility that synchronises the display within the clients (see **3 Mobile Easykey Database**). The database is only installed on a single computer. Usually on the computer where the SQL server is installed. In this case, a data backup can be created in each manager (provided that appropriate operating rights are given) (see **5.21 Software Operating Rights**) and stored locally. Existing backups can then be restored directly from the manager in the SQL server.

Service
Service is basically a slimmed-down manager, but it runs automatically and without an interface 24/7 in the background. ***See also*** **4 Mobile Easykey Service**. As a rule, only one service (e.g. , on an application server) is installed. However, it is also possible to run the service on several computers at the same time – e.g., to run local connection drivers (see **5.13.3.1 Connecting**).

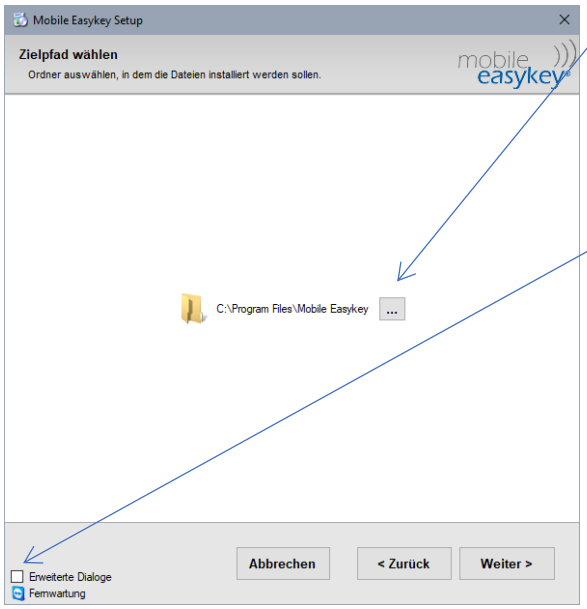
Manager (Client)
The Manager is the main program that is used locally. It must be installed on every computer from which the Mobile Easykey system is to be operated. See **5 Mobile Easykey Manager**.

Internal Bluetooth
If this computer has built-in Bluetooth, this (and the next) option will be displayed.
If MEK Bluetooth modules are to be read out or configured from this computer (see **5.13.3.1.3 Bluetooth driver**), you must decide whether you want to use the built-in Bluetooth or the optional red MEK Bluetooth stick.
If you want to use the MEK Bluetooth stick, you must click on this option to deactivate the internal Bluetooth.

Intel(R) Wireless Bluetooth(R)
The name (here in this example ***Intel(R) Wireless Bluetooth(R)***) of the Bluetooth adapter is displayed here as it can also be found in the device manager.
If this internal Bluetooth adapter is to be used, the name under which this adapter is seen by Bluetooth modules must be changed. Only if this name begins with "MEKMBT" will the active MEK modules recognize this Bluetooth adapter and be able to connect to it.
If you select this option, the Bluetooth name is automatically set accordingly.

2.4.1.5 Select Destination Directory

This window is only displayed if in the previous window the option ***User defined*** was selected.



Click on this button to select another directory than the shown one.

The installation is normally automatically carried out without user's inputs.

However, with the option "advanced dialogs" the single installation files are launched with full user interface. This can be particularly helpful locating errors.

Click on **NEXT**

2.4.1.6 Licence Agreement



To continue with the installation, you must agree to the licence terms of the Mobile Easykey System.

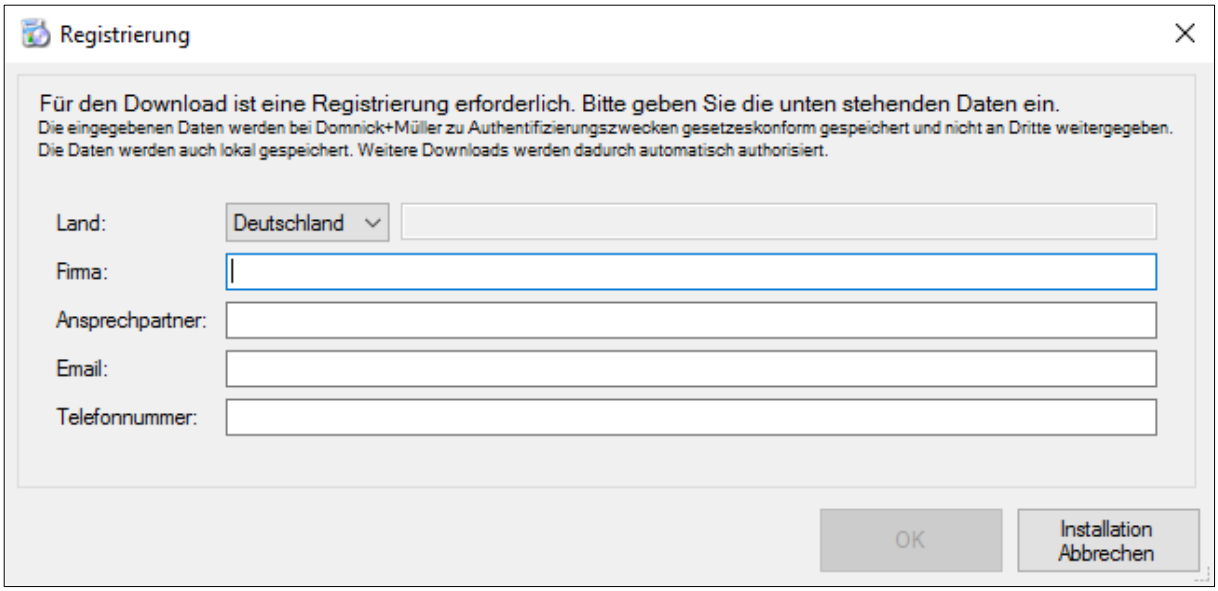
According to which components were selected you possibly must agree further licence regulations.

Click “Next” and accept these licence regulations.

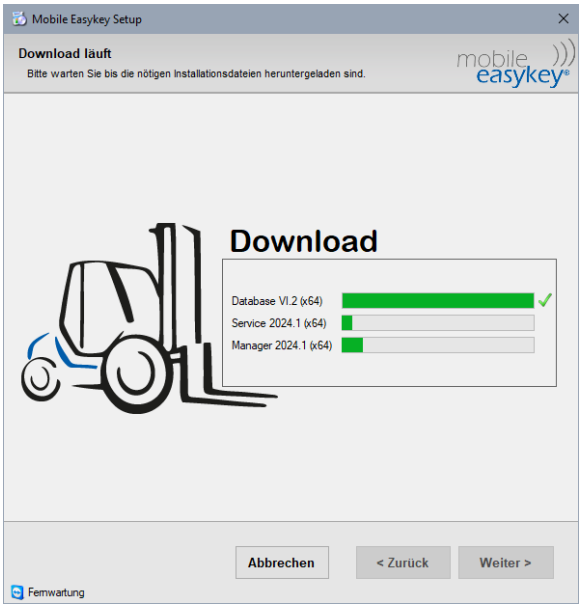
Click on ***installation*** to start the installation or if necessary, first to download the installation files to continue.

2.4.1.7 Registration

Before the initial download you must register. Enter the data below and click on OK. The entered data will be used by Mobile Easykey GmbH for authentication purposes only. The data is lawfully stored and not disclosed to third parties. In addition is the data stored locally (in the subfolder MobileEasykeySetup). For further installations, the download is automatically authorised using the locally stored data.



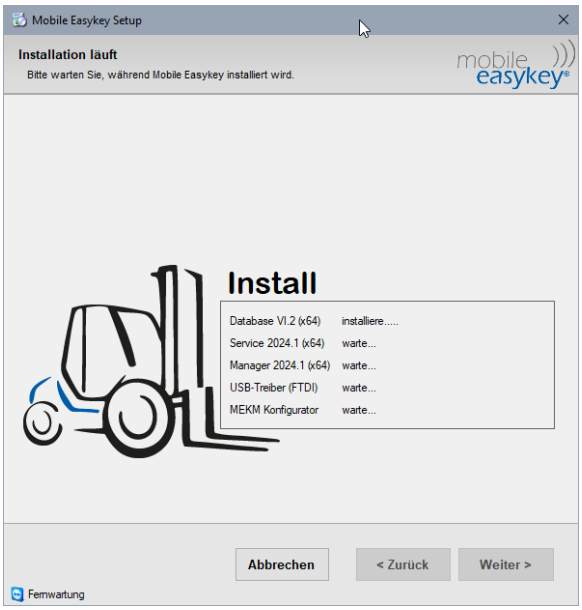
2.4.1.8 Download



If not, all installation files were locally available, these are now automatically downloaded.

The installation will start automatically, as soon as all necessary files are downloaded.

2.4.1.9 Installation



The installation runs largely automatically (unless, the option advanced dialogs was selected, see **2.4.1.5 Select Destination Directory**).

Further input is only necessary for the USB driver and/or the MEKM Configurator, according to the choice of components to be installed (see **2.4.1.4 Select Components to be installed**).

2.4.1.10 USB driver (FTDI)

If the Mobile Easykey Manager was installed, the USB driver of the table reader and the program cable were also installed. If a FTDI-driver was already installed, you may need to restart your computer.

2.4.1.11 MEKM Configurator

According to which components were selected for the installation (see **2.4.1.4 Select Components to be installed**) the Mobile Easykey Network Configurator is now running.

To operate this function, see chapter **2.5.1 Using the Network-Configurator**.

2.4.1.12 Installation Concluded/Complete



The installation is complete.

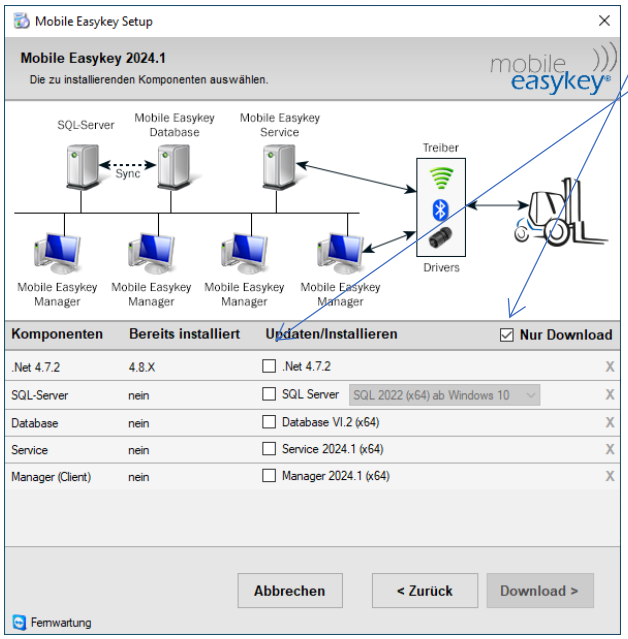
Click on ***Finish*** to close the setup programme.

2.4.2 Offline installation

2.4.2.1 Download of necessary installation files

To install Mobile Easykey in offline mode, all necessary installation files must be downloaded first. Provided that this has not happened yet copy the setup program „Mobile Easykey Setup on an USB-stick and launch it from **a computer with Internet connection**.

Now follow the instructions given in **2.4.1 Online installation**.



Now select the option ***only download***.

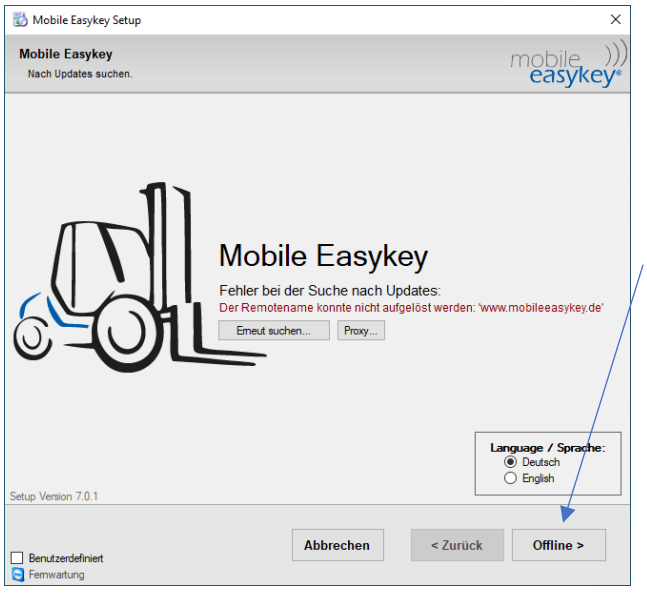
Select all further components which you want to install on this or other computers

and click on ***download***.

Now the chosen data is automatically downloaded and saved in a sub folder on the USB-Stick.

Click on ***Finish*** after the download is complete to end the programme.

2.4.2.2 Start offline installation



Plug the USB-stick into the chosen computer not having an internet connection and start the programme „Mobile Easykey Setup “.

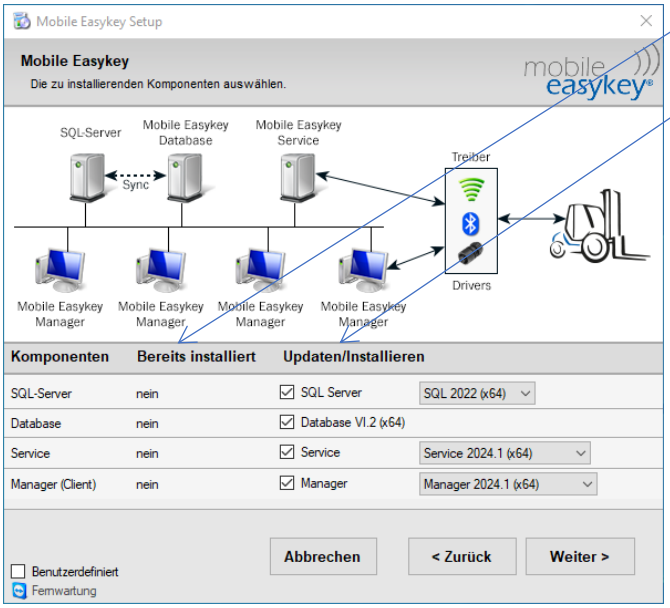
If no internet connection exists, files downloaded beforehand can be installed offline.

Click on ***offline***.

Tip:
If you can or want to connect to the internet at a later time click on ***search again*** to connect with the Mobile Easykey Update Server.

The remaining options are described in **2.4.1.2 Search for updates and choice of the version**.

2.4.2.3 Select components to be installed



All already installed components are displayed.

Select here which components should be installed or be updated. You can select all required components and install them at the same time. Only the components which were already downloaded are displayed.

If several versions for a component are available, (have been downloaded) you can determine the wanted version in the selection field.

Click on ***NEXT***

The remaining installation just runs like the online installation.
Read more in chapter “Online Installation” **2.4.1.5 Select Destination Directory**.
Here the chapter **2.4.1.7 Registration** is skipped, because files are already downloaded.

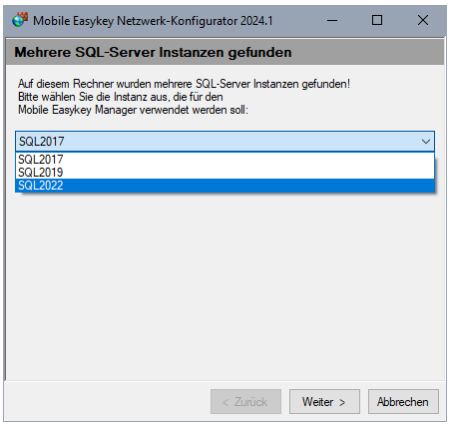
2.5 Network configuration

To be able to access the Mobile Easykey Database over the network through the Mobile Easykey Manager, some settings adjustments must be made. You can adjust these manually, through the network- or your SQL administrator respectively - or automatically with the provided Network Configurator.
In case of a manual configuration and for the arrangement of external firewalls read **2.5.2 Used network ports** to find a listing of all used ports.

2.5.1 Using the Network-Configurator

The configuration with the Network Configurator is the easiest. The configuration is automatically started at the end of the installation of the Mobile Easykey Server or the Mobile Easykey Manager. In addition, you find the configurator in the start menu under "**Mobile Easykey**".

The Mobile Easykey Network Configurator automatically recognises which components (Database, SQL server, Service and/or Manager) are installed and offers appropriate configuration possibilities.

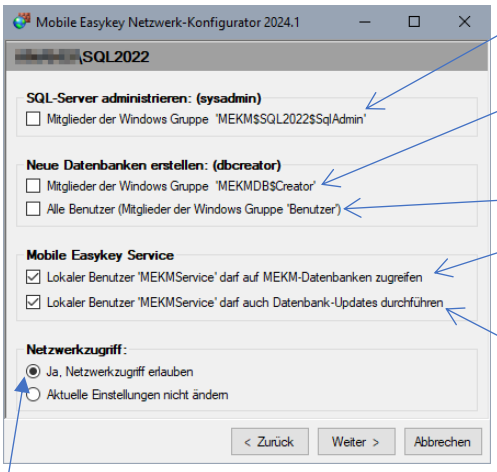


This window is only displayed if the Database is installed and several SQL-Server-Instances on this computer were found.

Here you can select which SQL-Server-Instance should be used with Mobile Easykey. (To use several instances, relaunch the Network Configurator afterwards).

Click on ***NEXT***

The next window will only be displayed if a SQL Server was installed.
A local window groups as well as a local account are also generated for the Mobile Easykey Service. Here it can be adjusted whether these local groups and users are to be authorised on the new installed SQL-Server (recommended).



Members of the group MEKM$Servername$SqlAdmin may administer the server SQL and have full access.

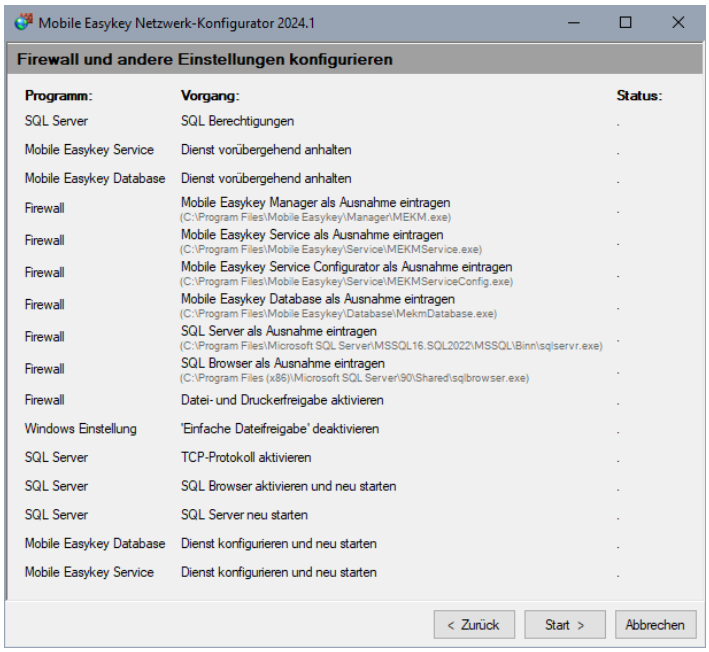
Members of the group MEKMDB$Creator are allowed to create new databases on this SQL Server.

All users are allowed to create new databases.

The local user MEKMService (who is used as an official account for the “Mobile Easykey Service “) may access MEKM-Databases
and carry out databases updates (DbOwner).

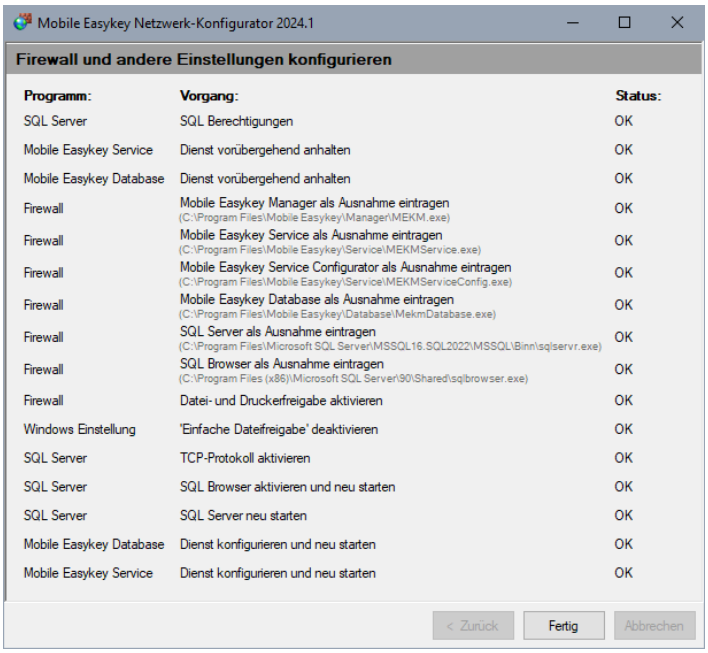
Configures the SQL Server and if necessary, the Windows firewall to enable other computers to access this SQL Server.

Click on ***NEXT***



Depending which components were selected for the installation (see **2.4.1.4 Select Components to be installed**), more or fewer essential settings are displayed).

Click on ***NEXT*** to carry out the configuration now.

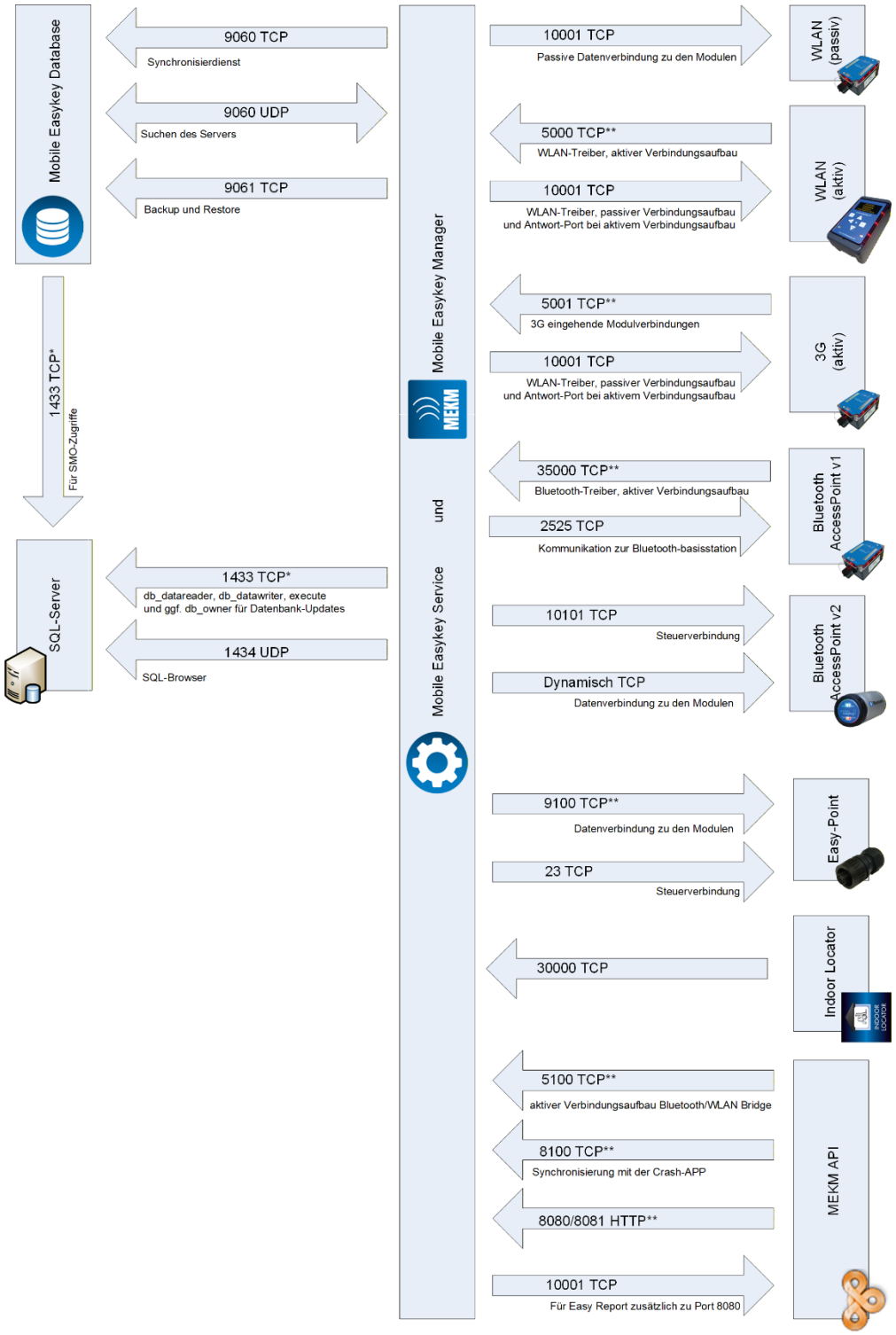


When all settings were carried out, click on ***Finish***.

Now, if applicable further suggestions are displayed. Observe them and click on ***OK***.

2.5.2 Used network ports

To enable the various components of MEKM to run in the network, some network ports must be activated:



*) Named instances accordingly with the named port.
The SQL server must be set up for network communication

**) Adjustable.
Using several drivers every driver must use its own port.

3 Mobile Easykey Database

The "Mobile Easykey Database" is a Windows service which must be installed on the computer on which the SQL server also runs.

The tasks of the "Mobile Easykey Database" service are:



3.1 Tasks of the Mobile Easykey Database

3.1.1 Search for SQL servers' instances

On port 9060 UDP the "Mobile Easykey Manager" can transmit a broadcast to which the "Mobile Easykey Database Service" answers with a list of the available SQL server instances.
Alternatively, the server- and instance-name can be entered manually in the "Mobile Easykey Manager". In this case the port 9060 UDP is not required.

3.1.2 Client synchronization

This is the most important task of the "Mobile Easykey Database" service. Whenever a change with "Mobile Easykey Manager" is performed it transmits an update flag via port 9060 TCP to the "Mobile Easykey Database" service. The database distributes this flag also using port 9060 TCP to all the other currently opened "Mobile Easykey Managers ". Therefore, all "Mobile Easykey Managers" display automatically new, actual data when needed.

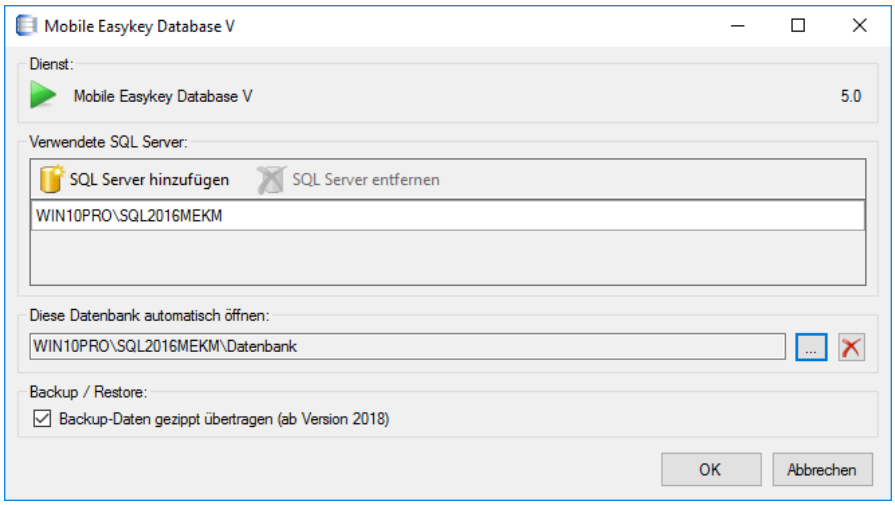
3.1.3 Backup & Restore

The "Mobile Easykey Database"-service provides a remote function which allows the "Mobile Easykey Manager" to request a Backup or Restore (over the network). The "Mobile Easykey Database"-service runs the Backup or Restore and transmits the respective Backup file via port in 9061 TCP to the respective "Mobile Easykey Manager ".
The Backup and Restore function can be deactivated individually for each client within "Mobile Easykey Manager". See **5.12.1 Global settings – database**).
If neither a Backup- nor Restore functionality with "Mobile Easykey Manager" is required or needed, the port 9061 TCP is not necessary and can be locked.

3.2 Configuration of the Mobile Easykey Database

Version V.1 of the Mobile Easykey Database service also installs a "Mobile Easykey Database V.1" configuration program.

Double-click on the program icon on the desktop or select ***Programmes*** - ***Mobile Easykey*** – and select "***Mobile Easykey Database*** from the main menu to launch "Mobile Easykey Database.



- ***Used SQL servers***
  Here the SQL server/s can be set up to be accessed with „Mobile Easykey Manager" and „Mobile Easykey Service ".
  The local SQL servers are pre-set.
  Click on ***SQL Servers add*** to add another SQL server.

  Additional SQL servers can also be added from another computer.
  However, in this case the data protection (Backup) and Restore of a database is NOT functioning over the „Mobile Easykey Manager"(see **5.3.2.1 Database Backup** and **5.3.2.3 Backup**). These functions must be executed by the customer or the SQL administrator.

  With the button ***SQL Server delete*** a previously selected server can be removed from the SQL list.
  If all SQL servers are removed, all local SQL servers will automatically be used again. The configuration program must be restarted.

- ***Open this database automatically***
  Finally a database can be defined which is automatically opened by the „Mobile Easykey Managers" – provided that in global settings ***open this database automatically when program starts*** the dot is set to ***Open*** (see **5.12.1 Global settings – database**).

  Click on this button to select a Database. The selection dialog corresponds to the opening of a database (see also **5.3.1.1 Open database**)

  Click on button to delete the choice and not to open data banks automatically.

- ***Transfer backup data zipped (from version 2018)***
  If a manager from version 2018 is used, the database update can now also be zipped. For a slow network connection this can save network capacity.

4 Mobile Easykey Service

"Mobile Easykey Service "is a scaled down output of" Mobile Easykey Manager "(see **5 Mobile Easykey Manager**) which runs as a Windows service in the background and can take over all communication tasks of the Mobile Easykey System.



4.1 Tasks of the Mobile Easykey Service

- Communication with the module (especially WI-FI/Bluetooth)
- Monitoring the alarm functions
- Perform automatic tasks
- Background calculations for the online statistics

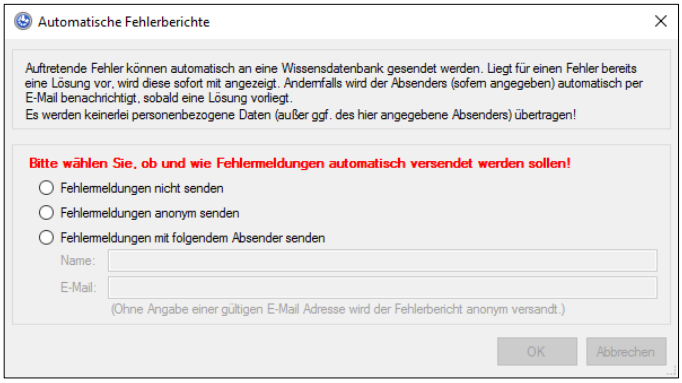
When using a Mobile Easykey Service the managers normally only uses the cable driver. (The cable driver needs an interface and can Therefore, run as a service) The Mobile Easykey Manager serves only as a pure client for the data in and output.

If no Mobile Easykey Service is active Mobile Easykey Manager can take over-all above-mentioned tasks.

4.2 Configuration of the Mobile Easykey Service

With the Mobile Easykey Service a configuration programme „Mobile Easykey Service Config “is installed.

Double-click on the program icon on the desktop or select from the start menu ***programmes*** - ***Mobile Easykey*** - To launch ***Mobile Easykey Service Config***



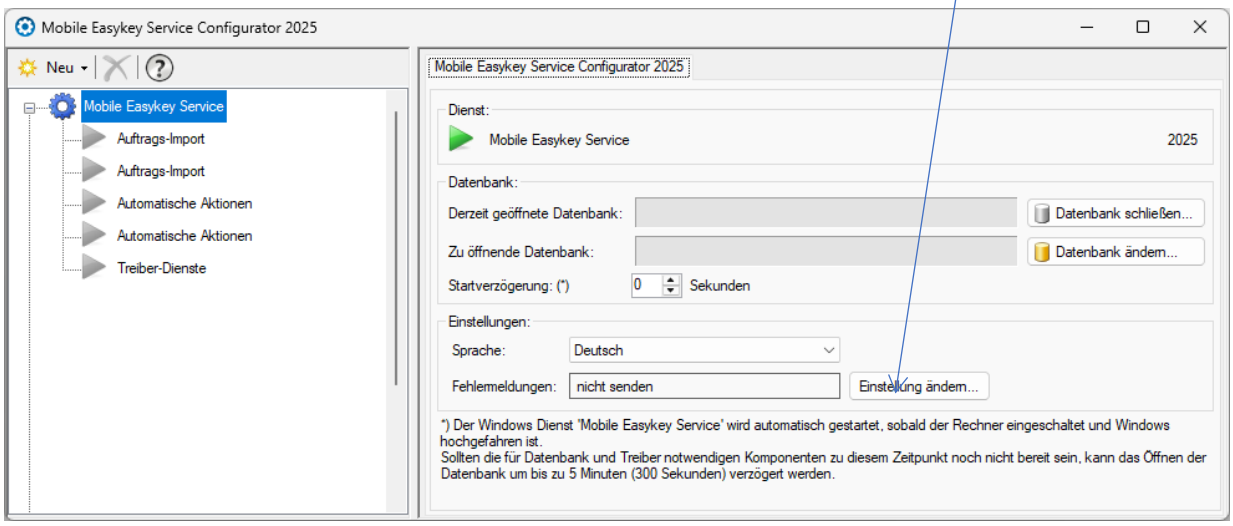
On the initial start you will be asked how you want to handle errors.

Possible errors can automatically be sent over the Internet to a knowledge base. Should the error already be known and there is a solution, it is automatically retrieved and displayed from the knowledge base.

If you enter a name and an email address, the contact data and errors accrued will be stored and you will be contacted when a solution is found.

You can also send the error report anonymously.

The setting can be changed at any later time. You to the button, click **Change settings**.



In the left column all currently active drivers are listed.
The drivers shown here are responsible for the pre- set background functions.
Some of the background functions can be launched multiple times for parallel running.

Click on button  to add further drivers (see **4.2.2 Driver**).

Select a driver and click on  to delete driver.

With the button  you open a small menu in which i.e., the online maintenance can be activated if you are requested by the support team to so.

In the right column the element selected on the left is configured.

If the main element ***Mobile Easykey Service*** is selected (as shown on top), the configuration of Mobile Easykey Service itself is displayed.

4.2.1 Mobile Easykey Service

- ***Currently opened database***
  Here the database which is currently opened is displayed. The database is only displayed if it is actually open!
  To close an open database, click on ***close database***.
- ***Database to be opened***
  Here the database which should be opened automatically is displayed (on automatic start of the computer).
  If no database is selected for opening, you click on a database and select it. The opening of a database works in the same way as in the Manager. See chapter **5.3.1.1 Open database**.
- ***Start delay***
  Sometimes it can happen that on starting the computers certain Windows drivers are not completely loaded (e.g., access to the network). In this case the automatic opening of the selected database can be delayed. If necessary, enter the number of seconds which the automatic start should be delayed by.
- ***Language***
  Select the language in which the configuration programmes „Mobile Easykey Service Config" should run.
- ***Error messages***
  The Mobile Easykey Service can transmit error messages automatically (and anonymously) to the manufacturer. This serves the improvement of the product.

4.2.2 Driver

Click on button  to add a new driver or choose an existing driver.

The respective configuration of the drivers works precisely as with the Mobile Easykey Manager. According to which driver you have added or have selected read one of the following chapters:

- **5.13.3.1.1 Easy Point driver (via cable or network)**
- **5.13.3.1.3 Bluetooth**
- **5.13.3.1.4 Wi-Fi**
- **5.13.3.1.5 mobile radio driver**
- **5.13.3.1.6 MEKM-API Driver (REST-API)**
- **5.13.3.1.7 Indoor Locator Driver**
- **5.13.4.1 Import Invoice**
- **5.13.4.3 Operating Hours Import**
- **5.13.4.2 Statistics Import**
- **5.13.4.4 Automatic User Import**
- **5.13.5.2 Email**

In addition, additional drivers for **order import**, **automatic actions** and **statistics calculation** can be added in the service.

Each of these additional drivers runs (automatically and without configuration) also in the Manager, but usually only if there is no Mobile Easykey service that performs these tasks centrally.

One of the additional drivers always runs in the service and cannot be deleted.
The addition of additional drivers only serves to distribute the task to several tasks. If, for example, two drivers are used to calculate the statistics, then two modules can be calculated at the same time.

5 Mobile Easykey Manager

5.1 Data security



The security of personal data is guaranteed by several functions that are described below.

5.1.1 Encryption of personal data

In principle, all personal data (AES 256) is stored encrypted. The key is stored in three parts.

1. A part is stored centrally in the database. This part is not copied during the anonymized backup (see **5.1.3 Anonymised Backup**).
2. The second part is firmly anchored in the software.
3. The third part is saved together with the respective user/software operator etc. This part, in turn, is stored in two versions. Once (Part A) only for the respective name and once (Part B) for all other personal data. This part B is removed during safe deletion (see **5.1.4 Safe deletion**).

Only when all three keys come together can the data be decrypted.

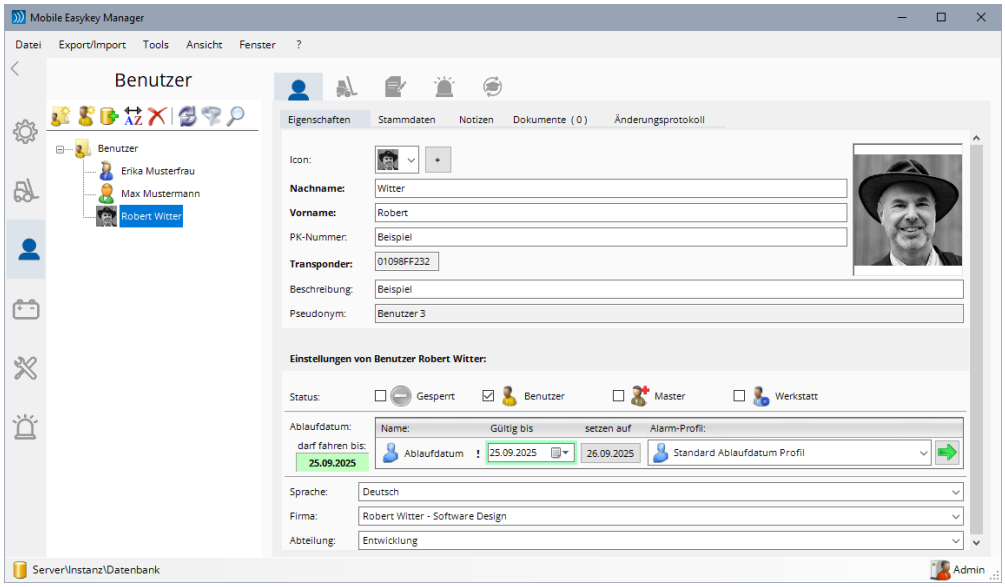
5.1.2 Service Mode

The Service Mode is automatically activated as soon as a Mobile Easykey employee logs on as a ***Mobile Easykey Service Administrator*** (see **5.21.2.2 Mobile Easykey Service Administrator**) or if via the ***remote maintenance*** in the ***?***-menu (see **5.3.7.7 Remote Maintenance**) a remote maintenance session is activated. If a remote maintenance other than the one in the ***?***-menu, the ***service mode can be used*** in the ***?***-menu can also be activated manually (be sure to do so before starting remote maintenance!) via the ***Enforce Service Mode function (see*** **5.3.7.6 Enforce Service Mode**). It must then also be deactivated manually (after the end of remote maintenance) via the same function.

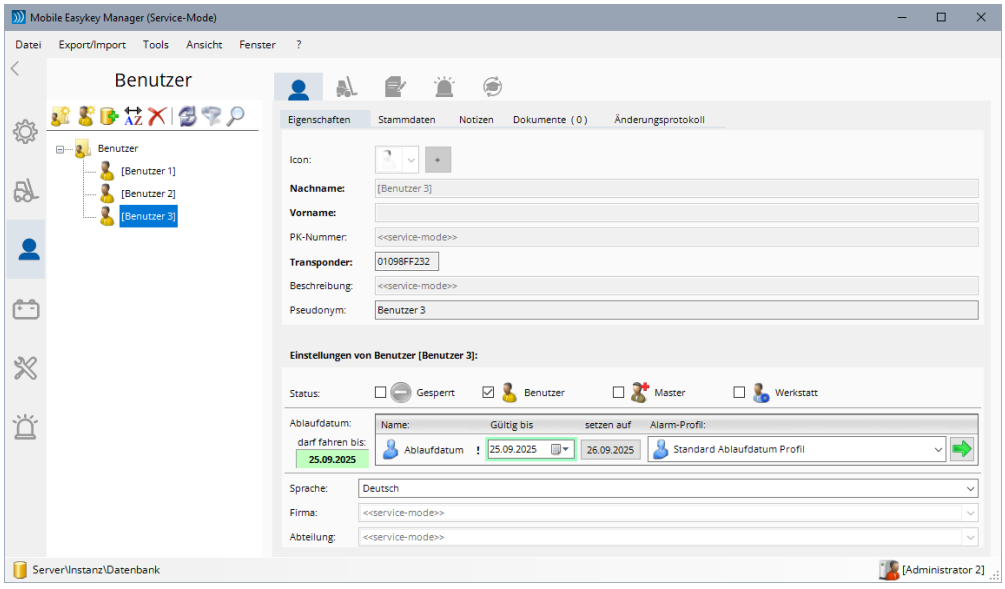
As long as the service mode is active, no personal data is displayed throughout the program. The personal data is displayed exclusively pseudonymized and is usually additionally read-only.

As soon as the Mobile Easykey Service Administrator is logged off again and/or the remote maintenance is stopped, the service mode is also automatically deactivated and personal data is again deactivated as usual, depending on operating rights and works council settings (see **5.14.3 Data Protection (Works Council User)**) is displayed or hidden.

Display without Service-Mode



Display in Service-Mode



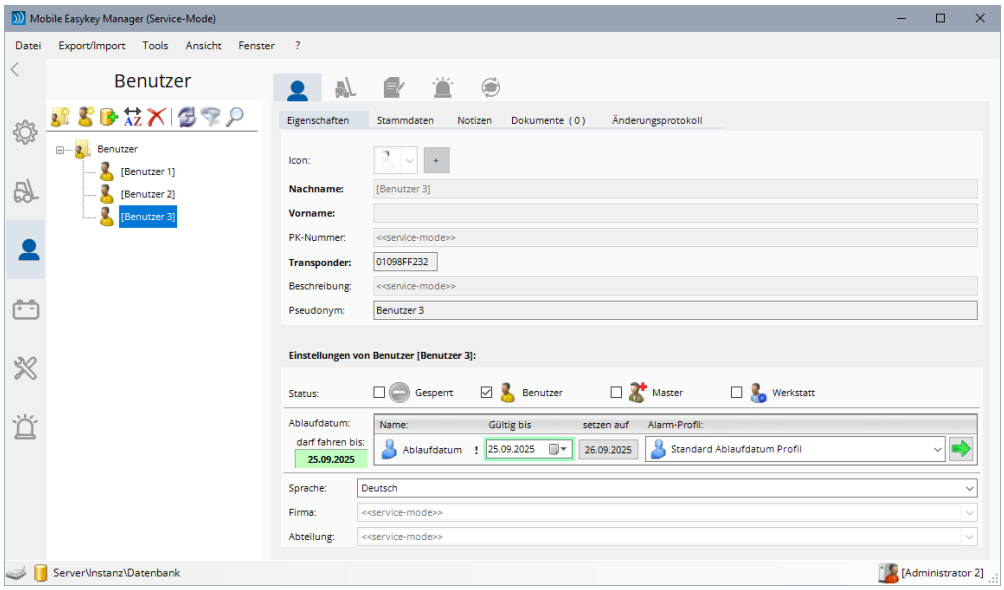
5.1.3 Anonymised Backup

An anonymous backup is a backup that contains all the data but not the key to encrypt your personal information.

Such a backup can be completely restored, but all personal data is permanently encrypted (AES 256) and can only be displayed pseudonymized. Decryption is not possible without access to the original database.

The anonymized backup is for sole support- purpose. It is not intended (even with access to the original key) from an anonymized backup to ever create a normal database again! To create an anonymized backup, see chapters **5.3.7.8 Upload for support**.

For example, the display of an anonymized database looks like this:



5.1.4 Safe deletion

For internal reasons, users, software operators, etc. cannot really be deleted. Instead, they are only marked as deleted and are therefore no longer visible in the Mobile Easykey Manager, but remain in the database! Therefore, part 3B described in **Encryption of personal data** is deleted when deleting a user, software operator, etc. This immediately makes all personal data (except for the name itself) of this user, software operator, etc. unrecognizable. This also applies retroactively to the Change Log! (See **5.19 Change Log**)

In the database configuration (see **5.14.12 Database-Maintenance**) a time (default is 2 years) can be set after which the key 3A is also automatically deleted and that the name of this user is permanently unrecognisable. If this user still appears in one of the logs (e.g., the logbook), it will only be displayed there as "<<deleted>>".

5.2 Start Mobile Easykey Manager

Double-click the program icon on the desktop or select ***Programs*** - ***Mobile Easykey*** - ***Mobile Easykey Manager*** from the start menu to start "Mobile Easykey Manager".

If there is an Internet connection, the Mobile Easykey Manager will automatically check for program updates once a week immediately after starting.

The automatic search can also be completely deactivated in the Global Settings. (See **5.12.6 Global settings - program updates**)

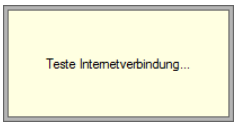


If a newer version is found, a pop-up window will open automatically with the corresponding information. There you can click on the blue, underlined links to go directly to the corresponding website.

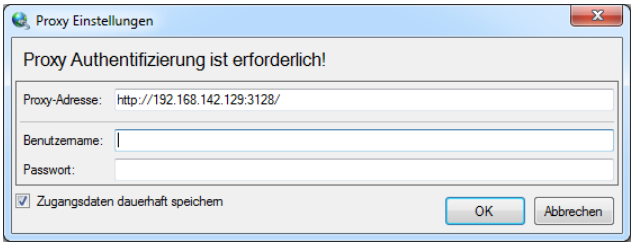
You can also manually search for program updates at any time.
See chapter **5.3.7 The question mark menu (?)**.

5.2.1 The first start

5.2.1.1 Internet connection



At the very first start, the Internet connection is checked first. If a proxy is defined for which the user name and password are required, a dialog will automatically be displayed for the corresponding entry. The proxy settings can be found in the Global Settings (see **5.12.7 Global Settings – Proxy**) and changed at any time.



5.2.1.2 Error Messages

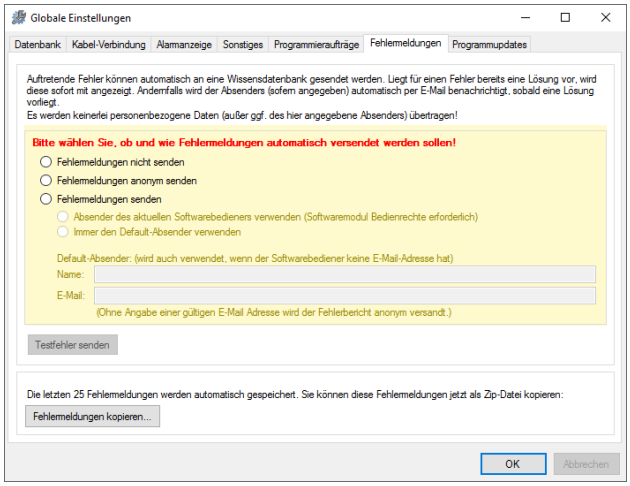
Afterwards you will be asked how to handle errors.

Any errors that occur can be automatically sent to a knowledge base via the Internet.

If the error is already known and there is a solution, it is automatically retrieved from the knowledge base and displayed.

If you enter a name and an e-mail address here, this contact information will be saved together with the error and you will be contacted, if further information is needed to solve the problem.

This setting can be changed later at any time. See chapter **5.12.5 Global settings - error messages**



5.2.2 Command line parameters

Even if the Mobile Easykey Manager is normally called without command line parameters, it can control some functions as needed.

There are a total of four basic functions that can be controlled using command line parameters. These are explained in the following chapters.

The four functions can be freely combined with each other.

5.2.2.1 Allow multiple instances

Typically, only one instance of the manager is allowed. If the manager is already open, this already open manager is brought to the foreground when mekm.exe is called again.

However, the command line parameter -multi can also be used to force a new instance. This opens the manager a second or even third, fourth, etc. times. To do this, use the following syntax:

`mekm.exe -multi`

5.2.2.2 Enable different configurations

Usually, all of the manager's settings are stored in one of the following two directories:

C:\ProgramData\MEKM (for global settings)
C:\Users\<*User*>\AppData\Roaming\MEKM (for user-related settings)

However, the command line parameter -dir can be used to select a different directory. This means that multiple instances of the manager can use different configurations. The -multi parameter is only necessary if several instances with the same configuration directory are to be open at the same time.

The parameter has the following syntax: **`Mekm.exe -dir:Name`**

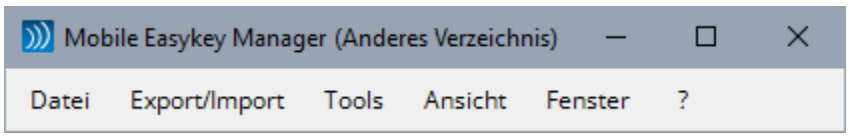
Where **Name** represents the desired directory. The name can only contain characters that are also valid for a file name in Windows, i.e. in particular no colon, slash or backslash.

Attention: If the name contains spaces, it must be enclosed in quotation marks! E.g.: **`mekm.exe -dir"Other directory"`**

The configuration directories would then be

C:\ProgramData\Other directory and
C:\Users\<*User*>\AppData\Roaming\Other directory.

In addition, the name used is displayed in the title bar of the manager!



Alternatively, the name for the configuration directory can also be stored in a configuration file in the program directory. This configuration file must have the name **`MEKM.dir`** and has only the desired name in text form as content.

5.2.2.3 Open Database

The database to be opened can be specified as a command line parameter.

Use the following syntax:
mekm.exe -opendb:sqlserver\instanzname\datenbankname

If the Mobile Easykey Database is not installed on the same computer as the SQL server, the name of the computer running the Mobile Easykey Database (here called mekmdatabase) must also be specified. The syntax is then:
mekm.exe -opendb:mekmdatabase::sqlserver\instanzname\datenbankname

Attention:

If the name of the database to be opened contains spaces, all text must be in quotation marks.
E.g.,
mekm.exe -opendb:"SERVER\SQL2016MEKM\Easykey Database"
or
mekm.exe -opendb:"RECHNER1::RECHNER2\MSSQLSERVER\Easykey Database"

Tip:
The text after **-opendb:** is identical to the text displayed in the status bar to the right of the database icon (yellow or red bin). (See also **5.3.5.2 Status bar**)

Attention:
The configuration for automatically opening a database specified in the Global Settings (see **5.12.1 Global settings – database**) is ignored when using this command line parameter.

Attention:
This command line parameter only works if the Mobile Easykey Manager is not yet open. It is ignored if the Mobile Easykey Manager is already open.

5.2.2.4 Language Selection

Usually, the Mobile Easykey Manager always starts in the language that was last set. However, when using the following syntax, a language can be selected specifically:
mekm.exe -lng:xx

xx stands for the 2-digit language code, e.g., DE for German or EN for English.
mekm.exe -lng:en starts the manager as e.g., always in English.

Attention:
This command line parameter only works if the Mobile Easykey Manager is not yet open. It is ignored if the Mobile Easykey Manager is already open.

5.2.2.5 Select Module To Be Displayed

With the help of a special command line parameter, a specific module can be automatically selected in the Mobile Easykey Manager. The syntax is:
`mekm.exe -mod:Modulename`

This automatically calls up the Module tab (see **5.5 Modules**) in the Manager and changes to the tab  on the right-hand side.
The module with the name **`Modulename`** is automatically selected on the left.

Instead of the module name, the internal number **(Int. No)** or factory number **(Make No.)** can also be specified. Use the following syntax instead of the **`-mod`** parameter:
`mekm.exe -inr:InterneNummer`

Or
`mekm.exe -fnr:FabrikNummer`

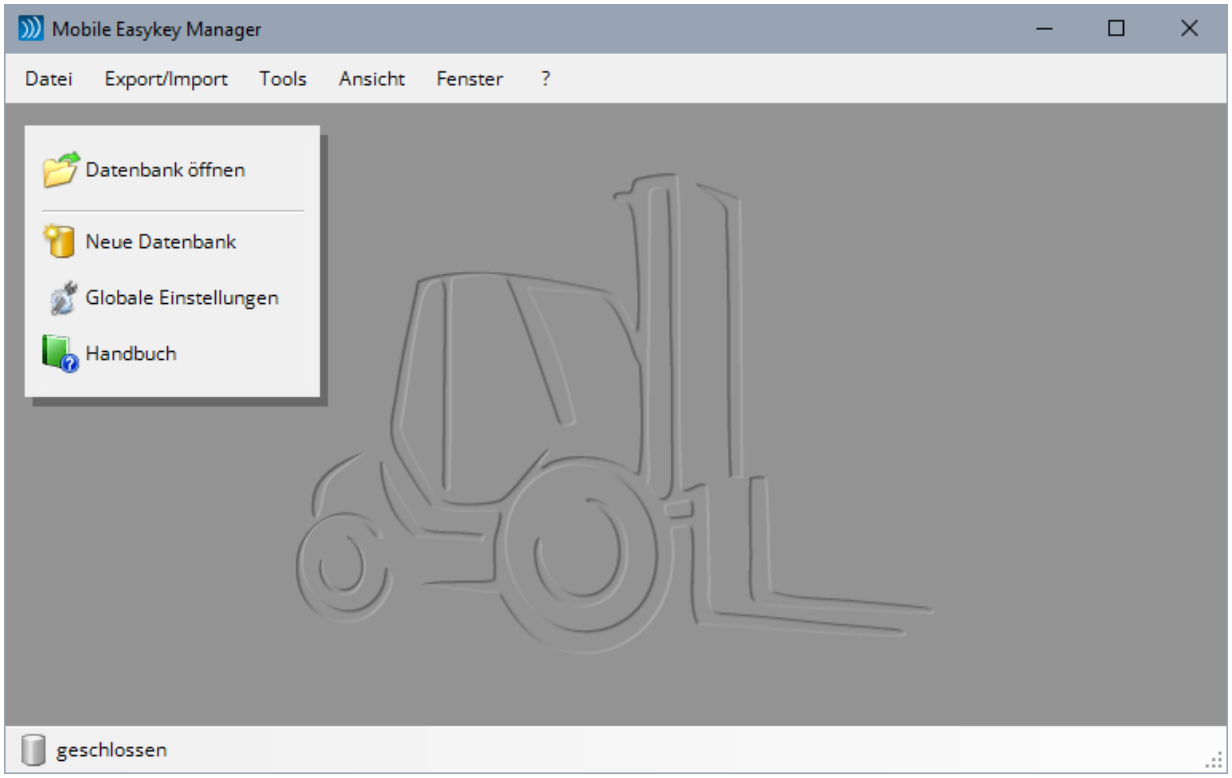
Because ***„Fabriknummer“*** is called ***Model number*** in English it is possible to use
`mekm.exe -mnr:FabrikNummer`

Attention:
If the module name (or the internal / factory number) contains one or more blank spaces, the respective text must be enclosed in quotation marks. So for example:
`mekm.exe -mod:"Module 1"`

Tip:
In contrast to the other command line parameters, this parameter can also be used with the Mobile Easykey Manager already open. By calling the program file mekm.exe again, the parameter is passed to the already running manager. The current manager is brought to the foreground (if necessary) and then changes to the corresponding module.

Attention:
This command line parameter only works if either a manager is already running with the database open or if a database is automatically opened when the program starts. (See **5.2.2.3 Open Database** and **5.12.1 Global settings – database**

5.2.3 The program window



Provided that no automatic start is set (see **5.12.1 Global settings – database**) no database is opened while starting the Mobile Easykey Manager.
Following functions of the Mobile Easykey Manager are only available with closed database:

- ***Database open*** (see chapter **5.3.1.1 Open database**)
- ***New database*** (see chapter **5.3.1.2 New Database**)
- ***File*** / ***backup recover*** (chapter **5.3.2.3 Backup restore)**

The global settings (see chapter **5.12 Global settings**) can be called upon with opened database; however, changes in the settings are applied only when the database is opened the next time.

5.3 The menu

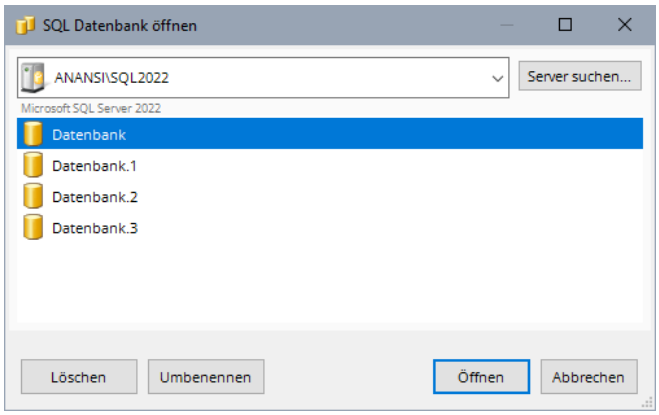
5.3.1 Main menu



The main menu is visible only with a closed database and contains the most important commands.

5.3.1.1 Open database

To open an available database, you click on ***Open database***. Then in the following dialog box you can select the required database.



In the uppermost row you see the currently selected SQL server. If the incorrect - or no SQL server is displayed, click on ***Search Server*** to search for a SQL-Server. See in addition chapter **5.3.1.1.1 Search server**. Perhaps, several servers are found. Then click in the field with the server name to open the selection list.

Now click in the middle of the window on the required database and then click ***Open***.

As soon as a database is opened, the database icon is shown in the left lower corner in yellow.

If errors occur in a background process, this database icon becomes red. With a mouse click on the yellow or red database icon the error protocol of the background services can be retrieved (see **5.3.5.2.1 Error protocol of background services**).

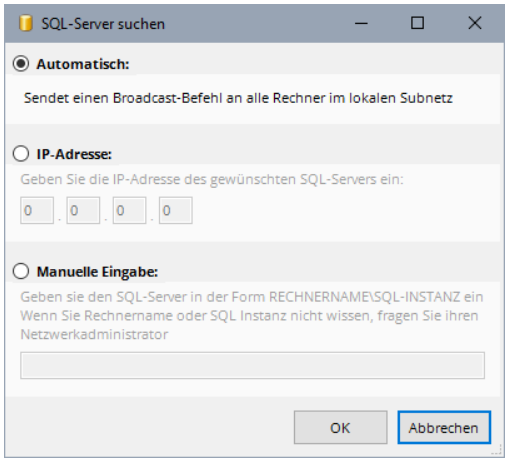
The menu command for ***opening the database*** can be hidden! See also **5.12.1 Global settings – database**.

If the SQL authentication is activated in global settings (see **5.12.1 Global settings – database** admit „additional SQL authentication “) a username and password can additionally be requested for access.

5.3.1.1.1 Search server

Possibly the desired SQL server of "Mobile Easykey Database" is not displayed immediately in the database dialogs. In this case click on the respective button ***Server search***:

Three possibilities are available to find a server:



- **Automatically**
  (functions only within a subnet)
- **IP address**
  (searches the server with the help of its IP address)
- **Manual input**
  the server is not searched for, but the servers name is used. Alternatively, to *SERVERNAME\INSTANCENAME* (e.g., SERVER1\SQLEXPRESS) also the *IP-ADDRESS\INSTANCENAME* (e.g., 192,168.1,100\SQLEXPRESS can be entered.
- **Manual input II**
  if the Database is not on the same computer as the SQL server, the name of the Database computer must also be entered. Then the format reads:
  DATABASE-PCNAME::SQL-SERVER-PCNAME \INSTANCENAME

If several servers are found (Automatically or **IP address**), you can select a server in the database dialog.

5.3.1.1.2 Delete and rename

In the database dialogs, the buttons ***delete*** and ***rename*** give the opportunity to delete or rename already available databases. Click in the middle of the window of the required database (afterwards they should be underlined in blue) and click on ***delete*** or ***rename*** and follow further instructions.

Note that databases which are currently open on this or another computer can neither be deleted nor renamed.

Even if the database is closed now but was opened shortly before, it is possible that the deleting and renaming is not possible. In this case you must restart the computer.

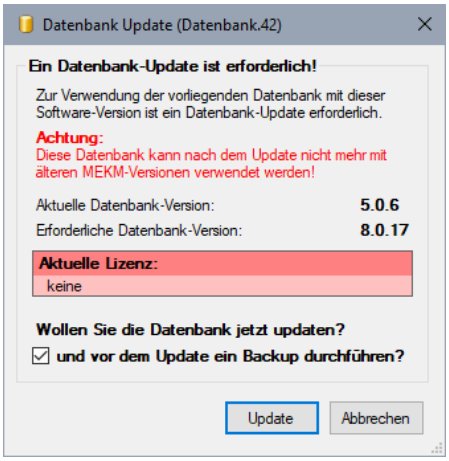
Note:
In the delete-dialog ***Confirm*** you must activate the option ***Delete Database*** first.

5.3.1.1.3 Database update

When a database is opened for the first time with a newer version of the program, this database must be adapted to the new version. This process is called ***database update***.

This database update requires appropriate rights on the SQL server or on the database (db_owner).

If such a database update is required, the following dialog is displayed:



Here you can see which version the database currently has.

This is the required status to operate the database with the current program version.

If the database already contains a license, it is displayed here.

It is highly recommended that you perform a backup before updating the database. Once the database update has been started, there will be no return to the previous version!

5.3.1.1.3.1 Database License

If the database does not already contain a valid license, it must now be entered. No update is possible without a database license!

If you do not already have a valid license, please contact:



Mobile Easykey GmbH
Max-Planck-Straße 11
61381 Friedrichsdorf
Phone: +49 (0)6172 9566-68
E-Mail: info@mobileeasykey.de

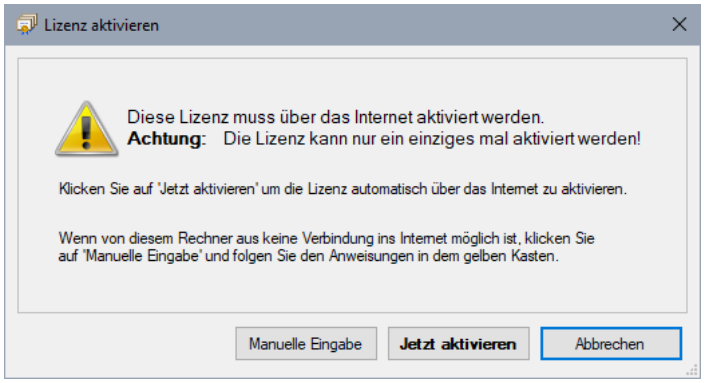
Or create a ticket under
khd@mobileeasykey.de

- ***License-text:***
  This is the text you received along with your license. It usually contains your company name and possibly any other data. This text is stored together with the license and stored in the corresponding locations (e.g., database configuration, see **5.14 The database configuration**) is displayed. Enter the text exactly as you received it.
- ***License-Code:***
  This is the actual license code. Enter the code as you received it. Uppercase and lowercase letters are not distinguished. Lower case letters are automatically converted to uppercase letters.
- ***License valid until:***
  After entering the license in full, you can see how long this license is valid. A standard license applies to the program version for which it was issued and in addition to two (half-yearly) main updates.
  If the license is entered incorrectly, an error message is displayed here.
- ***Import from file:***
  If you received the license in the form of a *.lic file, you can import this file directly. To do this, click *Import from File* and select the .lic file. The imported license is then automatically entered in the **License Text** and **License Code** fields.

Enter ***the license text*** and ***license code*** and click OK. The license is stored in the database and does not need to be re-entered afterwards.

5.3.1.1.3.2 License Activation (with Internet connection)

The license must now be activated once.

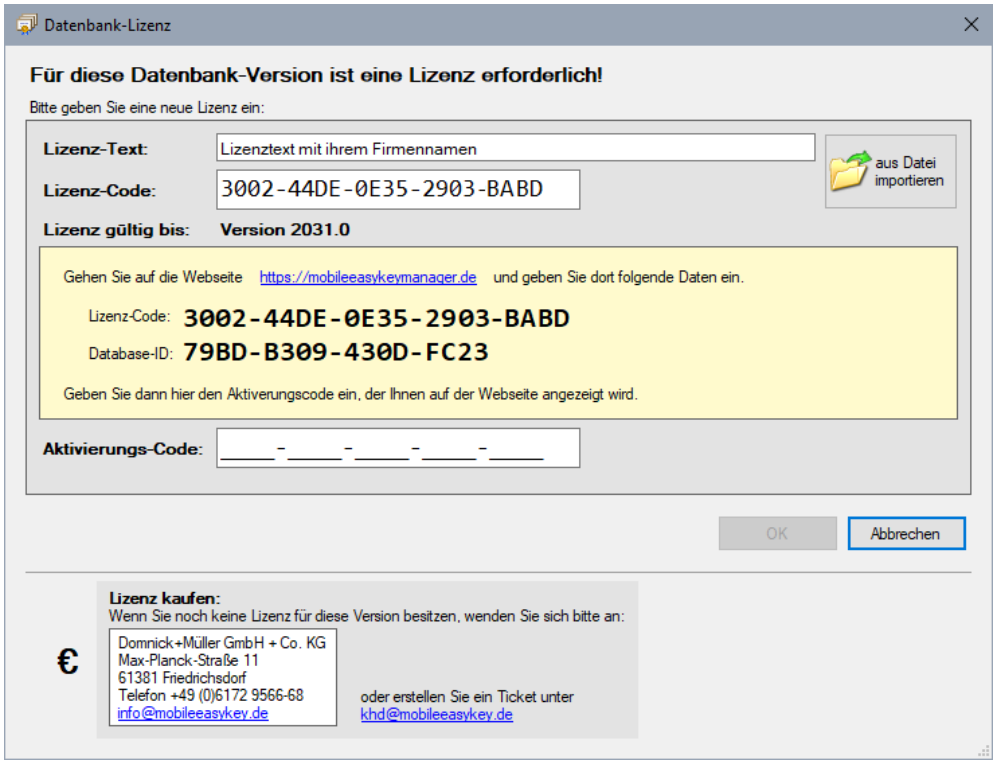


If you have an Internet connection, simply click ***Activate now***. The activation is fully automatic.

Note that you can activate a license only once!

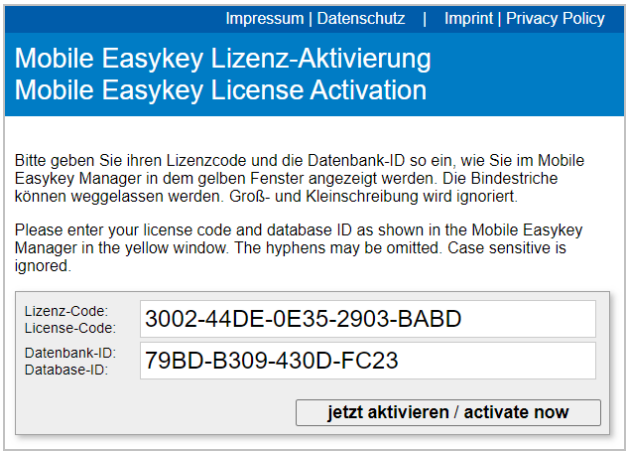
5.3.1.1.3.3 License Activation (without Internet connection)

If this computer does not have an Internet connection, the license entry expands as follows after clicking ***Activate now***: (Note: if you know that there is no Internet connection, you can click ***Manual Input*** right away).



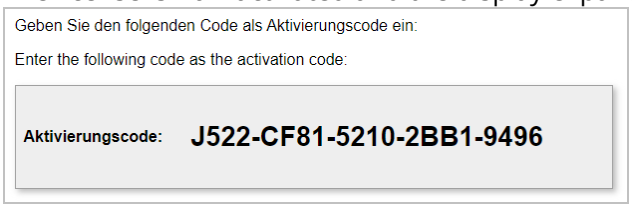
Now, on a computer with an Internet connection, visit the web page https://mobileeasykeymanager.de

Browser window:

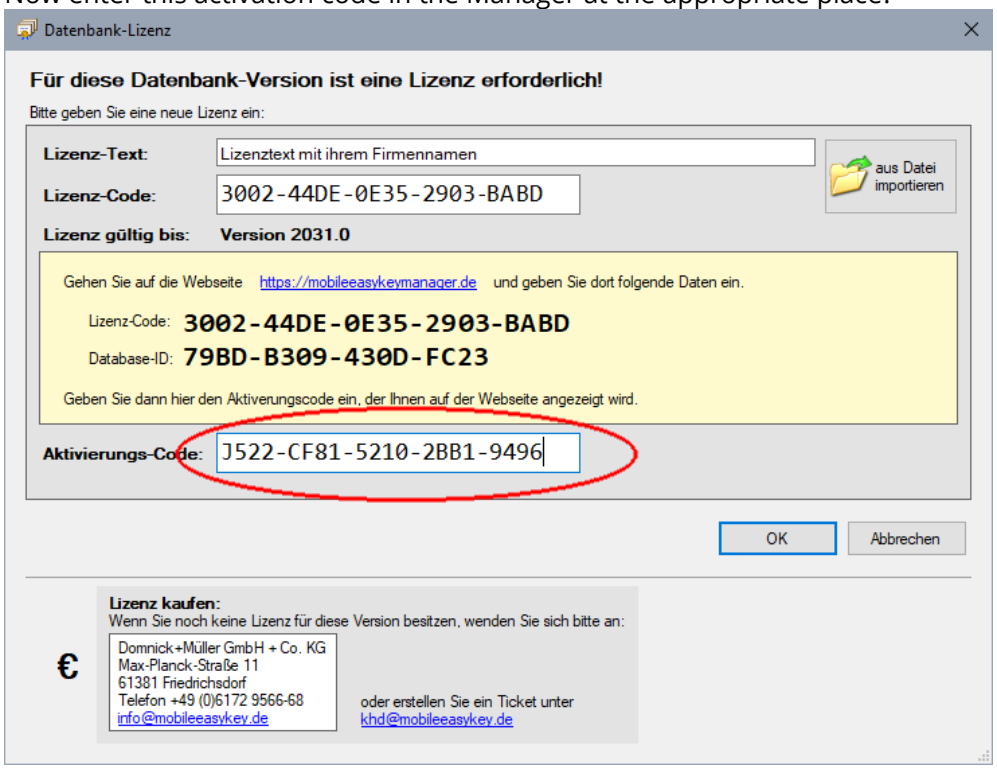


and enter the license code and the code shown under Database ID on the page again. Then click on activate now.

The license is now activated and the display expands to include the following section:



Now enter this activation code in the Manager at the appropriate place:



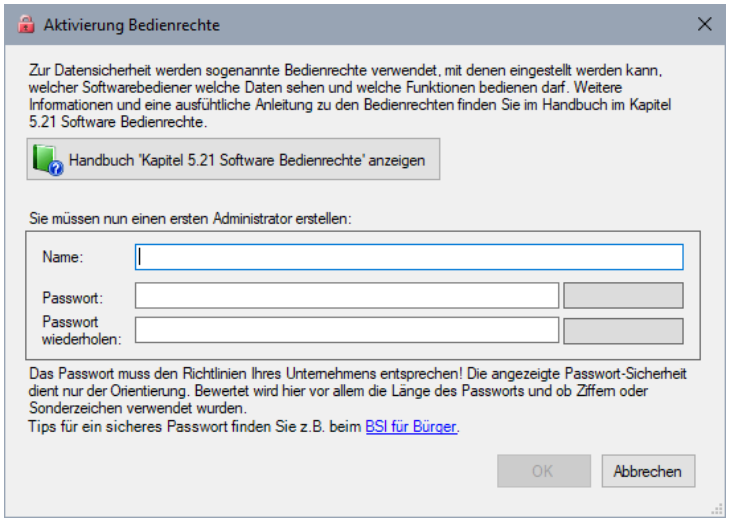
And click OK.

The (activated) licence is now saved in the database.

5.3.1.1.3.4 Activation Of Operating Rights

Due to the GDPR, the operating rights (see **5.21 Software Operating Rights**) are now also valid without additional activation code and must be activated together with the database update.

To do this, you must now create an administrator first.

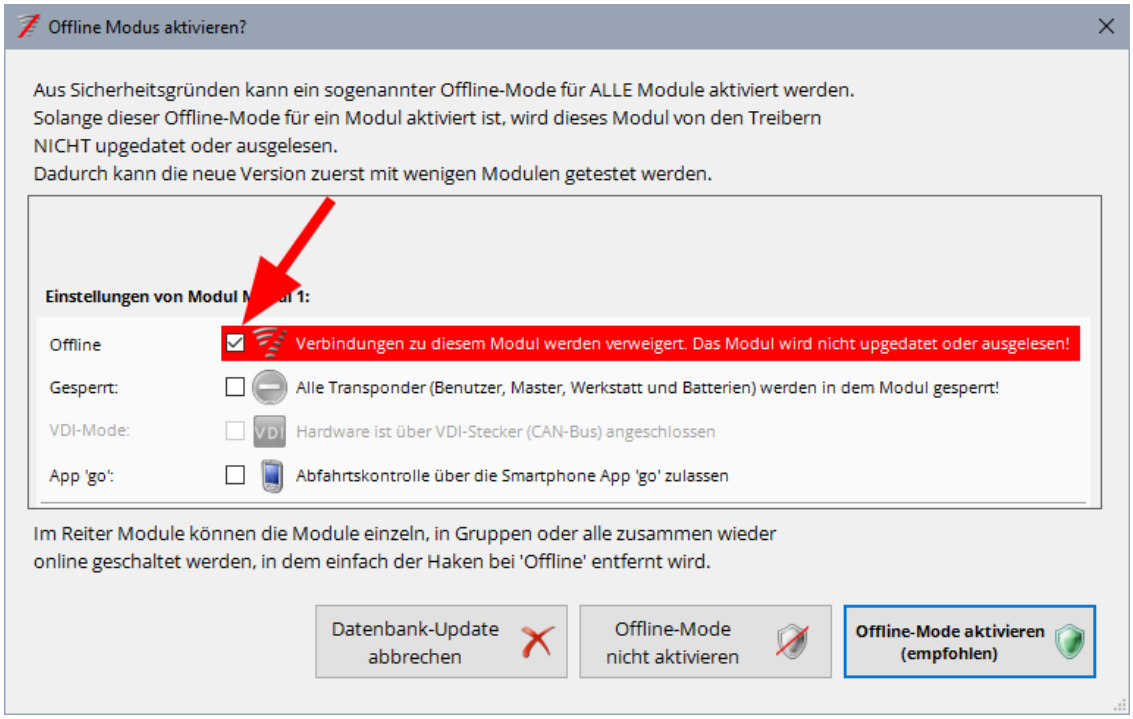


- ***Name:***
  Enter a name for this administrator.
- ***Password:***
  The administrator must have a password. With the name and password, this administrator can then log in to ***Mobile Easykey Manager.***
- ***Repeat password:***
  To avoid incorrect entries, you must re-enter the password.

For example, you can get tips for a secure password from the BSI for citizens.
https://www.bsi-fuer-buerger.de/BSIFB/DE/Empfehlungen/Passwoerter/passwoerter_node.html

5.3.1.1.3.5 Offline-Modus

As an additional backup, the so-called offline mode can now be activated for all modules (see **5.5.1.2 Settings of Module X** - ***Offline***).



In offline mode, the modules are not updated and not read out!

The modules can then be switched back to "Online" individually or in groups (offline mode is deactivated) so that the new program version can first be tested on a few modules.

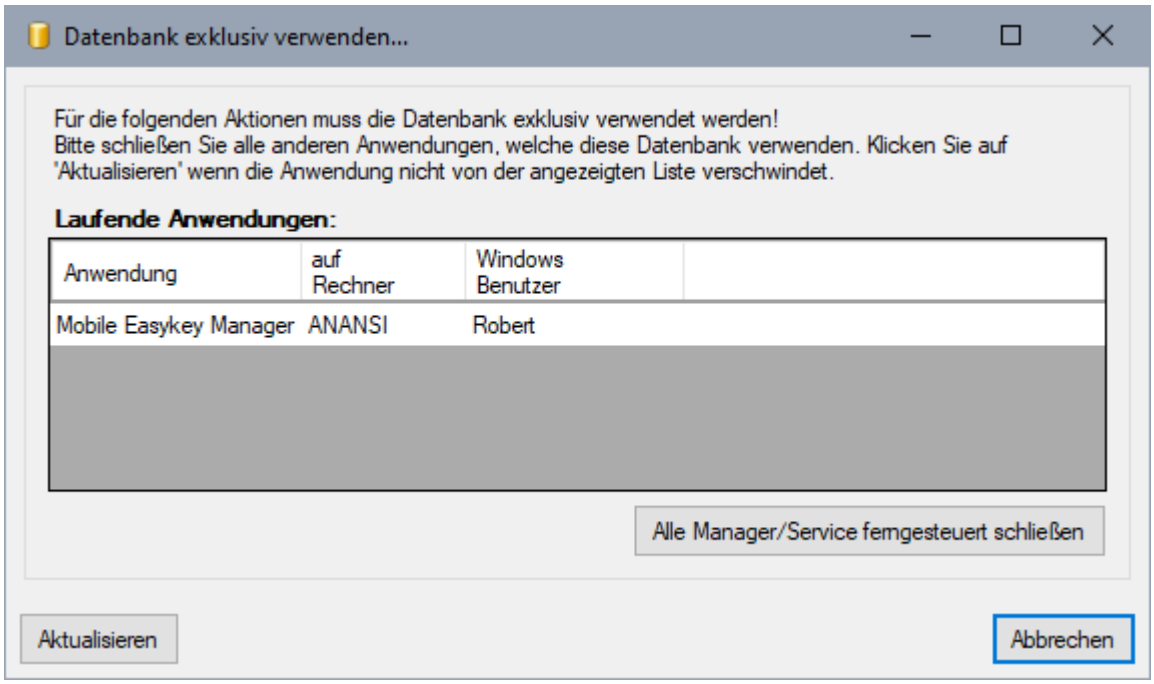
Click ***Enable* offline mode** (recommended) to turn on offline mode now for ALL modules.

Click ***Do not activate offline mode*** to keep the modules in their current state (online/offline).

By clicking on ***cancel database update*** you can still cancel the database update.

5.3.1.1.3.6 Use the database exclusively

In order to perform the actual update, the database must be open exclusively! This means that no other manager or service is allowed to have this database open. If another manager or service has opened the database, the following dialog is displayed showing who is currently using the database.



If all managers and services that have opened the database are already on version 2023.1, the ***Close All Managers/Service remotely function is*** available.

The services running in the background are closed immediately.

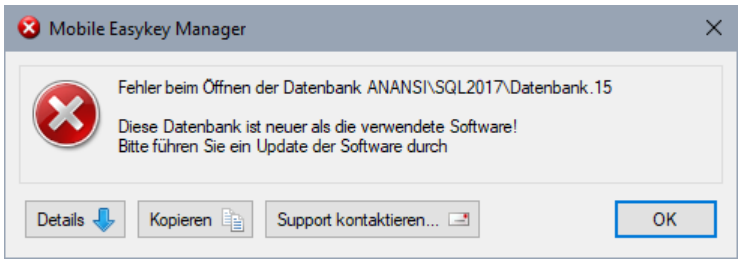
The remote managers who have opened this database will receive a warning that the database will be automatically closed in 60 seconds.



If the database is still compatible after the update, it will be automatically reopened on remote managers. Otherwise, a message will appear (see **5.3.1.1.4 Databank is newer than the software**).

5.3.1.1.4 Databank is newer than the software

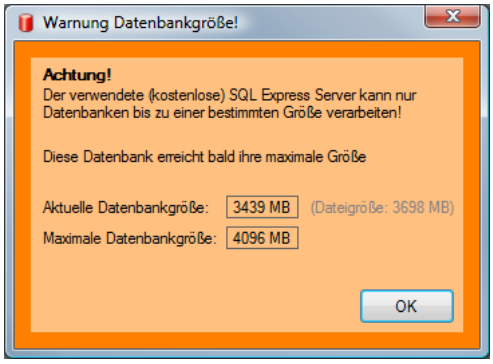
If an attempt is made to open a database that has already been operated with newer software (in which a database update has been carried out as a result), a corresponding message appears.



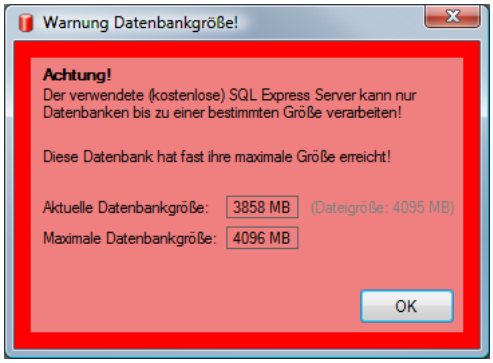
5.3.1.1.5 Warning with too large database size

The supplied SQL express server can process only databases up to a certain size. Hence, a warning is displayed if the database volume approaches the maximum database size.

If you use a separate SQL server without restriction of the database size, a warning is not necessary and is also not specified.

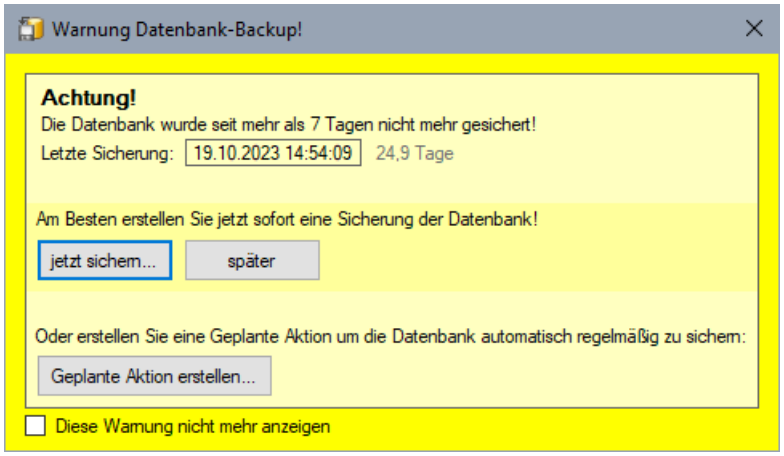


If the database size comes up to 1 GB to the maximum database size it is displayed once per user.



It is displayed every time if the database size comes up to 0.5 GB to the maximum database size.

5.3.1.1.6 Warning Database-Backup



If it's been too long since the last backup, a warning will be displayed.

If local backups are possible and you have the appropriate operating rights (see **5.21 Software Operating Rights**) to create backups, the following buttons are displayed:

Save now...
You can now create a backup immediately. The procedure is the same as for the normal backup via the file menu (see **5.3.2.1 Database Backup**).

Later
Click here if you don't want to create a backup now and want to temporarily ignore the warning.

Create a scheduled Action
Click here to create a Scheduled Action (see **5.20 Scheduled Tasks**) that can be used to create a regular backup fully automatically. See also Chapter **5.20.3.8 Database Backup**.

Don't show this warning again
If you want to ignore this warning entirely, you can enable this option and then click ***Later***. The current software operator or administrator will no longer see this warning (for this database).

To turn off this warning completely (for all software operators and administrators), deselect the ***option Show warning when the backup is older than*** in the database configuration (see **5.14 The database configuration**)

5.3.1.1.7 Warning: Firmware D-xx discontinued

If the database still contains active modules with firmware version D-xx, a warning will be issued because these old modules will no longer be supported in future versions!



Very old modules before version D-64 unfortunately cannot be updated and must therefore be replaced!

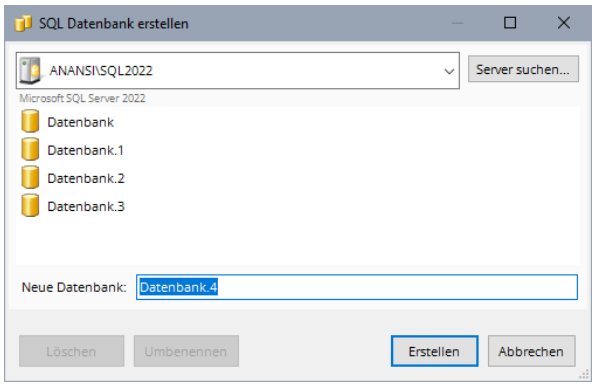
Modules from version D-64 onwards can be updated to version F-24 and thus continue to be used. See also Chapter **5.5.20.4.2 Create program orders**.

If you have any questions, please contact Mobile Easykey Support via the email address khd@mobileeasykey.de

5.3.1.2 New Database

Click on ***new database*** to create a new database:

On the very top you see the selected SQL server on which the new database is to be created. If an incorrect or no SQL server is displayed, click on ***Search server*** to search for the "Mobile Easykey Database". See also chapter **5.3.1.1.1 Search server**. Possibly several servers are found. Then click the field with the server name to open the select list.



In the middle of the window, you see a list of already available Mobile Easykey databases.

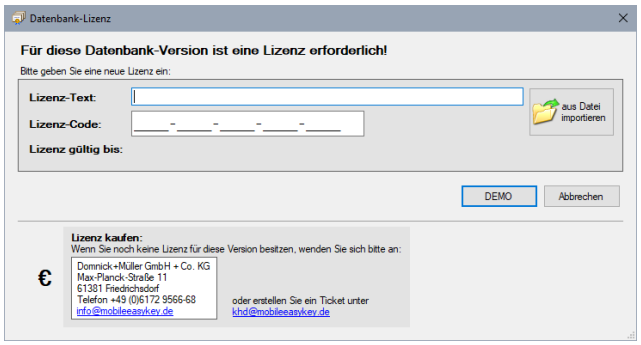
Underneath, in the input field ***new database*** you must enter a new (not used before) database name. Then click on ***Create,*** a new database with this name is created.

With the buttons delete and renaming you can delete available databases or change their name. See also in previous chapter **5.3.1.1.2 Delete and rename** .

5.3.1.2.1 Database License

Even when you create a new database, you must first enter a database license. Unlike in the database update (see **5.3.1.1.3 Database update**), a DEMO mode can be selected, in which the database is can be operated without a license. However, only a maximum of 3 valid modules can be used.

If you do not already have a valid license, please contact:



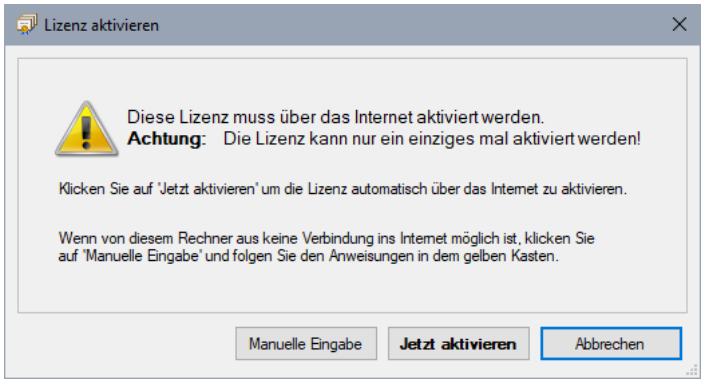
Mobile Easykey GmbH
Max-Planck-Straße 11
61381 Friedrichsdorf
Phone: +49 (0)6172 9566-68
E-Mail: info@mobileeasykey.de

Or create a ticket under
khd@mobileeasykey.de

- ***License Text:***
  This is the text you received along with your license. It usually contains your company name and any other data. This text is stored together with the license and stored in the appropriate locations (e.g., database configuration, see **5.14 The database configuration**) is displayed. Enter the text exactly as you received it.
- ***License-Code:***
  This is the actual license code. Enter the code as you received it. Uppercase and lowercase letters are not distinguished, and lower-case letters are automatically converted to capital letters.
- ***License valid until:***
  After entering the license in full, you can see how long this license is valid. A standard license applies to the program version for which it was issued and in addition to two (half-yearly) main updates. If the license is entered incorrectly, an error message is displayed here.
- ***Import from File:***
  If you received the license in the form of a *.lic file, you can import this file directly. To do this, click Import from File and select the .lic file. The imported license is then automatically ***entered in the License Text*** and ***License Code*** fields.
- ***DEMO***
  If you do not have a license, you can run the program in demo mode. Click on DEMO to open the database in demo mode. Only a maximum of 3 modules are possible in demo mode.
- After entering the ***license text*** and ***license code***, the DEMO button changes to OK.
- Click OK to open the database with the entered license. The license is saved in the database and does not have to be entered again afterwards.

5.3.1.2.1.1 License Activation (with Internet connection)

The license must now be activated once.

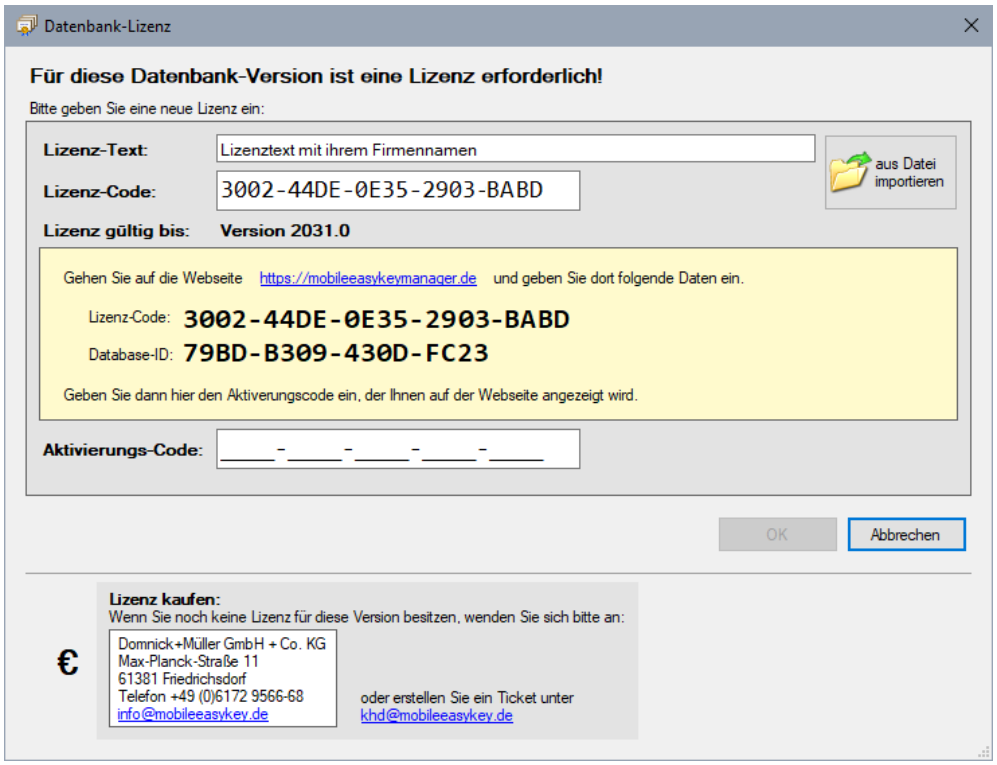


If you have an Internet connection, simply click ***Activate now***. The activation is fully automatic.

Note that you can activate a license only once!

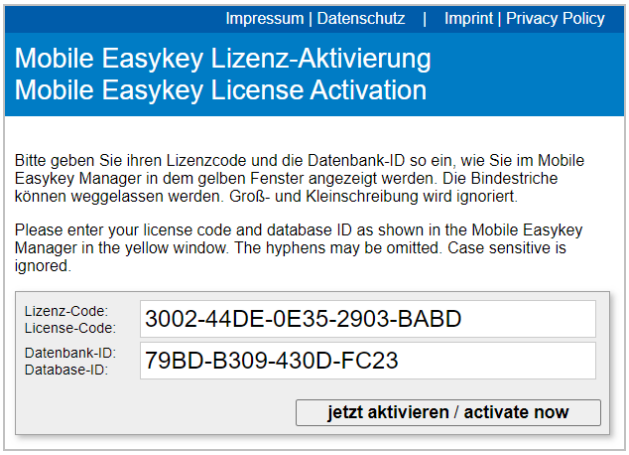
5.3.1.2.1.2 License Activation (without Internet connection)

If this computer does not have an Internet connection, the license entry expands as follows after clicking ***Activate now***: (Note: if you know that there is no Internet connection, you can click ***Manual Input*** right away).



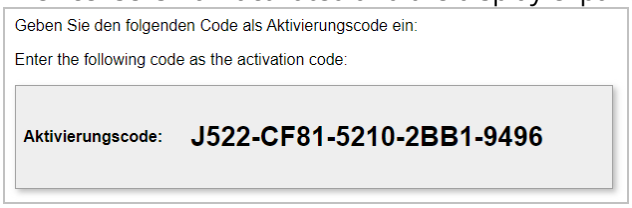
Now, on a computer with an Internet connection, visit the web page https://mobileeasykeymanager.de

Browser window:

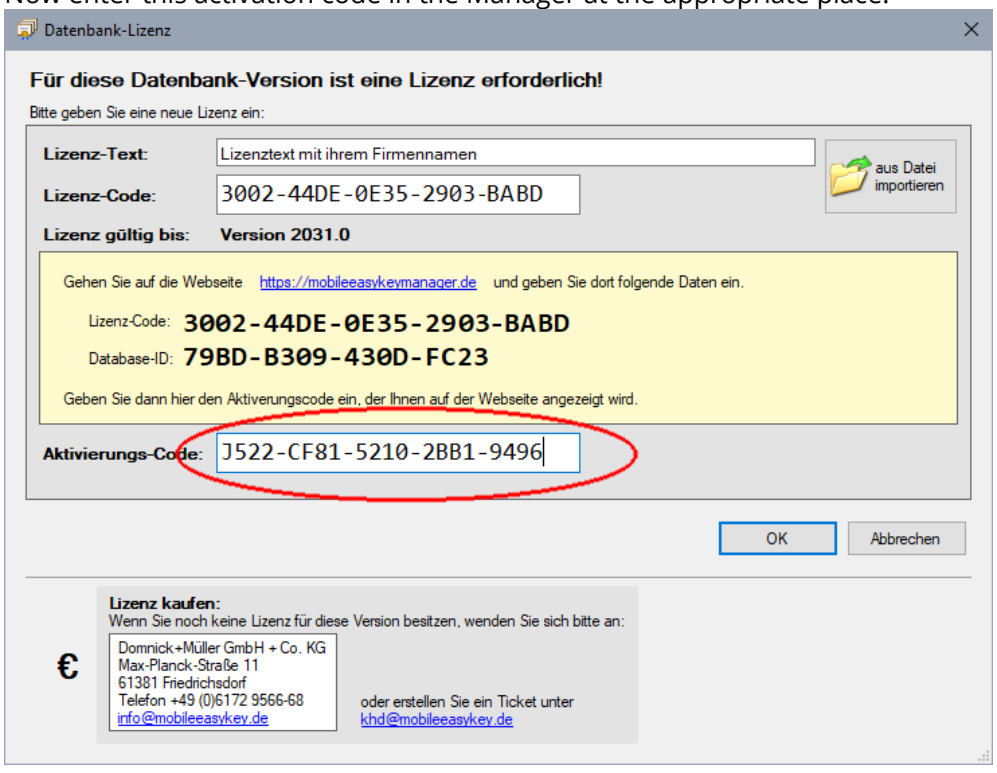


and enter the license code and the code shown under Database ID on the page again. Then click on activate now.

The license is now activated and the display expands to include the following section:



Now enter this activation code in the Manager at the appropriate place:



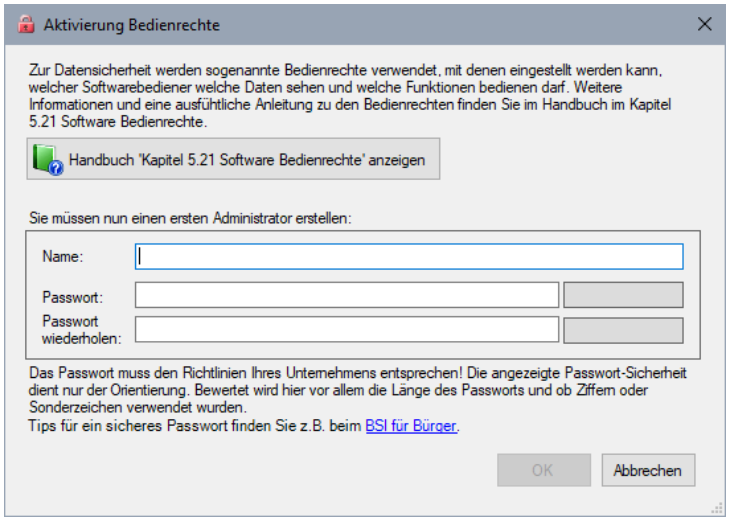
And click OK.

The (activated) license is now saved in the database.

5.3.1.2.2 Activation of operating rights

Due to the GDPR, the operating rights (see **5.21 Software Operating Rights**) are now also valid without additional activation code and must be activated together with the creation of the database.

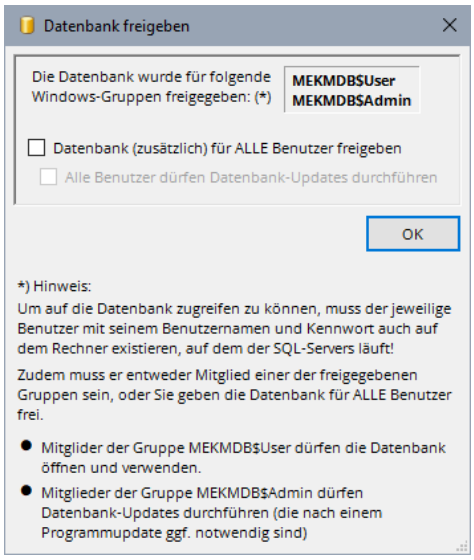
To do this, you must now create a first administrator.



- ***Name:***
  Enter a name for this administrator.
- ***Password:***
  The administrator must have a password. With the name and password, this administrator can then log in to ***Mobile Easykey Manager.***
- ***Repeat password:***
  To avoid incorrect entries, you must re-enter the password.

For example, you can get tips for a secure password from the BSI for citizens.
https://www.bsi-fuer-buerger.de/BSIFB/DE/Empfehlungen/Passwoerter/passwoerter_node.html

5.3.1.2.3 Database Releases



In the following dialog you can determine who may operate this SQL database.

By default, the database is released for some Windows group which are automatically set up with the installation of the Mobile Easykey Database or the SQL server (in the example MEKMDBUser and MEKMDBAdmin)

With the option ***Database, (in addition) Release for ALL users***, the database becomes available for all users (who may access the computer on which the SQL server runs). Therefore, if no raised security standard is necessary, the setup of the database can be simplified.

If an existing database with a newer version of the Mobile Easykey Manager is opened, the database structure of the existing database must possibly be customised! Older versions of the manager may not open this database afterwards. Such a database update should be carried out only target-aimed.

By default, only users with administration rights on the SQL server have to carry out such database updates. With the option **database updates *all users,*** all users may be given the rights to do so, (for this one database). (For experts: The Windows group *users* get *db_owner rights* for this database.)



The menu command to create ***new database*** can be hidden! See **5.12.1 Global settings – database**.

5.3.1.3 Global Settings

Here global settings are deposited as for example whether and which database should be automatically opened while starting.
The global settings are explained in chapter **5.12 Global settings**.

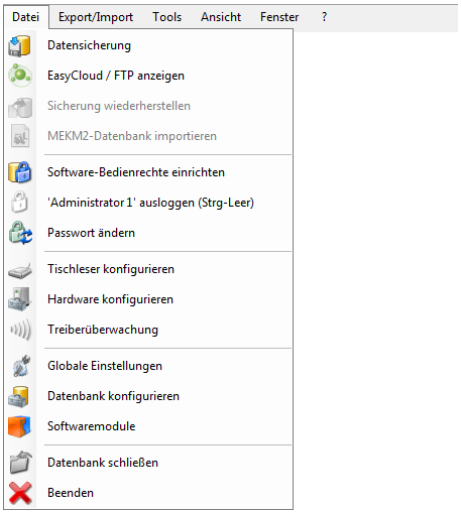
5.3.1.4 Software Modules

With purchasing different software modules, the function perimeter of the Mobile Easykey Manager can be extended.
The software modules are described in chapter **5.22 Software Modules (Optional)**.

5.3.1.5 Documentation

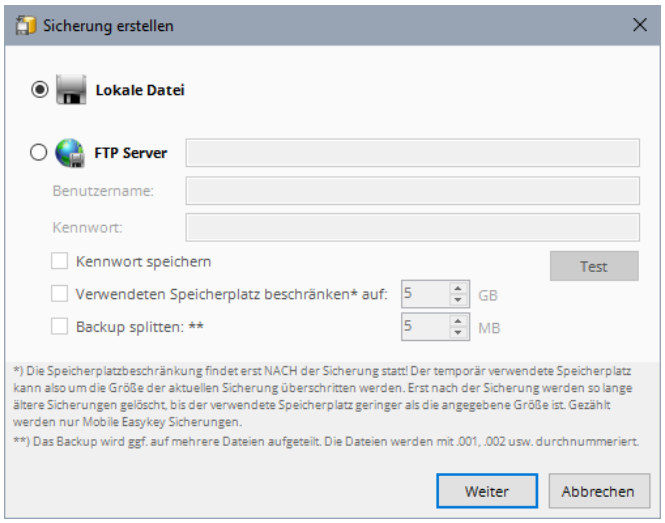
Calls up the documentation.

5.3.2 File



5.3.2.1 Database Backup

Click in the menu ***File*** on ***database backup*** or alternatively, in the toolbar on to create a backup of the database currently opened.



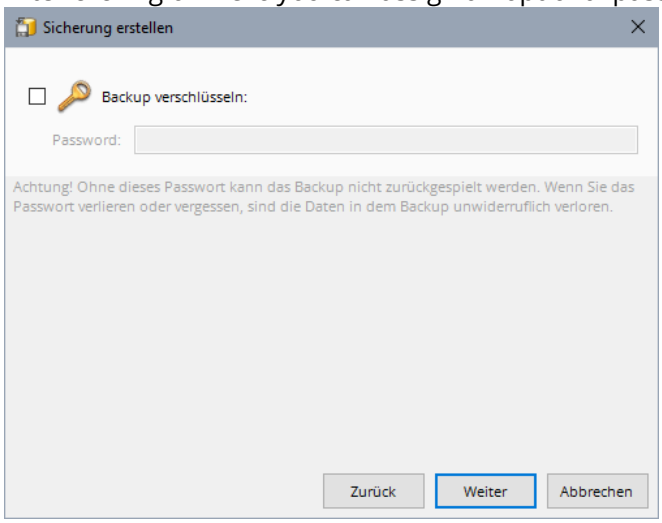
Select the place where the backup file should be saved:

- ***Local file***
  select this option to save the backup as a (optionally encrypted) local file on a data carrier (e.g., hard disk or USB-stick). Then in the next step you can select the password, directory, and the filename for the backup.
- ***FTP server***
  Backup The backup can also be automatically uploaded to an FTP server. The backup file can optionally be stored encrypted.
  With a click on the ***Test*** button, you can check the entered access data without starting the backup already.
  If this option is activated, you can upload the backup automatically on the chosen FTP. The backup file is saved encoded. With the option ***Limit used storage space*** you determine how much storage space for backups should be used at the most on the SQL server. Note that the limitation is activated only after the respective backup. Hence, the actual used storage space can be crossed temporarily around the size of the actual backup.
  Only the MEKM backups are counted for the memory limit! Some Antivirus programs, which also monitor the FTP upload, have problems with files that are too large. For this reason, the backup can be split into several smaller files using the ***Split Backup*** option. The size of each file can be adjusted.

Tip*:*
The data protection can also be automated with the help of the scheduled tasks (see **5.20 Scheduled Tasks** and **5.20.3.8 Database Backup**).

Note:
The menu item ***Database backup*** can be hidden in the global settings (see **5.12.1 Global settings – database**).

After clicking on ***Next*** you can assign an optional password for this backup.



The backup is created internally as a zip file with AES256 encryption.

Attention!
Without this password, the backup cannot be restored! If you lose or forget the password, the data in this backup will be lost forever!

5.3.2.2 Display FTP

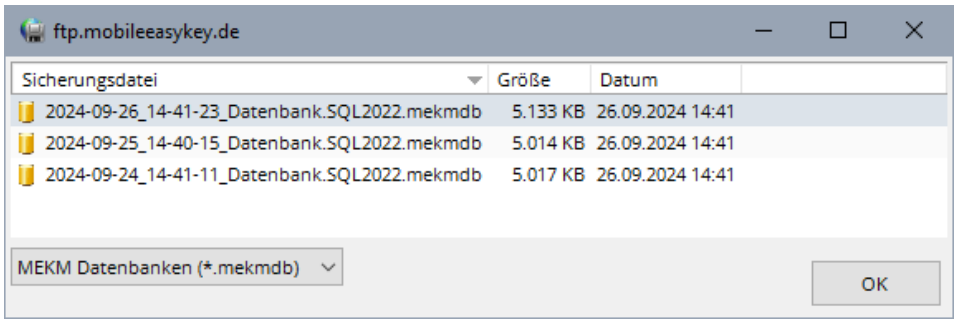
If you use the Easykey Backup or your own FTP server as backup media (see **5.3.2.1 Database Backup**), you can open the window of the menu item which displays the contents of the selected FTP server.

Click the button ***Test*** to check the actual access data.



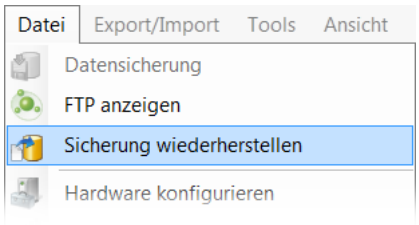
Click on ***NEXT*** to show the contents of the FTP of server.

If a proxy is used, a window for entering the username and password for the proxy may also be displayed.



By default, only MEKM backup files are displayed
You can also display ***all files (*. *)*** via the selection in the lower left corner.

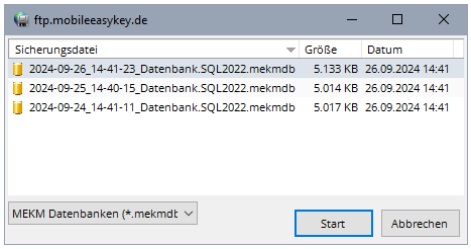
5.3.2.3 Backup Restore



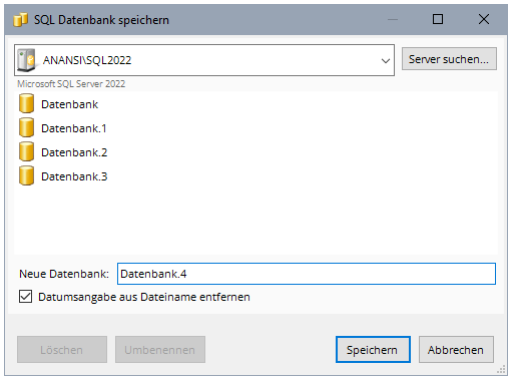


To restore a database (**5.3.2.1 Database Backup**), click in the menu ***File*** on ***backup restore***. Select in the following dialog where the backup is recorded.

- ***Local file***
  After clicking on NEXT a dialog opens in which you can select the required file. In the case of a split backup, select the first file with the extension * .mekmdb.001.
- ***FTP Server***
  Enter the relevant access data and click on NEXT. With a click on test you can check the actual access data beforehand. If a proxy is used, a window for entering the username and password for the proxy may also be displayed.
  In the following dialog you can select one of the backups which were created before with this programme.
  In case of a split backup select the first file with the ending .mekmdb.001.
  Click on ***start*** to launch the restore of the selected backup.



With the following dialog you must select the SQL server and specify a new database name under which this backup should be played back.

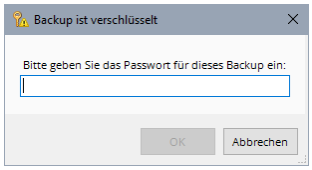


In the uppermost row you see the currently selected SQL server of the "Mobile Easykey Database". If the incorrect or no SQL server is displayed, click on ***search server*** to find the "Mobile Easykey Database". See also chapter **5.3.1.1.1 Search server**. Possibly several servers are found. If so, click the field with the server name to open the selection list.

Now enter the required database name. The name of the backup file is pre-set.

Use the option ***Delete date from filename*** to automatically delete the dates and times (e.g., "_2013-04-26_13-04").

If the backup was created with a password (encrypted), only one window appears, in which you must enter the valid password of this backup.



Note:
The menu item ***Restore Backup*** in global settings can be hidden (see **5.12.1 Global settings – database**).



5.3.2.4 Log in

This menu item is only visible if currently nobody is logged in. Click on this menu item to log into the software (see **5.21.7 Log in and log off)**



5.3.2.5 'XY' Logging out

This menu item is only visible if currently an administrator (see **5.21.2 Administrators**) or a software operator (see **5.21.3 Software Operator**) is logged in. Click on this menu item to log off from the software (see **5.21.7 Log in and log off**).



5.3.2.6 Change Password

This menu item is only visible if currently an administrator (see **5.21.2 Administrators**) or a software operator (see **5.21.3 Software Operator**) is logged in.

5.3.2.7 Hardware Configuration

Here the connected hardware (e.g., table reader or program cable) can be configured.
You find further information in chapter **5.13 Configure hardware**.

5.3.2.8 Driver Monitoring

With this special option WI-FI and Bluetooth driver functions can be monitored. Drivers ordinarily run more or fewer unnoticed in the background. However, if communication problems appear, they can be determined with the help of the driver monitoring.
Further details in chapter **5.13.7 Driver Monitoring**.

5.3.2.9 Global Settings

Global settings determine as for example whether and which database should be automatically opened on start up.
Further details on global settings see chapter **5.12 Global settings**.

5.3.2.10 Configure Database

Many options of Mobile Easykey Manager are configurable. E.G., additional fields can be defined to enter further data for modules, batteries etc. These configurations are specific for the database and, hence, are also saved in the database. Accordingly, this menu item is only visible with an opened database.
Further information in chapter **5.14 The database configuration**.

5.3.2.11 Software Modules

Purchasing different software modules, the function perimeter of Mobile Easykey Manager can be extended.
Further explanations on software modules see chapter **5.22 Software Modules (Optional)**.

5.3.2.12 Close Data Base

Click on the menu ***File*** ***Close database*** to close it to and to be able to open, if necessary, another database or to carry out settings which are only possible with a closed database.



Note:
The menu item Close Data Base can be hidden in Global Settings (see **5.12.1 Global settings – database**).

5.3.2.13 Exit

Closes all windows and exits Mobile Easykey Manager. If a database is open, it is closed beforehand.

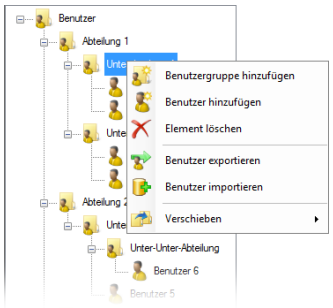
5.3.3 Export / import



5.3.3.1 Import data

If the user-, battery- or module data are already available from another source, these must not be entered again but can be imported from a file. Database files of the prior version MEKM2 and text files in Unicode are supported. For modules also Xml files were created, which this version of Manager (see **5.3.3.2 Export data**) is supporting too.

To import data, you select in the menu ***Export / import*** the item ***Import*** and select the file to be imported. The imported elements are saved directly in the main directory.



Alternatively, you click on this button in the toolbar of the respective tab. In this case the imported elements are saved in the group which is currently selected!

In the hierarchic structure (see **5.11 Groups and tree (hierarchical) structure**) right click on a group or an element and select in the opening PopUp menu the menu item ***Import modules***, ***Users import*** or ***Batteries import***.

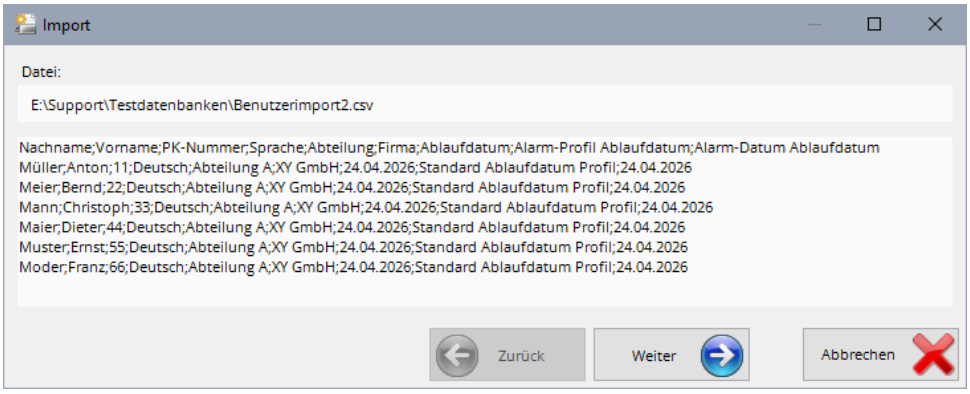
Read one of the following chapters depending on the file type selected:

- **5.3.3.1.1 From text file (csv)**
- **5.3.3.1.2 From xml file**.

Tip:
User data can automatically be imported from a csv file. See chapter **5.13.4.4 Automatic User Import**.

5.3.3.1.1 From text file (csv)

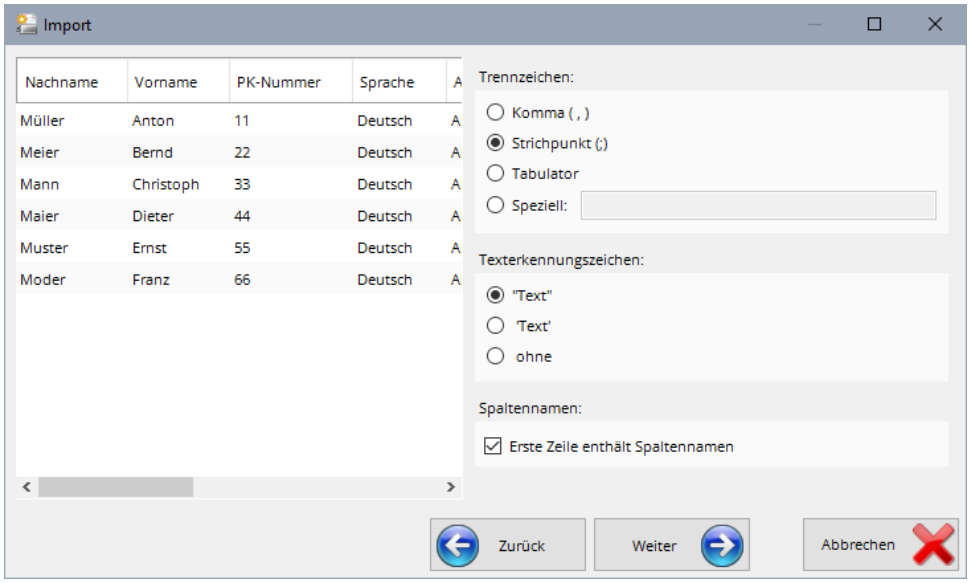
For confirmation you see the text of the file.



Click on ***NEXT***.

Note:
If the file format could be automatically recognised, this dialog is skipped.

Now you must specify how this text file is constructed.

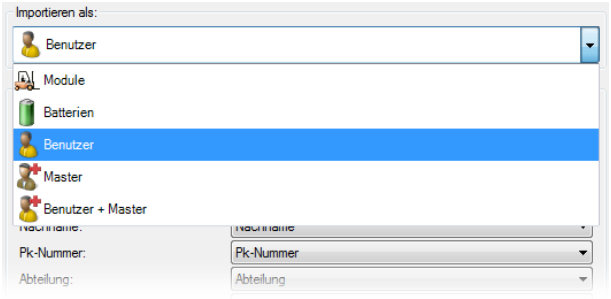


First specify the separator with which the different columns are separated of each other. Usually this is a comma, semicolon or tabulator. If you have selected the correct separator, the data should be displayed column by column.

I necessary experiment with the text recognition characters. In most cases the first option "Text" works.

With the option ***first row contains column name*** you can specify whether the column names are to be included with the text file. If this option is not selected, the columns are simply called column 1, column 2, etc.

Click on ***NEXT***



Select ***import as*** to determine whether the data should be imported as ***modules, batteries***, ***users***, ***master*** or ***user+master***. With this last option users who are user as well as master are imported. If data is launched directly from the tab ***modules*** (see **5.5 Modules**), ***user*** (see **5.6 User**) or **batteries** (see **5.8 Batteries**) only the relevant options are visible for modules, users or batteries.

Now specify which column in the text file should be used for which field in the database.

If the column name corresponds accurately with the field name, the appropriate allocation is automatically preselected.

In the ***database field*** all possible selection fields of this database are listed. Click the respective selection field on the right to select the appropriate column from the text file.

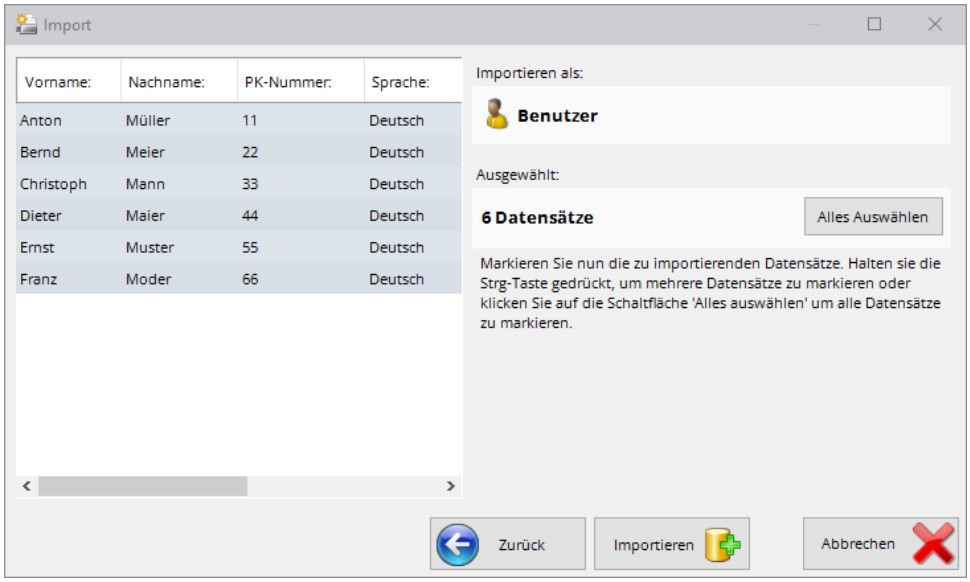
In the field ***locked*** only the value ***Yes*** or ***no*** can be specified.

With the import of users or batteries an alarm profile can be pre-set for applicable alarms (see **5.14.7 Alarms** or **5.14.7.2 Battery-Expiry Date**, **5.10.4.3 Expiry date alarms** or **5.10.4.5 Battery expiry date Alarms**). In this case a column can be associated for the respective expiry date. With the option on the right beside the column allocation (in the example on top T-M-J) you can specify in which order (days, month and year) the text file is presented.

Not assigned fields are marked with the icon ⚠ and remain empty in the database. They can be filled in manually afterwards.

An exceptional position takes the field underneath ***transponder***. Here it must be specified additionally whether the transponder numbers in the text file are to be specified in decimal numbers (dec) or hexadecimal (hex) figures.

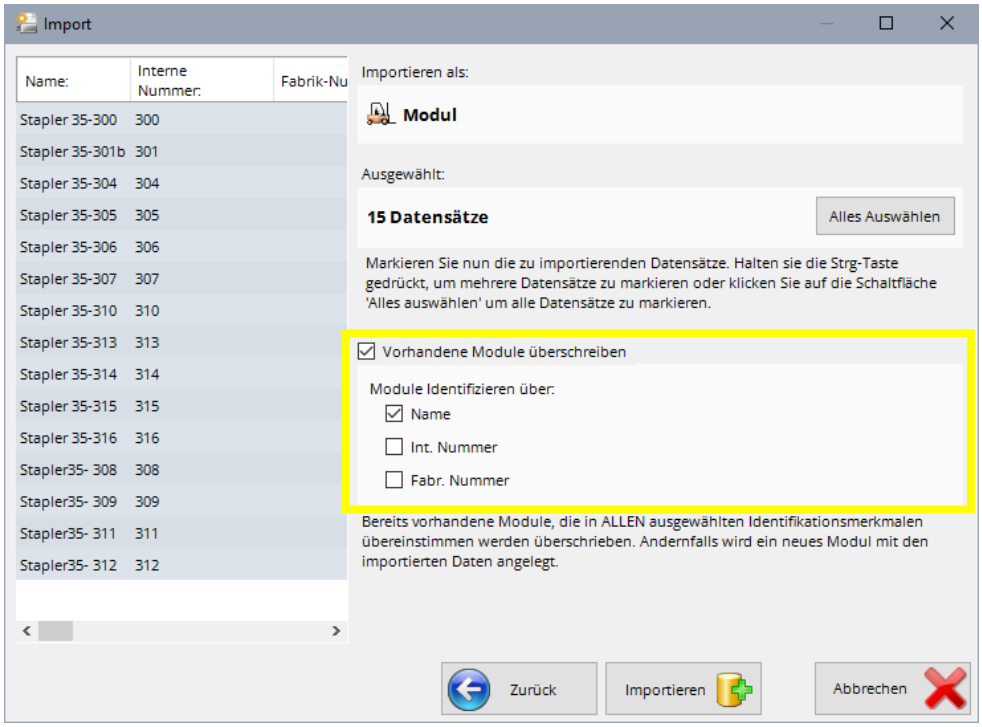
If you have carried out all allocations, according to your specifications, click on ***NEXT***.



Last you can select the wanted data sets.

Click on ***import***, to import the selected data sets).

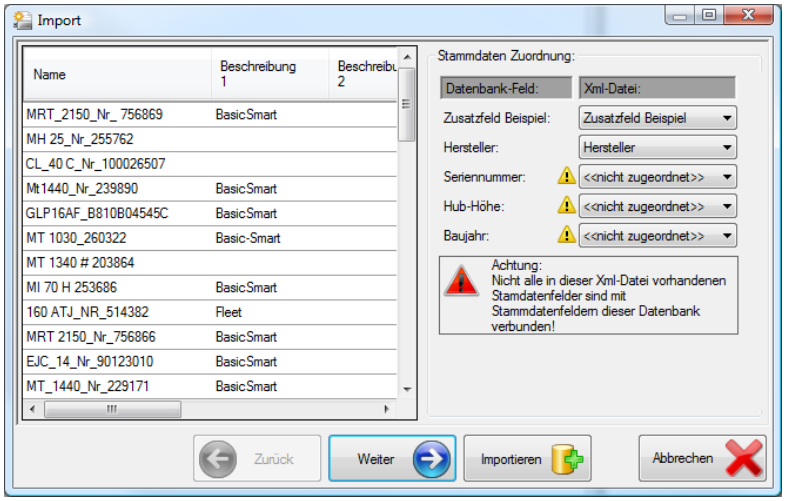
When importing modules, there is an additional function called **Overwrite existing modules**:



Here you can specify if modules with the specified ***name***, ***internal ID number***, or ***model number*** that already exist in the database should be added again. The data for these existing modules will be overwritten with the data from the imported file.

Tip:
To import users in this way so that existing users are overwritten instead of being created again, you can use the ***automatic user import*** feature (see **5.13.4.4 Automatic User Import**).

5.3.3.1.2 From xml file

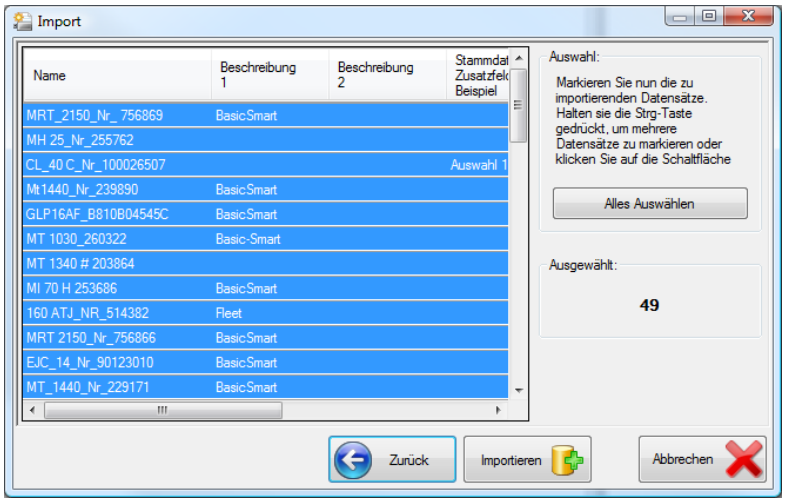


If the master data fields of the file to be imported does not entirely correspond with this database, you can carry out the allocation manually, if necessary.

If the field in the database to be imported is called, e.g., "serial number", but in the actual database it is called, "serial-number", the allocation cannot be carried out automatically.

If the file to be imported contains more master data fields than this database or they do not associate with all of the master data fields, a warning is displayed.

If all master data fields correspond, this step is automatically skipped.
Otherwise adjust the wanted allocations and click on ***NEXT***.

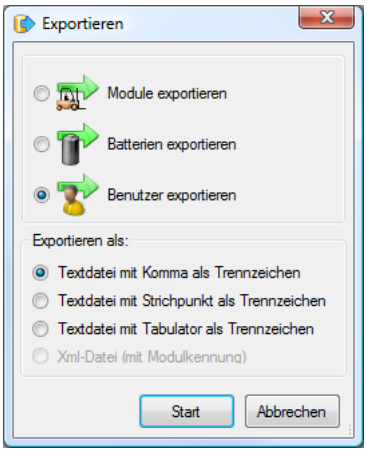


Select the wanted data sets and click on ***import*** to import the selected data.

5.3.3.2 Export data

You can export the module data, user data and battery data contained in the database any time in a text file (or for modules, also, in a xml file). This file can then be used in another programme or be imported again into another database MEKM3 (see **5.3.3.1.1 From text file (csv)** and **5.3.3.1.2 From xml file**)

To export all modules, users or batteries you click in the menu ***Export / import*** on ***Export***.



Now select, whether you want all

- ***Export modules***
- ***Export batteries***
- ***Export user***

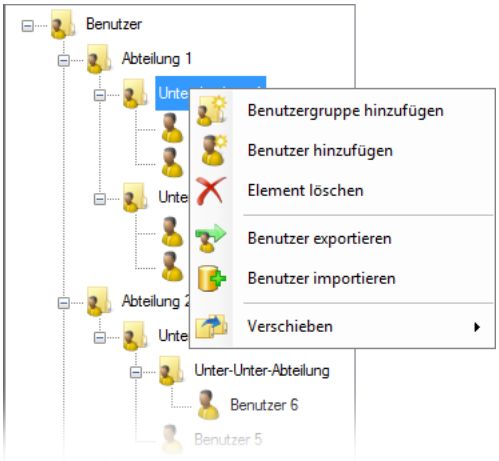
Now specify in which format the data should be exported:

- ***Text file with comma as a separator***
  Creates a csv-file in which the single columns are separated with a comma.
- ***Text file with semicolon as a separator***
  Creates a csv-file in which the single columns are separated with a semicolon.
- ***Text file with tabulator as a separator***
  Creates a csv-file in which the single columns are separated with a tabulator.
- ***Xml file (with module password)***
  Creates a file in MEKM format. This option is only available for modules. In this format the module password of a module is also exported. If such xml file is again imported in another MEKM database, these modules can be used **without** repeated first initialisation.

Click on ***start*** and select a file name for the file to be created.

Note:
To export only modules, users or batteries of a certain group, click with the right mouse button on the desired group and select the menu item

Export modules
Users export or
Export batteries.

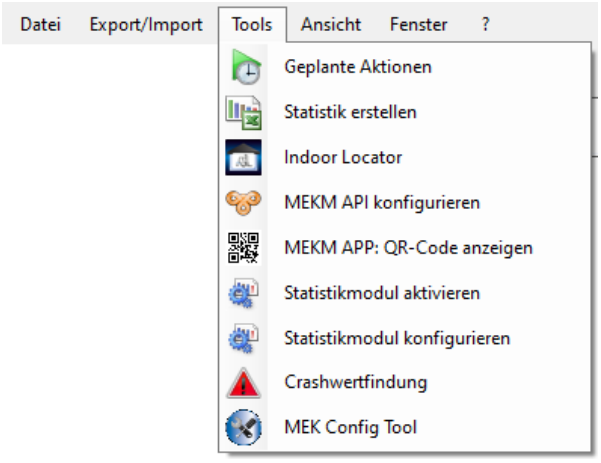


5.3.3.3 Import Orders

Orders which were created on file or were dispatched by email (see **5.5.20.4.1 Select connection**) have to be played back with the Communicator to the database after the implementation (see **6 Mobile Easykey Communicator**).

With the tab ***Orders import*** from the menu ***export / import*** orders completed with "Mobile Easykey Communicator" can be played back to the database. This finalises the order in "Mobile Easykey Manager".

5.3.4 Tools



5.3.4.1 Scheduled Task

Certain, recurring tasks can be automated by scheduled tasks. See **5.20 Scheduled Tasks** for further information.

5.3.4.2 Create Statistics

This menu item calls on the programme to create statistics with the help of Microsoft Excel. (Microsoft Excel must be installed)

Note:
This menu item is only displayed if the appropriate software module (**5.22.1 Offline Statistics**) is activated.

5.3.4.3 Indoor Locator



Calls the Indoor locator configurator.

Via Wi-Fi the Mobile Easykey Module reports its location to the software. A value for money option is the simple Access-Point-precise locater. The more Wi-Fi Access points are installed the more exact the appliance can be located. The fleet manager therefore has an overview over the entire company. Which appliance is in which area and in what condition: logged in, powered, in crash, in workshop mode, etc. Prerequisite is only one up to date Mobile Easykey Wi-Fi module. This cost-effective solution does not require upgrading or interference with the hardware.

You can find further information in a separate document which is installed with the Mobile Easykey Manager. Generally, here: C:\Program Files (x86)\Mobile Easykey\Manager\Indoor Locator\IndorLocator.pdf.

Note:
This menu item is only displayed if the appropriate software module is activated.
See **5.22.4 Indoor Locator**.

An ***Indoor Locator Driver*** is used for the operation of the Indoor ***Locator*** (see **5.13.3.1.7 Indoor Locator Driver**) is required.

5.3.4.4 Configure MEKM-API (legacy)

MEKM-API is an interface for communication with external smartphone apps.

A configuration is called here, which is required for the old (legacy) APPs.

Caution: the Legacy API port must be activated for this function! See **5.13.3.1.6.2 MEKM-API – Settings**.

5.3.4.5 MEKM APP: Show QR-Code

Displays a QR code that can be scanned in with the new APPs and automatically performs the configuration. The QR code is generated individually in the API driver, see **5.13.3.1.6.2 MEKM-API – Settings**.

Note:
This menu item is only displayed, if the corresponding software module (see **5.22.6 MEKM-API**) is activated.

5.3.4.6 Activate Statistics Module

Because the logbook and operating hours data use a lot of storage space, these data can be deleted automatically on a regular basis.
Not to lose any information for the creation of online statistics (see **5.18 Online Statistics**), the data can be saved beforehand in a statistically projected, space-saving format.

With this menu item the statistical projection is activated (see **5.18.1 Statistics module activation / configuring**)

Note:
This menu item is only displayed if the appropriate software module is activated. See **5.22.2 Online Statistics**.

5.3.4.7 Configure Statistics Module

If the configuration of the statistical projection calls once more the statistics module is already activated.

Note:
This menu item is only displayed if the appropriate software module is activated.
See **5.22.2 Online Statistics**.

5.3.4.8 Crash Valuation

The crash value determination is used to find the correct crash settings (see **5.9.4.1 Crash (crash+remote)**. The vehicles are programmed in such a way that many crashes are recorded without the vehicle shutting down. These crashes can now be analysed using crash valuation.

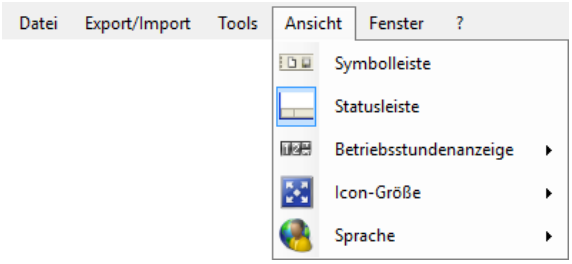
5.3.4.9 MEK Config Tool

With the MEK Config Tool, the hardware can be directly addressed, read and programmed. The setting of the WLAN configuration is also done with the MEK Config Tool.



Attention!
When the MEK Config Tool is started, all cable drivers are automatically stopped to release the interfaces for the MEK Config Tool. The cable drivers can be restarted at any time (even while the MEK Config Tool is running). (See **5.13.6 Drivers Start and Quit**)

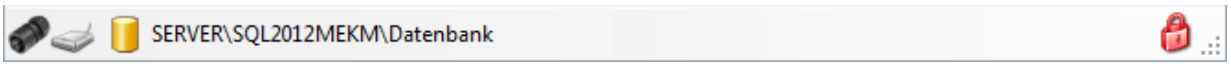
5.3.5 View



5.3.5.1 Toolbar

Shows or hides the toolbar  in the right upper corner. This provides quick access, without needing to go through the menu. The meaning of the single icons is explained in the course of this manual.
The toolbar is active only with opened database.

5.3.5.2 Status bar

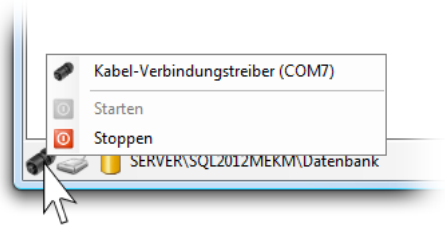


The status bar is in the lower margin of the window. On the left are displayed the names of the database opened currently as well as by Plug and Play (see **5.13.1 Plug and Play**). Also running added devices like table readers, cable and Easy Point connections, which were manually added in the hardware configuration (see **5.13 Configure hardware**)

= Table reader	(**5.13.5.1 Table**)
= Cable splicing	(**5.13.2.1.1 Cable driver (directly)**
= Easily point connection	(**5.13.3.1.1 Easy Point driver (via cable or network)**)
= Infrared connection	(**5.13.2.1.2 Infrared driver**)
= Bluetooth connection	(**5.13.3.1.3 Bluetooth driver**)
= Wi-Fi connection	(**5.13.3.1.4 Wi-Fi driver**)
= mobile radio connection	(**5.13.3.1.5 mobile radio driver**)
= MEKM API	(**5.13.3.1.6 MEKM-API Driver (REST-API)**)
= Indoor Locator	(**5.13.3.1.7 Indoor Locator Driver**)

Tip: With a click on the icon of a running driver the respective window of this driver is opened. See also the chapter of the respective driver.

With a right mouse click on one of the driver icons in the status bar, a small menu is opened. With the uppermost menu item (name of the driver) the hardware configuration of this driver (in the category Plug and Play) can be called directly.
With the menu items Stop and Start, the driver can be stopped and relaunched any time. See also **5.13.6 Drivers Start and Quit**.



Right click

The driver icons can have small additional icons with following meaning:

or	No database is opened.
, or	The respective driver runs.
or	The connected module is a new, still unknown module.
or	For the connected module orders are currently performed.
or	All orders were implemented. Now the connection can be terminated
or	The driver connected by Plug and Play device was terminated.
	Tip: Table readers, cable and Easy Point connections added manually in the hardware configuration become invisible, as soon as the respective driver is terminated.

Further, the present status of the database is displayed:

= Database closed

= Database opened

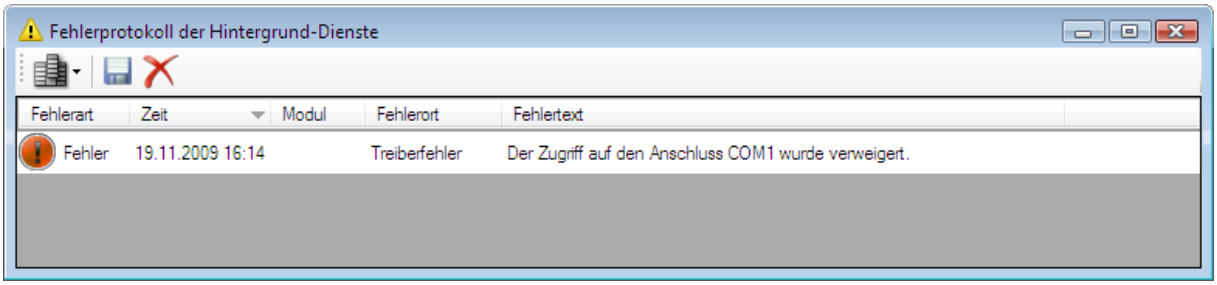
= Database opened with new error in the ***error protocol of background services*** (see next chapter **5.3.5.2.1 Error protocol of background services**)

On the right side (when the database is open), the currently open database, including the SQL server used and possibly MEKM-Database, is displayed.

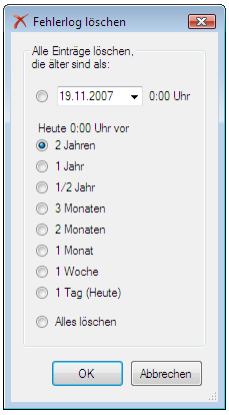
On the right side, the currently logged in administrator or software operator (see **5.21 Software Operating Rights**) is displayed. If no administrator or software operator is logged in, a small red lock icon is displayed.

Clicking on this lock icon or on the logged-in administrator/software operator opens the login window. This has the same function as the menu item ***File-Login*** (see **5.3.2.4 Log in**)

5.3.5.2.1 Error protocol of background services



Here you see a list of the occurred errors. To delete this list (partially) you click on the ✕ icon.



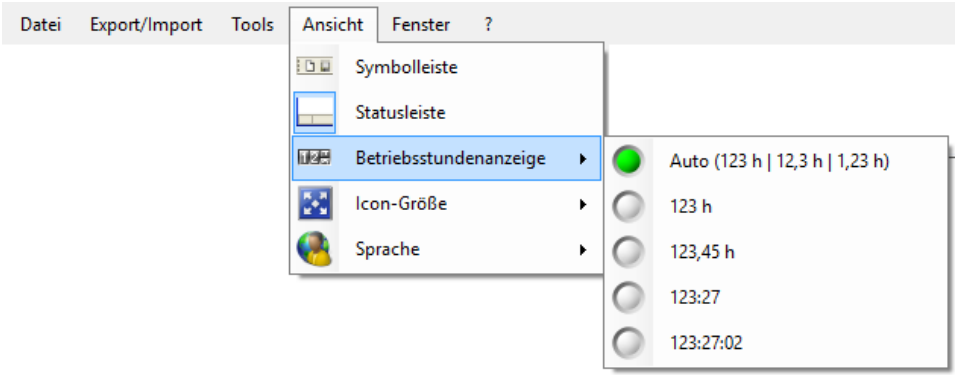
Now you can delete automatically older entries from this protocol (log). Select the appropriate time interval or ***delete all*** and click on ***OK***.

If you have selected, e.g., the time 3 months interval, this means that all data are deleted up to the last three months.

By default, entries which are older than 90 days are automatically deleted. You can change this setting, see also chapter **5.14.12 Database-Maintenance**.

If you are requested by the support to so, you can export the contents of this error protocol in a file. For this, click in on the 💾 button.

5.3.5.3 Operating Hours Display



Here you can choose the format in which the number of operating hours (cut in hours or usage)

Auto: With this setting the operating hours are shown with full hours. Only if the operating hours are smaller than 100 hours one or two further decimal places are added.

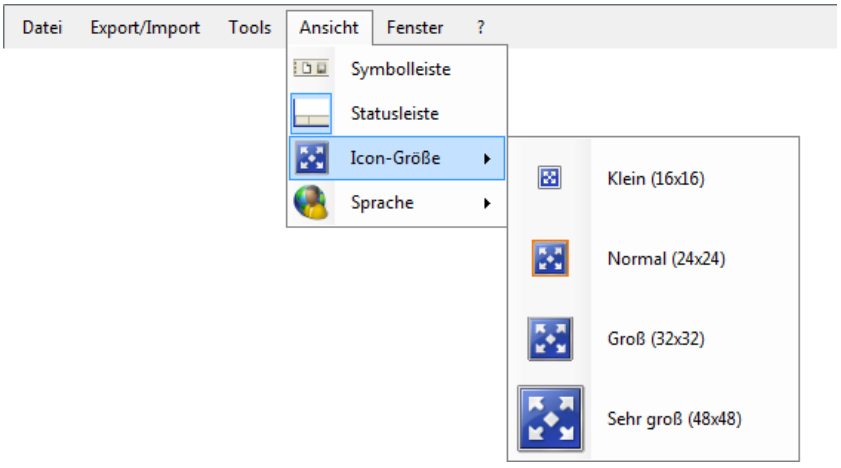
123h: Operating hours are always displayed as full hours. 0 hours, 59 minutes 59 sec are shown as 0 hours.

123,45 h: Operating hours are always shown as full hours with two decimal places.

123:27: Operating hours are always shown in hours: minutes

123:27:02 Operating hours are always shown hours: minutes: seconds

5.3.5.4 Icon Size

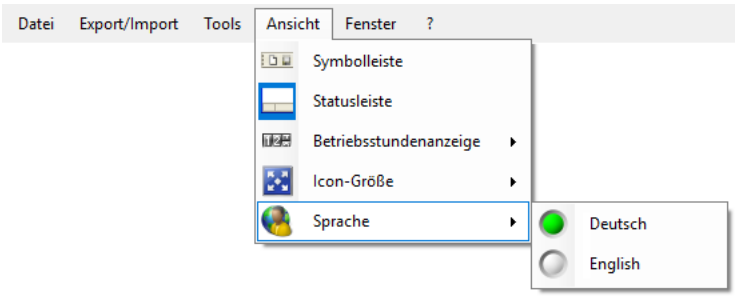


"Mobile Easykey Manager" uses small images (icons) throughout. These different icons can be assigned, e.g., to modules and users, to be able to recognise and distinguish them. With the tab ***icon size,*** you can adjust, how big these icons should be displayed.

Note:

In order to change the ***icon size*** all sub windows must be closed. Still opened sub windows are automatically closed after a query.

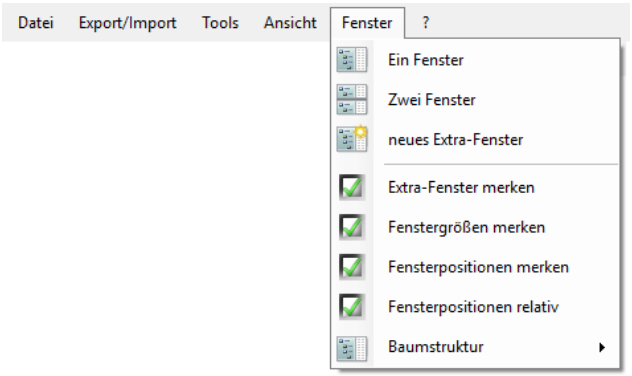
5.3.5.5 Language



In the menu ***View*** - ***language*** you can select the language in which "Mobile Easykey Manager" should run. Note that some texts (such as the automatically assigned Default usernames "user 1", "user 2" ...) are assigned into the language which is set at this point. You can change these texts afterwards manually.

Note:
In order to change the ***language*** all sub windows must be closed. Still opened sub windows are automatically closed if required after a query.

5.3.6 Window

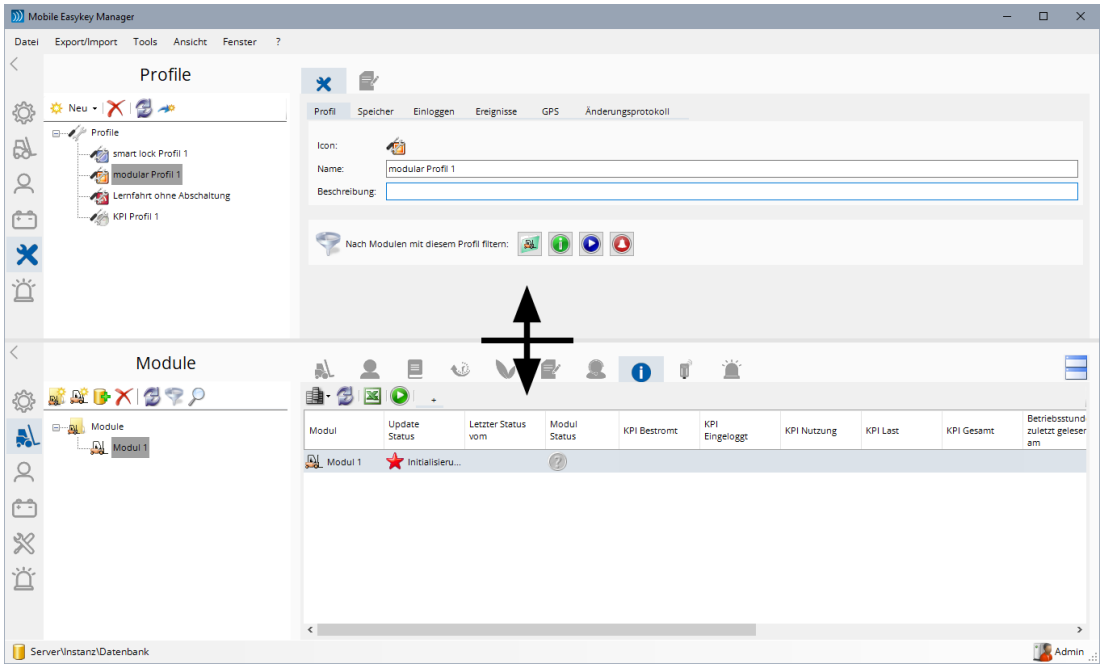


5.3.6.1 One Window

Closes the menu item if **Two Windows** are opened.

5.3.6.2 Two Windows

With the menu item ***two windows*** the main window can be divided horizontally into two halves. In both halves different elements can be displayed. E.g., a profile on top and a module displayed below.

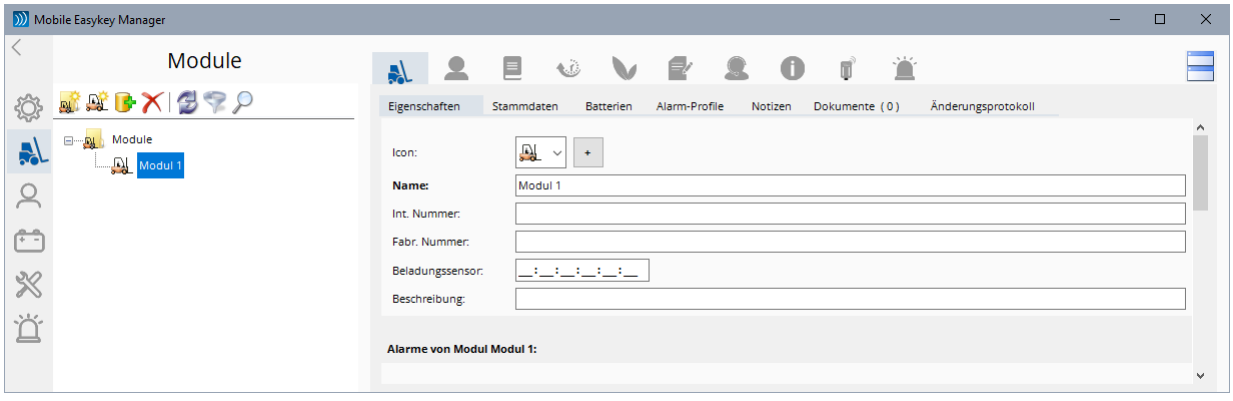


Change the proportion of both halves with the mouse. Click between both halves, hold the mouse button and drag upwards or downwards.

Clicking on menu item **One Window** the upper half is hidden again.

5.3.6.3 New Extra Window

Opens a second, separate window, which is e.g., can also be moved to a second monitor



5.3.6.4 Remember Extra Window

If this option is selected, any extra windows that are still open when you close the Mobile Easykey Manager will be automatically reopened the next time.

5.3.6.5 Remember Window Sizes

"Mobile Easykey Manager" can remember automatically, how big different external window (as for example the window for the database configuration, see **5.14 The database configuration**) were. If this option is selected, the window is opened next time in the same size.

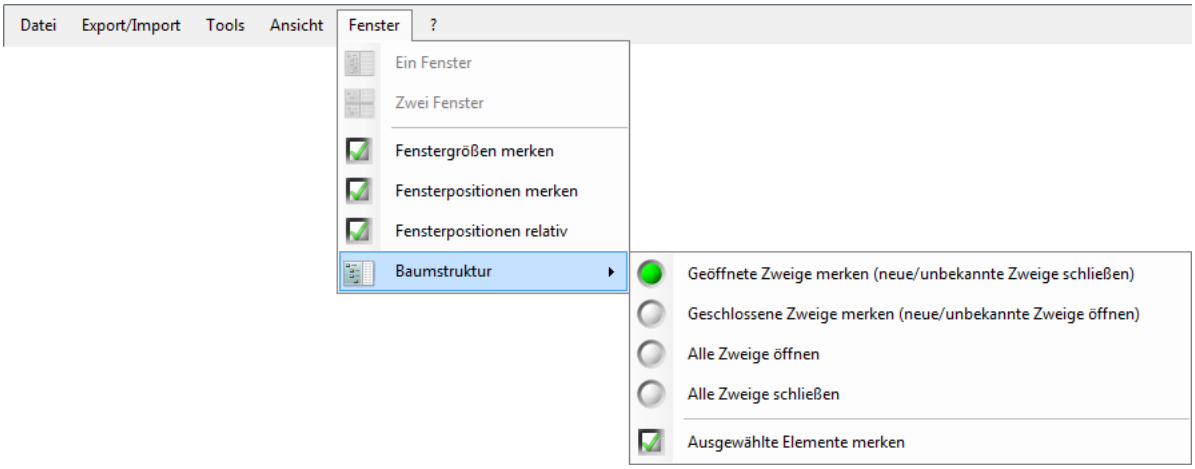
5.3.6.6 Remember Window Positions

Furthermore, the position of the external windows can also be saved.

5.3.6.7 Window Positions Relatively

With this option the saved window position is saved relatively to the main body. If an external window is placed as, e.g., directly on the left beside the Manager, it will again be displayed there by the next opening, even if the window of the manager was moved around meanwhile.

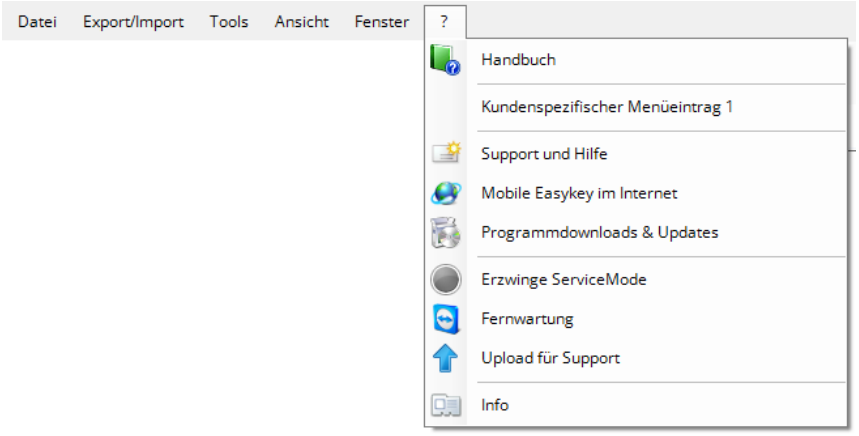
5.3.6.8 Tree (Hierarchical) Structure



Many of the data (such as modules, see **5.5 Modules**) can be structured in groups, sub-groups of sub-sub-groups etc. These data are displayed in a tree (hierarchical) structure (see also **5.11 Groups and tree (hierarchical) structure**). Single divisions (sub-groups) of this tree structure can be opened (flipped open) or closed (snap shut). "Mobile Easykey Manager" can recall which divisions are opened or are closed. If new divisions (sub-groups) are added, which the "Mobile Easykey Manager" does not know yet, and, Therefore, could not recall whether this division was opened or was closed, it ***must display*** these new / unknown forks either opened [***closed forks (new / unknown forks open)***] or closed [***opened forks notice (new / unknown forks close)***].
Alternatively, it can be determined that "Mobile Easykey Manager" does not notice which forks are opened or are closed and simply always displays all forks opened [***all forks open***] or closed [***all forks close***].

Within these tree diagrams one or several elements can be selected. The respective window information is displayed on the right side. With the option ***Can notice selected elements*** you specify whether "Mobile Easykey Manager" remembers these elements, or whether by the next opening of this window no elements are selected.

5.3.7 The question mark menu (?)



5.3.7.1 Documentation

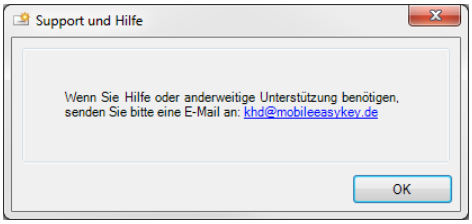
Calls on documentation. If no programme exists to display pdf -files, a web page is offered to download Acrobat Reader ®.

5.3.7.2 Custom menu entry

For internal documentation purposes, up to 5 custom menu entries can be defined in the database configuration (see **5.14.15 ?-Men**) that can be used to call up a website or a saved documents. The text displayed and the target can be freely defined.

5.3.7.3 Support and Help

Calls up a notice window with an email address for support enquiries

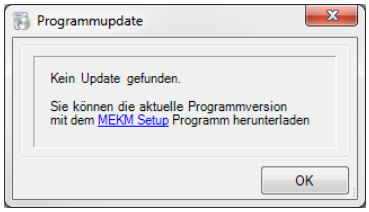


5.3.7.4 Mobile Easykey in the Internet

Calls the web page of Mobile Easykey. (Internet access necessary.)

5.3.7.5 Program Downloads & Updates

Searches program updates for this version and offers, if necessary, a web page by which a newer version of the programme can be downloaded. (Internet access necessary)



5.3.7.6 Enforce Service Mode

If a remote maintenance program other than the one described in **5.3.7.7 Remote Maintenance** maintenance is used, this option can ***be used to manually activate*** Service Mode **5.1.2 Service Mode**Service Mode).

As long as this function is activated, no user-related data will be displayed and the icon of the menu item ***Enforce Service Mode*** will be displayed in red.

This function must be deactivated again by calling up the menu item Enforce ***Service Mode*** again in order to make the personal data visible again (unless internal remote maintenance is still active or a service admin is logged in).

5.3.7.7 Remote Maintenance



On-line maintenance programme (Microsoft ® TeamViewer) by which the support (with your approval) can access your computer. A firewall can possibly prevent the access.
(Internet access necessarily.)

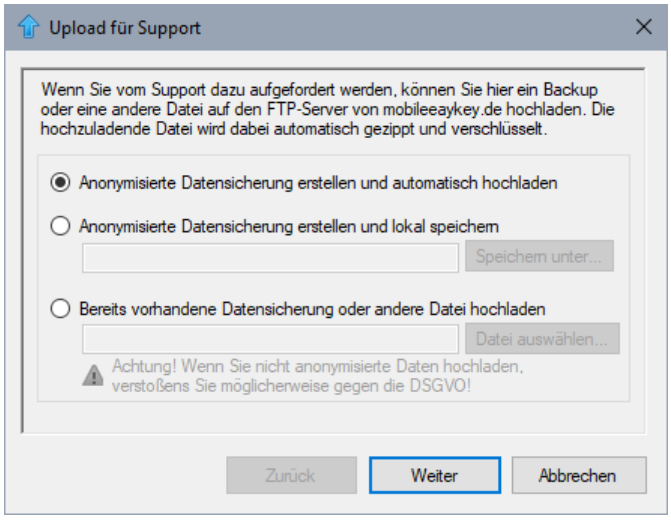
A firewall may prevent access. (Internet access required.)

As soon as the remote maintenance is activated, the service mode (see also **5.1.2 Service Mode**) is automatically switched on and the entire program is only displayed pseudonymized.

5.3.7.8 Upload for support

This offers the possibility to upload a backup of the database or other files to the support FTP server. (Internet access necessary)

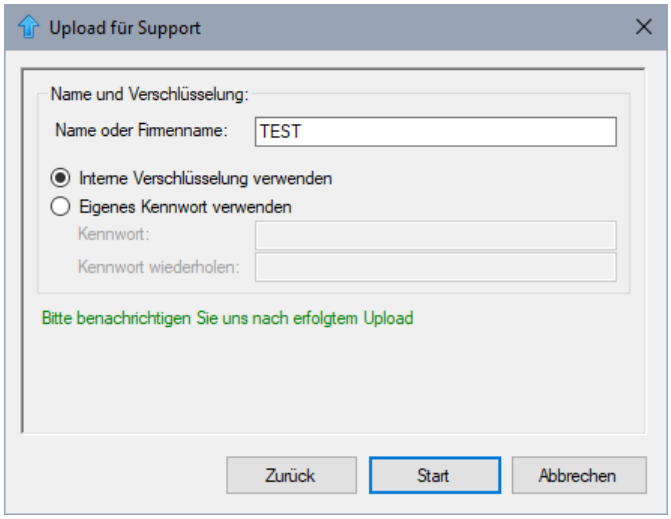
A firewall can possibly prevent the access.



- ***Create and automatically upload anonymized backup***
  If a database is currently open, an anonymized backup (see **5.1.3 Anonymised Backup**) of that database can be created and uploaded automatically.
- ***Create anonymized backup and store it locally***
  Creates an anonymized backup (see **5.1.3 Anonymised Backup**) which is stored on a disk (a query for the desired directory/file name is made later).
- ***Upload already available data backup or other file.***
  If you have already created a backup or want to upload another file, select this file. Click on button File select ...

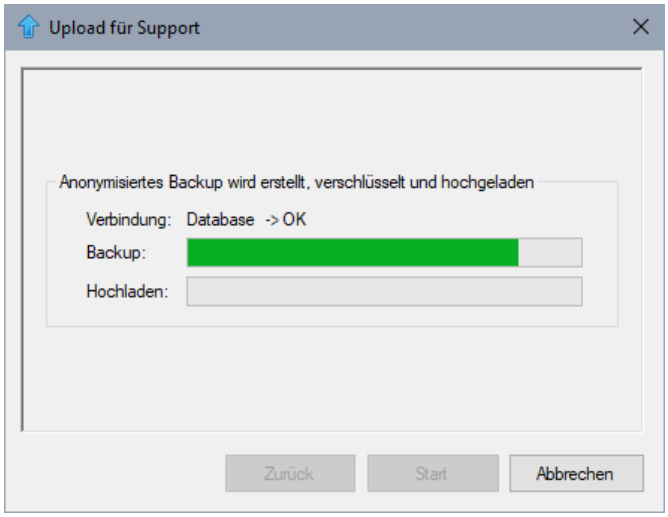
  Note that an anonymized backup is only created using the above functions. The file you upload may contain personal data!

Click now on ***NEXT***.



- ***Name or company name***
  Now you must enter a company name or another name. The support can identify your file on the FTP server by this name.
- ***Use internal encryption***
  Select this option to use the built-in internal encryption.
- ***Own password***
  Alternatively, you can enter your own password. A Zip file is created and uploaded encoded with this password.

Click now on ***start***.

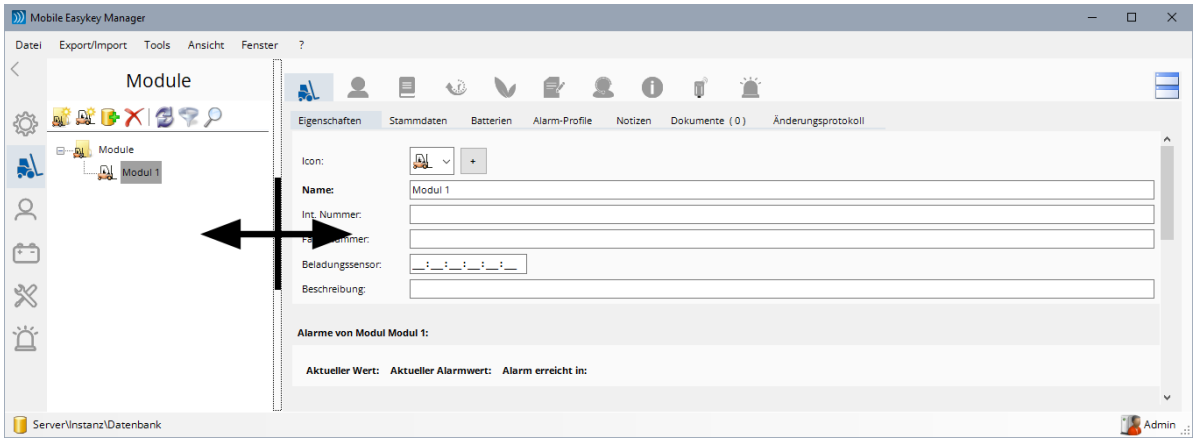


If *create backup* was selected, the data backup starts now. If the backup should also be saved locally, you are asked, for the preferred directory / filename.

5.3.7.9 Info

Displays the version number and copyright information

5.4 The interface



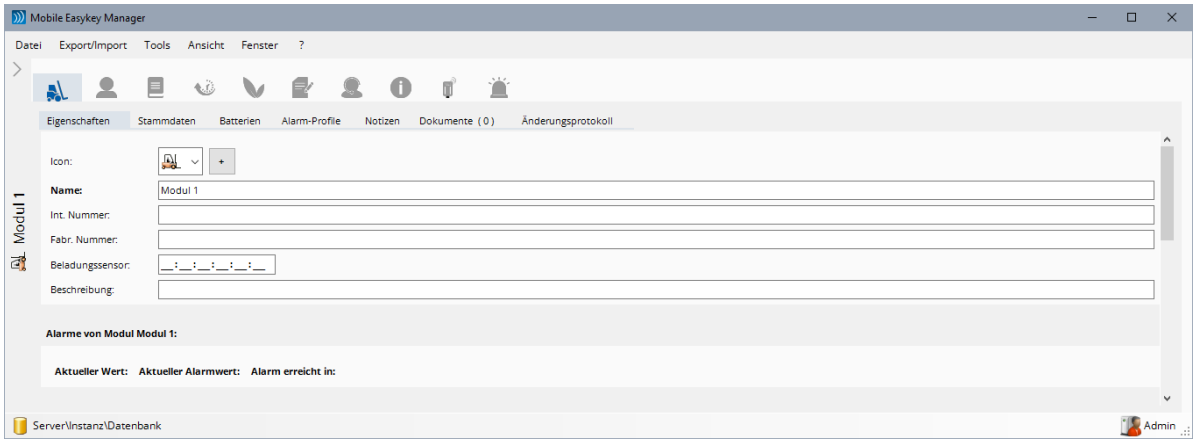
The interface of Manager is divided into two tab-based halves.

The left side displays the taps for ***Modules***, ***User***, ***Batteries***, ***Profiles*** and ***Alarm profiles***. Depending on which software modules are installed or are not installed, not all tabs are displayed. (See also **5.22 Software Modules (Optional)**).

On the right side the data and information relevant to the selected element type are displayed. Further details are explained in chapters **5.5 Modules**, **5.6 User**, **5.8 Batteries**, **5.9 Profile** and **5.10 Alarm profiles**.

The proportion of both halves can be changed. Click between both halves, hold the mouse button down and drag to the left or to the right.

By a click on the button the left half snaps shut. It is automatically opened out, as soon as the mouse patrols in the left margin.



Clicking on the button the left half opens again permanently.

5.4.1 Default buttons in the toolbars

Search
Searches within a tree diagram for module name, username etc.
(See also **5.11.9 Search**)

Filter
Limits the display in the tree diagram to specific modules or users
(see also **5.11.8 Filter display**)

Columns show/hide
Shows or hides single columns of the displayed table. You can determine which data should be displayed and which not.

Refresh display
Forces the server to download the data anew. As a rule, this automatically happens if you change from one sub window to another.

5.4.2 Text input

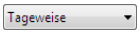


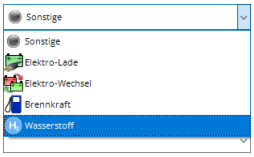
At many places special operational controls are used with text input. With these operational controls the background colour turns yellow, as soon as any change has taken place. You can confirm the update afterwards with the enter key or discard with the escape key (Esc).

As soon as something else is clicked inside the Mobile Easykey Manager, this entry is also confirmed.

5.4.3 Selection fields

With the selection fields such as 

or 

, simply click somewhere in the field to open the selection 

list.

5.4.4 Icons


For many of the elements deposited in the database (for example, users or modules) different icons can be used. Depending on which element it concerns some icons are already predefined. Click on the select field of one of these icons to select. The button "+" adds individual icons (file format *.ico) or images (*.BMP, *.GIF, *.JPG, *.PNG or *.TIFF).

5.4.5 Tables

5.4.5.1 Direct Selection of a Module

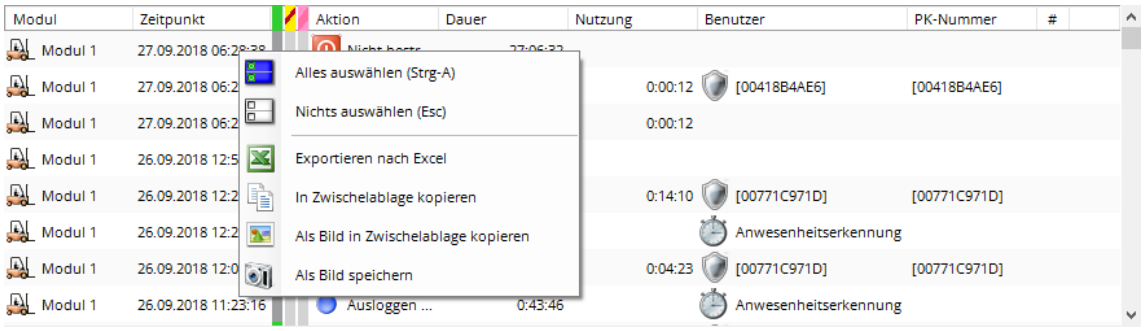
In all tables in which the module name is displayed a double click on the module name is enough to select this module exclusively (in the tree view on the left).

5.4.5.2 Tables Context Menu

For most tables within the "Mobile Easykey Manager", you can open a context menu with a right-click.

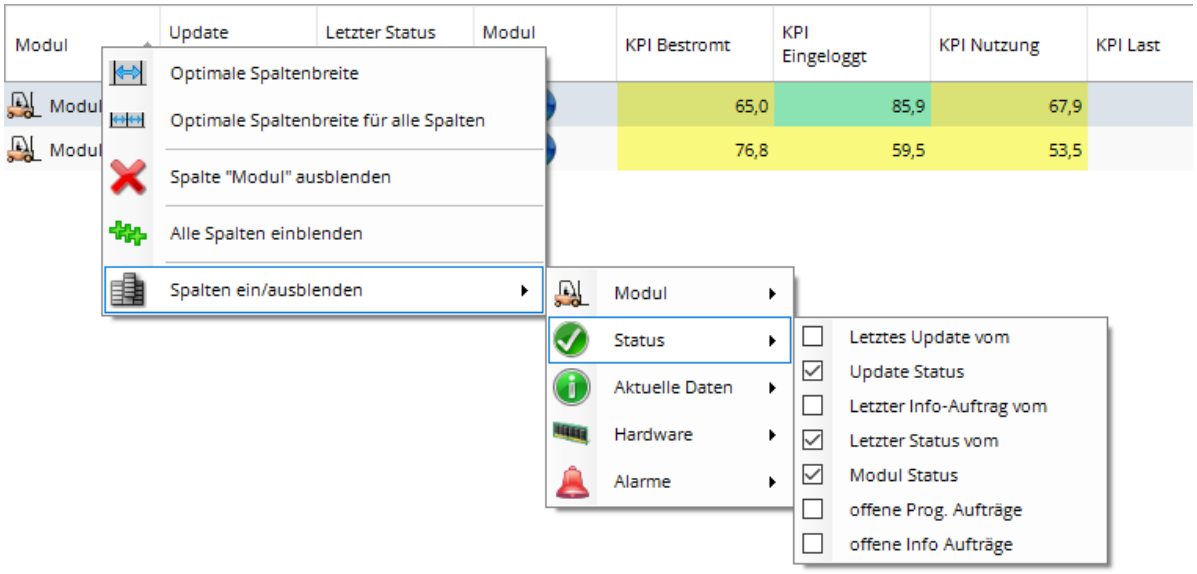
Note:
In tables in which data are reloaded automatically (e.g., the central offices or the logbook) this function is only available when all data were loaded. If necessary, scroll down completely to load all data.

From the context menu, one of the following options can be selected:



- ***Select All (Ctrl-A)***
  Selects all rows of a table at once. The entire table is marked.
- ***Select Nothing (Esc)***
  Unchecks all marks. Not a single line is selected.
- ***Export to Excel***
  Opens a new Excel table with the contents of this table.
  Provided Microsoft Excel from the version Excel 2000 is installed.
- ***Copy to clipboard***
  Copies the contents of this table to the clipboard.
- ***Copy as image to clipboard***
  Copies the entire table as an image to the clipboard, regardless of whether only one part of the table is currently visible on the monitor. However, the maximum size of the originating image is limited. If an image size due to the content of the table is greater than 4000x 8000 pixels, the generated image is reduced accordingly.
- ***Save as image***
  The entire table is saved as a picture, regardless of if currently only a portion of it is displayed. However, the maximum of its size is restricted. If the content of the table is larger than 4000 x 8000 pixel the generated image is clipped.
  In the following dialog the file name is asked for. Depending on the file type (jpg, png or bmp) the picture is saved accordingly.

5.4.5.3 Columns View and Hide



Besides the standard button to view or hide columns, a PopUp menu can be opened by a right click in the column heading. Here the clicked-on column can be hidden with the menu item column ***"column heading hide"***.

All hidden columns can be displayed again via the menu item ***Show all columns***.

The ***Show/Hide Columns*** submenu displays a list of all columns. This may be subdivided into subgroups (e.g., in the information center). By setting or removing the check marks, the corresponding columns can be shown and hidden.

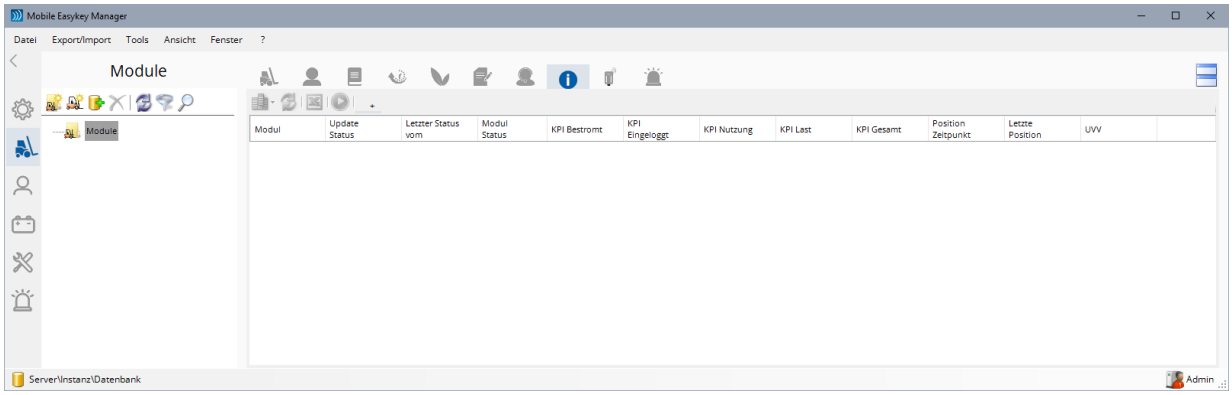
5.4.5.4 Column Width

In the same PopUp menu (right click on a column heading) the column widths can be optimised. The menu item ***Optimum column width*** optimises the width for the selected column, the menu item ***Optimum column width all columns*** optimised all column widths at the same time.

For very large tables (e.g., the logbook) the column width is sized according to currently visible elements of the column. I.e., the optimum column width is measured only for the currently displayed columns.
However, with smaller tables the optimum column width is immediately adjusted for the complete table.

5.5 Modules

Click on the icon on the left edge to display the module data on the right side.

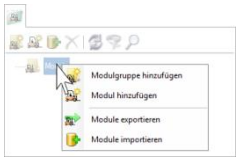


The buttons in the toolbar of the tab modules have following meaning:

- Adds a new module group. See **5.11 Groups and tree (hierarchical) structure**.
- Adds a new module (in the currently selected group).
- Launches the dialog to import new modules from a file.
  See **5.3.3.1 Import data**.
- Deletes the currently selected module or a (empty) module group.
- Refreshes the displayed data from the SQL server.
- Filters the modules displayed in the tree (hierarchical) structure according to their properties and master data. See also **5.11.8 Filter display**.
- Searches in the tree (hierarchical) structure of the modules according to the Id number and Model number of a module. See also **5.11.9 Search**.

The view *module* has a specific feature. Here you are able, with the button on the top right, to divide (split) the data on the right side horizontally. You can thereby display for this or the selected modules, e.g., the information central office and the communication central office at the same time.

Click on button to add a module.



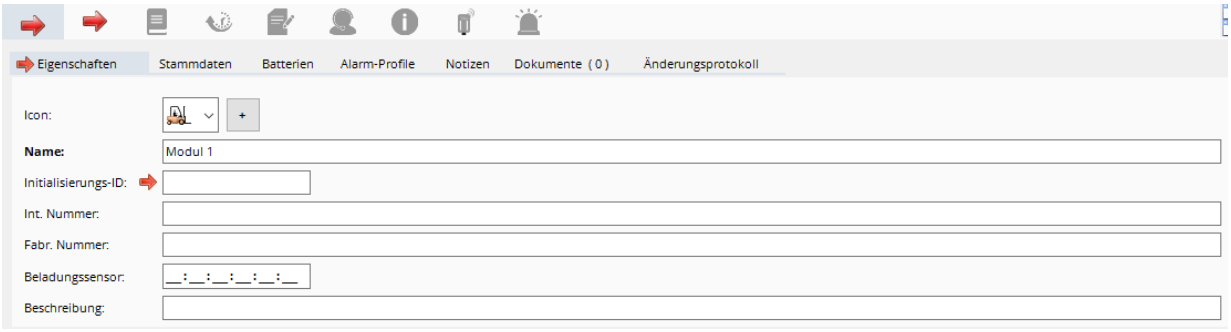
Alternatively, you can add modules directly in a sub-group by right clicking the module group or a module within the desired sub-group. For a more detailed description see **5.11.1Add Group**.

Now the new module is displayed in the tree structure and is automatically selected. On the right side the data of this selected module are displayed.

The module icon is shown with a small exclamation mark as long as the configuration of this module is invalid. In addition, a red arrow flashes in the top row and there is a red arrow in all places where input is still required .

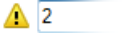
If several modules exist in the database, you can select one or several of these modules in the tree structure (see **5.11.3 Select several elements at the same time**). The data of this or these modules are displayed on the right side.

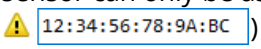
5.5.1 Module properties



In the upper part of this tab the data which refers individually to only this one module is entered. Hence, this part is active even when only one single module is selected.

- ***Icon***
  Here you can assign an icon or a picture to the module. See **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective module.
- ***Description***
  Here a description or any other text can be entered for this module.
- ***Initialisation ID***
  *Except for **smart lock 1** modules!*
  Enter the number printed on the module (hexadecimal) here. This number allows the module to be automatically recognized and initialized upon first contact.
  For ***smart lock 2*** and ***3*** modules, the ***initialisation ID*** must be entered, as these cannot be initialized via cable.
  For ***modular*** modules and ***basic smart*** (from module version ***F-50*** onwards), this initialization ID eliminates the need for manual initialization via cable (see **5.13.2.2 Direct Connection - New Modules**). This means that these modules can be initialized either via cable using the direct connection or via WLAN/Bluetooth using the initialisation ID.
- **Internal number**
  Here you can enter an internal module number or an internal identification. This number should be clear, i.e., each module should have its own and individual number. If a number is doubled a small yellow exclamation mark

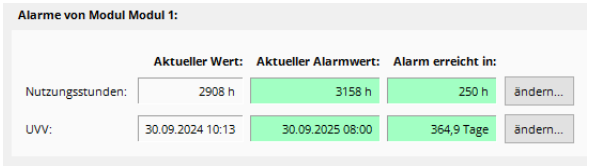
  is displayed.
- **Model number**
  Here you can enter the model number of the vehicle/module. This number should be clear, i.e., each module should have its own and individual number. If a number is doubled a small yellow exclamation mark 

  is displayed.
- **Load sensor**
  If the module has a load sensor, the MAC address of this sensor is set here.
  Since a load sensor can only be assigned to one module, a small yellow exclamation mark (

) is displayed if the same load sensor is assigned to several modules.
- **Description**
  Here you can enter any text for the given module.

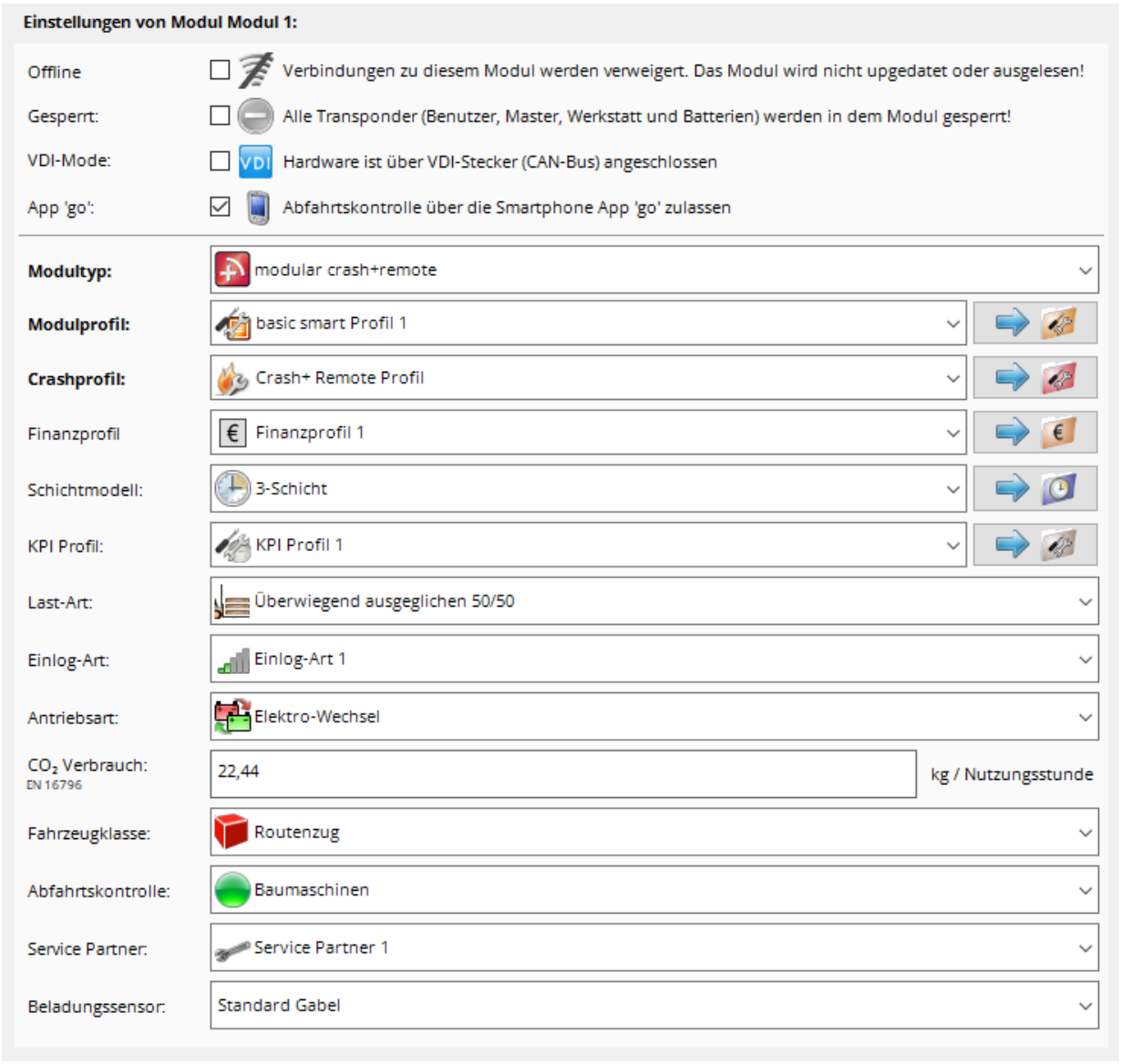
5.5.1.1 Alarms of Module X

Depending on how many time alarms are used (see **5.14.7.3 Time Alarms (UVV)** more or fewer rows are displayed.

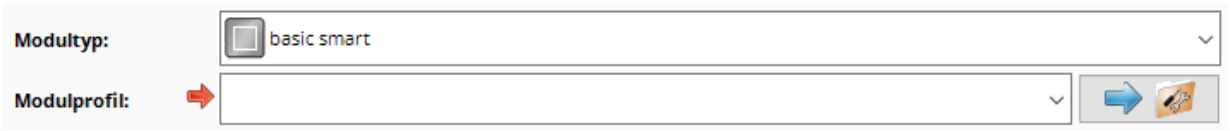


5.5.1.2 Settings of Module X

In the lower part of this tab, you can change the different settings of this module (or all selected modules at the same time, see also **5.11.3 Select several elements at the same time**).



Note:
The field names of required fields are displayed in bold.
In addition, a flashing red arrow is displayed if nothing has been entered in a required field.



- ***Offline***
  When the offline function is turned on, the mobile drivers (WLAN, Bluetooth, mobile phone) no longer update or read this module.
  This offline mode can be activated automatically for all modules during database update. See chapters **5.3.1.1.3.5 Offline-Modus.**
- ***Locked***
  With this option this module can be closed temporarily. As soon as the module is programmed next time (see **5.5.20.4.2 Create program orders**) all users and master of the module are automatically deleted. If the option is again disabled, the module is supplied at the next programming with all configured users and master.
- ***VDI- Mode***
  Select this option if the module is connected via the VDI-connector (CAN bud).
- ***app 'go'***
  Activates the departure control also for modular modules (without 'plus'). The departure control must then take place via a smartphone carried by the driver.
- ***Module type***
  Here you need to set the module type depending on the hardware used.
  No Easykey. Use this type if you want to add modules for which no Mobile Easykey is (yet) fitted or for which no Easykey is to be fitted (e.g., fire extinguishers). Modules with the type No Easykey cannot be programmed, but you can still assign time alarms (UVV) to these modules.
  Offline: Use this type if the Easykey has been removed from a module, but you do not want to delete the module and also display it in the online statistics (see **5.18 Online Statistics**).
- ***Module profile***
  A profile must be assigned to the module (see also **5.9 Profile**) in which the preferred configuration of the module is saved.
  If no profile exists for this module type, a profile with default settings is automatically generated and selected. If exactly one single profile exists for this module type, this is automatically selected.
- ***Crash profile***
  Modules with crash shutdown must be assigned with a crash profile (see **5.9 Profile**). Again, if necessary, the first crash profile is automatically generated and selected.



- ***Financial profile*** (Only visible if the software module finance module is activated)
  A finance profile can be allocated to this module in which the cost per cut in- and usage hours are defined. See **5.9.6 Finance profile** and **5.15 Finance Module.**
- ***Shift plan***
  Besides, you are able to assign a shift model (see **5.9.7 Shift work models**) The shift model is used in connection with the online statistics to calculate the maximum availability of the module.
- ***KPI Profile***
  This profile (see **5.9.5 KPI Limit-Profile**) defines the limit values of the KPIs (see **5.5.24 KPI**) for this module.
- ***Load type***
  The load type can be used to determine the typical ratio of ***driving with load*** and ***driving without load***. This ratio is included in the overall KPI (see **5.5.24 KPI** The different load types are defined in the database configuration (see **5.14.8.2 Load Types**).



- ***Login type***
  The typical log-in behavior can be defined via the log-in type . This way a factor can be provided for vehicles that are typically not logged in, even though work is carried out during the time when they are not logged in (see **5.5.24 KPI** The different log-in types are defined in the database configuration (see **5.14.8.3 Log in Types**).
  Attention: if not a single login type is stored in the database configuration, the login type is not displayed here.
- ***Drive type***



  Select the driving mechanism (electric-load, electric-change, combustion engine or other).
  With the ***smart lock 2*** and ***smart lock 3***, the so-called sleep mode may be activated via the setting of ***fuel value*** or ***hydrogen*** (see **5.9.1.1 Log in (smart lock)**). The module is automatically put into a power-saving mode if it is not used for a long time. Sleep mode is not active for all other drive types.
- CO_2 ***consumption (EN 16796)***
  If the CO_2 consumption (accurate to 2 decimal places in kg per hour of use according to EN 16796) is given here, the CO_2 consumption for these modules can be calculated and shown in the CO_2 tab (see **5.5.14 CO2**) as well as in the statistics CO_2 period comparison and CO_2 module comparison (see **5.18.3.15 CO2 period comparison** and **5.18.3.16 CO2 Module Comparison**) are displayed. In addition, corresponding columns are offered in the information centre (see **5.5.20.3.3.3 CO2**).
- ***Vehicle class***



  Vehicle classes serve the smart allocation of driving authorisations (see **5.5.10 Module-driving authorisations** and **5.5.11 Module group driving authorisations**).
  If a vehicle class is associated to a module, only users may use the vehicle to which this vehicle class (see **5.6.1.2.3 Vehicle classes**) is assigned to and these users having the appropriate driving authorisation for this module. Here the driving authorisation only is not enough! A vehicle class can be, e.g., a driving licence class or a weight class.



  The vehicle classes are only displayed if in the database configuration (see **5.6.1.2.3 Vehicle Classes**) vehicle classes were defined!
- ***Departure control***
  With ***modular plus*** modules (with display), a departure control can be enforced before starting a trip. This departure check consists of a number of questions that must all be answered positively in order to put the module into operation.

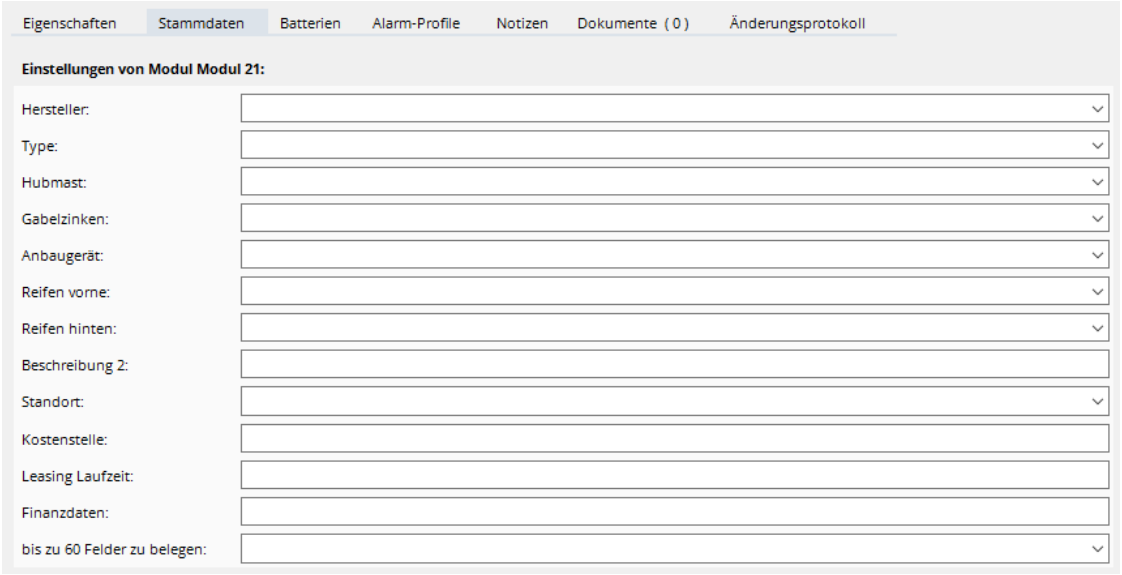


  The selection of the departure control is only displayed if departure checks have also been stored in the database configuration (see **5.14.9 Departure Control**).
  If no list is deposited here, (see **5.14.9.3 List**)the departure control for this module is considered deactivated.
- ***Service Partner***
  The Service partner (workshop, etc.) who is responsible for the service (repair, maintenance, etc.) for this module, is specified here. With the help of the APP service call, ServiceCall orders can then be sent to this service partner. See also auch **5.5.19 Service-Call-**



  The line for Service Partner is only displayed if at least one Service Partner has been defined in the database configuration (see **5.14.11 Service Partner**)!
- ***Load Sensor***
  The load sensor should respond at different distances depending on the fork length.
  For this purpose, you can choose between a standard fork (for a pallet) and a long fork (for two pallets). The loading sensor is automatically programmed the next time it is updated.

5.5.2 Master data



Manufacturer, type, lift mast, fork arms, accessory device, tyres front, tyre rear, Description 2
Arrow.png
To add a new value, select Add Item.
Tip: However, these fields can also be hidden (see **5.14.4.2.1 ID- and Default Fields**) or moved (see **5.14.4.2.4 Sequence order** and **5.14.4.2.5 Additional Master Data Pages**) in the database configuration.

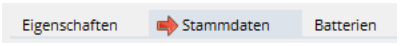
Location, cost center, lease term, financial data, etc.
These fields are created by default, but can be removed or renamed. In total, up to 60 module additional fields can be defined (see **5.14.4.2 Module-, User-, Battery Master data**). These fields can also be moved between the main page (settings of module X in the previous chapter) and other master data pages (**5.14.4.2.5 Additional Master Data Pages**).

Attention!
Individual master data fields can be defined as mandatory. For these mandatory fields, the field name (e.g., location) is displayed in bold. If no value is entered in one of these mandatory fields, the module is considered invalid and cannot be programmed (see **5.5.20.3The columns of the central information office** → Update state = no update possible)

Note:
The field names of required fields are displayed in bold. In addition, a flashing red arrow is displayed if nothing has been entered in a required field.



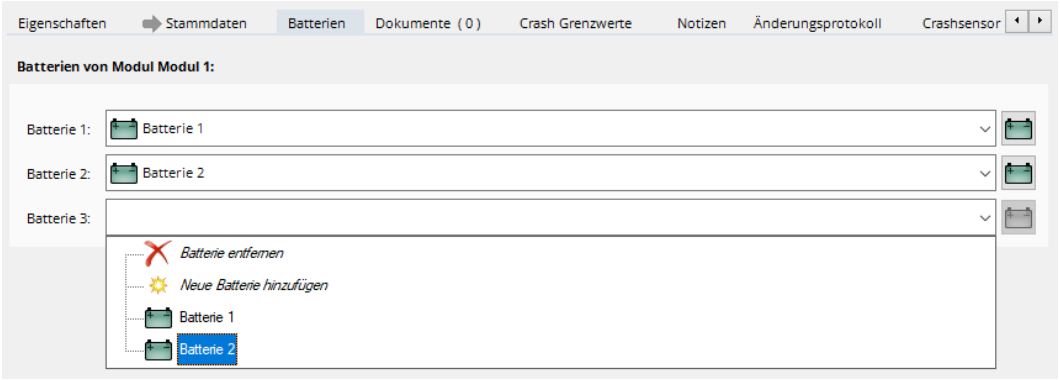
If a mandatory field on a master data page is still not filled in, a flashing red arrow is also displayed in the tab at the top in front of the name of the master data page.



5.5.3 Batteries

The new electrolyte sensor can be used to identify the battery used.
To speed up identification, the module must be assigned a selection of up to 3 possible batteries (electrolyte sensors).

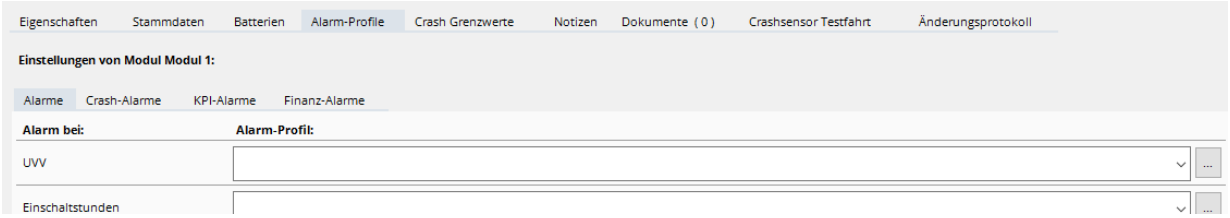
For this module, only batteries (electrolyte sensors) are detected, which are entered here!



Choose one of the batteries defined in **5.8 Batteries**, or click on ***Add new battery*** to add a new battery (electrolyte sensor) and assign it to the module at the same time.

5.5.4 Alarm profiles

In this tab the different alarms are configured for the respective module selected. An alarm is activated, assigning an appropriate profile (**5.10 Alarm profiles**). With a click on the ... button the alarm profile is selected and can be adjusted directly.

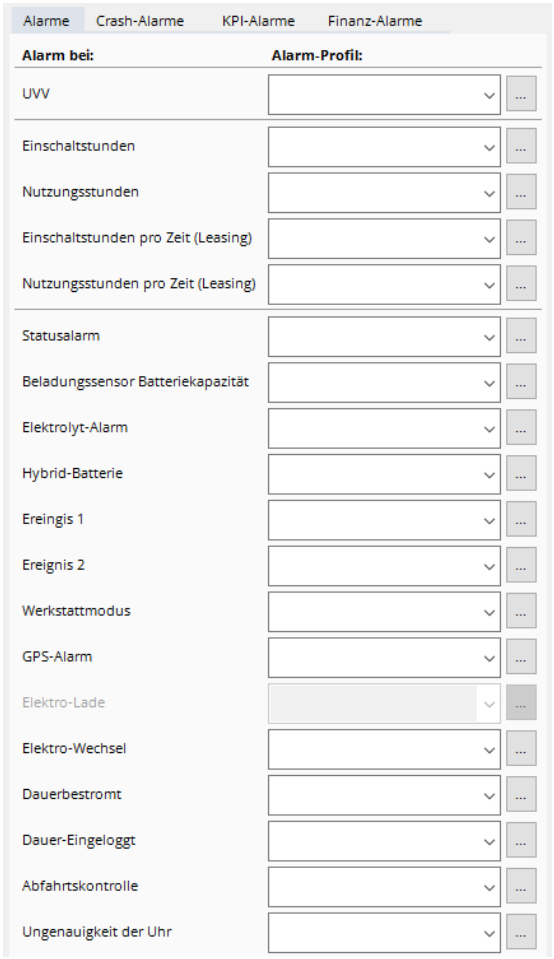


Note:
Depending on the module type and drive type, (see **5.5.1.2 Settings of Module X**) some alarms may be inactive.

5.5.4.1 Alarm

Depending on which time and operating hours alarms in the database configuration are set are set, the number of rows displayed vary (see **5.14.7.3 Time Alarms (UVV)**).

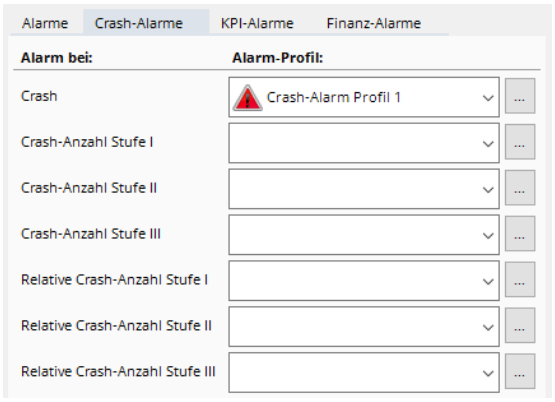
The alarms ***cut-in hours*** and ***operating hours*** or ***cut-in hours per time (relative)*** and ***operating hours per time*** use in each case the same alarm profiles. Depending on whether the alarm profile is used for *cut-in hours* or *operating hours* the limits set are valid accordingly for *cut-in* or *operating hours*.



5.5.4.2 Crash-Alarms

The ***alarms Crash Count Level I*** to ***III*** or ***Relative Crash Count Levels I*** to ***III*** each use the same alarm profiles.

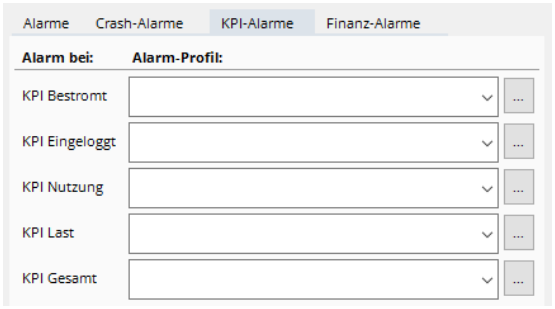
Depending on which alarm the profile has been assigned to, the level I, II or III crashes are counted.



5.5.4.3 KPI-Alarm

The KPI alerts use the same alert profiles. Depending on which alarm the profile is assigned to, the KPI is used for Powered, Logged In, Hours of use, Load, or Total.

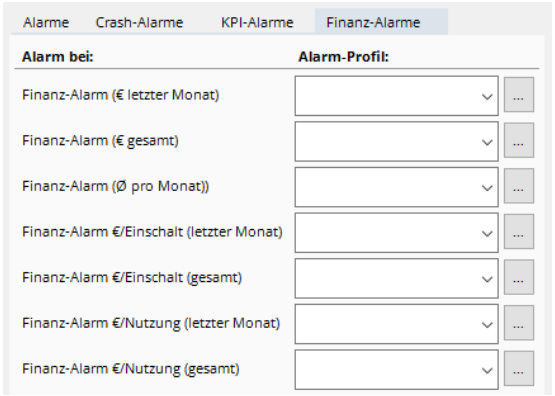
A Note:
The KPI-alarms are only visible when the ***statistics module*** (see **5.18 Online StatisticsOnline Statistics**) is activated.



5.5.4.4 Finance-Alarm

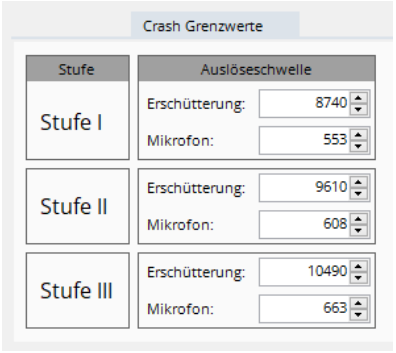
The finance-alarms use the same alarm profiles. Depending on which alarm the profile is assigned to, the alarm is calculated for the last month, total or average, and for cut-in or hours of use.

Note:
The financial alarms are only displayed if the corresponding software module (see **5.22.3 Finance Module**) is enabled.



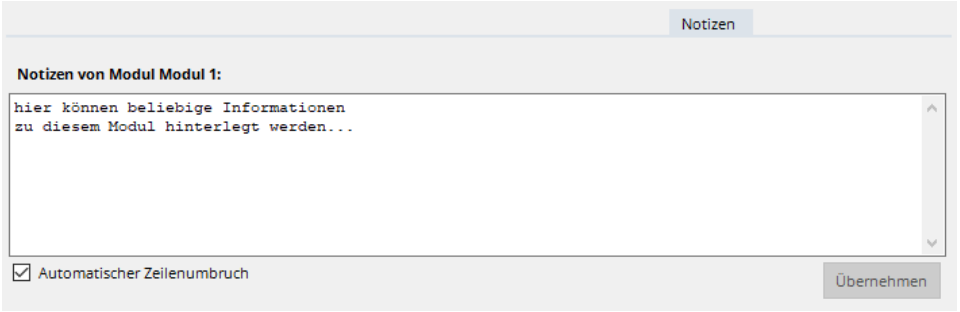
5.5.5 Crash-Limits

If the individual crash limits are set in the database configuration (see **5.14.4.5 Crash Limits**) the limit values at which a crash is triggered can be set individually for modules with a crash + remote sensor (**modular crash + remote** and **modular plus crash modules**).



This tab is only visible if modules with a crash + remote sensor (**modular crash + remote** and **modular plus crash modules**) are selected.

5.5.6 Notes



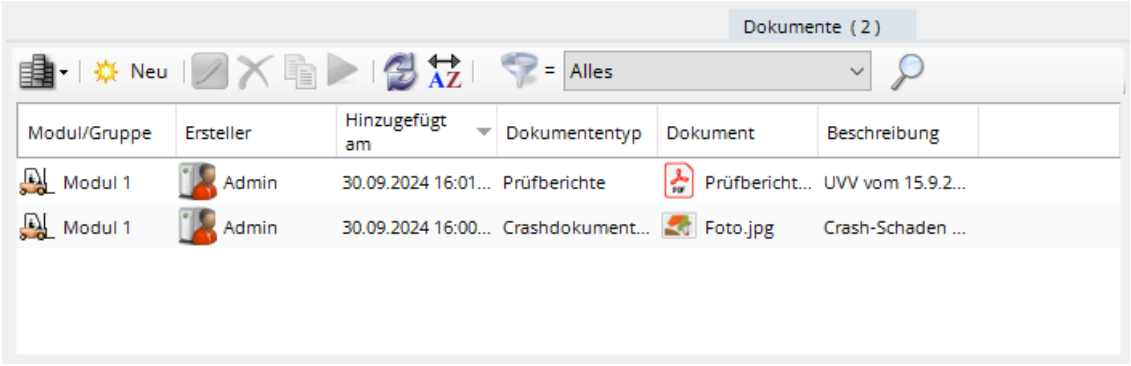
In the tab ***notes*** any text can be entered for this module. For example, the history of this module could be stored here.

If you enter text in this field, it is only finally saved when any other field is clicked or you click on the button ***apply***.

If the option ***wrap text automatically*** is activated, the text is automatically wrapped at the end of the field. Otherwise, a text line can become very long and displays as a horizontal rolling bar.

The input of text is only possible if exactly one module is selected (see also **5.11.3 Select several elements at the same time**).

5.5.7 Documents

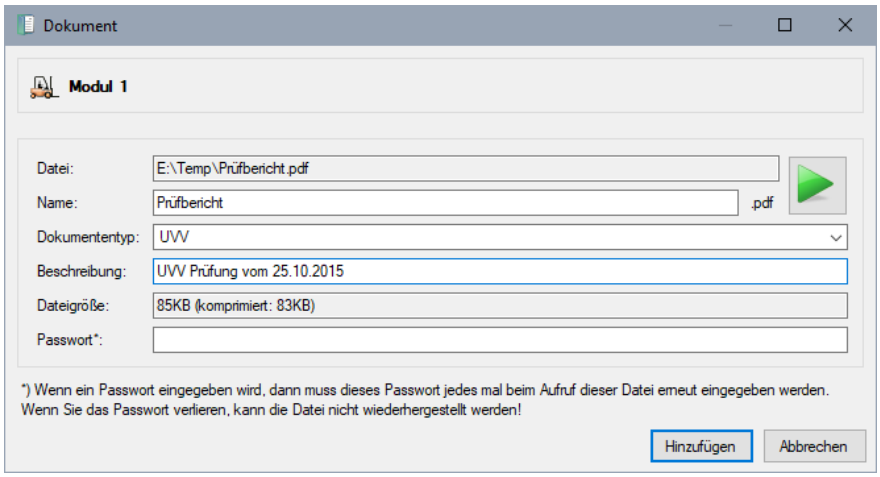


In the tab ***documents*** any files can be saved to the respective module or a module group. In the tab name the number of the documents is displayed.

- Adds a new document. Adding of documents is only possible if precisely one single module or one single module group is selected. See also **5.5.7.1 Add documents**.
- The document type and the description of a document can still be changed afterwards. See also **5.5.7.2 Edit Document Description**. However, the document itself is write-protected!
- Click on this button to delete this or selected documents.
- Click on this button to copy this or selected documents (to save on a data carrier).
- Click on this button to open (write-protected) this or selected documents. The respective standard programme which is linked with the appropriate file ending is used.
- Carries out a Refresh and loads the table again.
- Filters the view according to document type. Simply select the wanted document type. The setting ***all*** displays all document types, while the setting ***no document type*** displays documents to which no document type was assigned.

5.5.7.1 Add documents

Click on button Neu and select the required file.



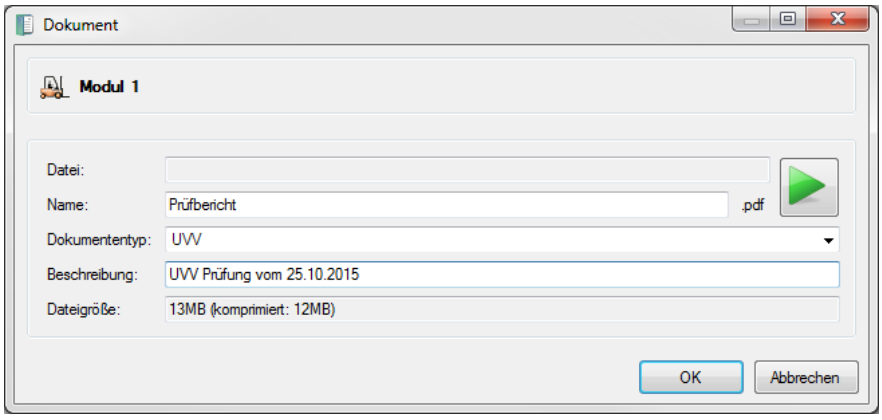
In the following dialog you can ***name*** the document, determine the ***document type*** and add a ***description***.

In addition, you can enter a password to save this document password-protected. Please note, however, that the document cannot be recovered without a password!

Click on ***add*** to save this file in the database.

5.5.7.2 Edit Document Description

Name, document type and description of a document can be changed afterwards. Click on button and alter the chosen data.



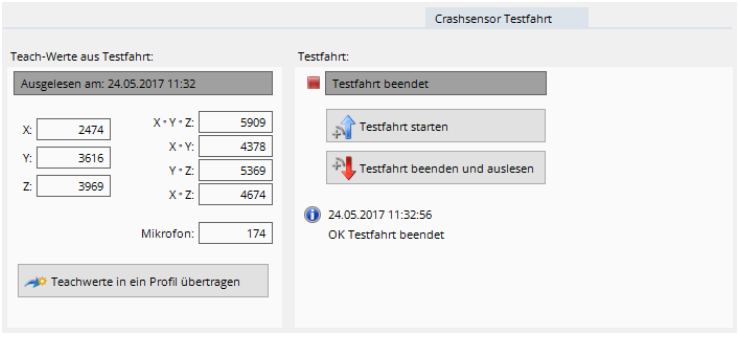
Click on ***OK*** to save the changes.

With a click on button the displayed document can be opened write-protected.

The document itself cannot be changed afterwards!

5.5.8 Crash sensor teach drive

For modules with the module type **modular crash+remote** and **modular plus crash** an additional tab is displayed

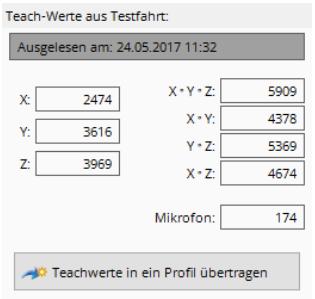


To determine the necessary settings for the crash sensor of a **modular crash+remote** and **modular plus crash** module a so-called test (teach) drive can be carried out on one or several modules. During the test the vehicle is usually driven in the just still allowed range. The crash sensor determines the maximum crashes of the different sensors during the test drive. As soon as the test drive is finished, these ascertained maximum values are read out. Then these can be used as a reference basis for the setting of the crash sensors of all vehicles of this type and/or area of application.

To launch a test drive, you simply Click on button ***Start test drive*** on the test drive interface. Thus, an order is generated for starting a test drive. On the left, beside the button, a small oranges triangle ( ) appears, this shows that an appropriate order was generates, but is not yet executed. As soon as the module is accessible (e.g., by cable or WI-FI/ Bluetooth), this order is executed and the test drive runs from then. The orange triangle disappears and the status of the test drive changes to ***Test drive runs***.

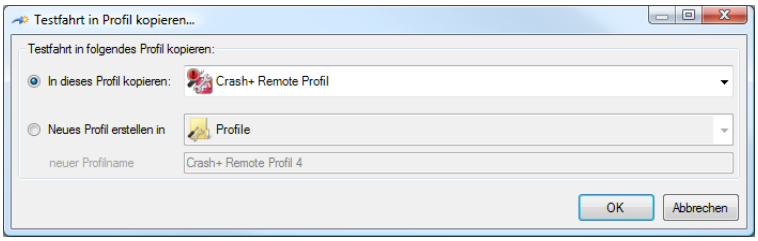
To end the test drive, click on button ***End test drive and read out***. Thus, an order to end and read out the test drive is generated. On the left, beside the button, again a yellow triangle ( ) is displayed, as long as the order is not yet executed. As soon as the module is accessible (Cable, Bluetooth / WI-FI etc.), the order is executed, the test drive ends and the ascertained maximum values are read out. The yellow triangle disappears and the status of the test drive changes again to ***End test drive***.

Below the button ***End test drive and read out*** the last response of the module to a test drive is displayed. If applicable, an error message is displayed in case the test drive could not be started or be ended.

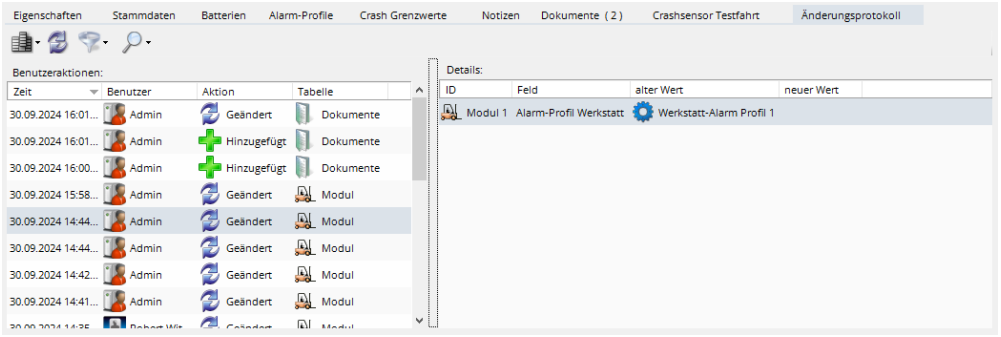


If a test drive was fulfilled successfully and read out, the new maximum values from this test drive (Teach values) are displayed on the left underneath ***Teach values from test drive***.

With the button Apply ***teach values to profile*** the read-out values can be taken over as a default reference for the profile setting in already available profiles (see **5.9.4.1 Crash (crash+remote)**). Alternatively, a new Crash-Remote-Profile with these values can be created. In the following dialog simply select one of the options ***copy in this profile*** or ***create new profile.*** Select the looked-for profile or select the profile group in which the new profile should be put in and enter a profile name.



5.5.9 Change log (Modules)



Any change of the module data is saved in the activity protocol/changelog and is displayed here.

Note

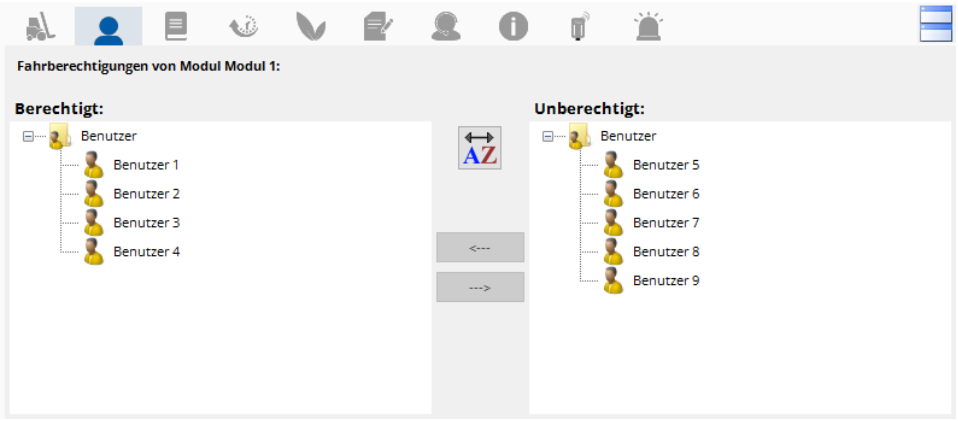
By default, all entries older than 90 days are automatically deleted. You can change these settings in the data configuration. See **5.14.12 Database-Maintenance** .

The column **User** corresponds with the individual software operator and is only shown if the relevant user rights are activated. See **5.21 Software Operating Rights.**

With the buttons and the activity protocol/changelog can be searched using filters. Find a detailed description and further information in **5.19 Change Log.**

5.5.10 Module-driving authorisations

If the authorisation type (see **5.14.14 Authorisation Type**) admits single authorisations, the authorisations will assign in this tab individually from module to user.



On the right side you see the ***unauthorised*** users, i.e., user whose transponders do not function for this module. On the left side the ***authorised users*** which can log in and log off are displayed.

To change the authorisations, you can drag the respective users simply with the mouse between both areas to and from. Alternatively, you can select (click) the chosen user and with the buttons <-- and --> entitle or take away the authorisation.

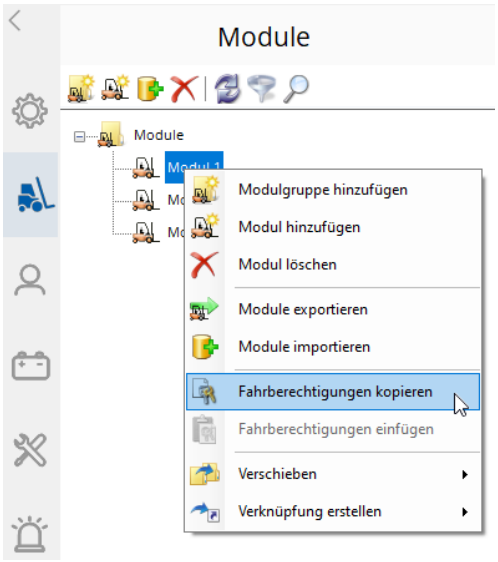
With the button AZ you are able to switch the user's names from "surname and first name" to "first "name and surname". For further information see chapter **5.11.6 Single authorisations**.

Attention!
If the user is present in several groups through links, all other links of this user are automatically moved as well.

Attention!
If vehicle classes are used (see **5.14.4.4 Vehicle Classes** , **5.5.1.2 Settings of Module X** and **5.6.1.2.3 Vehicle classes**), a driving authorisation assigned here, is valid only when the user also owns the respective vehicle class of the respective module!

5.5.10.1 Copy Module-Driving Authorisations

The set driving authorisations (the assigned users) can also be transferred (copied) from one module to another.
To do this, right-click on the module which has the required driving authorisation and select in the menu **Copy Driving Authorisations**.
Now select the module (s) you want to assign these driving authorisations to. Click on it with the right mouse button and select the menu item **Insert driving authorisations**.

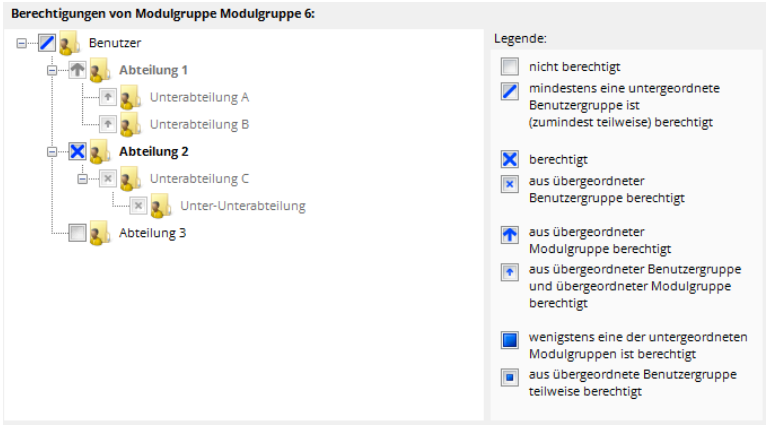


With the paste (***insert driving authorisation***) all copied driving authorisation are then added to the selected module (s). Already existing driving authorisation remain in place!

5.5.11 Module group driving authorisations

If the authorisation type (see **5.14.14 Authorisation Type**) admits group authorisations, the authorisations will assign in this tab from module group to user group.

If in the tree diagram on the left a single module group is selected, you can determine which user groups should be associated o this module group.



Because the allocation is always valid for all sub-groups, the display can become a little more complex. Chapter **5.11.7 Group authorisations**, describes how the group authorisations are displayed and assigned in more detail.

If a single module is selected, the group authorisation of the group to which the module belongs to is displayed. Then the display is write-protected.

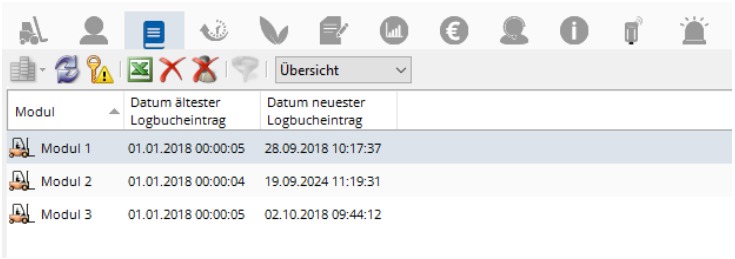
Attention!
If vehicle classes (see **5.14.4.4 Vehicle Classes** , **5.5.1.2 Settings of Module X** and **5.6.1.2.3 Vehicle classes**) are used, a driving authorisation assigned here is valid only when the respective user also owns the respective vehicle class of the respective module!

5.5.12 Logbook

All in the logbook memory logged modules and with "Mobile Easykey Manager" read out logbook entries are saved in the database. In this tab the logbook data or the selected modules are displayed.

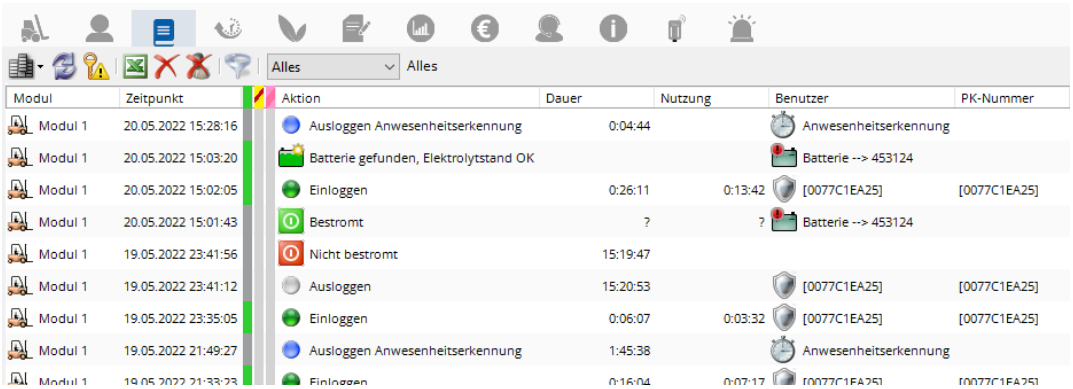
5.5.12.1 Logbook Overview

If several modules are selected at the same time, the overview mode is automatically selected. (To switch the display mode, see **5.5.12.13 Select Display**)



Here the date of the first (oldest) and last (newest) logbook entry for all modules is displayed.

5.5.12.2 Logbook Display



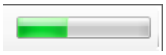
Tip

With a double click on the module name in the column ***module*** you can select this module (in the tree diagram on the left) individually and change quickly to the normal display mode for this one module.

By double-clicking on the user or battery name in the User column, you can jump directly to the Users (or Batteries) tab. This user (or battery) is automatically selected. This function is not available if the user or battery name is hidden by operating rights or a works council password! See the following notes.

Note:

- If a logbook entry with pink background colour is displayed it means that possibly a gap incurred between this and previous (chronologically earlier) logbook entry!
  Such a gap can originate, for example if not all new logbook entries of a module are read out. If, for example, since the last logbook read out 100 new logbook entries have been entered but only the latest 60 are read out, 40 entries will be missing in the logbook display! A gap also originates if a module is programmed through the order type Module exchange (see **5.5.20.4 Information Window**). In this case it cannot be certain whether all logbook data were read out by the old module (before the module exchange).
- Note that individual columns may be locked. When using the software operating rights (see **5.21 Software Operating Rights**) this: <display locked> will be displayed. If the data is hidden by Data Protection Settings (see **5.14.3 Data Protection (Works Council User)**) this: <Data Protection> or [Transponder-ID] is displayed.
- The text ***attention confidential data!*** below the right toolbar is displayed, as soon as within the logbook display personal data (username, PI number) are displayed. In the activity log (see **5.19 Change Log**) an entry is generated, to retain that personal data were displayed.
- Whenever (when scrolling down) data must be reloaded by the SQL server, a progress beam which displays the loading process appears in the right upper corner.



5.5.12.3 Special Buttons in the Logbook


Depending on configuration (see **5.14.3 Data Protection (Works Council User)**) the display of individual columns can be locked. Click on this button in order to log in as a works council user and uncover this data. See chapter **5.5.12.4 Log in as Works Council User** and **5.14.3.1 Login Works Council User**.


Click this button to export the logbook of the displayed modules to Excel. Also see **5.5.12.10 Export Logbook to Excel**.


Click this button to delete (older) logbook entries. Also see **5.5.12.11 Delete Logbook Entries**.


This button serves to anonymize (older) logbook entries. Instead of deleting the logbook data completely, only the user-related data is deleted. The logbook data is preserved. However, it cannot any longer be established who has caused the logbook entry. Otherwise, the functionality is the same like with the deleting of older logbook entries.


Click this button to filter the display of the logbook data and to display only certain logbook entries. Also see **5.5.12.12 Filter Logbook Display**.

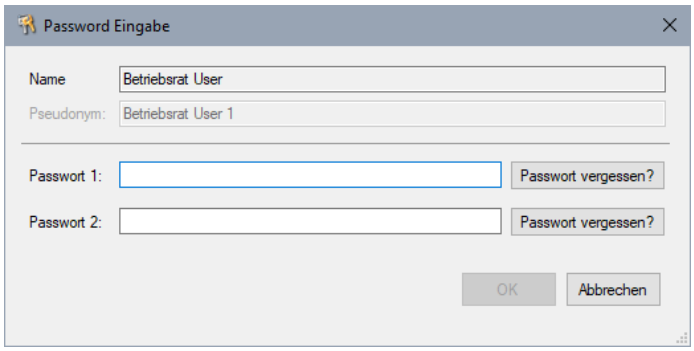

Click this selection field to limit the display of the logbook data to a certain subrange (e.g., on a day-to-day basis or monthly).
Also see in **5.5.12.13 Select Display** .

The remaining buttons are explained in chapter **5.4.1 Default buttons in the toolbars**.

5.5.12.4 Log in as Works Council User

Click on this button to log in as a works council user. If several works council users already exist, you must first select the desired user.

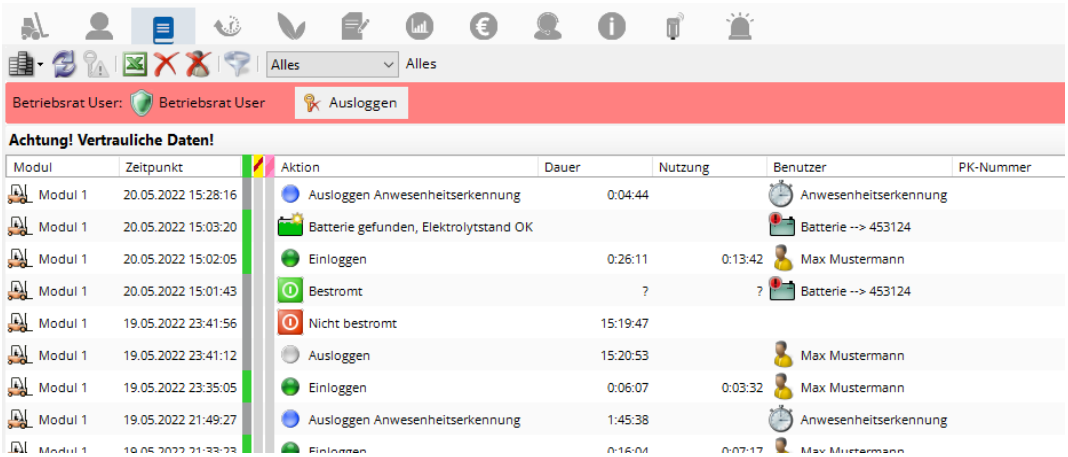




Now enter the password (or the passwords) of this works council user.

Weitere Informationen zum Einloggen als Betriebsrat User finden Sie im Kapitel **5.14.3.1 Login Works Council User**

Note: If an older database has been opened in which a "logbook password" has been used, the first works council user will automatically be given the name "log password" and this old logbook password.



The hidden data will now be displayed.

In addition, a line highlighted in light red is displayed with the currently logged-in Works Council User. Click on the button Ausloggen to hide the data again.

5.5.12.5 The Columns in the Logbook

Module

Displays the name of the respective module

Time

Specifies the time stamp, when this logbook entry was generated. If it is the date of the present day, only the time is displayed.

Tasks

Here it is displayed which event occurred. Depending on the firmware version of the module not all actions are available. Possible tasks are:

Unknown	The event could not be determined clearly.
Unknown entry	The firmware of the module is newer than the Mobile Easykey Manager and this logbook event is still unknown in the actual software version.
First initialisation / module exchange	At that time a first initialisation or a module exchange order was executed.
Memory changed	The memory partitioning in the module (see **5.9.2.1 Memory**) was changed
...	Internal settings in the module were changed.
CAN-Bus started	The VDI-CAN-Bus interface started successfully
CAN-Bus stopped	The VDI-CAN-Bus interface was stopped
CAN-Bus Communication error	A communication error occurred on the VDI-CAN bus interface
CAN-Bus Communication OK	The communication of the VDI-CAN-Bus interface is OK again
CAN-Bus Data error	A data error occurred on the VDI-CAN bus interface
CAN-Bus Data OK	The data error on the VDI-CAN bus interface is OK again
Status	Module status was saved
Operating hours log	The actual operating hour memory was saved
Flash memory deleted	The entire logbook was deleted
Error during deleting memory	Deleting the logbook memory was not successful! This indicates a damaged hardware
Flash memory page deleted	The memory is divided into memory pages of 4096 entries each. Before you write to a new memory page, you must first delete it. If the deletion is not successful, this indicates a damaged hardware!
Error during deletion of flash memory page	
Logbook error	This entry points to a defective hardware!
Cut-in hours changed	The metre reading of the cut-in hours was changed or put on a new value.
Operating hours changed	The metre readings of the operating hours were changed or put on a new value.

Set clock	The build -in clock is set. The given time stamp refers to the time before the clock was set.
Clock is set	The build in clock was set. The given time stamp corresponds to the time to which the clock was set.
Powered	The module was newly powered.
Not powered	The module was switched off (no voltage applied)
Spannungsschwankung	Voltage fluctuations occurred during operation. Operation of the module may have been disturbed.
Nicht bestromt (!)	The module was turned off, but not all of the data could be saved in time. The occurrence of this event indicates a hardware problem.
Restart	Because of a voltage fluctuation during the operation a restart of the module was performed (after recovery of the necessary voltage). If a voltage fluctuation occurs, while a user is logged in, the restart is implemented only after the user is logging out.
Battery found, Electrolyte level OK	The electrolyte sensor was detected, and the battery identified. The electrolyte level at this time was OK.
Battery found, Electrolyte level too low	The electrolyte sensor was detected, and the battery identified. The electrolyte level at this time was too low.
Battery sensor faulty	The electrolyte sensor could not be detected. This entry indicates a defective electrolyte sensor in this module.
Wrong battery logged out	The originally detected electrolyte sensor belongs to another module! This indicates a defective electrolyte sensor in this module.
Elecrolyte level too low	Der Elektrolytsensor meldet einen zu geringen Elektrolytstand.
Electrolyte level OK	Der Elektrolytsensor meldet, dass der Elektrolytstand wieder OK ist.
With load	The load sensor has detected a load.
Without load	The load was parked
Load sensor Error	The load sensor reports an error
Log in	A user has logged in the module with his transponder and thus, has enabled the relay.
Log off	A user has logged off the module with his transponder and thus, has disabled the relay.
Log off presence recognition	The user was automatically logged off by the presence recognition and the relay was disabled. (see also **5.9.2.2 Log in**)
Usage ON Usage OFF	The module is used (ON) and the hours-of-use counter counts or is no longer used (OFF). The exact function of the hours-of-use counter may depend on the internal wiring.

Event 1 ON Event 1 OFF	Event 1 became active (ON) or inactive (OFF). In the profile configuration you can determine an individual icon and text for this event. See also **5.9.2.3 Events**.	
Event 2 ON Event 2 OFF	Event 2 became active (ON) or inactive (OFF). In the profile configuration you can determine an individual icon and text for this event. See also **5.9.2.3 Events**.	
Departure Control started	The departure control was started based on one of the specified conditions (see **5.14.9.3.1 Properties In Lists**) This entry also saves the user who started the departure check.	
Departure Control canceled	The departure check was canceled (e.g., by a timeout). The next user who logs in must perform the departure check again.	
Departure Control OK	A departure check was successfully carried out.	A maximum of 5 questions can be recorded per entry. Therefore, several departure control entries may appear consecutively. The icon only refers to the questions stored in this entry.
Departure Control Warning	At the departure check, at least one non-safety-relevant question was answered negatively.	
Departure Control Alarm	At the departure check, at least one safety-relevant question was answered negatively.	
Workshop module ON	The module was moved into workshop mode. (See also **5.5.23.8 Workshop**)	
Workshop module OFF	The workshop mode was disabled.	
Active crash	An active crash has occurred, i.e., the crash sensor has discovered a crash while a user was logged in.	
Passive crash	A passive crash has occurred, i.e., the crash sensor has discovered a crash while no user was logged in.	
Release	The crash was deleted, and the module was released again.	
Active crash 1 ● Active crash 2 ●● Active crash 3 ●●●	An active crash of the setting I, II or III has occurred. (Only for **modular crash+remote** and **modular plus crash** modules)	
Passive crash 1 ● Passive crash 2 ●● Passive crash 3 ●●●	A passive crash of shift I, II or III has occurred. (Only with **modular crash+remote** and **modular plus crash** to modules)	
Flashbulb IN	The flashbulb was switched on due to a crash.	
Crash disconnection	At that time the module was switched off or (with a 2-relay board) the crash relay was switched on respectively.	

 Maximum rating changed	The maximum rating of the alarm configuration was changed.
 Maximum rating unchanged	The maximum rating of the module alarm configuration was rewritten without any alteration.
 Warning	The module is in warning mode.
 Alarm	The module is in alarm mode.
 Overdue	The module is in overdue mode.
 Warning reset	The module is not any more in warning mode.
 Alarm reset	The module is reset.
 Overdue reset	The module is reset.

Duration

Displays the duration of the respective event in hours: minutes: seconds. If the duration of the event is not certain yet (because the appropriate counter event was not entered until now) a question mark is displayed during this time. For events which cannot have a counter event and have no duration, nothing is displayed.

Usage

Provided that the module hardware supports it, the usage duration of the entry is displayed here. For a logged in entry, this is e.g., the time period, which the module was actually used for between logging in and logging off.

Crash strength

Specifies the strength of the crash for **modular crash+remote** and **modular plus crash** modules.

Microphone level

Specifies with **modular crash+remote** and **modular plus crash** modules the volume level during the crash.

User

Provided that it concerns an event which a user has caused, the respective username is displayed here.

For electrolyte / battery entries, however, the respective battery is displayed. The term "***unknown battery 12: 34: 56: 78: 9A: BC***" means that it is a battery (or an electrolyte sensor) that is not yet entered in the database. The numbers represent the MAC / Bluetooth address of this electrolyte sensor.

Tip:

With a double click on text „***unknown Battery 12:34:56:78:9A:BC***" a window opens in which this battery can be identified in the database. See chapter **5.5.12.6 Unknown Battery**.

PIN number (Personal ID no. staff)

Provided that it concerns an event which a user has caused the respective PIN number (staff) is displayed here.

Note

For every logbook entry a short note can be taken down. Click in the column notes in the relevant line and enter text (maximum 250 characters).

The name and some properties of this field can be configured in the ***database configuration***. See chapter **5.14.4.3 Logbook**.

Note 2

Here you can save a second comment about the logbook entry.

The name and some properties of this field can be configured in the ***database configuration***. See chapter **5.14.4.3 Logbook**.

Tip:

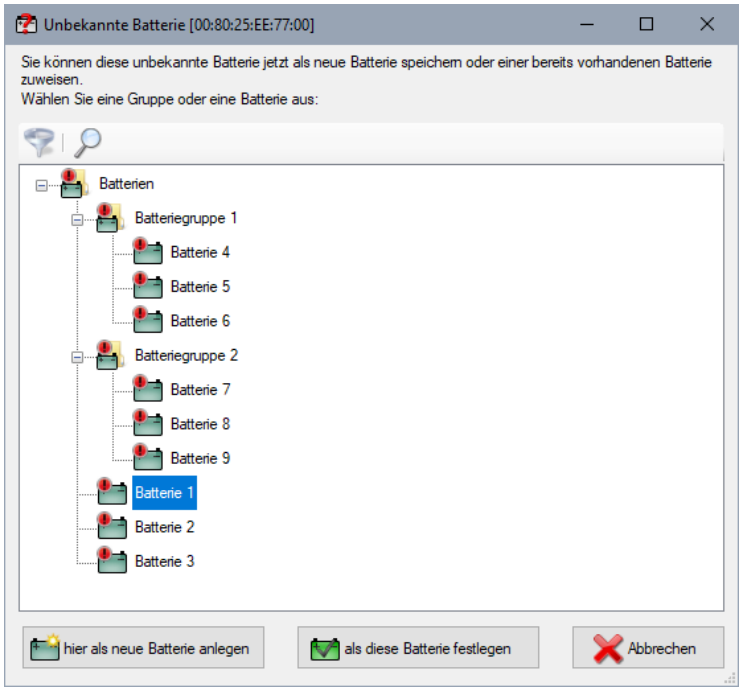
You can navigate between the comment fields using the cursor keys as well as the tab and enter keys

5.5.12.6 Unknown Battery

The batteries used are identified by the MAC / Bluetooth address of the respective electrolyte sensor. To do this, the battery with this MAC / Bluetooth address must be entered in the database (see **5.8 Batteries**).

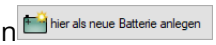
If the respective MAC / Bluetooth address has not yet been entered, the battery cannot be identified. In this case, the text „***unknown battery 12:34:56:78:9A:BC***“ is displayed. The numbers represent the MAC / Bluetooth address of the respective electrolyte sensor.

With a double click on the text „***unknown battery 12:34:56:78:9A:BC*** the following window is displayed:



This button 

allows you to assign this new, unknown MAC / Bluetooth address to an existing battery (see **5.8 Batteries**.
Select the desired battery beforehand.

By contrast, the button 

automatically allows a new battery with this MAC / Bluetooth address to be entered in the database.

If necessary, first select the group in which the new battery is to be created.

In both cases, the clicked text "***unknown battery 12: 34: 56: 78: 9A: BC***" is then automatically changed and the assigned battery is displayed.

5.5.12.7 Search Crash

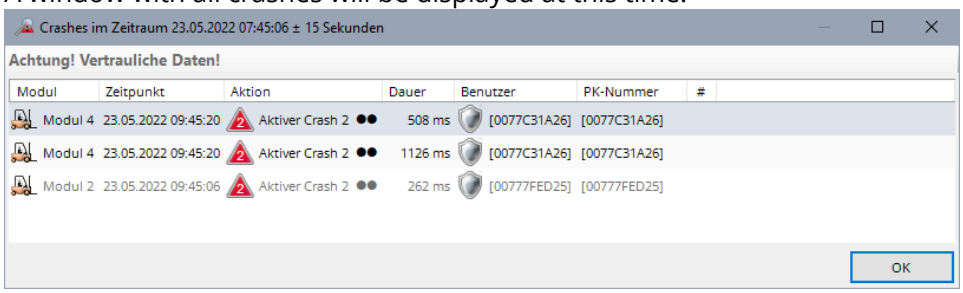
In particular, in a passive crash, it may be that another vehicle has caused this crash. Usually, an active crash at exactly this time is in the log of the other vehicle.

Therefore, in the event of a crash it can be searched for other crashes that occurred at about this time. Due to slight inaccuracies of the time in the modules, all crashes are considered that are up to 15 seconds before or after this crash.

Click with the right mouse button on a crash and then select the menu item ***Search for Crashes (± 15 Seconds)***.



A window with all crashes will be displayed at this time.

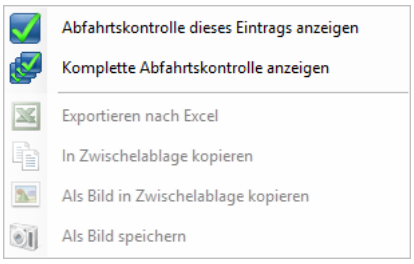


The selected module is displayed in grey. All other modules in black.
In the example above it can be seen that an **active crash** occurred at module 4 immediately before the **crash** at module 2.

5.5.12.8 Display Departure Control

For entries of the departure control, the actual questions can be displayed.

Click with the right mouse button on a departure control entry.



Show departure control of this entry

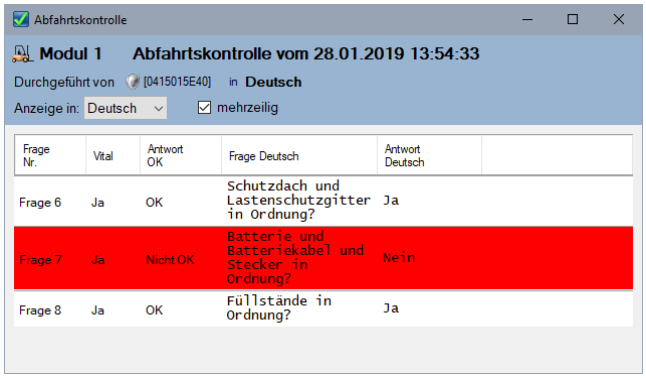
Shows only the (maximum 5) questions of this entry.

Show complete departure control

Displays all questions of this departure control (only displayed if the departure control contains more than 5 questions).

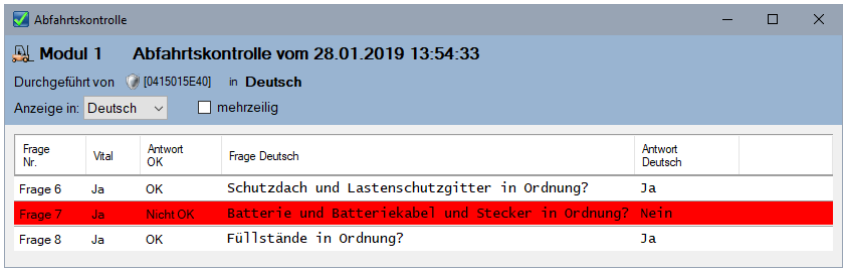
Tip:

By double-clicking on a departure control entry, the (maximum 5) questions of the respective departure control entry can also be displayed.



With ***Display in*** you can, if necessary, also set a different language.

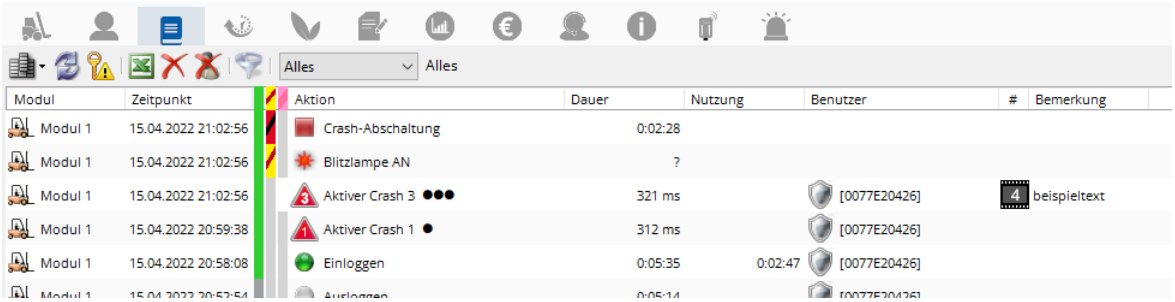
By default, the texts of the questions are displayed as they appeared on the display. Alternatively, by turning off the ***multi-line option***, you can display the questions as one-line text.



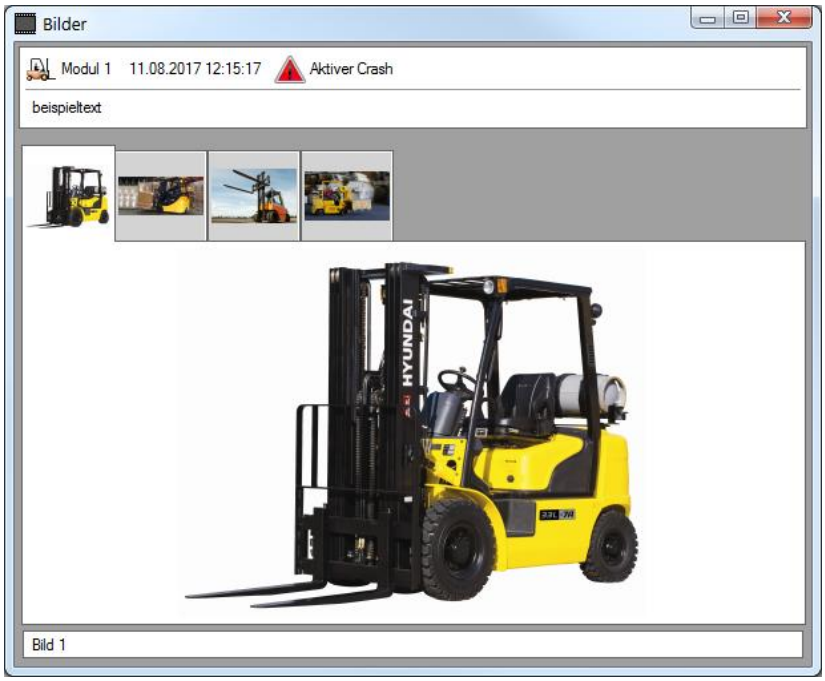
5.5.12.9 Easy Report

Crashes can be documented in the logbook by means of a smartphone app. This documentation will then be "attached" to the crash entry in the logbook, including up to 5 images, each with a caption, and can be displayed in the logbook.

Note:
Easy Report is part of ***MEKM-API***.
The column **#** for the number of pictures deposited is only displayed if the corresponding software module is enabled (see **5.22.6 MEKM-API**).



The example above contains 4 pictures and the text "example text".
With a click on the button, these 4 images and the associated texts can be displayed.



5.5.12.10 Export Logbook to Excel

Click on button to export the logbook entries of currently displayed modules (in the tree structure selected on the left) to Microsoft Excel.

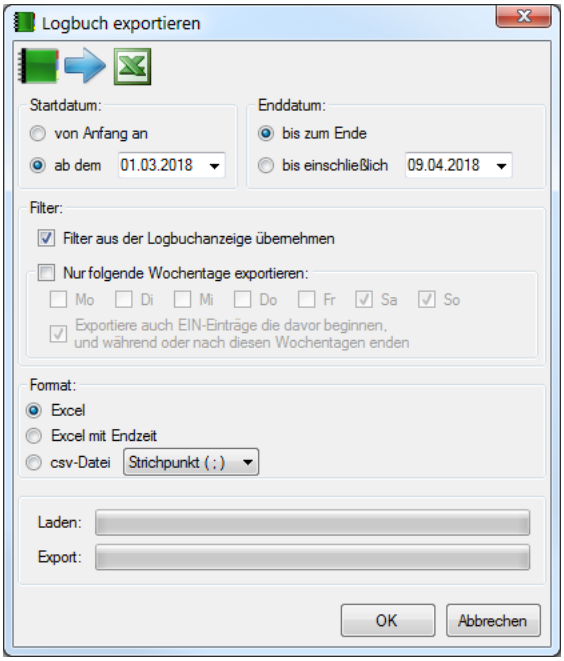


If the display of the logbook data is (partially) locked (see **5.21 Software Operating Rights** or **5.14.3 Data Protection (Works Council User)**) the logbook can still be exported Locked data are exported with the text „<<display locked>>“.

Select the time range from which you want to export the logbook data.



Note:
Note that Microsoft Excel can display only a maximum of 1048576 lines. If more logbook entries exist in the specified time range, select whether you want to limit the export to the oldest or newest entries.



Filter:

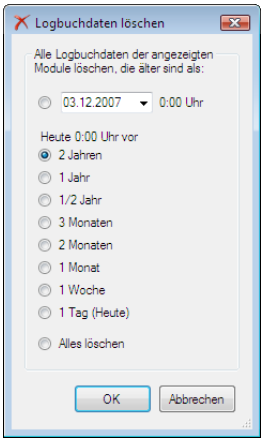
- ***Take over filter from the logbook display***
  With this option the export of the logbook data can be limited to the currently filtered task types (see **5.5.12.12 Filter Logbook Display**). If the logbook display is e.g., filtered to only display log in- entries, then the log in- entries are exported according to the specified period. This option can be selected only if in the logbook also a logbook filter is placed.
- ***Export only following weekdays***
  With this option the export can be limited to specified weekdays. E.G., only entries of Saturdays and Sundays can be exported like in the example above.
- ***Export entries which begin before it and end during or after these weekdays***
  If this option is selected, like in the example above, also entries are exported in which e.g., Friday was logged in and was logged out on Monday!

Format:

- ***Excel***
  The Excel file is created in the advanced format MEKM3.
- ***Excel with end time***
  This format serves primarily the export with filter. Filtered data does not necessarily export the out-entry for the relevant In-entry (as they may be filtered out). Therefore, in addition to the time stamp of the action, it is also specified when the action was ended.
- ***Csv file***
  Alternatively, the data can be exported instead of to Excel into a text file. Specify in the select field on the right, whether the single columns should be separated by ***tabulator***, ***semicolon*** or ***comma***. Such files can be opened with most table-processing programmes (e.g., Excel).

Click on ***OK*** to begin the export of the logbook data.
According to the amount of the logbook data the export can last some time.

5.5.12.11 Delete Logbook Entries



Because the database size depends primarily on the number of logbook entries, it can be necessary to delete older logbook entries. Click on the button to delete the logbook entries of displayed modules (selected in the tree structure on the left).

Now select the period you want to delete.

If you select a period, for example***, 1 year***, this means that all logbook entries are deleted which are older than one year.

You can also enter any date to delete all logbook entries before this date.

If you select the option delete all, the logbook is completely deleted for the selected modules.

Click OK to delete the selected logbook entries now.

5.5.12.12 Filter Logbook Display

If you only want to see, when a module was powered, you can filter the display of the logbook data in such a way, that all the other events are hidden. Click the button to activate the filter function in the right toolbar.



Below the toolbar on the right another toolbar is visible. Click on one of the buttons of this toolbar to hide logbook entries of this type. As a result, the respective button is displayed crossed out (in the example above event 1 ON and OFF).

Click the appropriate button once more to display logbook entries of this type again.

With a click on button all action types can be hidden all at once or be displayed again.

The meaning of the respective icons is explained in detail in chapter **5.5.12.5 The Columns in the Logbook** section ***Tasks***.

As soon as the filter setting is activated or is changed, the following window appears.

Only if in this window OK is clicked on, the filter settings are applied and the logbook display is re calculated.

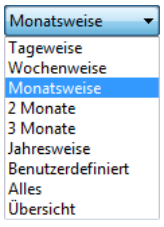


If you click again on the button in the toolbar on the right, the filter function is switched off and all logbook entries are displayed again.

5.5.12.13 Select Display Range

Because with the display of all logbook entries a lot of data are to be displayed at the same time, the display of these data can be limited to certain time ranges (e.g., weeks, months etc.).

With the select field the size of the displayed time range is selected. Accordingly, all entries of one day, one week etc. are displayed.



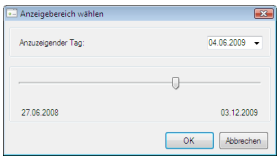
A particular importance has the select overview. Here only the date of the oldest and the newest logbook entry of a module is displayed. If several modules are selected at the same time, the overview is automatically adjusted. However, it can be changed to one of the other displays. This is sensible in connection with the filter function (see **5.5.12.12 Filter Logbook Display**).

With the buttons  on the right, the respective day, week, month etc. which should be displayed is selected. If for example, the time range is set on a day-to-day basis then a certain day can be selected to be displayed.
On the far right the range selected in each case is described.

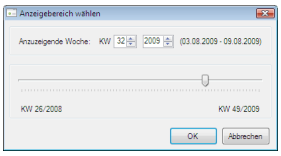
The buttons have following meaning

- Calls a dialog with which the required range can be selected comfortably
- Changes to the first (oldest) possible range with data.
- Changes to the previous range, e.g., by the previous week.
- Changes to the next range, e.g., by the next week.
- Changes to the last (latest) possible range with data.

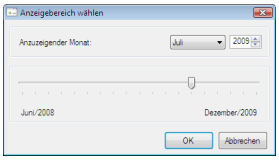
According to size of the time range to be displayed the dialog, accessed with button looks different:



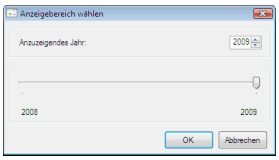
Days:
You can select the day to be displayed with the date button on the top right in a calendar or below with the slide control.
Click on ***OK*** for the selected day to display.



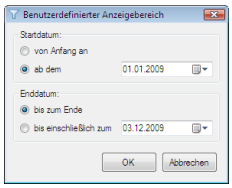
Weeks:
Select the required calendar week and the year or simply move the slide control.
Click on ***OK*** for the selected week to display.



Months:
Select the required month and the year or simply move the slide control.
Click on ***OK*** for the selected month to display.



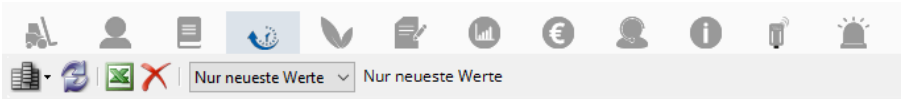
Years:
Select the required year or simply move the slide control.
Click on ***OK*** for the selected year to display.



User-defined:
You can select a range according to the exact day.
To begin from the oldest entry you select as a start date ***from the outset***. Otherwise, you enter the date to which the range to be displayed should begin.

If you want to display all entries from the start including today, select as a date ***up to the end***. Otherwise, you can enter a date up to which (including) the range to be displayed should go.

5.5.13 Operating hours



Every time when the operating hour metre reading from the respective module is read out, these are saved in the database. In this tab the operating hour statuses are displayed in different ways.

Special buttons of the operating hour display



Click on this button to delete (older) operating hour entries. See also **5.5.13.4 Delete Operating Hour Entries**.



Click on this selection field to change between the different display modes and display ranges (see following chapters).

The remaining buttons are explained in chapter **5.4.1 Default buttons in the toolbars**.

Tip

by double-clicking on the ***module name*** in the module column, you can select this module (in the tree view on the left) and switch to the normal display mode for this one module quickly.

Tip

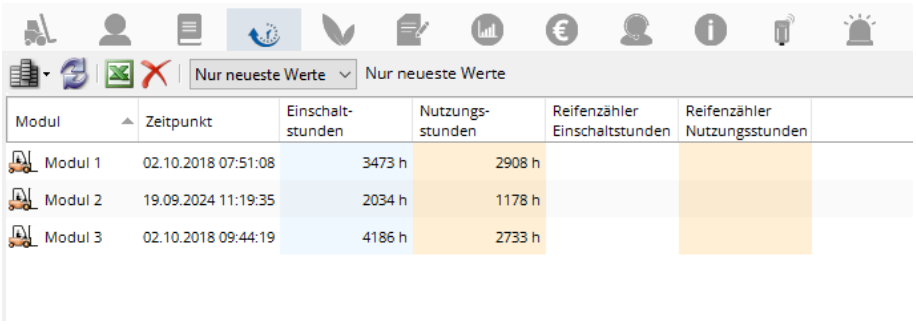
The formatting of the displayed operating hours can be changed in the View menu.
See **5.3.5.3 Operating Hours** .

Tip

If the operating hours are exported with the button, the operating hours are adopted as they are currently displayed (see **5.3.5.3 Operating Hours)**, e.g., in the format 123: 27: 02. Unfortunately, Excel is somewhat limited in this hours-, minutes- (and seconds-) format, and interprets larger hours of operation as text (rather than number). If you want to calculate the exported operating hours in Excel, set the display format to ***123 h*** or ***123.45 h*** beforehand. Excel has no problems with this format.

5.5.13.1 Only the Newest Values

This is the standard view. For every module selected in the tree structure a table row with the most actual data is displayed.



The meaning of the single columns:

Module
Displays the name of the respective module

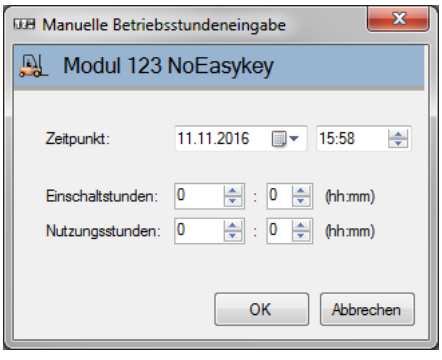
Time
Specifies the date and time, when the operating hours were read out at last. If it is the present day, only the time is displayed.

Cut-in hours
Displays the last read out value of the cut-in hours.

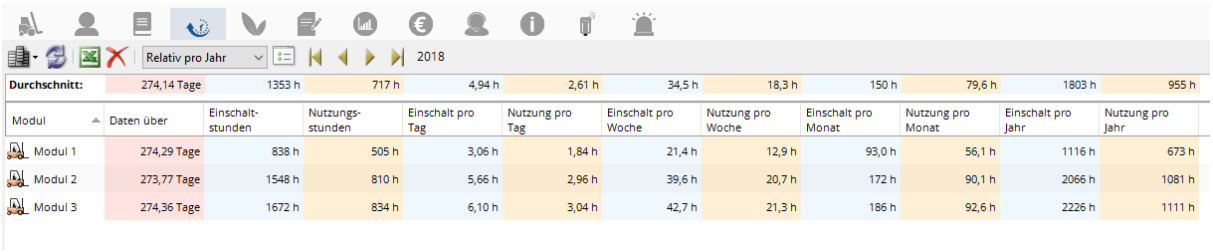
Operating hours
Displays the operating hours with the last read out value.

User-defined forms and operating hours
If user-defined operating hours are used (see **5.14.4 Data Fields**), the respective read out time of the user-defined cut in- and operating hours is displayed.

Tip
For modules of the module type No Easykey (see **5.5.1.2 Settings of Module X**), the operating hours can be entered manually. To do so, double-click in the column time, operating hours, or hours of use.



5.5.13.2 Relative Display



Durchschnitt:	274,14 Tage	1353 h	717 h	4,94 h	2,61 h	34,5 h	18,3 h	150 h	79,6 h	1803 h	955 h
Modul	Daten über	Einschalt-stunden	Nutzungs-stunden	Einschalt pro Tag	Nutzung pro Tag	Einschalt pro Woche	Nutzung pro Woche	Einschalt pro Monat	Nutzung pro Monat	Einschalt pro Jahr	Nutzung pro Jahr
Modul 1	274,29 Tage	838 h	505 h	3,06 h	1,84 h	21,4 h	12,9 h	93,0 h	56,1 h	1116 h	673 h
Modul 2	273,77 Tage	1548 h	810 h	5,66 h	2,96 h	39,6 h	20,7 h	172 h	90,1 h	2066 h	1081 h
Modul 3	274,36 Tage	1672 h	834 h	6,10 h	3,04 h	42,7 h	21,3 h	186 h	92,6 h	2226 h	1111 h

In the relative display one row is displayed for every module selected in the tree (hierarchical) structure. The respective values refer to the time range selected in each case. If, for example**,** ***Relative per week*** is selected the ***cut-in*** and ***operating hours*** are displayed which have accumulated in the respective, selected week. Which week is selected, can be determined with the buttons  . See also **5.5.12.13 Select Display** .
In the column ***data of,*** it is shown for which time range precise data is available. For example, a module could have been initiated only in March of the year, Therefore, between January and March no data can be given. Or if the module was read out in October of the previous year, then no data between October and at the end of December is available.

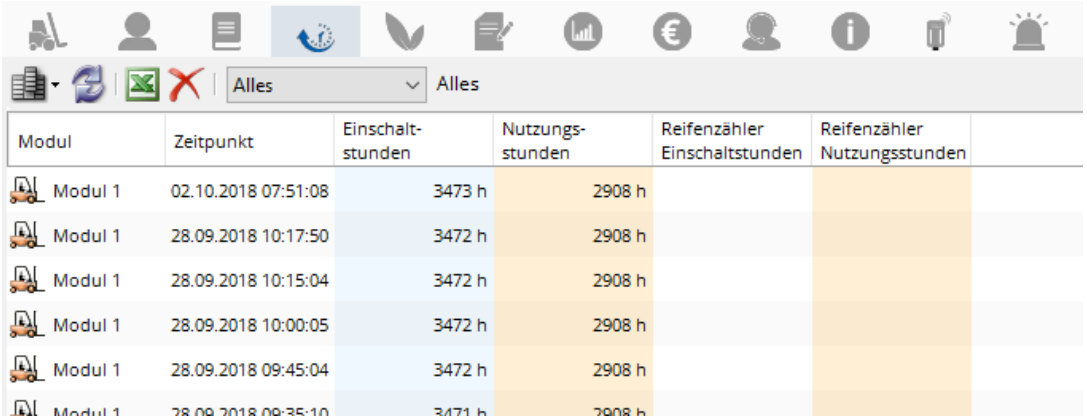
There are following relative displays:
Relative per week
Relative per month
Relative per quarter
Relative per year

With the button  you are able to view other columns in which the displayed values are converted in different time ranges. For example, can, like in the illustration above, in the display ***Relative per year*** be shown how many operating hours this would be on an average per month (***Cut-in per month***, ***use per month***).
Vice versa a projected column ***Cut-in hour per year*** and/or ***Use per year*** can be also viewed, e.g., in the display ***Relative per week***.
Then, the operating hour value which would originate if the module would run a whole year with exactly this weekly capacity is shown.

5.5.13.3 Normal Display

In the normal display all logged operating hours metre readings are displayed. As a rule, only one module is selected. Thus, it can be checked how the operating hours metre readings have changed in the course of the time.

As a rule, only one single module is selected in the tree diagram on the left side.



Modul	Zeitpunkt	Einschalt-stunden	Nutzungs-stunden	Reifenzähler Einschaltstunden	Reifenzähler Nutzungsstunden
Modul 1	02.10.2018 07:51:08	3473 h	2908 h		
Modul 1	28.09.2018 10:17:50	3472 h	2908 h		
Modul 1	28.09.2018 10:15:04	3472 h	2908 h		
Modul 1	28.09.2018 10:00:05	3472 h	2908 h		
Modul 1	28.09.2018 09:45:04	3472 h	2908 h		
Modul 1	28.09.2018 09:35:10	3471 h	2908 h		

The display of the data can be limited to a certain time range size (e.g., on a day-to-day basis, week by week, monthly, annually). Which time range is displayed can be determined with the  buttons.

See also **5.5.12.13 Select Display** .

The meaning of the single columns:

Module

Displays the name of the respective module

Time

Specifies the date and time, when this operating hour metre reading was read out. If it is the present day, only the time is displayed.

Cut-in hours

Displays the value read out at the respective ***time*** of the Cut-in hours.
If a plus sign or minus sign stands before the value, the value is relative! I.e., the Cut-in hours were adjusted around this value.

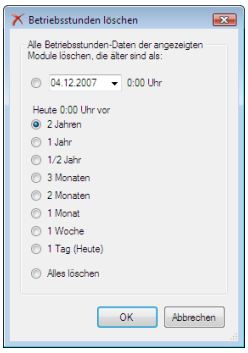
Operating hours

If the operating hours display the value read out at the respective ***time***.
If a plus sign or minus sign stands before the value, the value is relative! I.e., the operating hours were adjusted around this value.

User-defined Cut-in hours and Operating hours

If user-defined operating hours are used (see **5.14.4 Data Fields**), the respective read out time of the user-defined cut in- and operating hours is displayed.
If the user-defined operating time counter was altered by a status order (see **5.5.20.4.5 Read operating hours /set / create orders**, a relative entry is displayed, which contains the amount by which the user-defined counter was changed.

5.5.13.4 Delete Operating Hour Entries



Click on button to delete operating hour entries for displayed (in the tree structure on the left) selected modules.

Now select the period which should be deleted.

If you for example select a period of ***1 year***, this means that all operating hour entries are deleted which are older than one year.

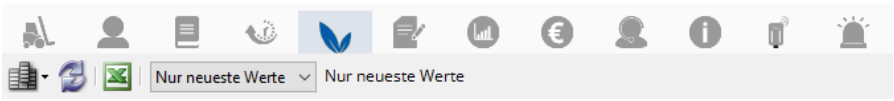
You can also enter any date, to delete all operating hour entries, before this date.

If you select the option ***delete all***, all operating hour entries of the selected modules are entirely deleted.

Click on OK to delete the selected operating hour entries now.

5.5.14 CO_2

The CO2 tab is only displayed if the CO2 module is activated.



For all modules for which a CO_2 consumption is specified in the module settings (see **5.5.1 Module properties**), the respective CO_2 consumption is automatically calculated from the hours of use.

Special buttons of the CO_2 display



Click on this selection field to change between the different display modes and display ranges (see following chapters).

The remaining buttons are explained in chapter **5.4.1 Default buttons in the toolbars**.

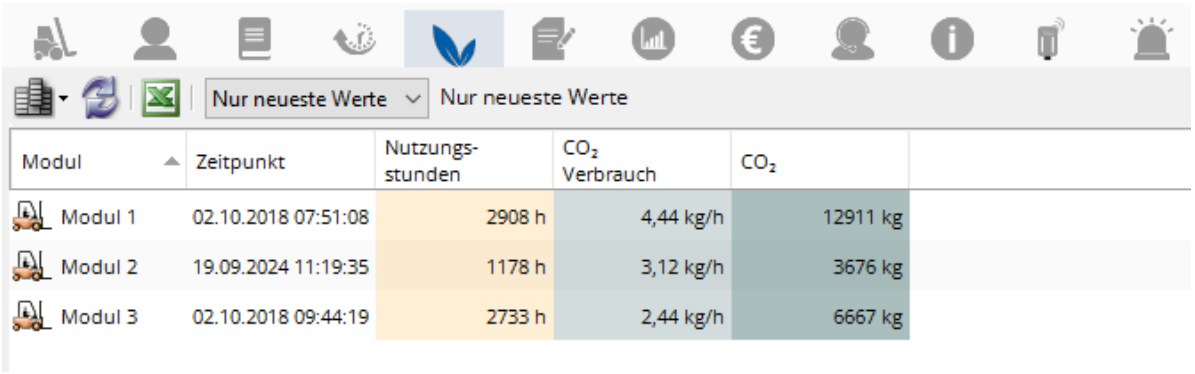
Tip
by double-clicking on the ***module name*** in the module column, you can select this module (in the tree view on the left) and switch to the normal display mode for this one module quickly.

Tip
The formatting of the displayed operating hours can be changed in the View menu.
See **5.3.5.3 Operating Hours** .

Tip
If the operating hours are exported with the button, the operating hours are adopted as they are currently displayed (see **5.3.5.3 Operating Hours)**, e.g. in the format 123: 27: 02. Unfortunately, Excel is somewhat limited in this hours-, minutes- (and seconds-) format, and interprets larger hours of operation as text (rather than number). If you want to calculate the exported operating hours in Excel, set the display format to ***123 h*** or ***123.45 h*** beforehand. Excel has no problems with this format.

5.5.14.1 Only the latest values

This view shows the total CO_2 consumption of the modules. The CO_2 consumption is calculated from the respective hours of use of the modules.



The meaning of each column:

Module

Displays the name of each module

Time

Specifies the date and time when the operating hours were last read. Since the CO_2 consumption is calculated from the read-out hours of use, the display of the CO_2 consumption is only as up-to-date as the read out operating hours. If the date is from today, only the time is displayed.

Usage

Hours Displays the last read value of the usage hours.

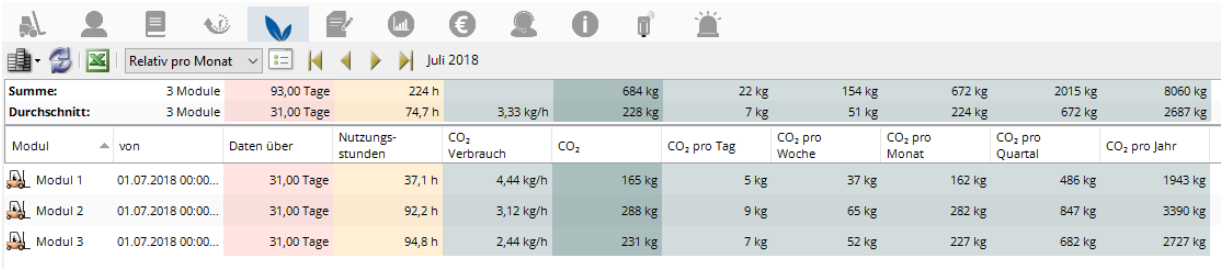
CO_2 consumption

The value for the CO_2 consumption according to EN 16796 stored in the module settings (see **5.5.1 Module properties**) is displayed here. This value is multiplied by the read-out hours of use to obtain the CO_2 consumption.

CO_2

The calculated total CO_2 consumption is displayed here

5.5.14.2 Relative-Display



Summe:	3 Module	93,00 Tage	224 h		684 kg	22 kg	154 kg	672 kg	2015 kg	8060 kg
Durchschnitt:	3 Module	31,00 Tage	74,7 h	3,33 kg/h	228 kg	7 kg	51 kg	224 kg	672 kg	2687 kg

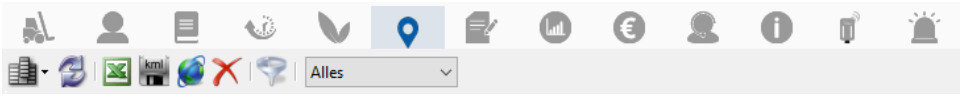
Modul	von	Daten über	Nutzungs-stunden	CO_2 Verbrauch	CO_2	CO_2 pro Tag	CO_2 pro Woche	CO_2 pro Monat	CO_2 pro Quartal	CO_2 pro Jahr
Modul 1	01.07.2018 00:00...	31,00 Tage	37,1 h	4,44 kg/h	165 kg	5 kg	37 kg	162 kg	486 kg	1943 kg
Modul 2	01.07.2018 00:00...	31,00 Tage	92,2 h	3,12 kg/h	288 kg	9 kg	65 kg	282 kg	847 kg	3390 kg
Modul 3	01.07.2018 00:00...	31,00 Tage	94,8 h	2,44 kg/h	231 kg	7 kg	52 kg	227 kg	682 kg	2727 kg

In the relative display, the CO_2 consumption is only calculated and displayed over a selected period of time.
The respective values refer to the selected time range. For example, if ***Relative per week*** is selected, the CO_2 ***consumption*** of that selected week is displayed. Which week is selected can be selected with the buttons . See also **5.5.12.13 Select Display** In the ***Data via*** column, you can see the exact time range for which data is available. For example, a module could not have been created until March of that year, so that no data can be available between January and March. Or the module was last read out in October of that year, in which case no data is available between October and the end of December.

There are the following relative-displays:
Relative per week
Relative per month
Relative per quarter
Relative per year

Regardless of this, the CO_2 consumption (of the selected period) is extrapolated or converted to the daily, weekly, monthly, quarterly and annual consumption for better comparison. These additional columns can be displayed and hidden using the button  to Show and Hide columns.

5.5.15 GPS



The mobile radio modules are able to continuously record the GPS position (see **5.9.2.4 GPS**). These recorded coordinates are displayed here.

The GPS tab is only visible if the ***Outdoor Locator*** software module (see **5.22.5 Outdoor Locator**) exists.

Special buttons of the GPS display

	Selects all coordinates currently displayed. Note: The button is only active if all coordinates have already been read by the SQL server. Scroll down to read all the data from the SQL server and activate this button.
	Click this button to export the currently selected coordinates as a kml file
	If the program Google Earth is installed, the coordinates you just selected can be transferred directly to Google Earth and displayed there. See **5.5.15.2 Show GPS-Overview in Google Earth** and **5.5.15.4 Show GPS Standard Display in Google Earth**.
	Click this button to delete (older) GPS entries. See also **5.5.15.5 Delete GPS Entries**.
	Click this selection box to switch between the different display modes and display areas (see the following chapters).

The remaining buttons are explained in chapter **5.4.1 Default buttons in the toolbars** .

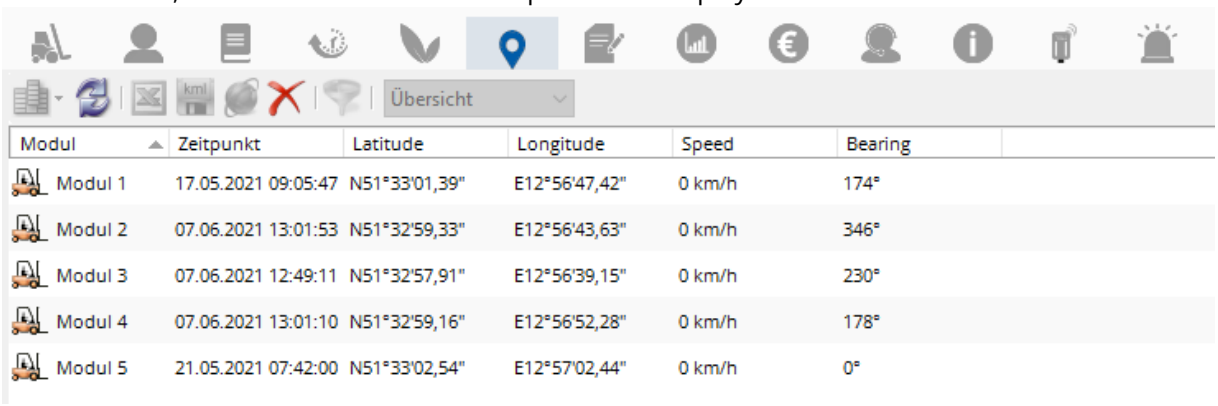


Tip

By double-clicking on the module name in the ***module column***, you can select this module (in the tree diagram on the left) individually and quickly switch to the normal display mode for this one module.

5.5.15.1 GPS Overview

This is the standard view when multiple modules are selected. For each module selected in the tree structure, a row with the most recent position is displayed in the table.



Modul	Zeitpunkt	Latitude	Longitude	Speed	Bearing
Modul 1	17.05.2021 09:05:47	N51°33'01,39"	E12°56'47,42"	0 km/h	174°
Modul 2	07.06.2021 13:01:53	N51°32'59,33"	E12°56'43,63"	0 km/h	346°
Modul 3	07.06.2021 12:49:11	N51°32'57,91"	E12°56'39,15"	0 km/h	230°
Modul 4	07.06.2021 13:01:10	N51°32'59,16"	E12°56'52,28"	0 km/h	178°
Modul 5	21.05.2021 07:42:00	N51°33'02,54"	E12°57'02,44"	0 km/h	0°

The meaning of the individual columns:

Module
Shows the name of the respective module

Time
Indicates the date and time when the operating hours were last read out. If the date is today, only the time is displayed.

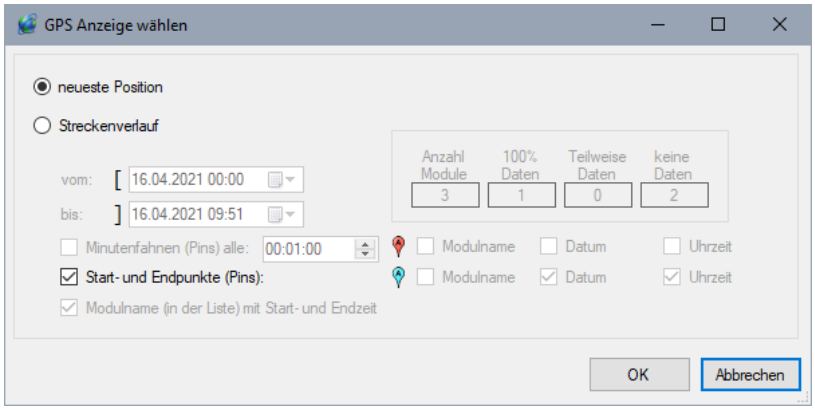
Latitude/Longitude
Shows the last position read out

Speed
Shows the speed at the time of the last position read out.

Bearing
Indicates the direction in degrees that the module was currently moving.

5.5.15.2 Show GPS-Overview in Google Earth

If the Google Earth programme is installed, the coordinates can be transferred directly to Google Earth and displayed there by clicking on .

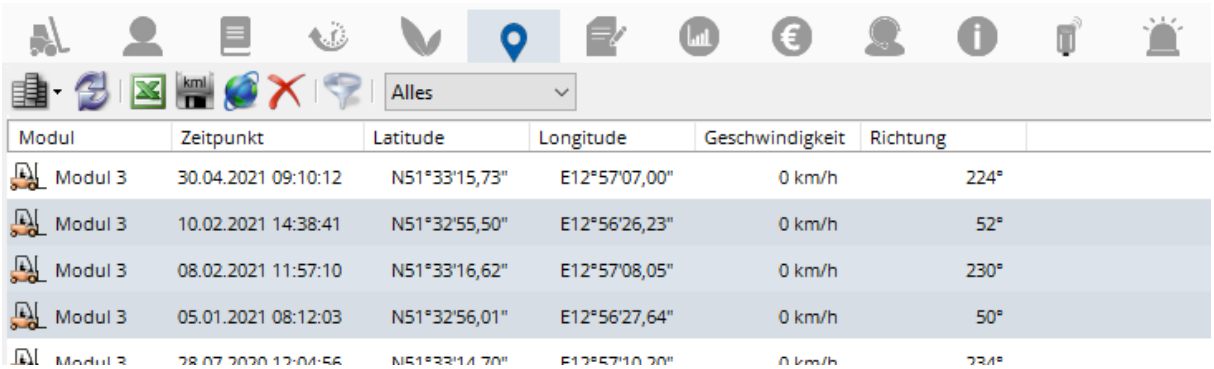


- ***Newest postion***
  Select this option to display only the last (current) coordinate of each selected module.
- ***Route***
  All coordinates in the selected time period are output for the route. The coordinates are connected by a line.
- ***From /till***
  Enter the time range you want to display here.
- ***Minute flags (Pins) all***
  Activate this function to display a pin in addition to the line in the specified time periods. On the right you can specify how these pins are to be labelled (module name, date and/or time).
- ***Start- and End points (Pins)***
  Activate this function to represent the start and end point of each line by a pin. On the right you can specify how these pins are to be labelled (module name, date and/or time). If the minute flags function above is activated, this function is automatically activated as well.
- ***Module name (in the list) with start- and end time***
  Within Google Earth, the routes for each module are recorded as separate elements. Each of these elements has the name of the respective module. With this option you can specify that in addition to the module name, the start and end time is also given.

5.5.15.3 GPS Standard Display

All captured GPS coordinates are displayed in the normal display.

The Normal display is available only if only a single module is selected in the tree diagram on the left.



The display of the data can be limited to a certain time range size (e.g., on a daily basis, week by week, month by month, yearly). The time range displayed can be selected via the buttons .

See also **5.5.12.13 Select Display** .

The meaning of each column:

Module
Shows the name of each module

Time
Specifies the date and time when this operating hour meter reading was read out. If the date is today, only the time is displayed.

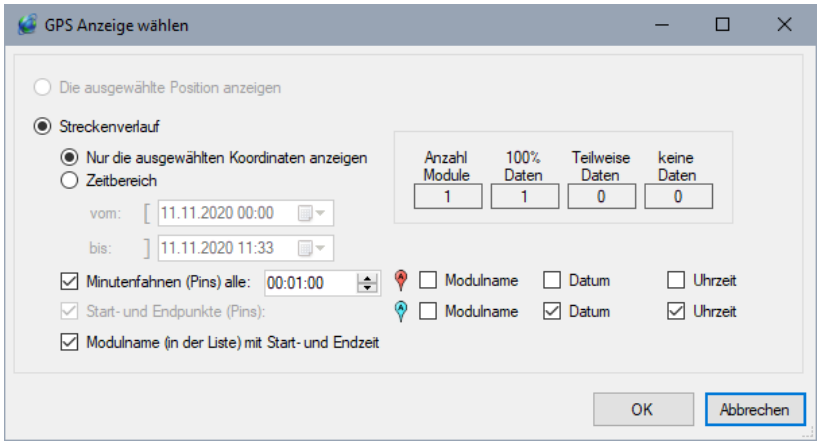
Latitude/Longitude
Specifies the current position.

Speed
Specifies the current speed.

Bearing
Displays the direction in degrees in which the module was moving at that time.

5.5.15.4 Show GPS Standard Display in Google Earth

If the Google Earth programme is installed, the coordinates can be transferred directly to Google Earth by clicking on and displayed there.



- ***Show the selected position***

  Is only available if exactly one row is marked (blue) in the table. Select this option to display exactly this coordinate.

- ***Route***
  All coordinates in the selected time period are output for the route. The coordinates are connected by a line.

- ***Show only the selected coordinates***
  Is only available if several lines are marked (blue) in the table. Select this option to output exactly these marked coordinates as the course of the route.

- ***Time range***
  Is only visible if several rows are marked (blue) in the table. Select this option if you still want to enter a time range (which rows are marked will then be ignored).

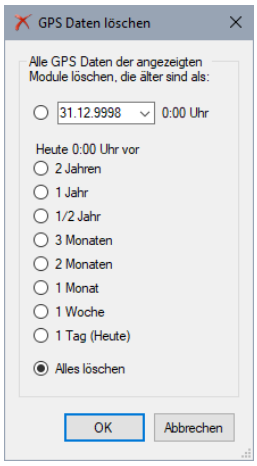
- ***From /till***
  Enter the time range you want to display here..

- ***Minute flags (Pins) all***
  Activate this function to display a pin in addition to the line in the specified time periods. On the right you can specify how these pins are to be labelled (module name, date and/or time).

- ***Start- and End points (Pins)***
  Activate this function to represent the start and end point of each line by a pin. On the right you can specify how these pins are to be labelled (module name, date and/or time). If the minute flags function above is activated, this function is automatically activated as well.

- ***Module name (in the list) with Start- and End time***
  Within Google Earth, the routes for each module are recorded as separate elements. Each of these elements has the name of the respective module. With this option you can specify that in addition to the module name, the start and end time is also given.

5.5.15.5 Delete GPS Entries



Click on button to delete the GPS- entries of the displayed (selected on the left in the tree structure).

Now select the time period to delete.

For example, if you select ***1year*** as the period, it means that all GPS entries older than one year will be deleted.

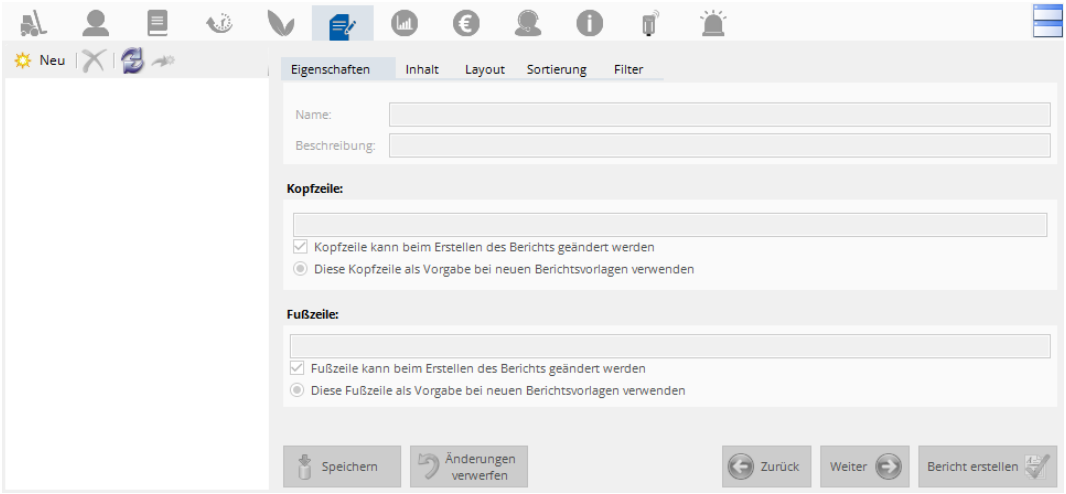
You can also enter any date to delete all GPS entries that precede that date.

If you select the ***Delete All*** option, all GPS entries of the selected modules will be completely deleted. Click OK to delete the selected GPS entries now.

Tip:

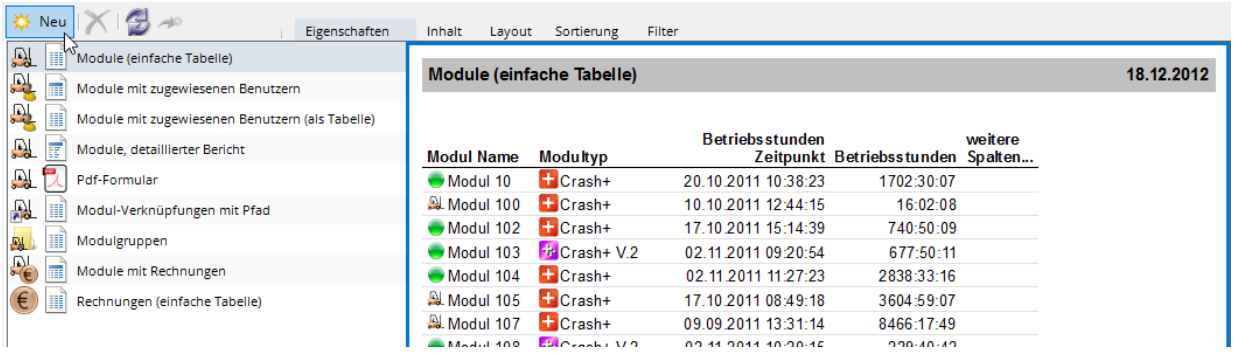
You can also specify in the database configuration whether older GPS data should be deleted automatically. See also **5.14.13 GPS**.

5.5.16 Report templates



The report module serves to print out logged data as for example module name, module type, description, module configuration, actual operating hour values etc. or to save as a Pdf file.
In addition different report types are available.

With the button Neu you can create a new report template. Depending on which data the report should include and be built up on, you select one of the offered template types. In the right part of the selection area, you see an example of the presently selected report type.



Following report types are available to choose from:

- ***Modules (simple table)***
  List, see **5.17.2.1 List (simple tables)**.
  Creates a simple list of all modules with nearly any information, as for example module master data, hardware version, actual operating hour metre reading or alarm data.
- ***Modules with assigned users***
  Grouped report see **5.17.2.2 Grouped** .
  Creates a report which starts a new page for every module and displays after the module name a list of all users assigned to this module (and if necessary further module information).
- ***Modules with assigned users (as a table)***
  ***Lists, see* 5.17.2.1 List (simple tables).**
  Creates a list of all modules and all assigned users. If several users are assigned to a module, several lines are shown accordingly. For each driving authorisation, a line with module and user is displayed.

- ***Modules, detailed report***
  Detailed report, see **5.17.2.3 Detailed Reports**.
  Creates a detailed, if necessary, multilateral report of all selected modules.
- ***Pdf-form***
  special report, see **5.17.2.4.2 Pdf-BerichtePdf-Berichte**
  This report is assigned a pdf form, which you can create individually. A database field is then assigned to each of the individual form fields. This allows the form to be filled out automatically when it is created.
- ***Module link to path***
  List, see **5.17.2.1 List (simple tables)** Reference source not found.
  Creates a simple list of all module links. As opposed to the module list, the modules which exist in the tree structure several times in different groups are also displayed several times. In addition to all information which is also available in the module list the respective path within the tree structure can be also displayed. Usually, this list serves the documentation which modules are placed in which groups.
- ***Module groups***
  List, see **5.17.2.1 List (simple tables)** Reference source not found.
  Creates a simple list of all module groups. The list can contain, in addition, the respective path under which this group is filed in the tree structure.



- ***Module groups + user groups***
  List, see **5.17.2.1 List (simple tables)**
  Creates a list of all module groups (with path) and for the respective module group authorised user group/s (with path). If several user groups are authorised for a module group, the module group is listed accordingly several times.
  This menu item is only displayed if in the database configuration (see **5.14.14 Authorisation Type**) Group authorisations are admitted.



- ***Modules with invoice***
  ***Grouped reports, see* 5.17.2.2 Grouped .**
  Generates a report that starts a new page for each module and lists all invoices for that module, according to the module name (and any other module information).
  Only visible if the Finance module (see **5.22.3 Finance Module*)*** is enabled.

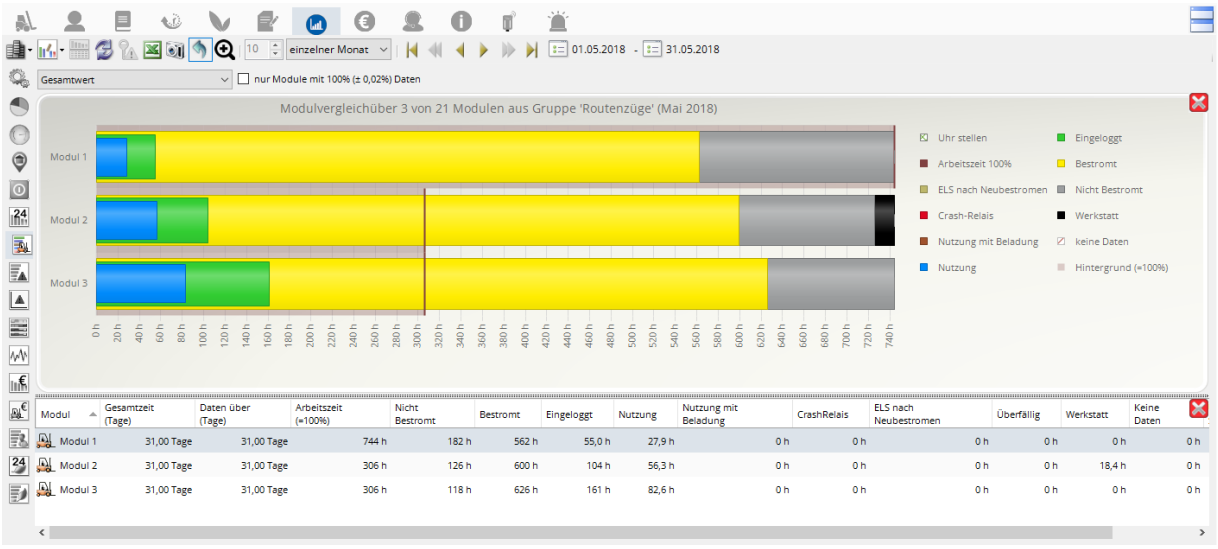


- ***Invoices (simple table)***
  ***Lists, see* 5.17.2.1 List (simple tables).**
  Creates a list of all invoices**.**
  Only visible if the Finance module (see **5.22.3 Finance Module*)*** is enabled.

Since the reports for modules, batteries, users, profiles, alarm profiles, shift models and holiday lists are largely the same, the report module is explained in more detail in chapter **5.17 Reports** for all elements.

5.5.17 Online statistics

For the use of the online statistics an additional software module (see **5.22.2 Online Statistics**) **is necessary.**



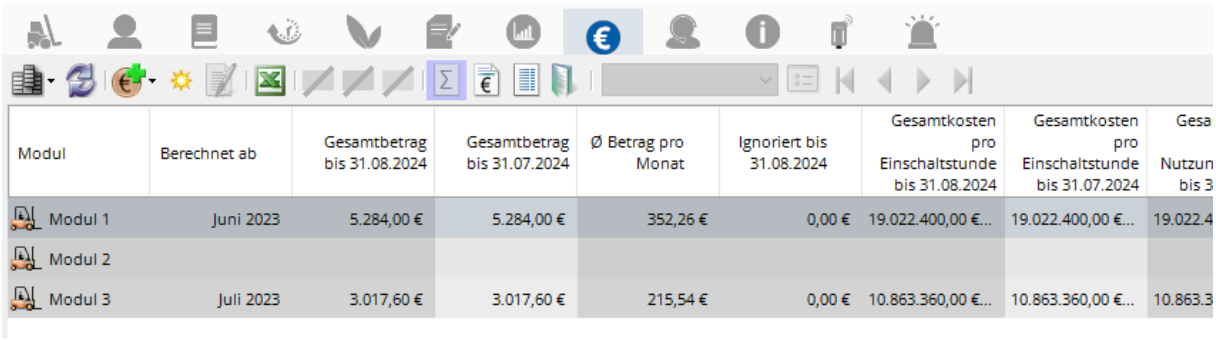
In the online statistics module different statistics can be displayed.

The individual views and operation of the online statistics are described in more detail in chapter **5.18 Online Statistics.**

However, the online statistics must be "activated" first. Thereby, a background process is set up which pre-calculates the logbook data statistically and saves these independent of the logbook. Then, hereafter, the logbook data which needs a lot of space in the database from a certain age can be automatically deleted. See further details in chapter **5.18.1 Statistics module activation / configuring**.

5.5.18 Finance module

For the use of the financial module an additional software module (see **5.21.4 Financial module**) is required



Modul	Berechnet ab	Gesamtbetrag bis 31.08.2024	Gesamtbetrag bis 31.07.2024	Ø Betrag pro Monat	Ignoriert bis 31.08.2024	Gesamtkosten pro Einschaltstunde bis 31.08.2024	Gesamtkosten pro Einschaltstunde bis 31.07.2024	Gesa Nutzun bis 3
Modul 1	Juni 2023	5.284,00 €	5.284,00 €	352,26 €	0,00 €	19.022.400,00 €...	19.022.400,00 €...	19.022.4
Modul 2								
Modul 3	Juli 2023	3.017,60 €	3.017,60 €	215,54 €	0,00 €	10.863.360,00 €...	10.863.360,00 €...	10.863.3

In the financial module, invoices and other cost factors can be entered for the individual modules in order to determine a financial status.
The financial status is dependent on the number of operating hours of the respective module and is intended to provide an indication of how profitable a module is.

The financial data can also be graphically displayed in online statistics (see **5.18 Online Statistics**) in order to analyse the financial development of a module (**5.18.3.12 Financial Development**) or to compare different modules (**5.18.3.13 Financial comparison**).
The financial module is described in detail in section **5.15 Finance Module.**

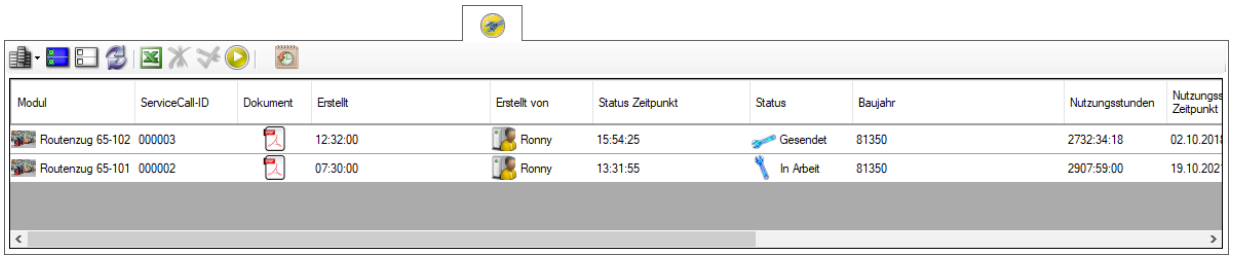
5.5.19 Service-Call-Center

Service call is a Smartphone app with which the corresponding service partner (workshop, etc.) can be commissioned in the event of upcoming maintenance or damage.

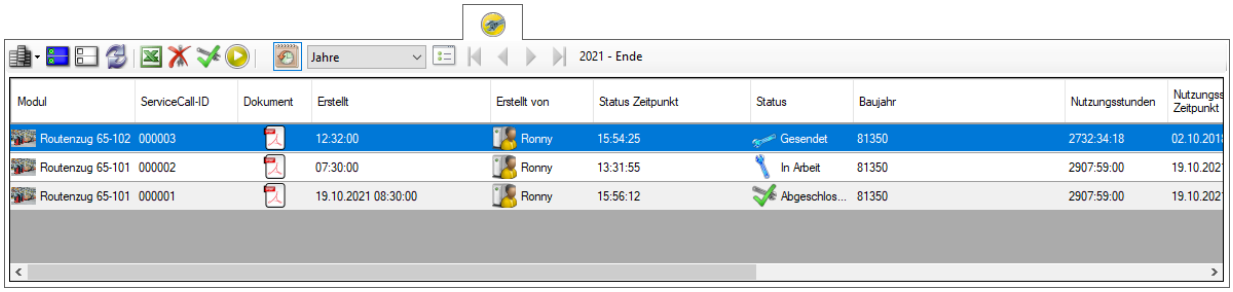
Requirements for the service call:

- Smartphone APP (The instructions of the app itself are not part of this manual.)
- API-Driver (see **5.13.3.1.6 MEKM-API Driver (REST-API)**)
- E-Mail Driver (see **5.13.5.2 Email**)
- Definition of Service Partner (see **5.14.11 Service Partner**)
- Assigning Service Partners to modules (see **5.5.1.2 Settings of Module X**)
- Workshop-Transponder with assigned Service Partner (see **5.6.1.2.4 Service Partner**)

As soon as a Service-Call has been added with the APP, it appears in the service call center. All Service-Call-Orders of the selected modules are displayed here. By default, only open, i.e., not yet completed jobs are displayed.



A time range can be selected using the button  (see **5.5.19.2 Select Display Area**). Only Service-call-Orders that were created within this period are displayed.



The individual work steps are: The Status column shows the current work step of this service call.



Created
The service call was created in the app, but the e-mail with the order as pdf has not yet been sent (the e-mail driver may not be running)



Sent
The order was sent by pdf to the responsible service partner



Read
An e-mail read confirmation from the service partner has been received



Work in progress
The module was put into workshop mode with a workshop transponder by the responsible service partner. The service partner has thus taken over the module.



Work completed
The workshop mode was terminated and a "normal" user has logged into the module. The module is now considered to be returned to operation.



Closed
A job is not considered completed/closed until it has been completed manually in the Manager, using the button.



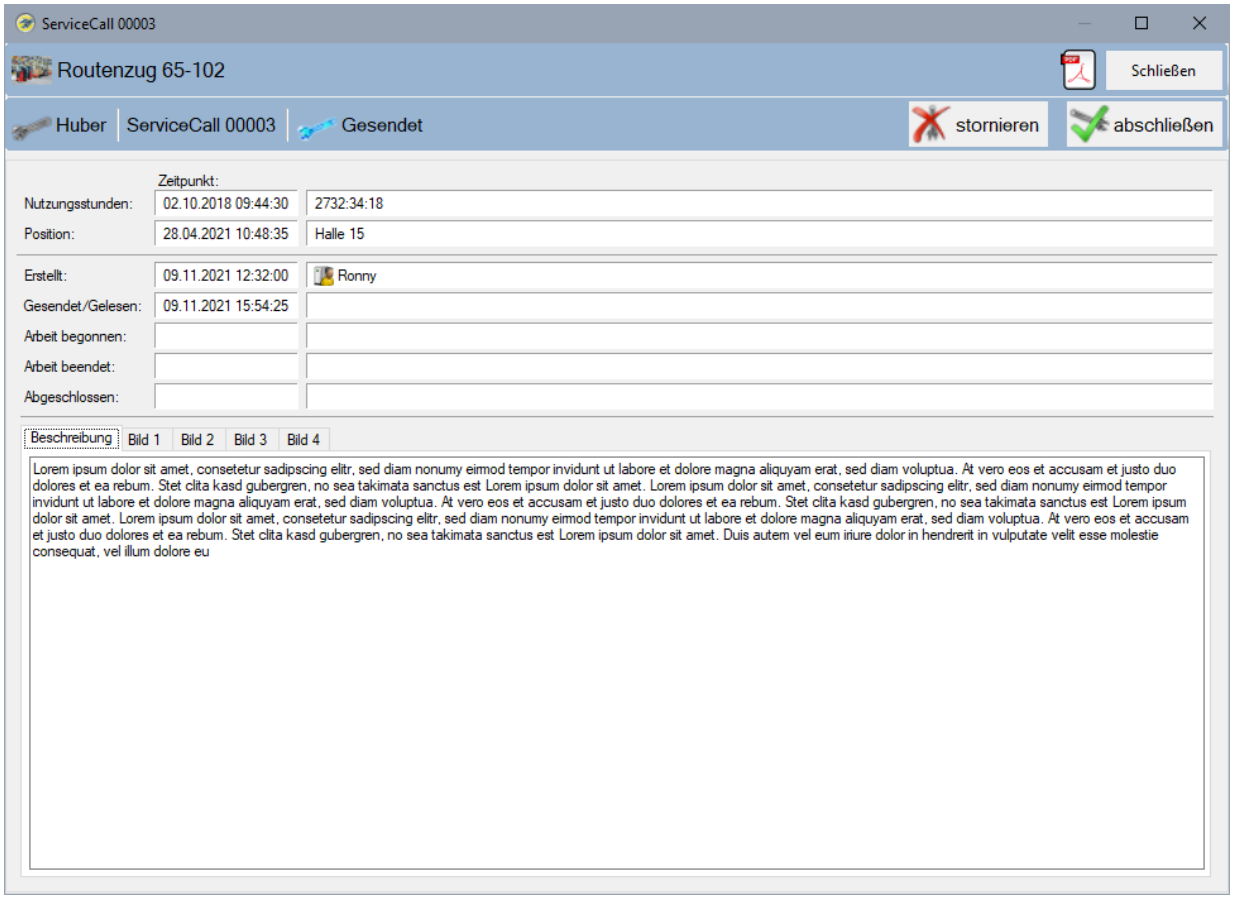
Cancelled
As long as a Service-Call has not yet been started (Workshop mode by the Service Partner), the Service-Call can be cancelled via the button. .

If the order has already been sent, a corresponding cancellation e-mail will be sent. As long as this cancellation E-Mail has not been sent, the icon will be displayed. The icon  indicates that the cancellation has been sent or does not have to be sent, as the order has not been sent either.

In addition, the pdf file that has been sent to the respective Service Partner, it can be called up via the button . This pdf does not exist until the e-mail has been sent. In the case of a Service-Call in the status *Created*, the pdf cannot be displayed.

5.5.19.1 Display Service-Call

The button (or double-clicking on the ServiceCall ID) can be used to display detailed information about this Service-Call.



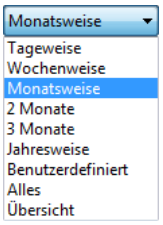
The Service-Call can also be cancelled or completed in this window.

In addition to the information of this Service-Call Order, the photos that were added to this Service-Call via APP can also be displayed in the tabs Image1 to Image 4.

Here, too, the pdf file that has been sent to the respective service partner can be called up via the button

5.5.19.2 Select Display Area

The display of Service-Call Orders can be limited to certain time ranges (e.g., weeks, months, etc.). Only Service-Call Orders that have been created within this period will be displayed.



The selection box selects the size of the displayed time range.
Accordingly, all entries of a day, a week, etc. are displayed.

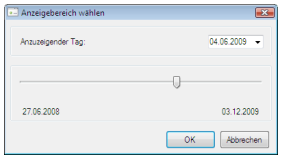
The buttons 

to the right of it, then select the respective day, week, month, etc. that is to be displayed. For example, if the time range is selected by day, a specific day can be selected for display. On the far right, the selected area is described.

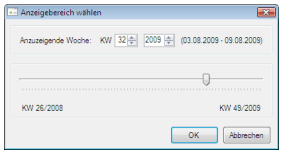
The buttons have the following meanings:

- Calls up a dialog with which the desired area can be conveniently selected
- Switches to the first (oldest) possible range of data.
- Switches to the previous area, e.g., to the previous week.
- Switches to the next area, e.g., next week
- Switches to the last (most recent) possible range of data.

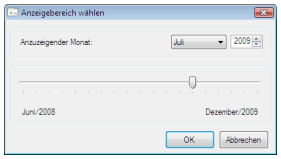
Depending on the size of the time range to be displayed, the dialog called by the button looks different:



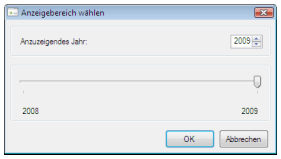
Days :
You can select the day to display, using the Date button in the upper-right corner of a calendar or the slider at the bottom.
Click ***OK*** to display the selected tag.



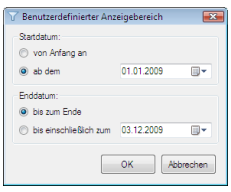
Weeks:
Select the desired calendar week and year or simply move the slider.
Click ***OK*** to view the selected week.



Months:
Select the desired month and year or simply move the slider.
Click ***OK*** to view the selected month.



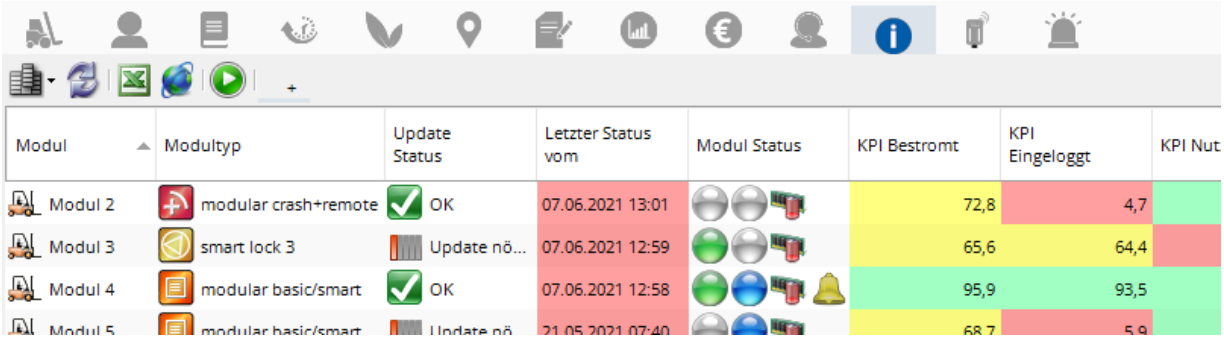
Years:
Select the desired year or simply move the slider.
Click ***OK*** to view the selected year.



Custom:
You can select an area on a daily basis. To start from the oldest entry, select the start date ***from the beginning***. Otherwise, enter the date on which you want the area to be displayed to begin.

If you want to display all entries from the start date, including today, select date ***to End*** as the date. Otherwise, you can enter a date up to which (including) the area to be displayed should be displayed.

5.5.20 Information central office



In the information central office all selected modules are displayed in tabular form. A lot of information per module can be displayed. By default, only some of the information is made visible. However, you are able to view further columns any time with the button. You find a list of all columns and their meaning in the following chapter **5.5.20.3 The columns of the central information office**.

The button also allows you to distribute this data across multiple pages. See **5.5.20.1 Special buttons in the Information Central Office**.

Further, you can open an information window with a double click on a row (at any place except in the columns ***module***, ***position time*** and ***the last position***).
The information window contains nearly all information which can be also viewed as columns in the information central office but displays them compactly for a module. There, orders can also be created manually. Orders are tasks which deal with a module. E.g., read out the logbook from a module or inscribe a new transponder (user) in a module (updating). See chapter **5.5.20.4 Information Window**.

Alternatively, you can select the module in the table and a click on . If several modules are selected at the same time (marked in blue), no detailed information can be displayed. In this case the information window is called up in a scaled down version. Thus, for selected (blue marked) modules an order can be created at the same time.

Note that individual columns can be affected by the data securtiy settings (see **5.14.3 Data Protection (Works Council User)**) an may be hidden (display <Datenschutz> or [Transponder-ID]).

Tip:
A double click on the module name in the column ***module***, automatically selects it exclusively in the tree diagram on the left side.

Double-clicking on the profile name in the **Profile** column automatically calls this profile.

A double click in the column ***position time*** or ***the last position*** automatically calls Google Earth (provided that Google Earth is installed and in the clicked cell has a valid position)) or the indoor locator (if the software module for the indoor locator (see **5.22.4 Indoor Locator**) is enabled with these coordinates and the cell contains a valid indoor coordinate, see also **5.3.4.3 Indoor Locator**).
Clicking on will bring up Google Earth with the coordinates of all currently selected (blue-marked) modules.

5.5.20.1 Special buttons in the Information Central Office

Depending on the configuration (see **5.14.3 Data Protection (Works Council User)**) the display of individual columns can be locked. Click on this button to log in as Works Council User and to unhide this data. See also chapter **5.5.20.2 Log in as Works Council User** and **5.14.3.1Login Works Council User**.

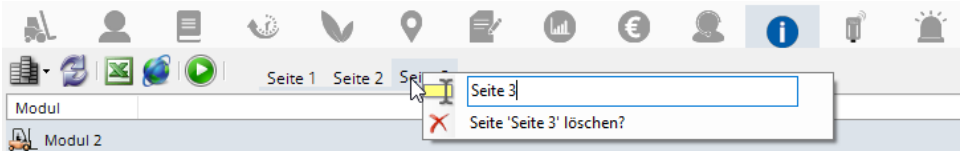
Click on this button to export the logbook of the displayed modules to Excel. See also **5.5.12.10 Export Logbook to Excel**.

Click this button to use Google Earth to view the current coordinates of a GSM module.

Click this button to import jobs previously run with the Communicator (see **6 Mobile Easykey Communicator**) back into the database (see 6 Mobile Easykey Communicator). Select the jobs being executed (for example from the USB stick). As a result, these, including the new data (for example, read out logbook data), are copied back to the database and the job is completed.

The button + allows you to create more pages and distribute the data over up to 9 pages. For each of these pages, you can use the button to display any columns.

By right-clicking on a page, you can delete the page completely or change the name of this page.

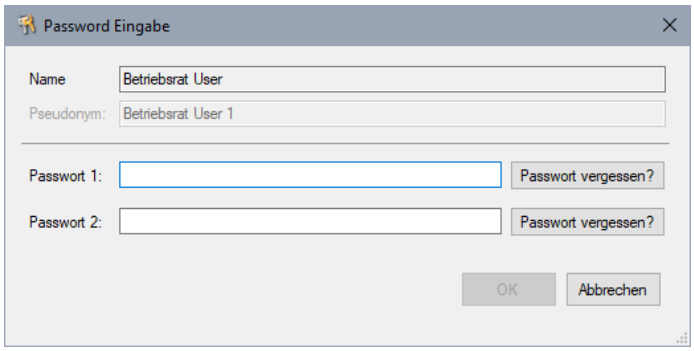


The remaining buttons are described in chapter **5.4.1 Default buttons in the toolbars**.

5.5.20.2 Log in as Works Council User

Click on the button to log in as a works council user. If several works council users already exist, you must first select the desired user.

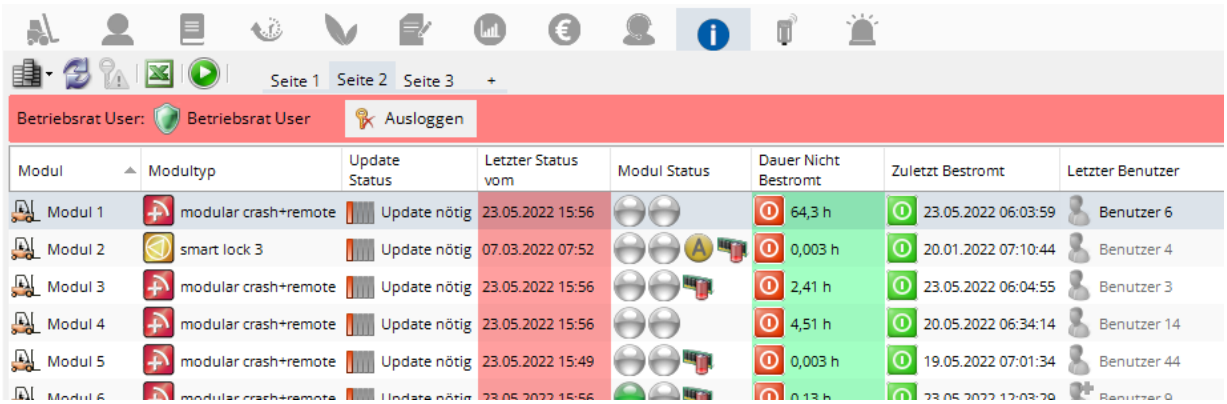




Now enter the password (or passwords) of this works council user.

Further information on logging in as a works council user can be found in chapter **5.14.3.1 Login Works Council User**.

Note: If an older database has been opened in which a "logbook password" has been used, the first works council user will automatically be given the name "log password" and this old logbook password.

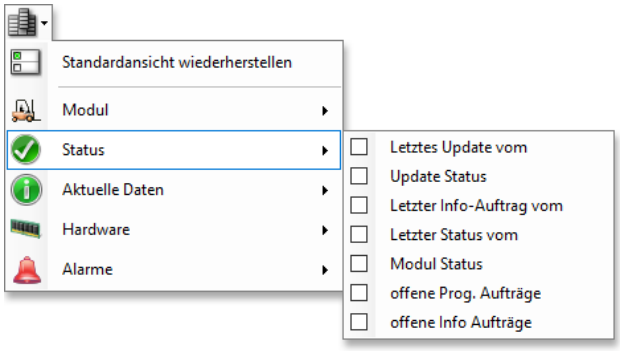


The hidden data will now be displayed.

In addition, a line highlighted in light red is displayed with the currently logged-in works council user Council. Click on the Ausloggen button to hide the data again.

5.5.20.3 The columns of the central information office

The columns of the information center are divided into different categories.



5.5.20.3.1 Module

Under Module, the module settings are listed. First the values that are entered directly under properties, see **5.5.1 Module properties**.

Note: The smart lock hardware serial number can be found in the Hardware section.

Module
Displays the name of the respective module

Int. Number
Displays the ***internal number of the module entered*** under Int. Number.

Manfr. Number
Shows the number listed under ***Manfr. entered number*** of the module.

Description
Displays the description text of the module.

Initialisation-ID
Displays the manually entered initialisation ID.

After that, the values summarized under Settings are listed. See **5.5.1.2 Settings of Module X**.

Module type
Displays the module type of this module.

Profile
Displays the name of the profile which is assigned to this module.

Crash profile
Specifies the name of the crash profile assigned to this module.

Departure Control
Displays the currently assigned departure control (see **5.14.9 Departure Control**)

Drive Type
Displays the drive type of this module.

Shift model
The shift model of this module (see **5.9.7 Shift work models**)

Vehicle Class
The vehicle class of this module (see **5.14.4.4 Vehicle Classes**)

KPI Profile
The KPI profile of this module (see **5.9.5 KPI Limit-Profile** und **5.5.24 KPI**)

Login type
The login type of this module (see **5.5.24 KPI**)

Load type
The login type of this module (see **5.5.24 KPI**)

5.5.20.3.1.1 Master Data

All module master data fields defined in the database configuration are listed here. See more
5.14.4.2 Module-, User-, Battery Master data

5.5.20.3.1.2 Transponder

Here the cumulative driving authorisations are listed here.

Number all transponders
Specifies how many transponders are currently assigned to this module in total.

Number of Workshop Master
Specifies how many users are assigned to this module which are at the same time a Master and Workshop.

Number Workshop only
Specifies how many Workshop Users are assigned to this module (which are not a Master).

Number of Master User
Specifies how many Masters are assigned to this module which are at the same time also a User (Master who are authorised to drive as well).

Number Master only
Specifies how many Masters are assigned to this module which are not a User (Masters who have no driving authorisation).

Number User only
Specifies how many simple Users are assigned to this module which are only User (Driver) and not Master or Workshop.

5.5.20.3.2 Status

Lists columns related to the current state of the module.

Last update from

Specifies date and time when the module was programmed last (date of the last update order).

Update status

Displays, to what extent the configuration in the database already were programmed, in the respective module.

OK	The configuration in the database and in the module corresponds. No update necessary.
No update possibly	Still no module type or an invalid profile is assigned to this module; hence, an update is not possible.
Initialisation urgently	This is a new module which is not yet known to the database. Hence, an update with an initialisation order is necessary.
Initialisation urgently	The yellow star displays that this module was already known in the MEKM2 and as an exception needs a first initialisation with Easy Point, WI-FI or Bluetooth.
Update urgently	The module must be programmed partly anew.

The last info-order from

Specifies date and time when data was last read out (logbook and/or operating hours) from the module (date of the last info order).

The last status from

Specifies date and time, when the status (e.g., whether the module is in the crash) was read out last. Because the status is read out every time when communicated with the module, this date also gives the time of the last contact with the module.

Module status

Specifies the last known status of the module. The status consists of a lot of single information which is symbolised by small icons. If one of the following icons is displayed, the respective status (the last status of the displayed time) was active.

- The status is unknown
- A user was logged in
- No user was logged in
- A user was present
- No user was present
- The module supports VDI-mode, but VDI-mode is not activated.
- The module supports VDI-mode, the VDI-mode is activated.
- The module is contacted via passive WLAN / Bluetooth connection
- The module is active and communicates via an active WLAN / Bluetooth connection
- Usage (effective) – the current sensor was active
- Event 1 is active
- Event 2 is active
- This (***modular plus crash*** *or* ***modular crash+remote***) Module is in the test drive operation
- The module is in crash mode (active crash)
- The module is in crash mode (passive crash)
- The electrolyte sensor is faulty! See **5.8 Batteries** Record of the used battery and electrolyte sensor in the log book see chapter **5.9.1.1 Log in (smart lock)** and **5.9.2.2 Log in**
- The load sensor (see also **5.5.1 Module properties**) is faulty.
- The load sensor reports a load.
- The load sensor reports NO load.
- The load sensor reports a load.
- The load sensor reports NO load.

Attention! The battery of the used load sensor will soon be empty!

- The module is in workshop mode (see also **5.5.23.8 Workshop**)
- The module is locked (See **5.5.1.2 Settings of Module X** - ***Locked***)
- Teh module is offline (See **5.5.1.2 Settings of Module X** - ***Offline***)
- The button cell battery in the module is empty.
- The module is in Warning status
- The module is in Alarm status
- The module is in Overdue status

} UVV, Cut-in hours and/or operating hours. Read more in chapters **5.10.2.2 Operating Hour Alarms** and **5.10.2.1 Time Alarms (UVV)**.

- NO Easykey – This module has the module type „NO Easykey “and therefore, has no module status.

Open Program- orders

Specifies how many Program-orders are waiting currently for implementation. (The number of generated, but not yet (completely) implemented update-orders).

Open Info-orders

Specifies how many information orders are waiting currently for implementation. (The number of generated, but not yet (completely) implemented information-orders.

5.5.20.3.3 Up-to-date data

Lists the columns with current data such as last user etc.

The submenus ***KPI, Operating Hours***, CO_2 and ***Number of Crashes*** will be explained on the next page.

Position- time
Reports the last time of the last known position (for modules which support a position parameter) (e.g., mobile radio).

Last position
Specifies, with modules which support a position regulation, the last known position. A double click on this value opens a window with the precise position data.

Duration Not Powered
Specifies, how long the module was "Not Powered". The electric charging operation gives an indication to the possible charging duration, whilst an electric change operation displays the possible duration of the change.

Most recent Powered
Specifies the time since the module was powered last.

Battery
If an electrolyte sensor is used, then the actual battery is displayed here.

Expected loading duration
By use of an electrolyte sensor it can also be determined, how long the actual battery was not used. This corresponds usually to the loading time needed of this battery.

Last user

The last user who had logged in this module is displayed.

Last crash shutdown
Specifies the time in which the module was switched off the last time on account of a crash.

Last crash position
Indicates the position (access point) at which the last crash took place.

Crash cause
If a user was logged in at the time of the last crash shut down (active crash) this user (crash cause) is displayed here.

Number of crashes shut down today
Displays, how often the module was switched off on this day due to a Crash. This information is only displayed if the online statistics (see **5.18 Online Statistics**) are activated!

5.5.20.3.3.1 KPI

KPI Date

Indicates the last time the KPI was calculated.

KPI

Period Indicates the period over which the KPI was calculated.

KPI data available

Indicates how much data was available during the calculation period. Usually this is 100%. If, on the other hand, logbook data is missing, the calculated KPI-value is correspondingly less accurate..

KPI Powered

Specifies the current powered KPI-Value (of the last full month of data).
The powered KPI Value is calculated from the *powered time / shift time.*
See also **5.5.24 KPI**.

KPI Logged in

Specifies the current logged-in KPI-Value (of the last full month with data).
The logged-in KPI-Value is calculated from the *logged-in time / powered time * Factor Y.*

KPI Usage

Specifies the current KPI-Value (of the last full month of data).
The usage KPI-Value is calculated from the *Time-of use / Logged in-time.*

KPI Load

Specifies the current power KPI-Value (of the last full month of data).
The Last KPI-Value is calculated from the *Usage time with load / Usage time*.

KPI Total

Specifies the current total KPI-Value (of the last full month of data).
See also **5.5.24 KPI**.

KPI typical load

About the load-type (see **5.5.24.3 Load type (factor Z)**), a typical load can be defined.

KPI Factor Y

The factor Y is determined by the log in-type. See also **5.5.24.2 Log in type (factor Y)**.

KPI Factor Z

The factor Z is determined by the load-type. See also **5.5.24.3 Load type (factor Z)**).

5.5.20.3.3.2 Operating Hours

Operating hours at last read in
Specifies date and time, when the operating hours were read out at last.

Cut-in hours
Specifies the last known status of the Cut-in hours.

Operating hours
Specifies the last known status of the operating hours.

„User defined "Cut-in / Operating Time (e.g., „tyre count ")
Specifies the cut-in hours or operating hours of the respective user-defined operating hours counter. Up to 5 user-defined counters can be defined in the database configuration (see **5.14.4.1 Operating time**).

Cut-in hours relative
Specifies the relative Cut-in hours value (e.g., 83 hours during the last 30 days).

Operating hours relative
Specifies the relative operating hour value (e.g., 54 hours during the last 30 days)

5.5.20.3.3.3 CO_2

CO_2 ***consumption Displays the***

CO_2 consumption according to EN 16796 specified**5.5.1.2 Settings of Module X**Settings of module X).

Total CO_2***:***

Indicates the total CO_2 consumption, which is calculated based on the usage meter reading.

CO_2 ***relative***

Indicates the CO_2 consumption in the last X days. The number X of days is derived from the relative hours of use. If a relative **5.10.2.3 Relative operating hour alarms (leasing)**) is assigned to the module, the number of days specified in this alarm profile is used. For modules without a relative usage hour alarm, 30 days will be used.

<<Previous month>> CO_2 ***data available***

The month before the current month is displayed as the previous month. For example, in March, February is shown as the previous month because it can be assumed that complete (100%) data is available for that month. However, if the operating hours have not been read-out for a long time, less data may be available. The CO_2 consumption (next column) can only be calculated using the available data. The amount of data available may therefore be required as a quality control.

<<Previous month>> CO_2

Here the CO_2 consumption in the specified month is displayed. If less than 100% data is available (previous column), the displayed value is correspondingly smaller.

CO_2 ***Trend***

Indicates a comparison of CO_2 consumption between the last month and the month before last.

<<Before-Previous Month>> CO_2 ***data available***

The second-to-last full month is displayed as the before-previous month. For example, in March, January is shown as the previous month.

<<Before-Previous Month>> CO_2

The CO_2 consumption in the specified month is displayed here. If less than 100% data is available (previous column), the displayed value is correspondingly smaller.

5.5.20.3.3.4 Crash Count

Crash-Count from

Specifies the date and time when the logbook data and thus the crashes were last read out.

Count of Crash I / II / III

Specifies the number of crashes in the specified period (next column).

Count of Crash I / II / III Period

The period is defined in the respective alarm profile (see **5.10.3.2 Crash-Count-Alarm**). If no alert profile is assigned, 28 days (4 weeks) are used.

Relative Count of Crashes I / II / III per 100 hours of use

Since it can be assumed that a frequently used module also causes more crashes than a rarely used module, the crashes are displayed here relatively. This means that the relative count of crashes per 100 hours of use in the specified period (see below) is displayed. The absolute count of crashes in the specified period is divided by the number of hours of use in the specified period and (since the amount would otherwise be very small) multiplied by 100 for better comparability. For example, if a module has 2 crashes and 50 hours of use in the specified period, 4 crashes per 100 hours of use will be displayed.

Relative Count of Crash I / II / III Change in %

Indicates how much % the relative count of crashes has changed from the reference value (see below). If, for example, the reference value is 4, but the new value is 3, the crash behaviour has improved by 25% (-25%)

Relative Count of Crash I / II / III Period in days

The period (also known as the test period) is defined in the respective alarm profile (see **5.10.3.3 Relative Crash-Count-Alarm**). If no alert profile is assigned, 28 days (4 weeks) are used. If there is less data available, the relative count of crashes is **not** calculated.



Attention! Since the correct crash setting (see **5.9.4.1.5 Crash Behaviour Level I to III** often has to be determined for new modules, the first 4 weeks with data are **generally not taken into account** in the relative count of crashes!

Relative Count Crash I / II / III reference value

The reference value is either calculated from the reference period or given as a fixed value (in the alarm profile).

Relative Count of Crash I / II / III Limits

If an alarm profile is assigned, the percentages from which a warning (x% fewer crashes) or an alarm (y% more crashes) are triggered.

Relative Count of Crash I / II / III Reference period in days

The reference period is defined in the respective alarm profile (see **5.10.3.3 Relative Crash-Count-Alarm**). If no alert profile is assigned, 84 days (12 weeks) are used. The reference period is the period **prior to** the test period. For example, if the (test) period is set to 28 days and the reference period is 84 days, the current value is calculated over the last 28 days, while the reference value is calculated over the period 112 days ago to 28 days ago. However, the reference period must always be at least as large as the test period. If the reference period is less than the test period, no reference value will be calculated (and no alarms will be triggered)

5.5.20.3.4 Hardware

Lists columns with hardware context.

Module version
Specifies the version number of the Mobile Easykey module (e.g., F56.02).

Hybrid-Battery Age
Indicates the (partially estimated) age of the button cell battery in the module (hybrids). The button can be used to change the age or set the battery installation date

Hardware version
Specifies the version numbers of possible additional boards (e.g., WI-FI or Crash-Sensor).

External Reader
Specifies whether an external Transponder Reader is connected.

Module-ID (previously Smart Lock Serial Number)
Displays the initialisation ID read from the module. Normally, this is the number marked on the module.

Module Address (previously HybridID)
Specifies the internal address of the module.

Deviation module clock
Specifies how much the clock deviated at last contact.

Last IP address
Specifies (with WI-FI modules) the last known IP address.

Last host/Friendly name
Specify (for WLAN-Modules) the last host/Friendly of this module.

Last MAC-Address
Indicates the last MAC-address of this module.

Last signal strength
Specifies the signal strength for the last WI-FI / Bluetooth connection.

5.5.20.3.5 Memory Allocation

Specifies the size of the module's memory and the maximum amount of data that can be stored.

Memory size Total

Specifies the total size of the module memory, which is split in user memory- and logbook size. See also **5.9.2.1 Memory**. The memory size can be only displayed when the module is known in the database. Otherwise, the icon ? is displayed.

Memory size for logbook entries

Specifies the memory size which is used for logbook entries. See also **5.9.2.1 Memory**. The memory size can be only displayed when the module is known in the database (first initialisation).

Memory sizes for transponder

Displays, how much storage space in the module for transponder (User+Batteries + Master+Workshop) is available. The amount is possibly depending on the memory configuration (see **5.9.2.1 Memory**) and the whole memory size of the module. If the whole memory size of the module is not known yet, a ? is displayed.

Maximum number of masters



Displays how many masters can be defined at most for a module. For the **versions D** and **E** is the standard 100 and can be changed with special tools for the entire database. 250 masters are the maximum.
As of **version F** as many Masters are possible as would fit in the transponder memory.
(see **5.9.2.1.2 Module Version E and F)**

5.5.20.3.6 Alarms

Lists all columns related to alarms.

Maximum rating deviation module clock

Specifies from which clock deviation an alarm should be triggered. (See also **5.10.2.16 Clock Alarms (Speed accuracy)**

Maintenance Alarm Columns (Next Maintenance on / in XY)



For each operating hours alarm defined in the database configuration (see **5.14.7.4 Operating Hours-Alarm**), a column for the limit value (at) and the number of operating hours for reaching the limit value (in) are displayed here. Depending on the setting of the alarm in the database configuration, the limit and the number of operating hours refer to cut-in- or operating hours. To set or change the limit, click on the button to the right. See also **5.5.20.4.7 Operating Hours Alarm**.

Cut-in hours relative > limit value
Cut-in hours relative < limit value

Specifies the thresholds for when an alarm should be triggered. See also **5.10.2.3 Relative operating hour alarms**.

Hours of use relative > limit value
Hours of use relative > limit value

Specifies the thresholds for when an alarm should be triggered. See also **5.10.2.3 Relative operating hour alarms**.

Capacity/utilisation powered

Specifies the utilisation of the module in%. The load is calculated on the basis of the available time (possibly according to shift model) and the powered time.
If a utilisation alarm is stored, the calculation is carried out over the period specified there. Otherwise, the last 15 days are always considered.

Capacity/utilisation log in hours

Specifies the utilisation of the module in%. The load is calculated on the basis of the available time (possibly according to shift model) and the powered time.
If a utilisation alarm is stored, the calculation is carried out over the period specified there. Otherwise, the last 15 days are always considered.

Capacity/utilisation effective hours

Specifies the utilisation of the module in%. The load is calculated on the basis of the available time (possibly according to shift model) and the powered time.
If a utilisation alarm is stored, the calculation is carried out over the period specified there. Otherwise, the last 15 days are always considered.

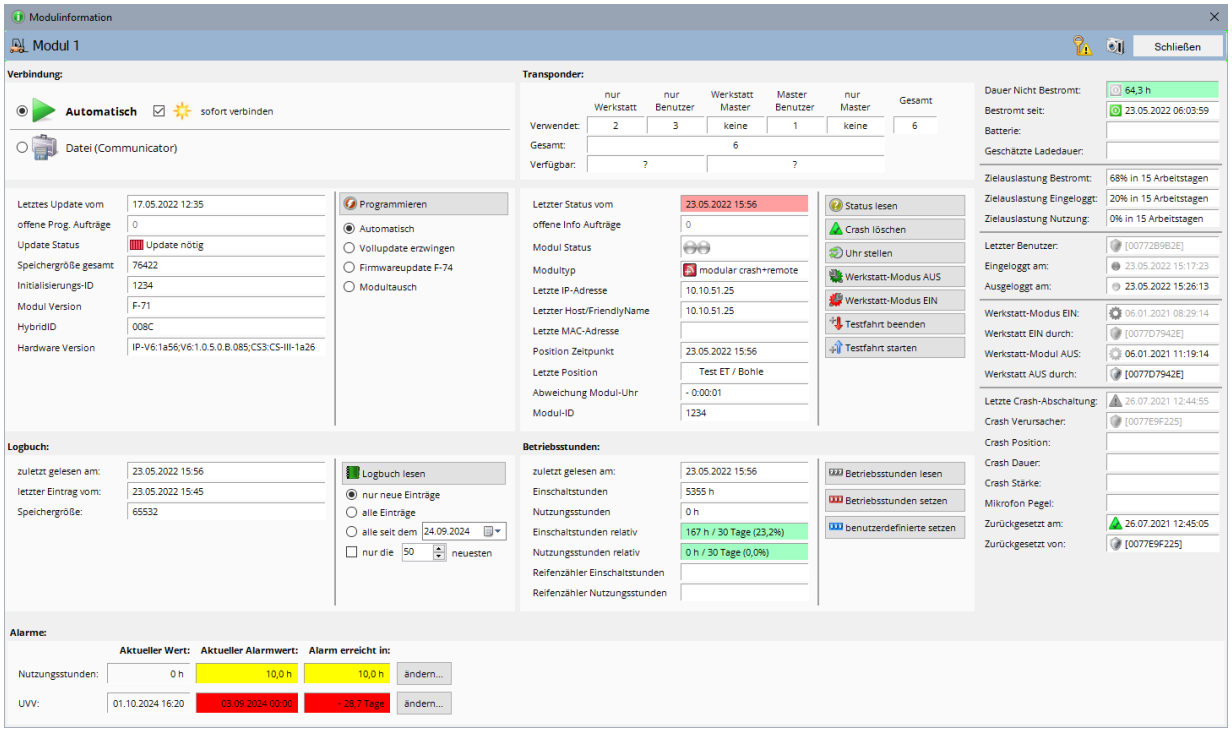
Time alarm columns (UVV)



According to the configuration of the time alarms in the database configuration (see **5.14.7.3 Time Alarms (UVV)**) here, up to 10 additional columns are offered. The name of the columns corresponds to the name of the time alarm.
The value displayed in the column corresponds to the implementation date of the time alarm (e.g., of the maturity of a UVV). To set or change the alarm date they Click on button on the right of it. See also **5.5.20.4.8 Time Alarm**.

5.5.20.4 Information Window

The information window is opened if in the information central office, a row is double-clicked (anywhere, except on the module name or position). The module of this row is now displayed in detail.





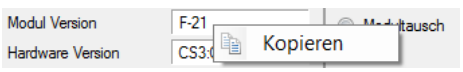
Again, possibly some data is not displayed or only hidden. Click on the button to log in as works council user and uncover this data. See also the chapter **5.14.3.1 Login Works Council User**.
If a works council user is registered, this will be displayed on the top right.

All information corresponds to respective columns in the information central office. The meanings are listed in chapter **5.5.20.3 The columns of the central information office**.

The field ***last position*** is of particular importance. If a valid last position is set for this module, a click on this field calls up Google Earth with these co-ordinates. (Google Earth is not a component of the Easykey Manager)

Tip:
clicking on , a screenshot of this window with all the information can be saved.

By right-clicking on one of the displayed values (for example module version), the ***Copy*** option can be clicked on via a small menu. This will copy this value to the clipboard.

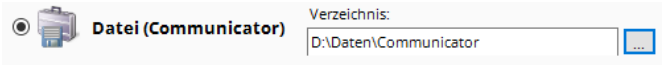


5.5.20.4.1 Select connection

With the different buttons orders can be generated with a click.

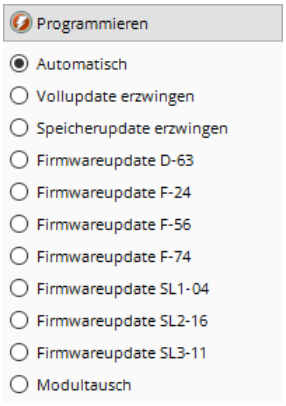


Orders are usually created with the connection type ***Automatic***. In this case, the order is executed as soon as a connection to the respective module is established, regardless of which driver established this connection. If the ***Connect immediately*** option is also selected, an attempt will now be made to contact this module immediately using the last known address.



Alternatively, you can select the ***File (Communicator)*** connection type. In this case, the order is created as a file in the selected directory and can then be executed offline with the Communicator (see **6 Mobile Easykey Communicator**).

5.5.20.4.2 Create program orders



If currently an update for this module is necessary (or at least for one of the selected modules), the button 

programming is already active, even with the option ***automatically***.
Otherwise the button becomes active, as soon as one of the other options is selected.

The options have following meaning

- ***Automatically***
  An update is only generated if it is necessary. If possible, only a Quick update which contains only the actual changes is generated.
- ***Force full update***
  Generates (for all selected modules) a full update. The module is completely programmed anew. With one exception: For modules D version the memory partitioning is not programmed once again, because otherwise the logbook is deleted.
- ***Force memory update***
  For modules D version a full update can be forced with this option. The memory partitioning is newly programmed. The logbook is read out beforehand.
  With E and F versions this option is not displayed.
- ***Firmware update D-63***
  Generates an order which reads out the logbook first, and updates afterwards to firmware D-63. Thereafter the module is completely programmed anew.
  This option is visible only with D versions between D-54 and D-62.
  These orders are **only** able to be performed by ***Cable connection*** or ***File*** (see **5.13.2.1.1 Cable driver (directly)**!

- ***Firmware update F-24***

Generates an order with which first the logbook is read out and afterwards updates the firmware to the newest status of the version (F-24). Thereafter the module is completely programmed anew.
This option is visible only with D versions from D-64, with all E versions and with F versions before F-24.
These orders are **only** able to be performed by ***Cable*** connection or ***File*** (see **5.13.2.1.1 Cable driver (directly)**!

- ***Firmwareupdate F-56***

Creates a job in which the logbook is first read, then the firmware is updated to the latest version of the F-5x version (F-56) and finally the module is completely reprogrammed. This option is only visible on F versions between F-50 and F-56.

- ***Firmwareupdate F-74***

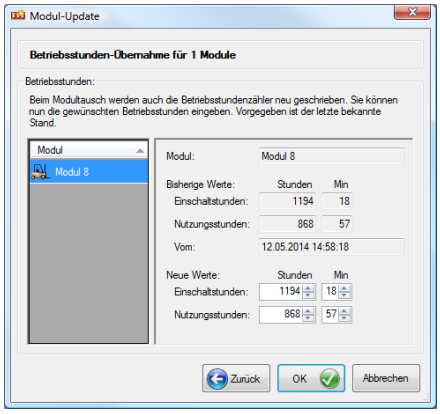
Creates a job in which the logbook is first read, then the firmware is updated to the latest version of the F-7x version (F-56) and finally the module is completely reprogrammed. This option is only visible on F versions between F-50 and F-56.

- ***Firmwareupdate SL1-xx, SL2-xx, SL3-xx***

Creates a job in which the logbook is first read, then the firmware is updated to the latest version of the corresponding smart lock type and finally the module is completely reprogrammed. This option is only visible for the corresponding smart lock types.

- ***Module exchange***

If a module is malfunctioning, an order which connects a new module with this entry in the database can be created with this option. See **5.13.2.2 Direct Connection - New Modules** and **6.2.1 Module exchange and initialization orders**.
For this order the operating time counters must be set in the new module to the present figures. The required operating hour status is requested in the following window.
These orders are only able to be performed by ***Cable connection*** or ***File*** (see **5.13.2.1.1 Cable driver (directly)*!***



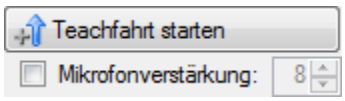
5.5.20.4.3 Create status orders

Depending on module type more or fewer buttons are shown.

Status lesen	Generates an order, where the module status (see **5.5.20 Information central office**) is read out.
Crash löschen	Generates an order with which a possible pending crash is deleted in the module. The crash is thereby reset like with a Master.
Uhr stellen	Generates an order with which the clock is newly set in the module.
Werkstatt-Modus AUS	Generates an order whereby the workshop mode (see also **5.5.23.8 Workshop**) is disabled by the software. This button is only displayed with the F version.
Werkstatt-Modus EIN	Generates an order whereby the module is put into workshop mode (see also **5.5.23.8 Workshop**) This button is only displayed with the F version.

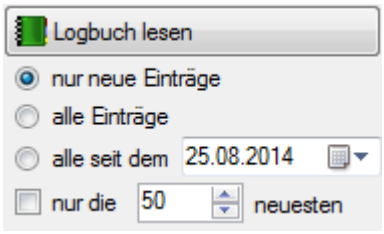


Generates an order which ends a test drive (Teach drive), and the data of the test drive are read out. (see also **5.5.8 Crash sensor teach drive**)
This button is only displayed for ***modular plus crash*** *or* ***modular crash+remote*** modules (see also **5.9.4.1 Crash (crash+remote)**.



Generates an order, which starts a test drive (Teach drive). (See also **5.5.8 Crash sensor teach drive**)
If the option microphone improvement is selected before, the microphone improvement is programmed for the test drive accordingly. Otherwise, the test drive takes place with the current settings.
This button is only displayed with ***modular plus crash*** *or* ***modular crash+remote*** modules (see also **5.9.4.1 Crash (crash+remote)**.

5.5.20.4.4 Create logbook reading orders



Determine first which or how many logbook entries you would like to read out.

Only new logbook entries
This is the default setting. All new logbook entries are automatically read out which compiled since the last time when the logbook was read out.

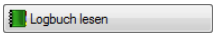
All logbook entries
All logbook entries which are still in the logbook memory of the module are read out. The read-out data are automatically combined with possibly already available logbook data. If there are gaps in the logbook entries and the data still exists in the logbook memory of the module, Thus, they can be closed. (See also **5.5.12 Logbook**)

Everything since
All logbook entries which have compiled since the specified date are read out (provided that they still exist in the logbook memory of the module).

Note:
If you specify a date which is earlier than the time, when the logbook was read out at last, (see **5.5.12 Logbook**) gaps may originate!

Only X newest ones
You can specify the readout of the logbook data by setting a limit, of how many logbook entries should be read out at the most. Because the readout of some 1000 logbook entries can last several minutes, you can Therefore, read out a delimited number at short notice of the newest (most actual) logbook data.

Note:
Note that in this case (as a rule) gaps originate in the logbook! (See **5.5.12 Logbook**)

With a click on button 

the requested information order generates.

5.5.20.4.5 Read operating hours /set / create orders

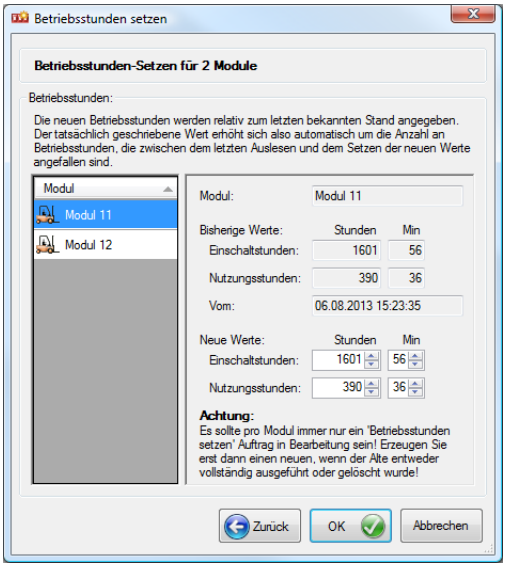
According to database configuration (see **5.14.4 Data Fields**) more or fewer buttons are displayed.

Betriebsstunden lesen

Generates an order with which the actual operating hours from the module are read out.

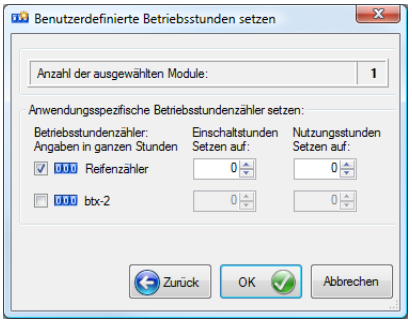
Betriebsstunden setzen

Generates an order for setting the operating hours in the module.
After a click on this button another window opens in which the required operating hours must be specified for this (or these, if several modules are selected).
After a click on OK the appropriate orders are generated.



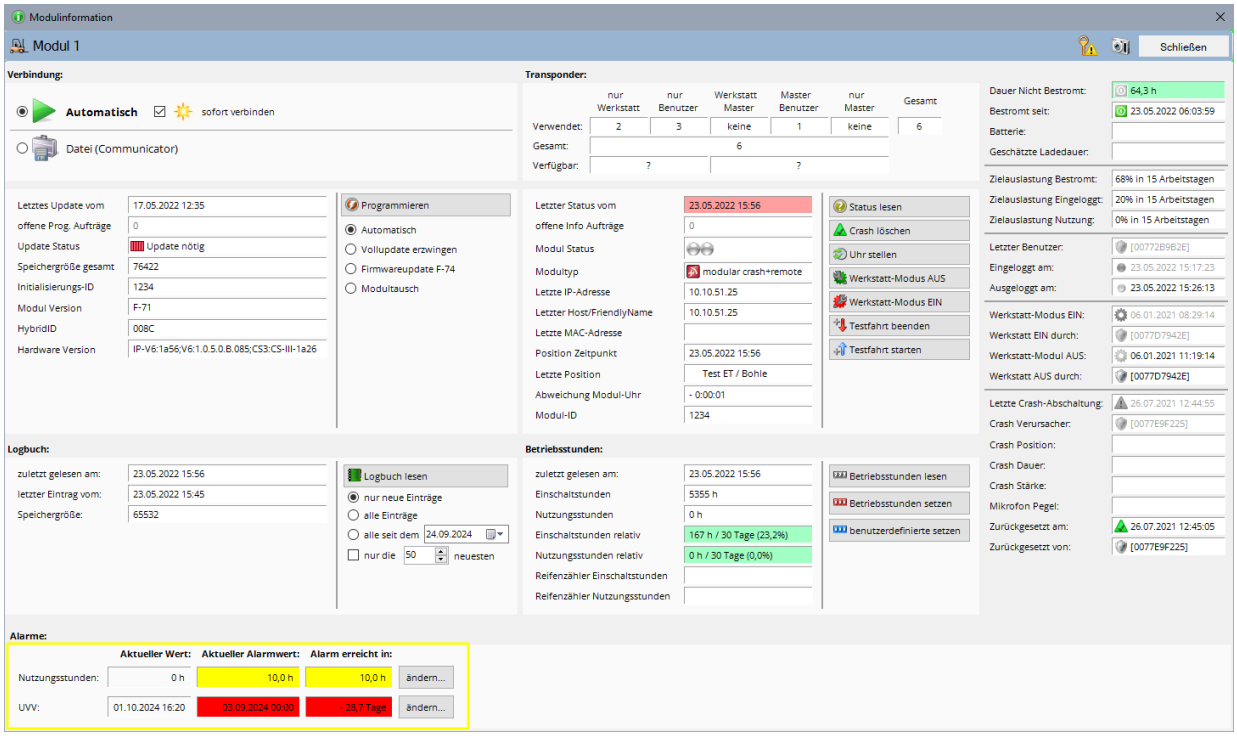
benutzerdefinierte setzen

Generates an order for setting user-defined operating hours. This button is only visible if the user-defined operating hour counter is defined. See also chapter **5.14.4 Data Fields**.
After a click on this button another window opens. It must be specified which user-defined counter should be set to which value.
After a click on OK the appropriate orders are generated.



5.5.20.4.6 Alarme

If only one single module is selected and the maintenance module released, the time and operating hours alarms are additionally displayed.

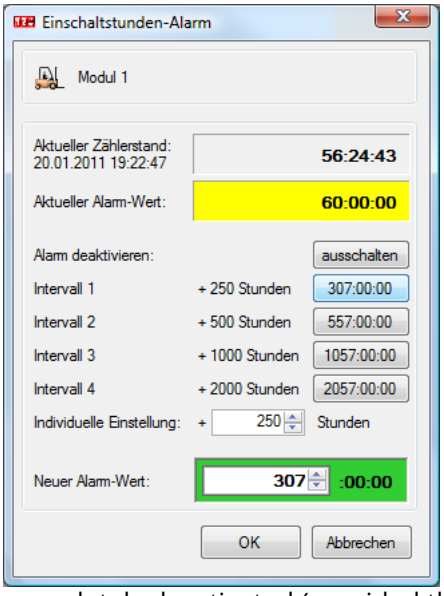


Click on the ***change*** button of the respective alarm value, to determine when (time) the alarms should be triggered.

5.5.20.4.7 Operating Hours Alarm

After an operating hours-alarm profile was assigned to the required modules (see **5.5.4 Alarm profiles**), the operating hour maximum rating (limit value) must be entered for every module (when the operating hour alarm should be triggered). Click in the information central on the button in one of the appropriate rows of the operating hour alarm columns (see **5.5.20.3.6 Alarms**). Depending on whether you want to set the maximum rating for the threshold or operating hours, click accordingly on the button in one of the operating hour- or cut-in hour alarm columns.
Alternatively, you can click the Change button in the information window .

A dialog opens to set the respective maximum rating. The window name shows whether it is a maximum rating-, a Cut-in hours alarm Einschaltstunden-Alarm or operating hour alarm Nutzungsstunden-Alarm.



In the uppermost row you see the icon and the name of the selected module.

Underneath the last known metre reading (***Actual metre reading***) is displayed on the right. On the left side you see the date and time when this metre reading was read out.

Under ***actual alarm value*** the currently valid maximum rating is specified. The background colour corresponds to the actual alarm status of this counter. The following rows serve the setting of a new maximum rating. According to configuration of the alarm profile some of these rows are not displayed. The names of the intervals (in the example to the left, the intervals 1-4) can be individually assigned in the respective alarm profile. See also **5.10.2.2.2 Operating hours intervals**).

With the button ***switch off,*** the alarm for this module can be completely deactivated (provided this is permitted in the operating hour interval configuration).

The respective intervals are presented as a button, to set the required, new maximum rating (***New alarm value***) by a click on this button.

Under ***individual settings*** you can enter (provided this is permitted in the operating hour interval configuration) an individual sum which is added to the actual metre reading. The new maximum rating calculated from it is automatically entered in the field ***new alarm value***.

In the last row (***New alarm value***) the new maximum rating to be set is displayed. If the individual settings allow the configuration of operating hour interval, you can also directly enter the new value here. If the new maximum rating is already below an alarm threshold, this field is displayed in the colour of the appropriate alarm level.

With the ***Add document*** button you can simultaneously deposit one or more documents (for example, a test report) for this module. If you want to add multiple documents, just click the ***Add Document*** button after adding the first document. For more information about documents, see **5.5.7 Documents**.

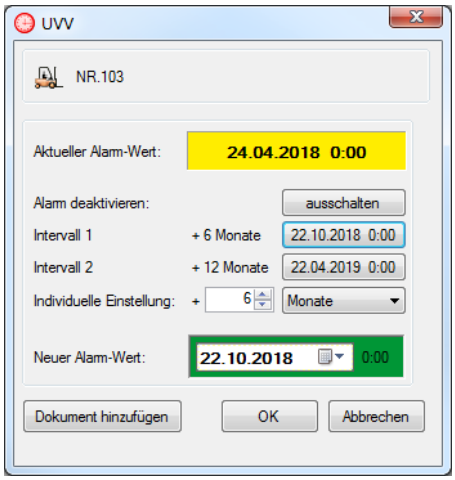
With a Click on button ***OK*** the new maximum rating is confirmed.

If currently an operating hour alarm (or warning- or overdue-) is active, this is automatically reset, as soon as you have determined a new maximum rating and have clicked on ***OK***. Should the new value already be below an alarm threshold, a respective alarm level is triggered immediately (if necessary, once more)!

5.5.20.4.8 Time Alarm

After a time, alarm profile was assigned to the required modules (see **5.5.4 Alarm profiles**), the alarm date when the time alarm should be triggered must be entered for every module individually. Click in the information central office on the button in one of the time alarm columns (see **5.5.20.3.6 Alarms**) in the appropriate row. Depending on which column you click you can determine the alarm date for the respective time alarm.
Alternatively, you can click the Change button in the information window .

The dialog opens for the setting of the respective alarm date. The window name corresponds to the name of the respective time alarm.



In the uppermost row you see the icon and the name of the selected module.

Underneath you see in ***actual valid alarm value*** the at the moment valid alarm date. The background colour corresponds to the actual status of this time alarm.

The following rows serve the setting of a new alarm date. Depending on the configuration of the alarm profile some of these rows are not displayed. Further the names of the intervals (in the example on the left the intervals 1-4) can be assigned individually in the respective alarm profile. See also **5.10.2.1.2 Time alarm intervals**).

With the button ***switch off (deactivate)*** the alarm for this module (provided that in the time alarm interval the configuration is completed) can be entirely switched off.

The respective intervals are presented as a button, to set the required, new alarm date (***New alarm value***) by a click on this button.

Under ***individual settings*** you can enter (provided that in the time alarm interval the configuration is completed) an individual time period in the future for the new alarm. This period is automatically added to today's date and is shown in the field ***new alarm value***.

In the last row (***New alarm value***) the new alarm date to be set is displayed. If individual settings are permitted in the time alarm interval configuration, you can also directly enter the new alarm date here. If the new alarm date is already below an alarm threshold, this field is displayed in the colour of the appropriate alarm level.

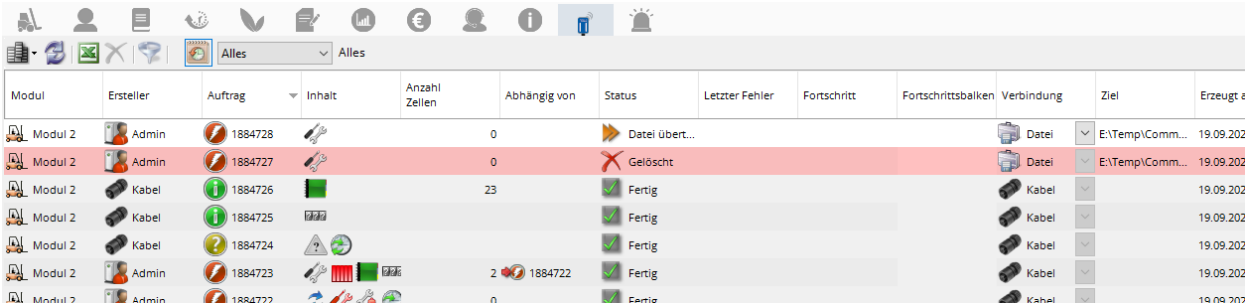
With *the* ***Add document*** button you can simultaneously deposit one or more documents (for example, a test report) for this module. If you want to add multiple documents, just click the ***Add Document*** button after adding the first document. For more information about documents, see **5.5.7 Documents**.

With a click on button ***OK*** the new alarm date is determined.

If currently a time alarm (or warning or overdue) is active, this is automatically reset, as soon as you have determined a new alarm date and have clicked on ***OK***. Should the new alarm date already be below an alarm threshold, the respective alarm level is triggered within the next 2 minutes (if necessary, once more)!

5.5.21 Communication central office

In the communication central office all created orders are displayed. Every order is shown with the actual status (e.g., whether and if so, how much percent the order is already implemented). Not yet performed orders can be deleted or the transmission path be changed afterwards.

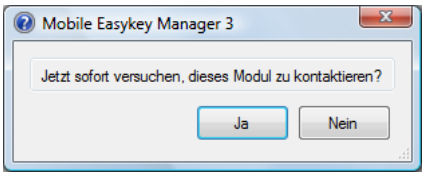


Special buttons of the communication central office

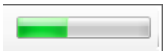
- This button serves to delete single not yet implemented orders. Select the required order and click on .
- With this button an additional toolbar is displayed. Orders can be viewed and filtered according to the order type (Program orders, Status orders or Information orders).
- With this button you can switch between two display modes. The first mode shows open and running orders only. The second mode also shows completed and deleted orders. Besides, additional buttons are available in the second mode. See also **5.5.21.2 Display Concluded Orders**.
- Also displaying already completed orders (see) the range to be displayed can be selected with this button . See also **5.5.21.2 Display Concluded Orders**.

Note:

- A double click on the module name in the column ***module*** selects this module automatically in the tree diagram on the left side.
- With a double click in the row you are able to prioritise this order. By use of a WI-FI- or Bluetooth drivers this leads to the respective driver (if possible) contacting this module instantly. Even if the connection could not be established immediately, the order priority remains, i.e., it is tried more often than normally to reach the module to be able to implement the order as quickly as possible.



- Whenever (when scrolling down) data must be reloaded by the SQL server, a progress beam which displays the loading process appears in the right upper corner.



5.5.21.1 The columns of the communication central office

Module
Displays the name of the respective module

Group
Displays the name of the group in which this module belongs to (this is hidden by default).

Module type
Displays the module type of this module (this is hidden by default).

Profile
Displays the name of the profile which is assigned to this module (is hidden by default).

Description 1 and ***description 2***
Displays the description text 1 or 2 of the module (is hidden by default).

Creator
If the operating rights (see **5.21 Software Operating Rights**) are enabled, the creator is displayed here. The creator can also be a driver if it has automatically created orders being in the contact with the module.

Order
Specifies the order type (=Update-, =Status-or =Information order) as well as a sequential internal assigned order number.

Contents

Here the contents of this order are specified with the different icons.

First initialisation	This is the very first order which is transmitted to a module. With this order the "Mobile Easykey Manager" gets to know the module.
Module exchange	If the Mobile Easykey Module was exchanged in the vehicle, the "Mobile Easykey Manager" cannot automatically recognise the module any longer. With the module exchange order they pair up again.
Firmware update D	Carries out a firmware update on the actual D version.
Firmware update F	Carries out a firmware update on the actual F version.
Memory partitioning	With this order the memory partitioning (see **5.9.2.1 Memory**) in the module changes. **Attention:** the logbook memory in the module is deleted.
Configuration	With this order the configuration (e.g., the Switch-off time after absence detection) is changed.
Crash Sensor configuration	With this order the configuration of the Crash Sensor is written
Departure control	Departure control settings are written.
Alarm configuration	With this order the alarm maximum ratings are written in the module.
Full update	With this order all users and master (transponder) are newly written in the module.
Quick update	With this order all changed user and master data are written in the module.
Read status	With this order the actual module status is read out.
Delete crash	With this order the module (provided that it is in the crash status) is activated.
Set clock	With this order the internal clock is set in the module.
Set operating hours	With this order the counters are changed for cut-in and operating hours in the module.
Read logbook	With this order logbook data from the module are read.
Read operating hours	With this order the cut-in and operating hours from the module are read out
Start test drive	With this order a test drive is started for the Crash sensor.
End test drive	The test drive will end with this order and (provided that a test drive was started) the maximum values from the test drive read out.
Switch on workshop mode	With this order the module goes into the workshop mode (see **5.5.23.8 Workshop**).
Switch off workshop module	The workshop mode ends with this order.

Number of cells

Specifies how many memory cells are used by this order. With update orders this is the number of users and master, added, deleted or changed once. With logbook- reading- orders the number of the read-out entries is displayed here (after completing the order). As long as the logbook- reading- order was not yet performed (completely), the precise number of the logbook entries to be read is not known yet and a question mark is displayed.

Depending on

The different update orders can be dependent on each other. In this case the "Mobile Easykey Manager" must follow the right order. For example, a Quick update can be dependent on the fact that the before generated full update is executed first, because it would overwrite the updates of the Quick update again.

Status

Specifies the actual order status:

It is just generated	The order is just generated at this moment
It is just changed	New part-orders are just added to this order.
Please, connect module	If the connection ***manually (cable)*** is selected, the "Mobile Easykey Manager" expects a manual action. By manually connecting the required module the order is automatically performed.
Wait on transmission	If a transmission connection is selected, this status displays that "Mobile Easykey Manager" still waits for this order to be transmitted.
Wait on implementation	With all other connections this status displays that "Mobile Easykey Manager" waits for the appropriate module to connect (is accessible) to begin afterwards automatically with the implementation of the order.
Wait on condition	The module was accessible, however, the condition for the order implementation was not fulfilled (see **5.13.3.2.1 Conditions**).
Email is transmitted	The order is forwarded at this moment by email.
Email sent	The order was forwarded by email. Now "Mobile Easykey Manager" waits for a reply.
Transmit files	The order uses transmission to file or ActiveSync and the appropriate files were already generated.
It is implemented	The order is executed at this moment.
Save	The communication with the module is concluded. Now the result of the order must still be saved in the database.
Finished	The order is fully completed. Orders with this status are possibly not displayed according to setting. See also **5.5.21.2 Display Concluded Orders**.
Invalid	This order lapses. For example, a Quick update could lapse if (through another connection) a full update was performed. Orders with this status are possibly not displayed according to setting. See also **5.5.21.2 Display Concluded Orders**.
Error	During implementation of the order an error has occurred. Orders with this status are possibly not displayed according to setting. See also **5.5.21.2 Display Concluded Orders**.
Deleted	This order was deleted manually (by a software operator).

Last error

If an error occurred during the order implementation (see status on top), an error text is displayed here.

Progress

If the order is just executed, the status of the implementation is displayed in percent. If the order was interrupted during the implementation the portion already executed till then is displayed (e.g., by loss of the connection), in percent and in a red beam. The order is automatically continued with the next opportunity.

Progress beams

In addition to the display in percent (see ***progress***) a progress beam can be shown here. If the order was interrupted during the implementation, the last status of the progress beam is shown in red. The order is automatically continued with the next opportunity.

Connection

Here the selected connection is displayed for this order. As long as the order was not implemented yet, you have the possibility to change the connection afterwards.
If, as a connection ***auto*** was selected, the actual used connection is displayed after the order was completed.

Destination

By use of transmission the destination of this transmission is displayed here (for example, the used email address or path and filename of the created file).

Generated on

Specifies date and time, when this order was created. If it is the date of the present day, only the time is displayed.

The last change on

Specifies date and time, when this order was last changed. To an existing order additional part orders can be added under certain circumstances. In this case the time of this or the last change is displayed here. If it is the date of the present day, only the time is displayed.

Implementation started on

Specifies date and time, when (communication with the module) the implementation started. If it is the date of the present day, only the time is displayed.

Implementation concluded on

Specifies date and time when the implementation (communication was concluded with the module). If it is the date of the present day, only the time is displayed.

Implementation duration (minutes)

Specifies, how long the implementation (communication with the modules) has lasted. The display shows this in minutes : seconds (0:08 mean, for example, 8 seconds).

Order concluded on

The order is valid only as entirely concluded when the data of the order are saved in the database. In particular if an order was implemented through transmission. A longer time can pass between the end of the communication with the module and the saving of the data in the database. If it is the date of the present day, only the time is displayed.

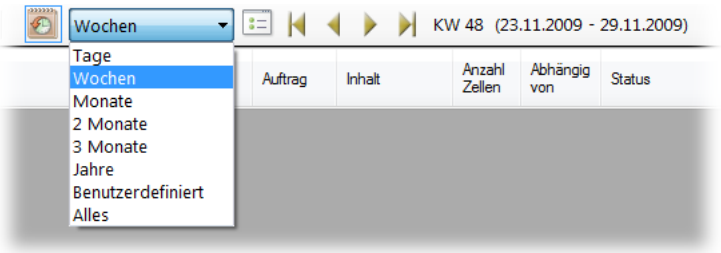
5.5.21.2 Display Concluded Orders

Click on button to display concluded (completely implemented, faulty or deleted orders). In this manner you can track later, when which order was generated and were executed for which modules.

Note:
By default concluded orders are deleted after 90 days from the database. You can change these settings in the database configuration. See also **5.14.12 Database-Maintenance**.

Click once more on the button to return to the previous mode. Here only orders are displayed which are not yet implemented completely.

Because with the display of all (concluded) orders a lot of data are to be displayed at the same time, the display of these data can be limited to certain time ranges (e.g., weeks, months etc.). In this case on the right side, next to the button additional elements are available.



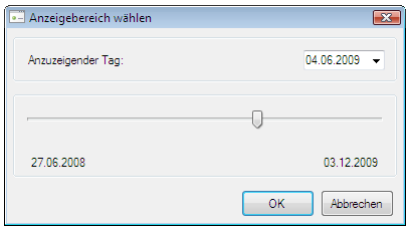
With the select field the length of the time range is displayed. All concluded orders one day, one week etc. are shown. Yet to be concluded orders are always displayed, no matter when they were generated.

With the buttons on the right the respective day, week, month etc. which should be displayed is selected. For example, is the *time range weeks* selected then a certain calendar week can be selected to be displayed. The buttons have following meaning

- Calls a dialog with which the required range can be selected comfortably (see the following page)
- Changes to the first (oldest) possible range with data.
- Changes to the previous range, e.g., by the previous week.
- Changes to the next range, e.g., by the next week.
- Changes to the last (latest) possible range with data.

On the far right the respective range selected is described.

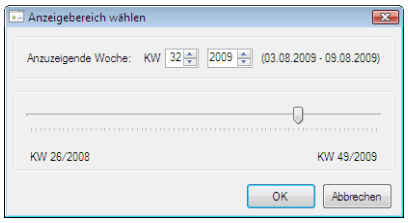
Depending on the size of the time range to be displayed the dialog, which is called with this button shows differently for:



Days:

You can select the day to be displayed with the data button on the top right in a calendar or below with the slide control.

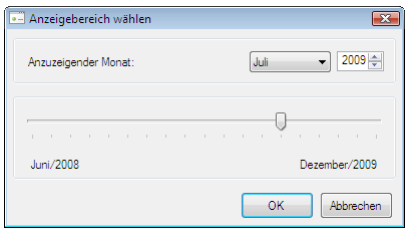
Click on ***OK*** on the selected day to display.



Weeks:

Select the required calendar week and the year or simply move the slide control.

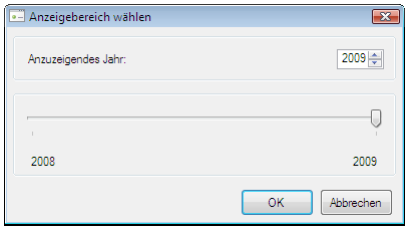
Click on ***OK*** during the selected week to display.



Months:

Select the required month and the year or simply move the slide control.

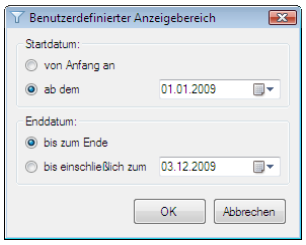
Click on ***OK*** in the selected month to display.



Years:

Select the required year or simply move the slide control.

Click on ***OK*** in the selected year to display.



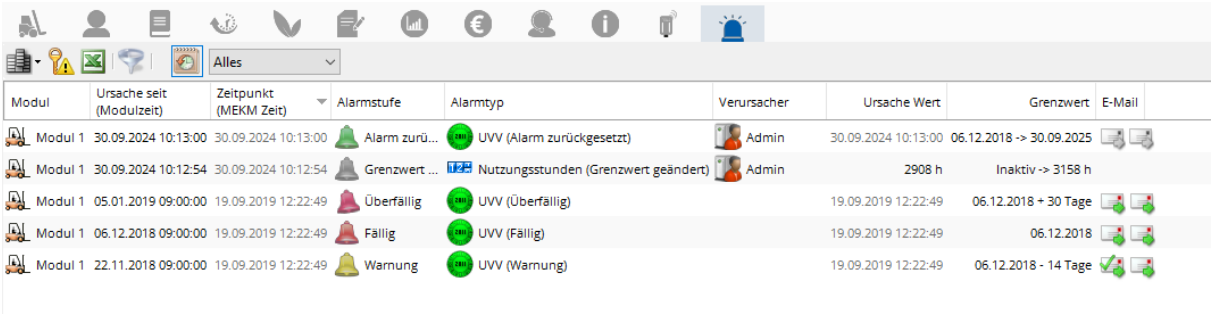
User-defined:

Here you can select an exact day range.

To begin from the oldest entry, you select a start date ***from the outset***. Otherwise, you enter the date to which the range to be displayed should begin.

If you want to display all entries from the start date including today, select as a date ***up to the end***. Otherwise, you can enter a date up to which (including) the range to be displayed should show.

5.5.22 Module-alarm central office



In the alarm central office all alarms of the selected modules are displayed.
Older, already reset alarms can be also displayed.

Special buttons of the alarm central office



Filters the display of the alarms according to alert phases or alarm types. The display can thereby, for example, be set in such a way that only crash messages are displayed. (See also **5.5.22.4 Filter module alarm display**)



Switches between the display of all alarms and only active alarms (see also **5.5.22.5 Only Active Alarms**)



Selects the time range which the alarms should be displayed (see also **5.5.22.6 Alarm-Range**).

Tip:



A double click on the module name in the column ***module*** automatically selects the module in the tree diagram on the left side.



A double-click on the **Cause** automatically selects the tab **Users** and selects this user (cause). This only works for users, not for software users or administrators.

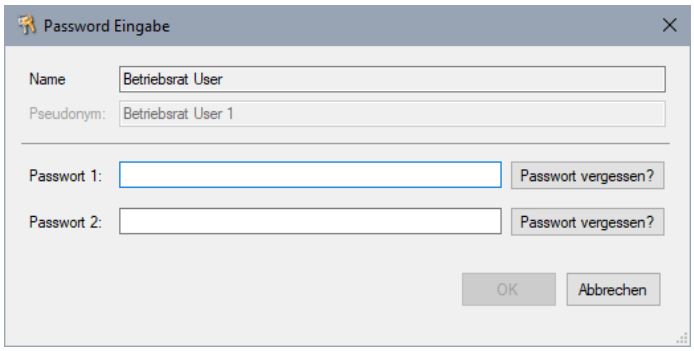


Even if the cause is hidden by the operating rights (see **5.21 Software Operating Rights**) or the works council password (see **5.14.3 Data Protection (Works Council User)**) this function is not available.

5.5.22.1 Log in as works council user

Click on the button to log in as a works council user. If there are already several works council users, you must first select the desired user.





Now enter the password (or passwords) of this works council user.

Further information on logging in as a works council user can be found in chapter **5.14.3.1 Login Works Council User**.

Note: If an older database has been opened in which a "logbook password" was used, the first works council user will automatically get the name "Log-Password" and this old logbook password.



The hidden data is now displayed.

In addition, a light red line with the currently logged-in works council user is displayed. Click on the button Ausloggen to hide the data again.

5.5.22.2 The columns of the module-alarm central office

Module

Displays the module which has triggered the alarm.

Cause since (module time)

Displays the time at which the cause has triggered this alarm. For time alarms this is, for example, the alarm date (+/-warning or overdue) itself. With a crash alarm, however, it is the time stamp with which the crash was entered in the logbook of the module, I. e. the time when the crash actually occurred.

Time (MEKM time)

Displays the time at which Mobile Easykey has received Manager- knowledge from this alarm. This can happen (e.g., with a time alarm) immediately with the alarm starting, but also at a later time (e.g., with a crash alarm this is the time at which the logbook was read out).

Alarm Profile

Displays the name of the alarm profile which is assigned to this module (is hidden by default).

Alarm stages

Displays the following alert stages:

Warning	The alarm maximum rating is soon reached. (This alarm stage is not available for all alarm types)
Alarm	The alarm maximum rating was reached
Overdue	The alarm maximum rating was already reached for a long time (This alarm stage is not available for all alarm types)
OK	A warning-, alarm-or overdue alert stage was reset (e.g., by setting a newer, higher maximum rating)
Maximum rating changed	The alarm maximum rating was changed, although neither a warning- nor an alarm-or overdue alert stage was given.

Alarm type

Displays one of the following alarm types:

Workshop mode	Workshop mode was activated or deactivated.
Active crash	Always has the alarm level alarm.
Active crash level I, II, III	Alarm level depending on crash level.
Passive crash	Always has the alarm level warning.
Passive crash level I, II, III	Alarm level depending on crash level.
Activate crash	Always has the alarm level reset. See also **5.10.3.1 Crash alarms**.

 Crash-Count Level I, II, III	A warning is triggered when the number of crashes is slightly increased. An alarm is triggered if the number of crashes is significantly too high.
 Relative Crash-Count Level I, II, III	A warning is triggered when the count of crashes per hour of use is lower than normal. An alarm is triggered when the number of crashes per hour of use is higher than usual.
 Status alarm	Status alarm: The module has not been read out for a long time. See also **5.10.2.4 Status-Alarms**.
 Departure control	A departure check was made and at least one question was answered negatively. If this was a security-relevant question, an alarm is triggered, otherwise a warning . Also see **5.10.2.15 Departure Control-Alarms**.
 Electrolyte-Alarm	If the level of electrolyte was too low after the re-powering (i.e., the moment the electrolyte sensor was detected and connected), an alarm is triggered, otherwise a warning. Also see **5.10.2.6 Electrolyte-Alarm**
 Electrolyte reading error	The electrolyte sensor reports an error! See also **5.10.2.6 Electrolyte-Alarm**
 Electric-charging-alarm	The not-powered-cycle (the battery load) was too short. Also see **5.10.2.11 Electric Charging Alarms**.
 Electric-change-alarm	The not-powered-cycle (the battery change) was too long See also **5.10.2.12 Electric Change Alarms**
 Continuously powered	The module is (or was) powered for a long time (without battery load or battery change. See also **5.10.2.13 Continuously Powered-Alarm**.
 Persistent logged-in	The module is (or has been) continuously logged in for a very long time. See also **5.10.2.14 Persistent Logged in-Alarm**.
 Event 1  Event 2	Icon and text according to the settings in the module profile (see **5.9.2.3 Events**)
 Load sensor battery capacity	The battery in the load sensor will soon be empty. Also see **5.10.2.5 Load Sensor Battery Capacity Alarm**.
 KPI Bestromt  KPI Eingeloggt  KPI Nutzung  KPI Last KPI Gesamt	Triggers an alarm when the KPI falls below an adjustable value. See also **5.10.4.1 KPI Alarms**.

GPS-Alarm	Triggers an alarm when the module is further than allowed from a defined point. See also **5.10.2.10 GPS-Alarms**.
Finance-Alarm	Triggers an alarm when the cost is unexpectedly high. See also **5.10.4.2 Finance-Alarm**.
Finance-Alarm	
Operating-Alarm	Name and icon are defined in the database configuration (see **5.14.7.4 Operating Hours-Alarm**).
Relative Cut-in hours alarm	(See **5.10.2.3 Relative operating hour alarms**)
Relative Operating hour alarm	
Hybrid-Battery-Alarm	The button cell battery in the module (hybrid) is empty or will soon be empty.
Clock alarm (speed accuracy)	(See **5.10.2.16 Clock Alarms (Speed accuracy)**)
Time alarm (UVV)	One of up to 10 time alarms (see **5.14.7.3 Time Alarms (UVV)** and **5.10.2.1 Time Alarms (UVV)**

Alarm text

Displays the alarm text of the respective alarm profile.

Cause (trigger)

Displays (provided it is available) the cause of this alarm or this action. With an active crash this is, e.g., the trigger of the crash. When updating or manually resetting a maximum rating alarm the “cause” is the software operator who has performed this action. The display of software operators presumes the activation of their operating rights. (See **5.21 Software Operating Rights**)

In addition the display can be subject to data protection (see **5.14.3 Data Protection (Works Council User)**).

Cause value

Displays, (if available) the respective value at the time of the alarm trigger. With a clock alarm (speed accuracy) this is, e.g., the time period the clock deviated from the actual time.

Maximum rating

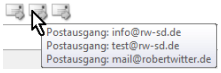
Displays the actual maximum rating to which this alarm should be triggered.

Email

If for this alarm operation the dispatch of one or several alarm emails was configured, one of the following icons is displayed for every email address:

- Email sits in the outbox and was not dispatched yet.
- Email was dispatched.
- Email was dispatched and the receiver has read email.
- Sending this email an error occurred.

Tip: if you hover with the mouse pointer over one of these icons, all email addresses and their status are displayed.

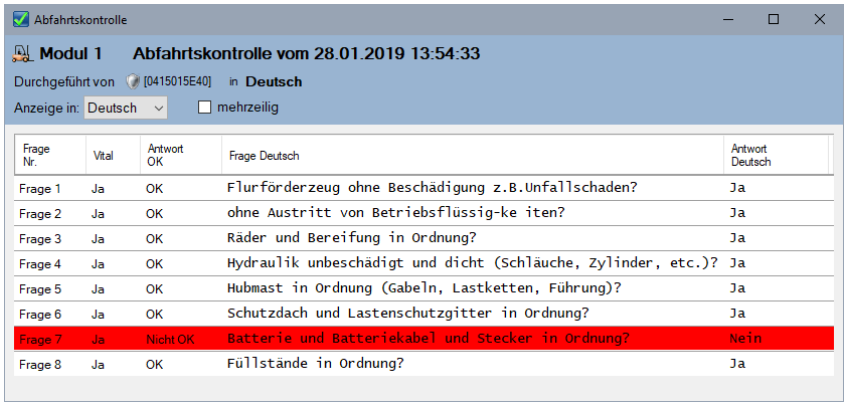


Reset (MEKM time)

Displays the time at which the alarm was reset.

5.5.22.3 Display Departure Control

By double-clicking on a departure control alarm (or alternatively with a right mouse click and selecting the menu item ✅ ***show departure control***) the questions actually asked for this departure control can be displayed.



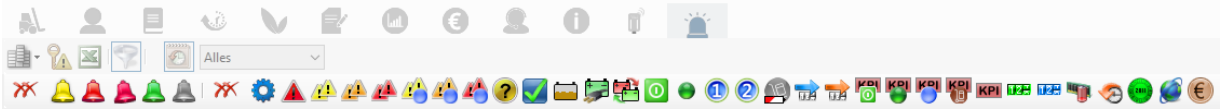
Frage Nr.	Vital	Antwort OK	Frage Deutsch	Antwort Deutsch
Frage 1	Ja	OK	Flurförderzeug ohne Beschädigung z.B.Unfallschaden?	Ja
Frage 2	Ja	OK	ohne Austritt von Betriebsflüssig-ke iten?	Ja
Frage 3	Ja	OK	Räder und Bereifung in Ordnung?	Ja
Frage 4	Ja	OK	Hydraulik unbeschädigt und dicht (Schläuche, Zylinder, etc.)?	Ja
Frage 5	Ja	OK	Hubmast in Ordnung (Gabeln, Lastketten, Führung)?	Ja
Frage 6	Ja	OK	Schutzdach und Lastenschutzgitter in Ordnung?	Ja
Frage 7	Ja	Nicht OK	Batterie und Batteriekabel und Stecker in Ordnung?	Nein
Frage 8	Ja	OK	Füllstände in Ordnung?	Ja

You can also set a different language with ***Display in***.

See also chapter **5.5.12.8 Display Departure Control**.

5.5.22.4 Filter module alarm display

To filter the alarms, click on button on the toolbar in the data range of the alarm central office. With a renewed Click on button the filtering is again switched off and all alarm levels and alarm types are displayed again.

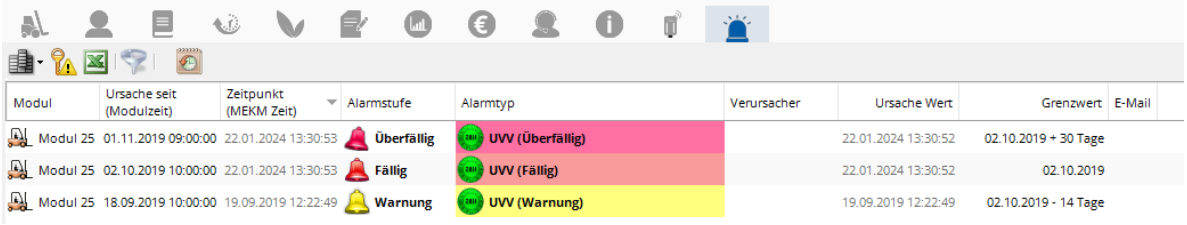


Click on one of the buttons to view or hide the appropriate alarm level. Click on button to view or hide all alarm levels at the same time.

Click on one of the remaining buttons of this toolbar to view or hide the respective alarm type. According to configuration of the time alarms (see **5.14.7.3 Time Alarms (UVV)**) and Operating-alarms (see **5.14.7.4 Operating Hours-Alarm**) in the database configuration, more or fewer buttons are displayed at the right side of the toolbar. The icons correspond in the database configuration for the respective alarm icon. Here you can also click on button to view or hide all alarm types at the same time.

5.5.22.5 Only Active Alarms

With a click on button a special display mode can be switched on or off, with which exclusively active alarms (including warnings and overdue messages) are displayed.



Modul	Ursache seit (Modulzeit)	Zeitpunkt (MEKM Zeit)	Alarmstufe	Alarmtyp	Verursacher	Ursache Wert	Grenzwert	E-Mail
Modul 25	01.11.2019 09:00:00	22.01.2024 13:30:53	Überfällig	UVV (Überfällig)		22.01.2024 13:30:52	02.10.2019 + 30 Tage	
Modul 25	02.10.2019 10:00:00	22.01.2024 13:30:53	Fällig	UVV (Fällig)		22.01.2024 13:30:52	02.10.2019	
Modul 25	18.09.2019 10:00:00	19.09.2019 12:22:49	Warnung	UVV (Warnung)		19.09.2019 12:22:49	02.10.2019 - 14 Tage	

Tip:

With the button the display can be further limited (see **5.5.22.4 Filter module alarm display**).

5.5.22.6 Alarm-Range Selection

Because with the display of all alarms a lot of data are to be displayed at the same time, the display of these data can be limited to certain time ranges (e.g., weeks, months etc.).



With the selection field the size of the displayed time range is selected. Respectively all alarms are displayed according to one day, one week etc... The time cause/***reason since (module time)*** or the time ***(time MEKM)*** is decisive for it; according to which time the table is currently sorted.

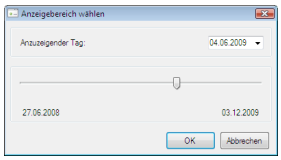
With the respective buttons day, week, month etc. (on the right) it is selected which time range should be displayed. If for example, the time range is selected on a day-to-day basis, a certain day can be selected to be displayed.

On the far right the range selected in each case is described.

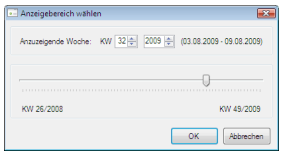
The buttons have following meaning

- Changes to the first (oldest) possible range with data.
- Changes to the previous range, e.g., by the previous week.
- Changes to the next range, e.g., by the next week.
- Changes to the last (latest) possible range with data.
- Calls a dialog with which the required range can be comfortably selected

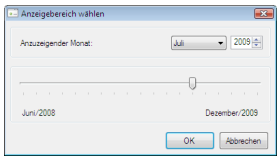
According to the size of the time range to be displayed the dialog which is called with the button appears different for:



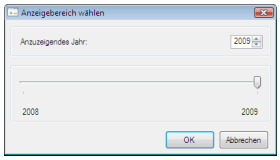
Days:
You can select the day to be displayed with the data button on the top right in a calendar or below with the slide control.
Click on ***OK*** for the selected day to display.



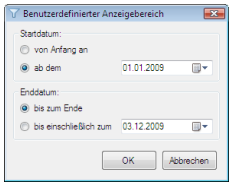
Weeks:
Select the required calendar week and the year or simply move the slide control.
Click on ***OK*** for the selected week to display.



Months:
Select the required month and the year or simply move the slide control.
Click on ***OK*** for the selected month to display.



Years:
Select the required year or you simply move the slide control.
Click on ***OK*** for the selected year to display.



User-defined:
Here you can select a ***day-exact*** range.

To begin from the oldest alarm, you select as a start date ***from the outset***. Otherwise, you enter the date on which the range to be displayed should begin.

If you want to display all entries from the start including today, select as a date ***up to the end***. Otherwise, you can enter a date up to which (including) the data should be displayed. Or you can enter a date up to which (including) the range to be displayed.

5.5.23 Module status

A module can be in a different status mode. According to in which status it is, it reacts differently to different events.

5.5.23.1 Not Powered

All LEDs are off.

The module is without current and reacts accordingly not at all. It cannot be communicated with the module.

5.5.23.2 Powered (but logged off)

The yellow LED is on.

The module is powered, but currently no user is logged in. The module is idle.

Provided that no other mode (crash, warning, alarm, overdue, workshop mode) is active it can be logged in with a valid transponder.

In this status mode the module is ideal to use for data communication via WI-FI or Bluetooth because it cannot exit the reception range. Hence, this status is entered by default for the driver as a condition on the communication (see **5.13.3.2.1 Conditions**).

If a crash occurs in this status, this is classified as a passive crash. I.e., the crash was not caused by this module.

5.5.23.3 Logged in

The yellow and the green LED are on. The module is powered and a user is logged in. The module is ready to work or operates.

The module can be logged off with any valid transponder.
According to the configuration of the module (see **5.9.1.1 Log in (smart lock)**und **5.9.2.2 Log in**) the module is automatically logged off after a certain time without a user being present (detection by seat contact or radar sensor).

If a crash occurs in this status, this is classified as an active crash. In this case the user who has logged in at last in this module is valid as a cause/reason.

5.5.23.4 Crash

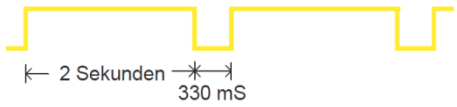
The red Crash-LED flashes.

A crash was recognised, the module is in the crash mode.

The crash module switches off and changes to emergency operation (crawl speed) (see also **5.9.3.1 Crash (crash+duo)** and **5.9.4.1 Crash (crash+remote)**). You can still log in and out but the module may not be operational.

5.5.23.5 Warning Mode

The warning mode exists only from module version F



The yellow LED is on, however, goes out every 2 seconds for 330ms.

In warning mode, you can still log in and log off.

According to configuration of the alarm option ***Flashing module LED activate*** (see **5.10.2.2 Operating Hour Alarms** and **5.10.2.1 Time Alarms (UVV)**) the module can display a warning at a certain time or from a certain operating hour situation. As a rule, this means that the alarm mode is reached soon.

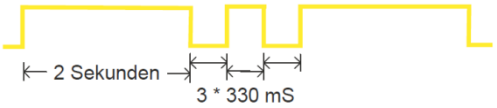
The warning mode is automatically ended if the cause for the warning was removed.

I.e., if the appropriate alarm date (with time alarms) or the operating hour maximum rating (with operating hour alarms) was adjusted appropriately and this new configuration was transmitted into the module, the warning mode is ended.

The modes overdue and workshop alarm overwrite the mode warning.

5.5.23.6 Alarm Mode

The alarm mode exists only from module version F



The yellow LED is on, but goes out every 2 seconds **twice** for 330ms.

In alarm mode a transponder must be held onto the module **three times** in a row for logging in. This is to prevent that a module which is due for maintenance or a check is further run by accident.

Exception:
Workshop transponder (see **5.6.1.2 Settings of User X**) can log in as usual in spite of the alarm mode (and thus, switch the module to workshop mode at the same time).

According to the configuration of the alarm option ***enable impeded log in*** (see **5.10.2.2 Operating Hour Alarms** and **5.10.2.1 Time Alarms (UVV)**) the module can change to the alarm mode at a certain time or from a certain operating hour situation.

The alarm mode is automatically ended if the cause was removed for the alarm. I.e., if the respective alarm date (with time alarms) or the operating hour maximum rating (with operating hour alarms) was adjusted appropriately and this new configuration was transmitted into the module, the warning mode is ended.

The modes overdue and workshop overwrite the mode alarm.

5.5.23.7 Overdue Mode

The overdue mode exists only from module version F



The yellow LED is off, but blinks every two seconds briefly for 330ms.

In overdue mode you cannot log in with a normal user transponder any longer! The module cannot be run any longer!

Exception:
Workshop transponder (see **5.6.1.2 Settings of User X**) can still log in, in spite of the overdue mode (and Thus, switches the module into the workshop mode at the same time).

According to configuration of the alarm option ***Log in prevent*** (see **5.10.2.2 Operating Hour Alarms** and **5.10.2.1 Time Alarms (UVV)**) the module can change to a certain time or from a certain operating hour situation into the inactive "overdue" status.

The overdue mode is automatically ended if the cause for it was removed. I.e., if the respective alarm date (with time alarms) or the operating hour maximum rating (with operating hour alarms) was adjusted appropriately and this new configuration was transmitted into the module, the warning mode is ended.

The modes overdue and workshop overwrite the mode alarm.

5.5.23.8 Workshop Mode

The workshop mode exists only from module version F



The yellow LED is off, but blinks all two seconds **twice** for 330ms.

In workshop mode only, workshop transponder (see **5.6.1.2 Settings of User X**) are able to log in and log out. **All other transponders are automatically locked!**

The workshop mode is activated either by the software (see **5.5.20.4.3 Create status orders** and **5.13.2.3 Direct connection - Execute orders**-implement) or simply by logging in with a workshop transponder.
The mode can also be ended by the software or by logging in and off **twice** with a workshop transponder.

Note:
As of hardware version F-52, no crash is triggered and logging out via presence detection is deactivated as long as workshop mode is active!

5.5.24 KPI

Industrial Truck - Key-Performance-Indicator

Industrial trucks are becoming an increasingly important part of the information network in the warehouse. In order to save costs, optimally utilize vehicle fleets and at the same time increase safety in the warehouse, companies are increasingly opting for the use of digital solutions. Part of this digital solution is mobile Easykey's FFZ-KPI.

From gut feeling to key figures

Many operators of industrial truck fleets ask themselves the question:

- From gut feeling to key figures.
- Do I have enough trucks (FFZ)?
- Do I use the fleet effectively?
- How are the trucks (FFZ) utilized and when?
- How often are the trucks (FFZ) for repair or maintenance?
- How are the trucks (FFZ) heavily used (crash)?

Our goal

Our goal is a reliable key figure for assessing the effectiveness of industrial trucks in intralogistics.

Since 2017, we have been dealing with the topic of key figures for industrial trucks.

The determined FFZ-KPI is not the same for all companies. For a well-timed company, an FFZ-KPI with a value of 55 is "bad", for other companies the value 55 is a good value.

The FFZ-KPI must be considered and evaluated in connection with the industry and the device types.

The future viability and market relevance of the FFZ – KPI of Mobile Easykey is based on the continuous feedback from customers and the agile and always market-oriented product development.

For this purpose, the overarching needs of the customers were identified and analyzed. The main focus was on the sustainably relevant evaluation and reporting options for the permanent and immediate optimization of processes. In conclusion and after consultation with the first users of the product, the FFZ-KPI has become a plausible key figure.

We are happy to advise you and show you how you can use the FFZ-KPI in your company.

www.mobileeasykey.de

5.5.24.1 Calculation of the KPI



The data for calculating the KPIs comes from the statistics module (see **5.18 Online Statistics**), which must therefore be activated in order to be able to work with the KPIs.

For the calculation of the KPIs, only data that is within the shift times is generally used. What happens outside these hours (e.g., at night during a normal 1-shift operation) is not taken into account.

The KPI consists of the following 4 factors:

A: **Powered-KPI = Powered Time / Shift-Time**
Note: Workshop time are counted as „Not powered".
The Powered-KPI thus indicates, how long the module was powered WITHIN the shift time.

B: **Logged in-KPI = Logged in-Time / Powered-Time * Factor Y**
Crash-Times (Crash-Relays) are counted as ‚Not logged in'.
The Logged in-KPI thus indicates, how long the module was logged in during the Powered-Time (WITHIN the shift time).

C: **Usage-KPI = Usage time / Powered-Time**
The Usage-KPI thus indicates, how long the module was actually used during the Log in-Time (WITHIN the shift time).

D: **Load-KPI = Usage-Time with load / Usage-Time**
The Load-KPI indicates, how long the Module was used with load during the Usage-Time (WITHIN the shift).

5.5.24.2 Log in type (factor Y)

If a module is also used when logged out, a special log in-type can be defined. This multiplies the log in-KPI by the factor Y stored for this log in-type. The log in-types are managed in the database configuration. See **5.14.8.3 Log in Types**.

By default, no log in-type is used. In this case, factor Y = 1 applies, i.e., the log in-time is taken into account for the KPI exactly as it was measured.

5.5.24.3 Load type (factor Z)

In normal operation (when no load type is assigned), a load ratio of 50% driving with load to 50% driving without load applies. This corresponds to a factor of Z = 2.

For modules that run predominantly with load or predominantly without load, a different load type can be set accordingly. The factor Z is calculated in such a way that the load KPI * gives this factor Z exactly 1 (100%) at a typical load ratio. As a result, the KPI remains comparable for modules with different typical load ratios.

The load types are managed in the database configuration. See **5.14.8.2 Load Types**.

5.5.24.4 Total-KPI

The Total-KPI is calculated as follows:
Total-KPI = (Powered-KPI) * (Logged in-KPI) * (Usage-KPI) * (Load-KPI * Factor Z)
It should be noted, that the logged in-KPI may have already been multiplied by a factor Y.

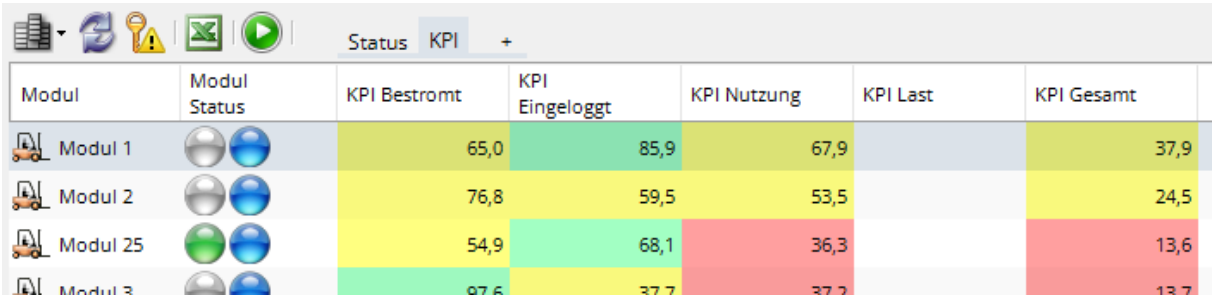
If no load sensor is installed (load-KPI = 0), a typical load ratio is assumed. Since a typical load ratio * factor Z results in exactly 1, the load KPI can simply be omitted:
Total-KPI = Powered-KPI) * (Logged in-KPI) * (Usage-KPI)

5.5.24.5 Display of KPIs

5.5.24.5.1 KPI in the Information Center

The KPI values of the last month with complete data can be displayed as a column in the information center (see **5.5.20.3 The columns of the central information office**).

(See 5.5.19.3 The columns of the central information office).



The colour in which the values are displayed is determined by the respective KPI profile

(See **5.9.5 KPI Limit-Profile**).

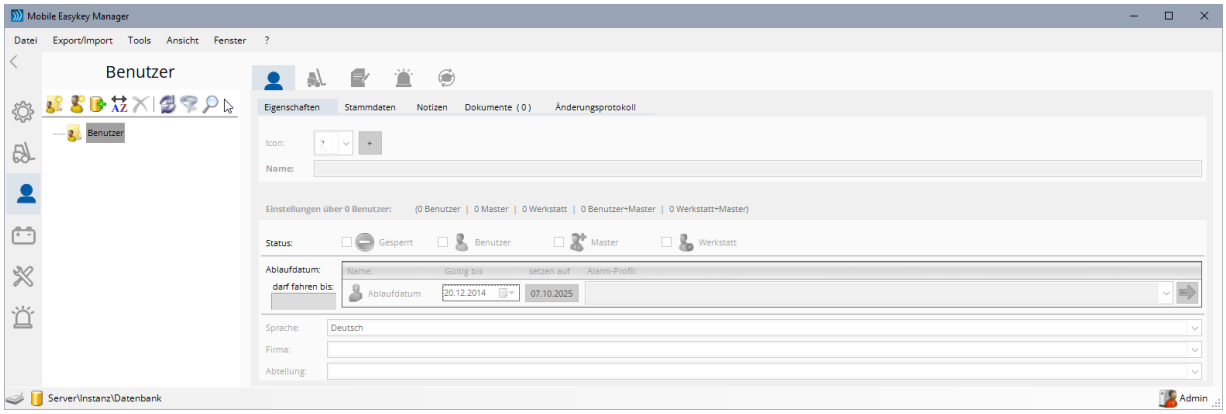
5.5.24.5.2 KPIs in Online Statistics

The KPI-Values are displayed in the KPI-Statistics (see **5.18.3.3 KPI**).

The KPI-Total Value is also displayed in the Single Comparison-Statistics (see **5.18.3.10 Single comparison**).

5.6 User

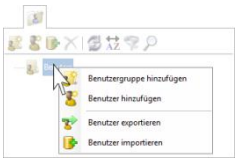
Click on the left side on tab to display the data about users on the right side.



The buttons in the toolbar of the tab *user* have following meaning

- Adds a new user group. See also **5.11 Groups and tree (hierarchical) structure**.
- Adds a new user (in the currently selected group).
- Launches the dialog to import new user from a file.
  See also **5.3.3.1 Import data**.
- Deletes the currently selected user or a (empty) user group.
  See also **5.1.4 Safe deletion**.
- Reloads the displayed data once more from the SQL server.
- Switches the display between "name surname" and "surname name"
- Filters the display according to any criteria. See also **5.11.8 Filter display**.
- Searches in the tree (hierarchical) structure for the users' name, surname, pseudonym or the description of a user. See also **5.11.9 Search**.

Click now on the button to add a user.



Alternatively, you can add users directly in a sub-group using the right mouse button on this user group or a user within the required sub-group. You find further details in chapter **5.11.1 Add Group**.

Now the new user is displayed in the tree (hierarchical) structure and is automatically selected. On the right side of the sub window the still mainly empty data of this user are displayed.

The user's icon is marked with a small exclamation mark , as long as the configuration is invalid. In addition, a red arrow flashes in the top row and there is a red arrow in all places where input is still required .

If several users exist in the database, you can select one or several of these users in the tree (hierarchical) structure (See also **5.11.3 Select several elements at the same time**). The data of this or these users are displayed on the right side.

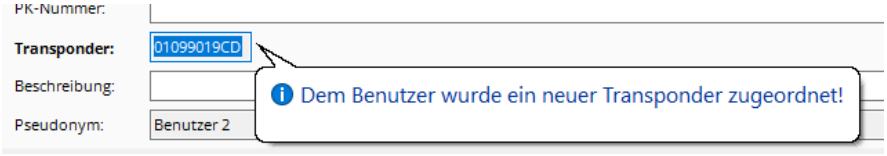
5.6.1 User properties



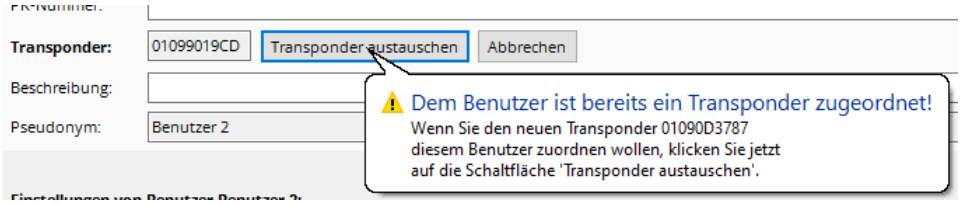
In the upper part of this tab the data which refer individually to only this one user is entered. Hence, this part is active even when only a single user is selected.

- ***Icon***
  Here you can assign an icon or an image to the user.
  See also **5.4.4 Icons**.
- ***Surname / name***
  Enter the name of the respective user.
- ***PIN number (personal identification number)***
  Here you can enter an optional PIN number. This field can be hidden in the database configuration (see **ID- and Default Fields**)
- ***Transponder***
  Here the transponder which is currently associated to this user is displayed. See also chapter **5.6.1.1 Assign User** .
- ***Description***
  Here a description or any other text can be entered for this user. This field can be hidden in the database configuration (see **ID- and Default Fields**)
- ***Pseudonym***
  As soon as a Mobile Easykey employee works with the database (see **5.1.3 Anonymised Backup** and **5.1.2 Service Mode**), personal data is automatically displayed only pseudonymised. Instead of the name, the text displayed under Pseudonym will be used. If you have a problem with a specific user, tell Mobile Easykey Service Personal the pseudonym here.

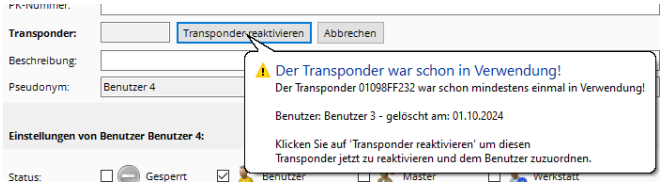
5.6.1.1 Assign User Transponder



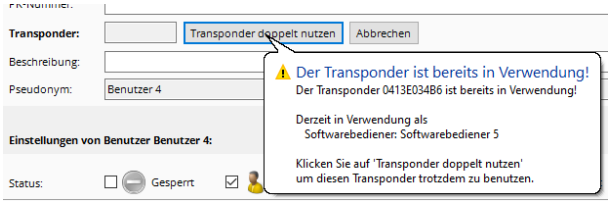
As long as the user's properties are displayed you can assign a transponder by holding the transponder simply near the reader (see also **5.13.5.1 Table**).



If a transponder was already assigned to this user, you now have the possibility to assign this new transponder to the user (for example because of the old transponders is defective (corrupt) or was lost). The information that the old transponder was assigned to this user is preserved. Should the old transponder appear again, you can trace the history of this transponder. See also **5.13.5.1.1 Transponder history**.



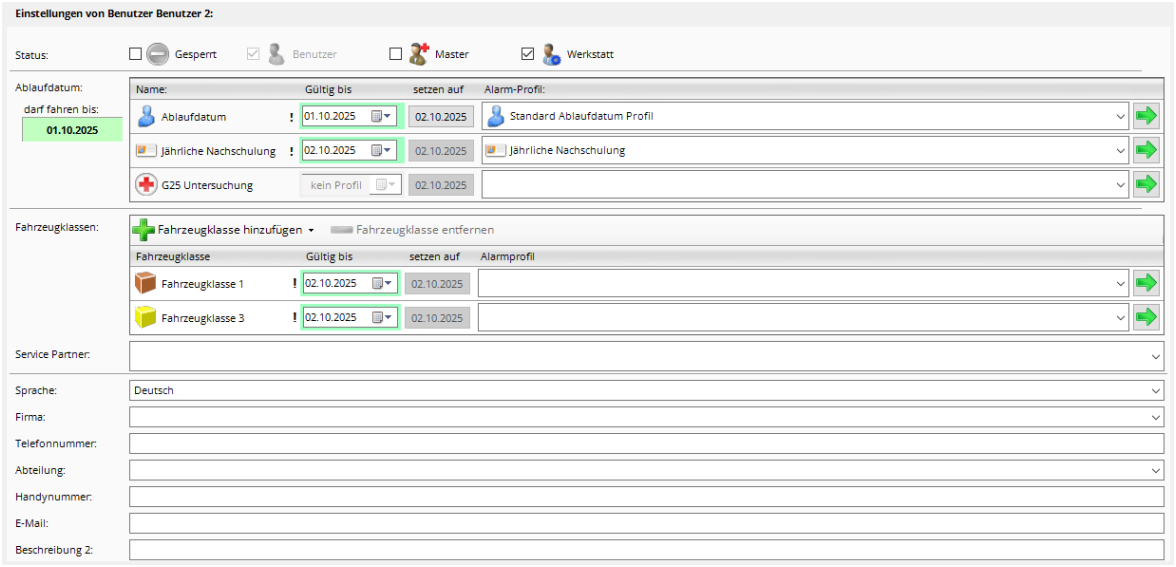
Should this transponder belong to a user or a battery which was deleted meanwhile, you are asked to reactivate the transponder. As a result, the transponder is deleted from the old, deleted user / battery and is associated to the actual user. This change can also be traced in the transponder history.



Finally, the transponder (when using the add-on module ***Operating Rights***, see **5.21 Software Operating Rights**) can already be in use as a software operator or administrator. In this case, the transponder can be double used. If the transponder is held to the desktop reader, it is used to identify the software operator / administrator. If, on the other hand, it is held to the antenna of a module (with driving authorisation for this user), it is logged on to the module.

Delete:
If the option button for removing the current transponder is activated in the global settings, (see **5.12.4 Global settings - other**) this button Löschen is also displayed. If the user is assigned a transponder, the transponder can be removed again by clicking on this button, without assigning the user a new, different transponder.

5.6.1.2 Settings of User X



In the lower part of this tab you can change the different settings of this user (or all selected users at the same time, see also **5.11.3 Select several elements at the same time**).

5.6.1.2.1 Status

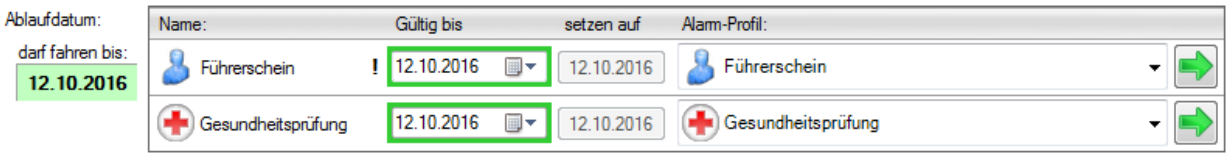


The status specifies the type of user or which status this user has.

Possible values are:

- ***Locked***
  With this option the transponder can be locked temporarily. The transponder is deleted (with the next contact / connection to the module) from **all** modules.
- ***User***
  The status ***User*** is necessary, so that the owner of this transponder is able to log in and log off the module. If the status ***user*** is not activated, this transponder cannot log into any module. This is significant for transponder with the status ***Master***.
- ***Master***
  Transponders with the status Master can unlock a crash. Besides, a master can have, in addition, the status ***User*** or ***workshop***. If the module is currently in crash mode, then the ***master function*** is used, the module is unlocked. In all other cases the respective other status comes into force.
- ***Workshop***
  If a transponder has this status, it is valid as a workshop transponder.
  A workshop transponder can **always** log in and log off, no matter, in which status the module is (see also **5.5.23.6 Alarm** , **5.5.23.7 Overdue** and **5.5.23.8 Workshop**).
  At the same time while logging in with a workshop transponder, the module is put automatically into workshop mode.
  If the module is in workshop mode and the workshop transponder is logged in and logged off twice repeatedly the workshop mode is quit again.

5.6.1.2.2 Expiry date



Here the different expiry data for a user can be entered. E.g., how long the driver's licence is still valid or when the next health check is due.

The expiry date is only valid, if an alarm profile is set!

With the button ***Set to XX.XX.XXXX*** you can set the expiry date on a default. You are able to set the default in the database configuration (see **5.14.7.1 Expiry date**).

By default, there is only one expiry date with the name "Expiry date". However, in the database configuration (see **5.14.7.1 Expiry date**), up to 5 such expiry data can be defined (in the example above "driver's licence" and "health check")

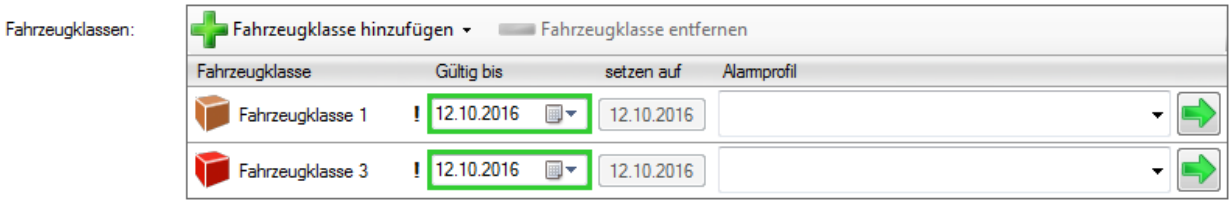
The exclamation mark between the name (here "driver's licence") and the validity date displays that the user is not allowed to drive after this expiry date!
If this exclamation mark is missing, an alarm is triggered at that time (according to configuration), however, the user may continue to drive.
This is defined in the respective Alarm profile (see **5.10.4.3 Expiry date Alarms**).

The date, till when the user may drive („***may drive until*** "on the right side) sums from the minimum of all expiry data with this exclamation mark (and if necessary, the respective vehicle class)

With the button you can jump directly in the respective alarm profile configuration.

5.6.1.2.3 Vehicle classes

Vehicle classes are only displayed if they were defined!
See database configuration **5.14.4.4 Vehicle Classes**.



To assign a vehicle class to the user click on button Fahrzeugklasse hinzufügen and select the required vehicle class.

Accordingly, you can select a vehicle class by clicking in the respective row. With the button Fahrzeugklasse entfernen you remove this vehicle class from the user.

Vehicle classes serve the classification of driving authorisations. Exactly one vehicle class (e.g., high shelve stacker) is assigned to the modules. As a result, only those users to whom this vehicle class (e.g., high shelve stacker) is assigned are allowed to drive. I.e. if a user does not own the vehicle class of the respective module, he may not drive this vehicle – in spite of having the respective driving authorisation (see **5.6.6 User-driving authorisations** or **5.6.7User groups-driving authorisations**). He needs the driving authorisation and, in addition, the vehicle class. These vehicle classes are most effective to use in group authorisations (see **5.6.7User groups-driving authorisations**).

A personal expiry date (***Valid to***) can be defined to every vehicle class of a user – e.g., the expiry date of the respective driving licence class. If the expiration date has expired, it is equal to as if the user did not own this vehicle class at all. He may from this time on, not drive modules with this vehicle class more.

With the button ***Set on XX.XX.XXXX*** you can set the expiry date on a default. You are able to define the default in the database configuration (see **5.14.4.4 Vehicle Classes**) for every vehicle class independently.

At last, one more alarm profile can be defined for the respective vehicle class. As soon as the expiry date of the vehicle class for this user expires an appropriate alarm is generated.

The vehicle class expiry date is also valid without alarm profile!

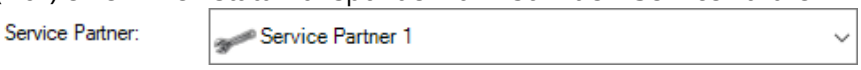
With the button you can jump directly in the respective alarm profile configuration.

5.6.1.2.4 Service Partner

The Service Partner line is only displayed if at least one Service Partner has been defined in the database configuration! (See **5.14.11 Service Partner**)

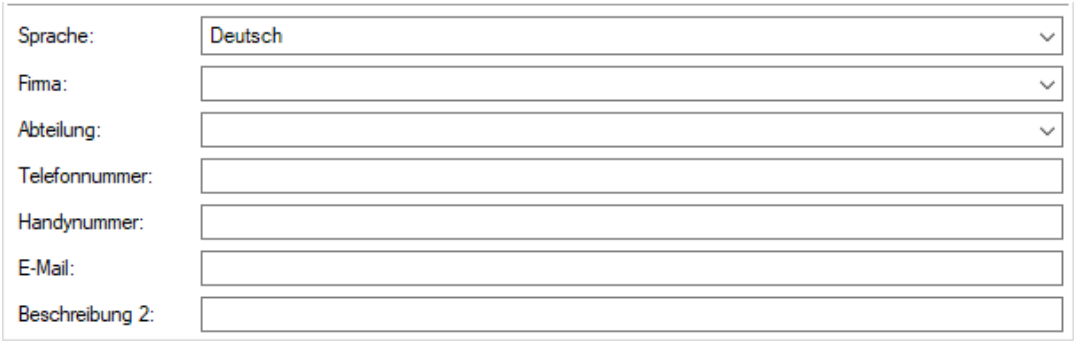
A service partner is only available if Workshop has also been selected as the status!

(Nur) einem Werkstatt Transponder kann somit ein Service Partner



If a module is in status ***ServiceCall sent*** (see **5.5.19 Service-Call-**) and the workshop module has been switched on, with a transponder, to which the same service partner is assigned as the module (see **5.5.1.2 Settings of Module X**). Then the ServiceCall-Order is automatically taken over by this "transponder". The state of the ServiceCall then changes to ***work started.***

5.6.1.2.5 Other data



- ***Language***

If at least two languages are configured in the database configuration for departure control (see **5.14.9.1 Languages**), each user can be assigned one of these languages. If the departure control is triggered with this transponder, it is automatically carried out in the language stored for this transponder / user.

- ***Company / department***

Here appropriate data can be entered for these users. These fields can be hidden in the database configuration (see **ID- and Default Fields**).

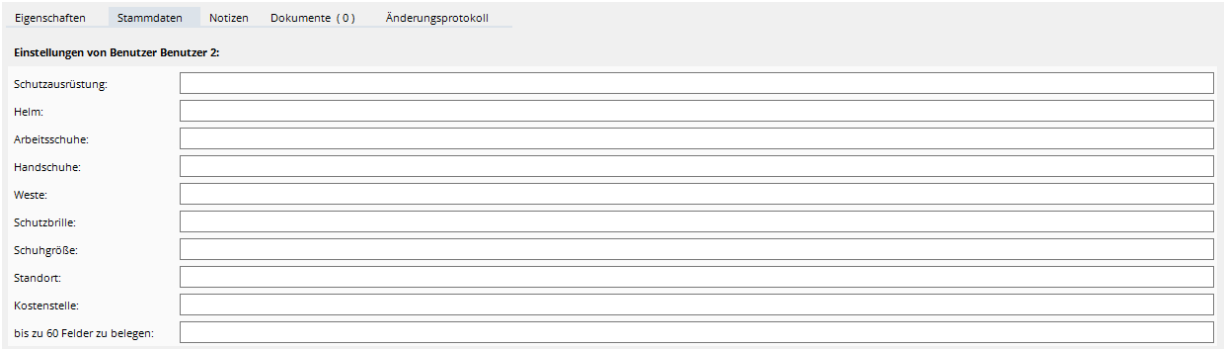
- ***Phone number / mobile phone number / email***

These fields are hidden by default. You can view them in the database configuration (see **ID- and Default Fields**).

- ***Description 2***

Here a description or any other text can be entered for this user. This field can be hidden in the database configuration (see **ID- and Default Fields**).

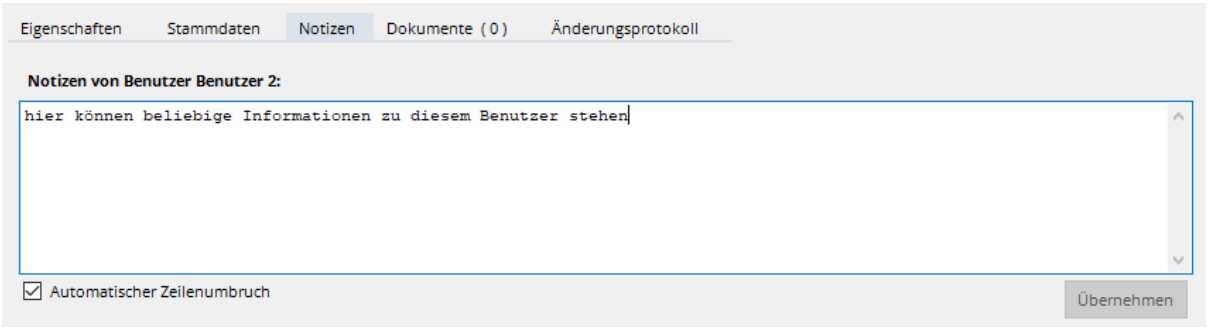
5.6.2 Master data



In the tab master data, the user-additional fields (see **5.14.4.2 Module-, User-, Battery Master data**) are summarized. Here you can enter the appropriate data.

Attention!
Individual master data fields can be defined as mandatory. For these mandatory fields, the field name (e.g., location) is displayed in bold. If no value is entered in one of these mandatory fields, the user is considered invalid and is not entitled to drive.

5.6.3 Notes



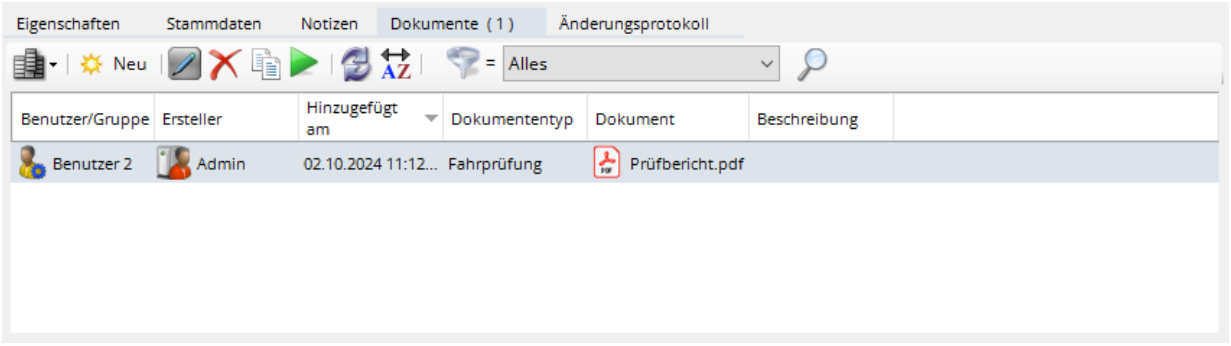
In the tab notes any text can be entered for this user.

If you enter text in this field, this is saved only when any other field is clicked or you click on the ***apply*** button**.**

If the option ***wrap text*** is activated, the rows are automatically wrapped at the end of the field. Otherwise, a row can become very long and appear, if necessary, in a horizontal rolling beam.

The input of the notes is only possible if exactly one user is selected (see **5.11.3 Select several elements at the same time**).

5.6.4 Documents

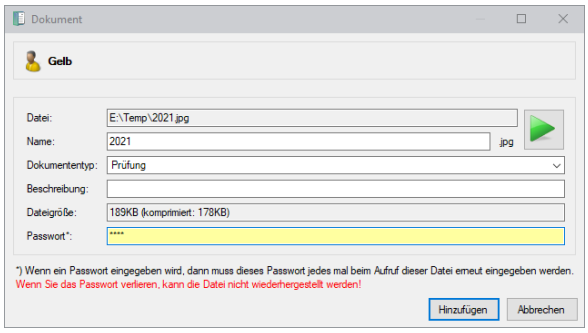


In ***documents*** any files can be saved to the respective user or a user group. In the name of the tab the number of the saved documents is displayed.

New	Adds a new document. Adding of documents is only possible if exactly one single user or one single user group is selected. See also **5.6.4.1 Add documents**.
	The document type and the description of a document can still be changed afterwards. See also **5.6.4.2 Edit Document Description**. However, the document itself is write-protected!
	Deletes this or the selected documents.
	Copies this or the selected documents on a data carrier.
	Opens this or the selected documents (write-protected). The respective standard program which is linked with the appropriate file ending is used.
	Carries out a Refresh and reloads the table.
	Switches between ‘first name, surname` and `surname, first name.
	Filters the view according to document type. Simply select the required document type. The setting ***all*** displays all document types, while the setting ***no document type assigned*** displays only documents to which no document type was assigned.

5.6.4.1 Add documents

Click on button Neu and select the required file.

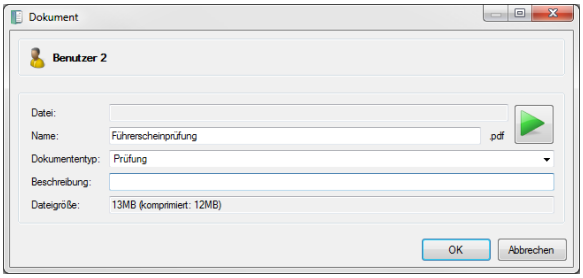


In the following dialog you can ***name*** the document, determine the ***document type*** and add a ***description***.

In addition, you can enter a password to save this document password-protected. Please note, however, that the document cannot be recovered without a password!

Click on ***add*** to save this file in the database.

5.6.4.2 Edit Document Description

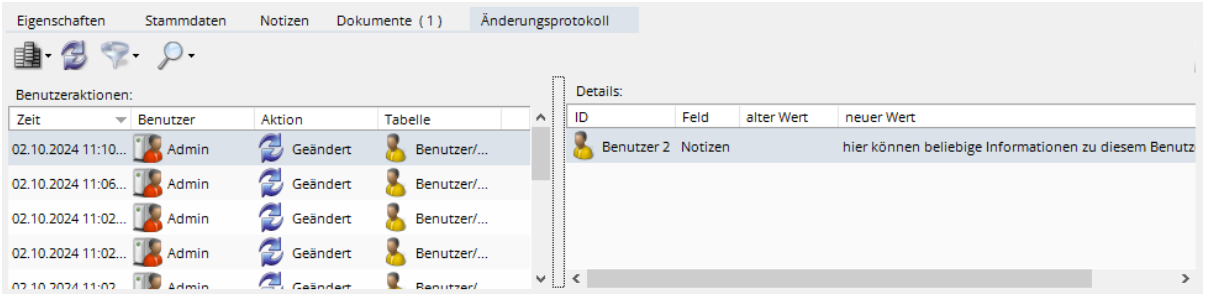


Name, document type and description of a document can be changed afterwards. Click on button and change the required data.

With a click on button the displayed document can be opened write-protected. The document itself cannot be changed afterwards!

Click on ***OK*** to save changes.

5.6.5 Change log (Users)



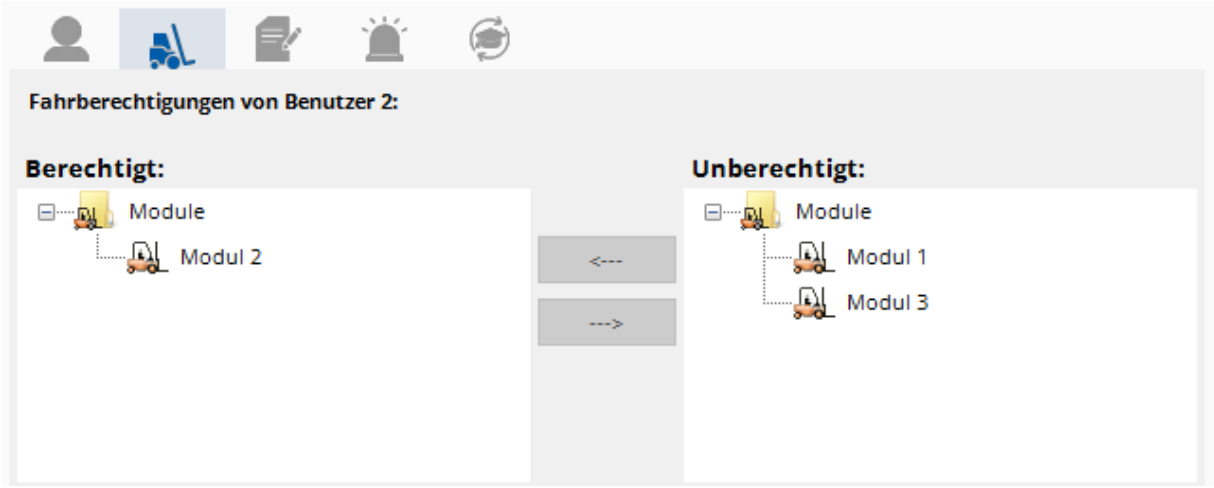
Each change to the user data is stored in the change log and displayed here.

Note:
By default, entries older than 90 days are automatically deleted. You can change this setting in the database configuration. See also **5.14.12 Database-Maintenance**.

The column **User** corresponds to the respective software operator and is only displayed if the operating rights (see **5.21 Software Operating Rights**) are activated.
Use the and buttons to filter and search the change history.
For a description and further information, please refer to chapter **5.19 Change Log**.

5.6.6 User-driving authorisations

If the authorisation type (see **5.14.14 Authorisation Type**) admits single authorisations, the authorisations will assign in this tab individually from user to module.



On the right side you see the modules for which no authorisation exists ***(Unauthorised)***. The modules which this user (or the selected users) is ***authorised*** for are displayed on left side accordingly.

To change the authorisations, you can drag the respective modules simply with the mouse between both ranges to and fro. Alternatively, you can select the required modules (click) and the users with the buttons <-- and --> to entitle or remove the authorisation.

You find further information in chapter **5.11.6 Single authorisations**.

Attention!
If the module is present in several groups via links, all other links of this module are also automatically moved accordingly.

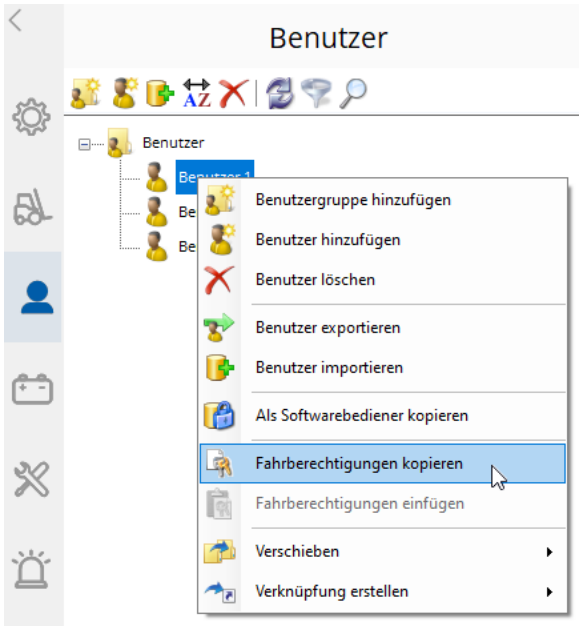
Attention
If a module uses a vehicle class (see **5.14.4.4 Vehicle Classes** , **5.5.1.2 Settings of Module X** and **5.6.1.2.3 Vehicle classes**), a driving authorisation assigned here is valid only when the user also owns the respective vehicle class of the respective module!

5.6.6.1 Copying User Driving Authorisations

The set driving authorisations (the assigned modules) can also be transferred (copied) from one user to another.

To do this, right-click on the user who has the desired driving authorisations and select the menu item ***Copy driving authorisations***.

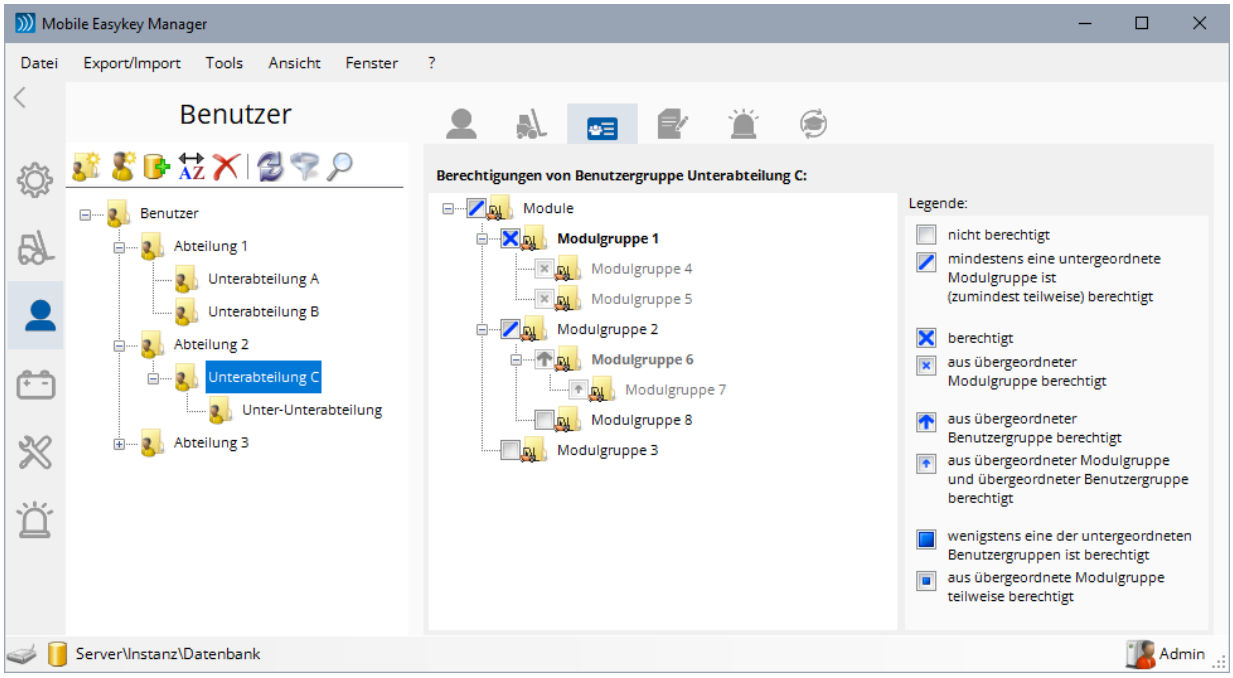
Now select the user(s) who should receive these driving authorisations. Now click on it with the right mouse button and select the menu item ***Insert driving authorisations***.



With paste (Paste driving ***authorisations***), all copied driving authorisations are then added to the selected user(s). Previously existing driving authorisations will remain in place!

5.6.7 User groups-driving authorisations

If the authorisation type (see **5.14.14 Authorisation Type**) admits group authorisations, the authorisations will assign in this tab from user group to module group.



If in the tree diagram link a single user group is selected, you can determine which module groups should be associated to this user group.

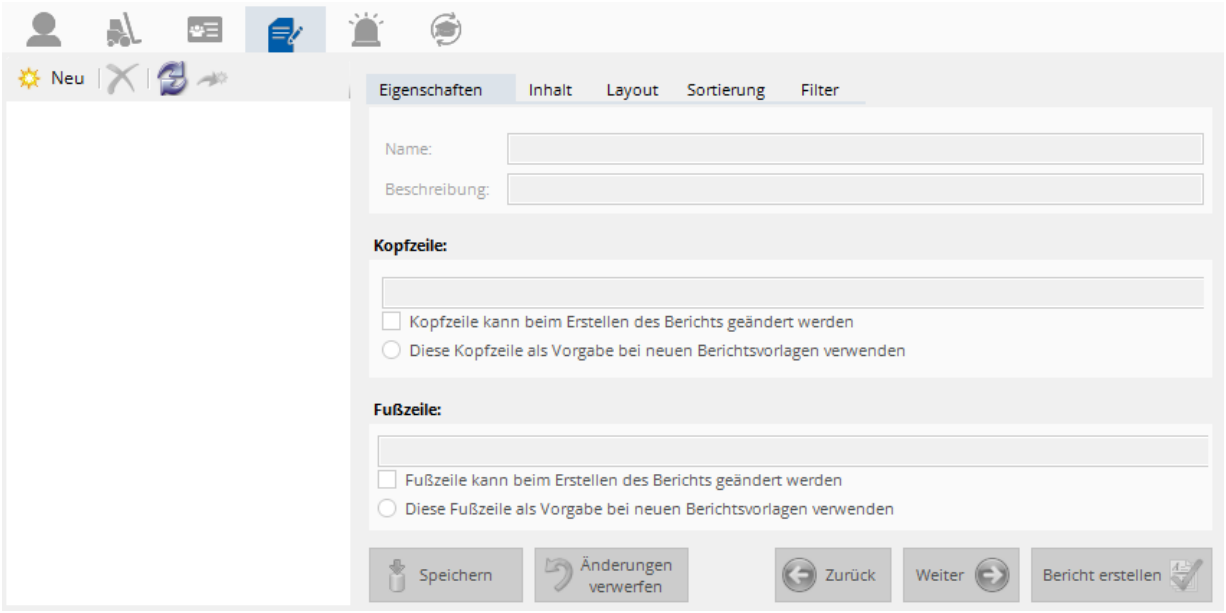
Because the allocation is always valid for all sub-groups, the display can become a little more complex. The chapter **5.11.7 Group authorisations** describes in detail how the group authorisations are displayed and are assigned.

If a single user is selected, the group authorisations of the user's group are displayed. However, the display is write-protected.

Attention

If a module vehicle class (see **5.14.4.4 Vehicle Classes** , **5.5.1.2 Settings of Module X** and **5.6.1.2.3 Vehicle classes**) is used, a driving authorisation assigned here is valid only when the respective user also owns the respective vehicle class of the respective module!

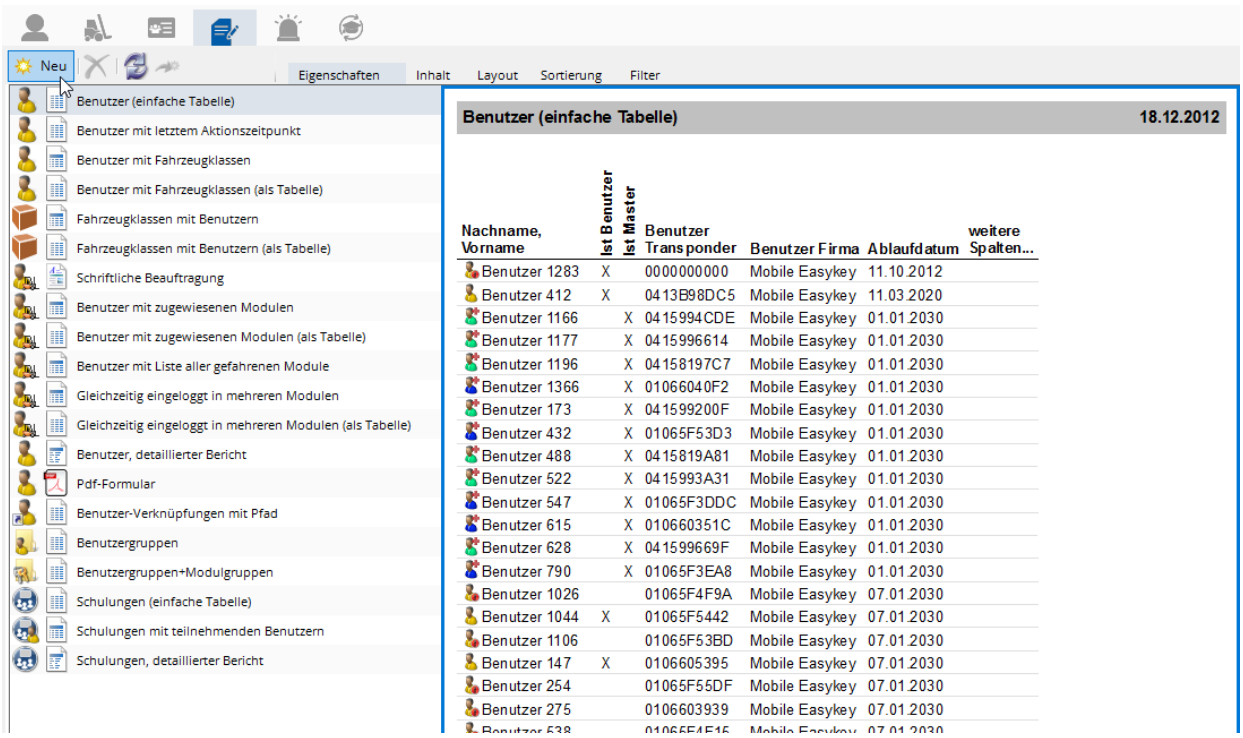
5.6.8 Report templates



The report module serves to print out logged data as for example given name and surname, description, expiry date etc. or to save as a Pdf file.
In addition different report types are available.

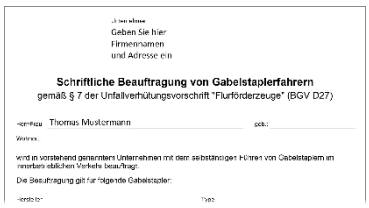
With the button 

you can create a new report template. Depending on which data the report should include and be built up on, select one of the existing template types. On the right you see an example of the currently selected report type.



Following report types are available:

- ***User (simple table)***
  List, see **5.17.2.1 List (simple tables)**
  Creates simple lists of all users with information like the expiry date or user's master data.
- ***User with the last action time***
  List, see **5.17.2.1 List (simple tables)**
  Creates a list of all users which specifies, in addition, the time of the last action of the respective user (in the actual logbook) and the time, when a transponder was last assigned to this user. Thus, e.g., a list of all users / transponders that were not used for a long time can be created.
- ***User with vehicle classes***
  Grouped report, see **5.17.2.2 Grouped** .
  Creates a report which begins a new page for every user and displays after the username (and if necessary further user's formation) a list of all vehicle classes assigned to this user.
- ***Users with vehicle classes (as table)***
  List***, see*** **5.17.2.1 List (simple tables)**.
  Creates a list of all users with their assigned vehicle classes. If a user is assigned to several vehicle classes, a corresponding number of rows are output.
- ***Vehicle classes with users***
  grouped-report, see **5.17.2.2 Grouped** .
  Creates a report that starts a new page for each vehicle class and outputs a list of all those users to whom that vehicle class is assigned.
- ***Vehicle classes with users (simple table)***
  Lists, see **5.17.2.1 List (simple tables)**.
  Creates a list of all vehicle classes with their assigned users.
- ***Written assignment***
  Special report, see **5.17.2.4 Special** .
  Generates a report from a built-in form for hiring forklift drivers. For each selected user a separate form is created.


Geben Sie hier
Firmennamen
und Adresse ein

Schriftliche Beauftragung von Gabelstaplerfahrern
gemäß § 7 der Unfallverhütungsvorschrift "Flurförderzeuge" (BGV D27)

Herr/Frau Thomas Mustermann geb.:

Wohnort:

wird in vorstehend genanntem Unternehmen mit dem selbständigen Führen von Gabelstaplern im innerbetrieblichen Verkehr beauftragt.

Die Beauftragung gilt für folgende Gabelstapler:

Hersteller Typ

- ***User with assigned modules***
  Grouped report, see **5.17.2.2 Grouped** .
  Creates a report which begins a new page for every user and displays after the username (and if necessary further user's formation) a list of all modules assigned to this user.

  Users with assigned modules (as a table)
  Lists, see **5.17.2.1 List (simple tables)**.
  Creates a list of all users and all assigned modules. If several modules are assigned to a user, several lines are created accordingly. This means for each driving authorisation, a line with user and module is displayed.

- ***User with list of all driven modules***
  Grouped report, see **5.17.2.2 Grouped** .
  Creates like ***user with modules*** a report which begins a new page for every user. However, only the modules which this user has really driven (according to actual logbook data) are listed and displayed after the username (and if necessary further user's formations). In addition, the time, when the user of this module has driven last, can be displayed. Attention: this list refers to the logbook saved in the database! If logbook data are deleted, this list can change accordingly.
- ***Gleichzeitig eingeloggt in mehreren Modulen***
  Grouped report, see **5.17.2.2 Grouped** .
  Erstellt einen Bericht, der für jeden Benutzer eine neue Seite beginnt. Auf der Seite werden alle Module mit sich überschneidenden Ein- und Auslog-Zeitpunkten aufgelistet. D.h. Loggt sich ein Benutzer in ein anderes Modul ein, bevor er sich am vorherigen Modul ausgeloggt hat, kommt es zu so einer Überschneidung.
  Es werden nur Benutzer aufgelistet, bei denen es im untersuchten Zeitraum Überschneidungen gab.
  Gibt es keinerlei Überschneidungen, enthält der Bericht keine Daten.
- ***Gleichzeitig eingeloggt in mehreren Modulen (als Tabelle)***
  Lists, see **5.17.2.1 List (simple tables)**.
  Erstellt eine Liste aller Benutzer und Module, bei denen es zu einer Überschneidung von Ein- und Auslog-Zeitpunkten kam. Gibt es keinerlei Überschneidungen, enthält der Bericht keine Daten.
- ***User, detailed report***
  Detailed report, see **5.17.2.3 Detailed Reports**.
  Creates a detailed, if necessary, multilateral report of all selected users.
- ***User's links with path***
  List, see **5.17.2.1 List (simple tables)**
  Creates a list of all user links incl. the path under which this link filed. (See also ***module links to path*** further on top).
- ***Pdf form***
  special report, see **5.17.2.4.2 Pdf-Berichte**
  This report is assigned a pdf form, which you can create individually. A database field is then assigned to each of the individual form fields. This allows the form to be filled out automatically when it is created.
- ***User groups***
  List, see **5.17.2.1 List (simple tables)**
  Creates a simple list of all user groups. The list can contain, in addition, the respective path under which this group is filed in the tree (hierarchical) structure.



- ***User groups + module groups***
  List, **5.17.2.1 List (simple tables)**
  Creates a list of all user groups (with path) and for the respective user group authorised module group (with path). If several module groups are authorised for a user group, the user group is listed accordingly several times.
  This menu item is only displayed if group authorisations are admitted see in the database configuration (**5.14.14 Authorisation Type**).

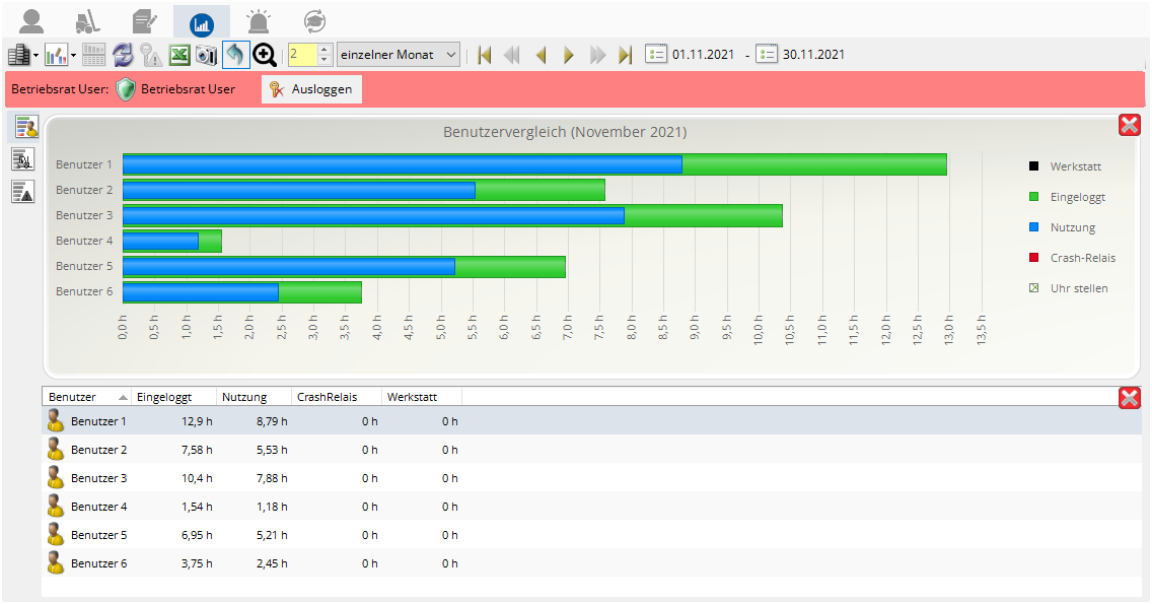
- ***Training List***
  List, see **5.17.2.1 List (simple tables)**.
  Creates a simple list of all training courses (see **5.16 Training Module**). The list can be filtered by the expiration date type and the training time of the respective training.
- ***Training List with participating users***
  Grouped report, see **5.17.2.2 Grouped** .
  Generates a report that starts a new page for each training and outputs a list of all users participating in that training after the training (and any other information).
- ***Training List, detailed report***
  Detailed report, see **5.17.2.3 Detailed Reports**.
  Prepares a detailed, possibly multi-page report of all selected training courses.

Because the reports are similarly constructed for modules, batteries, users, profiles, alarm profiles, shift models and holiday lists, the report module is summarised for all elements in chapter **5.17 Reports**.

5.6.9 Online statistics

For the use of the online statistics an additional software module (see **5.22.2 Online Statistics**) **is necessary.**

The display of these statistics can be restricted via the works council password. See chapter **5.14.3.8 Data Protection – In Online-Statistics**.



In the online statistics module different statistics can be displayed.

The individual views and operation of the online statistics are described in more detail in chapter **5.18 Online Statistics.**

However, the online statistics must be "activated" first. Thereby, a background process is set up which pre-calculates the logbook data statistically and saves these independent of the logbook. Then, hereafter, the logbook data which needs a lot of space in the database from a certain age can be automatically deleted. See further details in chapter **5.18.1 Statistics module activation / configuring**.

5.6.10 User-alarm Central Office



In the alarm central office all alarms of the selected users are displayed. Also, older, already reset alarms may be displayed.

Special buttons of the alarm central office



Filters the display of the alarms according to alarm levels or alarm types. The display can be thereby set that only overdue alarms are displayed. (See also **5.6.10.3 Filter Users Alarm Display**)



Switches between the display ***all alarms*** and ***only active alarms*** to and from (see also **5.6.10.4 Only Active Alarms**)

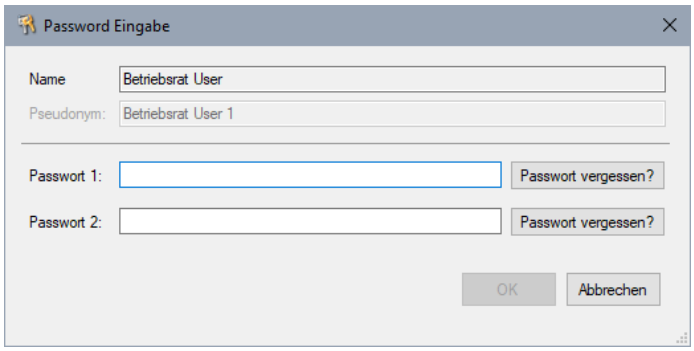


Selects the time range which the alarms should be displayed (see also **5.6.10.5 Alarm-Range**).

5.6.10.1 Logging in as works council user

Click on the button to log in as a works council user. If there are already several works council users, you must first select the desired user.





Now enter the password (or passwords) of this works council user.

Further information on logging in as a works council user can be found in chapter **5.14.3.1 Login Works Council User**.

Note: If an older database has been opened in which a "logbook password" was used, the first works council user will automatically get the name "Log-Password" and this old logbook password.



The hidden data is now displayed.

In addition, a light red line with the currently logged-in works council user is displayed. Click on the button Ausloggen to hide the data again.

5.6.10.2 The columns of the user-alarm central office

User

Displays the user for whom the alarm has triggered.

Cause/reason since

Displays the time in which the cause has occurred for this alarm and corresponds in this case to the expiry date (+/-warning or overdue).

Time (time MEKM)

Displays the time at which Mobile Easykey has received *Manager Knowledge* from this alarm. As a rule, this time should correspond with the time ***cause since***. However, was at the time in which the alarm should have been triggered, not a single manager or service opened, then the alarm is only triggered when the database is opened next time. Then ***cause since*** and ***time (time MEKM)*** differ.

Alarm Profile

Displays the name of the alarm profile which is assigned to this user (is hidden by default).

Alarm level

Displays one of the following alarm levels:

Warning	The alarm maximum rating is soon reached (This alarm level is not available for all alarm types)
Alarm	The alarm maximum rating was reached
Late	The alarm maximum rating was already reached for an extended period. (This alarm level is not available for all alarm types)
OK	A warning-, alarm- or overdue- alarm level was reset (e.g., by setting a newer, higher maximum rating)
Maximum rating changed	The alarm maximum rating was changed, although neither a warning- nor an alarm-, or overdue alarm level was given.



Alarm type

Shows one of up to 5 expiry date alarms (see **5.14.7 Alarms** and **5.10.4.3 Expiry date Alarms**).

Alarm text

Displays the alarm text from the respective alarm profile.



Cause/reason

With user alarms the only possible cause is a software operator or administrator who has changed an expiry date. Here it is logged who has changed an expiry date (and when). This display is only available if operating rights (see **5.21 Software Operating Rights**) are activated.



In addition the display can be subject to data security. (See **5.14.3 Data Protection (Works Council User)**).

Cause/reason value

With user alarms the ***cause/reason value*** is always identically with the ***time (time MEKM)*** of the alarm triggering.

Maximum rating

Displays the actual maximum rating to which this alarm should be triggered.

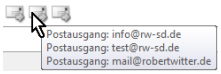
Email

If for this alarm operation the dispatch of one or several alarm emails was configured, one of the following icons is displayed for every email address:

- Email sits in the out box and was not dispatched yet.
- Email was dispatched.
- Email was dispatched and the receiver has read email.
- With the sending of the email an error occurred.



Tip: if you hover with the mouse pointer above one of these icons, all email addresses and their status are displayed.

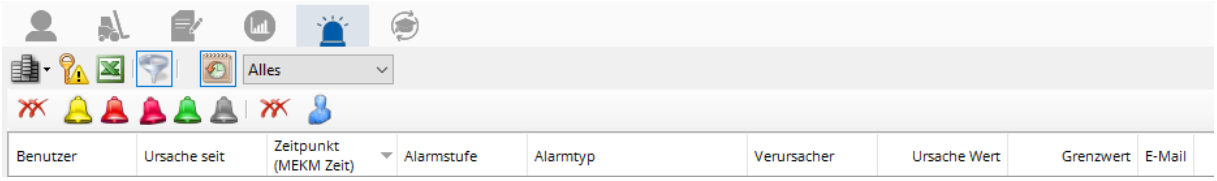


Reset (time MEKM)

Displays the time at which the alarm was reset.

5.6.10.3 Filter Users Alarm Display

Click on button , in the data range of the alarm central office, to call the toolbar for the alarm filters. With a renewed click on button the filtering is switched off and all alarm levels and alarm types are displayed again.



Click on one of the buttons to view or hide the relevant alarm level. Click on button to view or hide all alarm levels at the same time.

Click on one of the remaining buttons of this toolbar to view or hide the relevant alarm type. Depending on the configuration of the expiry date alarms in the database configuration (see **5.14.7 Alarms**) more or fewer buttons are displayed at the right end of the toolbar. The icons correspond with the respective alarm icons set in the database configuration. Click on button to view or hide all alarm types at the same time.

5.6.10.4 Only Active Alarms

With a Click on button a special mode which exclusively displays active alarms (including warning- and overdue- messages) can be switched on and off.



Tip:

With the button the display can be further limited (see **5.6.10.3 Filter Users Alarm Display**).

5.6.10.5 Alarm-Range Selection

Because with the display of all alarms a lot of data are to be displayed at the same time, the display can be limited to certain time ranges (e.g., weeks, months etc.).



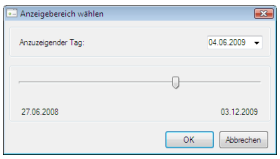
With the choice field the size of the displayed time range is selected. Accordingly, all alarms one day, one week etc. are displayed. The time ***cause since*** or the ***time (time MEKM)*** is decisive for it, depending according to which time the table is currently sorted.

With the buttons to the right of it, the respective day, week, the month etc. which should be displayed is selected. If for example, the time range is selected ***per day-to-day*** the particular day can be selected to be displayed. On the far right the range selected in each case is described.

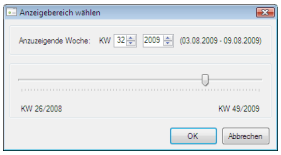
The buttons have following meaning

- Changes to the first (oldest) possible range with data.
- Changes to the previous range, e.g., by the previous week.
- Changes to the next range, e.g., by the next week.
- Changes to the last (latest) possible range with data.
- Calls a dialog with which the required range can be selected comfortably

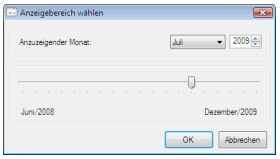
According to size of the time range to be displayed the dialog, being called up with the button looks differently for:



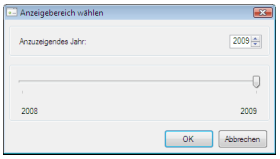
Days:
You can select the day to be displayed with the data button on the top right in a calendar or below with the slide control.
Click on ***OK*** to display the selected day.



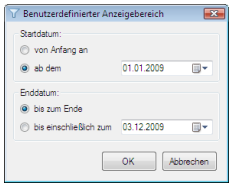
Weeks:
Select the required calendar week and the year or simply move the slide control.
Click on ***OK*** to display the selected week.



Months:
Select the required month and the year or simply move the slide control.
Click on ***OK*** to display the selected month.



Years:
select the required year or simply move the slide control.
Click on ***OK*** to display the selected year.

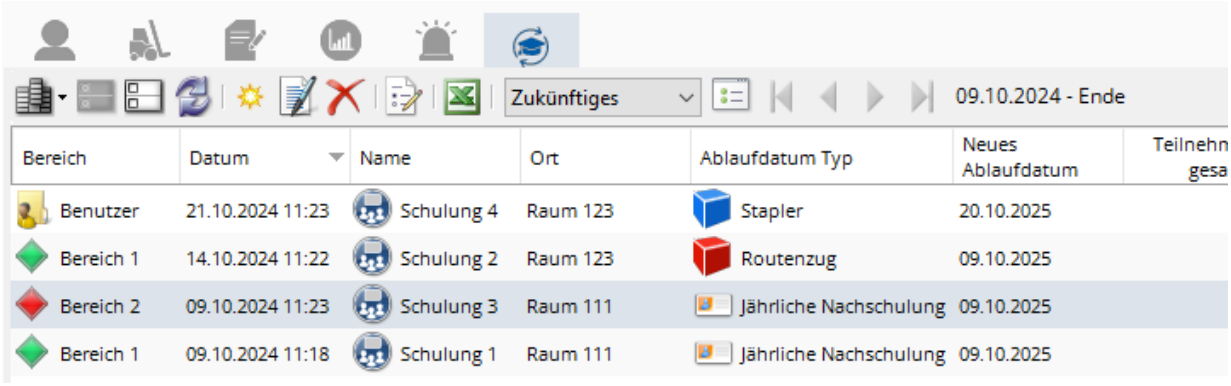


User-defined:
You can select an exact day range.

To begin from the oldest alarm, you select as a start date ***from the outset***. Otherwise, you enter the date to which the range to be displayed should begin.

If you want to display all entries from the start date including today, select as a date ***up to the end***. Otherwise, you can enter a date up to which (including) the range to be displayed should show.

5.6.11 User-Training

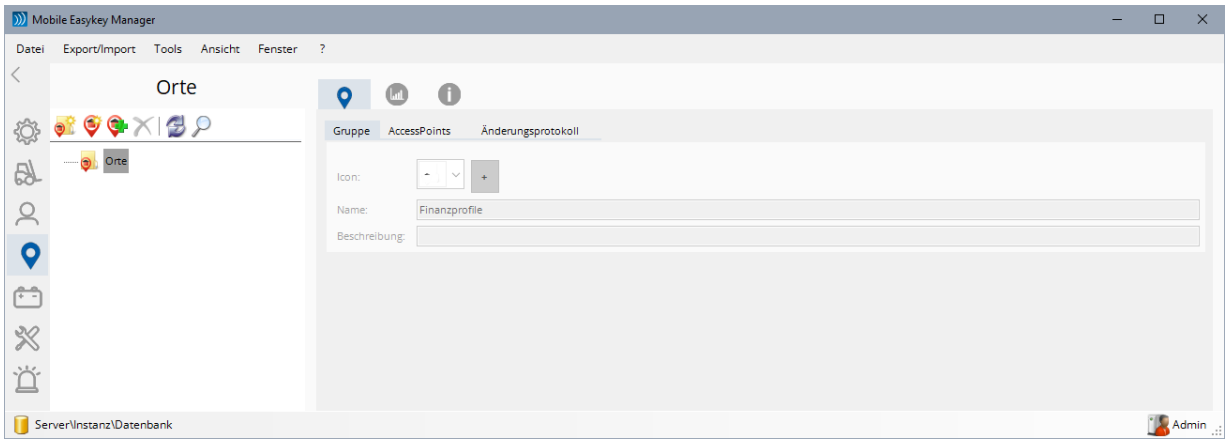


Training courses are used to set an expiration date according to the training for all participating users.
More information can be found in chapter **5.16 Training Module**.

5.7 Locations

The Places tab is only visible if the unlock code for the Indoor Locator (see **5.22.4 Indoor Locator**) is entered.

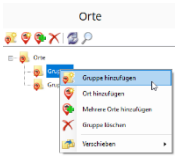
On the left, click the tab to see the data about locations (access points) on the right.



The buttons in the location's toolbar have the following meaning:

- Adds a new location-group. See **5.11 Groups and tree (hierarchical) structure**.
- Adds a new location (in the currently selected group).
- Starts a dialog to add multiple locations at the same time. See also **5.7.2 Add multiple locations at the same time**.
- Deletes the currently selected location or location-group.
- Reloads the displayed data from the SQL Server.
- Searches the tree for a location with the specified search term. See also **5.11.9 Search**.

Click on button to add a location.



Alternatively, you can add places directly in a subgroup by right clicking that group or a location within the desired subgroup. A more detailed description can be found in **5.11.1 Add Group**.

The new location is now displayed in the tree structure and is automatically selected. The data of this selected location is now displayed on the right.

If there are multiple locations in database, you can select one or several locations in the tree structure. (See also **5.11.3 Select several elements at the same time**). The data of this or these locations is then displayed on the right.

5.7.1 Location-properties



Here, data is entered that relates individually to only this one location. This part is therefore only active if only a single location is selected.

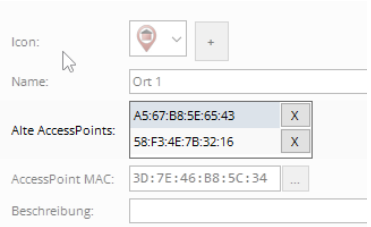
- ***Icon***
  Here you can assign an icon or picture to this location.
  See **5.4.4 Icons**.
- ***Name***
  Enter the name of the individual location.
- ***AccessPoint MAC***
  Enter the MAC-Address of the AccessPoints of this location.

Tip:
You can use the button ... to view a list of MAC addresses already registered in the logbook but not yet assigned to a location and select the desired MAC address directly there (if any).

- ***Description***
  Here you can enter a description or any other text about this location.

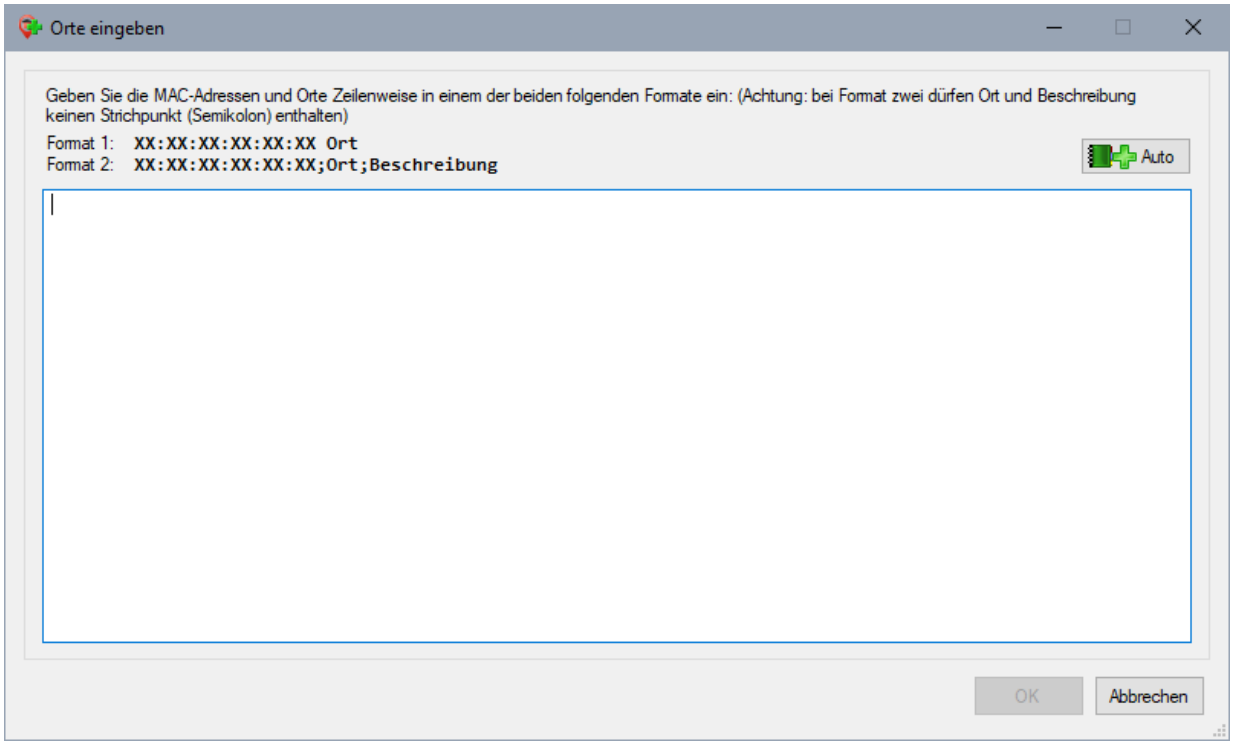
If this location used to have a different AccessPoint assigned to it, it or possibly multiple AccessPoints will appear as old AccessPoints..

If this location is selected, all actions will be displayed at the current **and** old AccessPoints.



5.7.2 Add multiple locations at the same time

Click on to add multiple locations at the same time.



Here, enter the desired AccessPoint-MAC-Addresses and locations in one of the following formats:

Example:

```
11:11:11:11:11:11 location 1
22:22:22:22:22:22 location 2
33:33:33:33:33:33 location 3
```

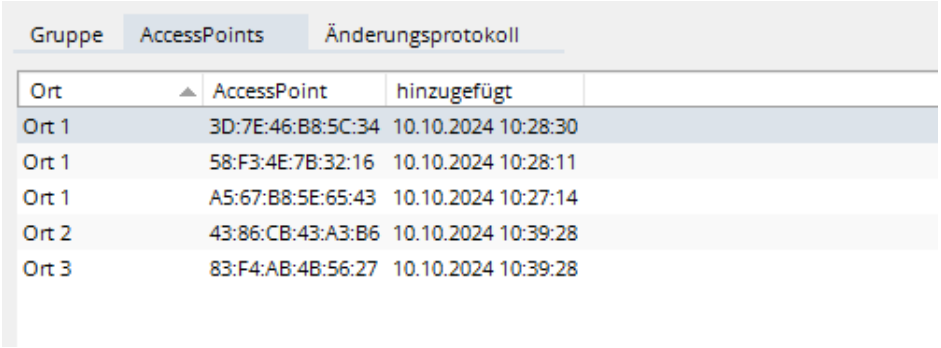
or

```
11:11:11:11:11:11;location 1;description 1
22:22:22:22:22:22;location 2;description 2
33:33:33:33:33:33;location 3;description 3
```

In the 2nd format, make sure that the place names and descriptions **do not** contain a dash!

Tip:
By clicking the button Auto, you can copy all AccessPoint Mac addresses already known from the logbook and not assigned to a location into the window.
The location name is the MAC address. However, you can change the location name and all other data afterwards. Only when you click OK will the current text be imported

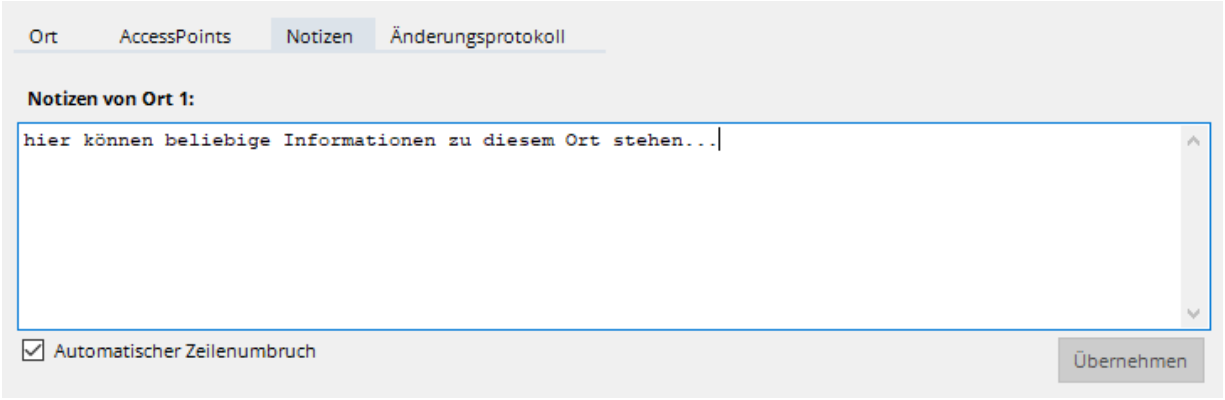
5.7.3 AccessPoints



Here, view a list of all the AccessPoints of all the locations selected in the tree diagram.
Not only the current AccessPoints of a location are displayed, but also all previous AccessPoints.

Tip:
As with almost all tables in Mobile Easykey Manager, you can export this list to the list with a right-click.

5.7.4 Notes



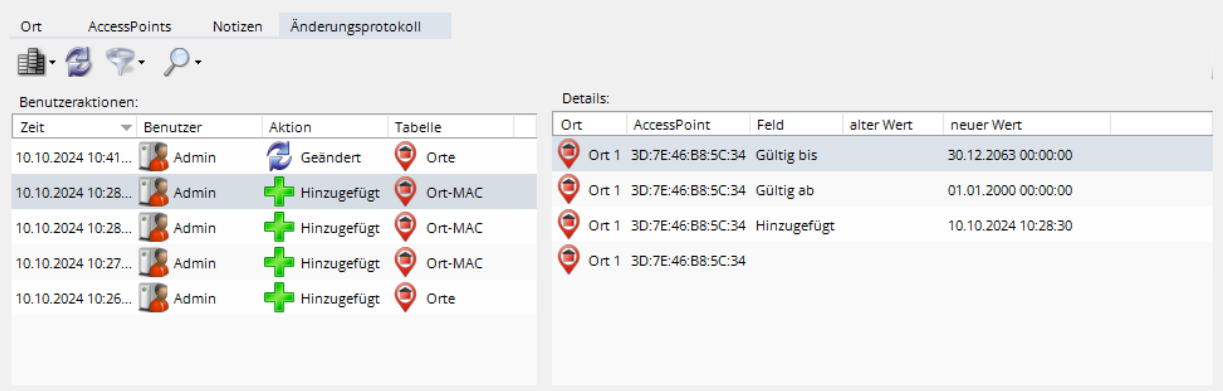
In the Notes tab, any text about this location can be entered.

When you type text in this field, it will not be permanently saved until any other field is clicked or you click the Apply button.

If automatic line break is selected, the rows are automatically wrapped at the end of the field. Otherwise, a row can be any length and a horizontal roll bar may appear.

The notes can only be entered if exactly one location is selected (see also **5.11.3 Select several elements at the same time**).

5.7.5 Change log (locations)



Any change to the locations and AccessPoints are stored in the change log and displayed here.

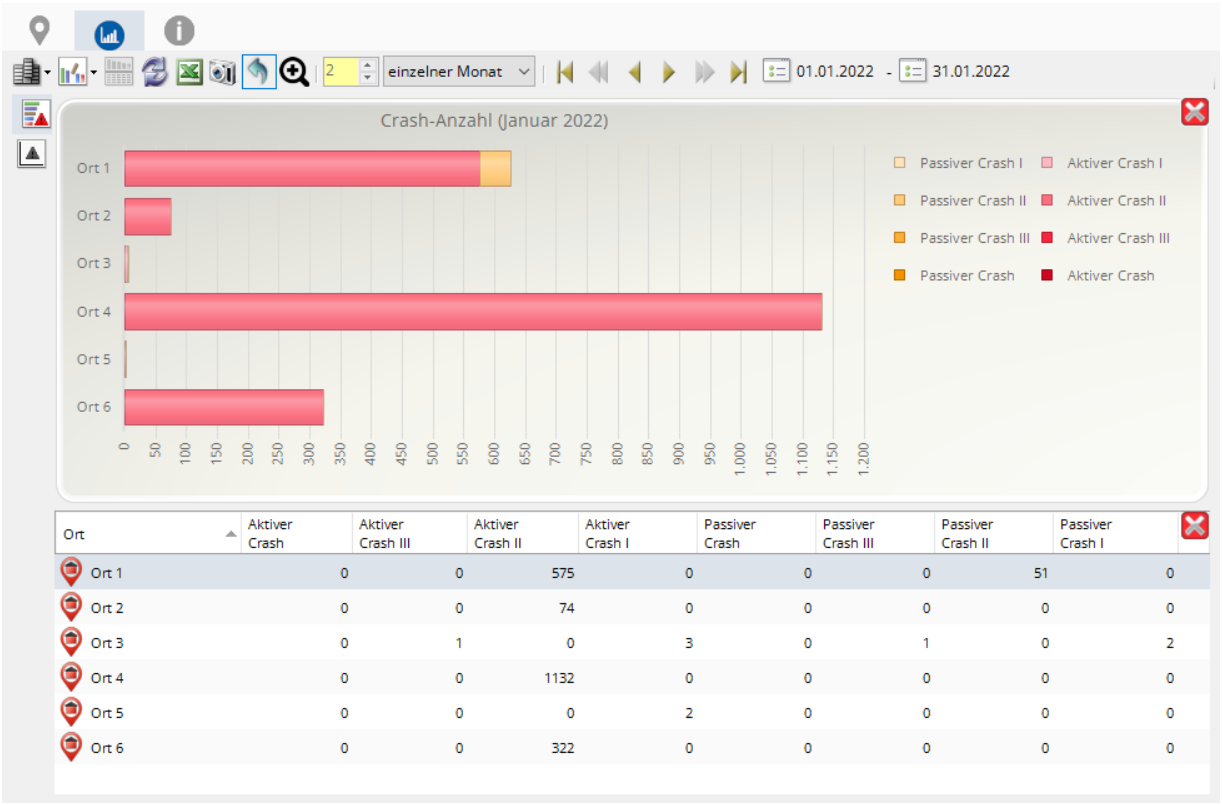
Note:
By default, entries older than 90 days are automatically deleted. You can change this setting in the database configuration. See also **5.14.12 Database-Maintenance**.

The ***User column*** corresponds to the software operator or administrator (see **5.21 Software Operating Rights**), who was logged on to ***The Mobile Easykey Manager*** at that time.

The buttons and can be used to filter and search the change log.
A description and further information can be found in chapter **5.19 Change Log**.

5.7.6 Online-Statistics

An additional software module (see **5.22.2 Online Statistics**) is required to use the online statistics.

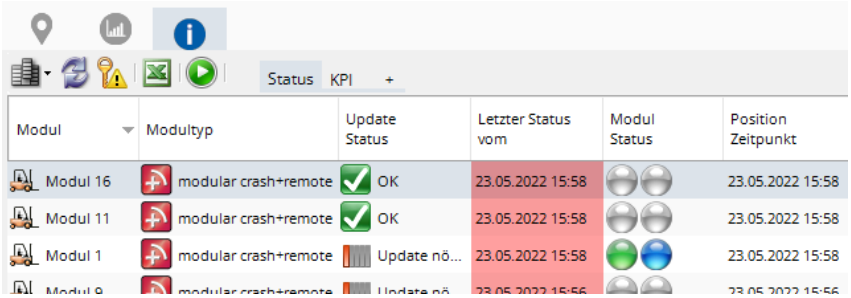


Ort	Aktiver Crash	Aktiver Crash III	Aktiver Crash II	Aktiver Crash I	Passiver Crash	Passiver Crash III	Passiver Crash II	Passiver Crash I
Ort 1	0	0	575	0	0	0	51	0
Ort 2	0	0	74	0	0	0	0	0
Ort 3	0	1	0	3	0	1	0	2
Ort 4	0	0	1132	0	0	0	0	0
Ort 5	0	0	0	2	0	0	0	0
Ort 6	0	0	322	0	0	0	0	0

Various statistics can be displayed in the Online statistics module.

The individual views and the operation of the online statistics are described in more detail in However, the online statistics must be "activated" first. A background process is set up, which statistically pre-calculates the logbook data and stores it independently of the logbook. Therefore, the logbook data, which takes up a lot of space in the database, can be deleted automatically from a certain age. For more information, see chapter **5.18.1 Statistics module activation / configuring**.

5.7.7 Information Center



The information center acts exactly the same as the actual information center in the Module tab. Except that the modules that are currently located at one of the locations, selected in the tree diagram are displayed here.

Note that a module is only located when it has logged and a connection has occurred through one of the drivers. Until the module reports again, it is considered present at the previous location.

For more information, see the chapter **5.5.20 Information central office**.

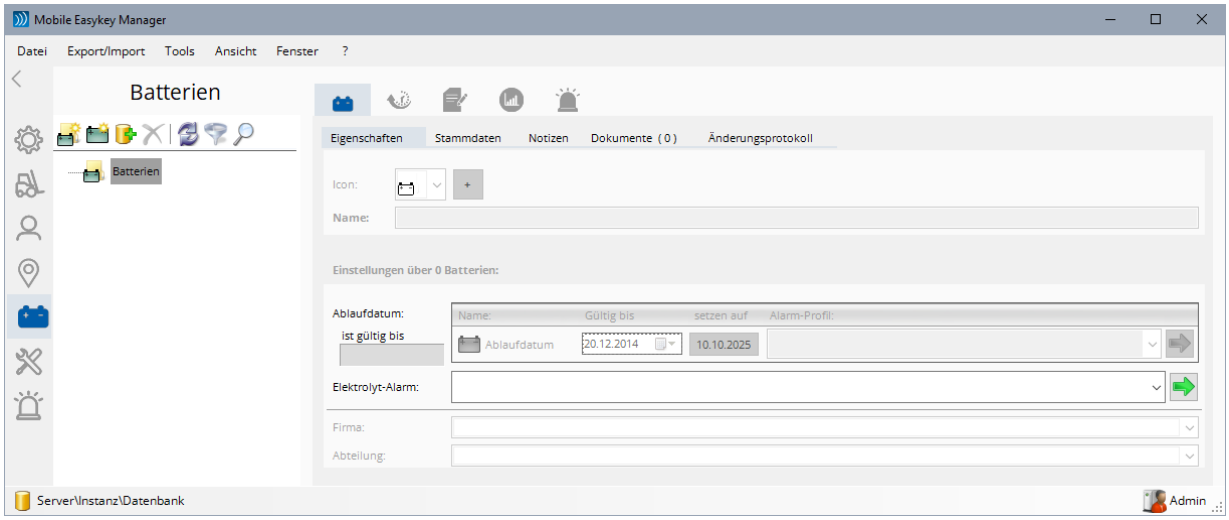
5.8 Batteries

Some modules (modual plus and V6) support an electrolyte sensor connected via short-range Bluetooth. Since an electrolyte sensor is permanently installed with a battery, the currently used battery can be identified via the electrolyte sensor.

The electrolyte sensor is identified by its MAC / Bluetooth address.

If the used battery is to be recorded in the logbook and in the statistics, the batteries must be created here and the batteries must be assigned the MAC / Bluetooth address of the respective electrolyte sensor.

Click in on tab on the left side to display the data about batteries on the right side.

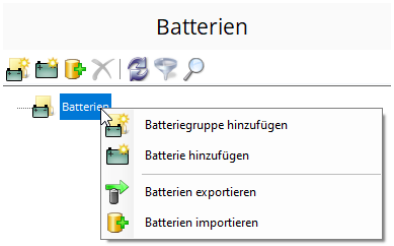


The buttons in the toolbar of the tab batteries have following meanings:

- Adds a new battery group. See also **5.11 Groups and tree (hierarchical) structure**.
- Adds a new battery (in the currently selected group).
- Launches the dialog to import new batteries from a file.
  See also **5.3.3.1 Import data**.
- Deletes the currently selected batteries or a (empty) battery group.
- Reloads the displayed data from the SQL server.
- Filters the display according to any criteria. See also **5.11.8 Filter display**.
- Searches in the tree (hierarchical) structure of the batteries for the name or the description of a battery. See also **5.11.9 Search**.

Click now on button to add a battery.

Alternatively, you can add batteries directly in a sub-group by right clicking this battery group or a battery within the required sub-group. You find a more detailed description in chapter **5.11.1 Add Group**.

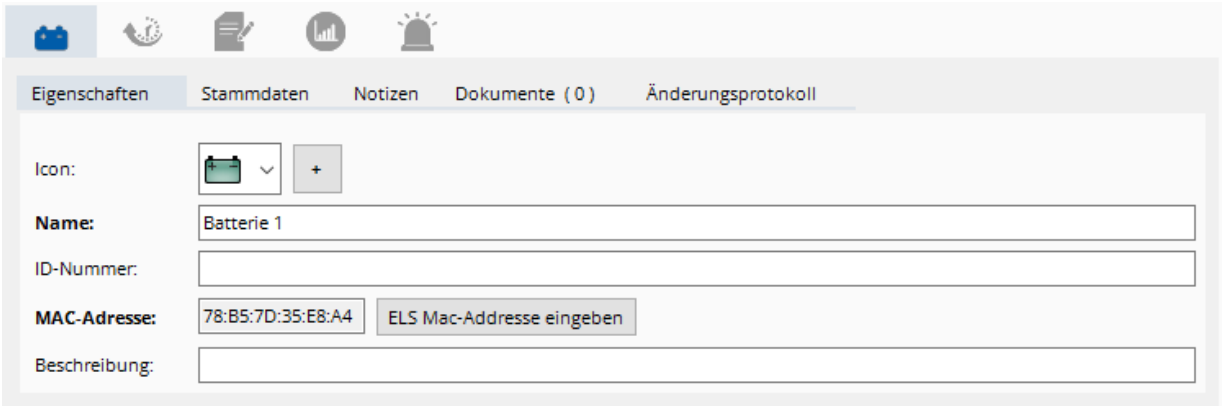


Now the new battery is displayed in the tree (hierarchical) structure and is automatically selected. On the right side of the sub window the still mainly empty data of this battery is displayed.

The battery icon is marked with a small exclamation mark as long as the configuration is invalid. As soon as you have assigned a MAC/Bluetooth address it disappears again.

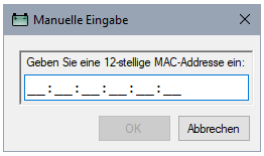
If several batteries exist in the database, you can select one or several of these batteries in the tree (hierarchical) structure (See also **5.11.3 Select several elements at the same time**). Then the data of this battery or batteries are displayed on the right side.

5.8.1 Battery properties



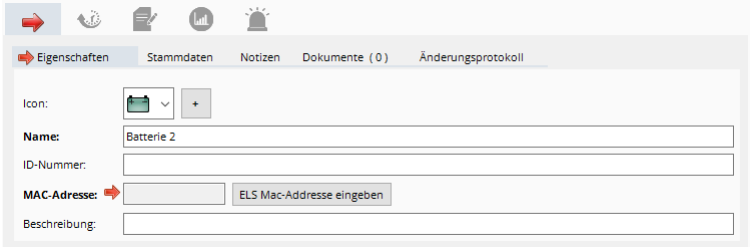
In the upper part of this tab the data which refer individually to only this one battery is entered. Hence, this part is active only if one single battery is selected.

- ***Icon***
  Here you can assign an icon or an image to the battery.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the battery.
- ***ID number***
  Here you can enter an optional ID number.
- ***MAC-Address***
  This will display the MAC / Bluetooth address currently assigned to this battery.

  Click ELS Mac-Addresse eingeben to enter a MAC / Bluetooth address or to change an existing MAC / Bluetooth address
  Tip:
  The MAC / Bluetooth address can also be taken from the logbook entries of unknown electrolyte sensors. See chapter **5.5.12.6 Unknown Battery.**
- ***Description***
  Here a description or any other text can be entered for this battery. This field can be hidden in the database configuration (see **ID- and Default Fields**).

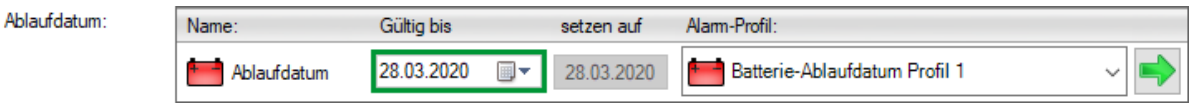
If the battery is not yet assigned a MAC address, the battery icon will be marked with a warning sign () and a red arrow will flash in the tabs or in front of the AMC address to indicate that there is still input required.



5.8.1.1 Settings of Battery X

In the lower part of this tab, you can change the different settings of this user (or all selected user at the same time. See also **5.11.3 Select several elements at the same time**).

5.8.1.1.1 Expiry date



Here the different expiry or alarm data of a battery can be entered.

With the button ***Set to XX.XX.XXXX*** you can set the expiry date on a default. You are able to set the default in the database configuration (see **5.14.7.2 Battery-Expiry Date**).

By default, there is only one expiry date with the name "Expiry date". In the database configuration (see **5.14.7.2 Battery-Expiry Date**) up to 5 such expiry dates can be defined.

With the button you can jump directly in the respective alarm profile configuration (see **5.10.4.5 Battery expiry date Alarms**).

5.8.1.1.2 Electrolyte-Alarm



Each battery is also assigned an electrolyte sensor. Here you can select an alarm profile (see **5.10.2.6 Electrolyte-Alarm**) that configures what should happen if the electrolyte level is too low.

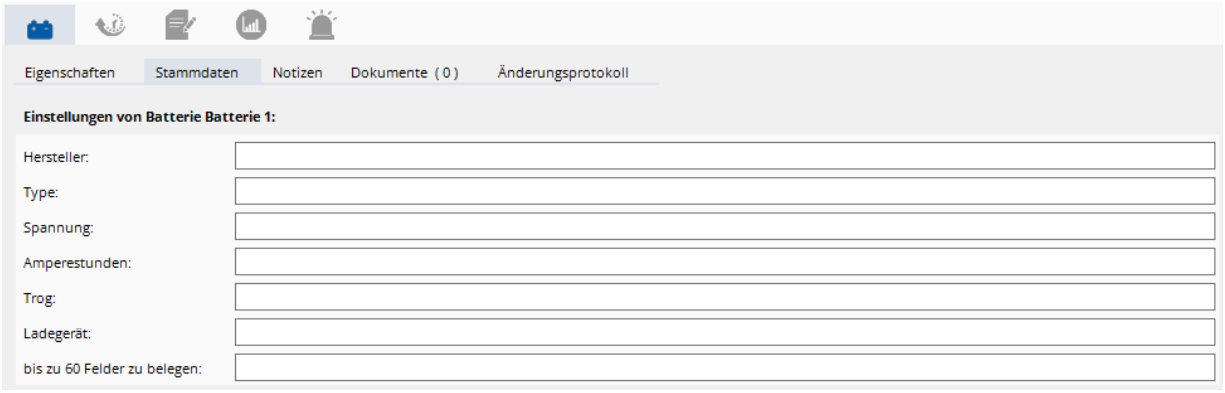
With the button you can jump directly to the respective Alarm- Profile Configuration.

5.8.1.1.3 Other data



- ***Company / department***
  Here appropriate data can be entered for this user.
- ***Description 2***
  Here a description or any other text can be entered for this battery.

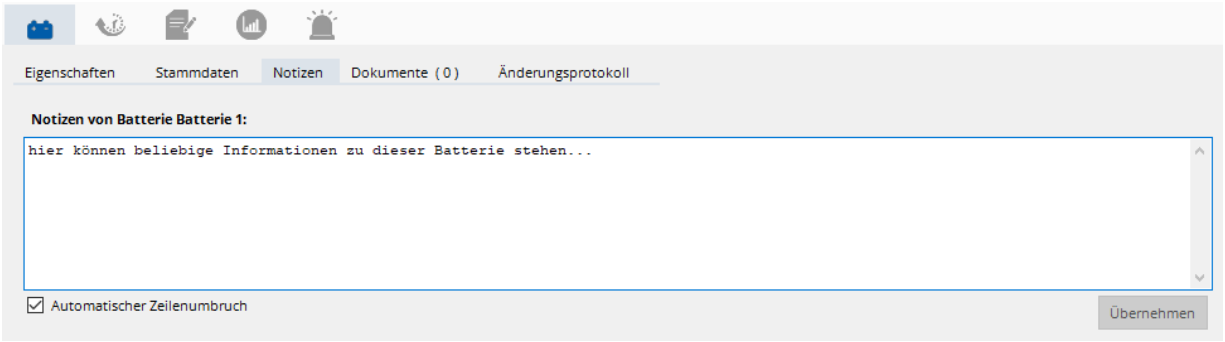
5.8.2 Master data



In the tab ***master data,*** the battery-additional fields (see **5.14.4.2 Module-, User-, Battery Master data**) are summarised. You can enter the appropriate data here.

Achtung!
Individual master data fields can be defined as mandatory. For these mandatory fields, the field name (e.g., voltage) is displayed in bold. If no value is entered in one of these mandatory fields, the battery is considered invalid and is not written to the modules.

5.8.3 Notes



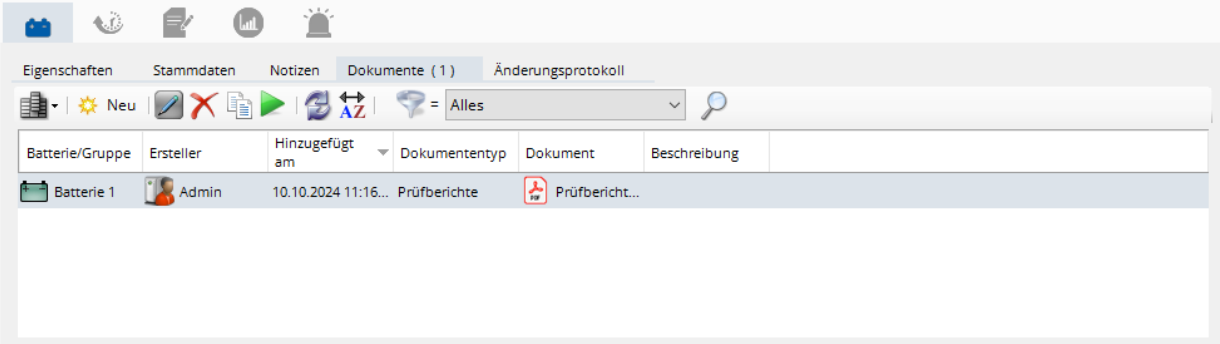
In the tab ***notes*** any text can be entered for this battery.

If you enter text in this field, this is saved only when any other field is clicked or you click on button ***Apply***

If the option ***wrap text*** is activated, the rows are automatically wrapped at the end of the field. Otherwise, a row can become very long and appears, if necessary, as a horizontal rolling beam.

The input of the notes is only possible if exactly one battery is selected (see also **5.11.3 Select several elements at the same time**).

5.8.4 Documents

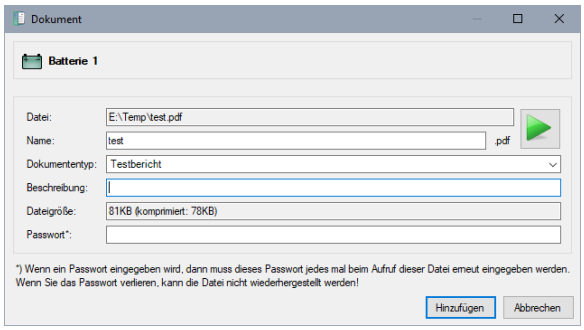


In ***documents*** any files can be saved to the respective battery or battery group. The name tab displays the number of the saved documents.

New	Adds a new document. Adding of documents is only possible if exactly one single battery or one single battery group is selected. See also **5.8.4.1 Add documents**
	The document type and the description of a document can still be changed afterwards. See also **5.6.4.2 Edit Document Description**. However, the document itself is write-protected!
	Deletes this or the selected documents.
	Copies this or the selected documents on a data carrier.
	Opens this or the selected documents (write-protected). The respective standard programme which is linked with the appropriate file ending is used.
	Carries out a Refresh and reloads the table.
	Filters the view according to document type. Simply select the required document type. The setting ***all*** displays all document types, while the setting ***no document type assigned*** displays only documents to which no document type was assigned.

5.8.4.1 Add documents

Click on button Neu and select the required file.

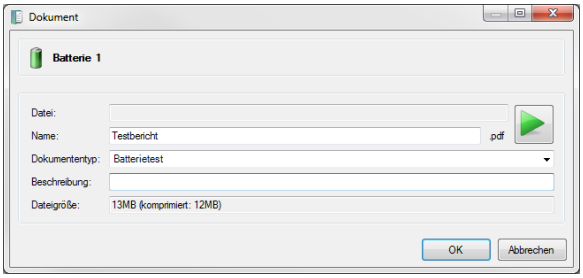


In the following dialog you can ***name***, determine the ***document type*** and add a ***description***.

In addition, you can enter a password to save this document password-protected. Please note, however, that the document cannot be recovered without a password!

Click on ***add*** to save this file in the database.

5.8.4.2 Edit Document Description

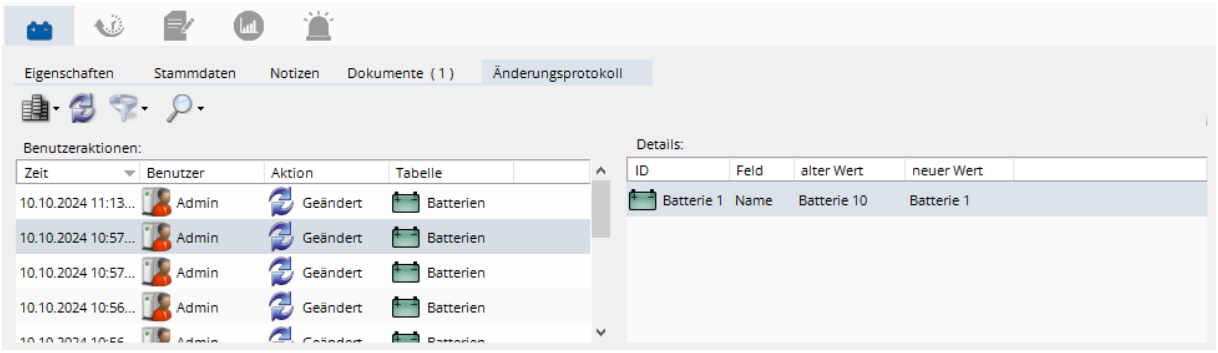


Name, document type and description of a document can be changed afterwards. For this click on button and change the required data.

With a click on button the displayed document can be opened write-protected. The document itself cannot be changed afterwards!

Click on ***OK*** to save changes.

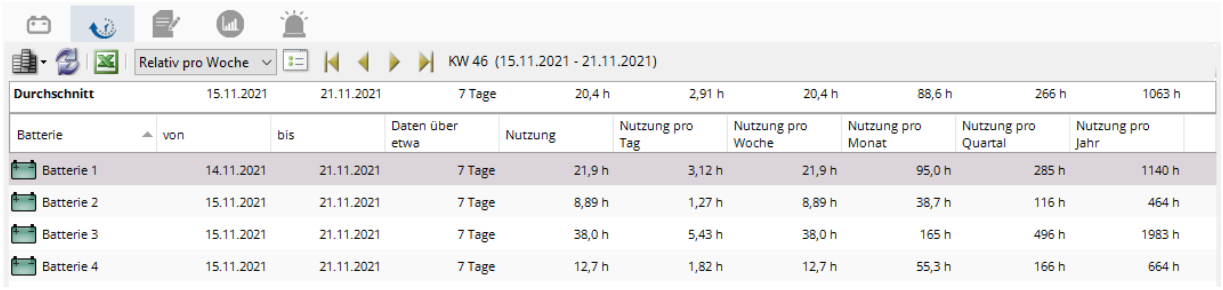
5.8.5 Change log (Batteries)



Each change to the user data is stored in the change log and displayed here.
Note:
By default, entries older than 90 days are automatically deleted. You can change this setting in the database configuration. See also **5.14.12 Database-Maintenance**.

The column **User** corresponds to the respective software operator and is only displayed if the operating rights (see **5.21 Software Operating Rights**) are activated.
Use the and buttons to filter and search the change history.
For a description and further information, please refer to chapter **5.19 Change Log**.

5.8.6 Usage time



Durchschnitt	15.11.2021	21.11.2021	7 Tage	20,4 h	2,91 h	20,4 h	88,6 h	266 h	1063 h
Batterie	von	bis	Daten über etwa	Nutzung	Nutzung pro Tag	Nutzung pro Woche	Nutzung pro Monat	Nutzung pro Quartal	Nutzung pro Jahr
Batterie 1	14.11.2021	21.11.2021	7 Tage	21,9 h	3,12 h	21,9 h	95,0 h	285 h	1140 h
Batterie 2	15.11.2021	21.11.2021	7 Tage	8,89 h	1,27 h	8,89 h	38,7 h	116 h	464 h
Batterie 3	15.11.2021	21.11.2021	7 Tage	38,0 h	5,43 h	38,0 h	165 h	496 h	1983 h
Batterie 4	15.11.2021	21.11.2021	7 Tage	12,7 h	1,82 h	12,7 h	55,3 h	166 h	664 h

The usage times recorded for the module are converted here, to the respective battery installed at the time. The specified usage times correspond to the usage time of the respective battery.

One line is displayed for each battery selected in the tree structure. The displayed values refer to the selected time range. For example, if ***relative per week*** is selected, the ***usage hours*** that have been added in each selected week are displayed. The selected week can be selected with the buttons . See also **5.5.12.13 Select Display** .

The column ***Data about*** shows the exact time range over which period data is available. For example, a battery may not have been used for the first time until March of that year, therefore no data can be available between January and March.

There are the following r***elative-displays***:
Relative per week
Relative per month
Relative per quarter
Relative per year

You can use the button  to show additional columns in which the displayed values are converted to different time ranges. For example, as shown in the figure above, the ***relative per year*** display can show how many *hours of use* this would be on average per month ***(usage per month)***.

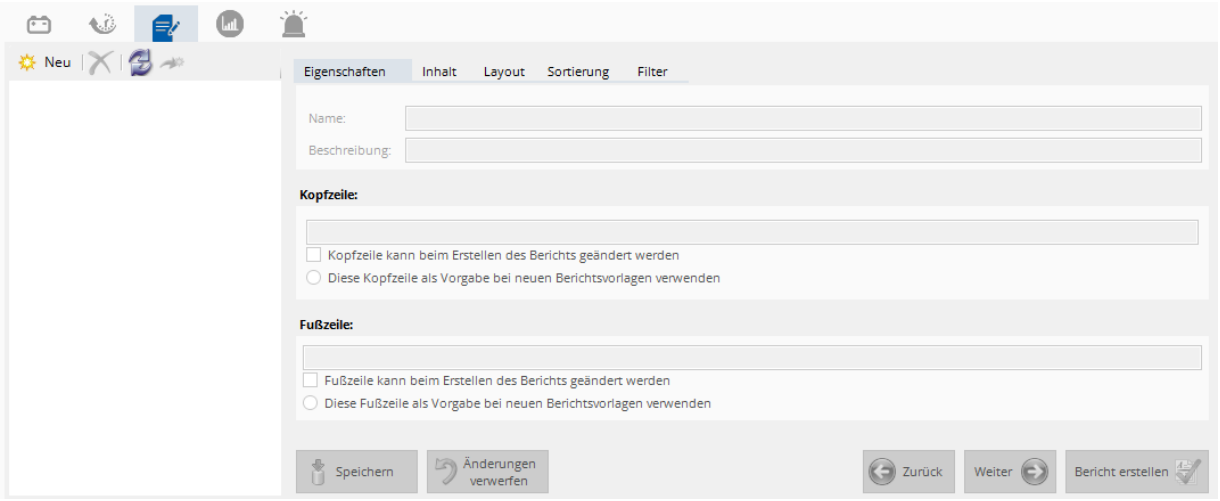
Conversely, for example in the ***relative per week*** display, an extrapolated column of ***usage per year*** can also be displayed. The usage hour value that would arise if this battery were used for a whole year for exactly this weekly power is displayed.

Tip
If the operating hours are exported using the button , the operating hours are taken over as they are currently displayed (see **5.3.5.3 Operating Hours**), also for example in format 123:27:02. Unfortunately, Excel is somewhat constrained in this hours, minutes (and seconds) format, which interprets larger operating hour values as text (rather than a number).
If you want to count on the exported operating hours in Excel, set the display format to ***123 h*** or ***123.45 h***. Excel has no problem with this format.

Tip
By double-clicking on the module name in the ***Module column***, you can select this module (in the tree diagram on the left) individually and quickly switch to the normal display mode for this one module.

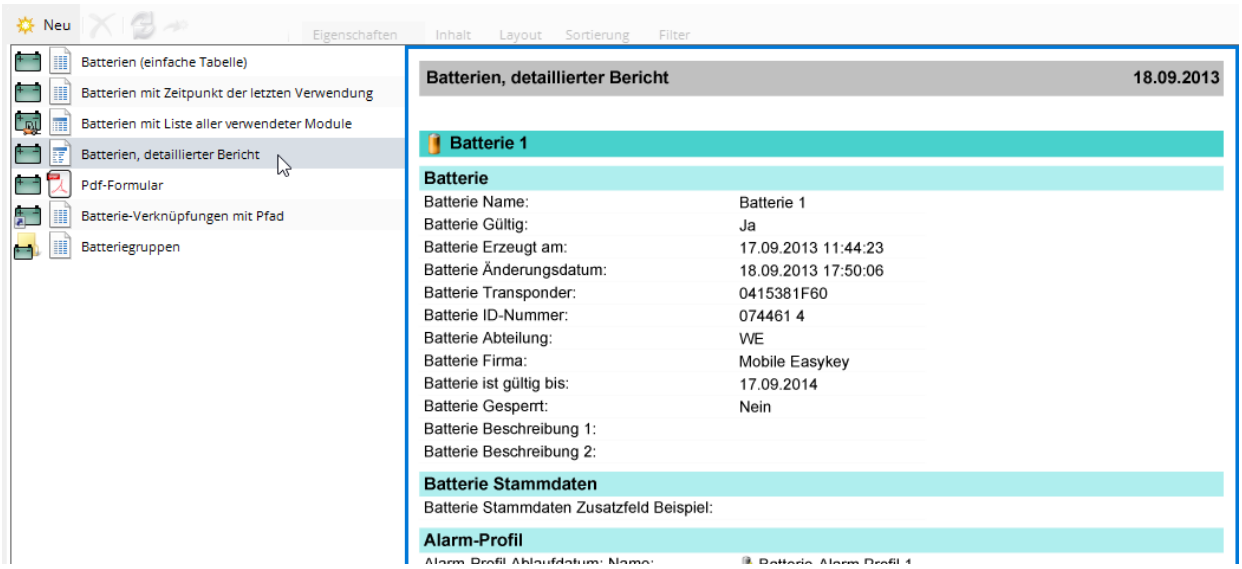
Tip:
The formatting of the displayed operating hours can be changed in the ***View menu***.
See **5.3.5.3 Operating Hours**

5.8.7 Report templates



The report module serves to print out logged data as for example given name and surname, description, expiry date etc. or to save as a Pdf file.
In addition different report types are available.

With the button Neu you can create a new report template. Depending on which data the report should include and be built up on, select one of the existing template types. On the right you see an example of the currently selected report type.



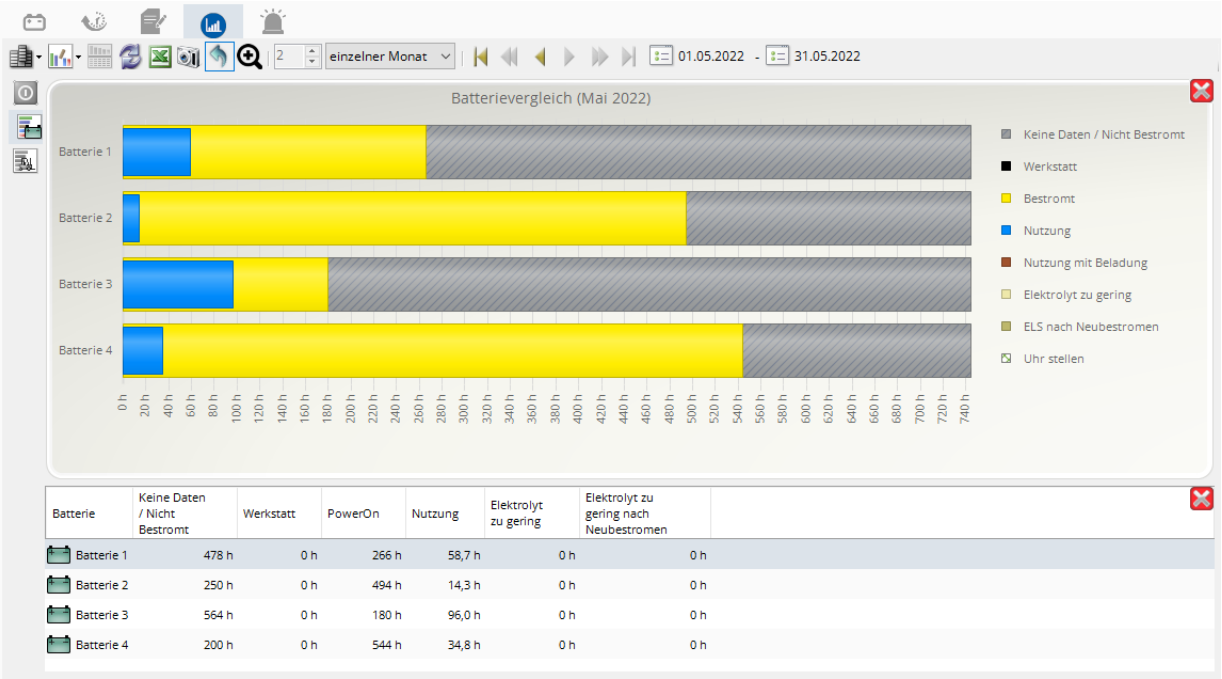
Following report types are available:

- ***Batteries (simple table)***
  List, see **5.17.2.1 List (simple tables)**
  Creates simple lists of all batteries with information like the expiry date or batteries master data.
- ***Battery with the last action time***
  ***List, see* 5.17.2.1 List (simple tables)**
  Creates a list of batteries that also contains the time when this battery was last used**.**
- ***Batteries with list of all driven modules***
  Grouped report, see **5.17.2.2 Grouped .**
  Creates like ***batteries with modules*** a report which begins a new page for every battery. However, after the battery name (and possibly further battery information) only the modules are output as a list, which with this module (according to the current logbook data) were used. In addition, the time when the battery was last used in this module can be output. Attention: This list refers to the logbook stored in the database! If logbook data is deleted, this list can be changed accordingly**.**
- ***Batteries, detailed Report***
  Detailed report, see **5.17.2.3 Detailed Reports**.
  Creates a detailed, if necessary, multilateral report of all selected batteries.
- ***Pdf form***
  special report, see **5.17.2.4.2 Pdf-Berichte**
  This report is assigned a pdf form, which you can create individually. A database field is then assigned to each of the individual form fields. This allows the form to be filled out automatically when it is created.
- ***Battery link with path***
  List, see **5.17.2.1 List (simple tables)*.***
  Creates a list of all battery links, including the path under which this link is created.
- ***Battery groups***
  List, see **5.17.2.1 List (simple tables)**.
  Creates a simple list of all battery groups. The list can contain, in addition, the respective path under which this group is filed in the tree (hierarchical) structure.

As reports for modules, batteries, users, profiles, alarm profiles, shift models, and holiday lists are largely the same, the report module is explained in more detail in chapter **5.17 Reports** for all elements.

5.8.8 Online statistics

For the use of the online statistics an additional software module is (see **5.22.2 Online Statistics**) **necessarily.**

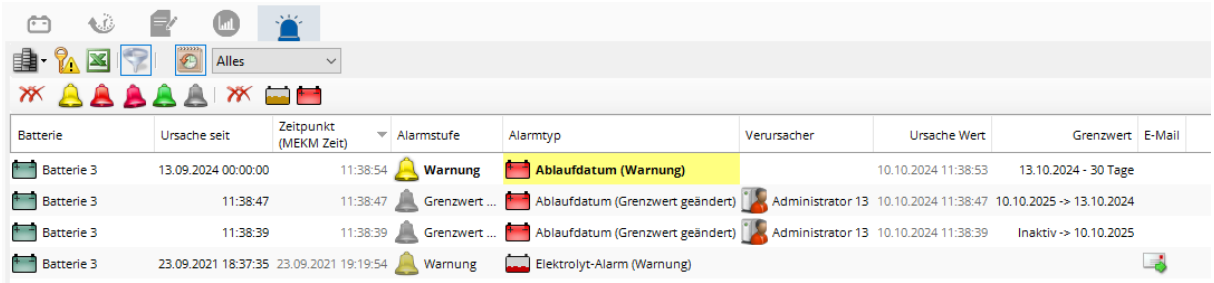


In the online statistics module different statistics can be displayed.

The single views and the service of the online statistics are described in chapter **5.18 Online Statistics**.

However, the online statistics must be "activated" first. A background process is set up which pre-calculates the logbook data statistically and saves it independent of the logbook. Therefore, the logbook data which demands a lot of space (from a certain age) in the database can be automatically deleted. You find further details in chapter **5.18.1 Statistics module activation / configuring**.

5.8.9 Battery-alarm central office



In the alarm central office all alarms of the selected batteries are displayed.
Further, it can also display older, already reset alarms.

Special buttons of the alarm central office

Filters the display of the alarm filters according to alarm levels or alarm types. The display can thereby be set, for example, that only overdue alarms are displayed. (See also **5.6.10.3 Filter Users Alarm Display**)

Switches between the display of all alarms and only active alarms to and fro (see also **5.6.10.4 Only Active Alarms**)

Selects the time range which the alarms should be displayed for (see also **5.6.10.5 Alarm-Range**).

5.8.9.1 The columns of the battery-alarm central office

Battery
Displays the battery for which the alarm was triggered.

Cause/reason since
Displays the time in which the cause/reason has entered for this alarm and corresponds to the expiry date (+/-warning or overdue).

Time (time MEKM)
Displays the time at which Mobile Easykey has received Manager Knowledge from this alarm. As a rule, this time should correspond with the ***cause since*** specified time. However, was at the time in which the alarm should have been triggered, not a single manager or service opened, then the alarm is only triggered when the database is opened next time. Then ***cause since*** and ***time (time MEKM)*** differ.

Alarm Profile
Displays the name of the alarm profile which is assigned to this battery (is hidden by default).

Alarm level

Displays one of the following alarm levels:

Warning	The alarm maximum rating is soon reached (This alarm level is not available for all alarm types)
Alarm	The alarm maximum rating was reached
Late	The alarm maximum rating was already reached for an extended period. (This alarm level is not available for all alarm types)
OK	A warning-, alarm- or overdue- alarm level was reset (e.g., by setting a new, higher maximum rating)
Maximum rating changed	The alarm maximum rating was changed, although neither a warning- nor an alarm-, or overdue alarm level was given.



Alarm type

Shows one of up to 5 expiry date alarms (see **5.14.7.2 Battery-Expiry Date** and **5.10.4.5 Battery expiry date Alarms**) in.

Alarm text

Displays the alarm text from the respective alarm profile.



Cause/reason



For battery alarms the only possible cause is a software operator or administrator who has changed an expiry date. Here it is logged who has changed an expiry date (and when). This display is only available if operating rights (see **5.21 Software Operating Rights**) are activated. In addition the display can be subject to data security. (See **5.14.3 Data Protection (Works Council User)**).

Cause/reason value

For battery alarms the ***cause/reason value*** is always identically with the ***time (time MEKM)*** of the alarm triggering.

Maximum rating

Displays the actual maximum rating to which this alarm should be triggered.

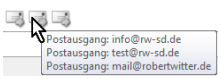
Email

If for this alarm operation the dispatch of one or several alarm emails was configured, one of the following icons is displayed for every email address:

- Email sits in the out box and was not dispatched yet.
- Email was dispatched.
- Email was dispatched and the receiver has read email.
- With the sending of the email an error occurred.



Tip: if you hover with the mouse pointer above one of these icons, all email addresses and their status are displayed.

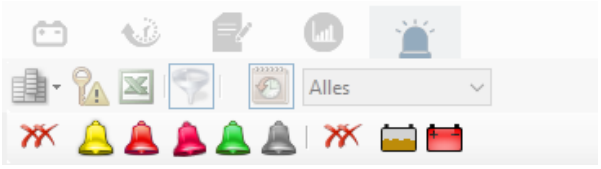


Reset (time MEKM)

Displays the time at which the alarm was reset.

5.8.9.2 Filter battery alarm display

Click on button in the data range of the alarm central office to call the toolbar for the alarm filter. With a renewed click on button the filtering is switched off and all alarm levels and alarm types are displayed again.

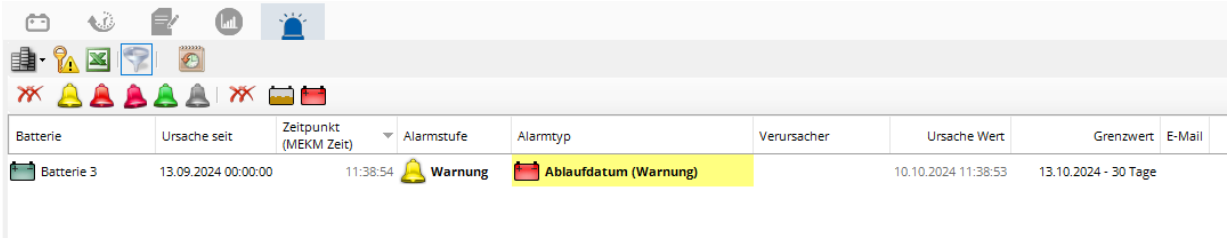


Click on one of the buttons to view or hide the respective alarm level. Click on button to view or hide all alarm levels at the same.

Click on one of the remaining buttons (battery) of this toolbar to view or hide the respective alarm level. According to the configuration of the expiry date alarms in the database configuration (see **5.14.7.2 Battery-Expiry Date**) more or fewer buttons are displayed at the far-right end of the toolbar. The icons correspond with the database configuration for the respective alarm set icon. By clicking on button you can view or hide all alarm types at the same time.

5.8.9.3 Only Active Alarms

With a click on button the special display mode, in which exclusively active alarms (including warnings and overdue messages) are displayed, can be switched on or off.



Tip:

With the button the display can be further limited (see **5.8.9.2 Filter battery alarm display**).

5.8.9.4 Alarm-Range Selection

Because with the display of all alarms a lot of data are to be displayed at the same time, the display of these data can be limited to certain time ranges (e.g., weeks, months etc.).



With the selection field the size of the displayed time range is selected. Respectively all alarms are displayed according to one day, one week etc... The time cause/***reason since (module time)*** or the time ***(time MEKM)*** is decisive for it; according to which time the table is currently sorted.

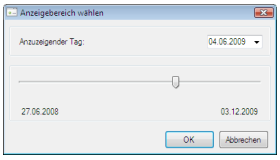
With the respective buttons day, week, month etc. (on the right) it is selected which time range should be displayed. If for example, the time range is selected on a day-to-day basis, a certain day can be selected to be displayed.

On the far right the range selected in each case is described.

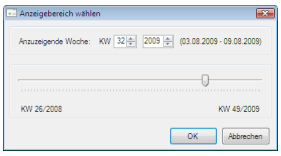
The buttons have following meaning

- Changes to the first (oldest) possible range with data.
- Changes to the previous range, e.g., by the previous week.
- Changes to the next range, e.g., by the next week.
- Changes to the last (latest) possible range with data.
- Calls a dialog with which the required range can be comfortably selected

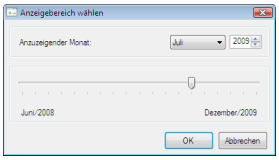
According to the size of the time range to be displayed the dialog which is called with the button appears different for:



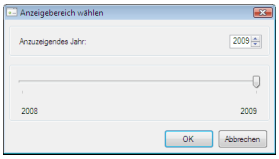
Days:
You can select the day to be displayed with the data button on the top right in a calendar or below with the slide control.
Click on ***OK*** for the selected day to display.



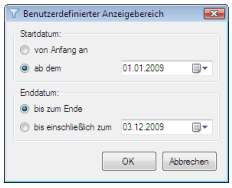
Weeks:
Select the required calendar week and the year or simply move the slide control.
Click on ***OK*** for the selected week to display.



Months:
Select the required month and the year or simply move the slide control.
Click on ***OK*** for the selected month to display.



Years:
Select the required year or simply move the slide control.
Click on ***OK*** for the selected year to display.



User-defined:
Here you can select a ***day-exact*** range.

To begin from the oldest alarm, you select as a start date ***from the outset***. Otherwise, you enter the date on which the range to be displayed should begin.

If you want to display all entries from the start including today, select ***up to the end*** as a date. Otherwise, you can enter a date up to which (including) the data should be displayed.

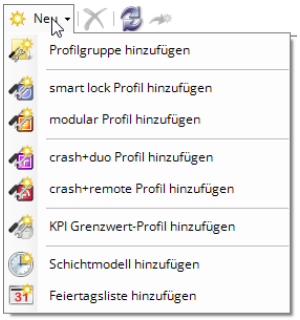
5.9 Profile

The configuration possibilities of the different modules are very diverse. To avoid entering the different settings for every single module individually, they are summarised in the profiles. The respective profiles are then assigned to the individual modules. Because similar modules mostly have the same settings, this method is particularly useful. I.e., the configuration of all Diesel-run vehicles in a profile can be summarised. Thus, it is also insured that one of these vehicles is not run mistakenly with another configuration.

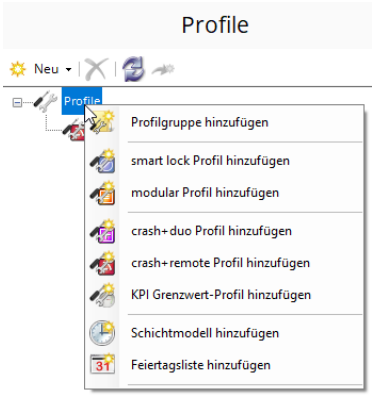
On the left side click on tab , to display the profile data on the right side.



Click in the toolbar on the button Neu to open the menu for the adding of new profiles.



Then click on the menu entry of the required profile type. The new profile is added and automatically selected.
With the menu item ***add to profile group*** you create groups and sub-groups in which you can sort them.
See also chapter **5.11 Groups and tree (hierarchical) structure**.



Alternatively, you can add profiles directly in a group by right clicking on this profile group or a profile within the required sub-group. You find a more detailed description in chapter **5.11.1 Add Group**.

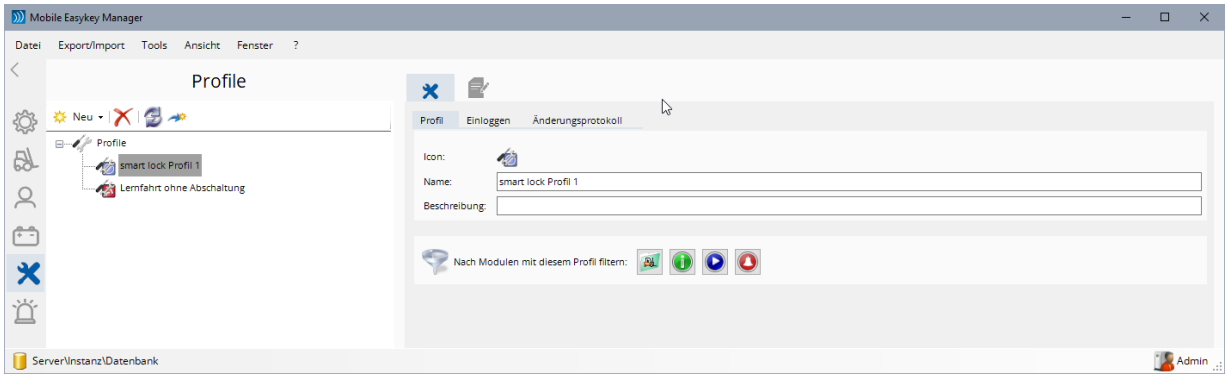
You can copy an available profile (duplicate) by selecting the required profile in the tree (hierarchical) structure on the left and then click on button .

In the following chapters the configuration possibilities of the different profiles are explained.

5.9.1 smart lock profile

Click on Neu, thereafter click on the menu item ***add smart lock profile*** to add a new profile of this profile type.

Note:
This profile type is used with ***smart lock 1***, ***2*** and ***3*** modules.

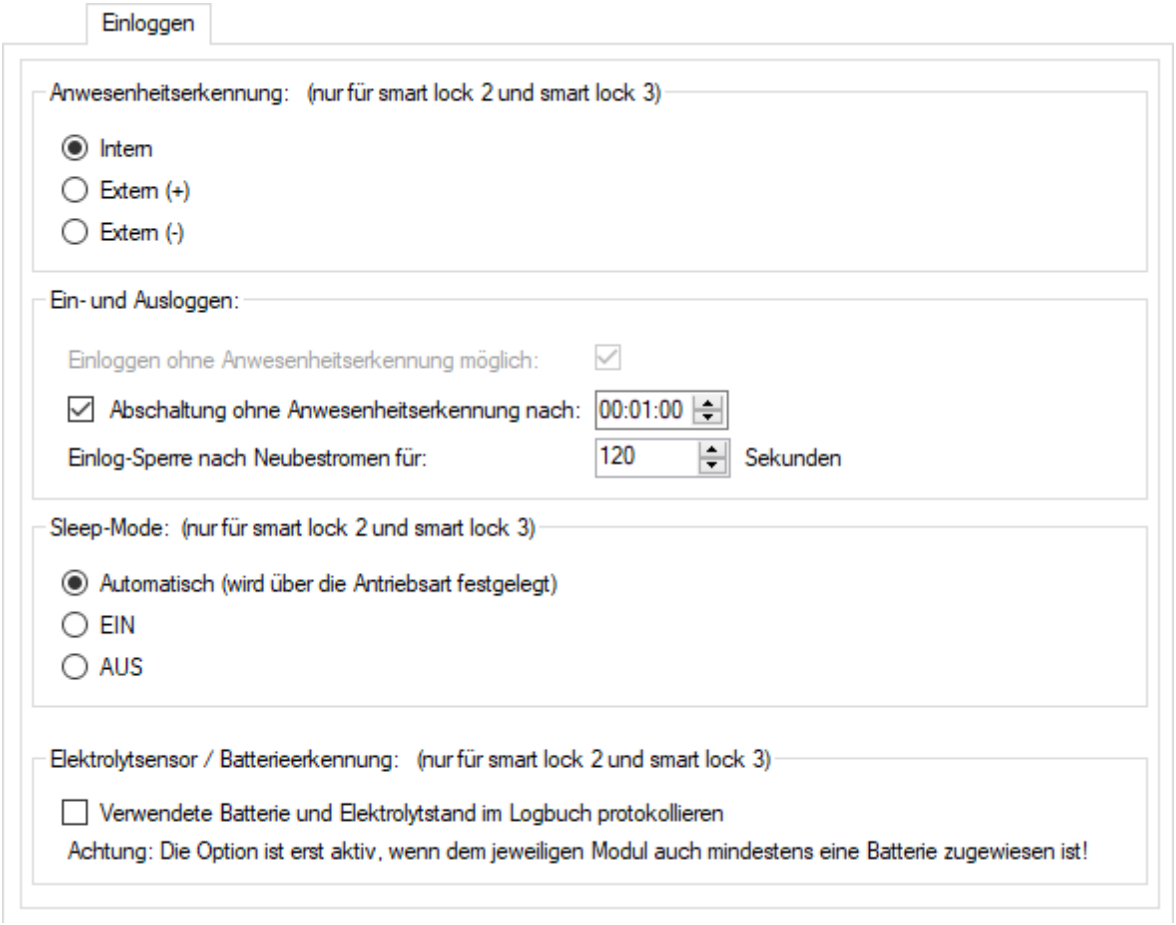


On the left, the tree diagram shows the ***smart lock*** profile. The different settings of this profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective profile.
- ***Description***
  Here a description or any other text can be entered for this profile.

With the buttons you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or see module-alarm central office (**5.5.22 Module-alarm central office**). The filter is automatically activated (see **5.11.8 Filter display**) by displaying only modules which use exactly this profile.

5.9.1.1 Log in (smart lock)



- **Presence detection (only for smart lock 2 and smart lock 3)**

  ***Internal*:**

  The internal motion sensor is evaluated without an external electrical connection of a presence detection, e.g., Head office.
  The automatic switch-off then takes place the set number of minutes / seconds after the last movement.

  ***External (+)*:**

  The external electrical connection of the presence detection (yellow cable) is evaluated.
  <= 1 V (olt) is considered as "not present"
  > = 5 V (olt) is considered to be "present"

  ***External (-)*:**

  The external electrical connection of the presence detection (yellow cable) is evaluated.
  <= 1 V (olt) is considered to be "present"
  > = 5 V (olt) is considered as "not present"

- **Log in and Log out**

  Log in without presence recognition possibly

  Here it can be configured whether it is possible to log in with a valid transponder, even if currently no driver is present.
  This option is only available if the presence detection is switched to ***External (+)*** or ***External (-)***. With ***internal*** presence detection, ***logging in without presence detection*** is always possible.

  Shutdown without presence detection according to

  Specifies the time after which the relay is switched off if no drivers have been detected by presence detection during this period. If, for example, 1 minute is set here, the relay is turned off 1 minute after the driver has left the vehicle (the user is logged off), unless it returns before the end of this minute.
  This option can be disabled by removing the hook. The user remains logged in until a valid transponder is held again to the device or the current is switched off.

  Log-in lock after newly powered

  In order to prevent an immediate departure after the new power supply (for example after a battery change), logging on with transponders can be prevented for the time specified here. Thus, for example, the Bluetooth driver has sufficient time to update the vehicle and to read out the logbook before the vehicle is driven out of the receiving area.

- **• Sleep-Mode: (Smart Lock 2 and Smart Lock 3 only)**

  Automatic (to be determined by the drive type)

  Sleep mode is activated for the ***fuel value*** or ***hydrogen*** drive-type, and deactivated for all other drive-types. For the drive-type, see **5.5.1.2 Settings of Module X**.

  ON

  Sleep mode is always on.

  OFF

  Sleep mode is always turned off.

- **Electrolyte sensor / battery detection: (only for smart lock 2 and smart lock 3)**

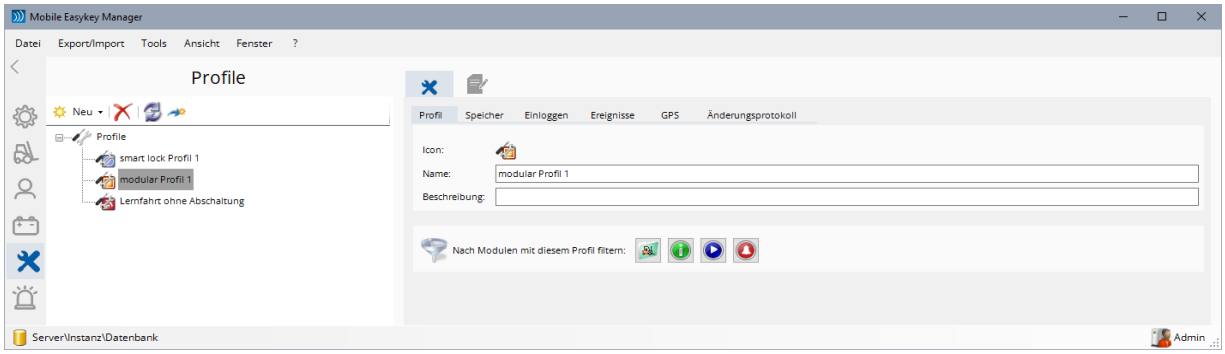
  Log used battery and electrolyte level in the logbook

  Enable this option to use the additional electrolyte sensor.
  Once the electrolyte sensor has been identified, a corresponding logbook entry is created.

5.9.2 modular Profile

Click on Neu thereafter click on the menu item ***modular profile add*** to add a new profile of this profile type**.**

Note:
This profile is used only with ***basic smart*** and ***modular*** modules.

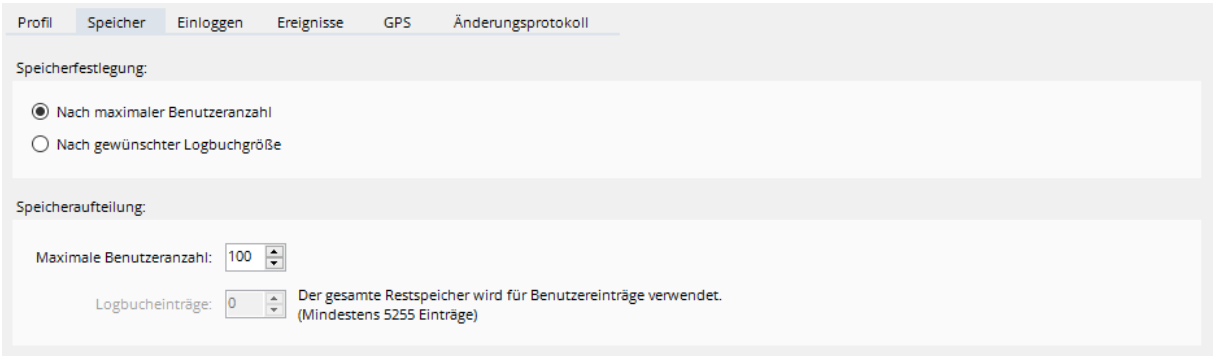


On the left, the tree diagram shows the new ***modular*** profile. The different settings of this profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective profile.
- ***Description***
  Here a description or any other text can be entered for this profile.

With the buttons you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or see module-alarm central office (**5.5.22Module-alarm central office**). The filter is automatically activated (see **5.11.8 Filter display**) by displaying only modules which use exactly this profile.

5.9.2.1 Memory



5.9.2.1.1 Module Version D

The modules of **version D** only use one memory chip (with 5445 memory locations) which must be split between the users and the logbook entries.

The users are, on this occasion, the transponders saved in the module which are authorised in this module.

With the logbook entries or the size of the logbook memory the number of the logbook entries which can be saved in the module is meant. If the logbook size is, for example, 1000, always the last 1000 actions (log in or log off) are saved.

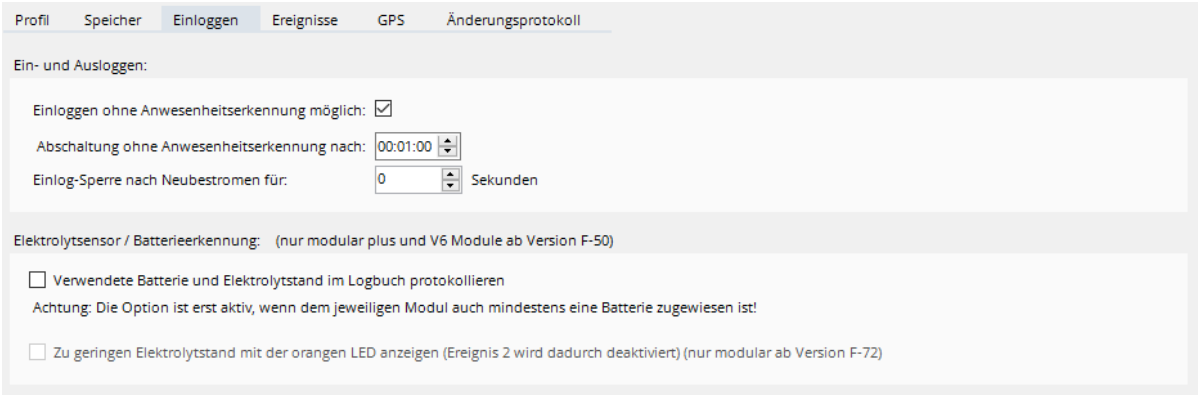
Now you can determine/ fix either the required maximum user number or the size of the logbook memory. In each case the size is automatically customised whilst programming the module, to use the entire memory.

5.9.2.1.2 Module Version E and F

However, modules of the **versions E** or **F** use separated, fixed storage ranges for users (5445 transponders) and logbook entries (65532).

With these modules the memory partitioning is ignored!

5.9.2.2 Log in

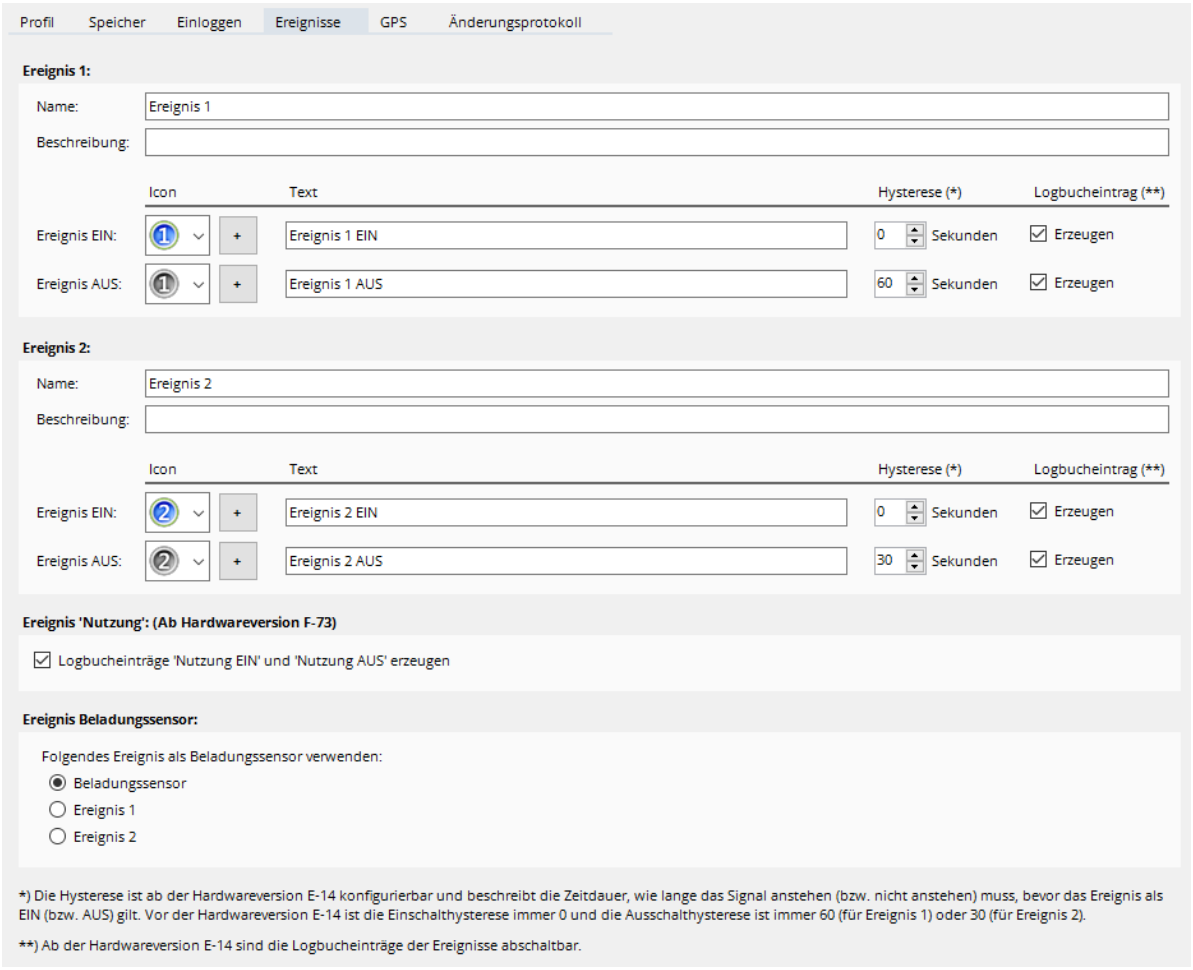


In the tab **log in** it is principally determined how the module performs if a transponder is held to the module.

- ***Log in without presence recognition possibly***
  Here it can be configured whether it is possible to log in with a valid transponder, even if currently no driver is present.
- **Shutdown without presence recognition after xx:xx:xx**
  Specifies the time after which the relay is switched off, if for this period no drivers were recognised by the presence recognition. If for example, the time is set to 1 minute, the relay will exit 1 minute after the driver has left the vehicle and the user is logged off- unless, he comes back before.

- ***Log in / lock off after newly powered for***
  To prevent immediate driving away after being newly powered (e.g., after a battery change), logging in with transponder can be prevented for the time specified here. Therefore, for example, the Bluetooth driver has enough time to update the vehicle and to read out the logbook, before the vehicle is driven from the reception range.
- ***Log used battery and electrolyte level in the logbook***
  Enable this option to use the additional electrolyte sensor.
  Once the electrolyte sensor has been identified, a corresponding logbook entry is created.
  This option is not available for basic smart profiles and is only supported by modular plus and V6 modules with at least module version F.50. All other modules do not support an electrolyte sensor and ignore this setting.
- ***Show too low electrolyte level with the orange LED (from hardware version F-72)***
  With this option, ***Event 2*** is triggered when the electrolyte level is too low, whereby the orange LED on the module lights up. However, the event itself is deactivated, i.e., it is no longer visible in the ***Events tab.***

5.9.2.3 Events



Two digital event inputs are available to capture two events (e.g., speed, oil pressure, water temperature, overload, battery status, etc.).

Attention!
If the option ***show too low electrolyte level with the orange LED*** in the Log in tab is activated, ***event 2 is not*** displayed.

The events input can also be used to additionally capture detailed information, e.g., when a vehicle was effectively in use or was driven with load. See also **5.22.1 Offline Statistics**.

The events can be configured as follows:

- ***Name***
  You can give any name to the event. The name is used, e.g., in the statistics module if these events are evaluated.
- ***Description***
  Here you can enter any text. It serves exclusively for documentation and is not used otherwise.
- ***Icon***
  Whenever the status of the event input changes, a logbook entry is generated (unless it is switched off, see next below). Here you can define two icons which are displayed in the logbook if the status of the event changes from ON to OFF.

- ***Text***
  In addition to both icons (see above) you can define in each case a text for the status ON and OFF. This text is used in the logbook and in the alarm central office to display the event.
- ***Hysteresis***
  The hysteresis explains the time span by which the Event-ON or Event-OFF is delayed. Therefore, the event must be ON for the entire time span of the On- hysteresis before the event is interpreted as ON. Thus, an unnecessary event entry can be avoided, e.g., if the battery water briefly splashes and therefore, triggers the battery-warning lamp only for a short time.
  This applies also for the OFF-hysteresis avoiding unnecessary event entries.

Note:
The hysteresis is adjustable only from **module version E-14**! Older versions always use fixed values, regardless of these settings: The ON-hysteresis is always 0 seconds, the OFF-hysteresis is always 60 seconds (for event 1) or 30 seconds (for event 2).

- ***Logbook entry (generating)***
  Specifies whether the respective event entries should be logged in the logbook or not.

Note:
The event logbook entries can only be switched off from **module version E-14**! With older versions the event entries are always generated regardless of these settings.

In addition, the special event ***Usage*** can be switched on.

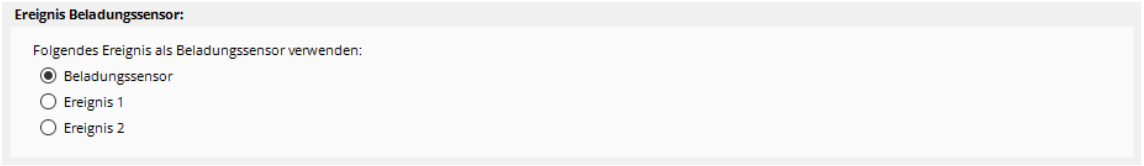


If the option ***Generate logbook entries 'Use ON' and 'Use OFF' is activated***, a corresponding logbook entry ***'Use ON'*** is generated each time a use (e.g., the vehicle is moving) takes place. As soon as there is no more use (e.g., vehicle is stationary again), the corresponding ***'Use OFF'*** entry is created.

The event ***Usage*** is only available from hardware version F-73.

The setting is ignored for modules before this version.

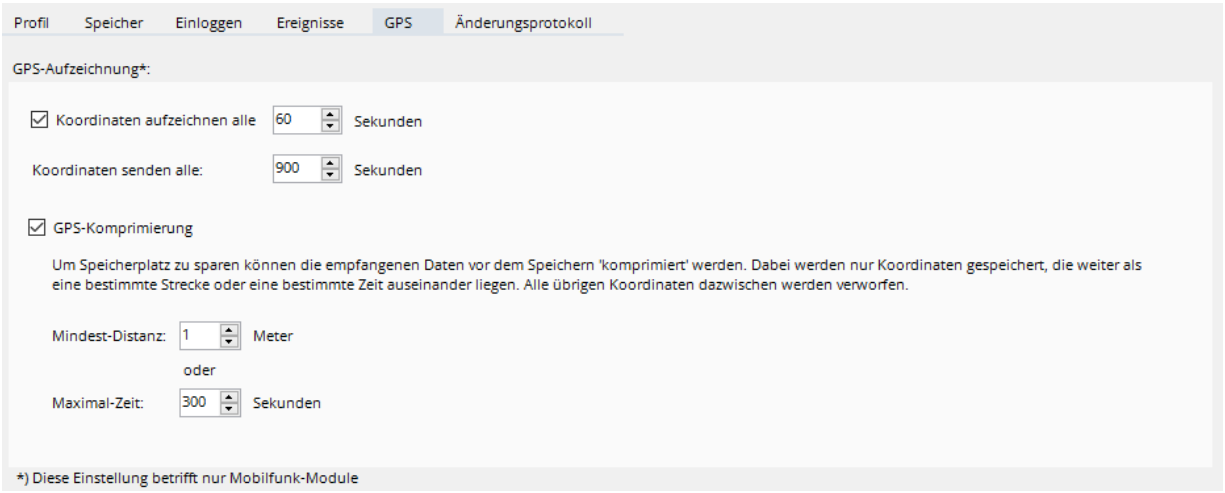
Event Load sensor:



Normally, the new load sensor (see also **5.5.1Module properties**) is used to detect whether the module is running with or without load. Alternatively, one of the two event inputs can be used. Any load detection hardware can then be connected to this input. As long as the event is active, the module is then considered loaded.

5.9.2.4 GPS

GPS is only available for cellular modules and only with activation code ***Outdoor Locator*** (see **5.22.5 Outdoor Locator**).



Record coordinates every X seconds

Specify here how many GPS coordinate every second should be recorded and saved. The shortest recording time is one second. Please note that this creates a lot of data, especially if many modules are active.

Recorded coordinates send every X seconds

Enter here how often the module reports via mobile radio in order to transmit the recorded data.

GPS-Compression - minimum distance

GPS compression is an easy way to reduce the amount of data in the database. The received GPS data is interpreted in such a way that only coordinates remain that are at least the distance from each other specified here. This way the amount of data to be stored can be reduced, particularly when the vehicle is stationary.
Every time the module reports (***see Recorded coordinates send every X seconds***), always at least one coordinate is saved - even if it is closer than the specified distance to the previous one.

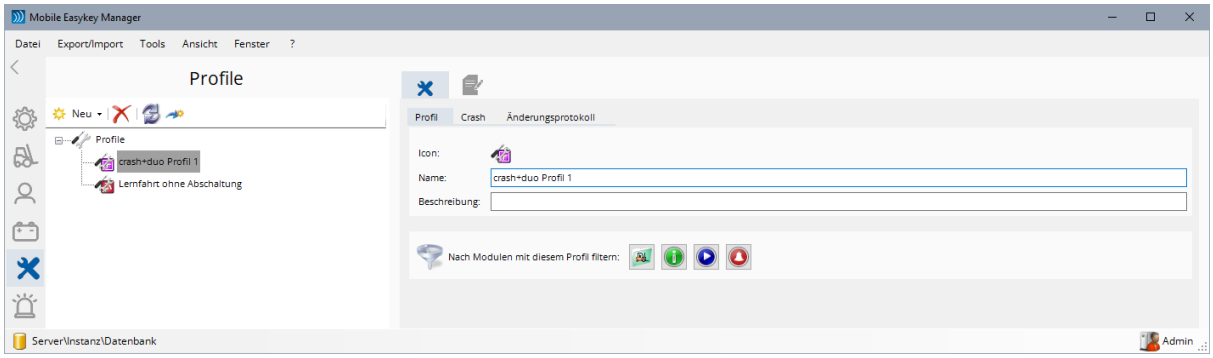
GPS-Compression - maximum time

It can be specified here that a coordinate remains at least every second specified here, even if it is closer than the specified distance to the previous one.

5.9.3 modular crash+duo profile

Click on Neu and thereafter on the menu item ***modular crash+duo profile add*** to add a new profile of this profile type.

Note:
This profile type is only used with ***modular crash+duo*** modules.
If you do not use modular crash+duo modules, you do not need to set up this profile type.



On the left, the tree diagram shows the new Crash+ V.2 profile. The different settings of this profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective profile.
- ***Description***
  Here a description or any other text can be entered for this profile.

With the buttons you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or see module-alarm central office (**5.5.22Module-alarm central office**). The filter is automatically activated (see **5.11.8 Filter display**) by displaying only modules which use exactly this profile.

5.9.3.1 Crash (crash+duo)



In this tab the actions of the module are configured for a crash.

It distinguishes between active (during a driver is logged in) and passive crashes (standing vehicle).

Active crash:

- ***Create logbook entry***
  For active crashes a logbook entry is always created, hence, this option cannot be discharged.
- ***Switch on flashbulb***
  Specifies whether (immediately) after an active crash the flashbulb in the module should be switched on to signal the crash. Without this option the crash remains unnoticed and is logged only in the logbook.
- ***Crash relay***
  Informs whether after an active crash, the crash relay should be switched on. Then according to activation of this crash relay, the module can drive only in crawl speed. The crash relay- switch-on can also be delayed, by the set number in seconds, for the module to still drive on after an active crash.
  Note: The crash relay can be activated only, if the option ***Flashbulb switch on*** is selected.

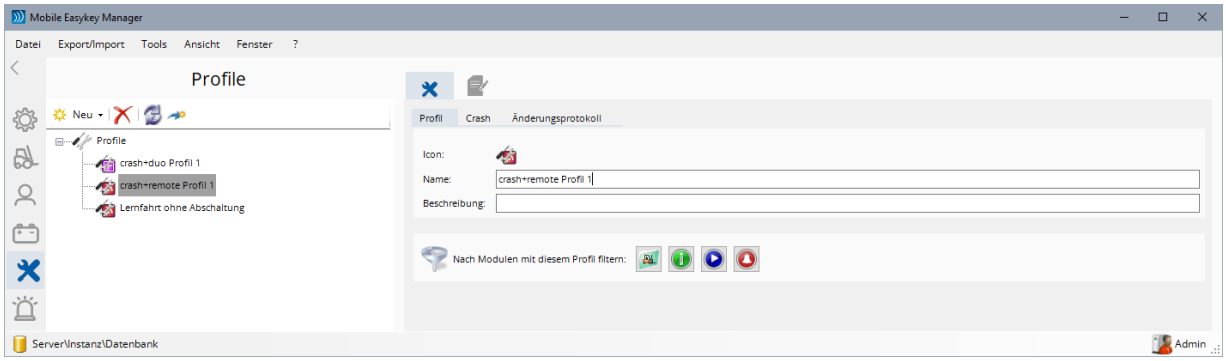
Passive crash:

- ***Create logbook entry***
  Specifies whether also passive crashes should be evaluated. If this option is selected, a passive crash is also logged in the logbook. Without this option passive crashes are completely ignored.
- ***Switch on flashbulb***
  Specifies whether with a passive crash the flashbulb should be switched on. If the flashbulb is not switched on, passive crashes according to the setting of the option ***will create logbook entry,*** are completely ignored or only logged (***unnoticed***) in the logbook.
- ***Switch on crash relay***
  If the option Flashbulb ***switch on*** is selected, it can additionally be determined, whether the crash relay should also be switched on with a passive crash.

5.9.4 crash+remote profile

Click on Neu thereafter click on the menu item ***crash+remote profile add*** to add a new profile of this type.

Note:
This profile type is used with ***modular crash+remote*** and ***modular plus crash*** modules.

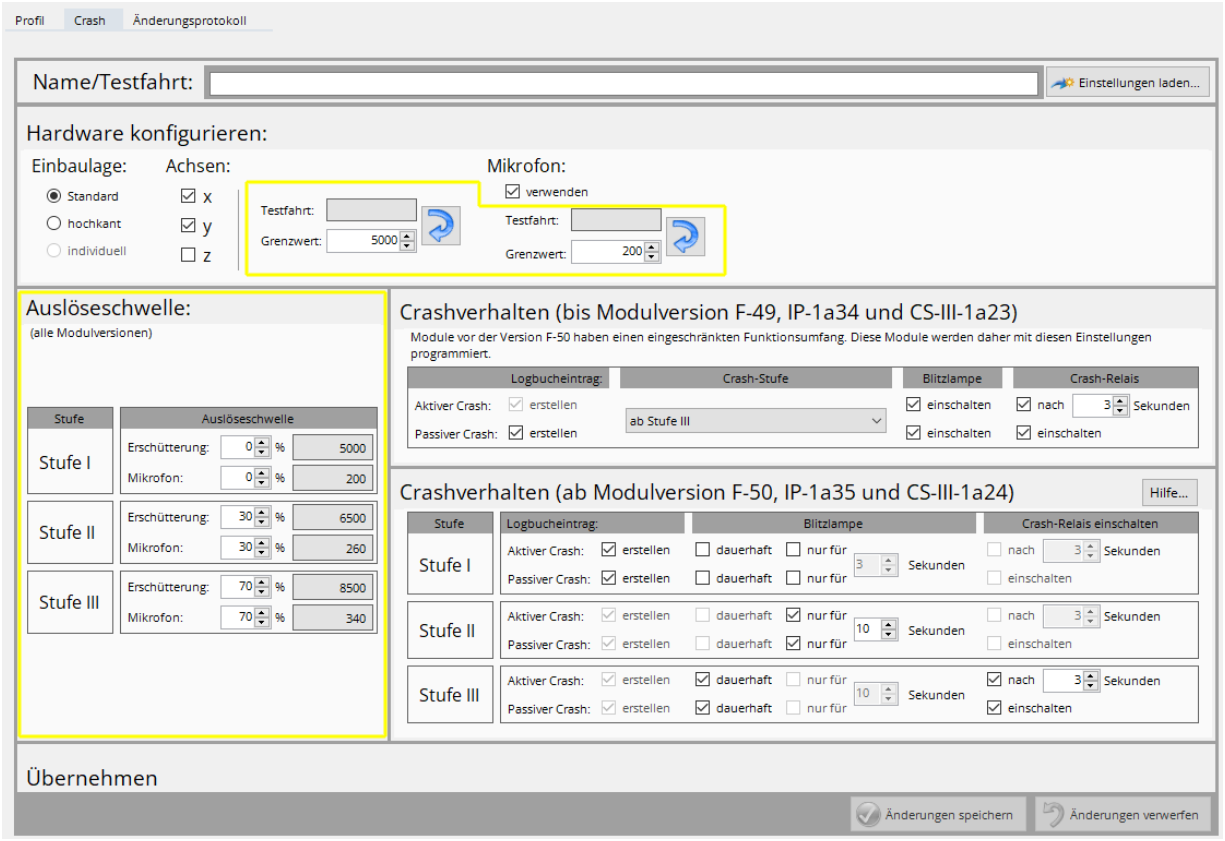


On the left, the tree diagram shows the new ***crash+remote*** profile. The different settings of this profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective profile.
- ***Description***
  Here a description or any other text can be entered for this profile.

With the buttons you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or see module-alarm central office (**5.5.22Module-alarm central office**). The filter is automatically activated (see **5.11.8 Filter display**) by displaying only modules which use exactly this profile.

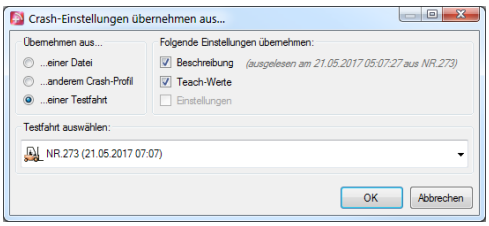
5.9.4.1 Crash (crash+remote)



This tab configures the behaviour of the module in the event of a crash.

A short description of these crash sensor settings can be entered in the first line. When transferring a test drive to this profile, this text will be set automatically.

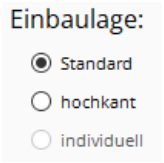
With the button ***Load settings*** the settings of the crash sensor can be taken from ***a file***, ***another crash profile*** or ***a test*** run (see **5.5.8 Crash sensor teach drive**) You can specify whether the ***description*** (the first line), the ***teach values*** (default values from the test drive) or / and the actual ***settings*** should be applied. Since a test drive has no settings, the option ***Settings*** is not available when copying from a test drive



As soon as any changes have been made to the crash sensor settings, the two buttons ***Save changes*** and ***Discard changes*** are activated. The new settings only apply when they are confirmed by clicking the ***Save changes*** button. ***Discard changes*** restores the original state.

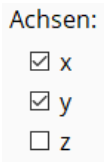
The yellow-rimmed areas are not displayed if the individual limit values are enabled in the database configuration! (See **5.14.4.5 Crash Limits**)

5.9.4.1.1 Mounting Position



Indicate here in which position the sensor is installed. The individual setting is activated if the individual axes are individually configured in the axis boxes. The vector sum is measured from the specified axes.

5.9.4.1.2 Axes



- ***Axes - x, y, z***
  Indicate in which position the sensor is installed or select the installation position standard or upright to set the axes automatically. The vector sum is measured from the specified axes.
- ***Axes – Test Drive***
  Will not be displayed if the individual limit values are activated in the database configuration! (See **5.14.4.5 Crash Limits**)
  Displays the maximum acceleration value (vector sum) of the selected axes that occurred during the test drive. This value is usually used as the default for the limit. With a click on the button, this value can be directly taken over as a limit value.
- ***Axes – Limit Value***
  Will not be displayed if the individual limit values are activated in the database configuration! (See **5.14.4.5 Crash Limits**)
  Sets the limit from which the trigger levels are calculated.

Tip:
For the determination of the limit value either a test drive (see **5.5.8 Crash sensor teach drive**) or the Online Statistics Crash Strength (see **5.18.3.9 Crash-**) can be used. Online statistics require a separate software module (see **5.22.2 Online Statistics**).

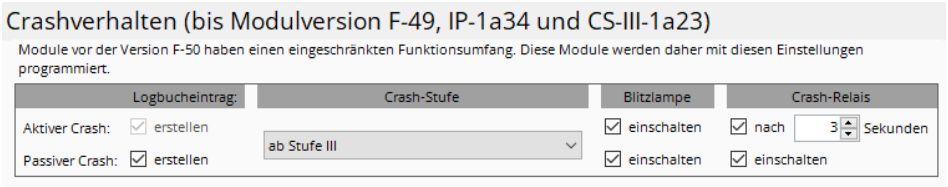
5.9.4.1.3 Microphone



- ***Use microphone***
  Indicate here whether in addition to the acceleration sensor also the built-in microphone should be used for crash detection. In this case, a crash will only be triggered if both the accelerometer and the sound level of the microphone simultaneously exceed the respective limit.
- ***Microphone – Test Drive***
  Will not be displayed if the individual limit values are activated in the database configuration! (See **5.14.4.5 Crash Limits**)
  Indicates the maximum sound level that occurred during the test drive. To the right is the microphone gain that was set during the test drive.
  Note that the value of the test drive depends on the respective gain. The value from the test drive can only be used as a default if the same gain is set for the operation of the crash sensor Microphone – Limit Value
  Will not be displayed if the individual limit values are activated in the database configuration! (See **5.14.4.5 Crash Limits**)
  Sets the limit from which the trigger levels are calculated.

Tip:
For the determination of the limit value either a test drive (see **5.5.8 Crash sensor teach drive**) or the Online Statistics Crash Strength (see **5.18.3.9 Crash-**) can be used. Online statistics require a separate software module (see **5.22.2 Online Statistics**).

5.9.4.1.4 Crash Behaviour (old modules):



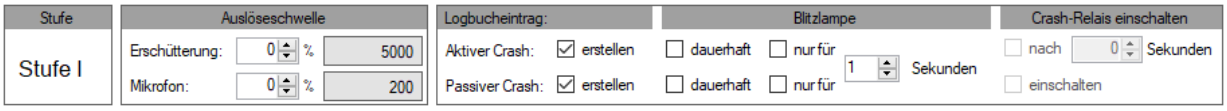
Some new features (such as turning on the flash bulb only for a few seconds) are not available with older modules. Since the logic here works slightly differently, the setting for these old modules is done in this area.
The configuration is the same as for modular **crash + duo** profiles (see **5.9.3.1 Crash (crash+duo)**), except that here it can additionally be specified from which crash level a crash on the vehicle should be noticeable, i.e. at which stage the flash bulb and the crash relay should be switched on.
Thus, e.g. light crashes (level I) are only recorded in the logbook (silent alarm), while in crashes starting at level II the flash bulb and, if desired, the crash relay are switched on.
The level at which the flashlamp and crash relay are switched on applies equally to active and passive crashes.

All other Setting options see (**5.9.3.1 Crash (crash+duo)**).

5.9.4.1.5 Crash Behaviour Level I to III

The behaviour of the module in a crash can be adjusted in 3 stages, depending on the severity of the crash. Level I stands for light crashes, level II for medium and level III for heavy crashes.

A distinction is made between active (while a driver is logged in) and passive crashes (stationary vehicle).



- ***Trigger threshold:***
  Will not be displayed if the individual limit values are activated in the database configuration! (See **5.14.4.5 Crash Limits**)
  The trigger level of the respective stage is given in% of the (total) limit (see **5.9.4.1.2 Axes** and **5.9.4.1.3 Microphone**). The larger the value, the heavier the crash.
  To the right of the% value, the calculated absolute value is displayed.
  Enter the desired values from which the respective crash stage I to III should be triggered.
- ***Logbook:***
  Depending on the level, you can specify whether the crash should ever be logged in the logbook. If the tick is not set here, a crash of this level and type (active / passive) is completely ignored!
- ***Flash bulb:***
  Here you can specify whether the flash bulb should be switched on in the respective stage (immediately) after the crash. The flash bulb can only be activated if the logbook entry is activated. You can choose between:

  Continuous:
  the flash bulb flashes until the crash (e.g., with a master transponder, *see* **5.6.1.2 Settings of User X***) is reset.*

  Only for:
  The flash lamp only comes on for a few seconds and then switches off again automatically. The crash does not need to be reset and the crash relay cannot be activated.

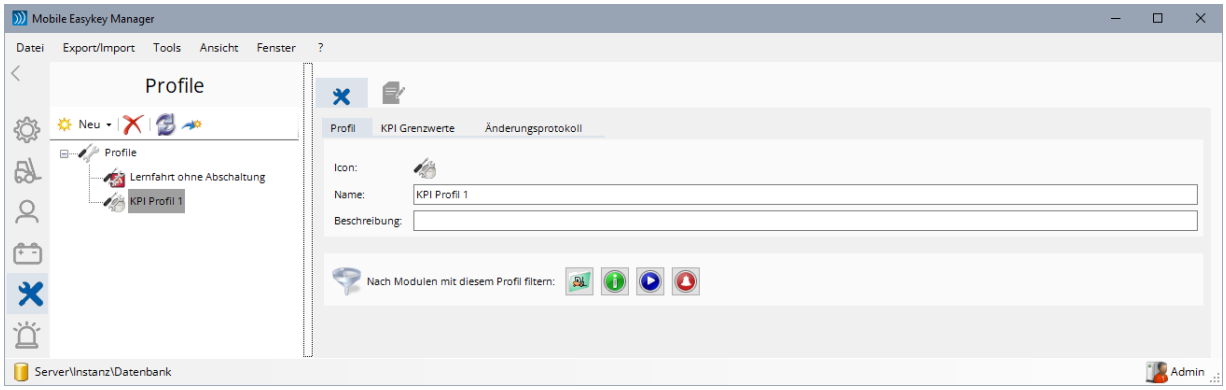
  Never:
  Both hooks are not set, i.e., the flash lamp is not activated and no crash relay can be activated. This option is useful, for example, if a low crash level is only logged in the logbook, but otherwise should have no effect.
- ***Switch on crash relay:***
  Finally, it can be specified whether the crash relay should also be switched on, as a result of which the vehicle can only be moved in crawlspace.
  With active crashes, the shutdown can be additionally delayed by a few seconds.

Tip:
The various options enable and disable automatically if certain settings are not possible. For example, it is only possible to switch off the logbook entry of level II if the logbook entry is already switched off in level I as well.

5.9.5 KPI Limit-Profile

The KPI limit profile assigns the corresponding limit values for the KPIs (see **5.5.24 KPI**) to the modules. As a result, different modules (e.g., depending on the design or use) can be assigned different limit values for the KPIs.

Click on Neu thereafter click on the menu item ***Add KPI Limit-Profile*** to add a new profile of this type or select an existing KPI profile.



On the left, the tree diagram shows the new ***KPI Limit-Profile.*** The different settings of this profile are shown on the right side.

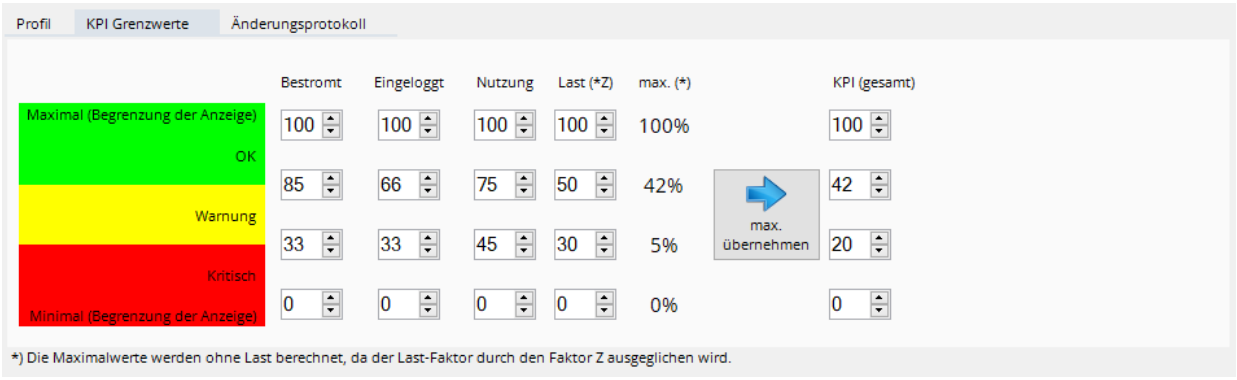
- ***Icon***
  Here you can assign an icon or an image to the profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective profile.
- ***Description***
  Here a description or any other text can be entered for this profile.

With the buttons you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or see module-alarm central office (**5.5.22Module-alarm central office**). The filter is automatically activated (see **5.11.8 Filter display**) by displaying only modules which use exactly this profile.

5.9.5.1 KPI Limit Values

For each of the 4 KPI factors powered, logged in, usage and load as well as the Total-KPI, limit values can be defined over which a green, yellow and red area is defined.

In addition, the display area of the speedometer-element can be restricted within the statistics (limitation of the display).



In the example above, the limits for the Powered-KPIs are e.g.:
100 – 85 – 33 – 0.

This means that the speedometer-element is displayed from 0 to 100 as shown on the right. The range from 0 to 33 is shown in red, from 33 to 85 in yellow and from 85 to 100 in green.



In the column ***max.,*** the respective theoretical maximum value for the total KPI is calculated. It results from the product of the respective limit values (whereby the load limit value is not included, as it is compensated for by the factor Z).

The max value between warning (yellow) and OK (green) is thus derived from:
0,85 * 0,66 * 0,75 = 0,42

Using the button 

the calculated values can be adopted directly as limit values for the Total-KPI.

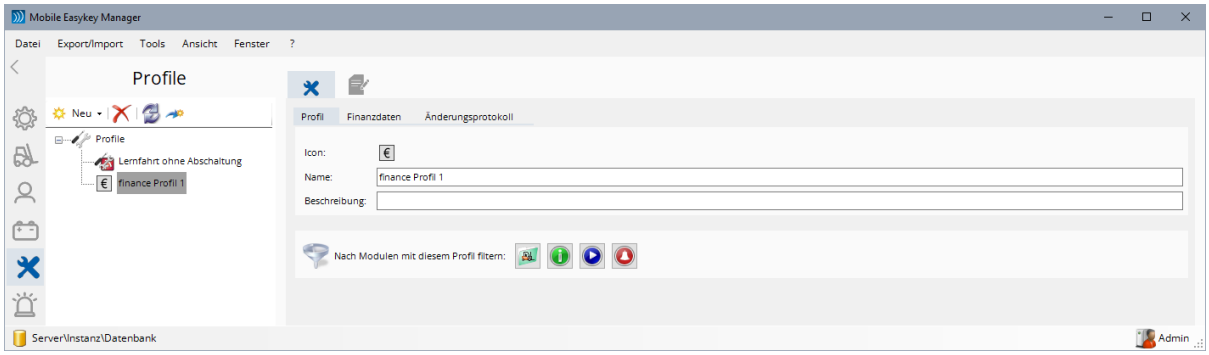
If other limit values are entered for the Total-KPI. (e.g. 50 for the transition from yellow to green), it may be that e.g. all 4 factors are "green", but the total KPIs are still yellow.

5.9.6 Finance profile

Note:
The financial profiles are only visible if the financial module soft- ware module is activated.
See also **5.22.3 Finance Module**.

The financial profiles are used to determine which (possibly estimated) costs are incurred per cut-in or usage hour. Thus, e.g., Fuel or electricity costs.

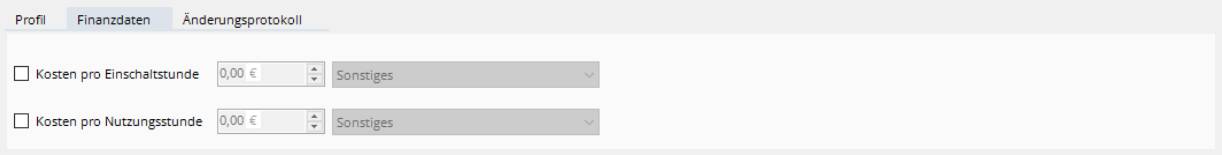
Click on Neu and then on the menu item Add Financial Profile to add a new profile of this type or select an existing financial profile.



- ***Icon***
  Here you can assign an icon or picture to the financial profile. See also **5.4.4 Icons.**
- ***Name***
  Enter the name of the financial profile here.
- ***Description***
  Here you can enter any text for this financial profile.

You can use the buttons directly in one of the tab modules (see **5.5.1 Module properties**), Information Centre (see **5.5.20 Information central office**), Communication Centre (see **5.5.21 Communication central office**) or Module Alarm Centre (see **5.5.22 Module-alarm central office**). Filtering (see section **5.11.8 Filter display**) is activated automatically, which means that only modules that exactly use this financial profile are displayed.

5.9.6.1 Finance Data



Here, you set the costs to be charged to a module with this financial profile per cut/in and / or usage hour.

If the checkbox for the respective setting is not set, the option is deactivated. No costs will be charged.
If a module is assigned to a profile with deactivated cut/in and usage hours costs, then this is the same as if no financial profile was assigned to the module.



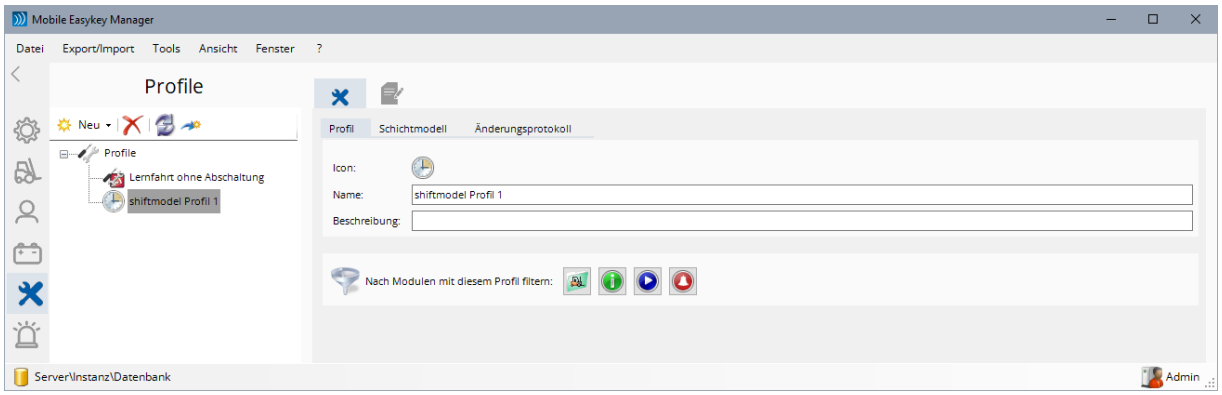
A cost type for the calculation can be selected in the selection field after the amount. See also **5.14.10.3 Automatic Cost Types**.

5.9.7 Shift work models

The shift models are primarily used to assess online statistics more accurately. With this information, the program can calculate how many working hours a module has actually been available.

In the shift model it is determined first whether it concerns a 1-shift, 2- shift, 3- shift or 4- shift operation. These become the shift times (beginning and end, in each case with an accuracy of 15 minutes) of every shift logged. It addition you can also determine on which week days is worked and a holiday list (see **5.9.8 Holiday lists**), with days not worked on , is deposited.

Click on Neu and click on the menu item ***Add Shift Model*** to add a new profile of this type or select an existing Shift Model.



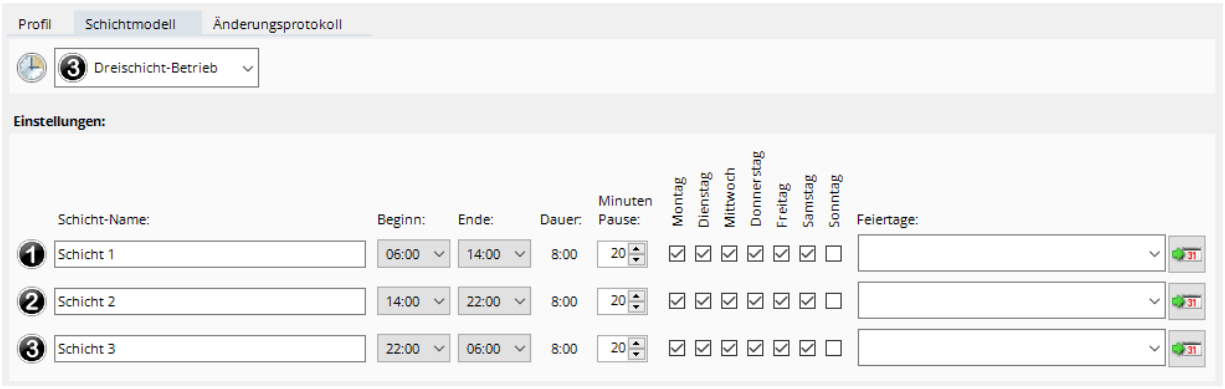
On the left side, in the tree diagram you can see the new shift model. The different settings of this shift model are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the shift model. See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective shift model.
- ***Description***
  Here any text can be entered for this shift model.
- ***Model***
  Specify here whether it concerns a 1-shift r, 2-shift r, 3-shift or 4-shift model. The lower part of the window adjusts and 1 to 4 rows are displayed accordingly.

The configuration of the individual shift models is described in the next chapter (**5.9.7.1 Schichtmodell konfigurieren**).

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated by which only modules are displayed which use exactly this alarm profile.

5.9.7.1 Schichtmodell konfigurieren



- 
  Specify here whether it is a 1-layer, 2-layer, 3-layer or 4-layer model. The lower part of the window changes accordingly and 1 to 4 lines are displayed, depending on the model.
  - ***Shift-Name*** ❶❷❸❹
    here you can name the individual shift (e.g., early shift).
  - ***Starts***
    Specify here, when this particular shift begins. Because the online statistics operate only in ¼-hours, the start time can only be specified exactly per 15 minutes.
    If a shift runs longer than the day (0:00 o'clock), this should be the last shift.
  - ***End***
    Enter when this single shift ends.
  - ***Duration***
    Here the programme calculates how long this single shift lasts.
  - ***Minutes break***
    Indicate here how long the breaks in this shift are together. For some functions (see for example **5.18.3.7 Module comparison**) the total available working time is needed. This break time is deducted from the shift time. The sum of all shift times then gives the working time available per day.
  - ***Monday till Sunday***
    Specify here on which weekdays is worked in this shift. If is not worked, e.g., on Saturdays and on Sundays, then delete the tick on Saturday and Sunday.
  - ***Holidays***
    Here you are able to file a holiday list (see **5.9.8 Holiday lists**). On the days logged in this list the shift is recognised as not worked. The valid day for a shift that runs beyond midnight is the previous day (the date before the shift begins).

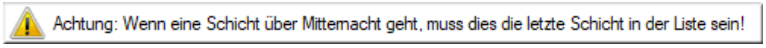
With the button you can jump directly to the configuration of the holiday lists.
If a holiday list is already associated to the shift model it is automatically selected.

Note:
If single shifts overlap, the following warning tip is displayed:



Though a shift model with overlapping shifts is basically permissible, this may lead to wrong calculations in the online statistics and the extent of capacity utilisation. The calculation is always established by the sums of all shifts which in this case are more than 100%.

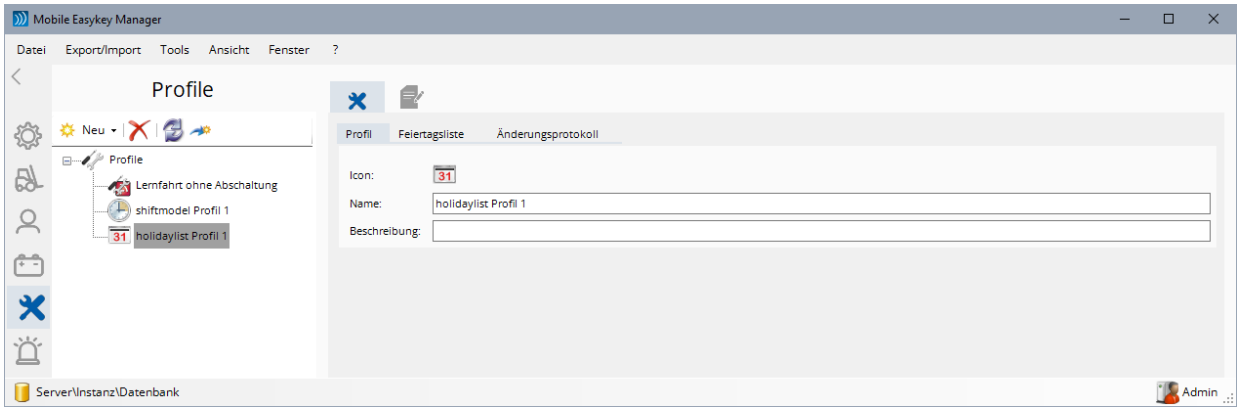
Attention!
In a multi-shift operation, if one of the shifts goes beyond midnight, then this must be the last shift (usually shift 3) in the list! If not, the following warning is displayed:



5.9.8 Holiday lists

In a holiday list all days which are not worked on are logged.
If in one department some holidays are worked and in other departments not, then you can simply create several different lists.

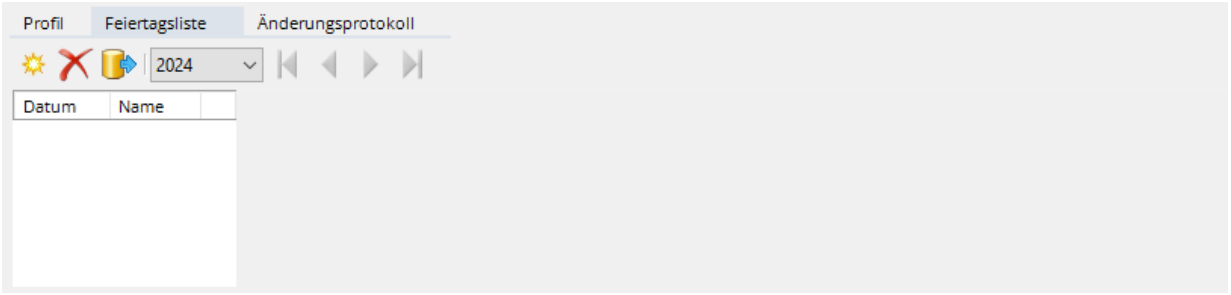
Click on Neu and click on the menu item ***Add Holiday List*** to add a new profile of this type, or select an existing holiday list.



On the left in the tree diagram, you can see the new holiday list. The different settings of this holiday list are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the holiday list. See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective holiday list.
- ***Description***
  Here any text can be entered for this holiday list.

5.9.8.1 Configure holiday list

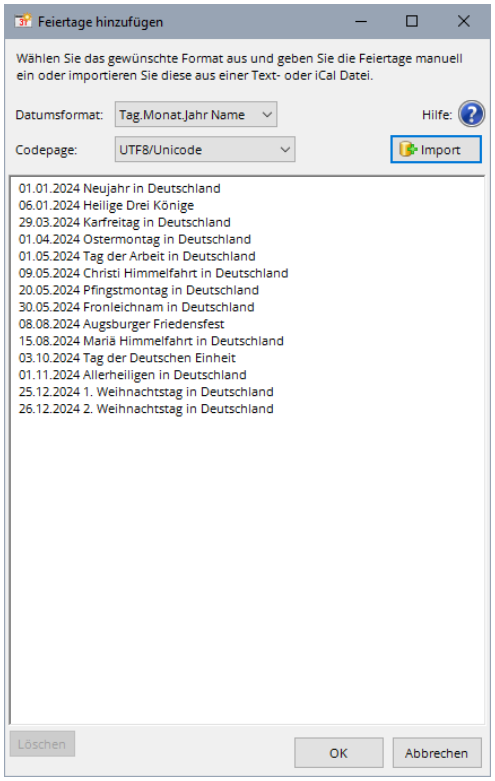


- Adds new holidays to the list (see **5.9.8.1.1 Add**) or imports them from a file (see **5.9.8.1.2 Import**)
- Deletes this or the selected holiday
- Exports the holiday list or a part of it (see **5.9.8.1.3 Export**)
- 2015 Serves the selection of the holidays to be displayed. These are displayed either by the holidays of the selected year or (with Alles) all holidays are displayed.
- If the selection is limited to a year, you can jump with these buttons to the first or last year of the holiday list.
- If the selection is limited to a year, you can jump with these buttons one year ahead or back.

5.9.8.1.1 Add Holidays

Click on to call the dialog for adding holidays.

With the button you can call a help text any time.



First select the date format Tag.Monat.Jahr Name in which you want to enter the holidays, the sequence of day, month and year.

Choose any separator between day, month and year. For the settings „Day. Month. Year" E.g., you can enter the "1st of February 2015" or "1/2/2015".

The code page and the button Import are only relevant if the holidays should be imported from a text file (See chapter **5.9.8.1.2 Import**).

Now, in the large selection field, you can enter holidays in the selected date format. After every holiday date you are able to enter a note, like the name of the holiday etc.

Every holiday must have its own row and the row must begin with the date.

Click on ***OK*** on the entered holidays in the holiday list to apply.

5.9.8.1.2 Import Holidays

Click on ✲ to call the dialog for adding holidays.

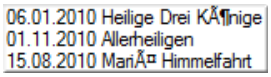
Now select the date format Tag.Monat.Jahr Name (Order of day, month and year) as shown in the data you want to import from.

If you import an vcs-file, the date format displays only the order in which the data are displayed before the actual import.
With the import of text files the file must be constructed in such a way that the data can also be entered like this manually (see **5.9.8.1.1 Add**). One row per holiday with the date at the beginning and an optional description at the end of the row.

If you already know the format (code page) of the file to be imported, select this code page now. You can still change the code page afterwards.

Click now on Import and select the file to be imported.

Now the holidays to be imported are displayed.



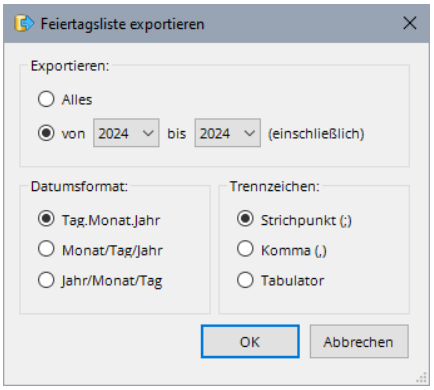
If in the descriptions odd characters appear instead of Umlaut (ä, ö, ü) try another code page.

If required you can now still edit the holidays to be imported or delete undesirable rows.

Last click on ***OK to*** accept the displayed holidays in the holiday list.

5.9.8.1.3 Export Holidays

Click on to call the dialog for the export of holidays.

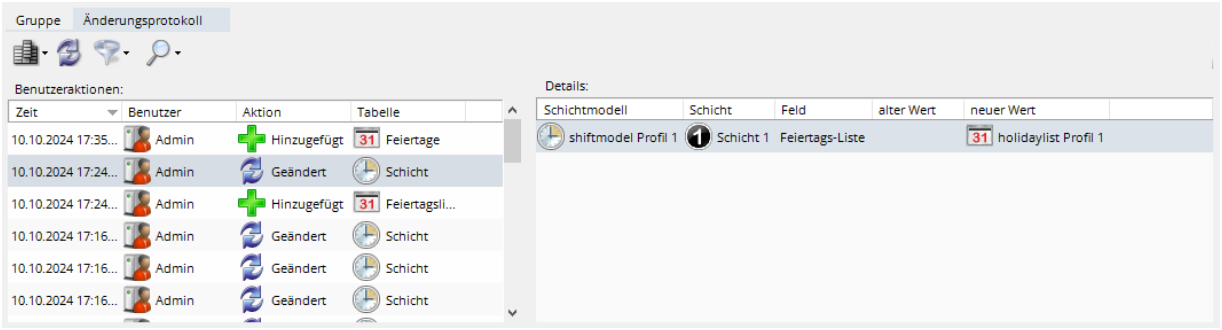


Select whether all contained holidays or only holidays from certain years should be exported.

Set the required date format (order of day, month and year) as well as the separator (between the date and the description).

Click on OK and select the required file folder and the filename.

5.9.9 Change log (Profiles)



Each change to the profile data is stored in the change log and displayed here.

Note:

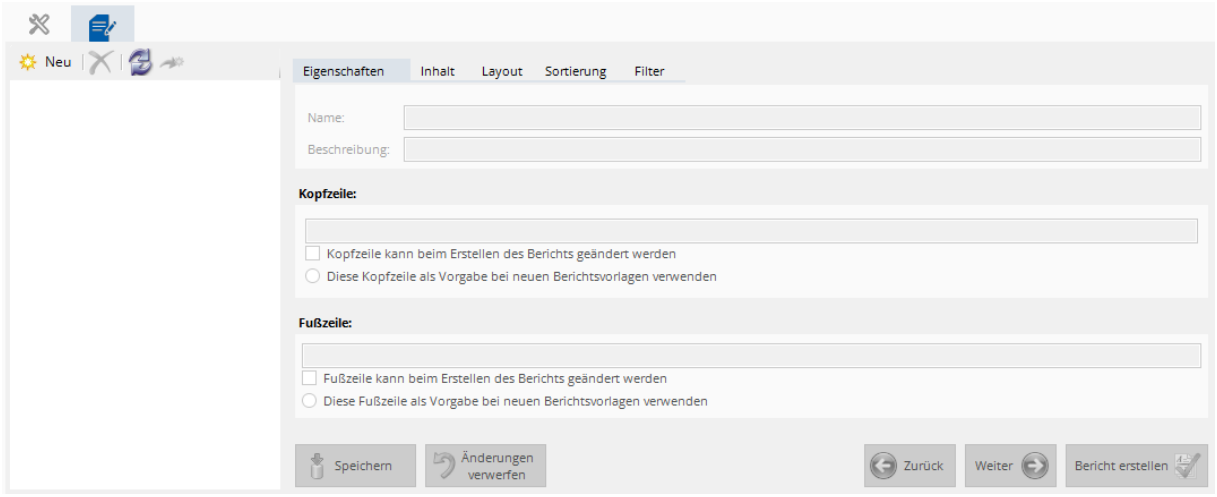
By default, entries older than 90 days are automatically deleted. You can change this setting in the database configuration. See also **5.14.12 Database-Maintenance**.

The column **User** corresponds to the respective software operator and is only displayed if the operating rights (see **5.21 Software Operating Rights**) are activated.

Use the and buttons to filter and search the change history.

For a description and further information, please refer to chapter **5.19 Change Log**.

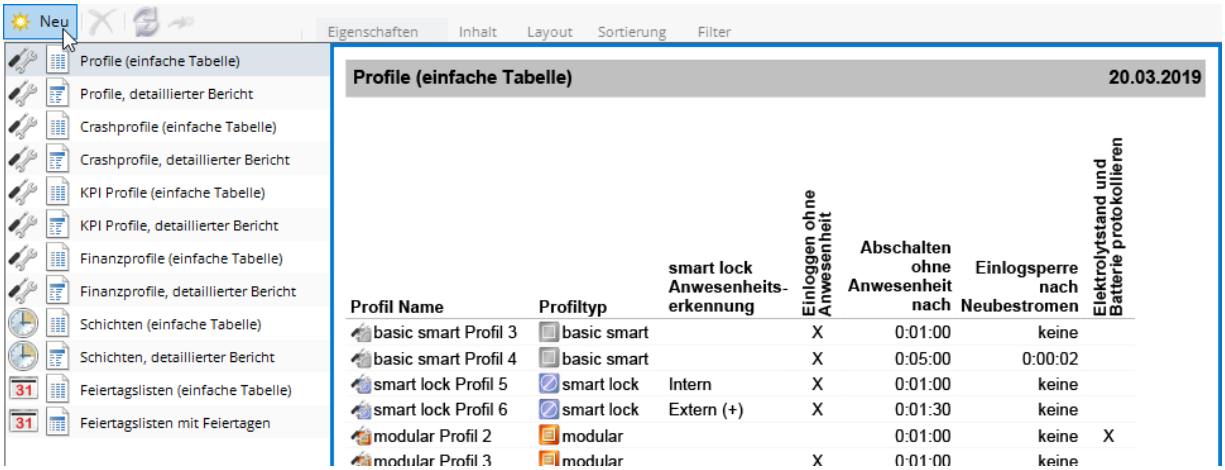
5.9.10 Report templates



The report module serves to print out logged data as for example given name and surname, description, expiry date etc. or to save as a Pdf file.
In addition different report types are available.

With the button 

you can create a new report template. Depending on which data the report should include and be built up on, select one of the existing template types. On the right you see an example of the currently selected report type.



Following report types are available:

- ***Profile (simple table)***
  List, see **5.17.2.1 List (simple tables)**
  Creates simple lists of all profiles all desired profile settings.
  Only ***basic smart***, ***smart lock*** and ***modular*** profiles can be selected.
- ***Profile, detailed report***
  Detailed report see **5.17.2.3 Detailed Reports**
  Creates a detailed, if necessary multi page report.
  Only ***basic smart***, ***smart lock*** and ***modular*** profiles can be selected.

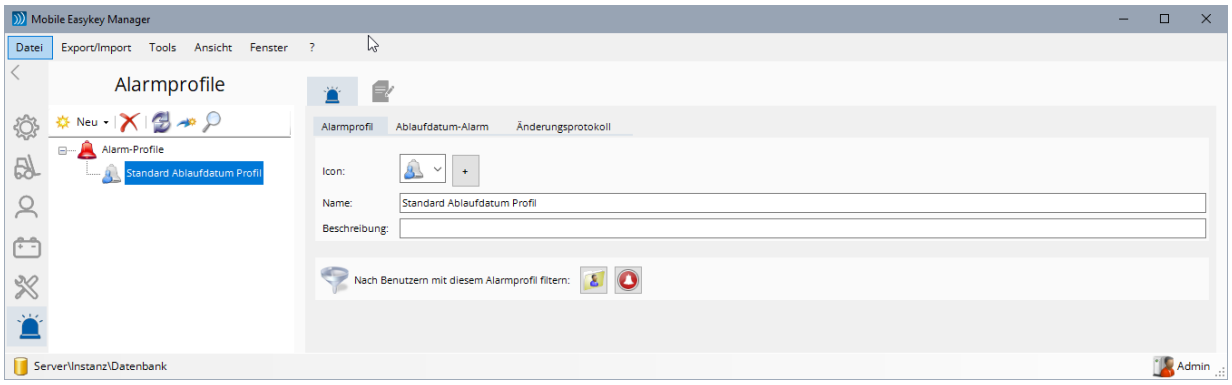
- ***Crash profiles (simple table)***
  Lists, see **5.17.2.1 List (simple tables)**.
  Creates a simple list of all crash profiles with all desired crash profile settings.
  Only ***crash + remote*** and ***crash + duo*** profile can be selected.
- ***Crash profiles, detailed report***
  Detailed report, see **5.17.2.3 Detailed Reports**.
  Generates a detailed, if necessary multi-page report of all selected crash profiles.
  Only ***crash + remote*** and ***crash + duo*** profile can be selected.
- ***KPI profiles (simple table)***
  Lists, see **5.17.2.1 List (simple tables)**.
  Creates a simple list of all KPI profiles with all desired settings.
  Only ***KPI*** profile can be selected.
- ***KPI profiles, detailed report***
  Detailed report, see **5.17.2.3 Detailed Reports**.
  Generates a detailed, if necessary multi-page report of all selected KPI profiles.
  Only ***KPI*** profile can be selected.
- ***Finanzprofile (einfache Tabelle)***
  Liste, siehe **5.17.2.1 List (simple tables)**.
  Erstellt eine einfache Liste aller Finanzprofile mit allen gewünschten Einstellungen.
- ***Finanzprofile, detaillierter Bericht***
  Detaillierter Bericht, siehe **5.17.2.3 Detailed Reports**.
  Erstellt einen ausführlichen ggf. mehrseitigen Bericht aller ausgewählten Finanzprofile.
- ***Schichten (einfache Tabelle)***
  Liste, siehe **5.17.2.1 List (simple tables)**.
  Erstellt eine einfache Liste aller Schichtmodelle mit allen gewünschten Einstellungen.
- ***Schichten, detaillierter Bericht***
  Detaillierter Bericht, siehe **5.17.2.3 Detailed Reports**.
  Erstellt einen ausführlichen ggf. mehrseitigen Bericht aller ausgewählten Schichtmodelle.
- ***Feiertagslisten (einfache Tabelle)***
  Liste, siehe **5.17.2.1 List (simple tables)**.
  Erstellt eine einfache Liste aller Feiertagslisten.
- ***Feiertagslisten, detaillierter Bericht***
  Detaillierter Bericht, siehe **5.17.2.3 Detailed Reports**.
  Erstellt einen ausführlichen ggf. mehrseitigen Bericht aller ausgewählten Feiertagslisten.

Since the reports for modules, batteries, users, profiles, alarm profiles, shift models and holiday lists are largely identical, the report module is summarized in chapter **5.17 Reports** for all elements.

5.10 Alarm profiles

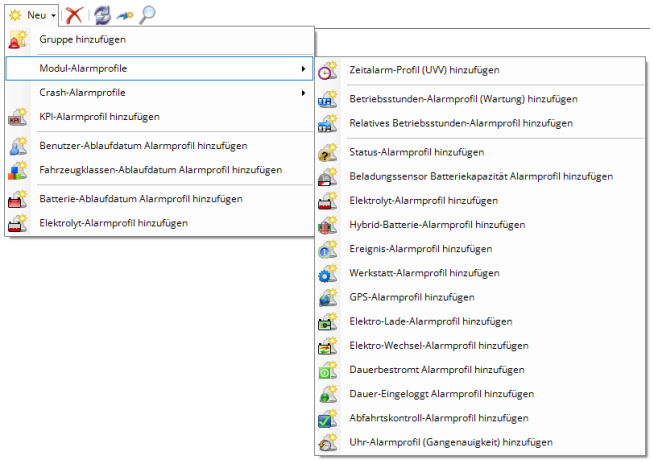
For every module many different alarms can be configured. Not having to enter these settings for every module every time, the configuration of the alarms is summarised into so-called alarm profiles.

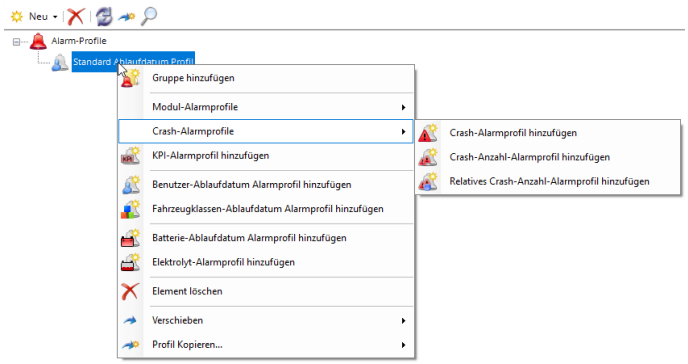
On the left side, click on tab to display the data of the alarm profiles on the right side.



In the toolbar click on button Neu to open the menu for adding new alarm profiles.

Then click on the menu entry of the required alarm profile type. The new alarm profile is added and automatically selected. With the menu item ***Can add to group,*** you can create groups and sub-groups to sort the alarm profiles. See also chapter **5.11 Groups and tree (hierarchical) structure**.





Alternatively, you can add alarm profiles directly in a group by right clicking on this alarm profile group or an alarm profile within the required sub-group. You find a more detailed description in chapter **5.11.1 Add Group**.

You can copy an available alarm profile (duplicate) by selecting the required alarm profile in the tree (hierarchical) structure on the left and then click on button .

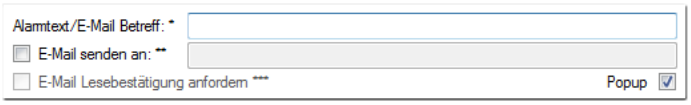
In the following chapters the configuration possibilities of the different alarm profiles are explained.

5.10.1 Alarm email configuration

All alarm types have in common that when triggering an alarm, or warning, *overdue, reset or maximum rating/limit changed* message, an alarm email can be dispatched to any receivers.

Note that for the mailing of emails an email driver is necessary.
(See **5.13.5.2 Email**).

The configuration of these alarm emails is identical for all alarms and looks like this:



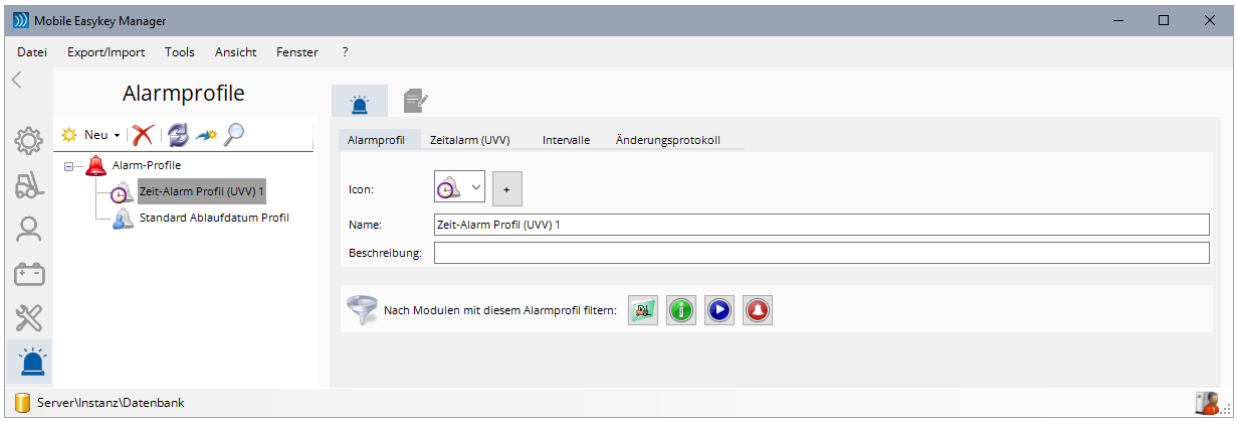
- ***Alarm text / email reference***
  here any text for this alarm can be entered, which is displayed in the alarm central office (see **5.5.22 Module-alarm central office**). If with this alarm an email should be dispatched, this text is used as a reference.
  The text can contain different placeholders (e.g., %M for the respective module name). Which placeholders are possible, is listed in the configuration of the respective alarm profile in the lower window margin.
- ***Email transmit to:***
  If with this alarm an email should be dispatched, activate this option and enter one or several email addresses separated by a comma.
  Note, that with enabled operating rights (**5.21 Software Operating Rights**) the alarm is not triggered by default for placeholder %X of the respective cause of this alarm! Should the email be allowed to contain the cause, the respective email address has to (see **5.21.1.1 Settings**) be activated in the operating rights.
- ***Request for email read receipt***
  If the reception module in the email system is activated (**5.13.5.2 Email**) (**5.13.5.2.3 Read emails**) and the receiver's email programme supports read receipt, you can activate this option. The Mobile Easykey Manager recognises (see) when an email was read and displays this in the alarm central office (see **5.5.22 Module-alarm central office**).
- ***PopUp***
  with this option you can specify whether with occurrence of this alarm the Alarm-PopUp window should be opened. See also **5.12.3 Global settings - alarm display**.

5.10.2 Module-Alarm Profile

5.10.2.1 Time Alarms (UVV)

A time alarm is triggered, as soon as it reached the alarm.
(See **5.5.20.4.8 Time Alarm**)

Select an available time alarm profile or click on Neu and then on the menu item ***Profile for time alarms (UVV) add,*** to add a new profile of this type.

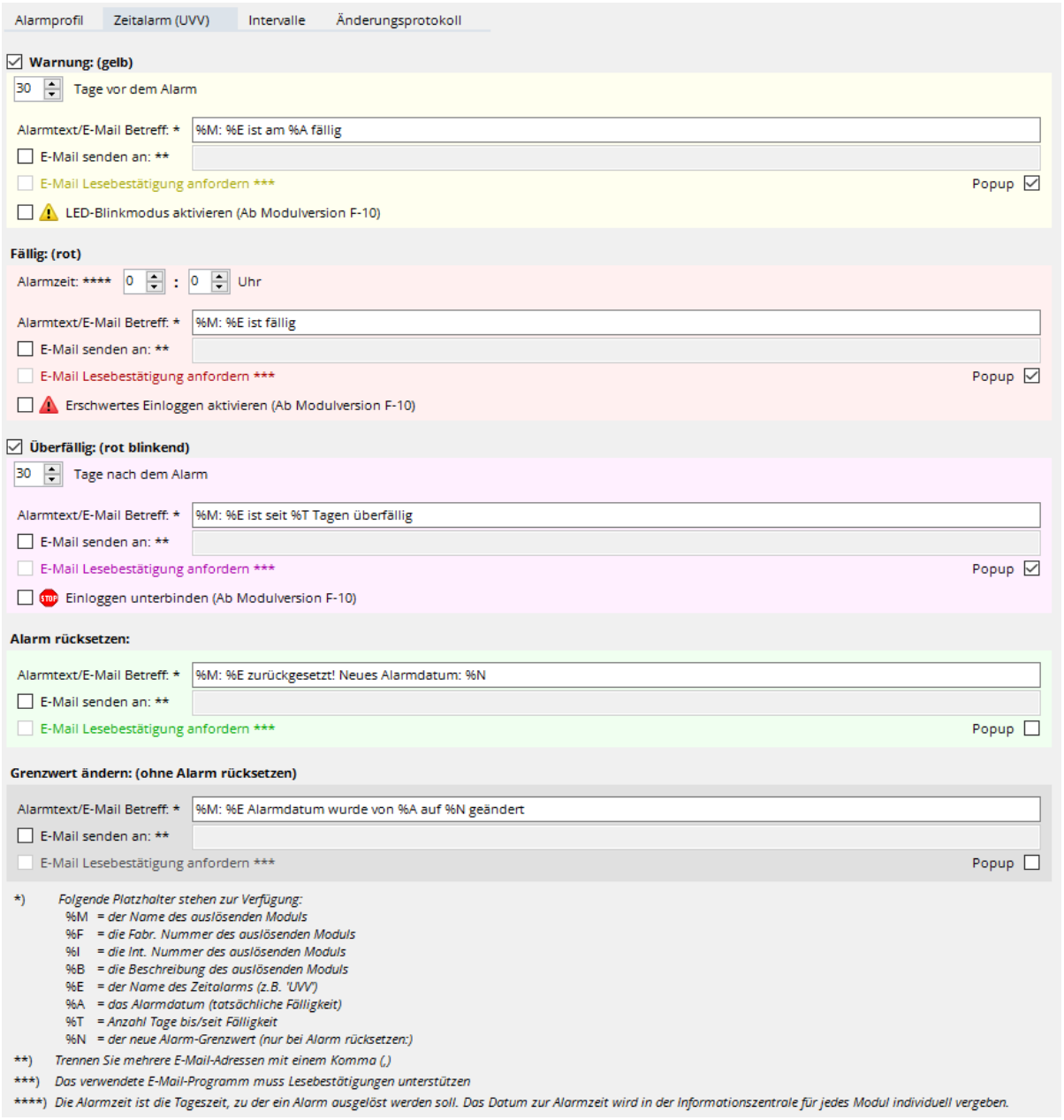


On the left side, in the tree diagram you see the new time-alarm profile. The different settings of this alarm profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.2.1.1 Tab time alarm (UVV)



For this alarm type there are following alarm levels:

- ***Warning: (yellow)***
  If this option is activated, the alarm level *warning* is triggered according to the number of days defined in the setting xx ***before the alarm***.
- ***Alarm message: (red)***
  This alarm level is triggered at the set ***alarm time*** of the day specified as an alarm date in the status central office (or information central office, **5.5.20.4.8 Time Alarm**)
- ***Overdue: (red blinking)***
  If this option is activated, the alarm level *Overdue* is triggered ***according*** to the number defined in the setting xx ***after the alarm***.

- ***Reset alarm***
  This alarm level is triggered if an alarm or a warning is reset in the status central office (or information central office).
  (See also **5.5.20.4.8 Time Alarm**)
- ***Change maximum ratings: (without alarm reset)***
  This alarm level is triggered if in the status central office (or information central office) the alarm date of this alarm is changed, although neither the alarm nor a warning was triggered.

With reaching of an alarm level, the modules of **module type F** can automatically change its status. For this activate one of the following options:

- ***Complex logging in activate (at maturity)***
  As soon as the alarm is due, hold the transponder 3 times in a row near the reader of the module / vehicle to log in. At the same time the yellow ready-LED starts to blink and goes out every 2 seconds twice briefly. Thus, it is signalled to the user that the vehicle has to go to the workshop.
- ***Flashing mode LED activate (by warning)***
  As soon as the warning range is reached, a flashing mode of the yellow ready-LED can be activated with this option. Then the LED goes out every 2 seconds for 1/3 seconds.
- ***Log in prevent (with overdue)***
  If the alarm is already overdue, the vehicle can be closed down with this option. Then the yellow ready-LED is off (and signals with the fact that one cannot log in) and blinks only every 2 seconds once briefly. In this status the module is only to be activated with a workshop transponder (see **5.6.1 User properties**) i.e., one can log in only with workshop transponders)

5.10.2.1.2 Time alarm intervals



To simplify changing the alarm date in the information central office (or status central office), up to four intervals can be given. You can name the intervals (e.g., "small maintenance" or "major maintenance"). Then these names are used with the setting of the maximum rating (see **5.5.20.4.8 Time Alarm**)

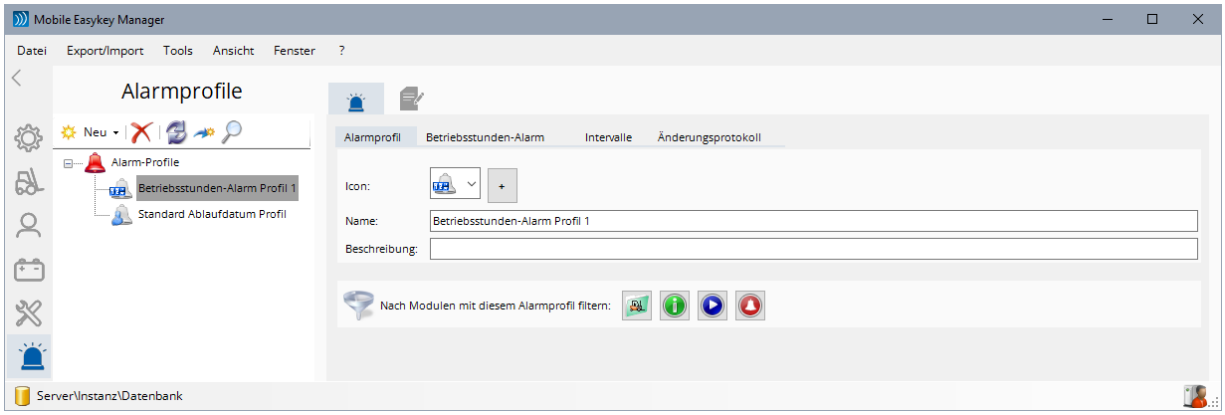
Choosing option ***Only admit given intervals***, the respective maximum rating can be set exclusively on the actual operating hour metre reading, plus one of the specified intervals. If the option, ***allow any intervals*** selected, any maximum rating can be entered.

If the option ***Deactivate admit*** is activated, the alarm for the respective module can be deactivated entirely.

5.10.2.2 Operating Hour Alarms

An operating hour alarm is triggered, as soon as the set threshold of operating hours is reached or has crossed. The respective maximum ratings are set in the information central office (or status central office) (see **5.5.20.4.7 Operating Hours Alarm**). Because Mobile Easykey Manager receives knowledge about it when the logbook of this module is read out, the actual triggering of this alarm can be delayed accordingly.

Select an available operating hours-alarm profile or click on Neu and then on the menu item ***Profile for operating hour alarms add,*** to add a new alarm profile of this type.

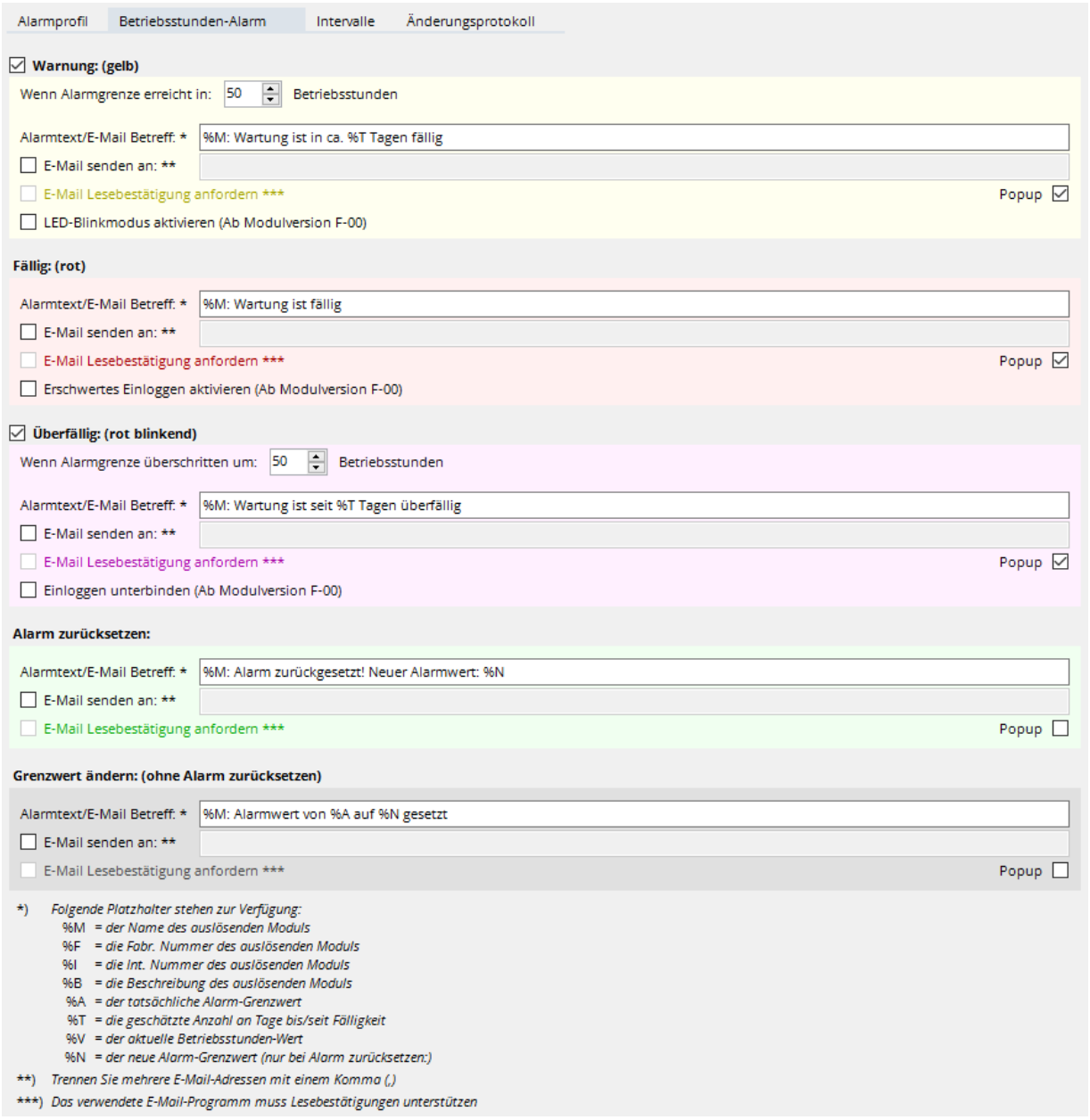


On the left side, in the tree diagram you see the new operating hours-alarm profile. The different settings of this alarm profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.2.2.1 Tab operating hour alarm



For this alarm type there is following alarm level:

- ***Warning: (yellow)***
  If this option is activated, the alarm level *Warning* is triggered, as soon as the operating hour metre reading has reached the number, for the maximum rating of operating hours set here.
- ***Alarm message: (red)***
  This alarm level is triggered, as soon as the set maximum rating (in the information central office, see **5.5.20.4.7 Operating Hours Alarm**) is reached or is crossed.
- ***Overdue: (red blinking)***
  If this option is activated, the alarm level *Overdue* is triggered ***if*** the operating hour metre reading has crossed the maximum rating more than the here set number of operating hours.

- ***Reset alarm***
  This alarm level is triggered if an alarm or a warning is reset in the information central office (or status central office). (See also **5.5.20.4.7 Operating Hours Alarm**)
- ***Change maximum ratings: (without alarm reset)***
  This alarm level is triggered if in the information central office (or status central office) the maximum rating of this alarm is changed, although neither the alarm nor a warning was triggered.



From **module version F** the module can change its status with reaching of an alarm level. For this activate one of the following options:

- ***Complex logging in activate (at maturity)***
  As soon as the alarm is due, hold the transponder 3 times in a row near the reader of the module / vehicle to log in. At the same time the yellow ready-LED starts to blink and goes out every 2 seconds twice briefly. Thus, it is signalled to the user that the vehicle has to go to the workshop.
- ***Flashing mode LED activate (by warning)***
  As soon as the warning range is reached, a flashing mode of the yellow ready-LED can be activated with this option. Then the LED goes out every 2 seconds for 1/3 seconds.
- ***Log in prevent (with overdue)***
  If the alarm is already overdue, the vehicle can be closed down with this option. Then the yellow ready-LED is off (and signals with the fact that one cannot log in) and blinks only every 2 seconds once briefly. In this status the module is only to be activated with a workshop transponder (see **5.6.1 User properties**) i.e., one can log in only with workshop transponders).

5.10.2.2.2 Operating hours intervals



To simplify changing the maximum rating in the information central office (or status central office), up to four intervals can be entered. You can name the intervals (e.g., "small maintenance" or "major maintenance"). Then these names are used with the setting of the maximum rating (see **5.5.20.4.7 Operating Hours Alarm**)

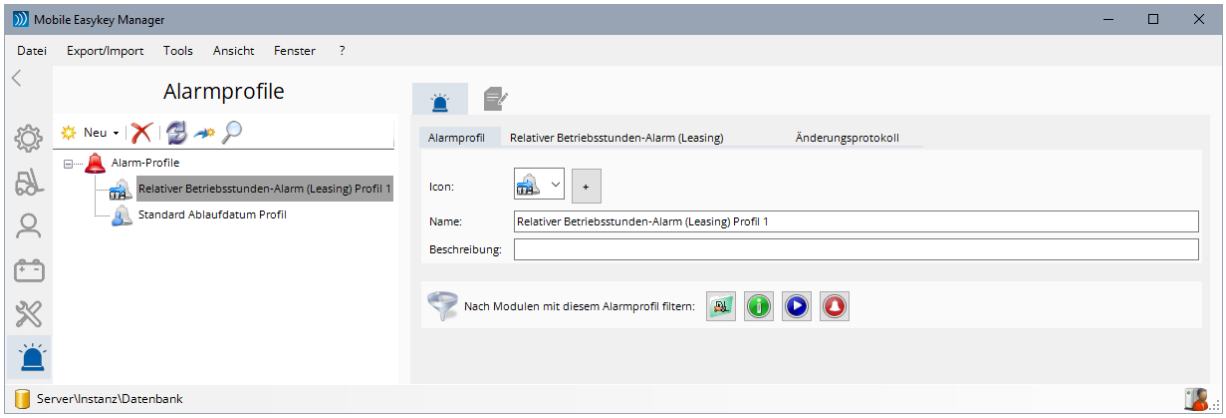
Choosing option ***only admit given intervals***, the respective maximum rating can be set exclusively on the actual operating hour metre reading, plus one of the specified intervals. If the option, ***allow any intervals*** selected, any maximum rating can be entered.

If the option ***Deactivate admit*** is activated, the alarm for the respective module can be deactivated entirely.

5.10.2.3 Relative operating hour alarms (leasing)

Relative operating hour alarms serve to recognise unusually high operating performance. A relative operating hour alarm is triggered if more than a certain number of operating hours (cut-in- or operating hours) (in the example 360 operating hours) amount within the period specified (in the example 30 days).

Select an existing alarm profile of the type ***relative operating hours-alarm (leasing)*** or click on Neu and then on the menu item ***Add profile for relative operating hours alarms (leasing),*** to add a new alarm profile of this type.

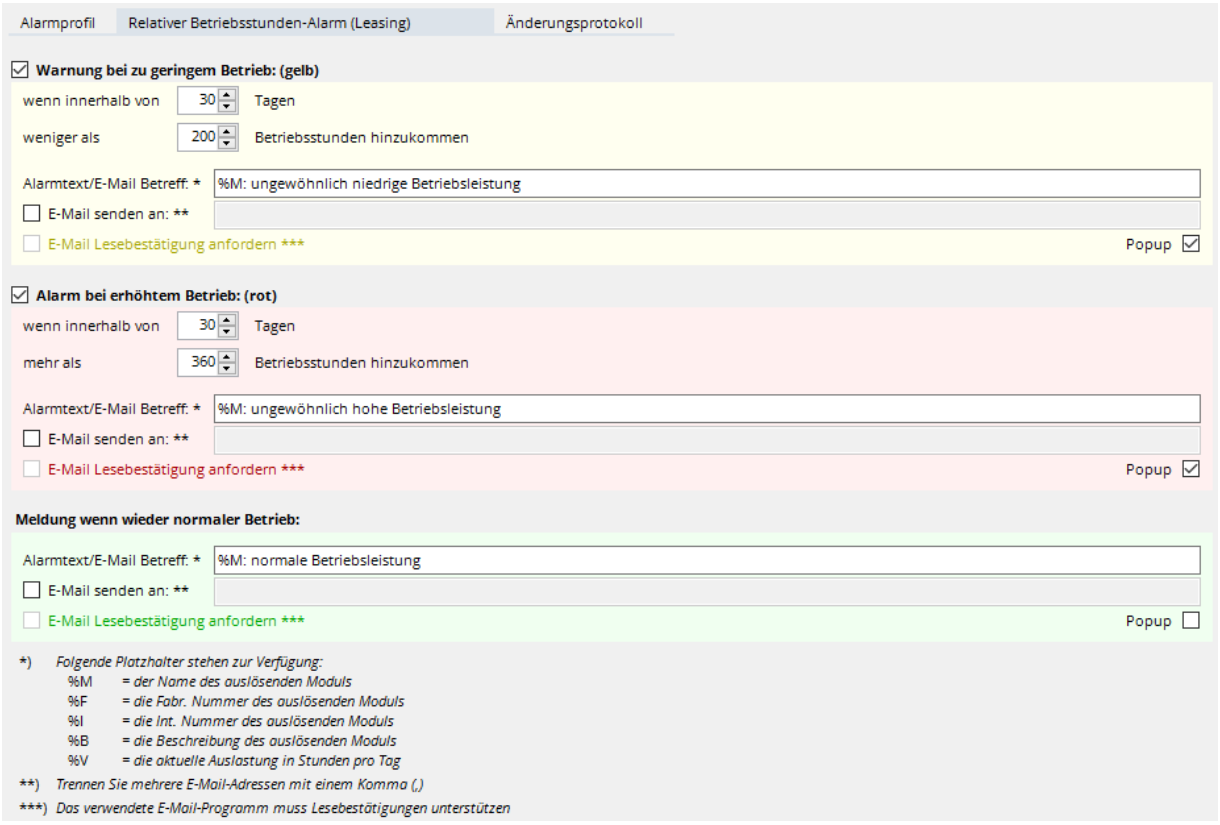


On the left side, in the tree diagram you see the new relative operating hours- alarm profile. The different settings of this alarm profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.2.3.1 Tab relative operating hour alarm (leasing)



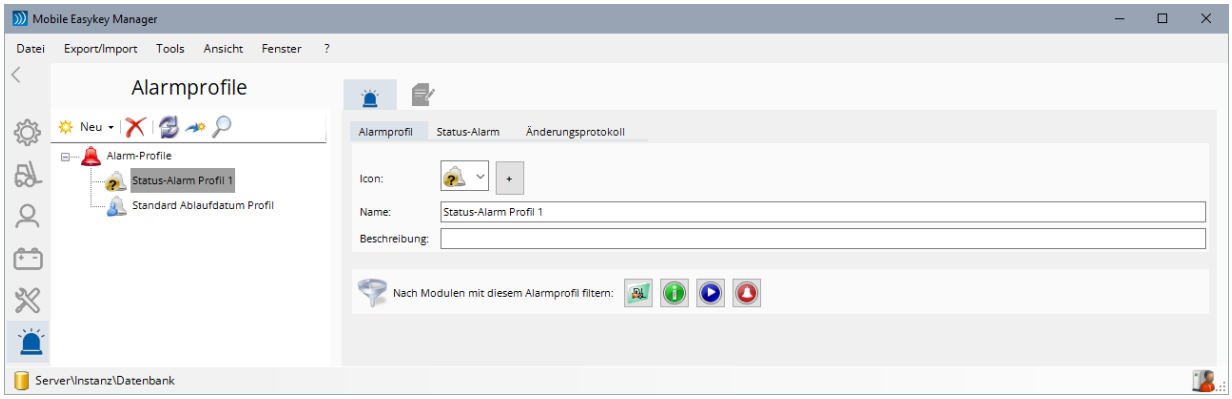
For this alarm type there are following two alarm levels:

- ***Low operating warning: (yellow)***
  This alarm level is triggered, when the operating performance is **less** than the specified number of operating hours within the specified time period.
- ***Alarm at raised operating performance. (orange)***
  This alarm level is triggered if the operating power within the specified period is **greater** than the specified number in operating hours.
- ***Note when normal performance re-established***
  If the operating performance is afterwards again below the appropriate threshold, the alarm is automatically reset.

5.10.2.4 Status-Alarms

A status alarm is triggered if a module could not be contacted for an extended period of time (and the status of the module displayed in the information centre is outdated).

Select an existing alarm profile of the type ***Status-Alarm*** or click Neu and there on the menu item ***Add Profile for Status-Alarms*** to add a new alarm profile of this type.

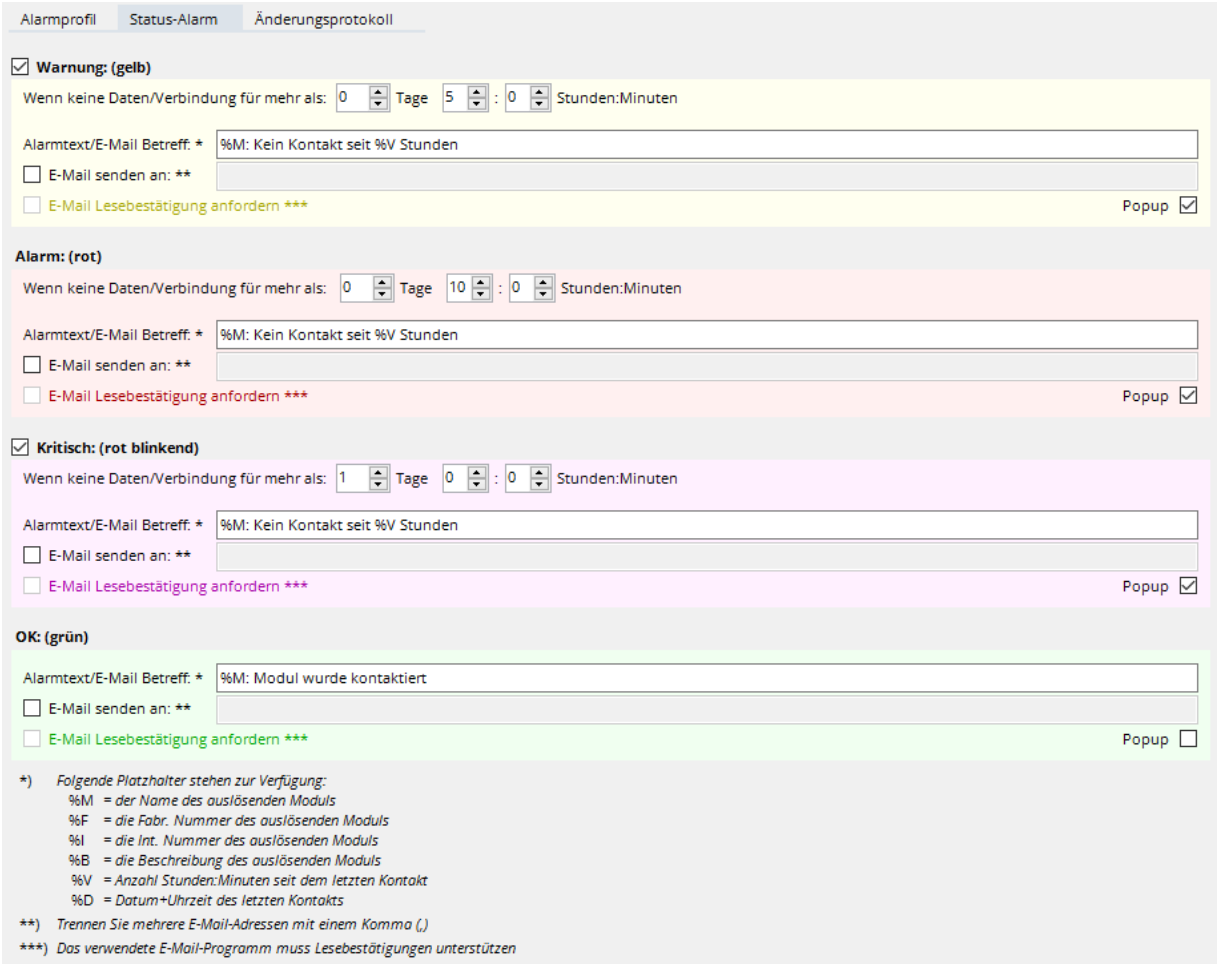


On the left side, in the tree diagram you see the new status-alarm profile. The different settings of this alarm profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.2.4.1 Tab Status-Alarm

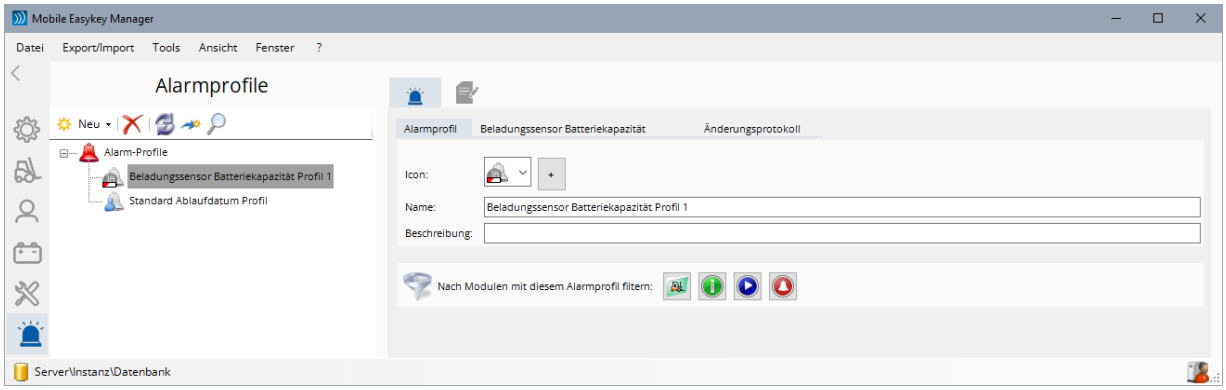


Three times (warning, alarm, critical) can be defined for which the respective alarm status is triggered.

5.10.2.5 Load Sensor Battery Capacity Alarm

A load-sensor-battery-capacity-alarm is triggered when the battery of the load sensor of this module slowly runs out.

Select an existing alarm profile of the ***status-alarm*** type or click on Neu and then on the menu item ***add profile for load sensor battery capacity*** to add a new alarm profile of this type.

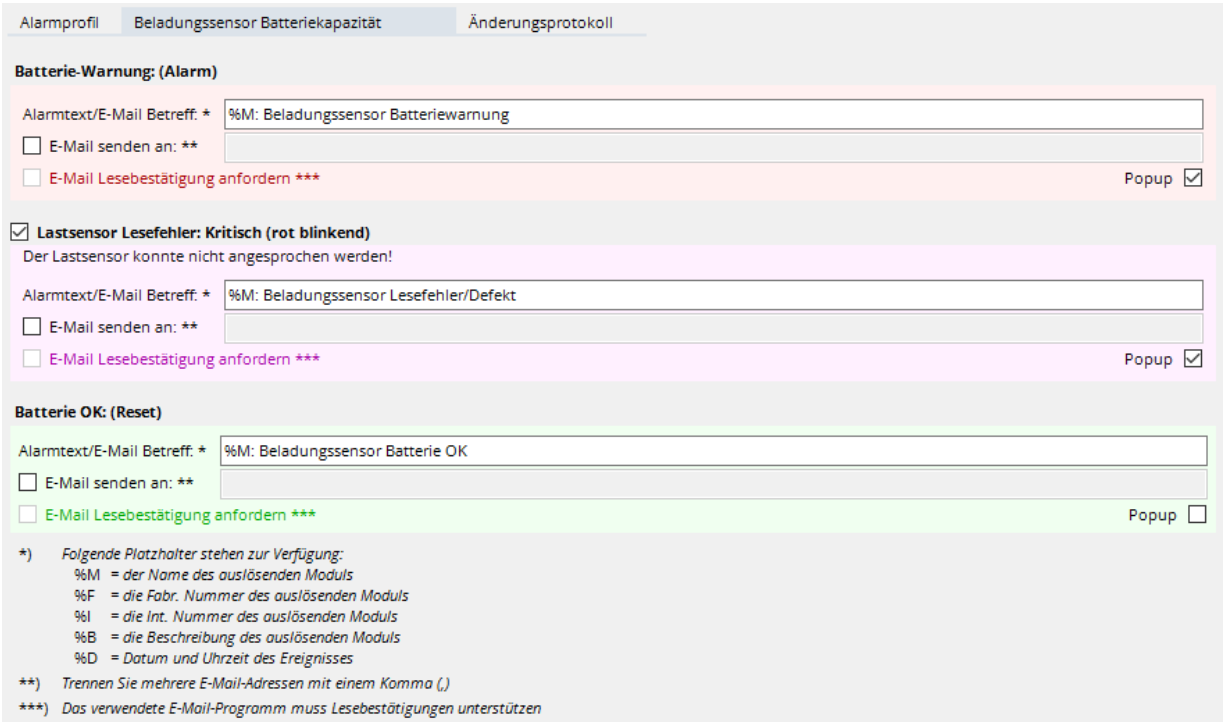


See the new load-senor-capacity-alarm- profile one the left of the tree diagram. On the right side are the different settings of this alarm profile.

- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.2.5.1 Tab load sensor battery capacity



There are two alarm levels for this type of alarm:

- ***Battery Warning: (Alarm)***
  This alarm level is triggered when the battery in the charging sensor slowly runs out.
- ***Load Sensor Reading Error***
  The load sensor was not found or has malfunction
- ***Battery OK: (Reset)***
  As soon as the battery in the loading sensor has been changed and reports sufficient capacity again, the alarm is automatically reset.

5.10.2.6 Electrolyte-Alarm

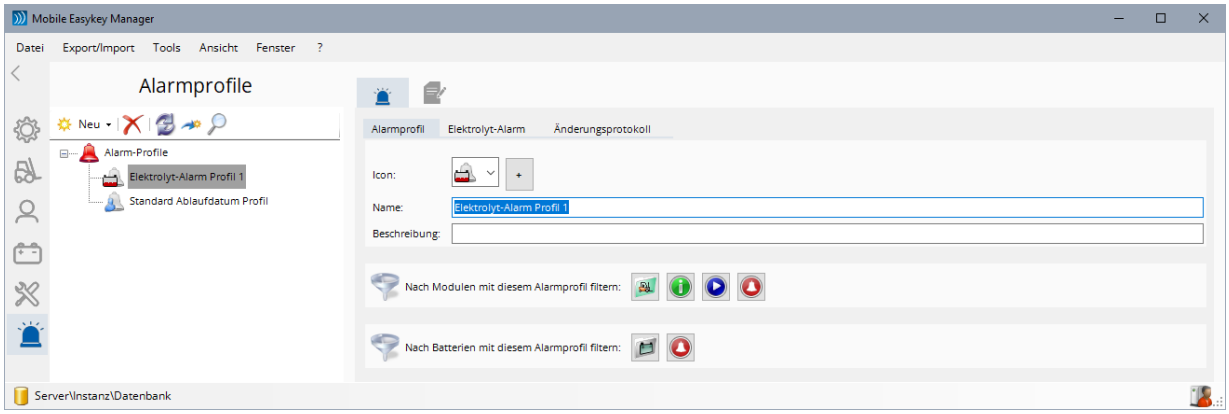
An electrolyte-alarm is triggered if the electrolyte sensor reports too low an electrolyte level (see also chapter **5.5.12.5 The Columns in the Logbook** the log entry ***Electrolyte level to low***). Since the Mobile Easykey Manager only learns about this when the logbook of this module is read, the actual triggering of this alarm can be delayed accordingly.

If this alarm profile is assigned to a battery, then the alarm will be triggered whenever the electrolyte level of this battery is too low (provided that it is installed in a powered module at that time)

If, on the other hand, this alarm profile is assigned to a module, then the alarm will be triggered if the battery currently installed in this module has an electrolyte level that is too low.

Note: Not all module types support the electrolyte sensor.

Select an existing Electrolyte/ Battery-Reading-Alarm Profile or click Neu and then click on the menu item ***Add Electrolyte-Alarms*** to add a new profile of this type.



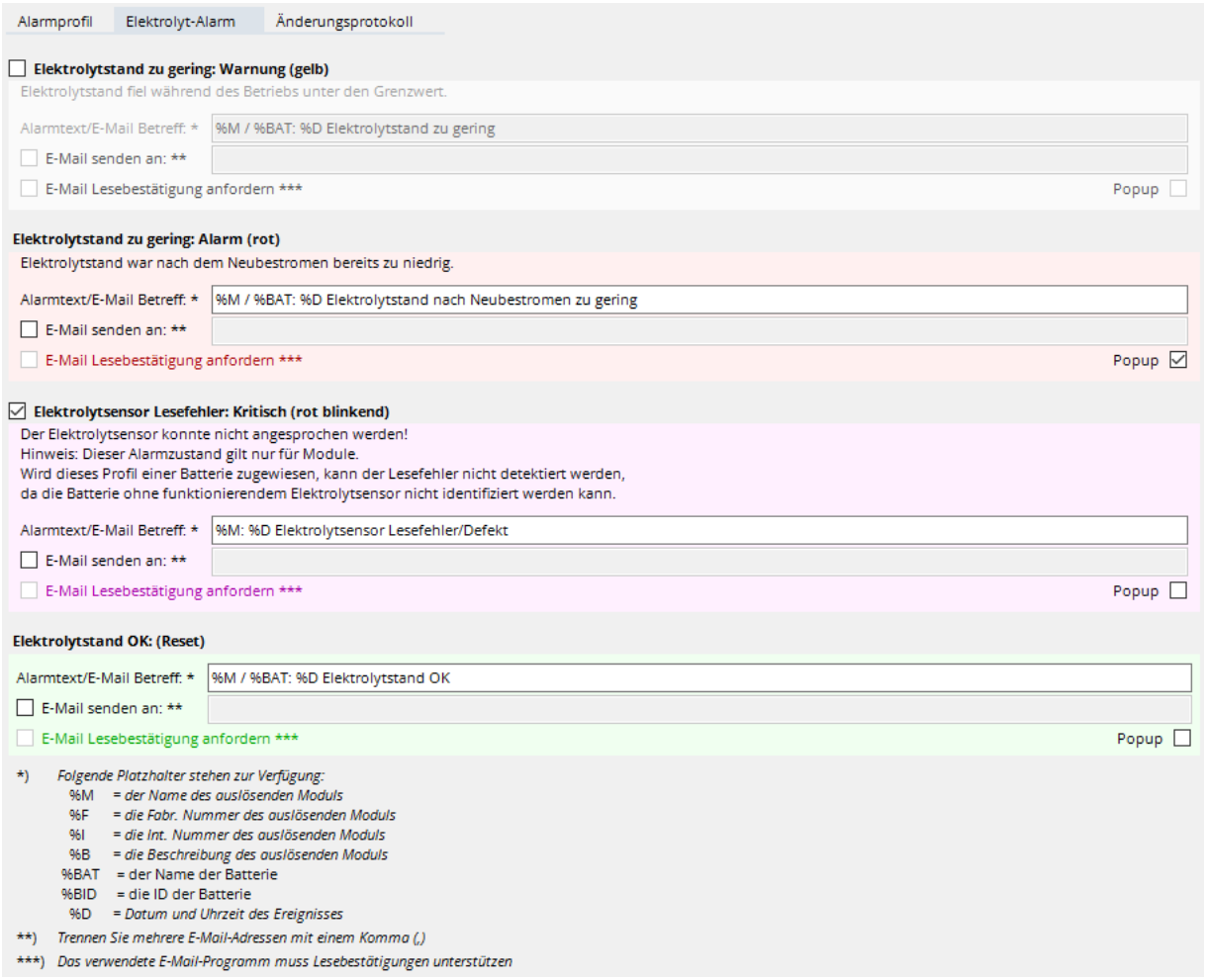
On the left side, in the tree diagram you see the new Electrolyte-Alarm profile. The different settings of this alarm profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

With the buttons , you are able to go directly in one of the batteries tabs (see **5.8.1 Battery properties**) or battery-alarm central office (see **5.8.9 Battery-alarm central office**). The filter is automatically (see **5.11.8 Filter display**) activates by which only batteries are displayed which use exactly this alarm profile.

5.10.2.6.1 Tab Electrolyte-Alarm



There are three alarm levels for this alarm type:

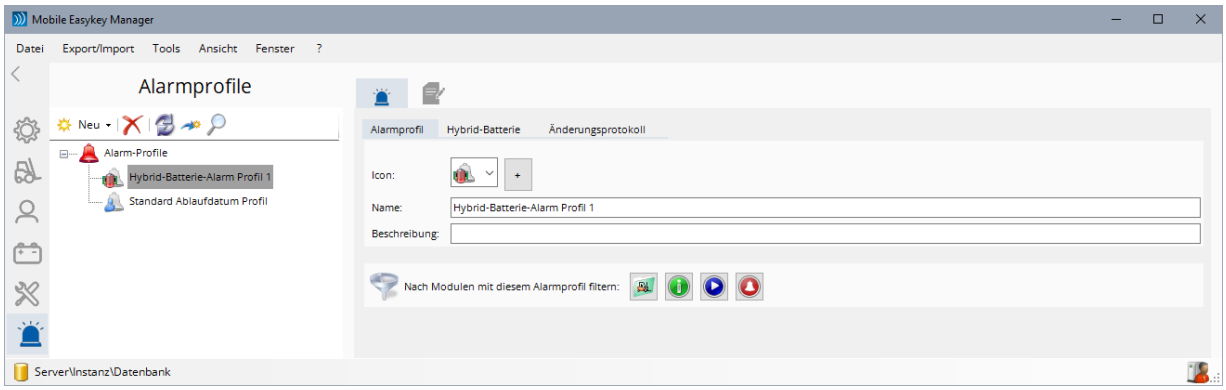
- ***Electrolyte level too low: (Warning)***
  If the electrolyte sensor reports a too low electrolyte level at some point during operation, this is initially classified as a warning (see also the logbook entry electrolyte level in Chapter **5.5.12.5 The Columns in the Logbook** the log entry ***Electrolyte level too low***).
  Configure the desired actions that should be performed in that case.
- ***Electrolyte level too low: (Alarm)***
  On the other hand, if the electrolyte sensor reports a too low electrolyte level right at the beginning (after the new current, if the electrolyte sensor was detected), this is classified as an alarm! (See also chapter **5.5.12.5 The Columns in the Logbook** the logbook entry ***Battery found, Electrolyte level too low!***).
  Konfigurieren Sie hier die gewünschten Aktionen, die in diesem Fall erfolgen sollen.
- ***Electrolyte sensor reading error: (Critical)***
  The electrolyte sensor is defective.

  Electrolyte level OK: (Reset)
  Here you can configure the desired actions that should be carried out if the electrolyte level is OK again after a warning or an alarm.

5.10.2.7 Hybrid-Battery-Alarm

This alarm is used to monitor the button cell battery in the module (hybrid). If this battery is exhausted, the built-in watch in the module goes wrong!

Select an existing Hybrid battery alarm profile or click Neu and there click on the Add ***Profile for Hybrid Battery Alarm*** menu to add a new profile of this type.

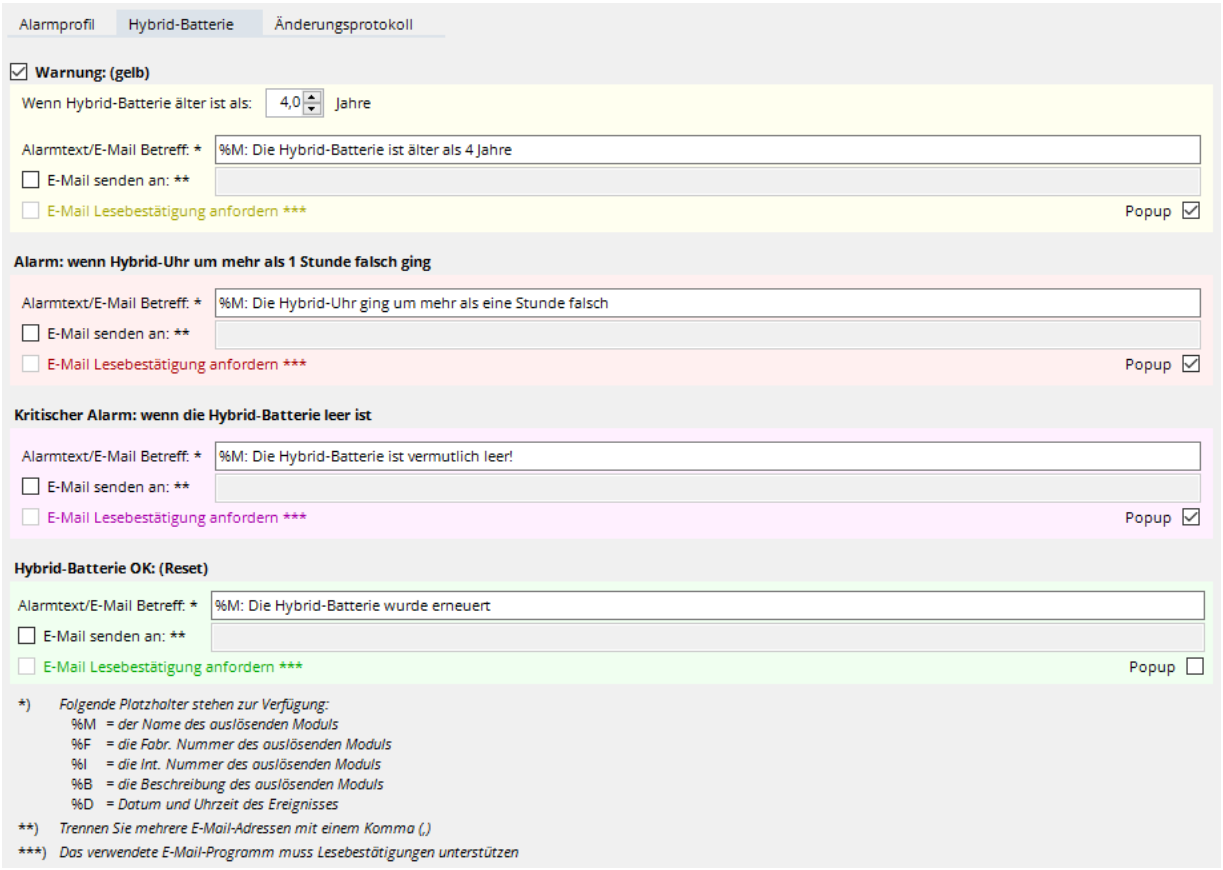


You will now see the new alarm profile on the left side of the tree diagram. On the right side are the different settings of this alarm profile.

- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.2.7.1 Tab Hybrid-Battery



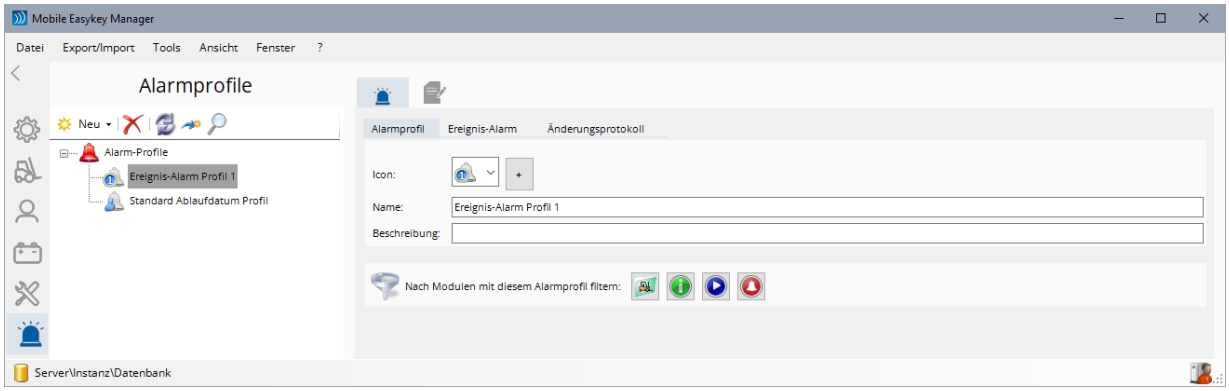
There are three alarm levels for this type of alarm:

- ***Warning: (yellow)***
  This alarm level is triggered when the battery reaches the set age.
  Note: To determine the age of the battery, it must be entered once in the information center (see **5.5.20 Information central office** *column Hybrid-Battery Age*).
- ***Alarm:***
  If the internal clock went wrong for more than an hour, this indicates a weak battery. In this case, an alarm is triggered.
- ***Critical Alarm:***
  If a powered-entry with the date 1.1.2000 is found in the logbook, it is concluded that the battery is empty and this critical alarm is triggered.

5.10.2.8 Event Alarms

An event alarm is triggered if one of both digital event inputs of a module becomes active or becomes inactive again. Because the Mobile Easykey Manager only receives knowledge of it, when the logbook of this module is read out, the actual triggering of this alarm can be delayed accordingly.

Select an available event-alarm profile or click on Neu and there on the menu item ***Profile for event alarms add*** to add a new profile of this type.



Now you see the new event-alarm profile on the left in the tree diagram. The different settings of this alarm profile are shown on the right side.

- ***Icon***
  Here you can assig an icon or an image the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.2.8.1 Tab event alarm



With this alarm type there are only two alarm levels:

- ***Event occurs: (Alarm)***
  Configure the required action which should take place with activation of the respective digital input.
- ***Event not active anymore: (Reset)***
  Configure the required action which should take place if the respective digital input is not active any more.

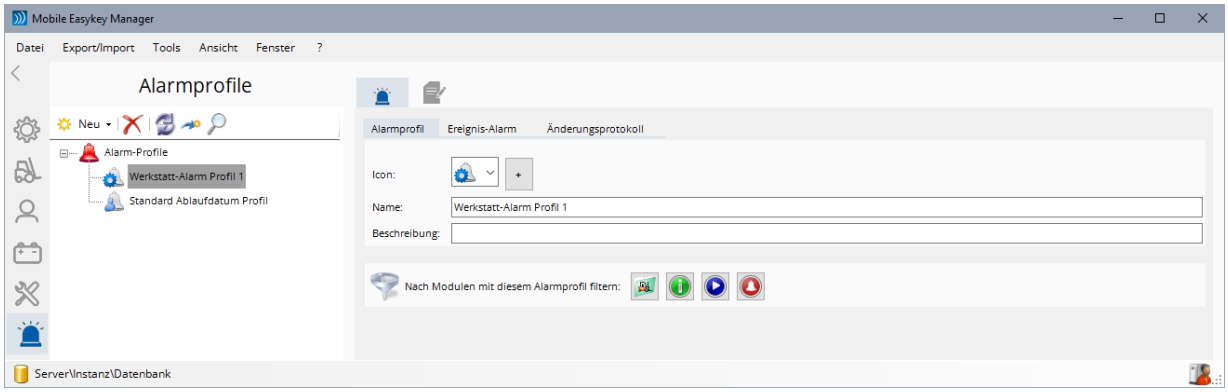
Note:

If operating rights are activated (see **5.21 Software Operating Rights**) the respective software user must own the operating right "cause display", so that the placeholder %X is triggered in the alarm central office. Accordingly, the respective email address must be activated to show the display of causes (see **5.21.1.1 Settings**).

5.10.2.9 Workshop Alarms

A workshop alarm is triggered if the module changes over into workshop mode (**5.5.23.8 Workshop**). Because the Mobile Easykey Manager receives only knowledge from it, when the logbook of this module is read out, the actual triggering of this alarm can be delayed accordingly.

Select an available workshop-alarm profile or click on Neu and there on the menu item ***Profile for workshop alarms add*** to add a new profile of this type.



Now on the left in the tree diagram the new workshop-alarm profile is displayed. The different settings of this alarm profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or a picture image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.2.9.1 Tab (workshop) Event alarm



With this alarm type there are only two alarm levels:

- ***Event occurs: (Alarm)***
  Configure the required action which should take place with activation of the respective digital input.
- ***Event not active anymore: (Reset)***
  Configure the required action which should take place if the respective digital input is not active any more.

Note:

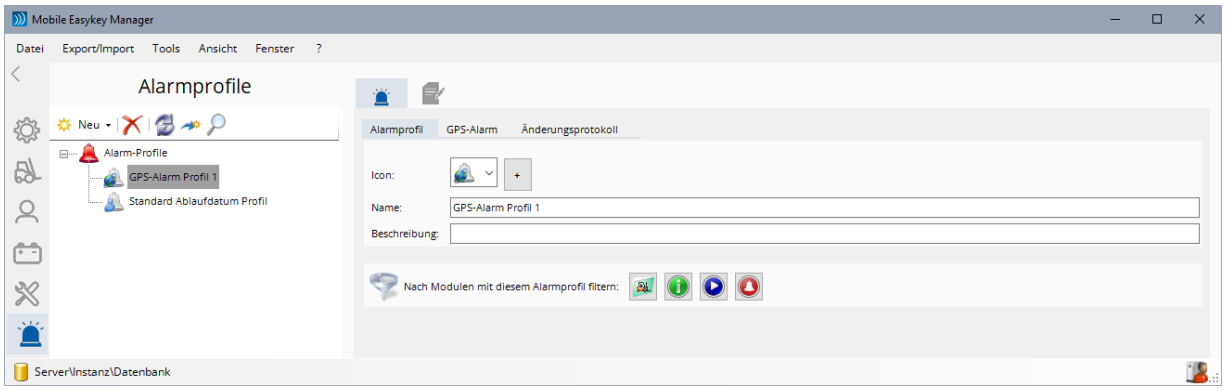
If operating rights are activated (see **5.21 Software Operating Rights**) the respective software user must own the operating right "cause display", so that the placeholder %X is triggered in the alarm central office. Accordingly, the respective email address must be activated to show the display of causes (see **5.21.1.1 Settings**).

5.10.2.10 GPS-Alarms

A GPS-alarm is triggered if a (mobile radio) module moves further away than allowed from a central point.

Note:
The GPS alarm requires a mobile phone module with GPS function and the activation code . Outdoor-Locator (see **5.22.5 Outdoor Locator**)

Select an existing alarm profile of the type ***GPS-Alarm*** or click Neu and there on the menu item ***Add Profile for GPS-Alarms*** to add a new alarm profile of this type.

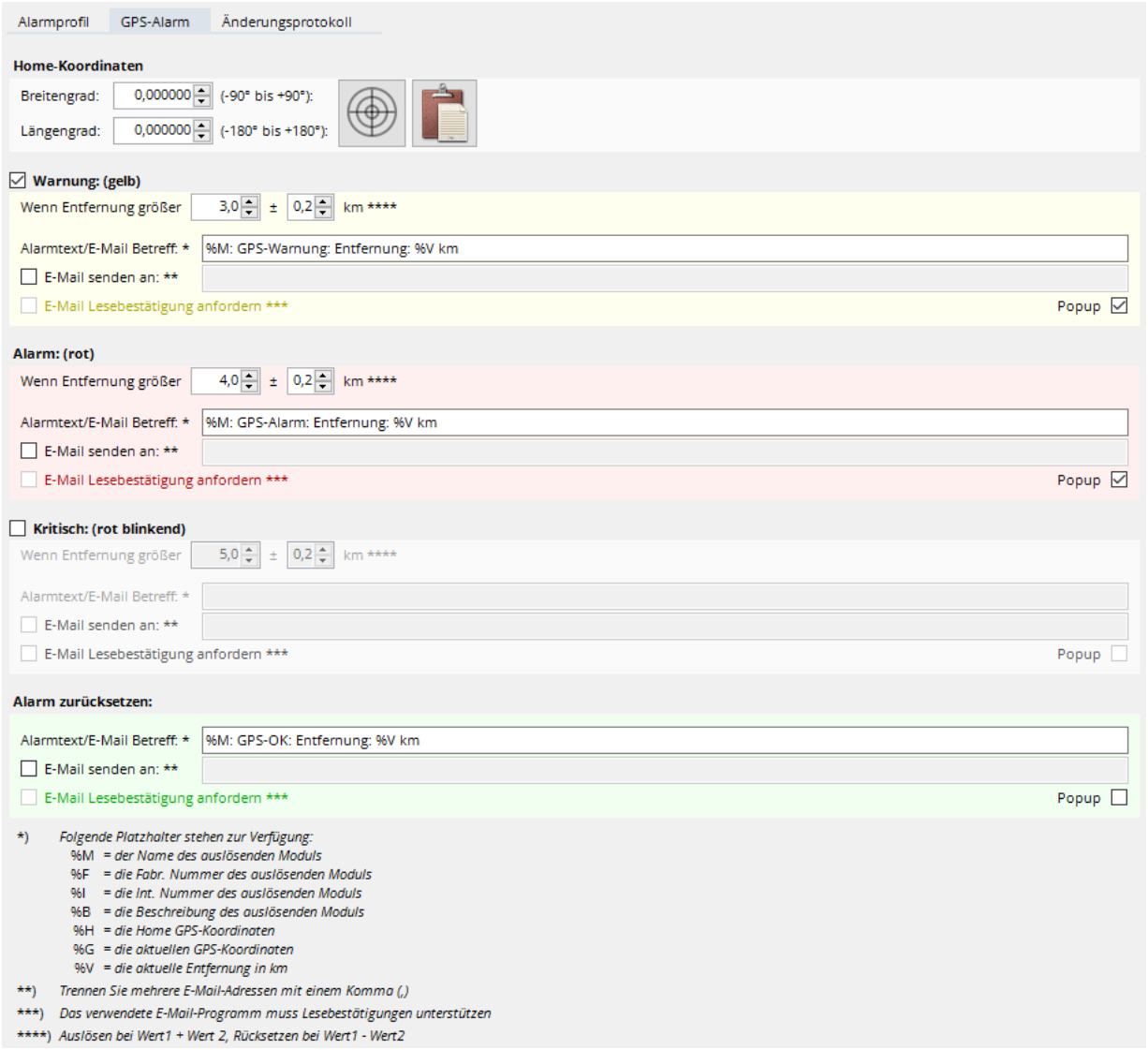


On the left side, in the tree diagram you see the new status-alarm profile. The different settings of this alarm profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.2.10.1Tab GPS-Alarm



In the Latitude and Longitude fields, first enter the GPS coordinates of the central point from which you want to measure the distance.



With this button, the currently set coordinates can be displayed in Google Maps (Internet connection required).



With this button GPS coordinates (in the format 12.345678, 12.345678) can be inserted from the clipboard.

Under Warning, Alarm and Critical 3 distances can now be specified, from which the corresponding alarm level is triggered.

5.10.2.11 Electric Charging Alarms

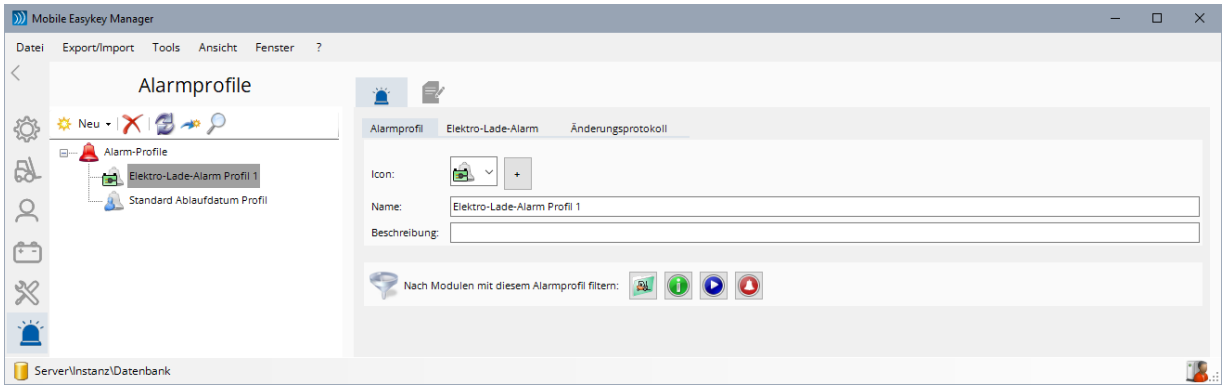
The electric charging alarms serve to recognise too short loading times.
Accordingly, this alarm profile can only be assigned to modules with the drive type ***Electrical load*** (see **5.5.1.2 Settings of Module X** Drive type).

The "not powered" time is recognised before the “powered” loading time entry in the logbook.

The alarm is triggered if the loading time fell short of the specified value.

Because Mobile Easykey Manager receives knowledge about it when the logbook of this module is read out, the actual triggering of this alarm can be delayed accordingly.

Select an available alarm profile of the type ***Electric charging alarm*** or click on Neu and then on the menu item ***Profile for electric charging alarm add,*** to add a new alarm profile of this type.

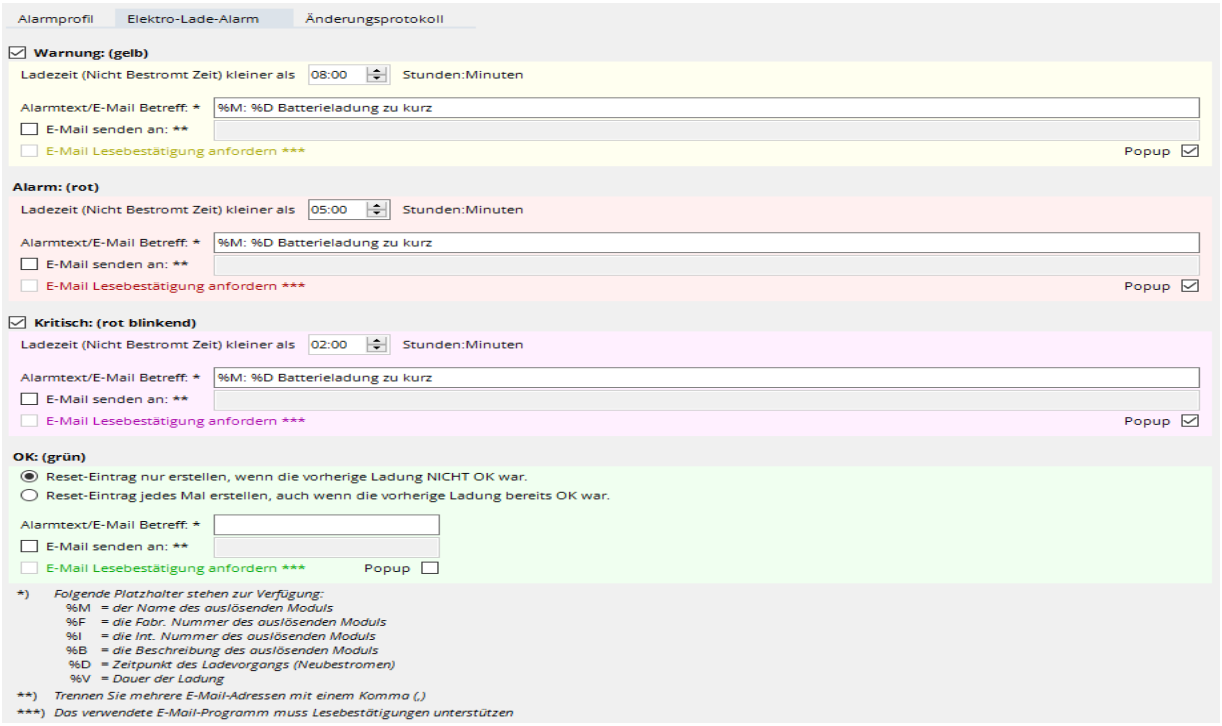


On the left side, in the tree diagram you see the new electric charging- alarm profile. The different settings of this alarm profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.2.11.1Tab Electric charging alarm



For this alarm type there are following alarm levels:

- ***Warning: (yellow)***
  If this option is activated, the alarm level *warning* is triggered if the loading time fell short of the specified value.
- ***Alarm message: (red)***
  This alarm level is triggered if the loading time (the "Not Powered" time before the respective “Powered” entry in the logbook) is smaller than the sum specified here.
- ***Critically: (red blinking)***
  If this option is activated, the alarm level *Critical* is triggered if the loading time fell short of the specified value.
- ***OK***
  This alarm level is triggered, as soon as (after triggering of one of three alarm levels) the first battery charge is again in the normal range.

5.10.2.12 Electric Change Alarms

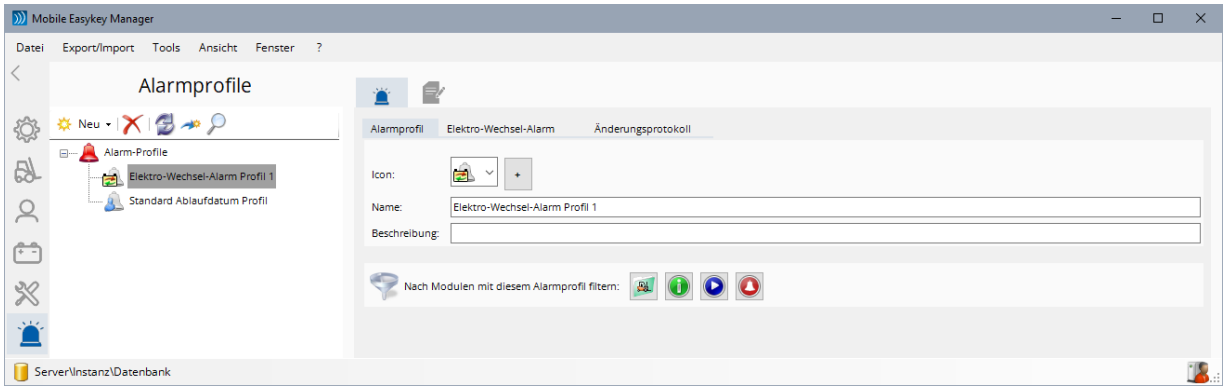
The electric change alarms serve to recognise too long battery-change times.
Accordingly, this alarm profile can only be assigned to modules with the drive type ***Electrical alternating*** (see **5.5.1.2 Settings of Module X** Drive type).

As a change time the "Not powered" time is recognised before the “powered” entry in the logbook.

The alarm is triggered if the change time has crossed the specified value.

Because Mobile Easykey Manager receives knowledge about it when the logbook of this module is read out, the actual triggering of this alarm can be delayed accordingly.

Select an available alarm profile of the type ***Electric change alarm*** or click on Neu and then on the menu item ***Profile for electric change alarm add,*** to add a new alarm profile of this type.

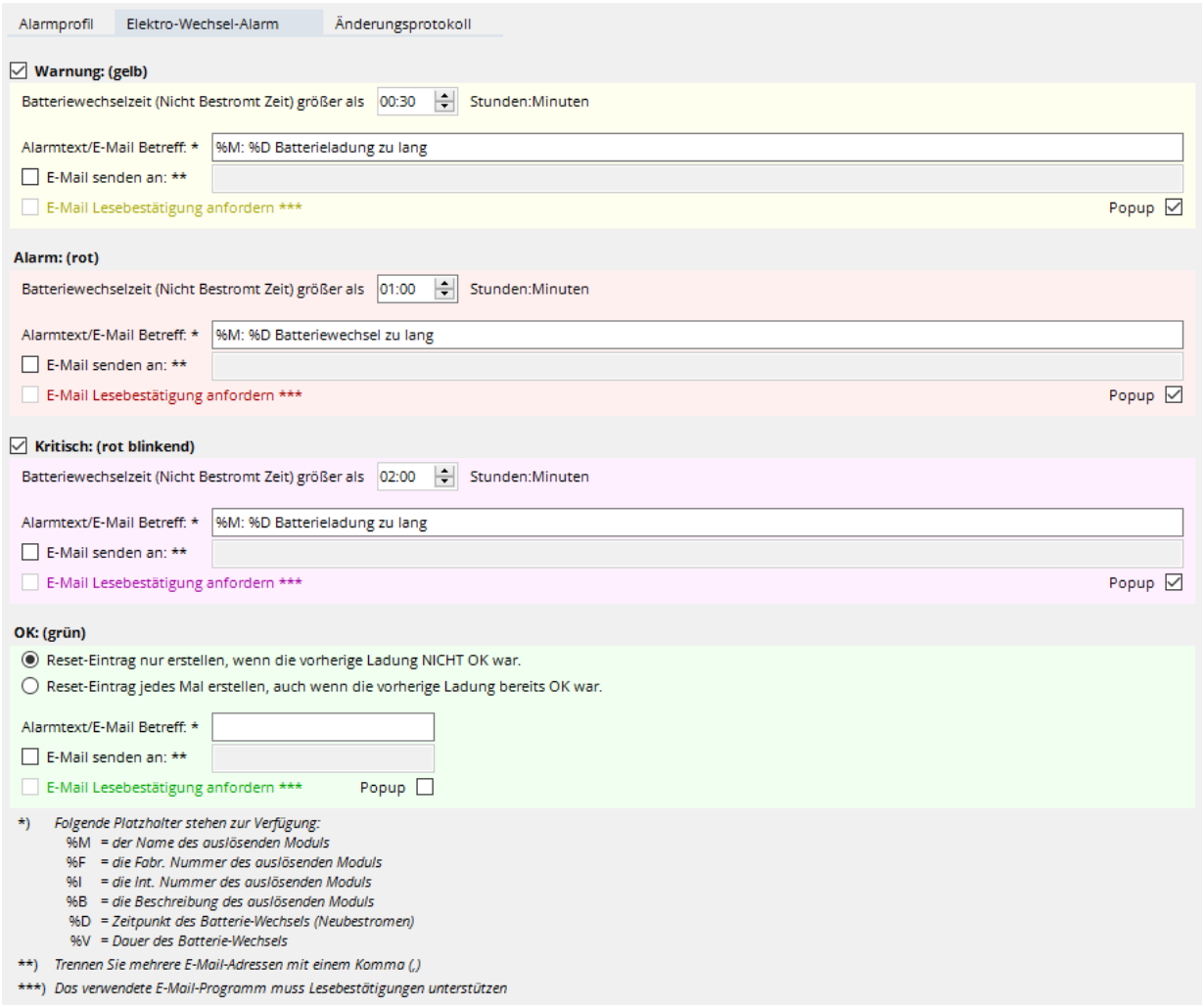


On the left side, in the tree diagram you see the new electric change- alarm profile. The different settings of this alarm profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.2.12.1Tab Electric change alarm



For this alarm type there are following alarm levels:

- ***Warning: (yellow)***
  If this option is activated, the alarm level *warning* is triggered if the change time has crossed the specified value.
- ***Alarm message: (red)***
  This alarm level is triggered if the battery-change time (the "Not powered" time before the respective Powered entry in the logbook) is greater than the sum specified here.
- ***Critically: (red blinking)***
  If this option is activated, the alarm level *Critical* is triggered if the change time has crossed the specified value.
- ***OK***
  This alarm level is triggered, as soon as (after triggering of one of three alarm levels) the first battery change is again in the normal range.

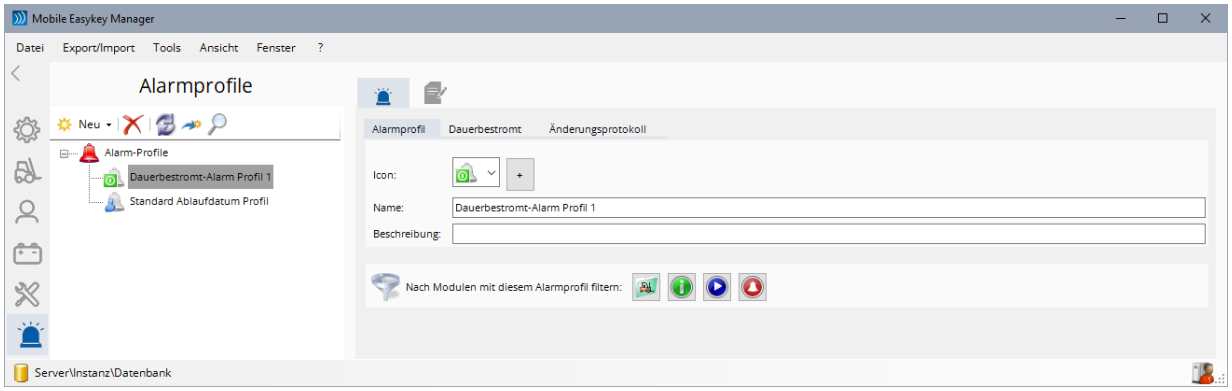
5.10.2.13 Continuously Powered-Alarm

The *Continuously Powered-Alarm* serves to recognise if a battery change was too late or did not happen at all or a late or no charge.

Accordingly, this alarm profile can only be assigned to modules with the drive type ***Electrical load*** or ***Electrical alternating*** (see **5.5.1.2 Settings of Module X** Drive type).

The Mobile Easykey Manager only receives the information when the logbook of these modules is read out, therefore the trigger of the alarm may be delayed accordingly.

Select an existing alarm profile of the type *Continuously Powered-Alarm* and click on Neu and then on the menu ***Add Profile for*** *Continuously Powered-Alarm* to add an alarm profile of this type.

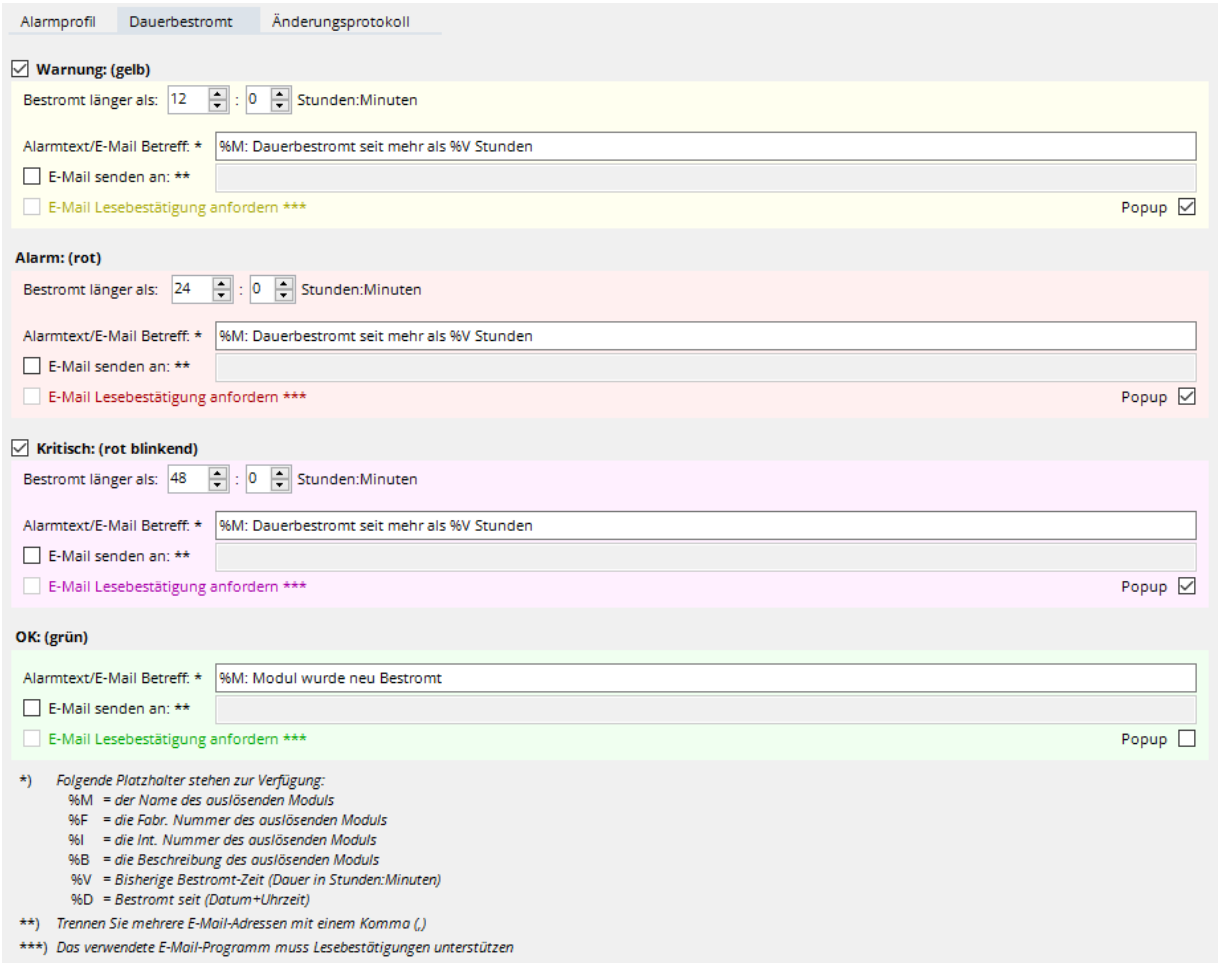


On the left side, in the tree diagram you see the new Powered-Alarm Profile. The different settings of this alarm profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), (see **5.5.21 Communication central office**) or jump directly to module-alarm central office (see **5.5.22 Module-alarm central office** The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.2.13.1Tab Continuously Powered



For this alarm type, there is the following alarm level:

- ***Warning: (yellow)***
  If this option is activated, the alert level will be triggered if the load time has fallen below the specified value.
- ***Alarm message: (red)***
  This alarm level is triggered if the load time (the "Not powered" time before the respective powered entry in the logbook) was less than the amount specified here.
- ***Critical: (flashing red)***
  If this option is enabled, the alert level Critical will be triggered, if the load time has fallen below the specified value.
- ***OK***
  This alarm level is triggered as soon as (after one of the three alarm levels has been triggered) the first power on time is back in the normal range.

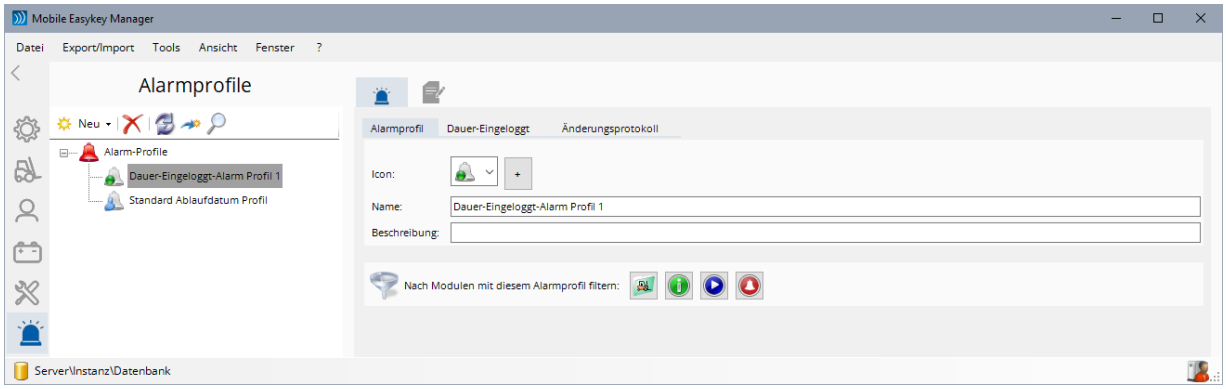
5.10.2.14 Persistent Logged in-Alarm

The persistent logged-in alarm is used to detect very long permanent log-in times (without logging out in between). Such behavior can indicate, for example, a defective presence detection.

Since the Mobile Easykey Manager only becomes aware of this when the logbook of this module is read, the actual triggering of this alarm can be delayed accordingly.

If the alarm is to be triggered even in the active state, then the reading of the logbook while logged in must be activated (see **5.13.3.2.1 Conditions**), otherwise the Mobile Easykey Manager will only become aware of this event when the user has already logged out again (whether by a transponder, presence detection or re-energizing the module).

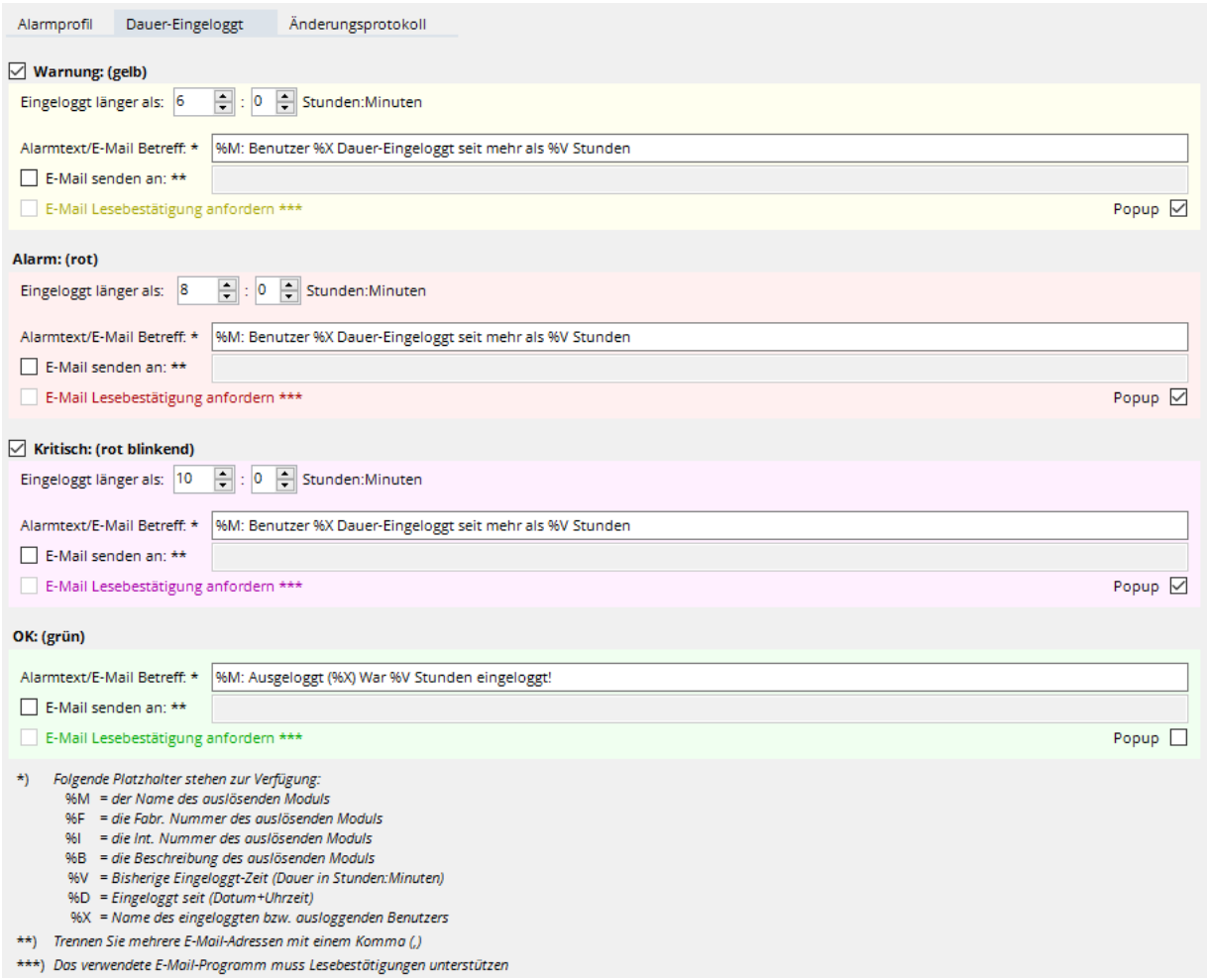
Select an existing alarm profile of the type **persistently-logged-in-alarm** or click on Neu and click on the menu button ***Add profile for*** **persistently-*logged-in-alarm*** *to add a new alarm profile.*



- You will now see the new Persistently-logged-in-alarm profile on the left side of the tree diagram. On the right-hand side, you will find the various settings of this alarm profile.
- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile here.
- ***Description***
  Here you can enter a description or any other text about this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), (see **5.5.21 Communication central office**) or jump directly to module-alarm central office (see **5.5.22 Module-alarm central office** The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.2.14.1Tab Persistently Logged-in

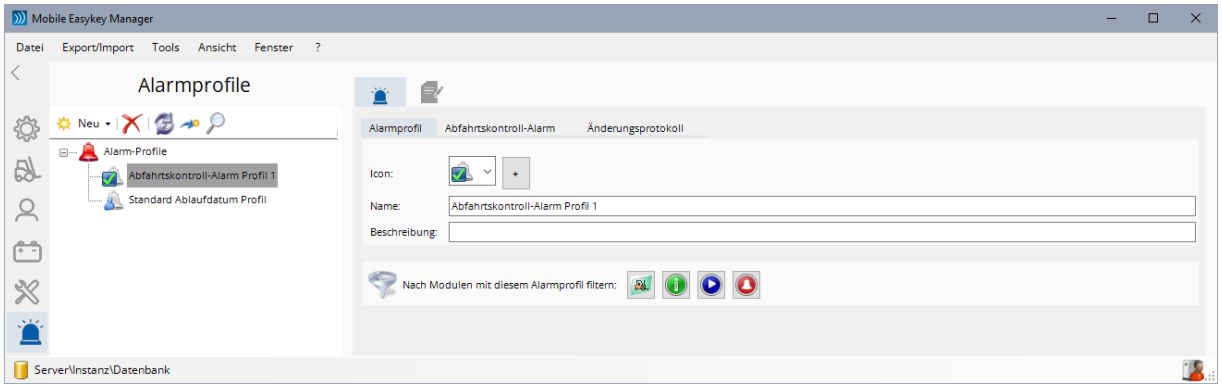


Für diesen Alarm-Typ gibt es folgende Alarmstufe:

- ***Warning: (yellow)***
  If this option is activated, the alert level will be triggered if the load time has fallen below the specified value.
- ***Alarm message: (red)***
  This alarm level is triggered if the load time (the "Not powered" time before the respective powered entry in the logbook) was less than the amount specified here.
- ***Critical: (flashing red)***
  If this option is enabled, the alert level Critical will be triggered, if the load time has fallen below the specified value.
- ***OK***
  Is shown as soon as it is Logged out again (after triggering one of the three alarm levels).

5.10.2.15 Departure Control-Alarms

A departure control alarm is triggered if, during a departure control, one of the questions is answered in the negative. Since the Mobile Easykey Manager only learns about this when the logbook of this module is read, the actual triggering of this alarm can be delayed accordingly. Select an existing departure control-alarm profile or click on Neu and then the menu item ***add profile for departure control-alarms*** to add a new profile of this type. If desired, change the icon, name and description of this alarm profile. Then click on the ***departure control-alarm*** tab.

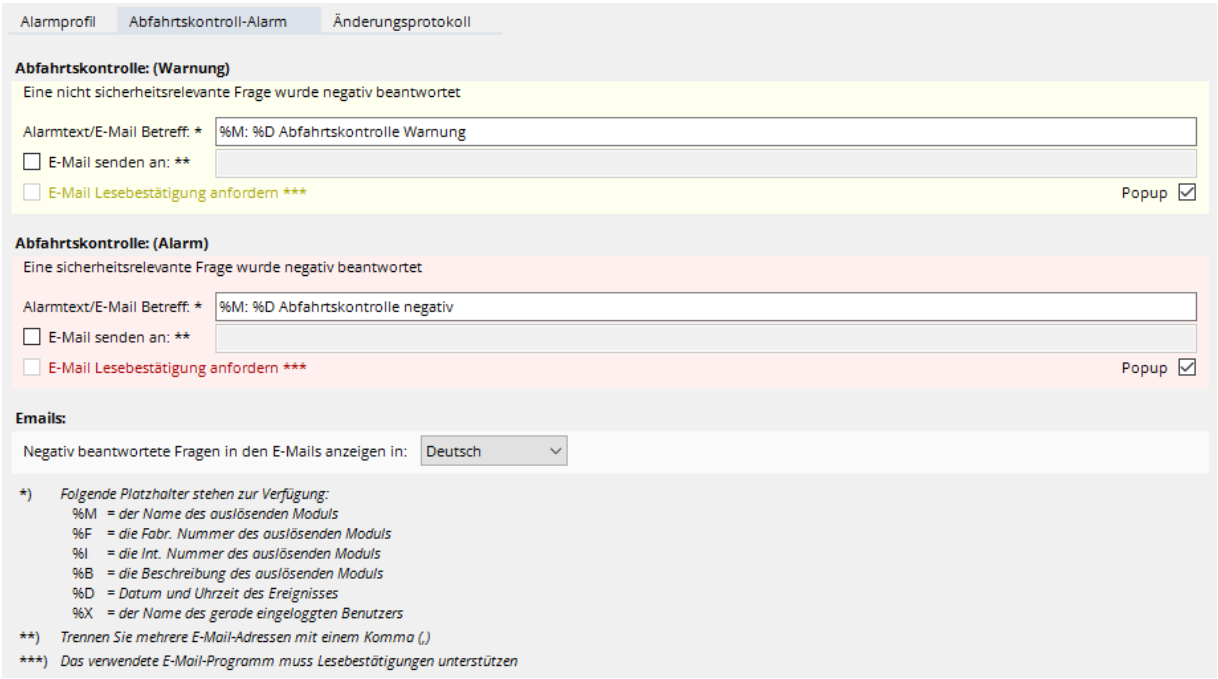


On the left side, in the tree diagram you see the new departure control alarm profile. The different settings of this alarm profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.2.15.1Tab Departure Control-Alarm



There are only two alarm levels for this type of alarm:

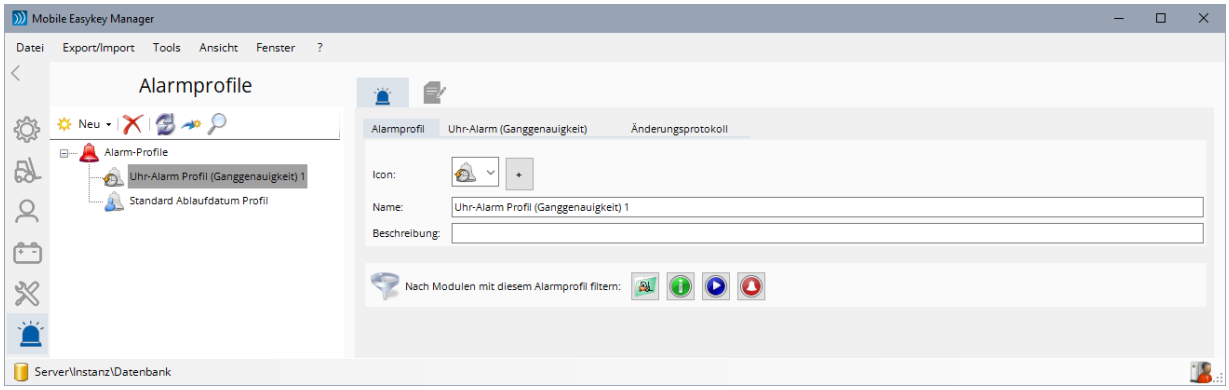
- • ***Departure control: (warning)***
  A warning is triggered if only non-safety-relevant questions were answered negatively during the departure check.
  Here you can configure the desired actions to be taken in the event of a warning.
- • ***Departure control: (alarm)***
  An alarm is triggered if at least one safety-related question was answered negatively during the departure check. In this case, the module was also automatically put into the workshop mode (see **5.5.23.8 Workshop**).
  Here you configure the desired actions to be taken in the event of an alarm.

5.10.2.16 Clock Alarms (Speed accuracy)

A clock alarm is triggered if the internal clock of a module differs for a certain number of minutes.

Note:
In the factory configuration (see, e.g. **5.13.3.2.6 Set clock** or **5.12.2 Global settings - cable connection**) the clock is automatically set if it loses more than 15 seconds. No clock alarm is triggered!

Select an available clock-alarm profile or click on Neu and there on the menu item ***Profile for clock alarms (speed accuracy) add*** to add a new profile of this type.

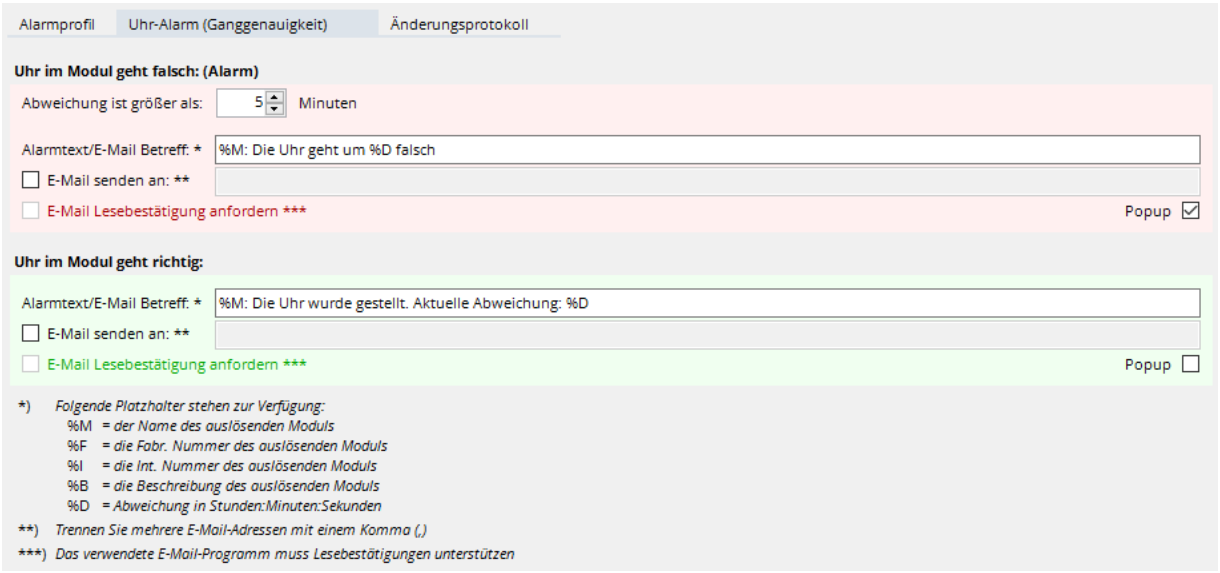


On the left side, in the tree diagram you see the new clock-alarm profile. The different settings of this alarm profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.2.16.1Tab clock alarm (speed accuracy)



For this alarm type there are following two alarm levels:

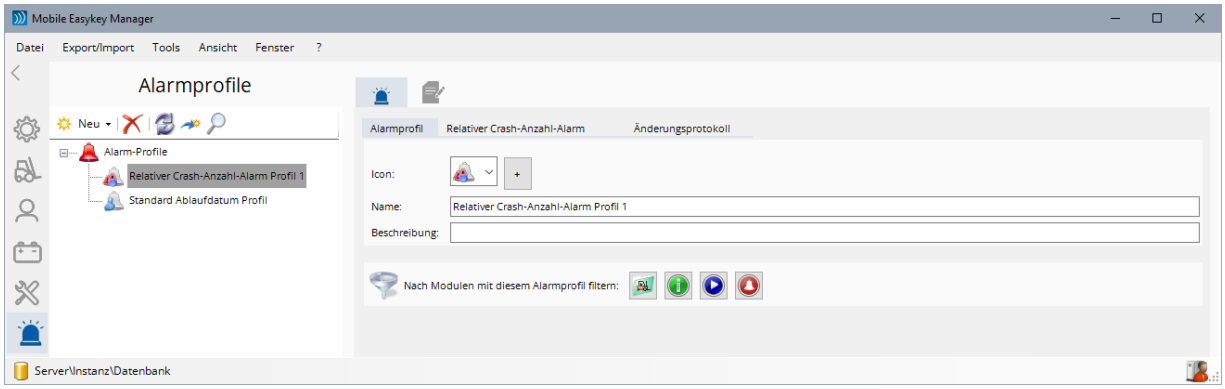
- ***Module clock deviates: (Alarm)***
  This alarm level is triggered if the deviation of the clock is greater in the module, than the number in minutes specified here.
- ***Module clock accurate***
  As soon as the deviation of the clock is again less than the number of minutes specified here, the alarm is automatically reset.

5.10.3 Crash-Alarm Profile

5.10.3.1 Crash alarms

A crash alarm is triggered if an active or passive crash occurs or a crash is activated. Because the Mobile Easykey Manager only receives knowledge of it, when the logbook of this module is read out, the actual triggering of this alarm can be delayed accordingly.

Select an available crash-alarm profile or click on Neu and there on the menu item ***Profile for crash alarms add*** to add a new profile of this type. Change, if required, the icon, the names and the description of this alarm profile. Then click on tab ***crash alarm***.



On the left (in the tree diagram) you see the new crash-alarm profile. The different settings of this alarm profile are shown on the right side.

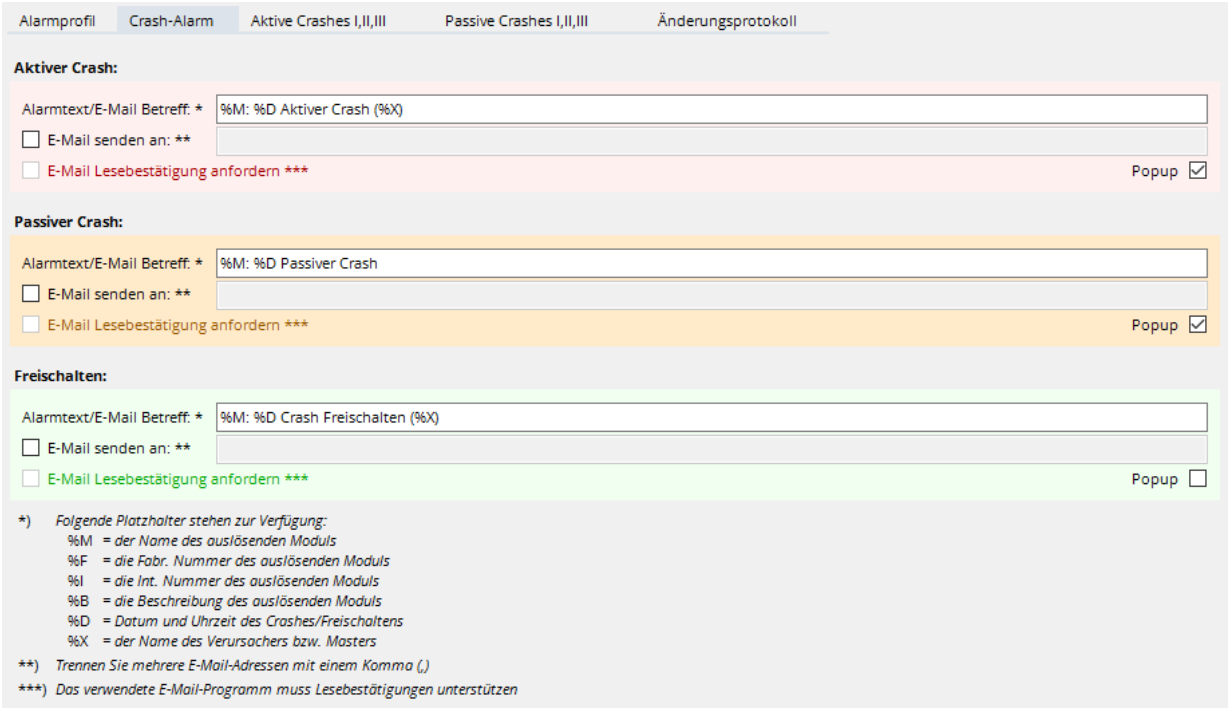
- ***Icon***
  Here you can assign) an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter here the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

Note:
If operating rights are activated (see **5.21 Software Operating Rights**) the respective software user must own the operating right "cause display", so that the placeholder %X is triggered in the alarm central office. Accordingly, the respective email address must be activated to show the display of causes (see **5.21.1.1 Settings**).

5.10.3.1.1 Tab Crash alarm

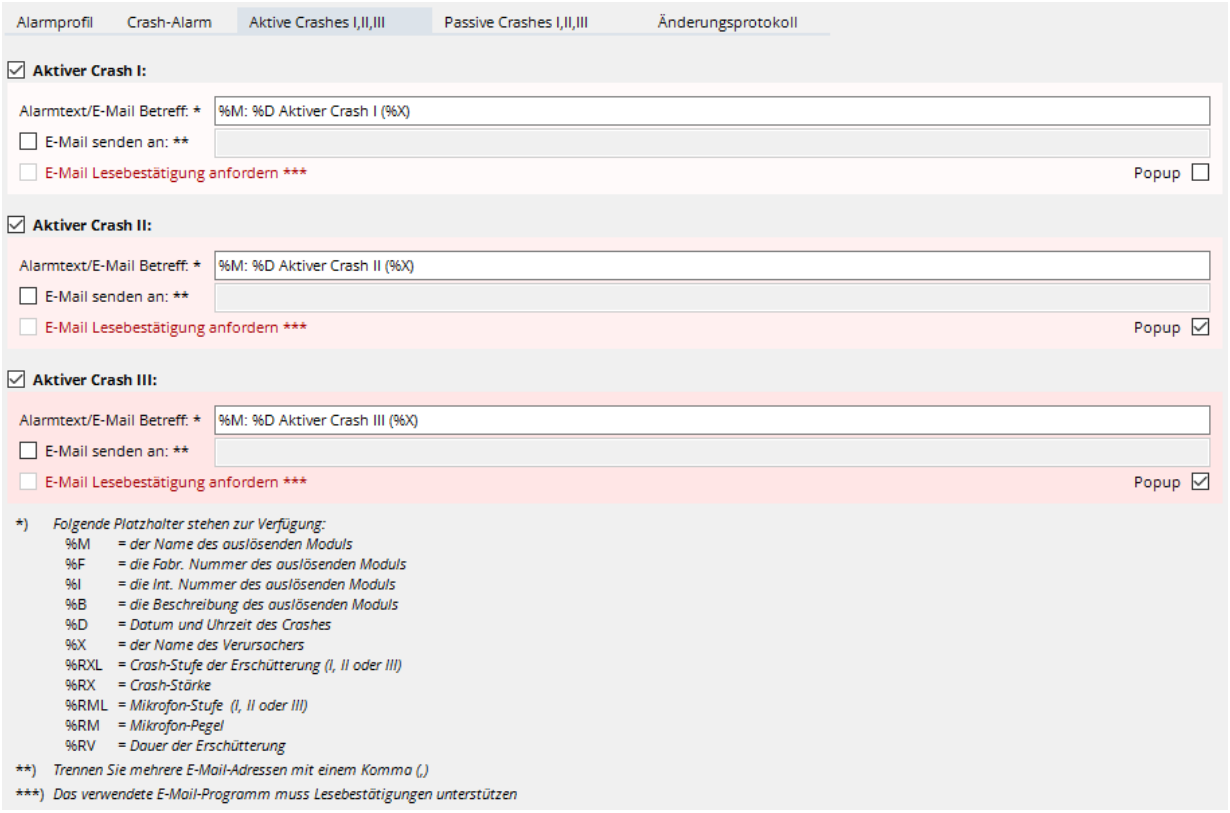
The alarm in the Crash Alarm tab is triggered for all crashes without a crash stage, i.e. for modular ***crash+duo*** modules or if the crash level of a ***modular crash+remote*** or ***modular plus crash*** module could not be detected due to an error.



- ***Active crash***
  Configure the required action which should take place with the occurrence of an active crash.
  Note: Crash+ Remote modules do not trigger this alarm as a rule!
- ***Passive crash***
  Configure the required action which should take place with the occurrence of a passive crash.
  Note: Crash+ Remote modules do not trigger this alarm as a rule!
- ***Activate***
  Configure the required action which should take place with the occurrence of a crash
  Attention: this option also applies for Crash+ Remote modules!

5.10.3.1.2 Tab active Crashes I, II, III

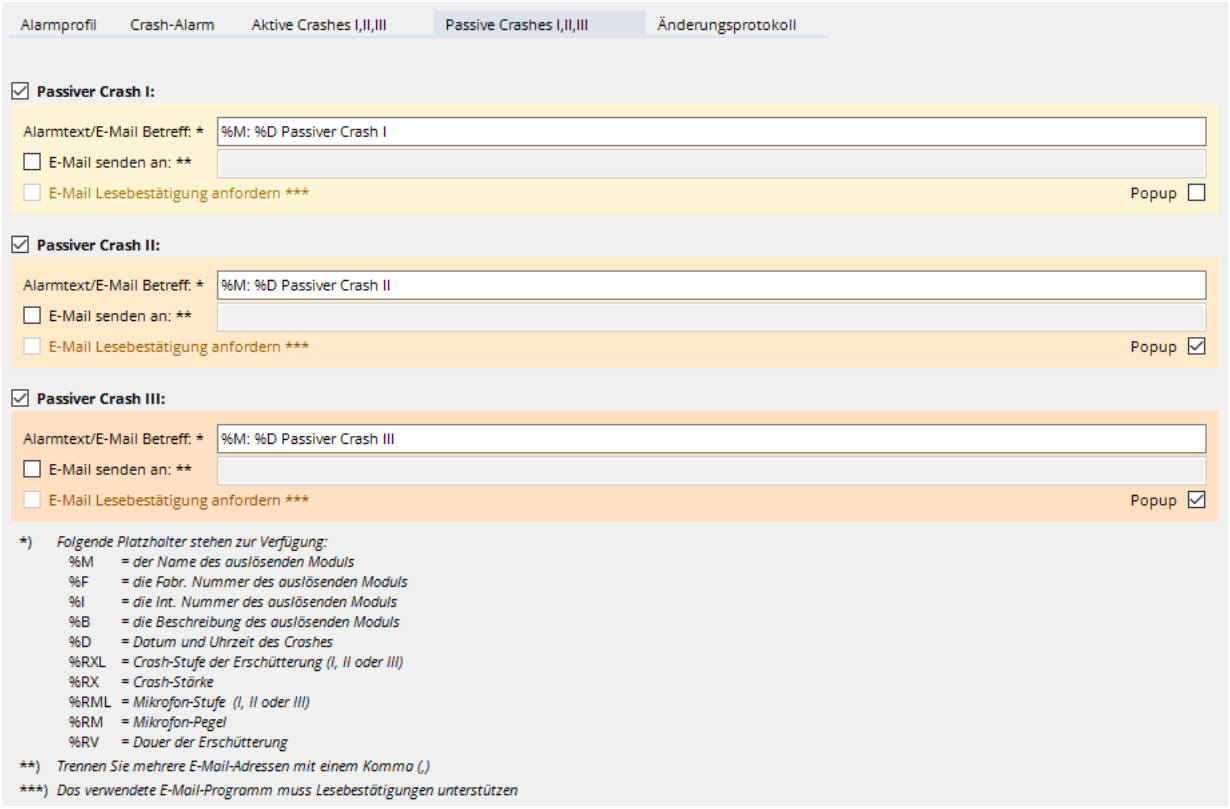
(Only applies for ***modular crash+remote*** and ***modular plus crash*** modules,
see also **5.9.4 crash+remote profile**)



- ***Active crash I***
  Configure the required action which should take place with the occurrence of a stage I (small) active crash.
- ***Active crash II***
  Configure the required action which should take place with the occurrence of a stage II (medium) active crash.
- ***Active crash III***
  Configure the required action which should take place with the occurrence of a stage III (heavy) active crash.

5.10.3.1.3 Tab passive Crashes I, II, III

(Only applies for ***modular crash+remote*** and ***modular plus crash*** modules,
see also **5.9.4 crash+remote profile**)



- ***Passive crash I***
  Configure the required action which should take place with the occurrence of a stage I (small) passive crash.
- ***Passive crash II***
  Configure the required action which should take place with the occurrence of a stage II (medium) passive crash.
- ***Passive crash III***
  Configure the required action which should take place with the occurrence of a stage III (heavy) passive crash.

5.10.3.2 Crash-Count-Alarms

Crash count alarms

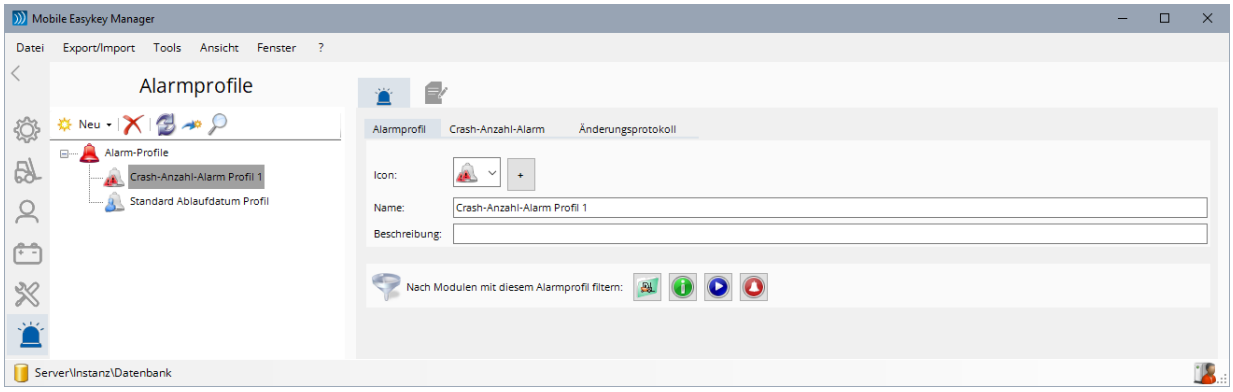
The Crash Count Alarm counts and evaluates the amount of crashes of a certain level within a specified period of time. If the count of crashes is slightly higher, a warning can be triggered, and if the count of crashes is increased, an alarm can be triggered.

The limits as well as the time span, within which the crashes are counted, are defined in this profile.

Depending on which alarm (see **5.5.4.2 Crash-Alarm**) this profile is assigned to, it applies accordingly to Level I, II or III crashes.

For modules that only have a 1-stage crash, level III is always counted. If the alarm profile is assigned to a level I or II alarm, this has no effect on modules with a 1-stage crash!

Select an existing Crash-Count-Alarm-Profile or click Neu and then Add Crash-Count-Alarm- Profile to add a new profile of that type.

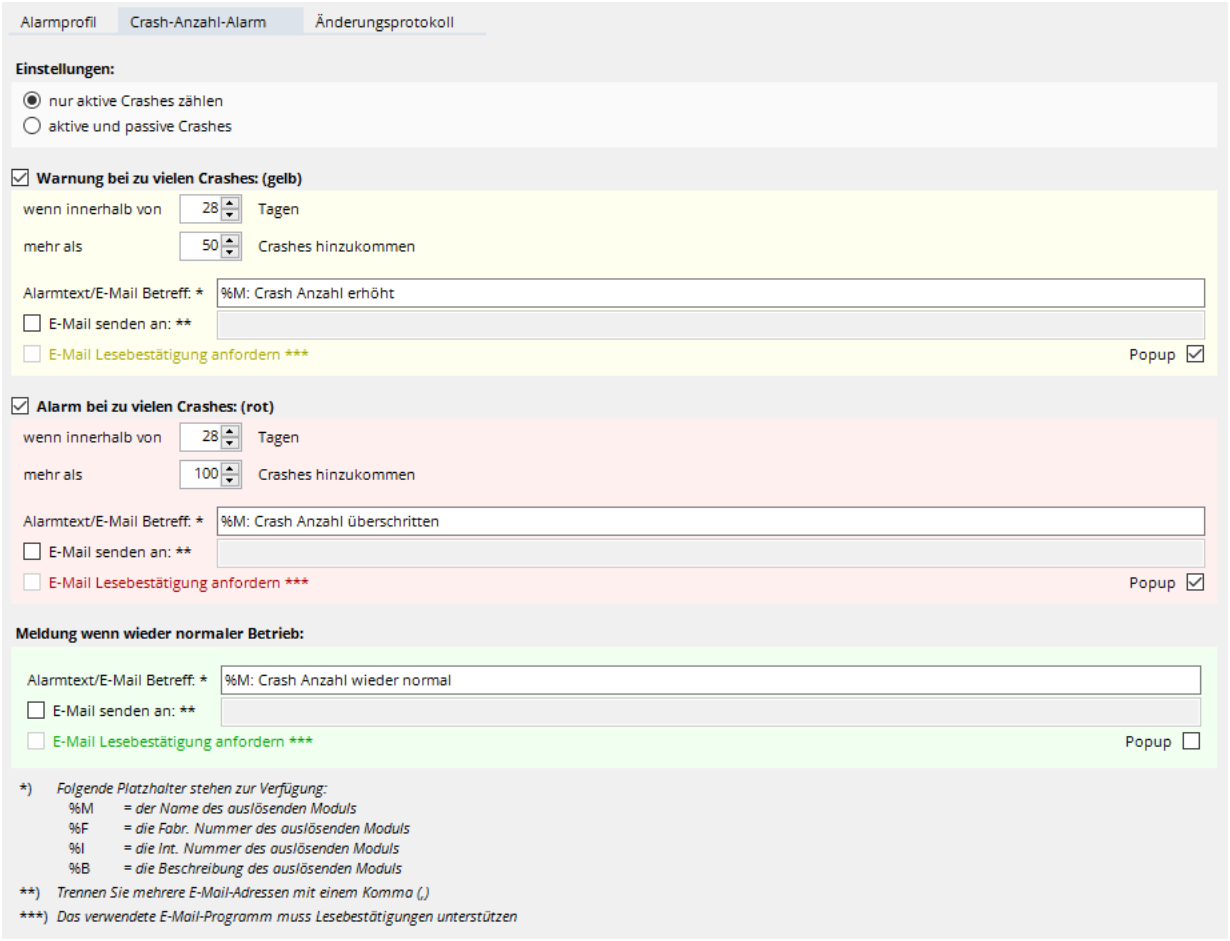


You can now see the new Crash-Count-Alarm-Profile on the left side of the tree diagram. On the right-hand side, you will find the various settings of this alarm profile.

- ***Icon***
  Here you can assign) an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter here the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.3.2.1 Tab Crash-Count-Alarm



For this type of alarm, there is the following alert level:

- ***Warning: (yellow)***
  If this option is enabled, the alert level Warning is triggered as soon as the count of crashes within the specified time span exceeds the specified value.
- ***Alarm (red)***
  This alert level is triggered as soon as the count of crashes within the specified time span exceeds the specified value.
- ***OK: (green)***
  This alert level is triggered as soon as the number of crashes within the specified time span is back to normal, i.e., below the value specified in the warning.

5.10.3.3 Relative Crash-Count-Alarms

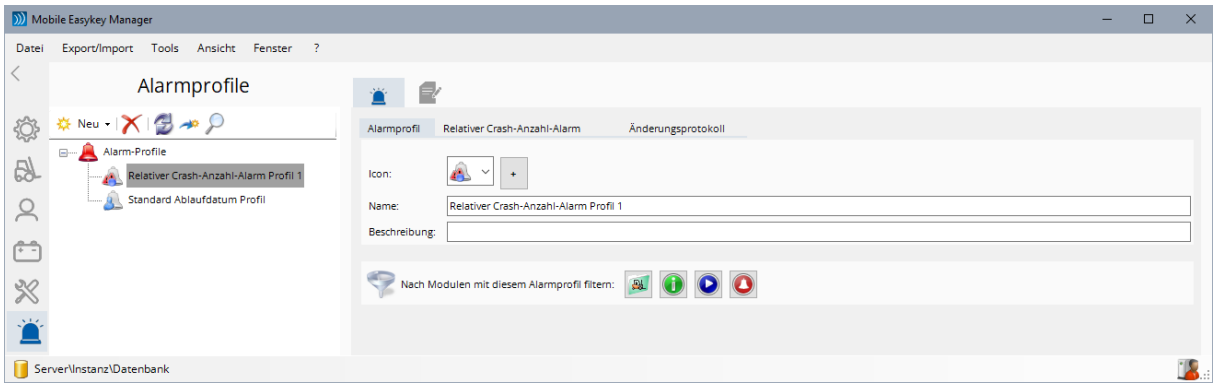
The relative count of crashes is used to determine the count of crashes per hour of use of a given level within a given period of time. If there are fewer crashes per hour of use than usual (see ***reference*** on the next page), a warning will be triggered, and if there are more crashes per hour of use, an alarm will be triggered.

The reference, the limit values and the time span within which the crashes per hour of use are evaluated are defined here in this profile.

J Depending on which alarm (see **5.5.4.2 Crash-Alarm**) this profile is assigned to, it applies accordingly to Level I, II or III crashes.

For modules that only have a 1-stage crash, level III is always counted. If the alarm profile is assigned to a level I or II alarm, this has no effect on modules with a 1-stage crash!

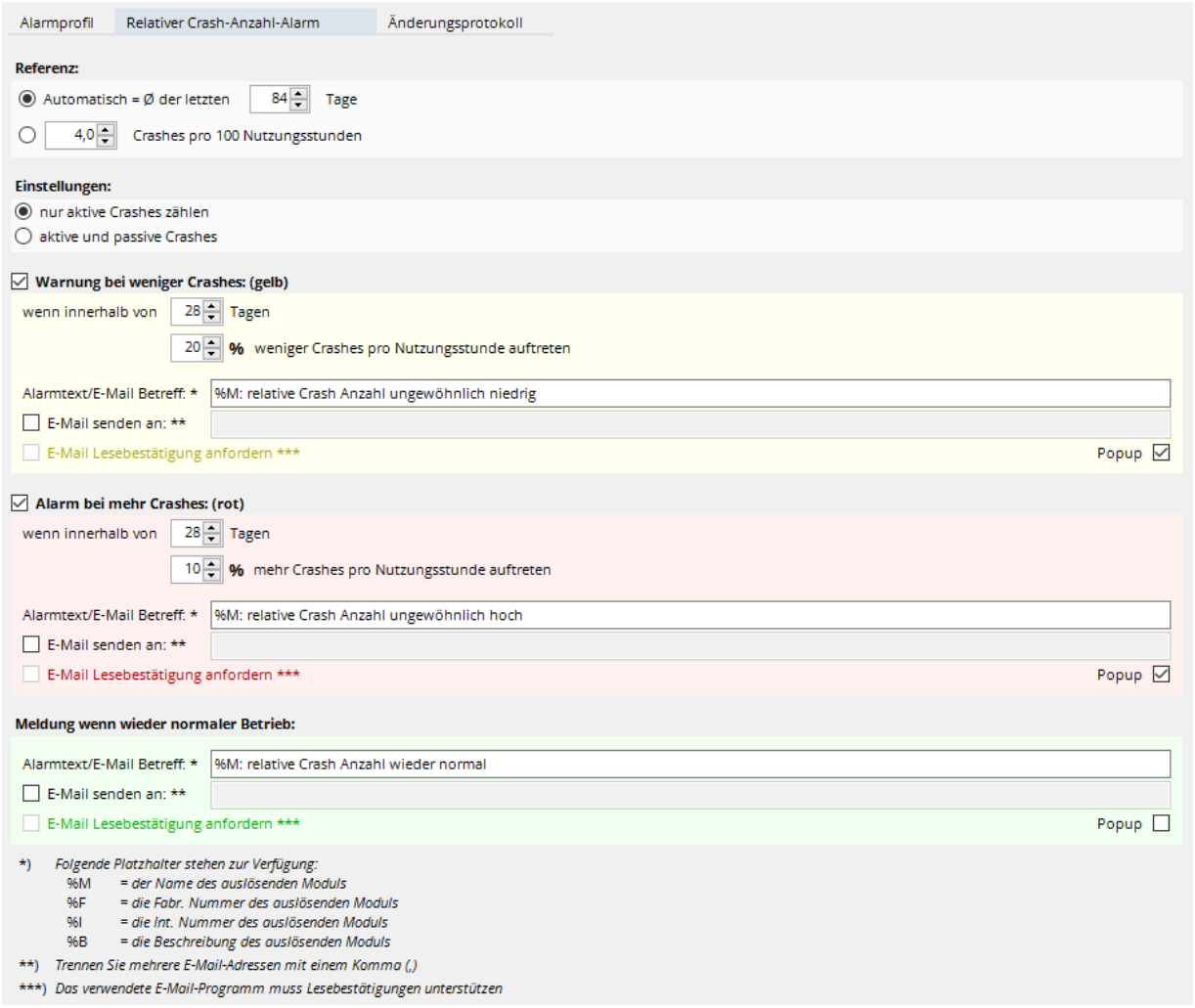
Select an existing Crash-Count-Alarm-Profile or click Neu and then Add Crash-Count-Alarm-Profile to add a new profile of that type.



- You can now see the new Crash-Count-Alarm-Profile on the left side of the tree diagram. On the right-hand side, you will find the various settings of this alarm profile.
- ***Icon***
  Here you can assig an icon or an image the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.3.3.1 Tab Relative Crash-Count-Alarm



Reference:

The alarm is calculated as a deviation (in percentage) from a reference value. This reference value can either be determined automatically (option ***Automatic = Ø of the last X days***) or fixed (option ***X crashes per 100 hours of use***). When the reference value is automatically determined, the number of crashes per hour of use is calculated over a reference period. This reference period is earlier than the test period specified under Warning or Alarm and is usually as long as specified here.

Note: The reference period must be at least as long as the trial period. If there is not enough data available overall, the reference period given will be shortened accordingly. If there is too little data available, that the shortened reference period would be smaller than the test period, the reference will not be calculated and accordingly no alarms will be triggered, until the amount of data has reached the necessary extent.

Note: To better represent the otherwise usually very small values, the value of the crashes per hours of use is multiplied by 100 and then corresponds to the value of crashes per 100 hours of use. However, this does not mean that the value is calculated over 100 hours of use, only that it is relative to 100 hours of use. It is calculated over the specified or shortened reference period.

Settings:

Here it is specified whether only active or active and passive crashes should be counted.

For this type of alarm, are the following alert level:

- ***Warning: (yellow)***
  When enabled, the Alert level is triggered when the relative count of crashes per hour of use becomes **abnormally low** within the specified time period. The limit value is the reference value minus the percentage set here.
- ***Alarm message: (red)***
  When this option is enabled, the alarm level is triggered as soon as the relative count of crashes per hour of use becomes **unusually high** within the specified time period. The limit value is the reference value plus the percentage set here.
- ***OK: (green)***
  This alert level is triggered as soon as the relative count of crashes per hour of use, within the specified time span, is again between the limits calculated for the warning and the alarm, i.e., the deviation from the reference is less than the percentages set here.

5.10.4 Remaining alarm profile types

5.10.4.1 KPI Alarms

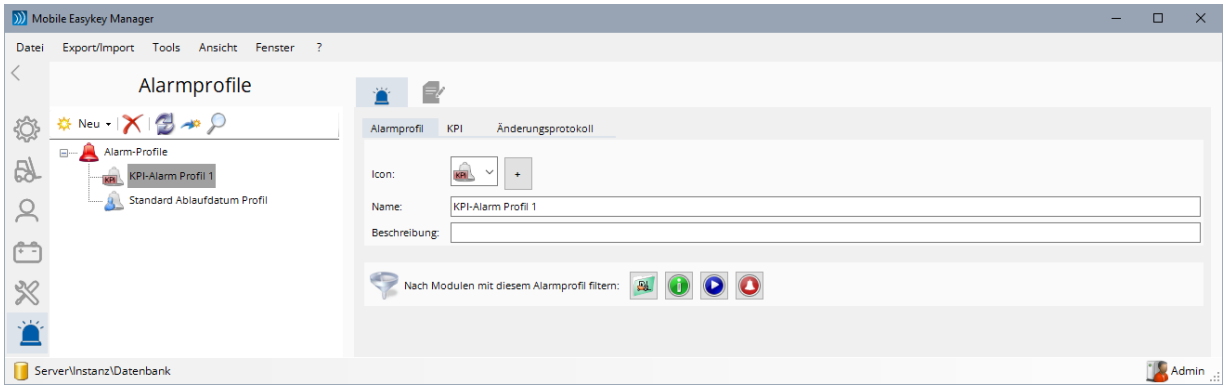
KPI-alarms are used to detect a KPI that is too low and thus too low operational performance. For more information on the KPI, see chapter **5.5.24 KPI**.

Since the KPI itself depends on the statistics module, the KPI-alarms only work if the statistics module is also activated (see **5.18 Online Statistics**).

A KPI-alarm is triggered as soon as the corresponding KPI falls below the limit set in the KPI-profile (see **5.9.5 KPI Limit-Profile**).

The KPI alarm-profile can be assigned to the powered KPI, Login-KPI, Usage-KPI, Load-KPI or the Total-KPI, depending on which KPI is to be monitored. Of course, a KPI alert-profile can also be assigned to multiple KPIs.

Select an existing alarm profile of the ***KPI alarm-type*** or click on the menu item Neu → ***Add profile for KPI-alarms*** to add a new alarm profile of this type.

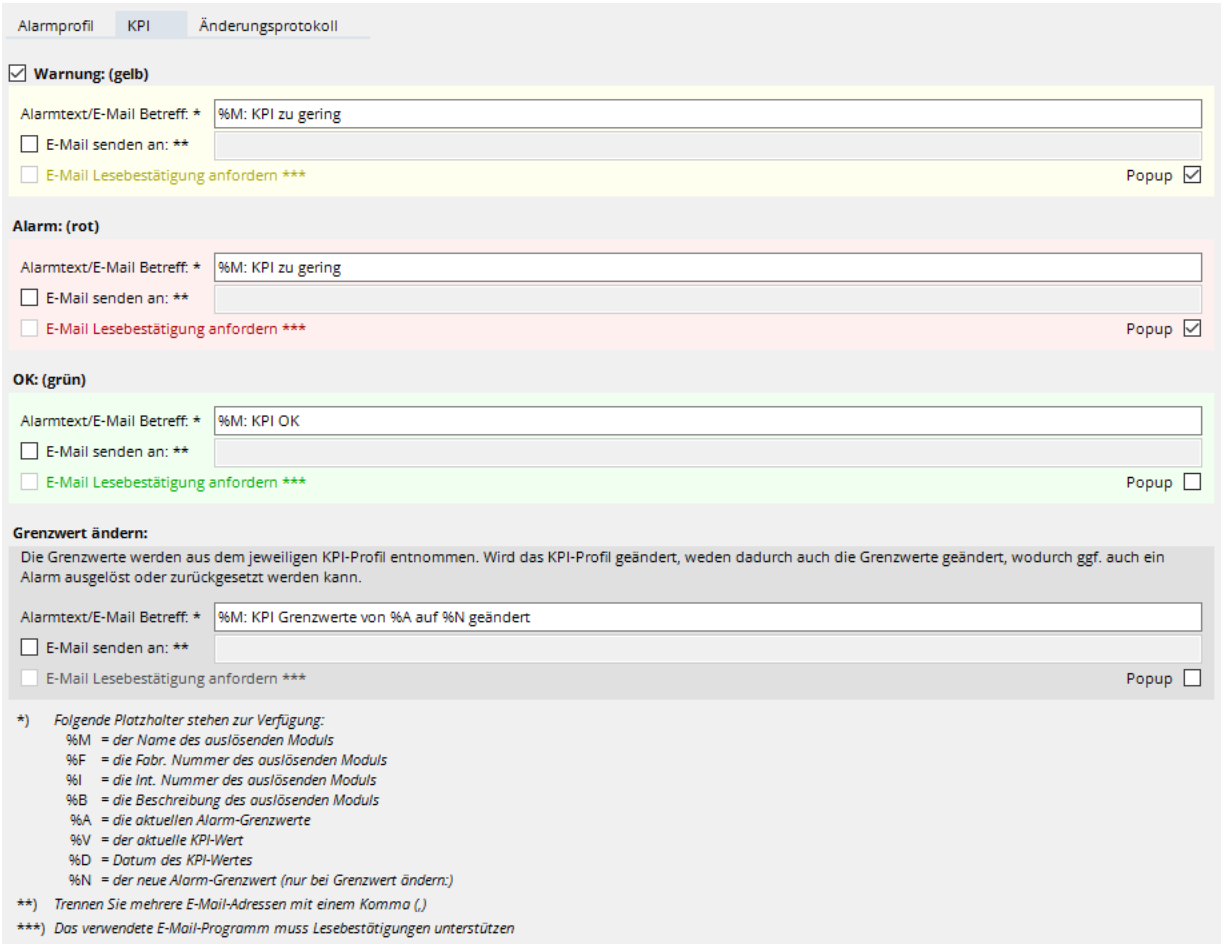


On the left side, in the tree diagram you see the new KPI alarm profile. The different settings of this alarm profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.4.1.1 Tab KPI



There are the following alert levels for this type of alarm:

- ***Warning: (yellow)***
  If this option is activated, the alert level is triggered as soon as the KPI falls below the respective threshold from the KPI-profile and changes to the 'yellow' range.
- ***Alarm message: (red)***
  This alarm level is triggered as soon as the KPI falls below the respective limit value from the KPI-profile and changes to the 'red' area.
- ***OK***
  This alert level is triggered as soon as the KPI is back in the normal (green) range.

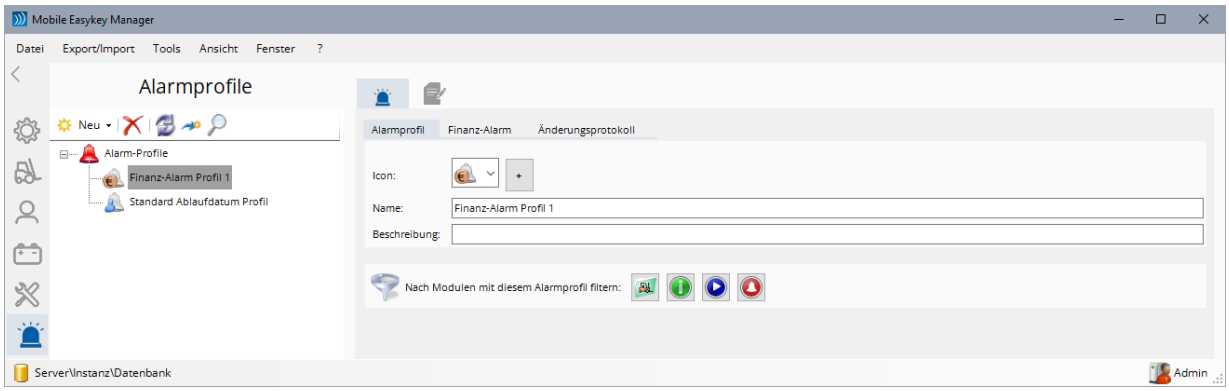
5.10.4.2 Finance-Alarm

A finance alarm is triggered when the monthly cost (for example, due to an unexpected repair) rises above a set value.

This alarm type is only visible if the additional module ***Financial Module*** is activated (see **5.22.3 Finance Module** and **5.15 Finance Module**).

The financial data is calculated only monthly. This alarm may be triggered after the financial calculation (see **5.14.10 Finance module**).

Select an existing alarm profile of the type ***Finance-Alarm*** or click on Neu and on the menu item ***Add profile for Financial-alarm*** to add a new alarm profile of this type.

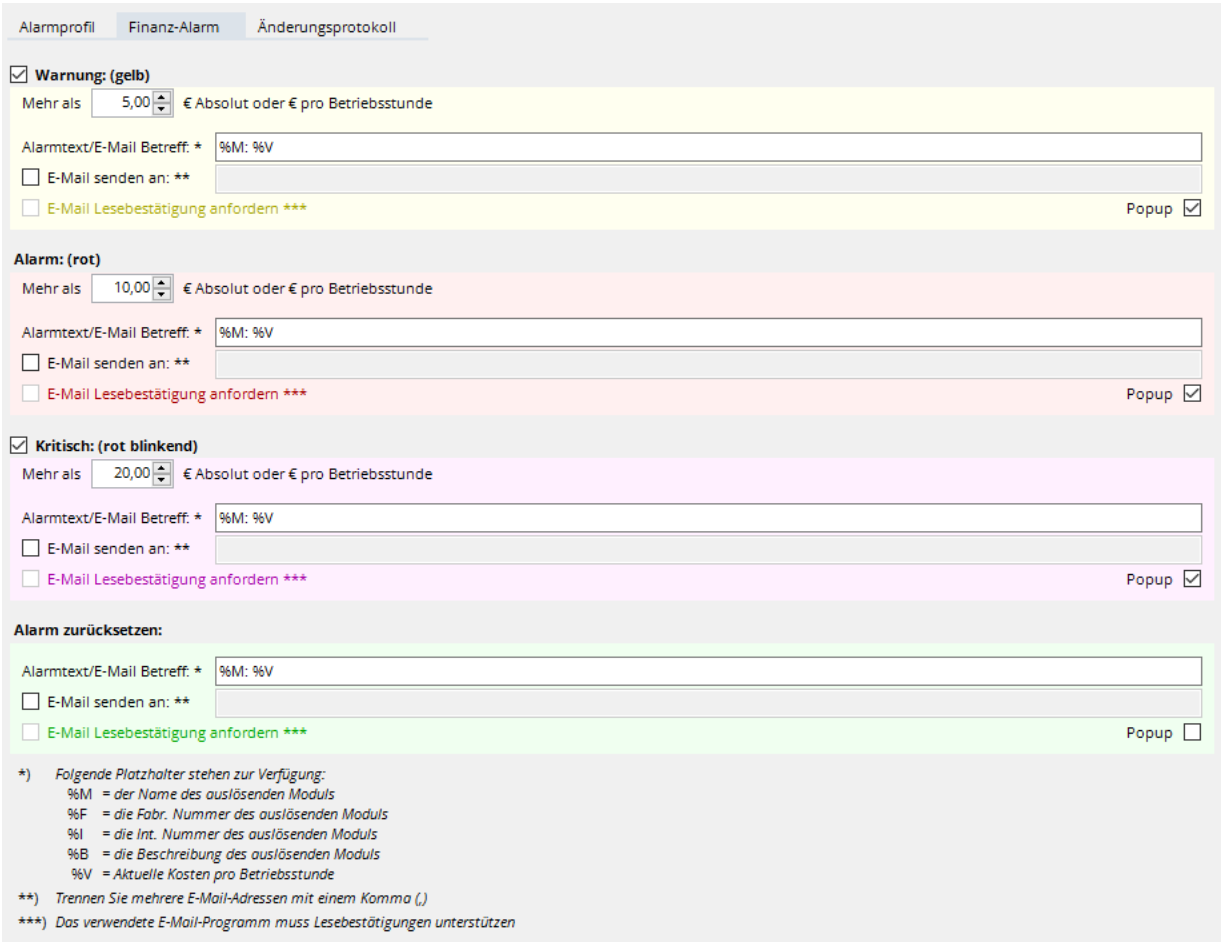


On the left side, in the tree diagram you see the new Powered-Alarm Profile. The different settings of this alarm profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), (see **5.5.21 Communication central office**) or jump directly to module-alarm central office (see **5.5.22 Module-alarm central office** The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.4.2.1 Tab Finance-Alarm



For this alarm type, there is the following alarm level:

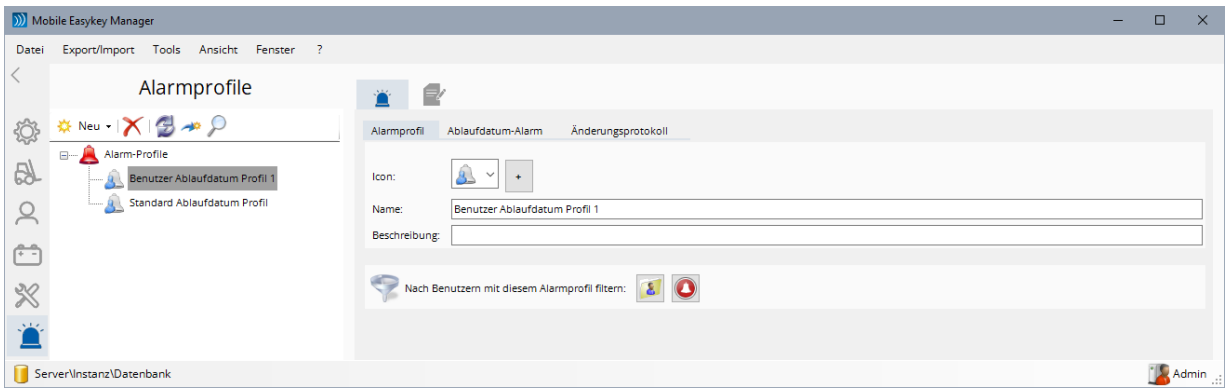
- ***Warning: (yellow)***
  If this option is activated, the alert level will be triggered if the load time has fallen below the specified value.
- ***Alarm message: (red)***
  This alarm level is triggered if the load time (the "Not powered" time before the respective powered entry in the logbook) was less than the amount specified here.
- ***Critical: (flashing red)***
  If this option is enabled, the alert level Critical will be triggered, if the load time has fallen below the specified value.
- ***Reset alarm***
  This alarm level is triggered as soon as (after triggering one of the three alarm levels) the costs (per operating hour) are back within the normal range.

Depending on which alarm channel (see **5.5.4 Alarm profiles**) this profile is assigned to, the limits refer to ***Absolute Amounts, Cost Per Hours***, or ***Costs Per Hour Of Use***.

5.10.4.3 Expiry date Alarms

The expiry date alarms do not refer to modules but users. An expiry date alarm is triggered as soon as the expiry date of the user is reached. The respective expiry date for a user is set in users (see **5.6.1 User properties**).

Select an available expiry date- alarm profile or click on Neu and then on the menu item ***Profile for expiry date alarms add*** to add a new profile of this type.

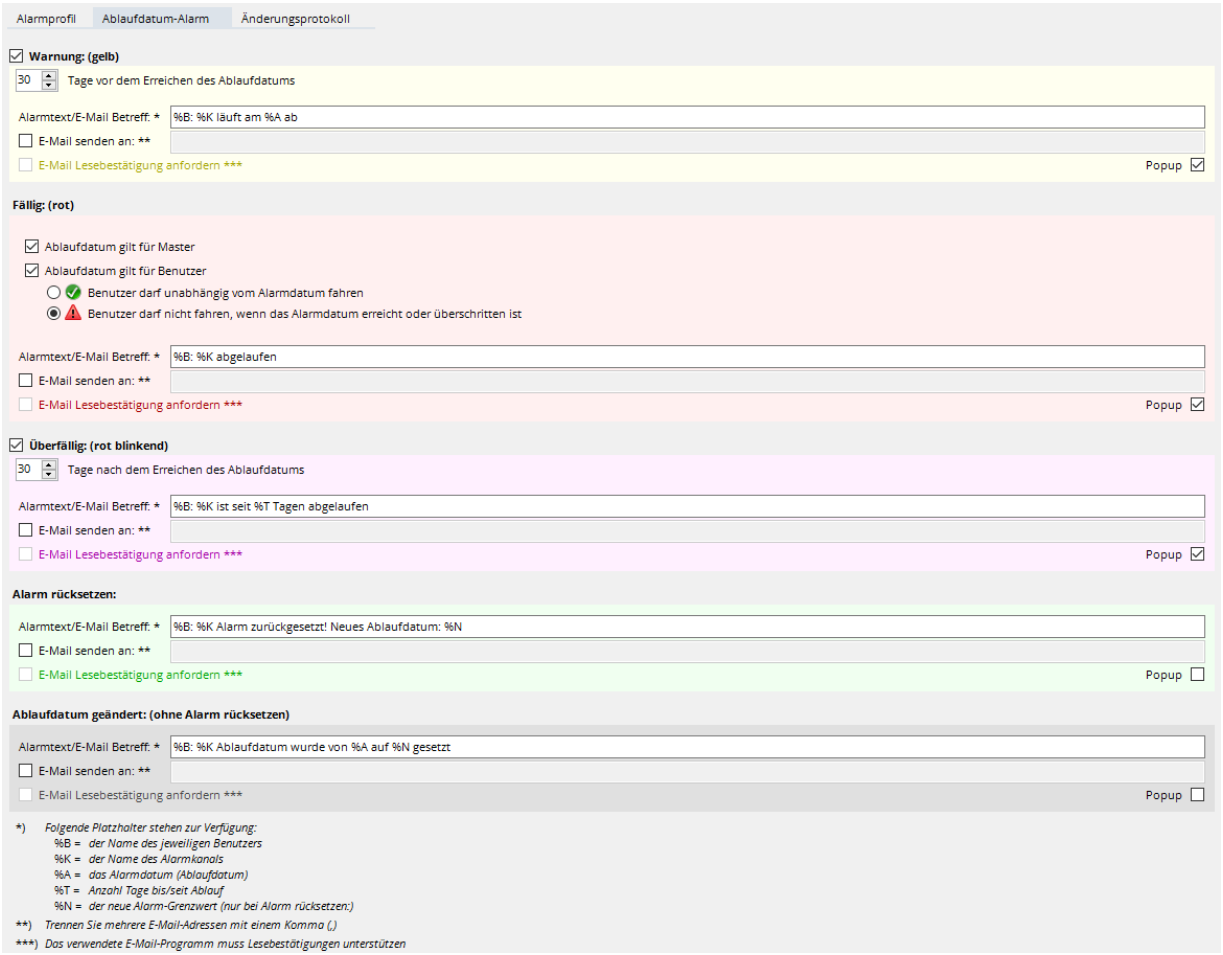


On the left side, in the tree diagram you see the new expiry date-alarm profile. The different settings of this alarm profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or another any text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

5.10.4.3.1 Tab expiry date alarm (user)



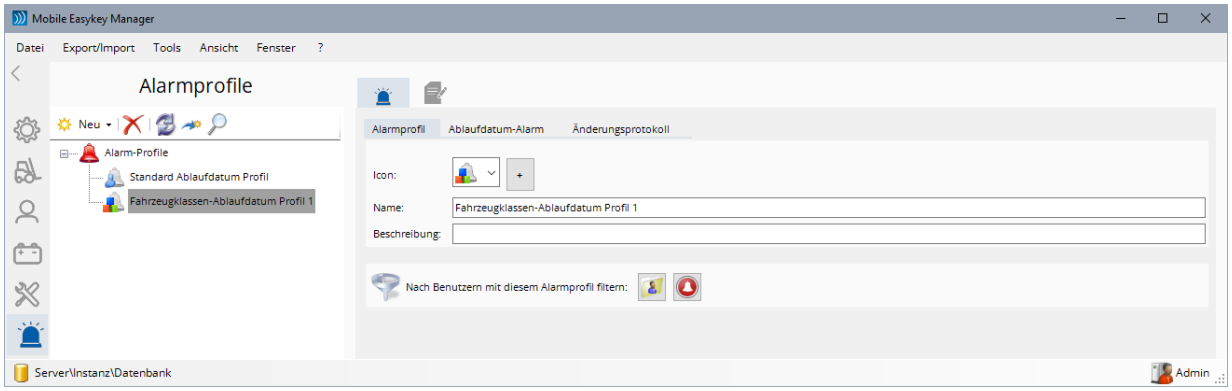
For this alarm type there is following alarm level:

- ***Warning: (yellow)***
  If this option is activated, the alarm level *Warning* is triggered according to the number of ***days before reaching the alarm date***.
- ***Alarm: (red)***
  As soon as the respective expiry date of a user (see **5.6.1 User properties**) is reached this alarm level is triggered (at 0:00 o'clock).
  You can specify, in addition whether this alarm should be triggered only for normal users (***expiry date applies for masters***), only for master or for users (***expiry date applies for masters***) and master.
  You can also specify whether the respective user/ master with reaching of this alarm should be automatically deactivated (option ***User may not drive if the alarm date is reached or is crossed***).
- ***Overdue: (red blinking)***
  If this option is activated, the alarm level *Overdue* is triggered according to the number of ***days after reaching the expiry date***.
- ***Reset alarm***
  This alarm level is triggered if an alarm or a warning is reset. (See also **5.6.1 User properties**)
- ***Alarm date changed: (without alarm reset)***
  This alarm level is triggered if the expiry date is changed, although neither the alarm nor a warning was triggered.

5.10.4.4 Vehicle Class Alarms

The vehicle class-alarms do not refer to modules but to user. A vehicle class- alarm is triggered as soon as the expiry date of a vehicle class assigned to this user (**5.6.1.2.3 Vehicle classes**) is reached (and this vehicle class is assigned to this profile). Here the respective expiry date is also set.

Select an available vehicle class-alarm profile or click on Neu and then on the menu item ***Profile for vehicle class alarms add,*** to add a new profile of this type.

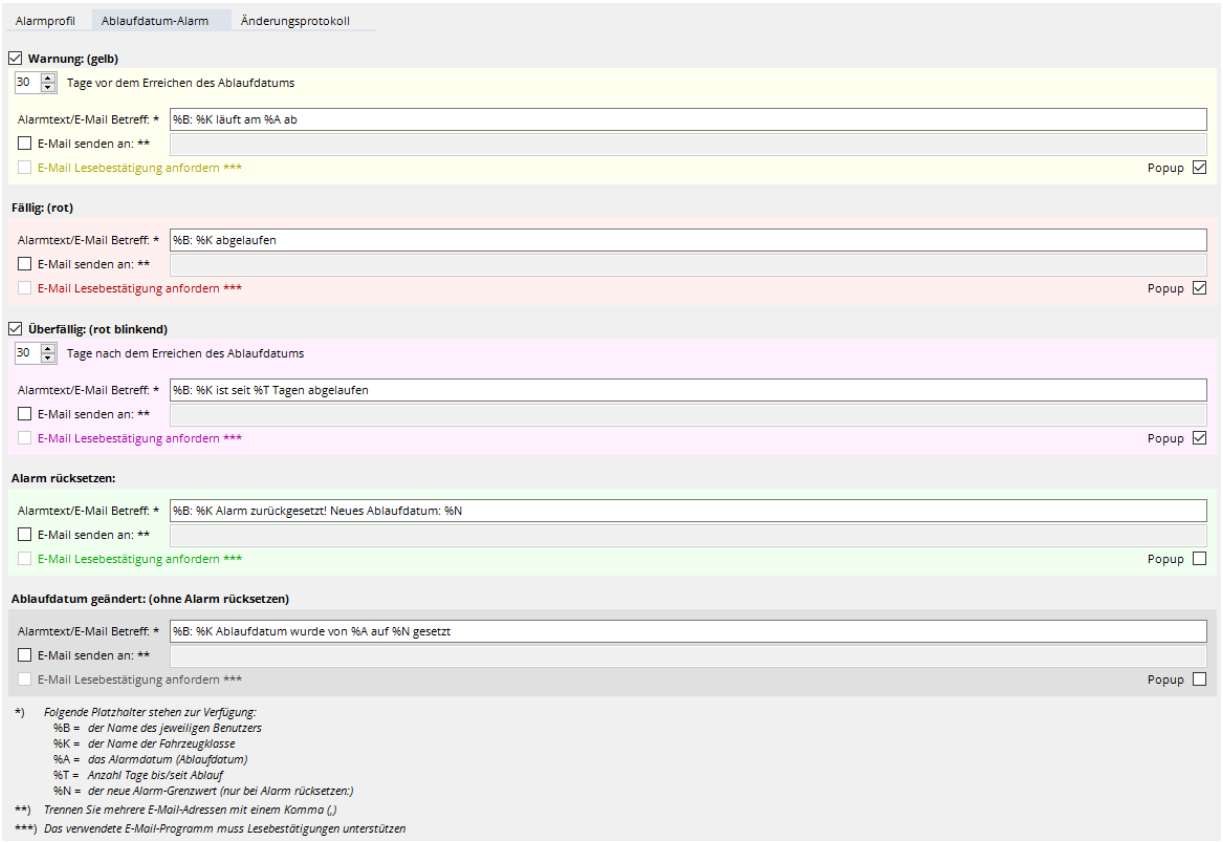


On the left side, in the tree diagram you see the new vehicle class-alarm profile. The different settings of this alarm profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or another any text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the user tabs (see **5.6.1 User properties**) or user-alarm central office (**5.6.10 User-alarm Central Office**). The filter (see **5.11.8 Filter display**) is automatically activated by which only users are displayed who use exactly this alarm profile.

5.10.4.4.1 Tab expiry date alarm (vehicle classes)



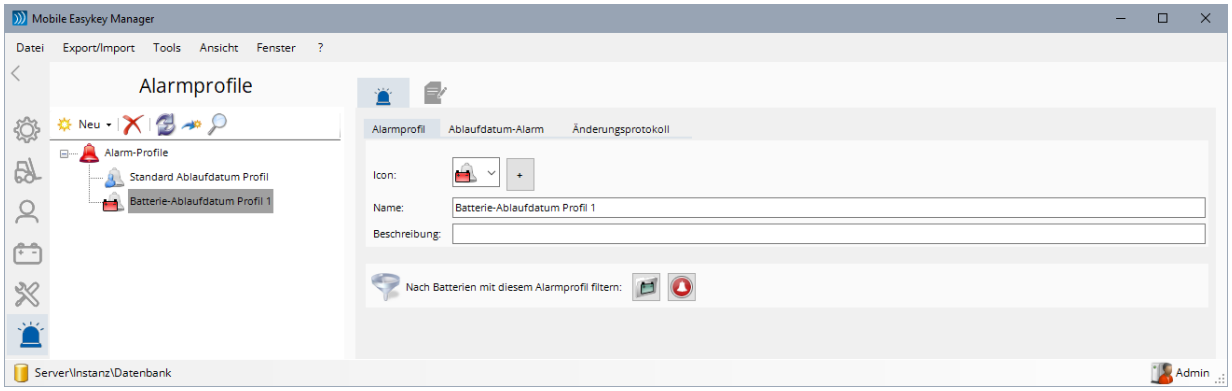
For this alarm type there are following alarm levels:

- ***Warning: (yellow)***
  If this option is activated, the alarm level *Warning* is triggered according to the number on ***days before reaching the alarm date***.
- ***Alarm: (red)***
  This alarm level is triggered (at 0:00 o'clock) as soon as the respective expiry date of a vehicle class (**5.6.1.2.3 Vehicle classes**) is reached. The respective user may not drive vehicles of this vehicle class or in excess of this expiry date anymore.
- ***Overdue: (red blinking)***
  If this option is activated, the alarm level *Overdue* is triggered according to the number of ***days after reaching the expiry date***.
- ***Reset alarm***
  This alarm level is triggered if an alarm or a warning is reset, i.e., the expiry date (see **5.6.1.2.3 Vehicle classes**).
- ***Alarm date changed: (without alarm reset)***
  This alarm level is triggered if the expiry date is changed, although neither the alarm nor a warning was triggered.

5.10.4.5 Battery expiry date Alarms

The battery expiry date alarms do not refer to modules but batteries. A battery expiry date alarm is triggered, as soon as the expiry date of a battery is reached. The respective expiry date of a battery is set in batteries (see **5.8.1 Battery properties**).

Select an available battery expiry date alarm profile or click on Neu and then on the menu item ***Profile for battery expiry date alarms add***, to add a new profile of this type.

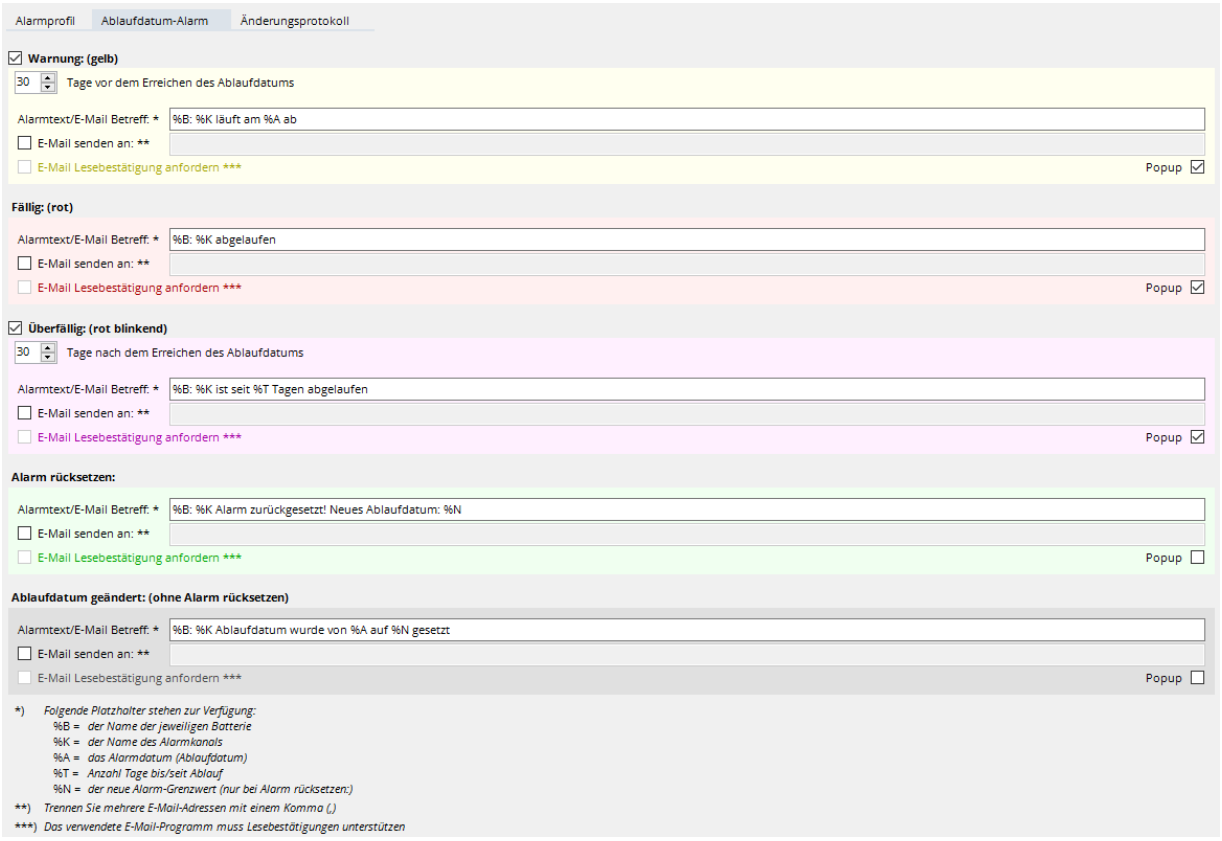


On the left side, in the tree diagram, you see the new vehicle class-alarm profile. The different settings of this alarm profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or another any text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the batteries tabs (see **5.8.1 Battery properties**) or battery-alarm central office (**5.8.9 Battery-alarm central office**). The filter is automatically (see **5.11.8 Filter display**) activates by which only batteries are displayed which use exactly this alarm profile.

5.10.4.5.1 Tab expiry date alarm (batteries)



For this alarm type there are following alarm levels:

- ***Warning: (yellow)***
  If this option is activated, the alarm level *warning* is triggered ***according*** to the number of ***days before reaching the alarm date***.
- ***Alarm: (red)***
  As soon as the respective expiry date of a battery (see **5.8.1 Battery properties**) is reached this alarm level is triggered (at 0:00 o'clock).
  You can also specify whether the respective battery with reaching of this alarm should become automatically invalid (option ***The battery is invalid if the alarm date is reached or is crossed***). With enabled battery release (see **5.9.2.2 Log in**) this battery is then not any longer able to activate the module after being newly powered.
- ***Overdue: (red blinking)***
  If this option is activated, the alarm level *Overdue* is triggered ***according*** to the number of ***days after reaching the expiry date***.
- ***Reset alarm***
  This alarm level is triggered if an alarm or a warning is reset. (See also **5.6.1 User properties**)
- ***Alarm date changed: (without alarm reset)***
  This alarm level is triggered if the expiry date is changed, although neither the alarm nor a warning was triggered.

5.10.4.6 Electrolyte-Alarm

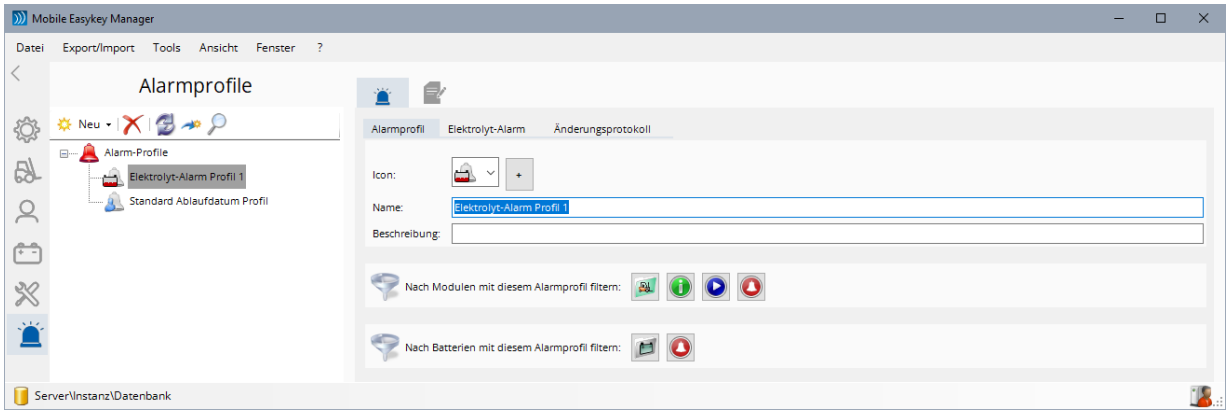
An electrolyte-alarm is triggered if the electrolyte sensor reports too low an electrolyte level (see also chapter **5.5.12.5 The Columns in the Logbook** the log entry ***Electrolyte level to low***). Since the Mobile Easykey Manager only learns about this when the logbook of this module is read, the actual triggering of this alarm can be delayed accordingly.

If this alarm profile is assigned to a battery, then the alarm will be triggered whenever the electrolyte level of this battery is too low (provided that it is installed in a powered module at that time)

If, on the other hand, this alarm profile is assigned to a module, then the alarm will be triggered if the battery currently installed in this module has an electrolyte level that is too low.

Note: Not all module types support the electrolyte sensor.

Select an existing Electrolyte/ Battery-Reading-Alarm Profile or click Neu and then click on the menu item ***Add Electrolyte-Alarms*** to add a new profile of this type.



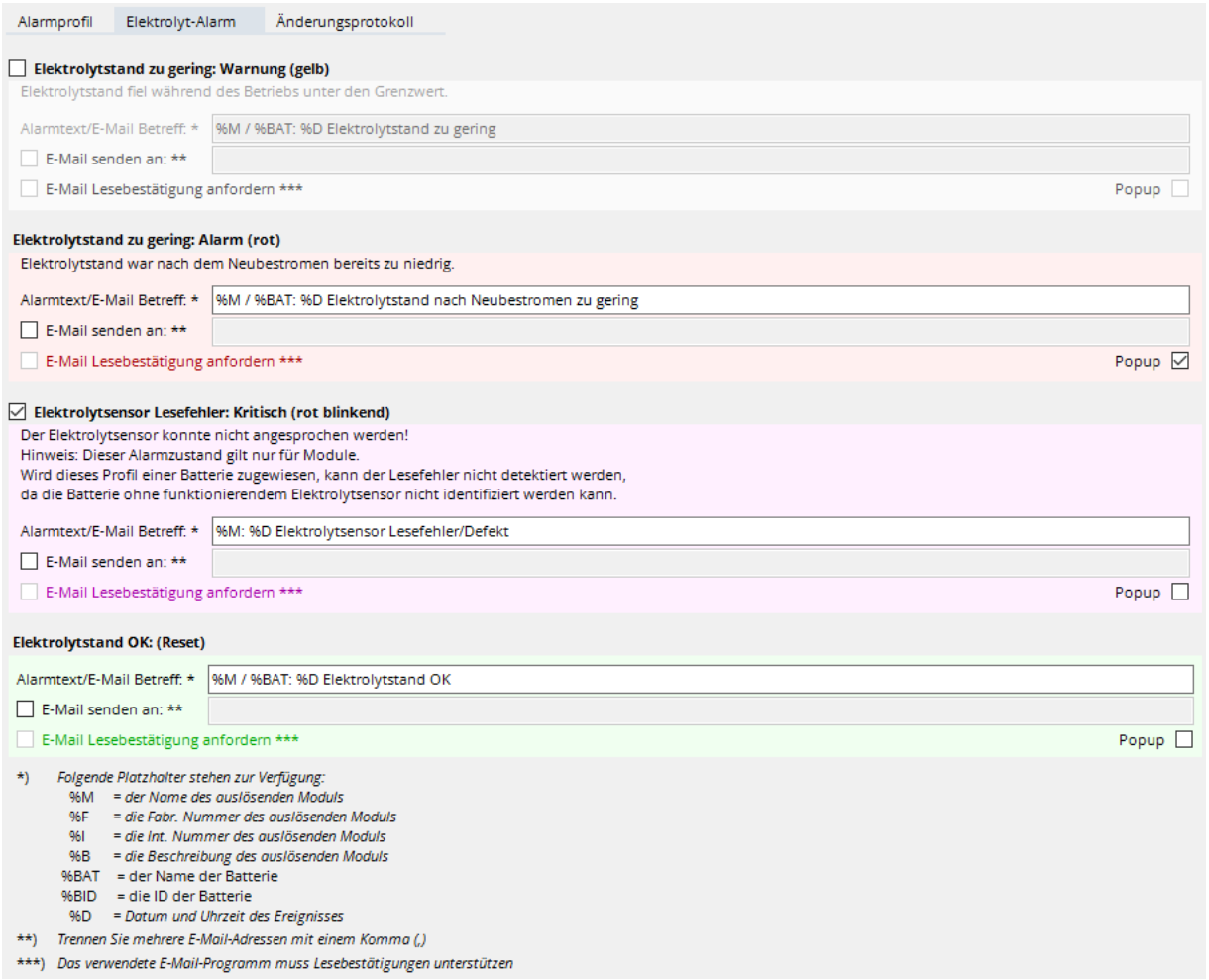
On the left side, in the tree diagram you see the new Electrolyte-Alarm profile. The different settings of this alarm profile are shown on the right side.

- ***Icon***
  Here you can assign an icon or an image to the alarm profile.
  See also **5.4.4 Icons**.
- ***Name***
  Enter the name of the respective alarm profile.
- ***Description***
  Here a description or any other text can be entered for this alarm profile.

With the buttons , you are able to go directly in one of the modules tabs (see **5.5.1 Module properties**), information central office (see **5.5.20 Information central office**), communication central office (see **5.5.21 Communication central office**) or module-alarm central office (**5.5.22 Module-alarm central office**). The filter (see **5.11.8 Filter display**) is automatically activated displaying only modules which use exactly this alarm profile.

With the buttons , you are able to go directly in one of the batteries tabs (see **5.8.1 Battery properties**) or battery-alarm central office (see **5.8.9 Battery-alarm central office**). The filter is automatically (see **5.11.8 Filter display**) activates by which only batteries are displayed which use exactly this alarm profile.

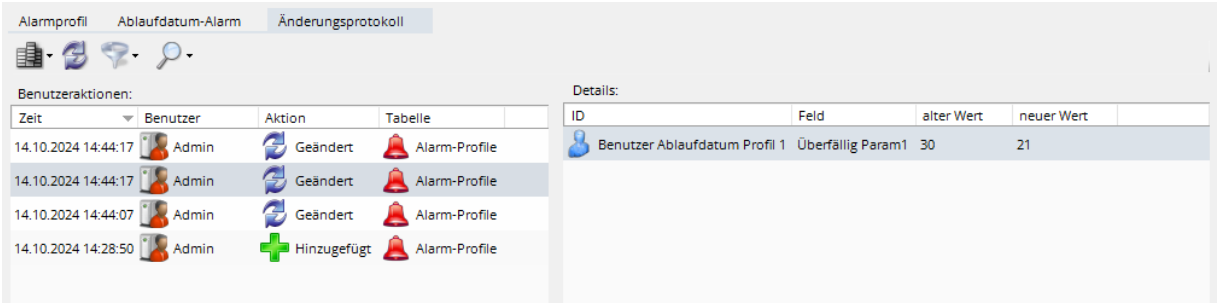
5.10.4.6.1 Tab Electrolyte-Alarm



There are three alarm levels for this alarm type:

- ***Electrolyte level too low: (Warning)***
  If the electrolyte sensor reports a too low electrolyte level at some point during operation, this is initially classified as a warning (see also the logbook entry electrolyte level in Chapter **5.5.12.5 The Columns in the Logbook** the log entry ***Electrolyte level too low***).
  Configure the desired actions that should be performed in that case.
- ***Electrolyte level too low: (Alarm)***
  On the other hand, if the electrolyte sensor reports a too low electrolyte level right at the beginning (after the new current, if the electrolyte sensor was detected), this is classified as an alarm! (See also chapter **5.5.12.5 The Columns in the Logbook** the logbook entry ***Battery found, Electrolyte level too low!***).
  Konfigurieren Sie hier die gewünschten Aktionen, die in diesem Fall erfolgen sollen.
- ***Electrolyte sensor reading error: (Critical)***
  The electrolyte sensor is defective.
- ***Electrolyte level OK: (Reset)***
  Here you can configure the desired actions that should be carried out if the electrolyte level is OK again after a warning or an alarm.

5.10.5 Change log (Alarm profile)

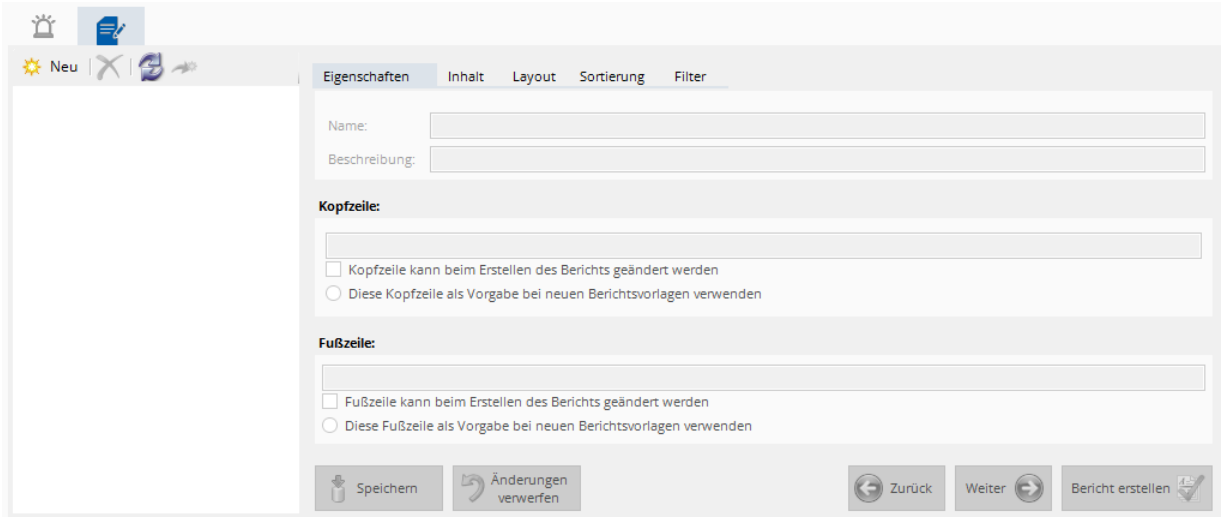


Each change to the user data is stored in the change log and displayed here.

Note:
By default, entries older than 90 days are automatically deleted. You can change this setting in the database configuration. See also **5.14.12 Database-Maintenance**.

The column **User** corresponds to the respective software operator and is only displayed if the operating rights (see **5.21 Software Operating Rights**) are activated.
Use the and buttons to filter and search the change history.
For a description and further information, please refer to chapter **5.19 Change Log**.

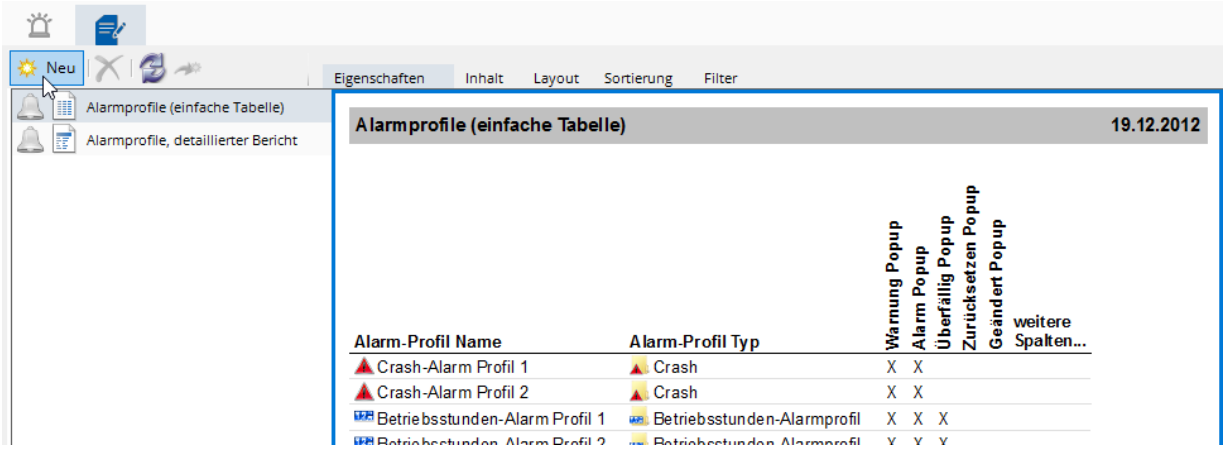
5.10.6 Report templates



The report module serves to print out logged data, as for example profile name, alarm type, description, alarm configuration etc. or to save as a Pdf file.
In addition different report types are available.

With the button 

, you can create a new report template. Depending on which data the report should include and be built up on you can select one of the offered template types. In the right part of the selection window, you see in each case an example of currently selected report type.



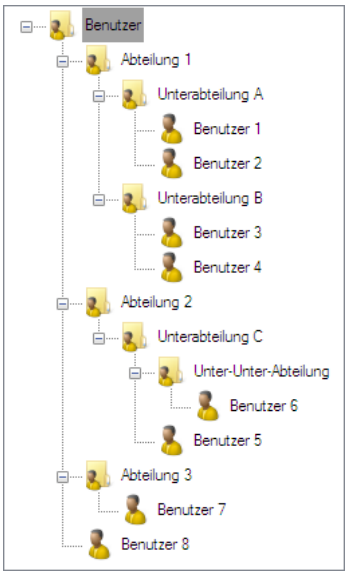
Following report types stand for the choice:

- ***Alarm profiles (a simple table)***
  Lists, see **5.17.2.1 List (simple tables)**
  Creates a simple list of all alarm profiles with all required settings of the alarm profiles
- ***Profiles, detailed report***
  Detailed report, see **5.17.2.3 Detailed Reports**.
  Creates a detailed, if necessary, multilateral report of all selected alarm profiles.

Because the reports are similarly built up for modules, batteries, users, profiles, alarm profiles, shift models and holiday lists, the report module is summarised in chapter **5.17 Reports** for all elements.

5.11 Groups and tree (hierarchical) structure

All elements can be administered in a tree (hierarchical) structure with groups and sub-groups. The sub-groups can contain sub-groups, so that the tree structure can be optionally nested. Each of these groups and sub-groups can contain any number of elements (modules, users, batteries, profiles and alarm profiles). Elements can be contained beyond every group as well, directly under the root (e.g. ***user***), - see the example on the right, "user 8".



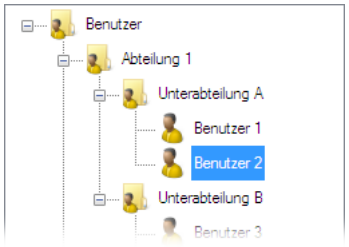
Groups with invalid elements configuration are marked with a small exclamation mark . If the invalid elements are corrected or deleted, the exclamation mark disappears again.

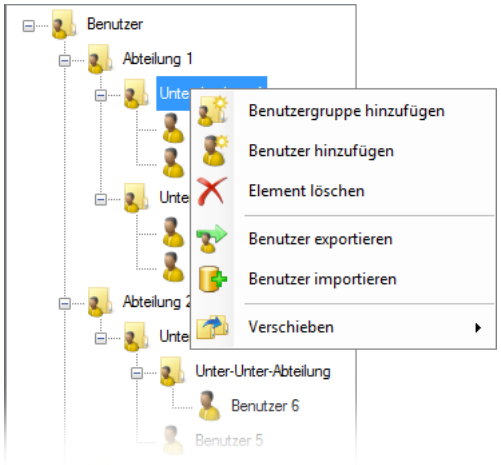
5.11.1 Add Group

In the tabs Modules, User and Batteries you are able to add battery groups by clicking on one of the buttons , or add. In the tabs Profiles and Alarm profiles click on button Neu and select the menu item ***Group add*** or. ***Add profile group***.

The new group is filed as a sub-group of the currently selected group. If the root itself is selected (e.g. ***user***), a main group is created.
Accordingly new elements are also filed in the group selected.

Note:
In this case a group is recognised as selected if one of the sub elements of the group is selected. In the example on the right "user 2" is selected. Because this user is a sub element of the "subdivision A", new groups and elements (modules or users) are arranged under this "subdivision A".

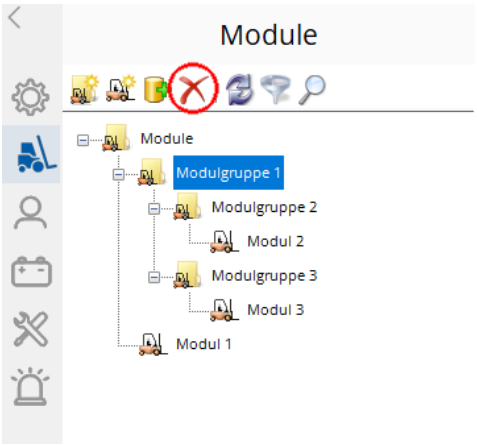


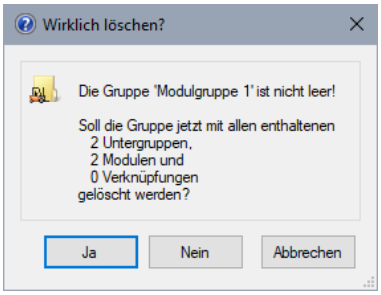


Alternatively, a group (or an element) can be clicked with the right mouse button. A PopUp menu opens with the group and (according to tab) elements to add or delete.

5.11.2 Groups delete

Module, user and battery groups can be deleted together with all contained elements (including subgroups). For all other groups (profile groups, alarm profile groups), they must first delete the contents of the group before the group can be deleted.
Select the desired group and click or click on the group with the right mouse button and then select Delete module group menu item.

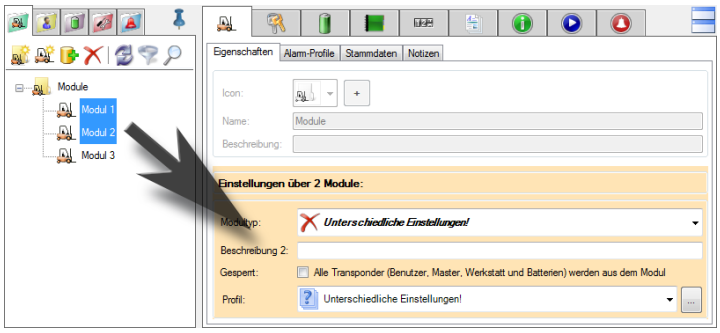




After clicking Yes and confirming the following security query, all elements (in this case, modules) are deleted. Logbook data and other data associated with these modules are also deleted after another security query.

5.11.3 Select several elements at the same time

Note:
Whenever in the tabs Modules, User or Batteries several elements are selected at the same time, the background is displayed, with the data entry on the right side, in bright orange. Thus, it is highlighted that the settings carried out here are valid for several elements.

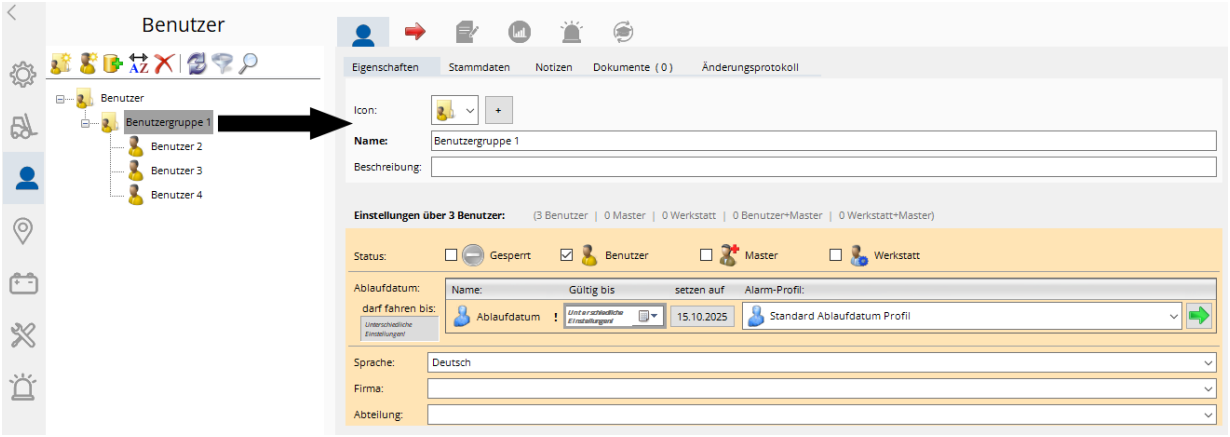


As shown in the picture above, a change to the ***module type***, the ***description 2***, ***locked*** and/or ***profile*** would affect both selected modules (*module 1* and *module 2*). In the tab user (or batteries) the expiry date can be changed, e.g., for all selected users at the same time.
The (driving) authorisations for all selected elements are displayed at the same time and can also be changed for all selected elements at the same time. See also **5.11.6 Single authorisations**.

In the tabs Profiles and Alarm profiles several elements can be selected all at once. However, these cannot be edited at the same time! But you can relocate all selected profiles or alarm profiles at the same time (see **5.11.4 Relocate elements**).

5.11.3.1 Select a Group

To select several elements at the same time the easiest method is to simply select a group. In this case all elements of this group and all sub-groups are recognised as being selected.

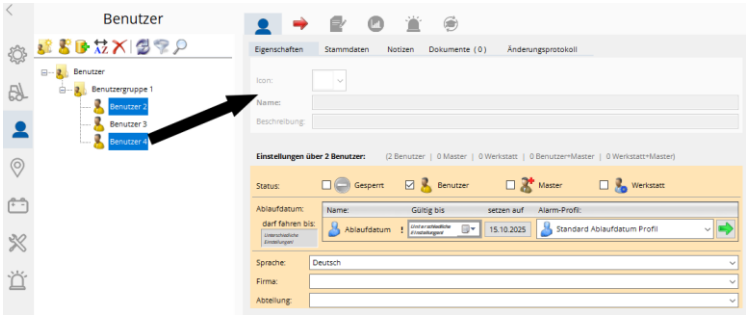


If a single group is selected, the upper part of the tab ***properties*** changes accordingly for you to enter the data for this group. As usual you can assign an icon (**5.4.4 Icons**) and a name. Optionally you can enter a description text for this group.

5.11.3.2 Select Several Elements

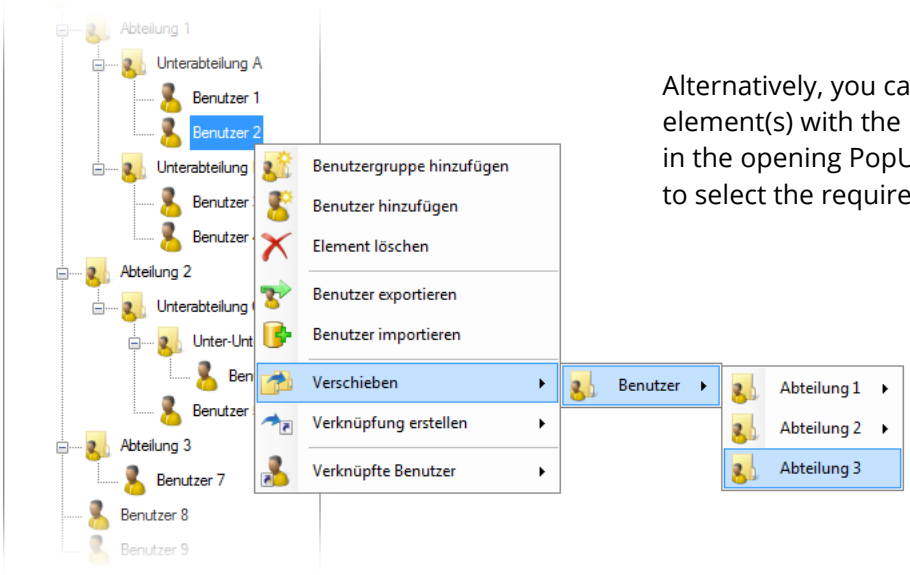
You can also select several individual elements within a group at the same time. To do this, select the first desired element and click the other elements while holding down the Ctrl key.
Alternatively, you can select the elements by dragging a frame around the desired elements with the mouse.
If, among the selected elements, groups are also selected, then all elements of this group and all subgroups are also selected.

Note:
Selecting multiple items at the same time, the top part of the **tab properties** is inactive.
And you can only select items that are within the same level within a group!



5.11.4 Relocate elements

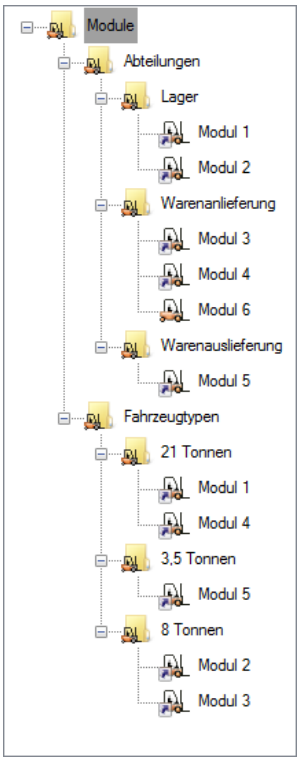
The arrangement of which elements and sub-groups are in which groups can be changed any time. Further, you can simply drag elements (for example, a user) with the mouse and move them (holding the mouse button) into another group. You can also move an entire group or several selected elements at the same time (see **5.11.3 Select several elements at the same time**).



Alternatively, you can click on the selected element(s) with the right mouse button and in the opening PopUp menu ***relocate*** them to select the required target group.

Note:
You cannot relocate a group in their own sub-groups! Also, you cannot move elements to the group they are already in. Groups which are not possible as a destination are displayed as disabled in the PopUp menu.

5.11.5 Create links



Often it is necessary that modules, users or batteries exist several times in several different groups. For example, you could want to organise the modules, like in the illustration on the right, according to departments as well as to vehicle types.

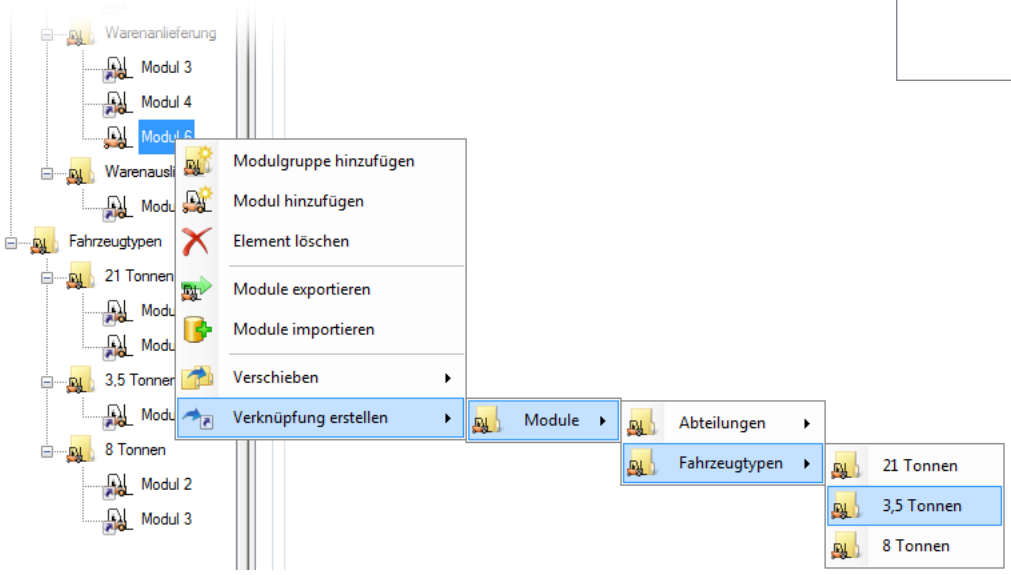
For this purpose, numerous "links" of an element (of a module, user or a battery) can be created and be organised in any groups.

As soon as an element exists several times, the icon of the element is marked with a small arrow in the left lower corner.

You can create a link in two ways:

1. Drag an element, a link or several elements / links into another group, while you hold the CTRL button.

2. Click with the right mouse button on one or several selected elements / links. In the opening PopUp menu select with ***link create*** the required target group.



You can move already created links just like normal elements. You can also delete links again. If the last but one link of an element is deleted, the element exists only once. The arrow is Therefore, also deleted. Only if the last occurrence of an element is deleted, the element (the module, the user or the battery) is surely deleted.

5.11.6 Single authorisations

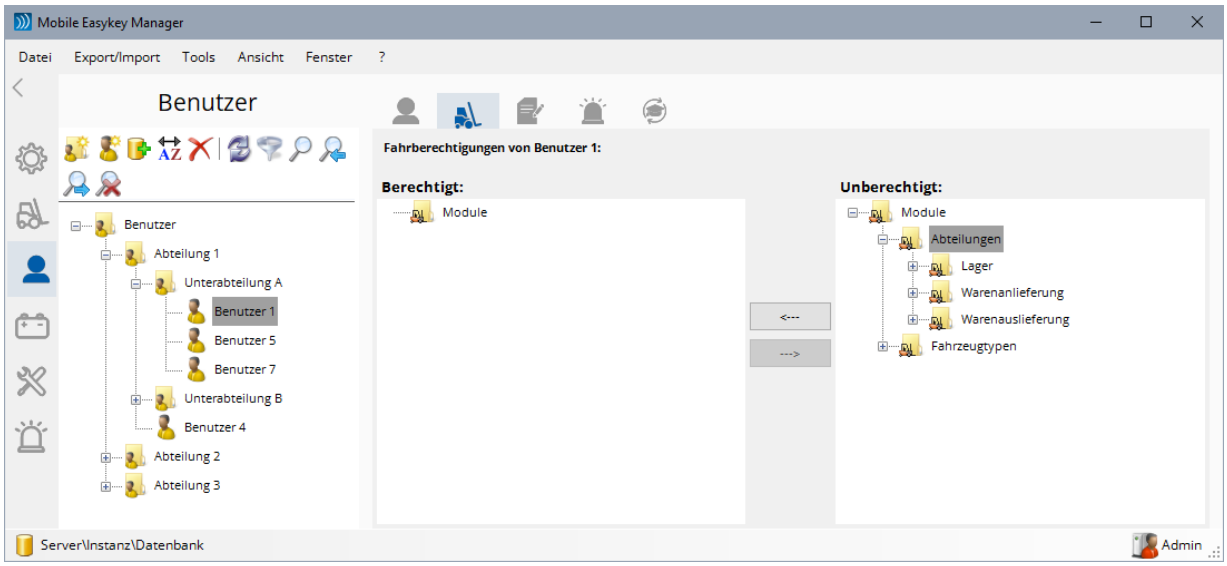
If the set authorisation type admits single authorisations (see **5.14.14 Authorisation Type**), the authorisations can be determined individually from a module to a user.

Nevertheless, several elements or groups can be selected at the same time. Accordingly, several authorisations can be assigned or be taken away all at once.

Attention
If vehicle classes are used, a driving authorisation assigned here is valid only when the respective user also owns the respective vehicle class of the respective module! (see **5.14.4.4 Vehicle Classes** , **5.5.1.2 Settings of Module X** and **5.6.1.2.3 Vehicle classes**)

5.11.6.1 Authorisation for a single element

In the first case it is assumed that only one single element (for this example the single user "user 1") is selected and the modules are organised like in the example in chapter **5.11.5 Create links**. Therefore, the sub window ***user*** would show as follows:

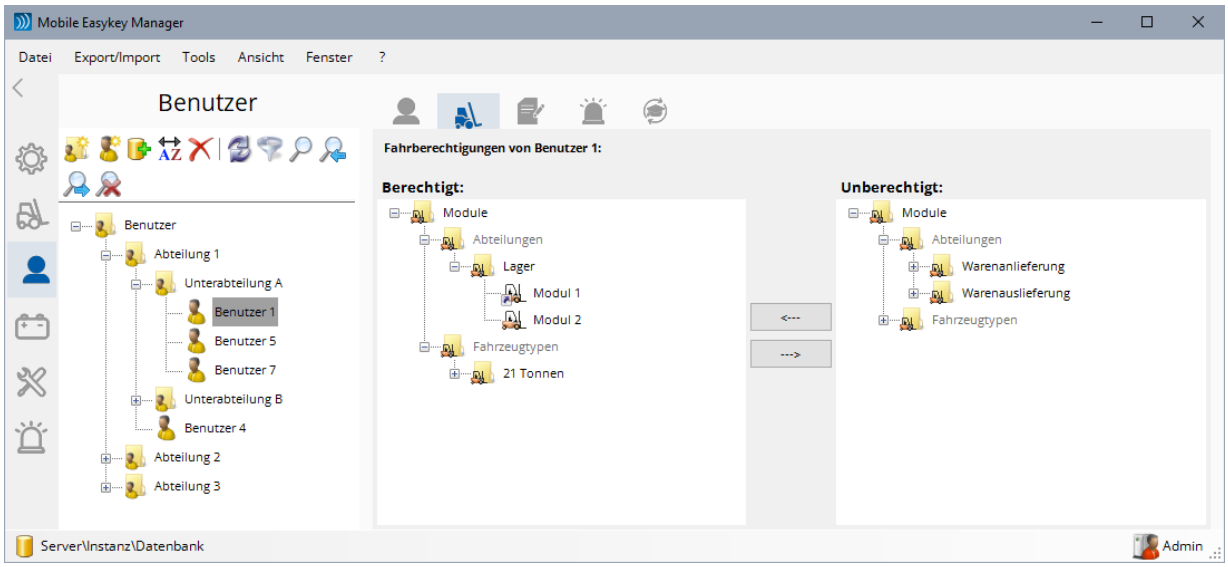


Here no driving authorisations are assigned to ***user 1***. Now you can, for example, in the field ***Unauthorised*** click on the sub group ***warehouse*** and afterwards on the button <--- to authorise this user for all modules contained in the group ***warehouse***. In this example the modules ***module 1*** and ***module 2***.

Alternatively, you can drag the sub-group ***warehouse*** with the mouse between the fields ***Authorised*** and ***Unauthorised*** to and from. Accordingly, you can select in the field ***Authorised*** elements or groups and with the button ---> remove the relevant authorisations.

If this user does not have any driving authorisations assigned and has never been assigned driving authorisations, then the tab icon at the top will flash between and .

Thereafter the driving authorisations of ***user 1*** would show as follows:



The driving authorisation was given for ***module 1*** and ***module 2***.

As there is another link for module 1 in the example, this link was also automatically moved.

Note furthermore that the authorisations were assigned only for the modules and not for the group. If you add another module (or a link) to the group ***warehouse*** afterwards, the user is not automatically authorised to the respective module. You would have to give this authorisation to the user explicitly.

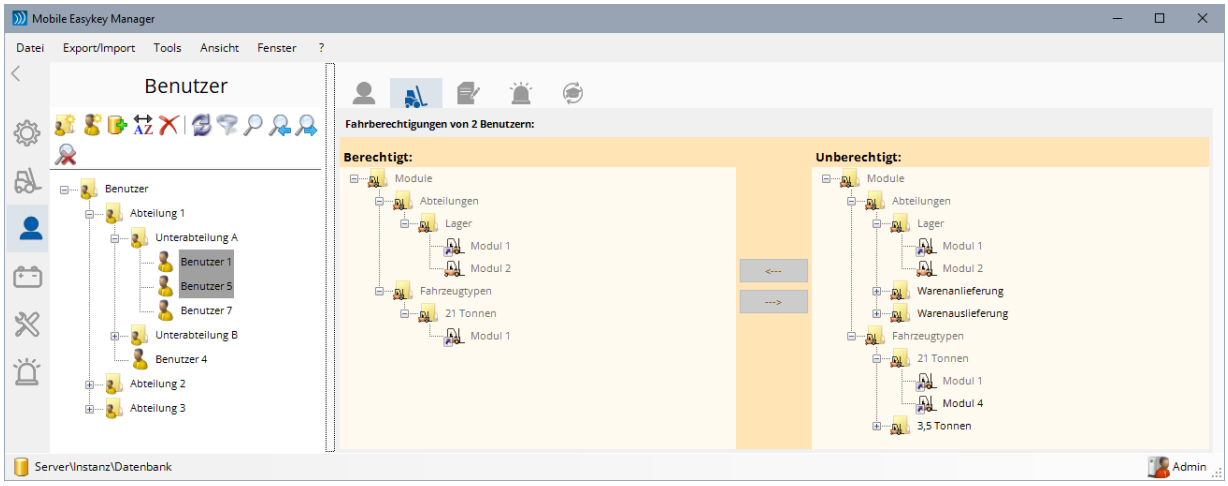
Also note that the group ***warehouse*** in the actual example does not appear on the side ***Unauthorised*** any more. This is due to the fact that in this example **all** elements and links of the group ***warehouse*** are authorised. If for example, only ***module 1*** was authorised but ***module 2 not*** then ***module 1*** would be displayed on the left and ***module 2*** on the right side of the group ***warehouse***.

Note:

You can also operate with the root (modules or users) and assign or remove authorisations for all elements at the same time.

5.11.6.2 Authorisations for several elements at the same time

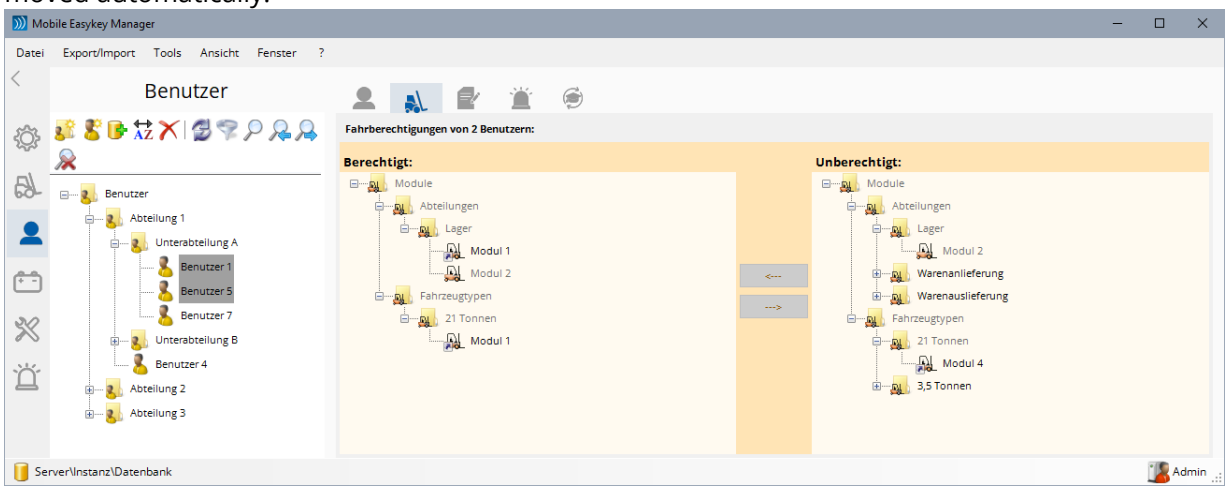
In the tree diagram on the left side, several elements (or links) can be selected at the same time (see **5.11.3 Select several elements at the same time**). Following up on the previous example we assume, user 1 and in addition user 2 is selected. Now the authorisations must be displayed for both users. We suppose furthermore that the authorisations are assigned to user 1 (like in the previous example) but user 2 still has no authorisations. Therefore, the authorisations for both selected users are different!



Note that ***module 1*** and ***modules 2*** in the group ***warehouse*** appear on both sides. In addition, they are shown in grey character font. This means that both links are ***authorised*** for some of the selected users and are ***unauthorised*** for others.

Now you could drag the link for ***module 1*** from the right side ***Unauthorised*** to the left side ***Authorised*** to entitle the link ***module 1*** for all selected users.

It does not matter whether you move the link under storage or under 21 tons. All links are always moved automatically.



Now the module ***module 1*** is only shown on the left side and is also displayed again in black character font. I.e., all selected users are authorised in module ***module 1***.

Now you could authorise the still selected users on all vehicles of the group ***Goods delivery***, dragging this group in the field ***Authorised***.

Note:

In this manner you can assign or remove a lot of authorisations at the same time. Note that the calculation for this might take a little longer.

Again, the tab icon at the top will flash between and if at least one of the selected users has never been assigned a driving authorisation.

5.11.7 Group authorisations

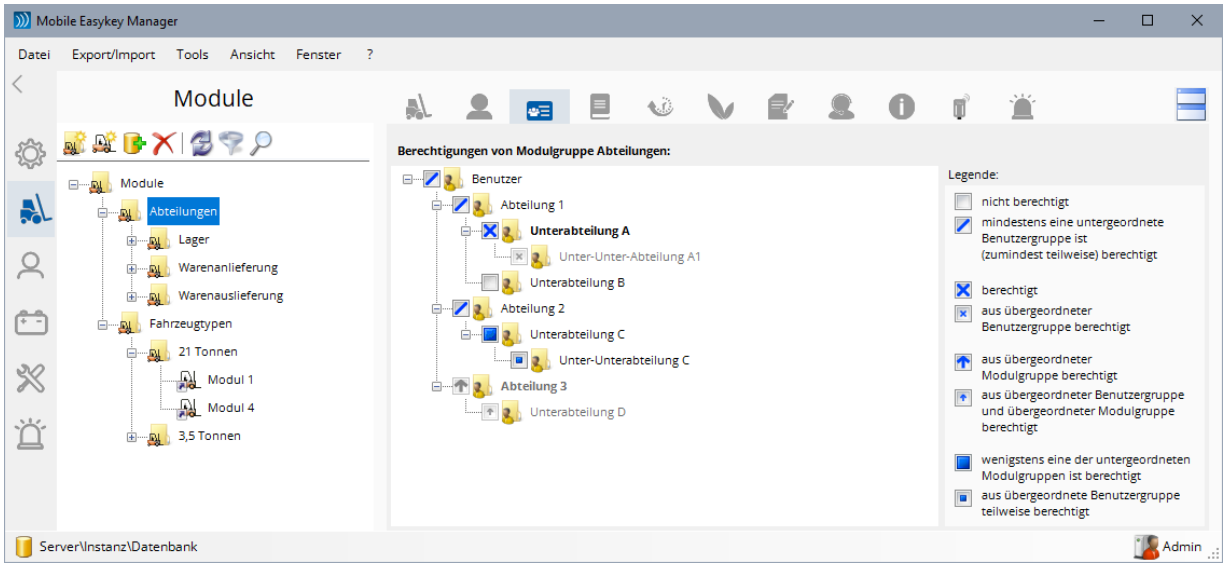
If the set authorisation type (see **5.14.14 Authorisation Type**) admits group authorisations, then authorisations can be determined from module group to user group (or battery group). Then, all elements within this group are automatically authorised (also in sub-groups) accordingly.

Hence, settings are only possible if in the tree diagram on the left a single group is selected. Which groups are associated to this group is then shown in its own tree diagram on the right side.

This description refers subsequently to the tab modules. The display and assignment of the group authorisations with the tabs User or Batteries functions in principle in the same way. Then only the terms Module group and User group or Battery group must be exchanged.

Attention
If vehicle classes are used, a driving authorisation assigned here is valid only if the respective user also owns the respective vehicle class of the respective module! (see **5.14.4.4 Vehicle Classes** , **5.5.1.2 Settings of Module X** and **5.6.1.2.3 Vehicle classes**)

For this example, a single module group is selected on the left. On the right the user groups are shown (with the tab according to battery groups). Depending on the status of the check box (e.g.,) it can be read whether this user group is authorised for the selected module group or not.



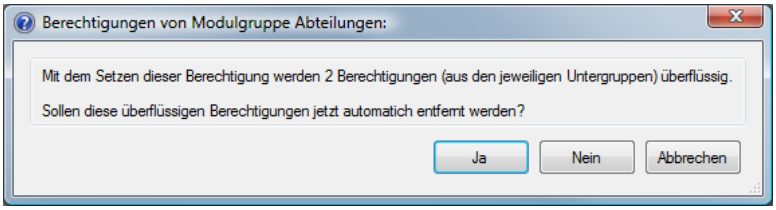
In this example the module group **department** is selected. The icons on the right side now have following meanings:

- User groups with this icon including all sub-groups of these groups are not authorised. In the example above this means, none of the users from **sub department B** or **sub-sub department B1** may drive one of the vehicles in the module group **departments** (unless, he is authorised through a link in another user group).
- User groups with this icon are also not authorised, however, at least one of the sub-groups is authorised. I.e., at least one of the sub-groups has another icon than . In the example above this is the root **user** and **department 1**.

- User groups with this icon are authorised. Also, all sub-groups of these user groups are automatically authorised accordingly. This is shown by the icon. In the example the user groups are **sub department A** and **sub-sub-department A1** . The **sub-sub-department A1** is automatically deactivated, because it makes no sense to assign an authorisation which is already assigned by the superior group **sub department A**. To sum up, this means, that all users within the user group **department A** (incl. sub-groups) are authorised to drive all vehicles within the module group **departments.**
- User groups with this icon are also authorised. However, the authorisation occurs not through the selected module group, but through one of this module group superior module groups. In the example this is the user group **department 3**. The **department 3** has been associated directly to the root **modules** by which it is also authorised for the module group **departments.** Because here it also makes no sense to assign (additional) authorisation where the group is already authorised, the user group **department 3** and all sub-groups (**subdivision D**) are shown disabled. Because sub-groups are automatically authorised, these are marked with the icon .
- User groups with this icon are only partially authorised. I.e., one (or several) of the sub-groups of the selected module group are authorised, but not everybody! However, in the example the module groups **warehouse** and **goods delivery** were authorised for the user group **subdivision C**, but not for the module group **goods delivery**! Therefore, users within the user group **subdivision C** may not drive some of the vehicles within the module group **departments**. The sub-groups inherit this partial authorisation within the user group **subdivision C** of the user group **sub-sub-department**, which is displayed by the icon.

With a click on one of the not disabled icons an authorisation can be established any time between the module group selected on the left and the appropriate user group. Or with a click on the icon the respective authorisation can be deleted again.

If subordinated group authorisations become superfluous with a new group authorisation, a

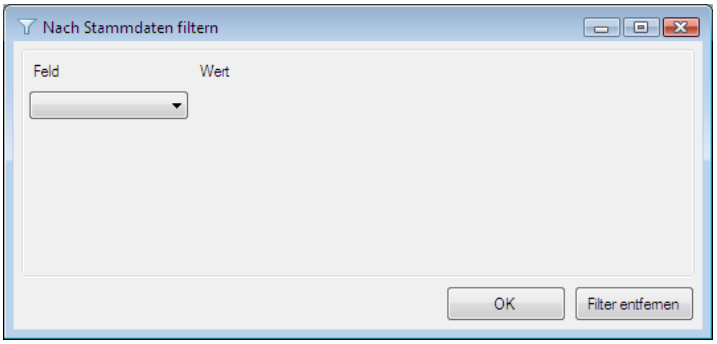


dialog is automatically opened to delete these superfluous group authorisations. If the new group authorisation should be assigned only temporarily, e.g., for testing, then it possibly not helpful to delete the superfluous authorisations. If the new, temporary authorisation is deleted, the old authorisations automatically apply again afterwards. If these were deleted the appropriate user group is not authorised at all.

Tip:
The group authorisations can be simplified if group authorisations are assigned only at one single hierarchy level (if, e.g., all authorisations are assigned exclusively through the module groups **warehouse**, **goods delivery** and **goods delivery out** and if necessary **21 tonnes**, **3.5 tonnes** and **8 tonnes**)

5.11.8 Filter display

In the tabs Modules, User and Batteries the tree (hierarchical) structure can be filtered according to nearly any information.
Click on the icon in the toolbar of the respective window to activate the filter dialog.



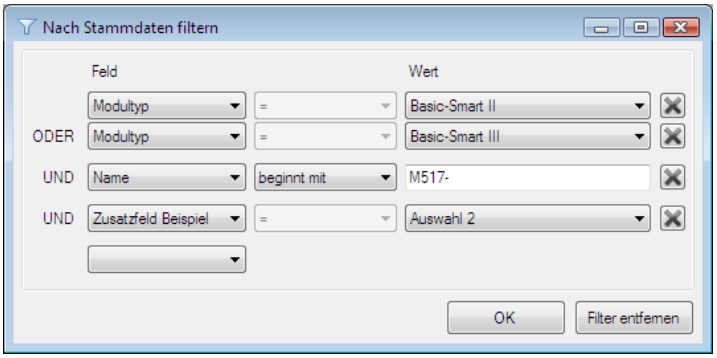
In the choice field select the field, which is to be filtered for. In the next line an empty choice field appears automatically. Thereafter you can select a second field (and afterwards a third and a fourth etc.) which should be filtered for. If you select the same field twice (together), these become linked as "OR" so that you can filter, for example, for module type "BASIC Smart II" OR "BASIC Smart III". Then all modules which are either from the type "BASIC Smart II" or "BASIC Smart III" are found. If necessary, you can change the link afterwards, using the button ODER or UND to select the required link option.

Depending on which field you have selected you can decide in the middle selection field, whether you filter for exact (=) or partial (beginnt mit , endet mit , enthält irgendwo) agreement. If the field you have selected is a selection field the only filtering available is the exact agreement.

For ***value*** you can select or enter the term (or part) which is searched for.

In the right margin of every line the button allows to delete this line.

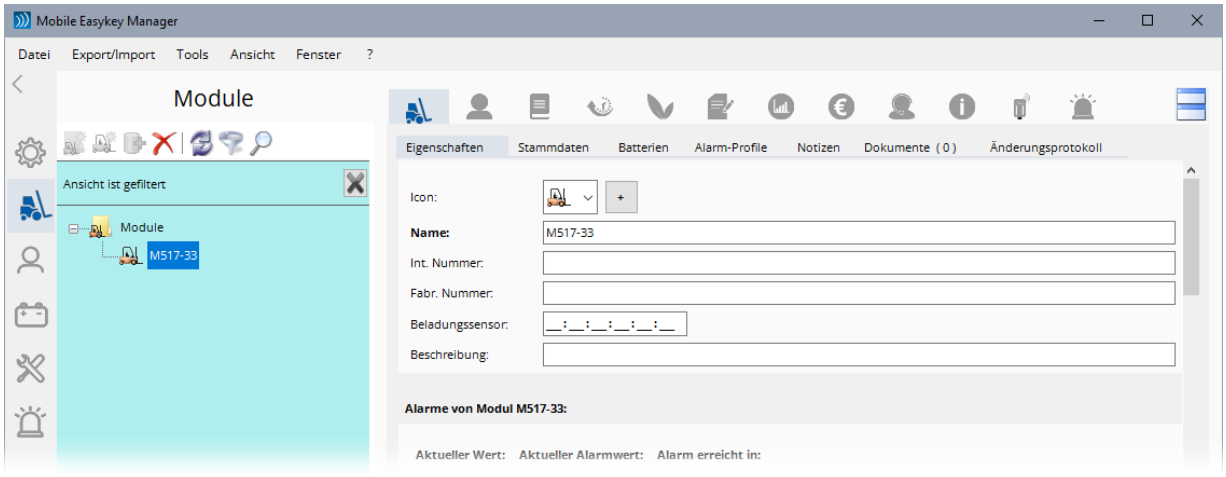
After the entry of some fields the filter dialog could look like this:



In this example only modules of type "BASIC Smart II" or "BASIC Smart III" would be displayed (in the window *modules*) and whose name begins with "M517-" and have in the "additional field example" the value "Choice 2".

Click on OK to apply this filtering now.

To mark that the data within the tree structure are filtered, it is displayed with a light blue background colour. In addition, the text ***Filtered according to master data*** is displayed above the tree structure.

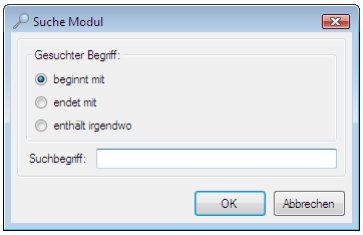


Click once more on to change the parameters for the filtering or you click on to delete the filtering completely.

Note:
While the filtering is active no elements (modules, batteries, users or groups) can be added.

5.11.9 Search

In the tabs Modules, User and Batteries can be searched, within the tree (hierarchical) structure, for name and descriptions.
Click on the button in the toolbar of the respective tab to start the search dialog.



Select one of the following search variations:

- ***begins with***
  Searches (according to window) for modules, batteries or users whose name or description begins with the relevant search term. A search for "M15" finds, for example, "M1546", "M15XX" or "M15-33"
- ***ends with***
  Searches (according to window) for modules, batteries or users whose name or description ends with the relevant search term. The search for "M15" finds, for example, "TestM15", "513M15" or "100-M15".
- ***includes somewhere***
  Searches (according to window) for modules, batteries or users whose name or description contains the appropriate search term somewhere (i.e., at the beginning, at the end or in the middle). The search for "M15" finds, for example, "M15-33", "TestM15" or "TestM15-33".

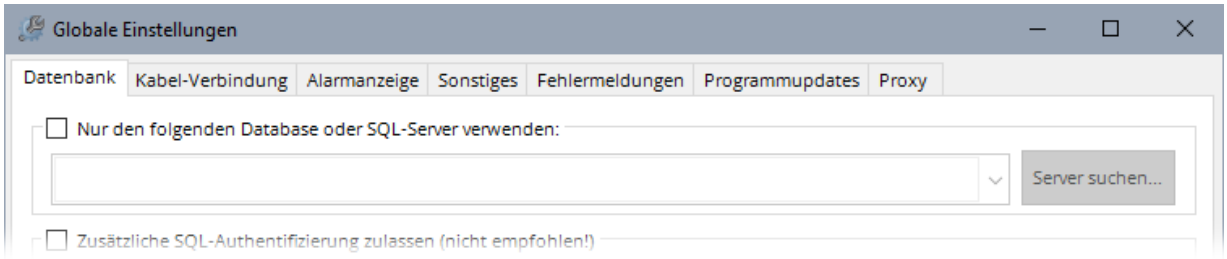
Enter the ***search term now***. After you clicked on OK, it is searched in the tree structure downwards for the first module which contains the search term.

Click on button to search for the next hit. With the button you can search for the previous hit accordingly (backward).

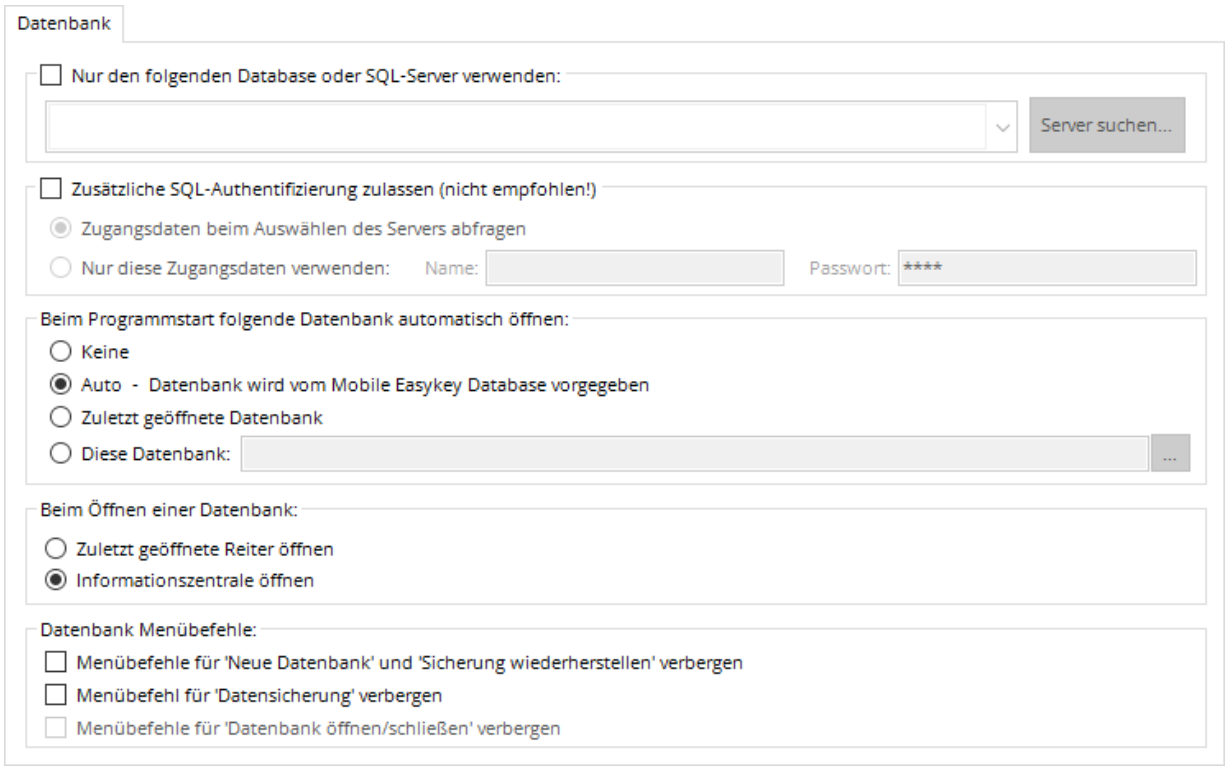
Note:
Upper case and lower case is ignored.

5.12 Global settings

Click in the main menu (with closed database) or in the menu ***File*** on ***global settings***:



5.12.1 Global settings – database



The settings in the tab *database* link up strongly with the ***database open*** command in the ***file menu*** (see **5.3.1.1 Open database**)

- ***Use only the following SQL server***
  If this option is selected, the SQL server can be selected which is automatically used on opening a database. Then it is not any more possible to select another SQL server in the dialogs ***database open*** or ***database new***.
  If the required SQL server is not displayed, click on ***server search***. See also **5.3.1.1.1 Search server**.

- **Admit additional SQL authentication**
  Mobile Easykey generally uses exclusively the so-called Windows authentication to access a SQL server. It is tried to access the SQL server with the currently logged in Windows user. For this, the user with the exact same username and password must exist on the computer with the SQL server. Within a domain this is no problem. If it is not possible, to administer the same users on both computers (Manager and SQL server), then with the help of the SQL authentication a username and a password can be given to access the SQL server. However, this process is clearly unsafe as to the use of Windows authentication.
  If you want to use the SQL authentication anyhow you can enable this here.
  Note:
  The SQL server must be configured accordingly! This is not a component of the Mobile Easykey System or installation. This configuration must be carried out manually by the customer.
  - ***Determine access data selecting the server***
    Always when a database is opened (see **5.3.1.1 Open database**) or another SQL server is selected, username and password are prompted for access.
    The at last entered username as well as the password are saved locally.
  - ***Use only this access data***
    In general only the access data specified here are used.

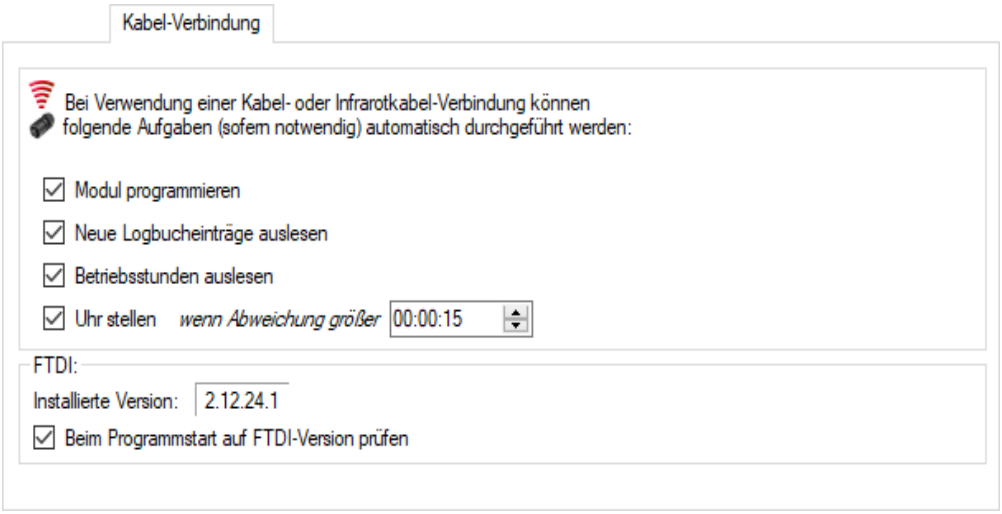
  Note: If with the entered username / password the server cannot be accessed, a Windows authentication is automatically attempted instead.

- ***On program start open following database automatically***
  Alternatively, or, in addition it can be determined whether on program start an available database should automatically be opened. Choose from following options:
  - ***None*** (The database must be opened manually with the menu command ***database open***)
  - ***Auto*** (the database to be opened is set centrally in the Mobile Easykey Database Configurator, see **3.2 Configuration of the Mobile Easykey Database**)
  - ***Last opened database*** (On the next program start the database opened last is opened automatically)
  - ***Database*** (Click on button ***database*** to select which database should be opened on program start.

- ***During opening a database***
  Here it can be decided which tab is opened first. Choices are:
  - ***Last opened tabs*** (Manager notices itself which tab was opened last and produces this status after opening a database again)
  - ***Information central office open*** (Manager always starts in the Information Central Office after opening a database)

- ***Database menu commands***
  Here different menu commands can be deleted from "Mobile Easykey Manager". Then the respective commands are not displayed any longer and can also not be used accordingly. The last menu item command ***"database open / close" hide*** can only be selected if a SQL server and a database are pre-set. Then in this case this one database is always opened and as long as the commands ***Database close / open*** are hidden, it is not possible to use another database.

5.12.2 Global settings - cable connection



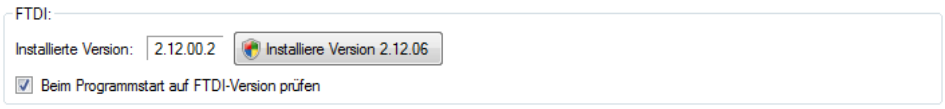
Using a cable connecting (see **5.13.2.1.1 Cable driver (directly)** some duties can automatically be created and executed.

Specify whether one of the following duties should be executed automatically, with every contact with the modules via a cable connection:

- ***Program module***
  With every contact it is checked whether the driving authorisations or the master of this module have changed. If necessary, automatically an update is generated and executed.
- ***Read out new logbook entries***
  With every contact all new logbook entries are automatically read out.
- ***Read out operating hours***
  With every contact it is checked whether the metre reading threshold or operating hours have changed. If so, the new values are automatically read out.
- ***Set clock***
  With every contact it is checked whether the internal clock of the connected module still functions correctly. If the deviation is greater than the set value (in the example on top 15 seconds), the internal clock of the module is set automatically anew.

Note:
This automation also works with a Plug and Play (see also **5.13.1 Plug and Play**) connected cable.

5.12.2.1 Global Settings –FTDI driver



Here the version number of the currently installed FTDI driver is displayed.

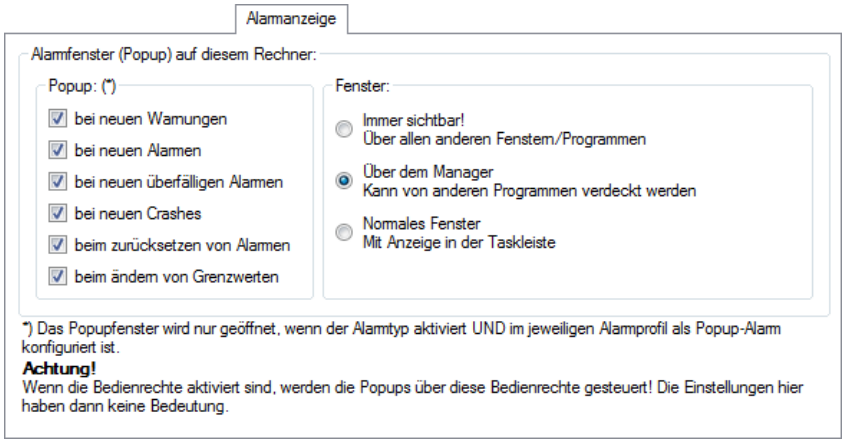
If the driver is not installed yet or not up to date, an additional button is displayed. With a click on this button the appropriate driver is installed or updated.

However, administrator's rights are necessary for the installation or the update!

By default, Manager checks with every program start whether a compatible driver is installed. If not, a relevant hint is displayed on program start. The hint display can be switched off with the option „***check on program start for FTDI version***".

Note:
This hint does not appear in every new version, but only if the driver version is not compatible!

5.12.3 Global settings - alarm display



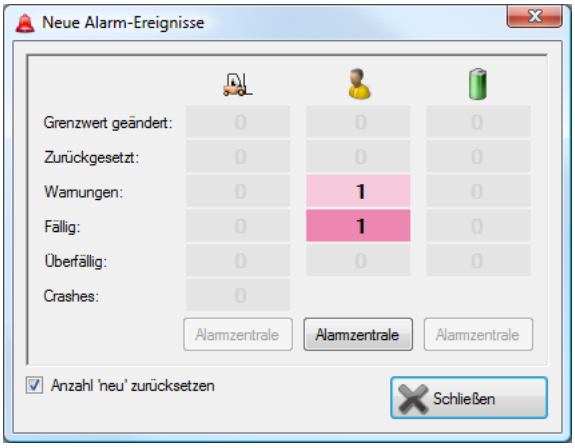
"Mobile Easykey Manager" can trigger an alarm for different causes and display a small PopUp window (see example on the right). If displaying these PopUp windows is not wanted it can be deactivated (on this computer) for the individual alarm levels. The setting concerns only the opening of the PopUp windows. If the PopUp window is opened, always all alarms of all alarm levels are displayed there. See also **5.10 Alarm profiles**.

It can be determined how the PopUp window should perform. The possible options are:

- ***Always visible***
  The PopUp window floats above all other windows, no matter which programme just operates. Even if Easykey Manager is not visible the window is displayed.
- ***Above Manager***
  The PopUp window floats above all other windows of Easykey Manager. If Easykey Manager is the current programme, the PopUp window is always visible. If another programme is active, it covers the PopUp window.
- ***Normal window***
  The PopUp window can be covered by other windows of Easykey Manager as well as by other programmes. However, the PopUp window is displayed as its own element in the task bar.

5.12.3.1 The Alarm PopUp Window

According to the configuration of the alarm profiles (see **5.10 Alarm profiles**) and the local settings of this computer (see **5.12.3 Global settings - alarm display**) following PopUp window is called with the occurrence of an alarm (or any alarm level):



In the columns and rows the sum of all new events of this type are displayed.
Here it is counted from the time in which this PopUp was displayed last and was closed with the enabled option *number* ***"new" reset***.

If the operating rights (see **5.21 Software Operating Rights**) are active, only alarms of elements are displayed or added up which currently an alarm display authorisation is assigned to. The time when the alarms were reset last (***number "new" reset***) and thus, the sum calculation are logged for every software operator separately.

With a click on one of the buttons of the ***Alarm central office*** the PopUp window is closed and at the same time the respective alarm central office is called.

With the button ***Close*** the PopUp window is closed.

If the option ***Number "new" reset*** is enabled, all sums are reset to 0 with closing the PopUp windows. If the option is not activated, new alarm levels are added to the previous values.

Tip:
If you close the PopUp window with the  button, the values are preserved regardless of the setting of the option ***Number "new" reset.***

5.12.4 Global settings - other

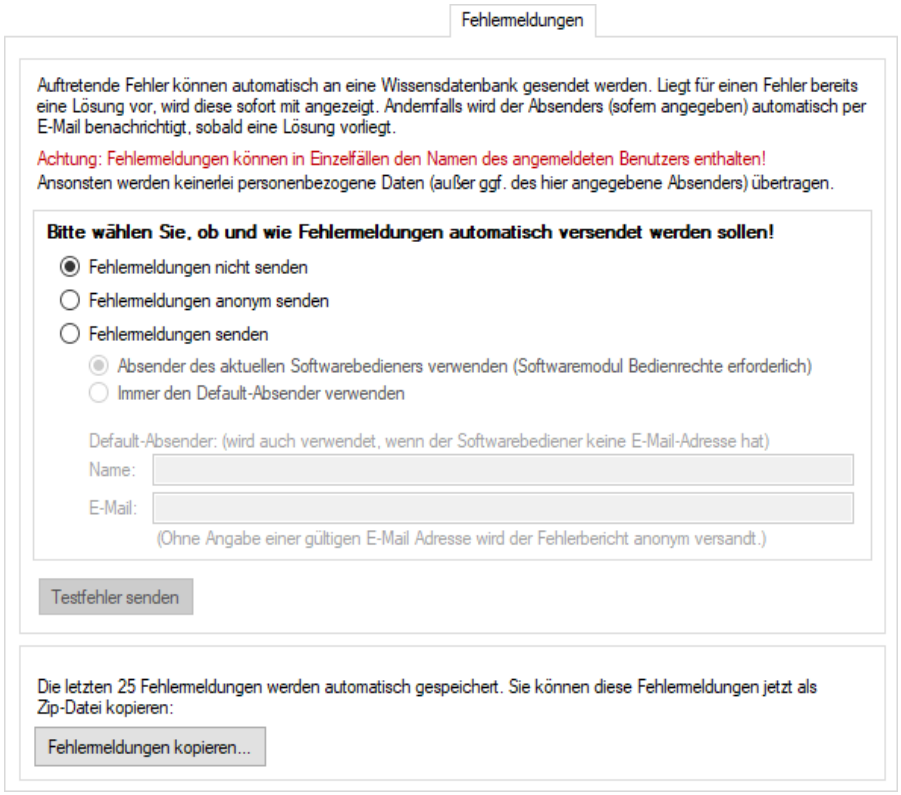


- ***If possibly display * icons as an image***
  If to the respective module user or battery an image instead of an icon was assigned, this image can be displayed in large size. See also **5.5.1 Module properties**, **5.6.1 User properties** and **5.8.1 Battery properties**.

- ***If possibly display *groups icon as an image***
  If for the module user or battery group an image instead of an icon was assigned, this this image can be displayed in large size.

- ***Display button for removing the actual transponder***
  With this option, in the tab user or batteries, a button can be viewed which allows deleting the current transponder of a user / of a battery. Then after the deleting of the transponder no transponder is assigned to the respective user or the battery.
  See also **5.6.1 User properties** and **5.8.1 Battery properties**.

5.12.5 Global settings - error messages



Any errors that occur can be automatically sent to a knowledge base via the Internet.
If the error is already known and a solution exists, it is automatically retrieved from the knowledge database and displayed.

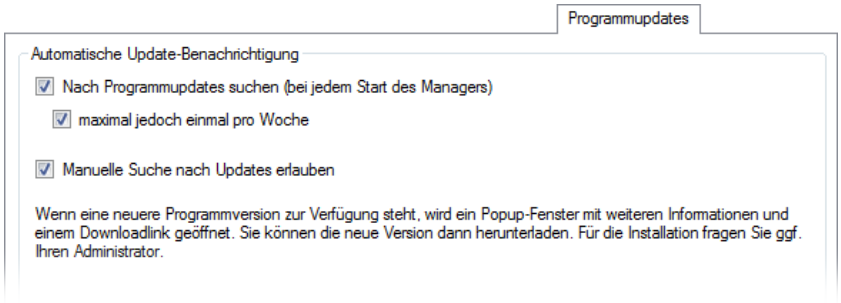
If you enter a name and an e-mail address, these contact details will be stored together with the error. If there is no solution at the time of the error, you will be informed when there is a solution to this problem.

You can also send error messages anonymously.

Attention!
Error messages can contain the name of the logged-on user in some cases.
For example, if the login to the SQL server fails, the SQL server error message contains the current Windows user for whom the login failed.

The Easykey Manager also automatically stores the last 25 error messages in a local folder. With a click on ***error messages copy ...*** you can save this for support purposes as a Zip file.

5.12.6 Global settings - program updates



Mobile Easykey Manager can search automatically (with an available internet connection), for new program updates.

If a newer version was found, a PopUp window with the appropriate information is automatically opened. There you can click the blue, underlined links (hyperlinks) to get directly to the respective web side.



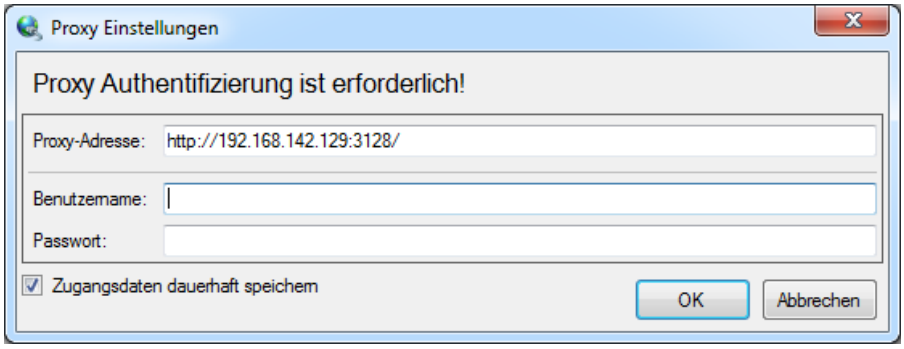
If you do not wish an automatic update notification, you can disable this function entirely by deactivating the option ***search for program updates (on every start of Manager)***.

By default, the manager searches only once per week for new updates. If the option ***max. once per week*** is deactivated, Manager searches with every program start!

5.12.7 Global Settings – Proxy

If a proxy is required to communicate with the Internet, the Mobile Easykey Manager will read automatically the proxy settings of Windows, before connecting to the Internet (e.g. to check for new updates, see **5.12.6 Global settings - program updates** or when sending error messages, see **5.12.5 Global settings - error messages**).

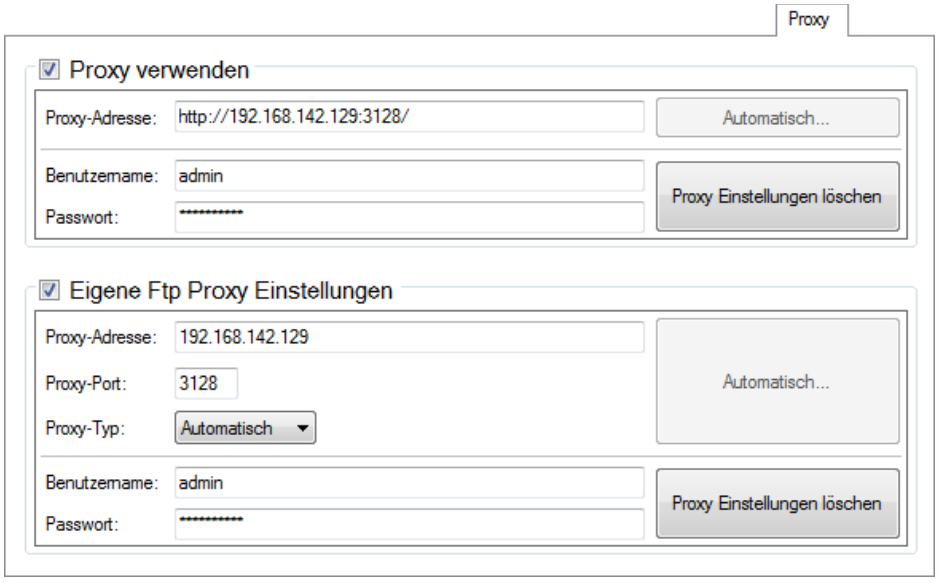
If a username and password are required, this will be requested with the following dialog:



With the option ***Save access data permanently***, the user name and the (encrypted) password are saved.

In this global setting, this proxy data can be changed or deleted at any time. Similarly, you can manually enter a proxy here, which is not stored in the Internet settings of Windows.

If the ***Use proxy*** option is selected, the connection will always be tried first with these proxy settings. With the button ***Automatic*** (if available) the proxy configuration stored under Windows can be read out.



For FTP-Connections (*Backup to FTP* see **5.3.2.1 Database Backup** or *Upload for Support*, see **5.3.7.8 Upload for support**) the same Proxy setting are used by default. Here, too, the access data may be requested automatically. With the option *Own Ftp Proxy* setting you can define separate proxy settings for FTP connections.

A special feature of the FTP connection is the proxy type. It sets the method used to transfer the FTP data through the proxy. If you know the exact proxy type, you can set it here. Otherwise, use the ***Automatic*** option. The FTP connection will be tried at the same time as all available proxy types until a working connection is found.

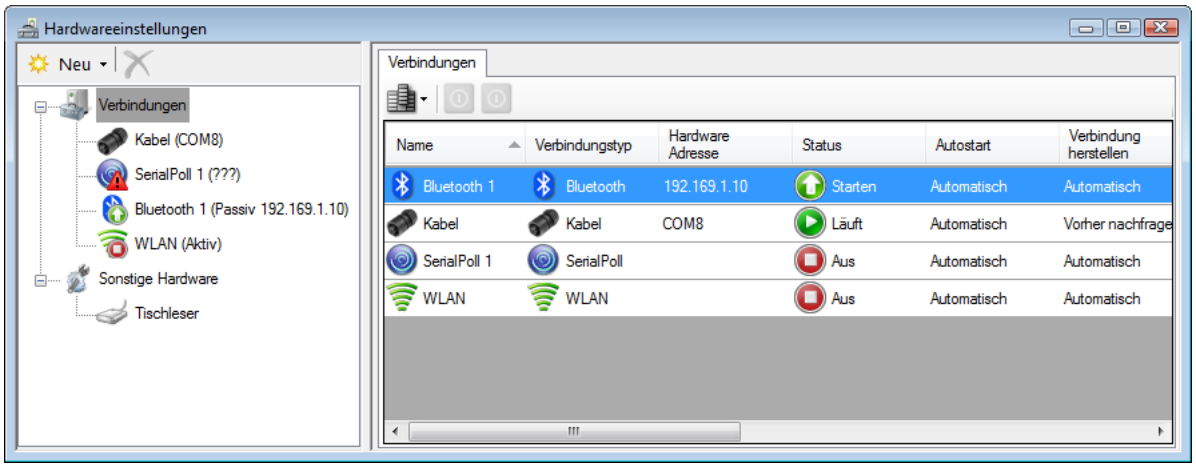
5.13 Configure hardware

Additional hardware or software components are necessary for the communication with the modules and the reading of the transponders. For each of these components own drivers must be set up. These drivers are depending on the pc, i.e., they only run on the computer on which they were set up.

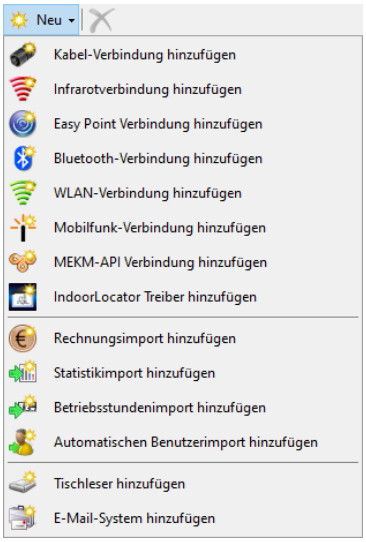
Tip:
Cable connections and the table reader can also be added by Plug and Play (see **5.13.1 Plug and Play**). Then a manual set up is not necessary.

Most drivers can thereby be used indirectly from other computers. Orders can be created on any computer which are then automatically executed by the computers on which the respective connection or the email system are installed. It is of course required that the computer(s) the drivers run on are switched on and Mobile Easykey Manager is launched!
Only the desktop reader (see **5.13.5.1 Table**) is only available on the computer on which the driver is set up.

Click in the menu ***File*** on ***Hardware configuration*** or in the toolbar on the icon to open the window for the hardware configuration.



If for this computer the drivers already exist, you can see this on the left, in the tree diagram. With a click on button Neu the menu opens for adding new drivers.



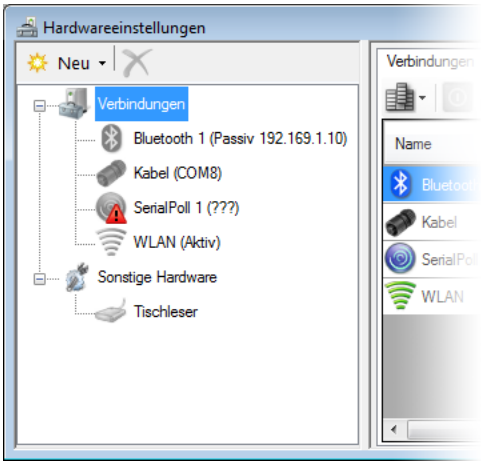
Note:
The driver ***Invoice import*** (see **5.22.3 Finance Module**) can only be started with an existing activation code:

The drivers are marked, if necessary, with one of the following characters:

- This driver is incomplete or faulty
- This driver has not launched!
- The driver was launched; however, it was interrupted by an error. It regularly tries to start the driver automatically.
- It is just tried to start these drivers.
- It is just tried to quit this driver.
- The settings of this driver have changed. These changes take effect when this driver is newly started.

See also **5.13.6 Drivers Start and Quit**.

Note:
The hardware settings can also be carried out with a closed database. In this case the icon ⚠ is only displayed with drivers configured incomplete or faulty.



5.13.1 Plug and Play

For USB-table readers (see also **5.13.5.1 Table**) and USB cable connection (see also **5.13.2.1.1 Cable driver (directly)** no further configuration is necessary. These devices are automatically recognised, set up and launched on start of Easykey Manager or while plugging in the USB connector.

If a device is plugged in for the first time, Manager cannot yet make a distinction whether it is a table reader or a cable. In this case a window, in which you must select the connected device, opens in the left lower corner.



Also, other devices which use the same USB chip (from FTDI) are recognised. In this case, or if the connected table reader or the cable should not be used for Manager, select ***3rd party device (do not use with MEKM)***.

Otherwise select ***cable*** *(for programming and readout of the modules)* or ***table readers*** *(to read out transponders)*.

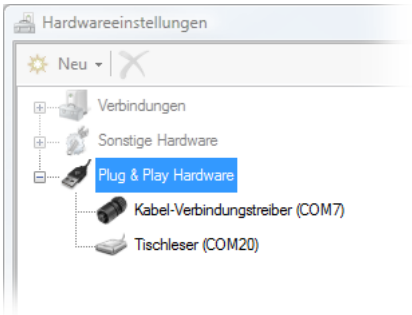
After clicking on OK the new device is immediately recognised (except with 3rd party device) and is put into operation.

As soon as the device was correctly used once (a transponder was read out with the table reader or a module programmed via cable), this device is automatically recognised in future.

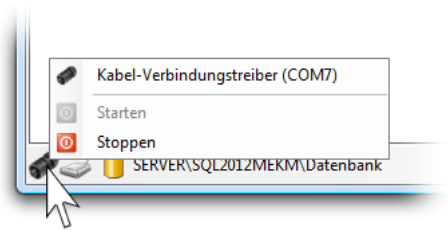
Note:
With some older table readers or cables the automatic detection does not work yet. In this case the device type (table reader or cable) must be selected every time.

Devices added by Plug and Play are shown in the left lower corner in the status bar (see **5.3.5.2 Status bar**) and in the hardware settings in the category Plug and Play.





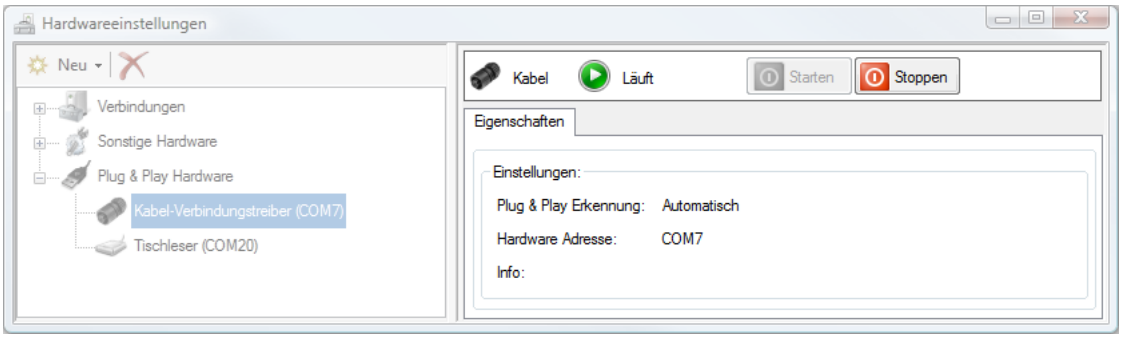
Tip:
With a right mouse click on one of the driver icons in the status bar a small menu is opened. With the uppermost menu item (*name of the driver*) the hardware configuration of this driver can be called directly (in the category ***Plug and Play***).
With the menu items ***stop*** and ***start*** the driver can be stopped and started anew any time. See also **5.13.6 Drivers Start and Quit**.



Right click

5.13.1.1 Plug and Play – Configuration

The only configuration possibility for a Plug and Play driver consists in stopping the driver (temporarily) and in restarting it.



Stopping a Plug and Play driver makes sense, when the device is to be used for something else (COM port).
E.G., a Plug and Play cable connection could be stopped to set up this COM port afterwards as an Easy Point connection. Otherwise, the Easy Point connection on this COM port may not be started, because the Plug and Play driver still runs.

5.13.2 Direct connections

The direct connection is the easiest and most basic connection. With a direct connection any kind of orders (including initialisation orders) can be executed.

New modules have to be programmed first through a direct interconnection (or with the Mobile Easykey Communicator, to become known to the system.

You can set up as many direct connections on several computers at the same time.



As soon as the connection to an already known module exists, different jobs (such as updating or reading a logbook) can be created automatically.
For direct connections, this is configured in the Global Settings (see **5.12.2 Global settings - cable connection**).

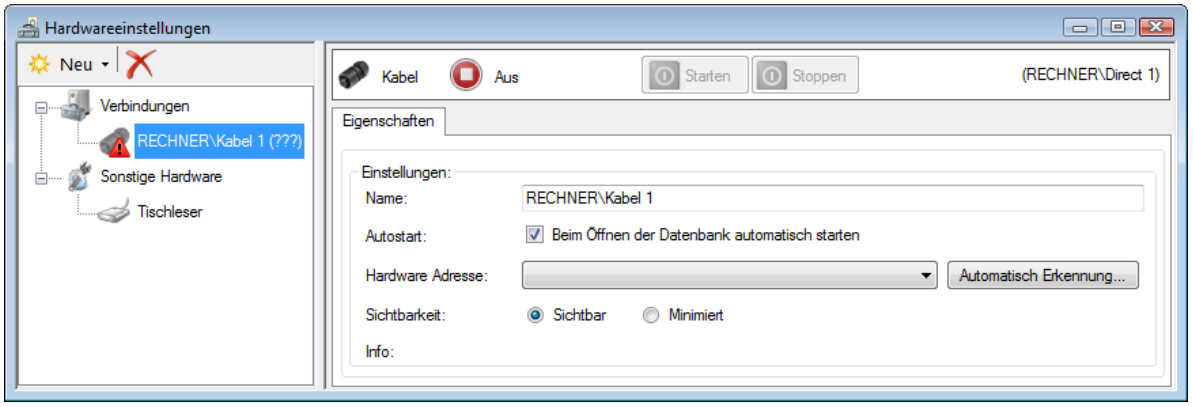
5.13.2.1 Direct-Link-Drivers

There are two different forms of direct connection:
Cable (see **5.13.2.1.1 Cable driver (directly)**) and
Infrared (see **5.13.2.1.2 Infrared driver**).

5.13.2.1.1 Cable driver (directly)

USB cables are usually automatically recognised, set up and started (see **5.13.1 Plug and Play**). If a serial cable is used or the Plug and Play detection doesn't work (even after connecting and reconnecting of the USB connector), the cable connection can also be set up manually.

Click on button Neu and then on the menu item ***Cable connection add*** to add a new direct connection.



Attention

Do not forget to start the driver after the configuration (see **5.13.6 Drivers Start and Quit**).

5.13.2.1.1.1 Properties

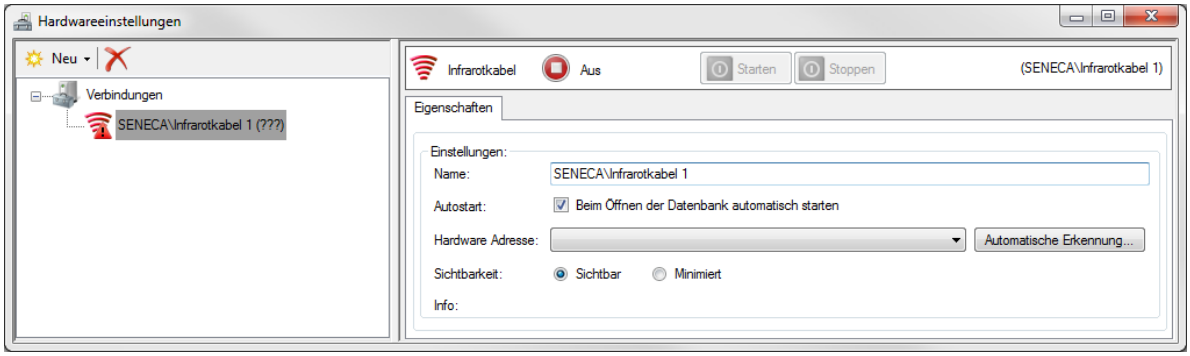
Name:	For easier recognition you can name this driver.
AutoStart:	If this option is activated, the driver is automatically started every time while opening a database (see **5.13.6 Drivers Start and Quit**)
Hardware address:	Specify the required Com port for this connection here. If you use a USB cable, you can also click on the button ***automatic detection*** and plug the USB cable into the PC. Then the Com port is automatically recognised.
Visibility:	Generally, with the connecting of a module a window (see **5.13.2.3 Direct connection - Execute orders**) is opened in which the orders are listed, new orders can be created and the respective order progress is displayed. You can specify here whether this window should be displayed normal (***visible)*** or ***minimised***. In the minimised status the window is at first invisible. Only in the left lower corner, e.g., the driver icon is displayed, showing that a module is connected. With a click on the respective driver icon the window of the cable connection can be displayed any time. (See also **5.3.5.2 Status bar**)
Info:	If necessary, here short information about the connection status is displayed.

5.13.2.1.2 Infrared driver

The infrared connection is necessary to program Smart lock modules (see also **5.9.1 smart lock profile**). You can set up limitless infrared connections on any computers at the same time.

The infrared USB cable is generally automatically recognised, set up and started (see **5.13.1 Plug and Play**). If the Plug and Play detection doesn't work (also after disconnecting and reconnecting the USB connector), the infrared connection can be set up manually.

Click on button Neu and then on the menu item ***Infrared connection add*** to add a new infrared connection.



Attention

Do not forget to start the driver after the configuration if necessary (see **5.13.6 Drivers Start and Quit**).

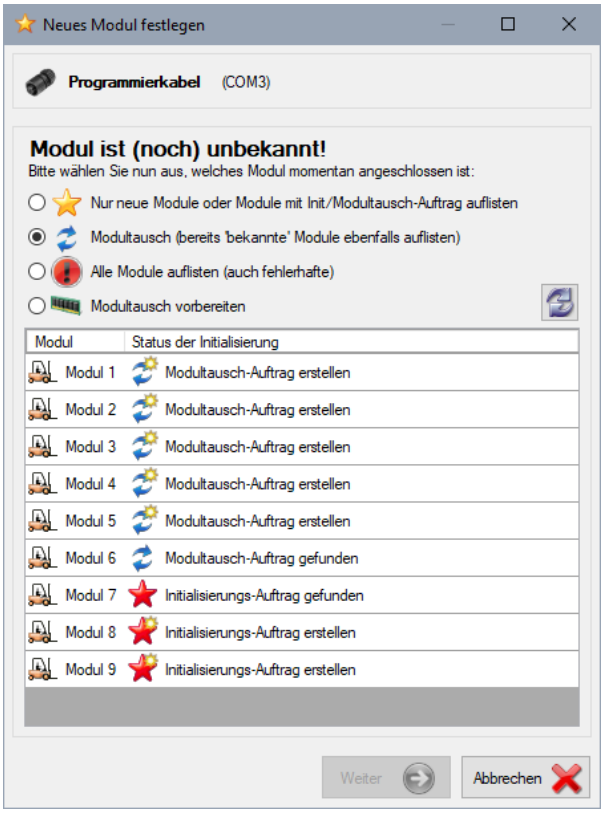
5.13.2.1.2.1 Properties

Name:	For easier recognition you can name this driver.
AutoStart:	If this option is activated, the driver is automatically started every time while opening a database (see **5.13.6 Drivers Start and Quit**)
Hardware address:	Specify the required Com port for this connection. If you use a USB cable, you can also click on the button ***automatic detection*** and then plug the USB cable in the PC. Then the Com port is automatically recognised.
Visibility:	Generally, with the connecting of a module, a window (see **5.13.2.3 Direct connection - Execute orders**) is opened in which the orders are listed, new orders can be created and the respective order progress is displayed. You can specify here whether this window should be displayed normal (***visible)*** or ***minimised***. In the minimised status the window is at first invisible. Only in the left lower corner, e.g., the driver icon is displayed, showing that a module is connected. With a click on the respective driver icon the window of the cable connection can be displayed any time. (See also **5.3.5.2 Status bar**)
Info:	If necessary, here short information about the connection status is displayed.

The performance of the infrared driver is further described in the next chapter **5.13.2 Direct connections**.

5.13.2.2 Direct Connection - New Modules

Whenever a new, unknown module is connected while direct connection is running, the ***set new module*** dialog opens. In this dialog, it is now necessary to determine which module in the database corresponds to this connected device. The module is then programmed so that it can be self-identified in the future.



The following options can be used to restrict the selection of displayed modules:

List only new modules or modules with initial/module exchange order
Only modules that have been newly created in the database and provided with valid data are displayed but have never been programmed. Also, only those for which a job for module exchange (or initialization) has been created manually in the information centre.
Select the appropriate module from the list and click *Next*.
If necessary, the operating-hour stands still need to be adjusted, see **5.13.2.2.1 Set Operating Hours Start Value**.

Module change (also list already known modules)
In addition to the option above, all modules for which a module exchange order could be created are listed.
Select the appropriate module from the list and click *Next*.
If necessary, the operating-hour status still need to be adjusted, see **5.13.2.2.1 Set Operating Hours Start Value**.

List all modules (even faulty ones)
In addition, the modules for which no module exchange order can be created are also displayed because the module is not (yet) fully (or incorrectly) configured in the database. This display is for overview only. If such a module is selected, the ***Next*** button cannot be clicked.

Prepare module change
This option has a special function (see **5.13.2.2.2 Prepare Module Exchange**)

Status of the initialisation:

Initialisation order found
For this module an initialisation order already exists. Select this entry to initialise the connected module with this initialisation order.

Create initialisation order
For this module still no initialisation order exists. Select this entry to create an initialisation order for this module and to initialise the connected module.

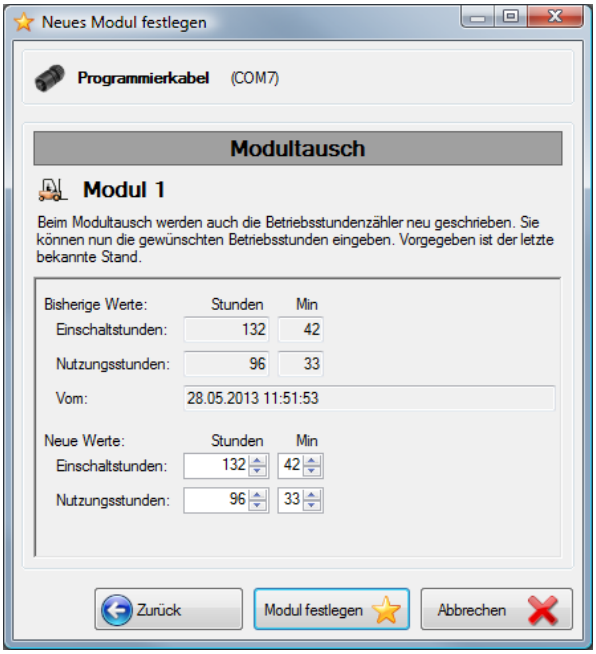
Initialisation order found
For this module already an initialisation order exists. If the correct module is connected, it is automatically recognised, and this initialisation order is executed. If the original module does not exist any longer you can connect a spare module and select this entry to initialise the spare module in such a way that it corresponds in future to this module.

Create initialisation order
For this module still no initialisation order exists. If the correct module is connected, it is automatically recognised, and an initialisation order is automatically created and executed. If the original module doesn't exist any longer you can connect a spare module and select this entry to initialise the spare module in such a way that it corresponds in future to this module.

Module exchange order found
For this module already a module exchange order exists. Select this entry to initialise the connected module with this module exchange order.

Create module exchange order
For this module still no module exchange order exists. Select this entry to generate a module exchange order for this module now and thus, to initialise the connected module.

5.13.2.2.1 Set Operating Hours Start Value



Depending on the status of the module the metre reading of the cut-in- and operating hours can be specified. Modules which are new in the database but already have operating hours; the internal metre reading can be set to the required value.

If a module is selected with which no metre reading must be set, the button ***set module*** appears and the following dialog is skipped. Otherwise, the button ***NEXT*** appears and after a click on this you see the following dialog:

You see the last known metre reading of the cut-in-, the operating hours and the time when this metre reading was read out.

This last known metre reading is pre-set as a default. You can change the value arbitrarily, e.g., if you know that a certain number of cut-in- and/or operating hours have amounted since then.

Now click on the button ***Set module***.

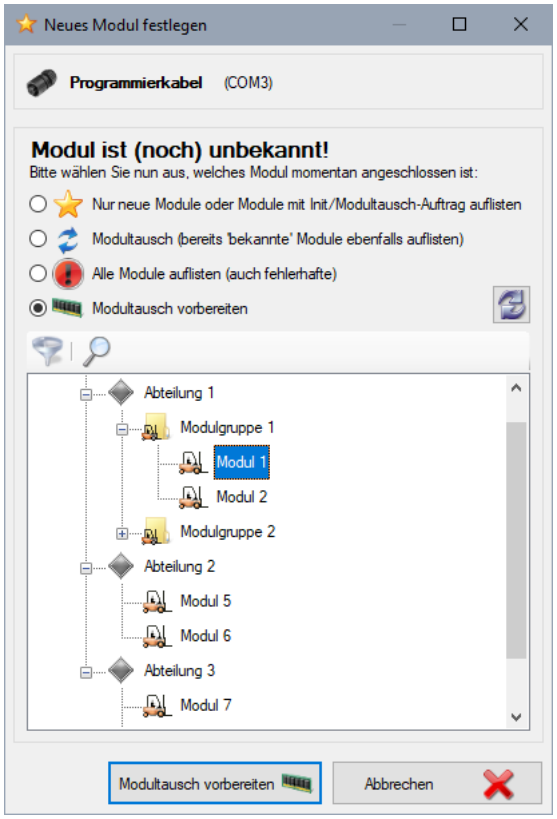
The appropriate first initialisation or module exchange order is created (if necessary) and is executed. From now on "Mobile Easykey Manager" recognises this module every time it is connected.

Note:
This window is also displayed if ***minimised*** is selected. See ***visibility*** (**5.13.2.1.1.1 Properties**).

5.13.2.2.2 Prepare Module Exchange



The small, or thumb-sized board in the modular modules is called hybrid. It is the heart where all transponders (driving permissions) and logbook events are stored. In some situations, this board needs to be exchanged, e.g., if the button cell battery (installed on the back) becomes too old for the built-in clock.



To make this exchange as easy as possible, a new hybrid with a special table hardware in the office can be connected to a Manager. In the window ***Set new module*** we then select the option ***Prepare module exchange***.

Here, too, it is of course necessary to choose which module this hybrid should be for. Click on Prepare ***module exchange***

Now this new hybrid is completely programmed (prepared) without affecting the module still in operation. The module with the old hybrid can be operated even further without any problems. At some point, the (old) hybrid in the module will be replaced by the new (prepared) one.
Make sure that this prepared hybrid can only be installed in this particular module! Otherwise, the data of the modules would be mixed and the logbooks of both swapped modules would become unusable!

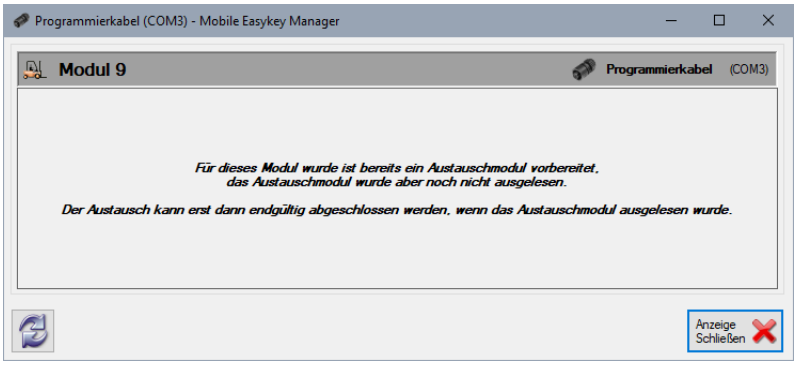
Attention!
The prepared hybrid must **not be powered** after preparation until it is installed in the actual module! Because the first powered entry after preparing the module exchange is interpreted in the logbook as the first-powered-entry after the hybrid-change!

Since all driving authorisations are already pre-programmed, the module can continue to operate directly (and without an update) after the hybrid exchange. Nevertheless, the next time you contact the module, a full update is automatically generated in order to program any changes that may have been made in the meantime.

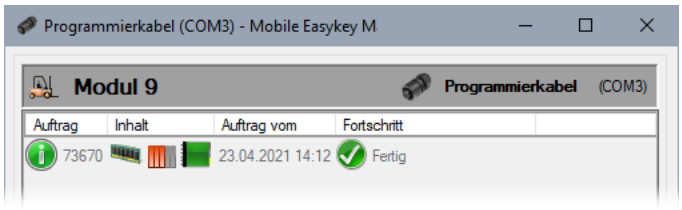
5.13.2.2.2.1 Subsequent read out of the removed hybrid

Since the old, expanded hybrid can still contain information (logbook entries and operating hour values), it can be read out later with the table hardware in the office.

Attention!
This subsequent read-out may not take place until the module has been contacted once and the full update has been executed. Until then, the old hybrid (and until the hybrid is replaced also the module itself) is not accessible via the cable driver! See message on the right.



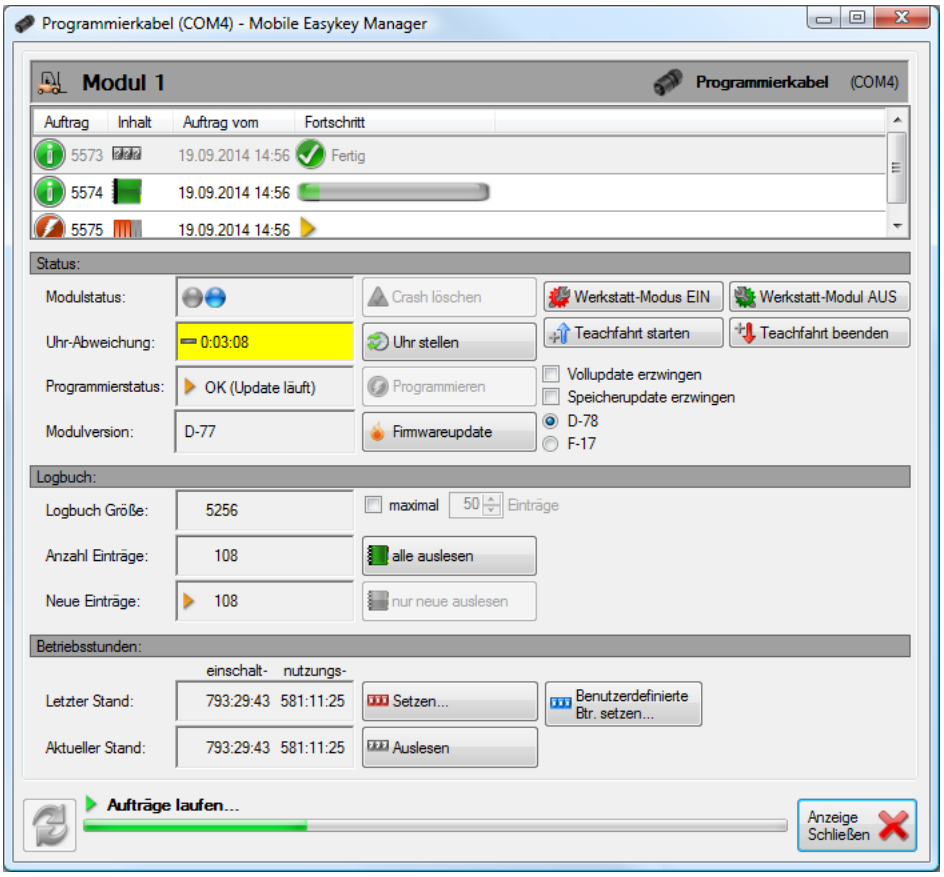
On the other hand, the full update has already taken place, the old hybrid is detected and read out fully automatically. In the old hybrid, all transponders are removed at the same time for safety reasons.



If new operating hours have accrued between the *prepare module exchange* and the actual replacement of the hybrid, an operating hour order is automatically generated. This is then executed automatically the next time you contact the module.

5.13.2.3 Direct connection - Execute orders

If a module is connected which is already known to the "Mobile Easykey Manager", the following window is opened:



Note:

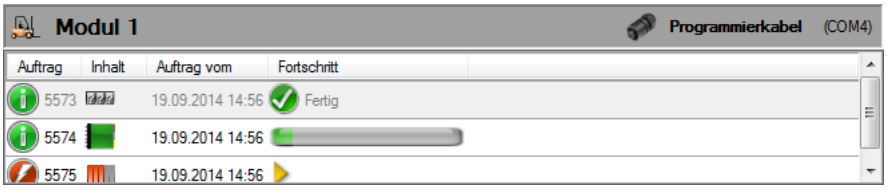
If in ***visibility*** (**5.13.2.1.1.1 Properties**) ***minimised*** is selected, the window is not displayed! Instead, only the icon in the left lower corner changes for the cable connection (e.g.,). See also **5.3.5.2 Status bar**.

Depending on module type and according to activated software modules (see **5.22 Software Modules (Optional)** not all buttons are visible.

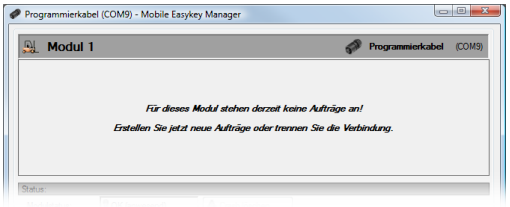
The window disappears automatically, as soon as the module is not connected any more. Alternatively, the window can be closed with a click on ***display close***. With a click on the driver icon (e.g.,) in the left lower corner, the window can be opened again any time. See also chapter **5.3.5.2 Status bar**.

If all orders are executed, the connection and disconnection of a module can be simulated with this button .

Order list area:



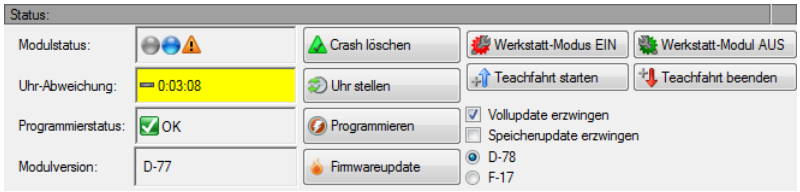
In the upper part of the window (alongside the module and the driver's name) already available or just automatically created orders are displayed. (See **5.12.2 Global settings - cable connection**) If currently no orders exist and no orders were automatically created (because this is currently not necessary or because the automatic order creation is switched off (disabled)), this text appears instead: „ ***Currently no orders for this module! Create new orders now or disconnect*** ".



Available orders are automatically started and in the column ***progress***, a progress beam is visible. The remaining icons in the column ***progress*** have following meaning:

	The order waits for implementation
	The order is being executed
Save	The order is executed, but must be saved in the database.
Order executed	The order is entirely executed and saved.

The status area:

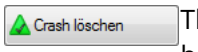


- ***Module status/mode***
  The module status specifies in which status/mode the module is at the moment.
  The status is displayed with following icons:

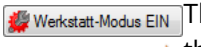
  A user is logged in
  No user is logged in
  A user is present
  No user is present
  Usage (actual) – the power sensor is active
  Event 1 is active
  Event 2 is active
  This (***modular crash+remote*** / ***modular plus crash***) module is in test drive operation
  The module is in crash mode (active crash)
  The module is the crash mode (passive crash)
  The battery reader (see **5.8 Batteries** and ***record used batteries and electrolyte sensor in logbook*** see chapter**5.9.1.1 Log in (smart lock)** und **5.9.2.2 Log in**) is faulty!
  The used battery is not admitted for this module
  The used battery is valid
  The module is in workshop mode (see also **5.5.23.8 Workshop**)
  The module is in warning mode
  The module is in alarm mode
  The module is overdue mode

  } UVV, Cut-in hours and/or operating hours. Read also chapters **5.10.2.2 Operating Hour Alarms** and **5.10.2.1 Time Alarms (UVV)**.

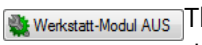
  According to module type and status of the module more or fewer of the following buttons are displayed:

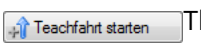
  This button is only active if the module is in crash mode. With a click on this button an order is generated (and immediately executed) with which the crash is reset.

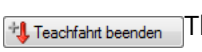
  This button is only visible if the module has at least the module version F and the workshop mode is currently switched OFF (see **5.5.23.8 Workshop**). With a click on this button an order is generated (and immediately executed) with which the workshop mode is switched on.

  This button is only visible if the module has at least the module version F and the workshop mode is currently switched on (see **5.5.23.8 Workshop**). With a click on this button an order is generated (and immediately executed) with which the workshop mode is switched off.

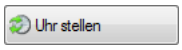
  

  This button is only visible with ***modular crash+remote*** / ***modular plus crash*** modules which are not in a test (teach) drive (**5.5.8 Crash sensor teach drive**). With a click on this button an order is generated (and immediately executed) with which a test drive is started.

  This button is only visible with ***modular crash+remote*** / ***modular plus crash*** modules which are currently in test (teach) drive (**5.5.8 Crash sensor teach drive**) With a click on this button an order is generated (and immediately executed) with which the test drive is quit and the results are read out.

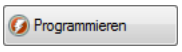
- ***Clock deviation***
  This specifies, how much the internal clock of the module deviates, fast (+) or slow (−). In the example on top the module clock is 3 minutes and 8 seconds slow. Reference time is the time of the connected computer.

  With the button ***set clock*** an order is generated (and immediately executed) setting the module clock.

- ***Program status***
  The program status specifies whether in the meantime changes in the database have taken place which must still be written to the module (e.g., if a new transponder was added for this module). Possible displays are:

OK	The module is up to date. No update is necessary.
No update possible	Still no module type or an invalid profile is assigned to this module; hence, an update is not possible.
Full update urgently	The module must be programmed completely anew.
Quick update urgently	The module must be programmed partly anew.
OK (Updates runs)	All necessary orders to update this module are already created and are being executed.

  This button is only active if changes were made in the module but were not programmed yet (e.g., a new transponder). Or if the option *force full update* is selected. With a click on this button a program order with the necessary updates (or with enabled option force full updates) is generated and immediately executed.

  Force full update Activating this option, a full update is generated programming the module anew- With one exception: With modules of the D version the memory partitioning is not programmed anew.

  Force memory update This option is visible only with modules of the version D. If this option *force full update* is selected, a full update (including new programming of the memory partitioning) is generated. (See also **5.9.2.1 Memory**)

- ***Module version***
  Here the actual module version is displayed.

  With a click on this button the firmware of the module (module version) can be updated.

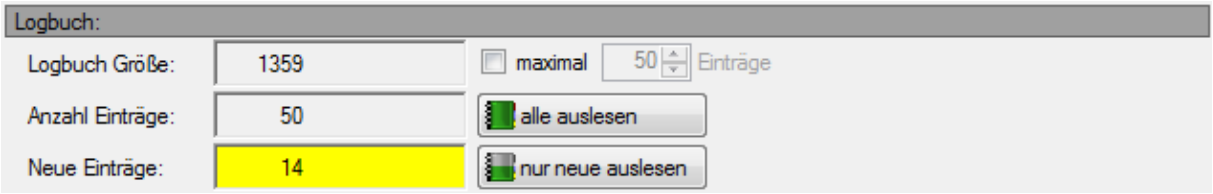
  

  For modules from version D71 to D-78 the additional choice, whether the D module is updated to the F version or only updated to the newest D version is available.

Attention

Note that a firmware update is a critical process!
Ensure that the module remains powered during the firmware update and is NOT unplugged! Should the firmware update fail or the connection is interrupted during the firmware update, please contact support. The module must then be programmed through external software.

The Logbook area:

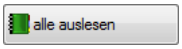


- ***Logbook size***

  The logbook size specifies how many logbook entries can be saved at most in the module. If the logbook is not read out for some time and more new entries accumulate than the specified number, then older logbook data get lost! The maximum logbook size calculates from the memory size of the hardware and the memory partitioning (see **5.9.2.1 Memory**).

- ***Number of entries***

  The number of entries specifies how many logbook entries are actually currently logged in the logbook. In general, this number is identical with the logbook size. However, with new modules or after a memory update (see Status) the logbook is deleted. Therefore, the number of the actual available logbook entries is accordingly smaller, until the logbook was completely filled once (Ring memory).

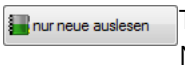
  With this button an order is generated (and immediately executed) to read out the entire logbook.

  Because there can be a lot of entries, the maximum number of the entries to be read out can be limited.

- ***New entries***

  here it is specified how many logbook entries have accrued, since the logbook was read out at last.

  This button is only active if not all new logbook entries were read out. Normally this order is automatically created. However, the automatic readout of new logbook entries can be disabled in global settings (see **5.12.2 Global settings - cable connection**).
  With a click on this button an order is generated (and immediately executed) and all new accrued logbook entries since the last readout are read out.

Operating hours area:

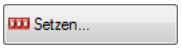


The last status

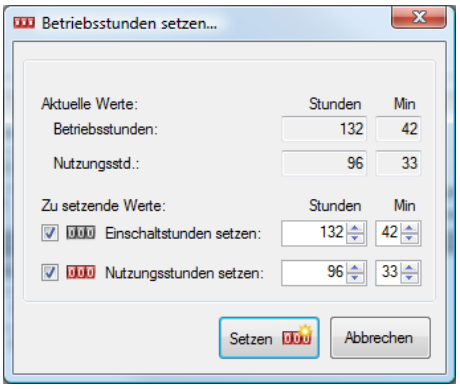
Specifies the operating hour metre reading which was read out the last time.

Actual status

Specifies the actual operating hour metre reading from the module.

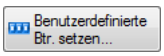


With the button ***Set*** the meter reading can be changed. In the following dialog (see on the right) new values for the ***threshold*** and/or ***operating hours*** can be determined. If the respective check mark is deleted, the relevant value is not changed in the module. Therefore, not checking the box, e.g., for the ***set cut-in hours*** results in changing the cut-in hours but not the operating hours.

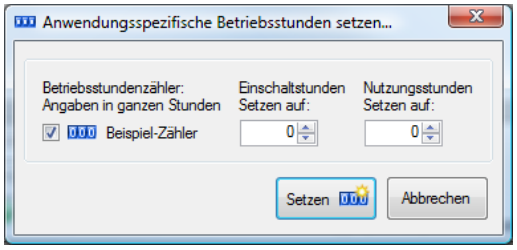




With a click on this button an order is generated (and immediately executed), and the actual operating hour meter reading are read out.
Normally this order is automatically created. However, the automatic readout of the operating hours can be disabled global settings (see **5.12.2 Global settings - cable connection**).



If user-defined operating hours is used (see **5.14.4 Data Fields**) these can be changed with a click on button ***set user defined op. hrs.*** Then, in the following dialog (see on the right), you can select which counters should be set or not and specify the required values (in hours).



5.13.3 Connections

Connections run without interface (unlike the direct connections, see **5.13.2 Direct connections**).

Note:
Therefore, these connection drivers are usually set up not in the Manager but in the ***Mobile Easykey Service*** (see **4 Mobile Easykey Service**)

The configuration works the same as in the Manager. The drivers (with the exception of the desktop reader) work in both the Service and the Manager.

5.13.3.1 Connecting Drivers

With the connection drivers it is possible to set individually which jobs should be created automatically when a connection with a module is established. See Chapter **5.13.3.2 Create and Execute Orders Automatically**.

5.13.3.1.1 Easy Point driver (via cable or network)

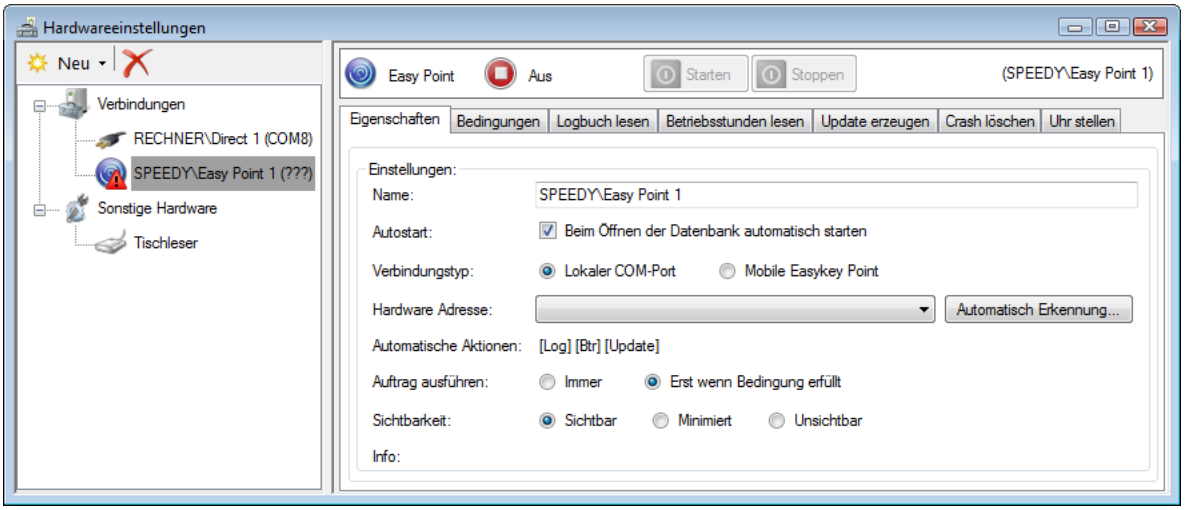
The Easy Point connection functions like a serial cable connection. However, it offers substantially more detailed possibilities to generate certain orders automatically with every contact with a module. Thus, for example, an update can be generated automatically and be executed only if nobody is logged in and the vehicle stands.

Furthermore, the serial connection through the Easy Point module can be established at any place within the network.

Above all, the Easy Point connection is designed to execute orders automatically in the background, without further user's input.

However, with this automatism there is a restriction. Hence, the Easy Point cannot execute initialisation orders (i.e., a first programming).

Click on button Neu and then on the menu item ***Easy Point connection add*** to add a new Easy Point connection.



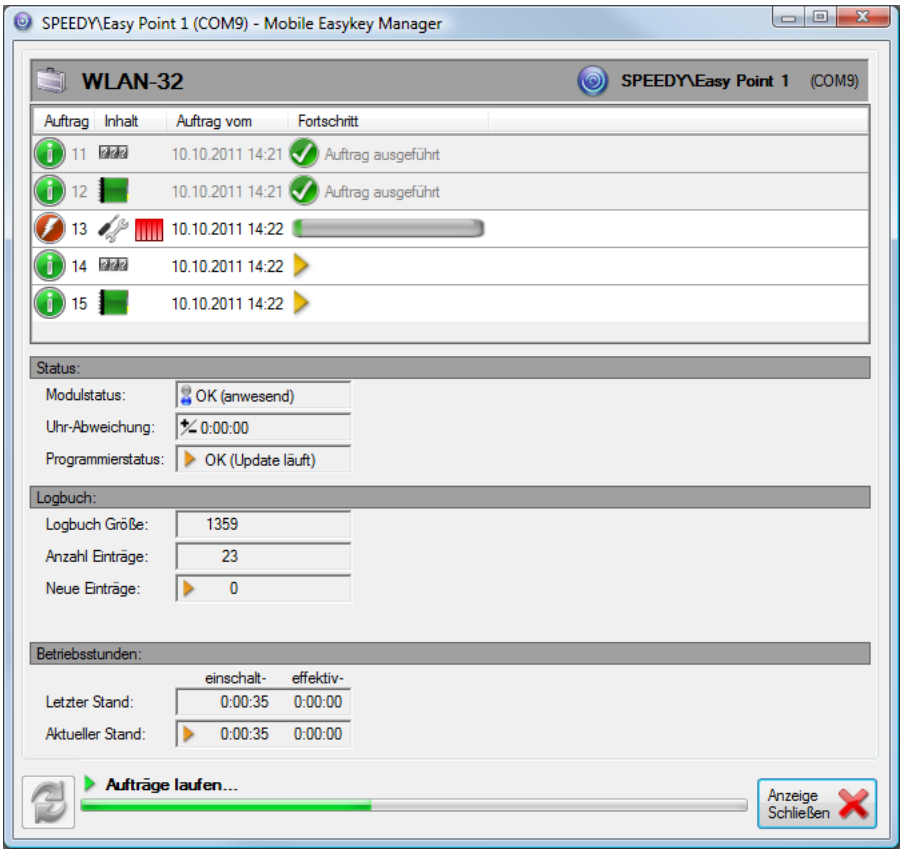
Attention!
If necessary, remember to start the driver after the configuration (see **5.13.6 Drivers Start and Quit**).

5.13.3.1.1.1 Properties

Name:	For easier recognition you can name this driver. Then the driver appears under this name in the driver monitoring (see **5.13.7 Driver Monitoring**)
Auto start:	If this option is activated, the driver is automatically started every time while opening a database (see **5.13.6 Drivers Start and Quit**)
Connection type:	Specify whether the connection should be established through a local Com port or an Easy Point in the network.
Hardware address:	Here according to connection type, you specify the required Com port or the network address of the Easy Point module. By use of a USB of cable you select the connection type local COM port. With the button ***automatic detection,*** the Com port (which corresponds to this cable) is automatically recognised, as soon as the USB cable is plugged in. You can also disconnect and reconnect the cable also briefly (for a few seconds).
Automatic tasks:	Here the settings of the tabs ***read logbook*** to ***crash delete*** are displayed in short form.
Execute order:	The setting corresponds to the items ***Always (as soon as possible)*** and ***only when the condition on the order type is fulfilled*** in chapter **5.13.3.2.1 Conditions**.
Visibility:	Normally, with the connecting of a module a window (see **5.13.3.1.2 Easy-Point - execute orders**) opens in which the orders are listed for this module and the respective order progress is displayed. You can specify here, whether this window should be displayed normal, not at all or only in the status bar (**5.3.5.2 Status bar**).
Info:	If necessary, here short information about the connection status is displayed

5.13.3.1.2 Easy-Point - execute orders

According to the settings in ***visibility*** (see **Properties**) the window of the Easy Point driver is opened with connecting a module which is already known to the "Mobile Easykey Manager".



The display is the same as with the cable connection (see **5.13.2.3 Direct connection - Execute orders**) just that with the Easy Point drivers no user inputs are possible. It will exclusively generate already existing orders or automatically created orders in the tabs *logbook read, operating hours read, update generate,* and *crash delete*.

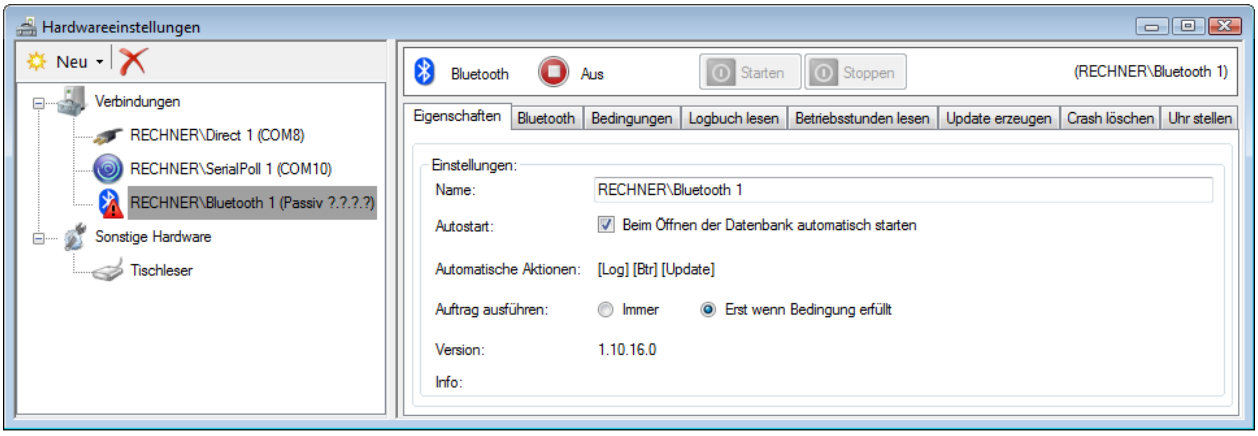
5.13.3.1.3 Bluetooth driver

This driver automatically produces a connection to the modules via Bluetooth (Bluetooth capable). Either a special Bluetooth base station or a Bluetooth USB-Stick is used.

Because the Bluetooth modules cannot be constantly in range, the driver must search (passive Bluetooth) at regular intervals for accessible modules (polling) or wait (active Bluetooth driver) that the active modules contact independently. As soon as a module is reached certain orders can be generated. Thus, an update can be generated automatically if necessary or the logbook can be read out automatically every time.

The Bluetooth driver cannot execute initialisation orders (i.e., a first programming); because the driver cannot yet know which module is accessible at which Bluetooth address.

Click on button Neu and then on the menu item ***Bluetooth connection add*** to add a new Bluetooth connection.



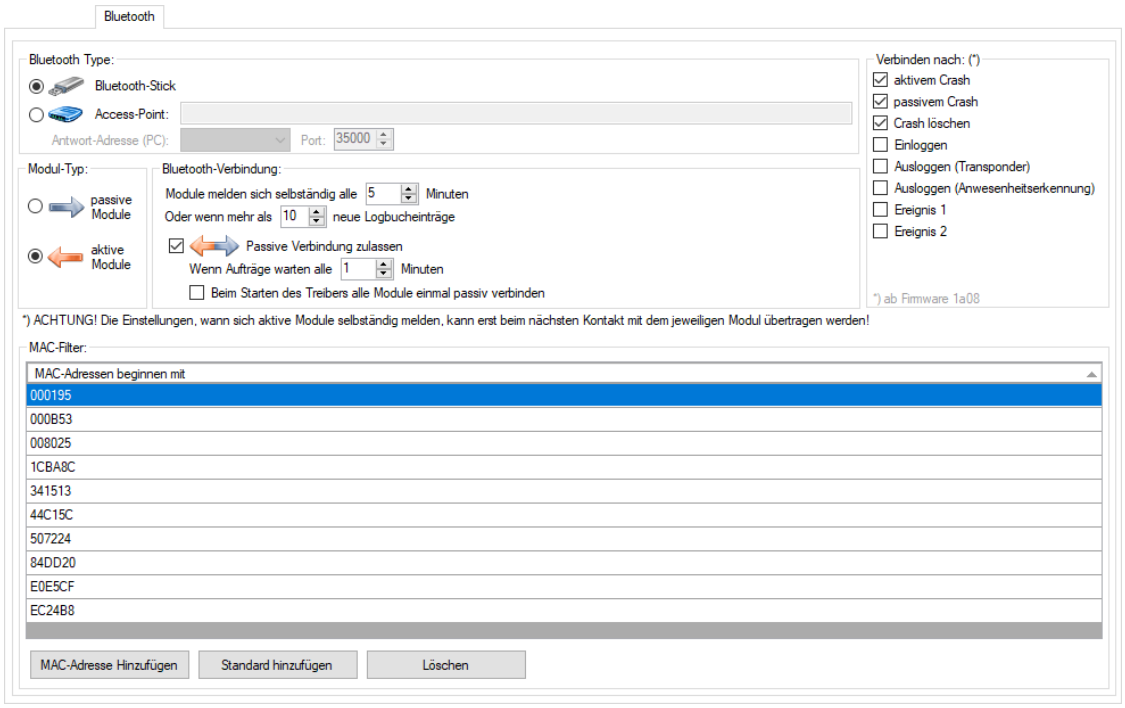
Attention

Do not forget to start the driver after the configuration if necessary (see **5.13.6 Drivers Start and Quit**).

5.13.3.1.3.1 Properties

Name:	For easier recognition you can name this driver. Then the driver appears under this name in the driver monitoring (see **5.13.7 Driver Monitoring**)
AutoStart:	If this option is activated, the driver is automatically started every time while opening a database (see **5.13.6 Drivers Start and Quit**)
Automatic tasks:	Here a short version setting of the tabs ***logbook read*** to ***crash delete*** are displayed.
Execute order:	The setting corresponds to Always ***(as soon as possible)*** and ***Only when the condition on the order type is fulfilled*** in chapter **5.13.3.2.1 Conditions**.
Version:	Displays the version number of the Bluetooth driver.
Info:	Here, if necessary, a short information about the connection status is displayed

5.13.3.1.3.2 Bluetooth – settings



Bluetooth type

Bluetooth-Stick — Use this setting if you use a Bluetooth-Stick (on this computer) or the build in Bluetooth-Connection.

Bluetooth AccessPoint — Use this setting if you set a Bluetooth-AccessPoint. Enter the hostname or IP address of the Bluetooth AccessPoints. If you use several Bluetooth AccessPoints, simply add a lot of active Bluetooth drivers accordingly.

Response address (PC) — Select the IP address of the PC through which the Bluetooth AccessPoint should connect with the PC.

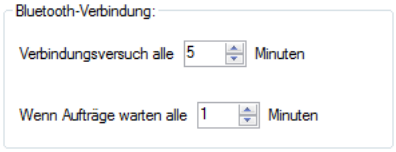
Port — Specify the TCP port which should be used by the Bluetooth AccessPoint. If you set several passive or active Bluetooth drivers at the same time, you must use another TCP port (e.g., 35000, 35001, 35002...) for every Bluetooth driver.

Module type

passive modules — Use this setting if you set exclusively passive Bluetooth modules.

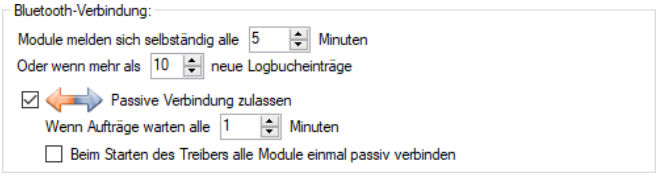
active modules — Use this setting if you work with active Bluetooth modules.

Bluetooth connection (passive modules)



Connection test all	Specifies the time interval in which the passive Bluetooth driver attempts a connection to a module. For example, an interval of 5 minutes means that the driver searches every 5 minutes for accessible modules and connects with all found modules.
If orders wait all	If the driver had found a module, the order, however, could not be executed (for example, because the implementation with a driving module is not permitted), the connection test is repeated for this module, in the here specified (usually shorter) interval.

Bluetooth connection (active modules)



Modules report independently every xx	Here you can specify in which time intervals an active Bluetooth module reports latest, if it didn't report before with any other events.
Or if more than	Specify, after how many new logbook entries the active Bluetooth module should contact independently. If you specify 1, the module contacts after every logbook entry.
Admit passive connection	If this option is activated and you generate an order manually for an active Bluetooth module, the driver tries on its own to connect as quickly as possible to these modules. Otherwise (if this option is not activated) the driver must wait, until the module has contacted by itself.
Passively connect all modules once when starting the driver	If the driver could contact the module with enabled quick connection, however, could not execute the order (for example, because the implementation with driving module is not permitted), the connection test is repeated in the interval specified here.
Passively connect all modules once when starting the driver	With this option, the modules (if they are known in the driver monitoring, are connected directly each time the driver is started. See also **5.13.7 Driver Monitoring**

Connect according to (This configuration is only relevant for active modules)

Select the events to which an active Bluetooth module should contact independently. Whenever such an event enters (e.g., Log off by presence recognition) the active module tries to build up a connection to the PC.

Note:

Note that this (new) configuration must be programmed first in the active Bluetooth module and can only work, after (after the change) the respective module was connected once.

MAC-filter (The MAC filters is relevant only with a passive connection setup)

To distinguish the Mobile Easykey modules from other Bluetooth devices (e.g., mobile phones) usually the first 3 bytes of the Bluetooth MAC address are used. The MAC addresses of the currently used Easykey Bluetooth modules begin, e.g., with 000195. By default, the MAC- addresses of all Mobile Easykey Bluetooth modules are given here. If new modules of another manufacturer are used, which were not known at the time of the program creation, the appropriate MAC address can be added with the button ***MAC-address add***. With the button ***Delete*** a MAC address can be deleted from the filter when required. The button ***Standard add***, adds standard MAC addresses (possibly deleted once) again.

Following Wi-Fi channels leave blank (only available with Access point)

If you run a parallel Wi-Fi network, you can instruct Bluetooth AccessPoint not to use certain Wi-Fi channels. Thus, undesirable disturbances can be avoided.

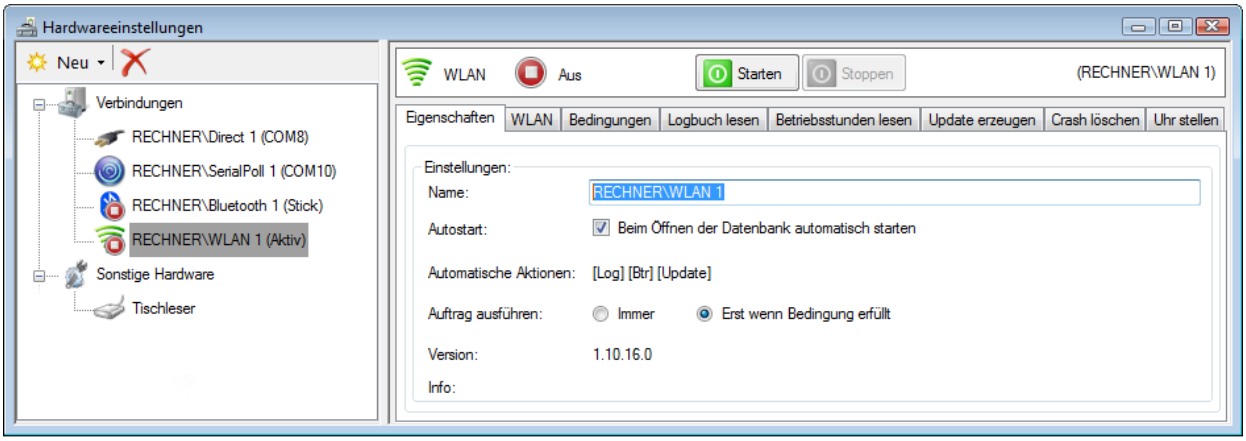
5.13.3.1.4 Wi-Fi driver

This driver automatically produces a connection via WI-FI (WI-FI capable) to the modules. The only additional requirement is a functioning network connection of this PC to the respective Wi-Fi modules.

Because the Wi-Fi modules cannot be permanently in range, the driver must search (passive Wi-Fi) at regular intervals for accessible modules (polling) or wait (active Wi-Fi driver) for the active modules to contact independently. As soon as a module is reached automatically, certain orders can be generated. Thus, for example, an update can be generated automatically if this is necessary or the logbook be read out automatically every time.

The Wi-Fi driver cannot execute initialisation orders (i.e., a first programming); because the driver cannot know at that time which module is accessible at which IP address.

Click on button Neu and then on the menu item ***Wi-Fi connection add*** to add a new Wi-Fi connection.



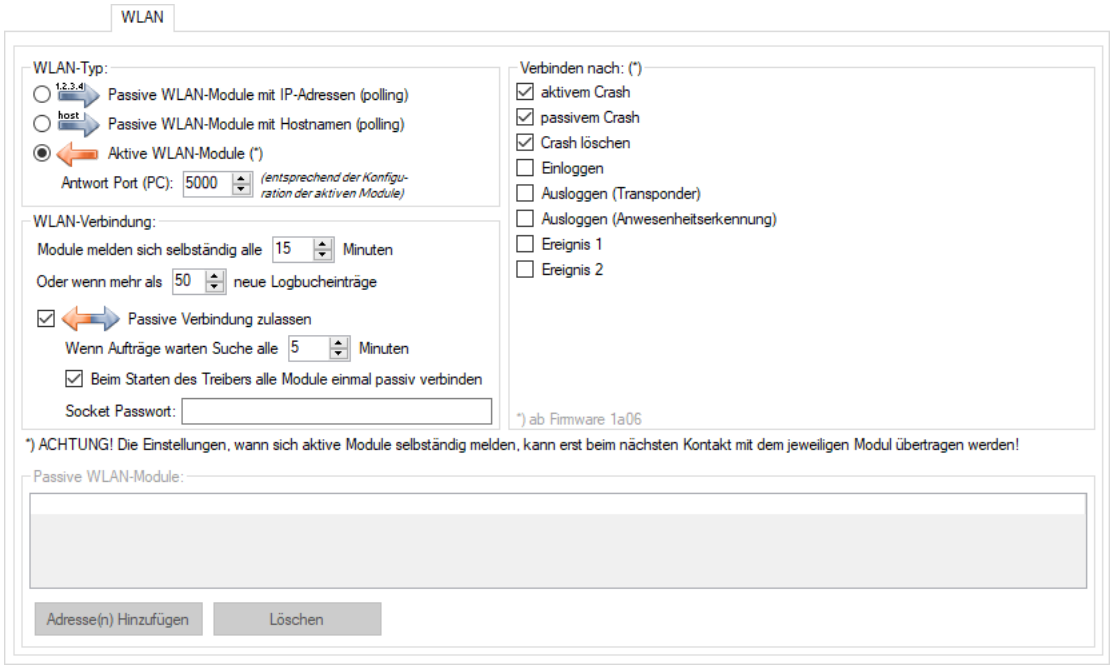
Attention

Do not forget to start the driver after the configuration if necessary (see **5.13.6 Drivers Start and Quit**).

5.13.3.1.4.1 Properties

Name:	For easier recognition you can name this driver. Then the driver appears under this name in the driver monitoring (see **5.13.7 Driver Monitoring**)
AutoStart:	If this option is activated, the driver is automatically started every time while opening a database (see **5.13.6 Drivers Start and Quit**)
Automatic tasks:	Here short settings version of the tabs ***logbook read*** to ***crash delete*** are displayed.
Execute order:	The setting corresponds to Always ***(as soon as possible)*** and ***Only when the condition on the order type is fulfilled*** in chapter **5.13.3.2.1 Conditions**.
Version:	Displays the version number of the Bluetooth driver.
Info:	Here, if necessary, a short information about the connection status is displayed

5.13.3.1.4.2 Wi-Fi – settings



WI-FI model

Passive WI-FI modules with IP addresses (polling)	Select this option if you want to work with passive WI-FI modules and address them directly via IP addresses.
Passive WI-FI modules with host name (polling)	Select this option if you want to work with passive WI-FI modules and address them directly via host name.
Active WI-FI modules	Select this option if you work with active WI-FI modules.
Response(Reply) port (PC)	Enter here the TCP port through which the active WI-FI modules should report independently. This port must be configured identically in the active WI-FI module.

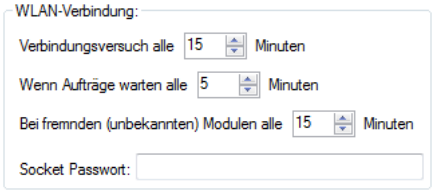
Connect according to

Select the events according to which an active WI-FI module should report independently. Whenever such an event enters (e.g., Log off by presence recognition) the active module tries to build up a connection to the PC.

Note:

Note that this (new) configuration must be programmed first in the active WI-FI module and therefore, can only work after (after the change) the respective module was connected once.

WI-FI connection (passive)



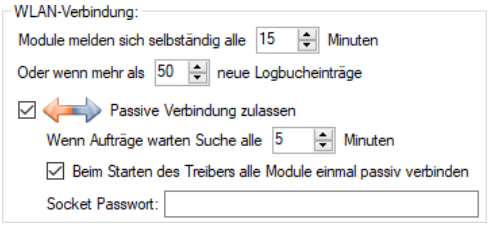
Connection test all — Here you can specify how often the passive WI-FI driver tries to establish communication with the modules.

If orders wait all — If the driver did contact the module but the order however could not be executed (for example, because the implementation with a driving module is not permitted), the connection test is repeated in the interval specified here.

With alien (unknown) modules all — You can specify here, that a connection is not frequently built up with IP addresses which could not yet be clearly associated to an Easykey module. However, also Easykey modules are not associated the first time (or if the IP address changed), Therefore, these IP addresses must be checked now and again.

Socket password — The connection setup from the PC to the WI-FI module can be protected with a password. This password must be configured identically in the driver and in the passive WI-FI modules.

WI-FI connection (active)



Modules report independently all — Here you can specify in which time interval an active WI-FI module reports at the latest if it did not report before by another event.

Or if more than — Specify, after how many new logbook entries the active Bluetooth module should contact independently. If you specify ***1***, the module contacts after every logbook entry.

Admit passive connection — If this option is activated and you generate an order manually for an active Bluetooth module, the driver tries on its own to connect as quickly as possible to these modules. Otherwise (if this option is not activated) the driver must wait, until the module has reported by itself.
Note:
The active WI-FI modules must be programmed accordingly, so that incoming connections are admitted.

If orders wait repeat search all — If the driver did contact the module with enabled quick connection, however, could not execute the order (for example, because the implementation with driving module is not permitted), the connection test is repeated in the interval specified here.

Socket password — The connection from the PC to the WI-FI module can be protected with a password. This password must be configured identically in the driver and in the active WI-FI modules.

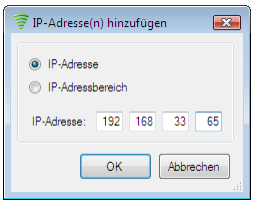
Passively connect all modules once when starting the driver — With this option, the modules (if they are known in the driver monitoring, are connected directly each time the driver is started. See also **5.13.7 Driver Monitoring**.

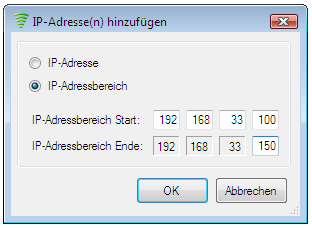
Passive WI-FI modules IP (only with ***passive WI-FI modules with IP addresses***)

So that the driver knows which modules he has to poll, you must enter the IP addresses of the Easykey modules.



Click on the button ***IP address add***. You can enter every IP address individually or an IP address range.





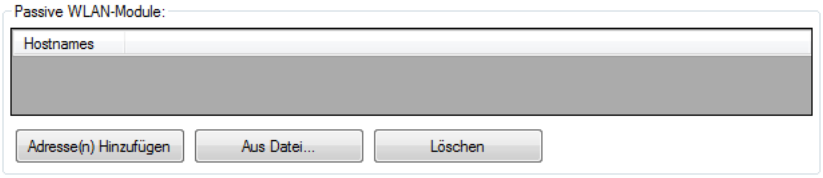
Now the IP address or address ranges are displayed in the list IP addresses.

To delete one of these entries you select it and click on ***delete***.

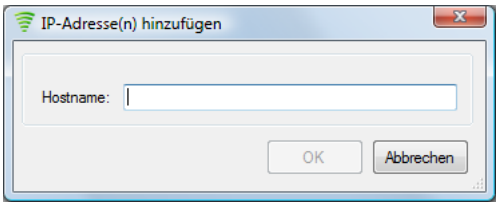
Now the driver attempts (if necessary, after a restart, see **5.13.6 Drivers Start and Quit**) to get cyclically in touch with all these IP addresses.

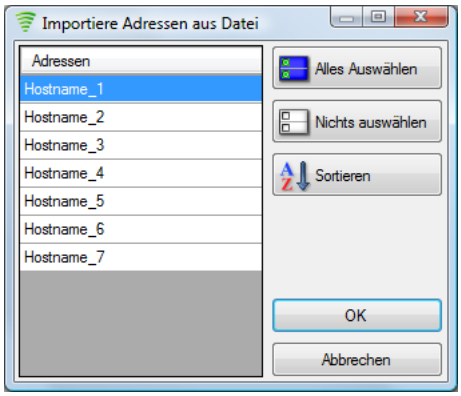
Passive WI-FI modules host name (only with ***passive WI-FI modules with host name***)

So that the driver knows which modules he has to do poll, you must enter the host names of the Easykey modules.



Click on the button ***Address add*** to add a single host name.





To import several host names from a text file all at once, click on button ***from file*** and then select the appropriate text file.

Select the required host names and click on ***OK*** to add them.

Then the host names are listed in the list under host names.

To delete one of these entries you select it and click on ***delete***.

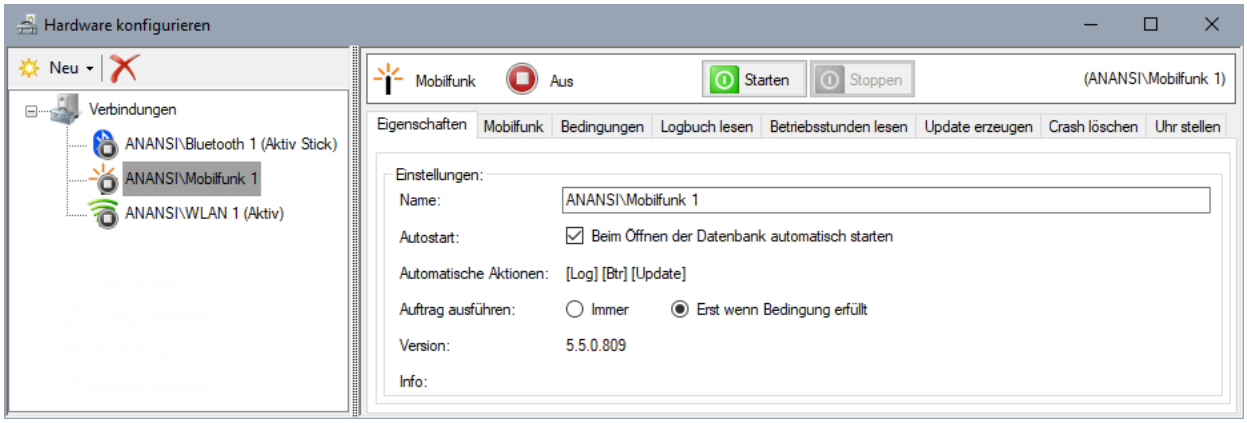
Now the driver attempts (if necessary, after a restart, see **5.13.6 Drivers Start and Quit**) to take up contact cyclically with all these host names.

5.13.3.1.5 mobile radio driver

This driver serves the connection with mobile radio modules.
Requirement is a functioning network connection of this PC to the Internet.

Because mobile radio modules are not accessible from the driver (PC), the driver must wait, until one of the mobile radio modules reports by itself (These must be programmed with the IP address of this computer). As soon as a module is reached, certain orders can be generated automatically. Thus, for example, an update can be automatically generated if this is necessary, or the logbook can be read out automatically every time.

Click on button Neu and then on the menu item ***Add mobile connection*** to add a new mobile radio connection to.

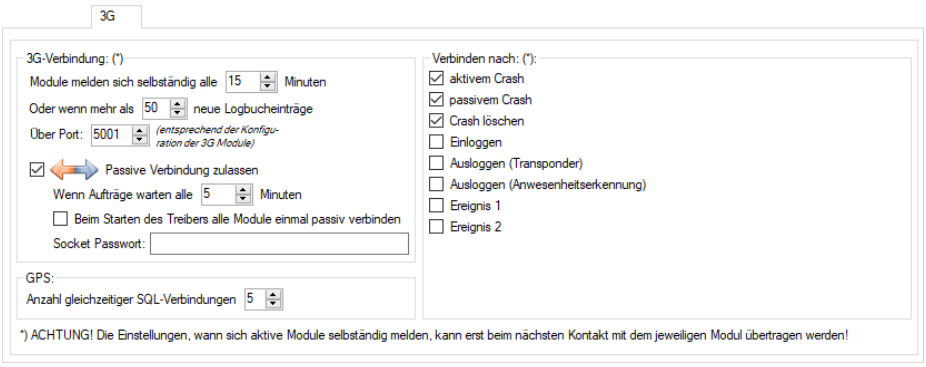


Attention!
Do not forget to start the driver after the configuration if necessary
(see **5.13.6 Drivers Start and Quit**).

5.13.3.1.5.1 Properties

Name:	For easier recognition you can name this driver. Then the driver appears under this name in the driver monitoring (see **5.13.7 Driver Monitoring**)
AutoStart:	If this option is activated, the driver is automatically started every time while opening a database (see **5.13.6 Drivers Start and Quit**)
Automatic tasks:	Here a short version setting of the tabs ***logbook read*** to ***crash delete*** are displayed.
Execute order:	The setting corresponds to Always ***(as soon as possible)*** and ***Only when the condition on the order type is fulfilled*** in chapter **5.13.3.2.1 Conditions**.
Version:	Displays the version number of the mobile radio driver.
Info:	Here, if necessary, a short information about the connection status is displayed

5.13.3.1.5.2 mobile radio - settings



Modules report independently all
Here you can specify in which time interval the mobile radio modules report at the latest if it did not report before by another event.

Or if more than
Specify after how many new logbook entries the mobile radio module should report independently. If you specify ***1***, the module contacts after every logbook entry.

Through port
Enter here the TCP port which the mobile radio modules should report independently. This port must be configured identically in the mobile radio module.

Quick connection
If this option is activated and you generate an order manually for a mobile radio module, the driver tries as quickly as possible to build up a connection to these modules. Otherwise (if this option is not activated) the driver must wait, until the module has reported by itself.

Note:
This function is no longer supported by the current hardware!

If orders wait search repeat all
If the driver did contact the module with an enabled quick connection, but however could not execute the order (for example, because the implementation with driving module is not permitted), the connection test is repeated in the interval specified here.

Note:
This function is no longer supported by the current hardware!

Passively connect all modules once when starting the driver
With this option, the modules (if they are known in the driver monitoring, are connected directly each time the driver is started.
See also **5.13.7 Driver Monitoring**

Socket password
The connection from the PC to mobile radio module can be protected with a password. This password must be configured identically in the driver and in the active WI-FI modules.

Connect after

Select the events after which mobile radio modules should report independently. Whenever such an event enters (e.g., Log off by presence recognition) the mobile radio module tries to build up a connection to the PC.

Note:



Note that this (new) configuration must be programmed first in the mobile radio module and hence, can only work after the respective module was connected once.

GPS: Number of simultaneous SQL connections

Since many GPS modules can send new GPS coordinates at the same time, it is possible that this amount of data cannot be written quickly enough via a single SQL connection. Therefore, several SQL connections can be activated here at the same time.

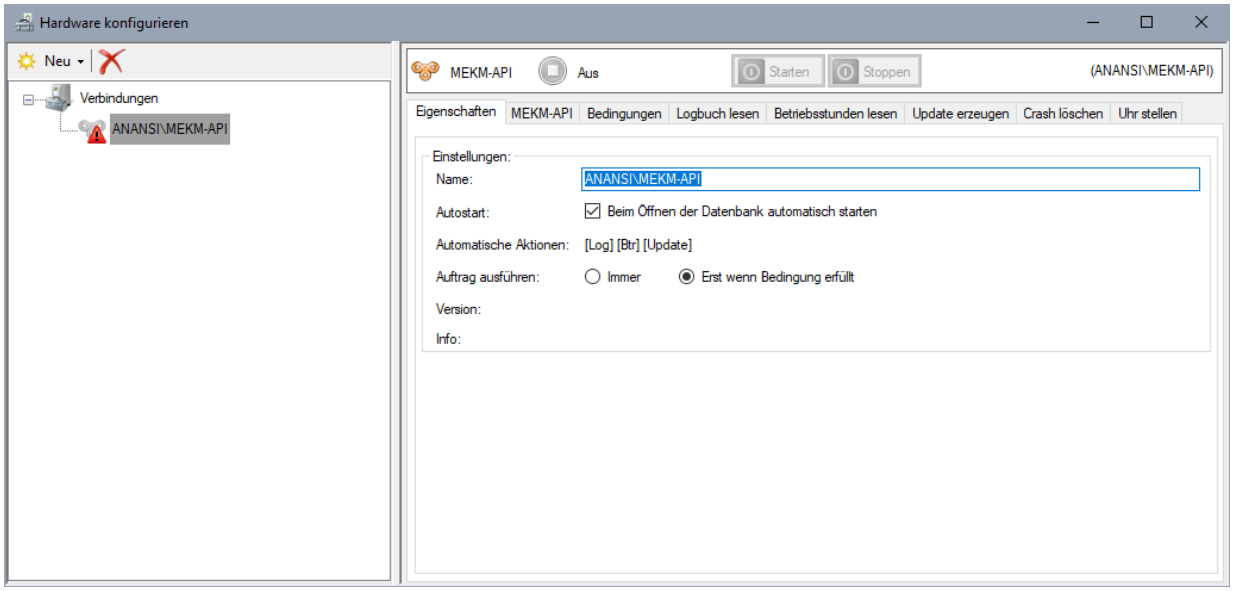
5.13.3.1.6 MEKM-API Driver (REST-API)

The MEKM-API driver provides a REST-interface. A complete documentation of the API can be found in the program directory under MEKM_REST-API.html or über via the link in the MEKM-API tab (see **5.13.3.1.6.2 MEKM-API – Settings**).

The driver can only be started if the software module ***MEKM-API*** (see **5.22 Software Modules (Optional)**) is enabled.

The REST-API is also used by our external ***Smartphone APPs***. The smartphone app ***smart App*** can also be used to set up a Bluetooth WLAN bridge with which the Bluetooth modules (within range of the smartphone) can communicate with this MEKM-API driver via WLAN and orders can be executed. More in chapter **5.13.3.1.6.2 MEKM-API – Settings.**

Click on the button Neu and then on the menu item ***ADD MEKM API Connection*** to add the MEKM API driver.



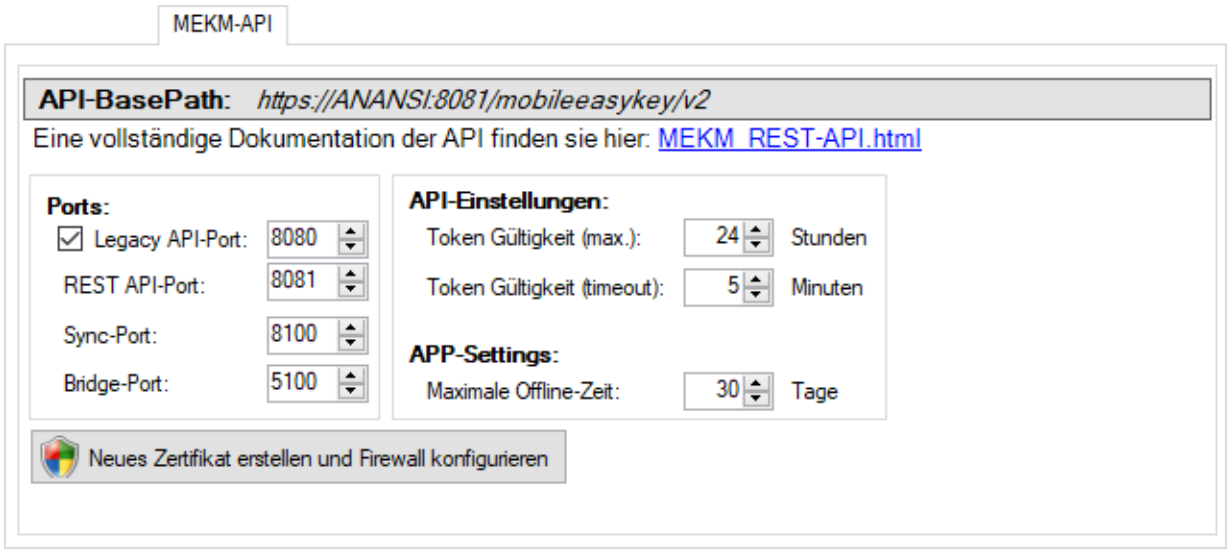
Attention!

Remember, if necessary to restart to restart the driver after the configuration. (See **5.13.6 Drivers Start and Quit**).

5.13.3.1.6.1 Properties

Name:	For easier recognition you can name this driver. Then the driver appears under this name in the driver monitoring (see **5.13.7 Driver Monitoring**)
AutoStart:	If this option is activated, the driver is automatically started every time while opening a database (see **5.13.6 Drivers Start and Quit**)
Automatic tasks:	Here a short version setting of the tabs ***logbook read*** to ***crash delete*** are displayed.
Execute order:	The setting corresponds to Always ***(as soon as possible)*** and ***Only when the condition on the order type is fulfilled*** in chapter **5.13.3.2.1 Conditions**.
Version:	Displays the version number of the mobile radio driver.
Info:	Here, if necessary, a short information about the connection status is displayed

5.13.3.1.6.2 MEKM-API – Settings



API-BasePath: The complete path where the REST API can be found is displayed here.

MEKM_REST-API.html: Via this link you can directly access a complete documentation of the API. Within the documentation, on the first page, you will also find a link to a yaml-fil, that can be used for automated code creation for this interface.

Ports:

Legacy API-Port The old external applications (Easy Report and smart app) query data via this port and can communicate directly with the Easykey system. This port must be entered accordingly in the smartphone app.

REST API-Port This port is used by the official REST API. The REST API uses https over a self-signed SSL certificate. This certificate is automatically created using the Create new certificate and configure firewall button. The certificate itself is saved locally under C: \ ProgramData \ MEKMApi \ MobileEasyKeyApi.cer and can (as soon as it has been created) be copied using the Copy certificate button.

Sync-Port Synchronization information (push messages) are sent to the smartphone APPs via this port.

Bridge-Port Using the smart app, enter the port via which the Bluetooth Wi-Fi bridge should connect to the MEKM API driver. This port must be entered accordingly in the smartphone app.

API-configuration:

Token validity (max.)

To work with the API, the respective user (software operator) must be identified (login, see authLogin in the documentation). The API returns a token, which must be sent with all further requests to the API.

This parameter can be used to set the maximum time how long a token is valid before the user has to request a new token using the authLogin function.



Note:

In order to be allowed to work with the API, the REST API option (**5.21.3.2 Settings of Software Operator X**) must be enabled for this software operator.

Token validity (Time-out)

If a token has not been used for a long time, it will expire prematurely after the time that can be installed here.

App-Settings

Maximum Offline-time

This setting only applies to the smartphone APPs

If the smartphone has no connection to the API, functions for which the API is not required can still be performed (offline).

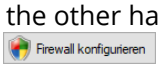
To enable access authorization in this case as well, this setting forces the smartphone to be online occasionally. If it is offline longer than the time specified here, the offline functions are also blocked.

5.13.3.1.6.3 MEKM-API – Settings for existing certificate

If a self-signed SSL certificate has already been created, a QR code is displayed instead of the ***create new certificate and configure firewall button***, via which the new smartphone APPs can be configured directly. The code only needs to be photographed with the smartphone (in the respective application).



In addition, the ***copy certificate*** button is displayed, with which the SSL certificate e.g. can be copied to a USB stick.

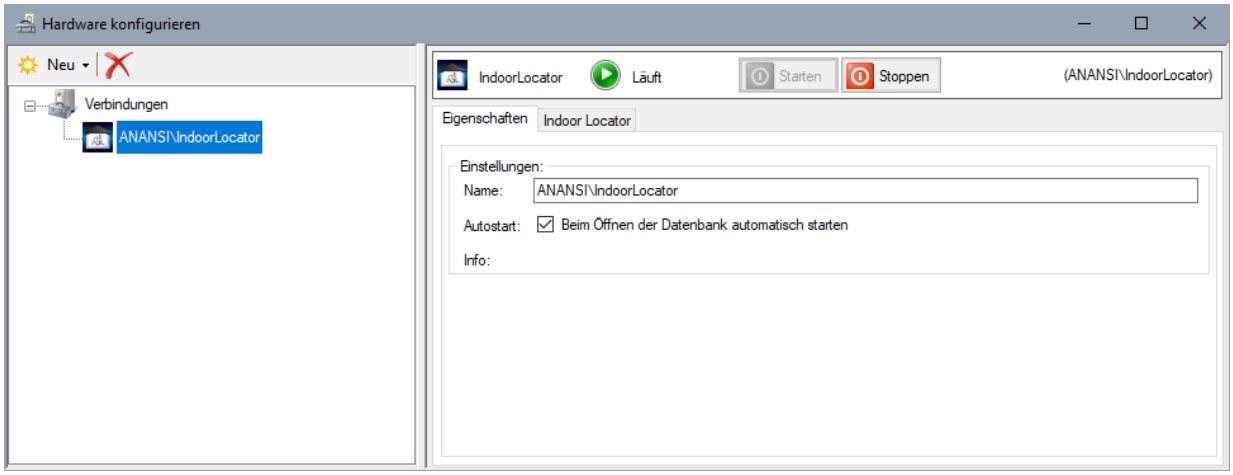
If the port set under REST API port is changed, on the one hand the firewall must be reconfigured and on the other hand the QR code must be recalculated. In this case, instead of the QR code, the button 

is displayed. After clicking on this button and successfully configuring the firewall, the new QR code is displayed.

5.13.3.1.7 Indoor Locator Driver

The Indoor Locator driver establishes the connection to the Indoor Locator (see **5.3.4.3 Indoor Locator**). The driver can only be started if the software module (see **5.22 Software Modules (Optional)**) indoor locator is activated.

Click the Neu button, and then click the ***Add Indoor Locator drivers*** menu item to add the Indoor Locator driver.

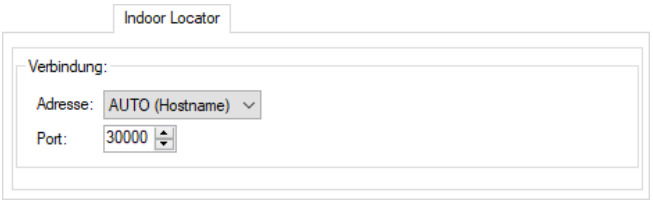


Attention!
Remember, if necessary to restart to restart the driver after the configuration. (See **5.13.6 Drivers Start and Quit**).

5.13.3.1.7.1 Properties

Name:	For easier recognition you can name this driver. Then the driver appears under this name in the driver monitoring (see **5.13.7 Driver Monitoring**)
AutoStart:	If this option is activated, the driver is automatically started every time while opening a database (see **5.13.6 Drivers Start and Quit**)
Info:	Here, if necessary, a short information about the connection status is displayed

5.13.3.1.7.2 Indoor Locator Driver – Settings



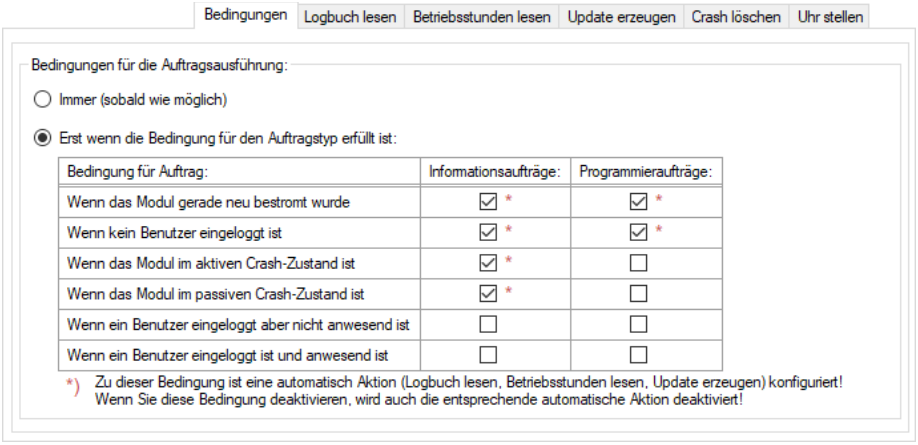
Address	If multiple IP addresses are used on this machine, you can select one of these IP addresses here, through which the indoor locator (see **5.3.4.3 Indoor Locator**) should establish the connection to the Indoor Locator driver. Use the ***AUTO (hostname)*** setting if the connection is through the host name (and thus the name resolution on the network) The respective IP address or host name must be entered in the Indoor Locator.
Port	The Indoor Locator connects to the Indoor Locator driver via this port. This port must be set in the indoor locator.

When the Indoor Locator is started (see **5.3.4.3 Indoor Locator**), the address and port of the last started Indoor Locator driver are automatically passed to the Indoor Locator.

5.13.3.2 Create and Execute Orders Automatically

The next 6 tabs are identical for all connection drivers.
Here is set when a connection is allowed and what should happen in the case of a connection.

5.13.3.2.1 Conditions



In particular situations you can prevent the connection through this driver. For example, it can be helpful not to communicate with a module, while the vehicle drives. Or you could permit communication, e.g., only for battery run vehicles if the module was just newly powered. This is usually the case immediately after a battery exchange or battery-loading process.

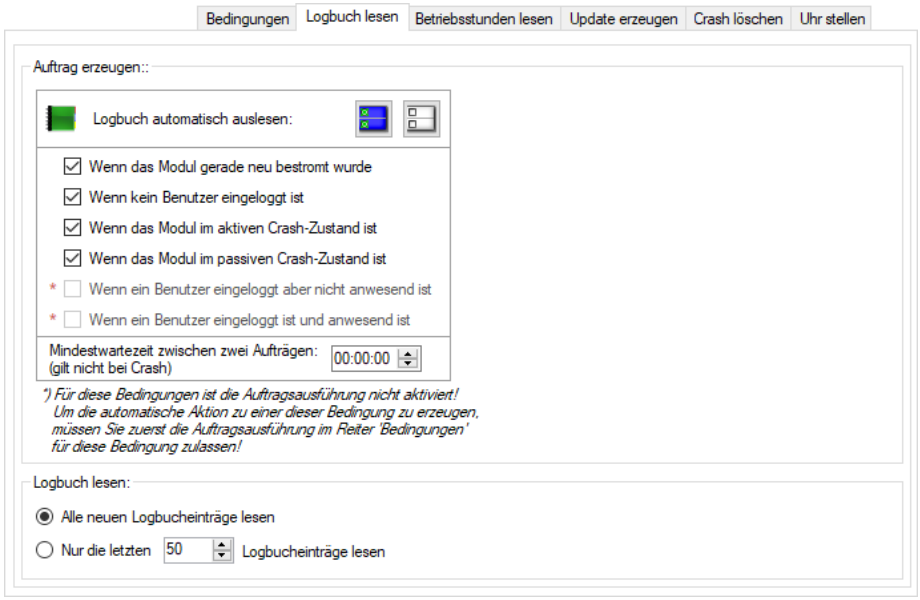
Select ***Always*** (asap) when you do not want to use this function and a communication with the modules should generally always be permissible.

If you activate, fulfil ***only if conditions on order type match***, you can specify individually to which conditions the communication is permissible for program - (update) and information orders (logbook and operating hours, crash delete). I.e., the respective orders are executed if at least one of the selected conditions is fulfilled.

Note:
Note that for conditions that are not selected here, no configuration can take place for automatic orders (settings in the tabs logbook read, operating hours read, update generate and ***delete crash***). Then the corresponding options are activated in the tabs.
Likewise the options in the tab ***conditions*** are deactivated if accordingly, automatic orders are configured.
If necessary, you must disable an option first (in the configuration of the automatic orders) in the tabs ***logbook read*** to ***crash delete***, before you can switch off the respective option. Vice versa the option must be enabled under *conditions* to enable it in the tabs *read log book to delete crash*.

Attention:
Remember with the configuring of the automatic orders that orders can also be created manually. Even if for a certain condition an order is not automatically generated, a manual order can be executed, if the status of the module corresponds with one of the conditions specified here, or the option ***always*** is selected (***as soon as possible)***.

5.13.3.2.2 Read logbook

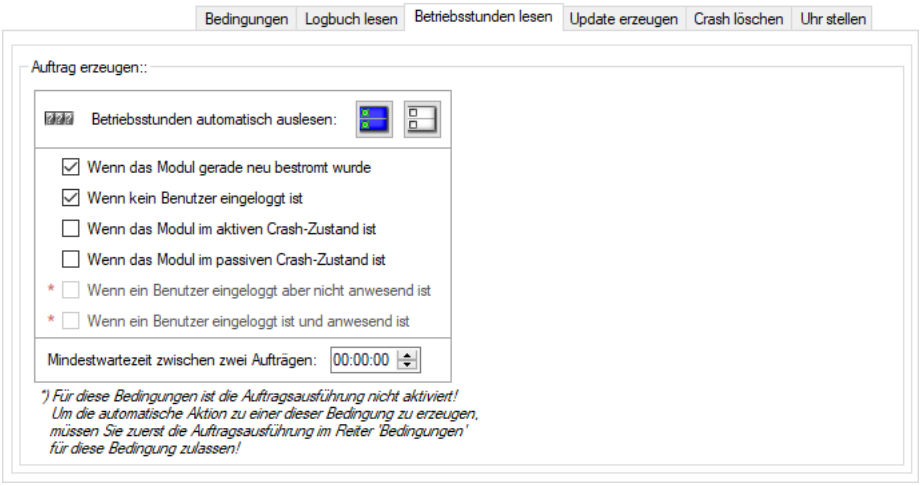


You can configure the driver, that every time a module is contacted and certain conditions apply, an order for the read out of the logbook, for this module, is automatically generated. With the button you can comfortably select all possible options at the same time. With the button, you can delete all options at the same time.

With the option ***Minimum waiting period between two orders,*** you can specify that, even if the condition is fulfilled, no new order is generated, if the last order was generated less than the time specified here. For example, the logbook should be read out at most every 2 hours.

Further you can limit the maximum number of logbook entries to be read, activating the option ***Only the last X logbook entries read***. Note that in this case gaps may originate in the logbook!

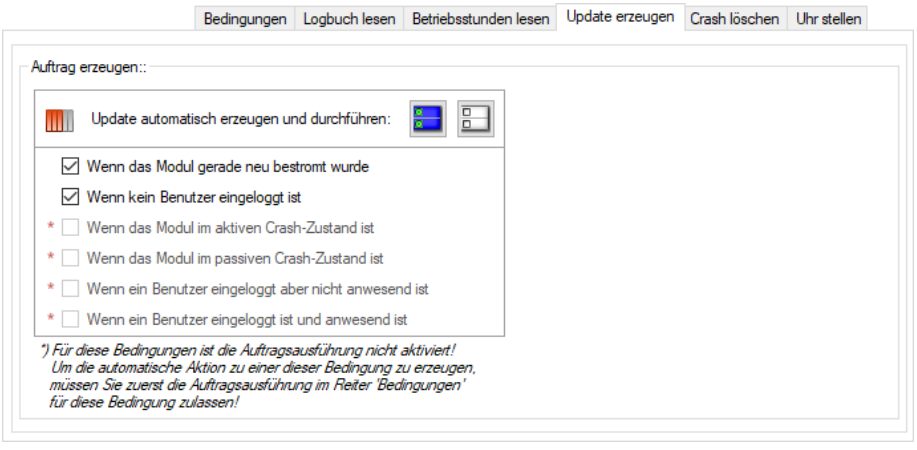
5.13.3.2.3 Read operating hours



You can configure the driver that every time a module is contacted and certain conditions apply; an order is automatically generated, to read out the operating hours. With the button you can comfortably select all possible options at the same time. With the button you can delete all options at the same time.

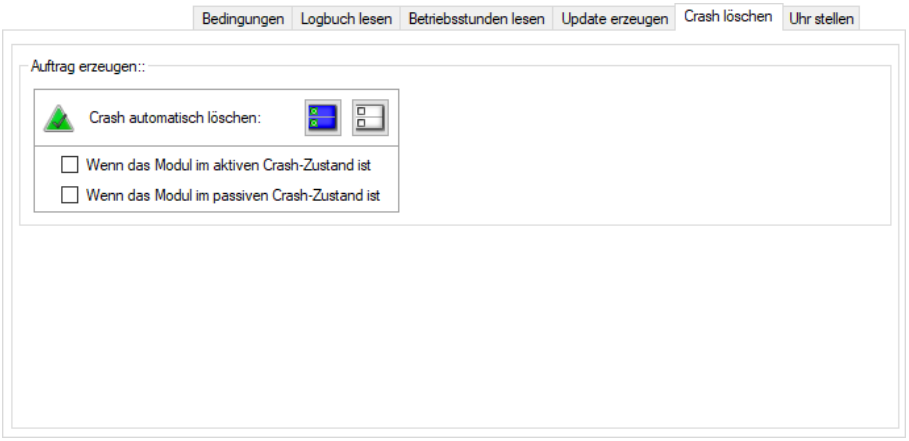
With the option ***Minimum waiting period between two orders,*** you can specify that, even if the condition is fulfilled, no new order is generated, if the last order was generated less than the time specified here. For example, the operating hours should be read out at most every 2 hours.

5.13.3.2.4 Generate update



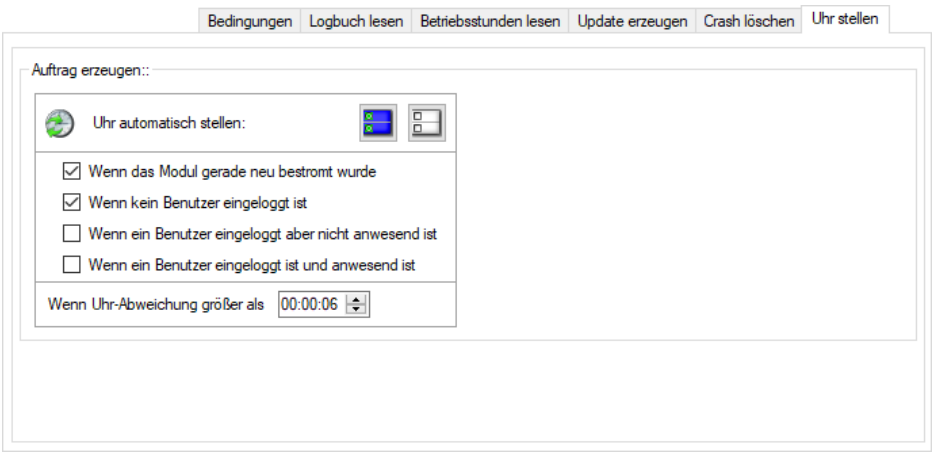
You can configure the driver, that every time a module is contacted and certain conditions apply, to automatically check whether an update is necessary for this module. Then this is automatically generated. The driver knows, which update type (Quick update, full update, etc., see also **5.5.20.4.2 Create program orders**) it is necessary.

5.13.3.2.5 Delete crash



You can configure the driver in such a way that a module which is in the active and/or passive crash status is automatically activated, as soon as the driver has contact with the module.

5.13.3.2.6 Set clock



The driver can check the internal clock of the module with every contact and generate a set clock order automatically if there is a deviation.

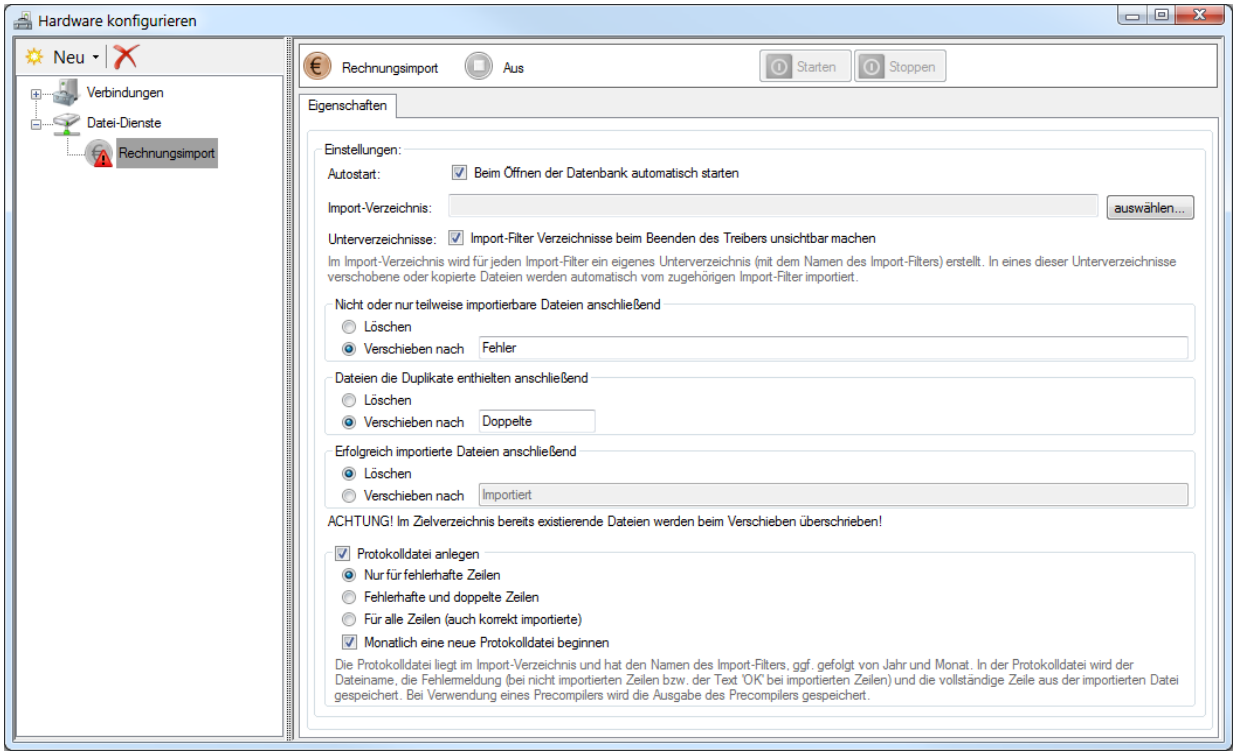
5.13.4 File Services

5.13.4.1 Import Invoice

Invoice import is part of the finance module and is only available if the finance software module (see **5.22 Software Modules (Optional)**) is enabled.

This driver can be used to specify from where invoices (which are in csv format) are imported using the import filter (see **5.14.10.4 Finance Import-Filter**).

Click on the Neu button and then on the menu item ***Add invoice import*** to add the invoice import.



Attention!

If necessary, remember to restart the driver after configuration.
(see **5.13.6 Drivers Start and Quit**).

5.13.4.1.1 Properties

The database AutoStart (start automatically when opening)

If this option is activated, the driver is automatically started each time a database is opened (see **5.13.6 Drivers Start and Quit**)

Import- Directory



Here, the main directory is specified, from which the invoices are to be imported. For each import filter (see **5.14.10.4 Finance Import-Filter**) a separate subdirectory is created. Files that are moved or copied to one of these directories are automatically imported according to the rules of the corresponding import filter.
Click on ***Select ...*** to set a directory.

Subdirectories (make import filter directories invisible when exiting the driver)

The created subdirectories can be automatically made invisible if the driver is not running. However, the directories still exist (and will continue to be displayed when ***viewing hidden files, folders, and drives*** in Windows Explorer). Files moved to these invisible folders will not be imported until the driver is restarted.

Not or only partly importable files afterwards

If the file to be imported does not conform to the set format, it cannot (or not completely) be imported. You can specify here how to handle these files. If the ***Move to*** option is activated, another subdirectory with this name is created in the subdirectory of the import filter.

Files containing duplicates afterwards

Invoices can be identified by the issuer and invoice number. Specify how to handle files that contain invoices that already exist in the database. If the ***Move to*** option is activated, another subdirectory with this name is created in the subdirectory of the import filter.

Successfully imported files afterwards

Specify here how to proceed with files that could be completely imported. If the Move to option is activated, another subdirectory with this name is created in the subdirectory of the import filter.

Create log file/protocol

Specify here whether a log should be created. The log can be restricted to ***incorrect/faulty*** or ***duplicate rows***.
Likewise, a new file can be automatically created for the log file on a monthly basis.

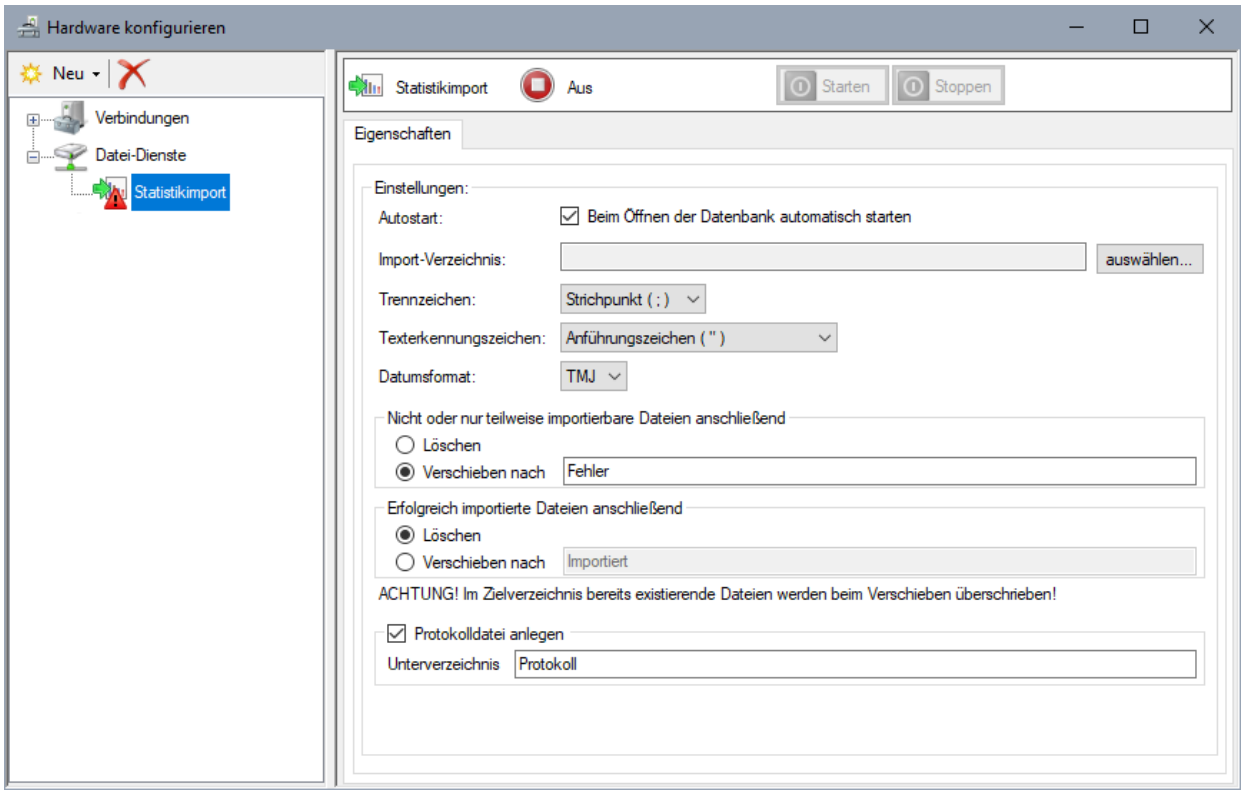
5.13.4.2 Statistics Import

With the help of this driver, statistics data available for modules of the module type ***Offline*** can be imported in a special csv-format. This means that statistical evaluations for modules without the Mobile Easykey System are possible to a very limited extent.

The csv files must correspond to a predefined scheme.
See **5.13.4.2.2 Operating Hours File Format** and **5.13.4.2.3 Crash File Format**.

The csv-files to be imported are copied to a directory (set in the driver) and thus automatically imported.

Click on button Neu and them on the menu item ***Add statistics Import,*** to add the Import-driver.



Attention!
Remember to start the driver, if necessary, after configuration
(see **5.13.6 Drivers Start and Quit**).

5.13.4.2.1 Properties

AutoStart (Starts automatically when the database is opened)

If this option is enabled, the driver is automatically started each time a database is opened (see**5.13.6 Drivers Start and Quit**).

Import Directory



Specifies the directory to which the files to be imported are to be moved or copied.
Click ***Select.***.. to set a directory.

Separator:

Specify here whether the csv files to be imported work with a semicolon, a comma or the tabulator character as a separator.

Text identifier

If the separator (or the text identifier) occurs in the text itself, it must be surrounded by the text identifier (usually quotation marks).

If the text identifier occurs in the text, it must be specified twice.

Date:

Specify the order in which the day, month and year are in the csv-files. Any character can act as a separator for the date format, e.g., a period (20.09.2018) or a hyphen (20-09-2018). If no separator is used, the day and month must always be in two digits. The year can be two- or four-digit (e.g., 20092918 or 200918).

Files that cannot be imported or can only be partially imported afterwards

If the file to be imported does not match the set format, it cannot be imported (or not completely). You can specify here, how to handle these files. If the *Move to* option is activated, another subdirectory with this name is created in the import directory.

Successfully imported files afterwards

Specify here how to handle files that could be fully imported. If the *Move t*o option is activated, another subdirectory with this name is created in the import directory.

Creating a log file

Specify here whether a protocol is to be created.
A new file is created every month.

Subdirectory:

Specifies the subdirectory in the import directory where the log files are created. If necessary, the directory is created automatically.

5.13.4.2.2 Operating Hours File Format

A separate csv-file must be created for each individual day.

The columns of the files to be imported can be separated by semicolon, comma, or tab, depending on the setting of the driver.

The first row must contain start and end date in the format "start date-end date" in the 3rd column. Example: "xxx;xxx; 07.06.2021-07.06.2021 (UTC +02:00)"
Start date and end date must match (the file contains only data about a single day)

The second row must contain the column names.
The following column names **must** exist:

Column name	Description
Vehicle	Must exactly match the module name of a module of module type ***Offline***.
Login-Time [h]	Contains the log-in hours for that day. E.g., "7.28"
Active Usage[h]	Contains the Usage hours of that day. E.g., „4.87“
Drives (forward) [h]	Is assigned to event 1
Drives (backwards) [h]	Is assigned to event 2

5.13.4.2.3 Crash File Format

For the recording of crash times, the file may contain several days.

The columns of the files to be imported can be separated by semicolon, comma, or tab, depending on the setting of the driver.

The first row must contain start and end date in the format "start date-end date" in the 3rd column. Example: "xxx;xxx; 07.06.2021-07.06.2021 (UTC +02:00)"

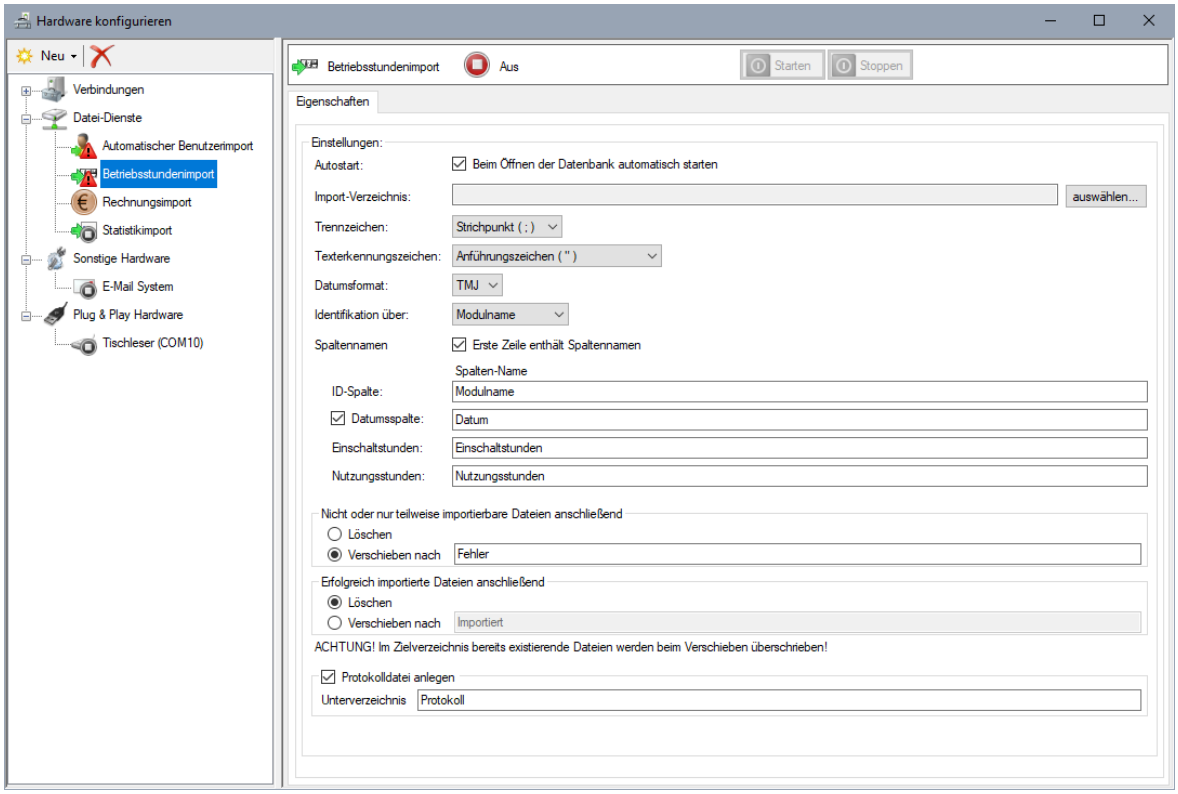
The second row must contain the column names.
The following column names **must** exist:

Column name	Description
Vehicle	Must exactly match the module name of a module of module type ***Offline.***
Date	Contains date and time of the Crashes, e.g., „09.06.2021 14:50“
Duration	Contains the usage time of that day. E.g., „00:46“ for 46 minutes

5.13.4.3 Operating Hours Import

With the help of this driver, operating hours data available in a special csv format can be imported for modules of the module type ***NO Easykey*** and ***Offline.*** The csv files to be imported are each copied into a directory (set in the driver) and thus imported automatically. You will find an example in the chapter **5.13.4.3.2 File Format**.

Click on the button Neu and then on the menu item ***Add operating hours*** import to add the import driver.



Attention!

Remember to start the driver after configuration if necessary (see **5.13.6 Drivers Start and Quit**).

5.13.4.3.1 Properties

AutoStart (starts automatically when opening the database):

If this option is activated, the driver is started automatically each time a database is opened (see **5.13.6 Drivers Start and Quit**).

Import- Directory:

Here the directory is specified into which the files to be imported are to be moved or copied.



Click on ***select...*** to set a directory.

Separator:

Specify here whether the csv files to be imported use a semicolon, a comma or the tab character as separator.

If the separator (or text identifier) itself occurs in the text, it must be enclosed with the text identifier (usually inverted commas).

If the text separator occurs in the text, it must be indicated twice.

Date Format:

Specify here the order of day, month and year in the csv files. Any character can be used as a separator for the date format, e.g., a dot (20.09.2018) or also a hyphen (20-09-2018). If no separator is used, the day and month must always have two digits. The year can have two or four digits (e.g., 20092918 or also 200918). Separated by a space, it can be followed by a time.

Identification via:

In order to be able to assign the data from the csv file to a module, this module must first be identified. The csv file must contain a column with a corresponding identification. The module name, the internal number, the factory number or a master data field can be used for identification.

Master data field:

If the module is to be identified via a master data field, the name of the desired master data field must be entered here.

ID column:

Enter here the name of the column (in the csv file) in which the identification feature is located.

Date column:

If the date column is activated, enter here the name of the column (in the csv file) that contains the respective date to the operating hours states. If the date column is not used, the date and time at which the file is imported is used.

Cut-in hours:

Enter here the name of the column (in the csv file) in which the respective cut-in hours are located. The format can be a simple number (hours), a floating-point number (hours with fractions of hours, separator point or comma does not matter, but the file must not contain both (thousands separator)) or a time format separated by a colon (HH:MM or HH:MM:SS).

Hours of use:

Enter here the name of the column (in the csv file) containing the respective hours of use. The format can be a simple number (hours), a floating number (hours with fractions of hours, separator point or comma does not matter, but the file must not contain both (thousands separator)) or a time format separated by a colon (HH:MM or HH:MM:SS).

Files that cannot be imported or can only be partially imported subsequently

If the file to be imported does not correspond to the set format, it cannot be imported (or not completely). You can specify here how to proceed with these files. If the option *Move to* is activated, another subdirectory with this name is created in the import directory.

Successfully imported files afterwards

Specify here how to proceed with files that could be imported completely. If the option *Move to* is activated, another subdirectory with this name is created in the import directory.

Create log file

Specify here whether a log should be created.

A new file is created monthly.

Subdirectory:

Specifies the subdirectory in the import directory where the log files are created. The directory is created automatically if necessary.

5.13.4.3.2 File Format

The file format for the file to be imported can look like this, for example:

```
Date;Module name;Cut-inhours;Hours of use
25.03.2022 8:15; Module 1;321,572;218,338
25.03.2022 8:15; Module 2;518:22;320:45
```

5.13.4.4 Automatic User Import

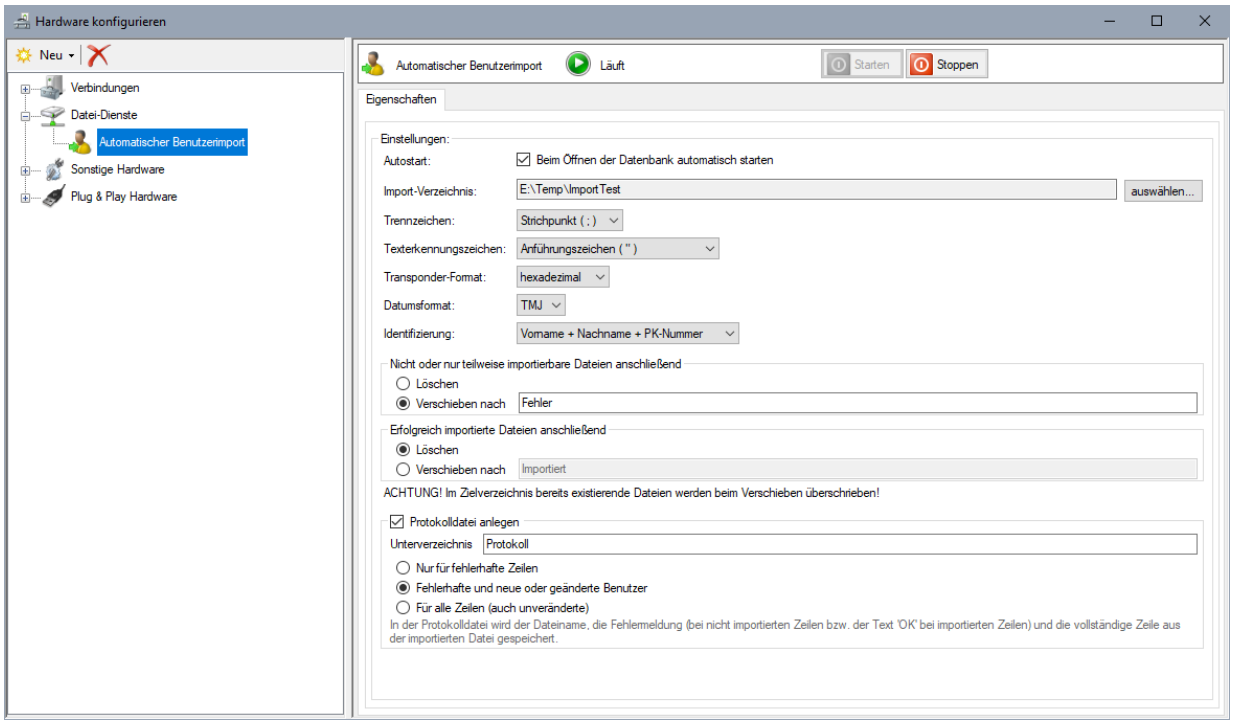
With the help of this driver csv-format tables with user data can be imported. You can add new users or modify existing users (identified by first and last names and/or ID-Number).

The csv files must conform to a given scheme.
See **5.13.4.4.3 File format**.

The csv files are copied to a directory (set in the driver) and automatically imported.

A special feature arises when the csv file contains transponder numbers. If a transponder number is assigned to a (new or changed) user by the import that is already in use (by another user), it will be revoked for this other user. A transponder is thus always assigned only to a maximum of one user! (software user and administrators, see **5.21.3 Software Operator** and **5.21.2 Administrators** are not taken into account, i.e. here a transponder can be simultaneously assigned to a software operator/ administrator and a user.)

Click on button Neu and in the menu on ***Add User Import*** to add the import-driver.



Attention !

Remember, if necessary, to restart the driver after configuration.

(See **5.13.6 Drivers Start and Quit**).

5.13.4.4.1 Properties

AutoStart (start database automatically when opening)

If this option is activated, the driver is automatically started each time a database is opened (see (see **5.13.6 Drivers Start and Quit**)

Import-Directory



Here, the directory is specified in which the files to be imported are to be moved or copied. Click on ***Select*** ... to set a directory.

Separator:

Specify here whether the csv files to be imported work with a semicolon, a comma, or the tab character as delimiters.

Text identifier:

If the separator (or the text identifier) appears in the text itself, it must be enclosed in the text identifier (usually quotation marks).
If the text identifier appears in the text, it must be specified twice.

Transponder format:

Specify here whether transponder numbers are to be interpreted as a decimal number or as a hexadecimal number. If the transponder number begins with the characters "0x", it is always interpreted in hexadecimal form, regardless of this setting.

Date format:

Specify the order of the day, month and year in the csv files here. As a separator for the date format, any character can be used, e.g., a dot (20.09.2018) or a hyphen (20-09-2018). If no delimiter is used, the specification of day and month must always be in two digits. The year can be two or four digits (for example, 20092918 or 200918).

Identification:

In order to distinguish new from existing users, the users must be identified. For this purpose, the first and last name and / or the ID number are compared. When setting ***first name + last name + ID number***, e.g., all three texts match to identify the user. If a user already exists with this first name, last name and PK number, their data will be overwritten. If it does not yet exist, a new user is created.
With the setting **first name + last name** or **ID number**, only the first and last name or only the ID number is compared accordingly.



Caution!
This means that the ID number or first and last name of an existing user can be changed via the imported file!

Not- or only partly importable files afterwards

If the file to be imported does not conform to the set format, it cannot (or not completely) be imported. You can specify here how to handle these files. If the ***Move to*** option is activated, another subdirectory with this name is created in the subdirectory of the import filter.

Files containing duplicates afterwards

Invoices can be identified by the issuer and invoice number. Specify how to handle files that contain invoices that already exist in the database. If the ***Move to*** option is activated, another subdirectory with this name is created in the subdirectory of the import filter.

Create log file/protocol

Specify here whether a log should be created. A new file is created monthly. For the format of the log file, see chapters **5.13.4.4.2 Protocol**.

Subdirectory:

Specifies the subdirectory in the import directory where the log files are created. The directory may be created automatically.

Only for faulty lines

The log file only records those lines that could not be imported

Faulty and new or changed users

In addition to the faulty lines, all lines are also logged in which a new user has been created or an existing user has been changed. Only rows with users where the data in the csv file exactly matches the existing data are not logged.

For all lines (also unchanged)

All lines are logged.

5.13.4.4.2 Protocol/Log

The log files contain the file name, the error or status message and the entire original line.

Faulty lines are logged with the status "Error" and a subsequent error message. If the message affects the entire file (for example, column assignment), no original line is specified.

I.e.: `test.csv;error: Not all columns could be assigned!Unknown column: Special column 1 + Special column 2`

If, on the other hand, a specific line is affected, it will be output thereafter.

I.e.: `test.csv;error: Error during import column Expiry date the text'07.xy.2030' could not be interpreted as adate.;Müller;Thomas;6F008506B7;Yes;Yes;Yes;False;;;Mobile Easykey;07.xy.2030;Nein`

Lines with which a new user was added are given the status "New".

E.g.: `test.csv;`**`New`**`;Hans;Müller;1122334455;Yes;Yes;n;False;;;Mobile Easykey;06.01.2020;No;test`

Lines with which a new user was changed are given the status "changed".

E.g.: `test.csv;`**`changed`**`;Hans;Müller;1122334455;Yes;Yes;n;False;;;Mobile Easykey;06.01.2020;yes;test2`

Lines with users that already exist exactly the same are given the status „OK“.

E.g.: `test.csv;`**`OK`**`;Hans;Müller;1122334455;Yes;Yes;n;False;;;Mobile Easykey;06.01.2020;Yes;test2`

5.13.4.4.3 File format

Depending on the setting of the driver (see **5.13.4.4 Automatic User Import**), the columns of the files to be imported can be separated by semicolons, commas or tabs. The first line must contain the column names. The following column names are allowed:

Column name	Alternative	Additional alternative
LastName	Last Name	
Firstname	First Name	
Transponder	Transponder-ID	
IsUser	Is User	User
IsMaster	Is Master	Master
IsWorshop	Is Workshop	Workshop
IsLowSpeed	Ist LowSpeed	LowSpeed
PkNumber	PK-Number	
Department	Departement	
Company	Company	
Phone	Telephone	
MobilePhone	Mobile Phone	
Email	E-Mail	
ExpirationDate1	Expiry 1	Alternatively, the name of the respective expiration date can be used **5.14.7.1 Expiry date**, e.g., the text "Health Check". In addition, the text "alarm date" may be prefixed here, e.g., "Alarm Date Health Check"
ExpirationDate2	Expiry 2	
ExpirationDate3	Expiry 3	
ExpirationDate4	Expiry 4	
ExpirationDate5	Expiry 5	
Locked	Gesperrt	
Description	Description 1	
Description2	Description 2	
U0	Master data 1	Alternatively, the name of the respective User-Master-Data can be used (see **5.14.4.2 Module-, User-, Battery Master data**), e.g., the text „protective gear“.
U1	Master data 2	
U2	Master data 3	
...	...	
U27	Master data 27	
U28	Master data 28	
U29	Master data 29	

The file must not contain any columns that are not listed here.

The only exceptions are columns with the name "alarm profile xy", where xy stands for the name of an expiration date (see ***Column name*** in chapter **5.14.7.1 Expiry date**) e.g. Health Check Alert-Profile as created when exporting users(see **5.3.3.2 Export data**).

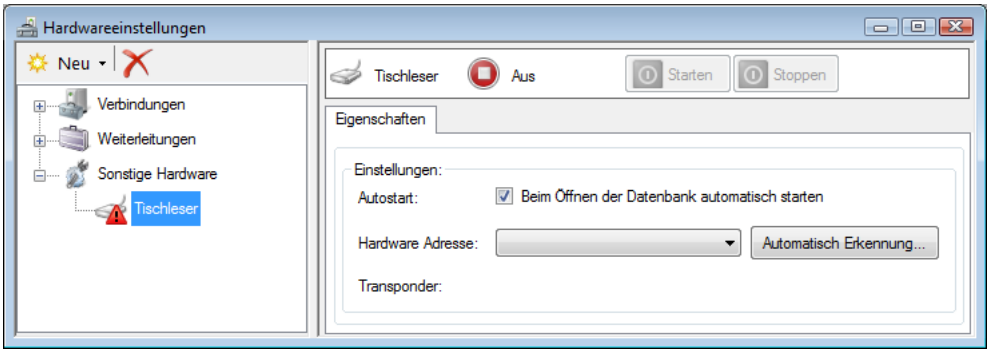
5.13.5 Other hardware

5.13.5.1 Table Reader

To enter the respective transponders a transponder reader (table reader) is necessary.

A USB-table reader should be recognised on start of Mobile Easykey Manager or automatically be started with connecting the USB cable (see **5.13.1 Plug and Play**). In this case you can skip this chapter.
If the table reader is not automatically recognised, (even with disconnection and reconnecting of the USB cable), or if you do not use a table reader with serial connection, then the table reader must be set manually in the software. Click in the menu ***File*** on ***hardware configure*** or click in the toolbar of the "Mobile Easykey Manager" on the button.

Afterwards click in the sub window ***hardware settings*** on the button Neu and then on the menu item ***Add table reader***.

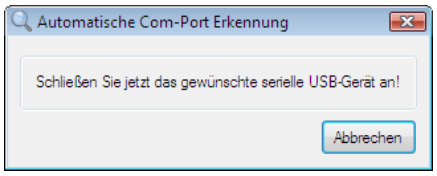


With the option ***start automatically while opening database*** you specify whether the driver of the table reader should be automatically started while opening a database or not (see **5.13.6 Drivers Start and Quit**).
If you have already connected a table reader to the computer, select with the button ***hardware address*** the appropriate port COM.

Note:

If you do not know the port COM, delete the table reader temporarily.
If the table reader is not yet connected to the computer (or you have just deleted it) click on the button ***automatic detection ...***

While the window ***automatic Com port detection*** is opened, connect the table reader to the computer. Now the new Com port should be automatically recognised and be selected.



Attention

Note that the driver is not automatically started by adding the table reader. Start it if necessary (see **5.13.6 Drivers Start and Quit**).

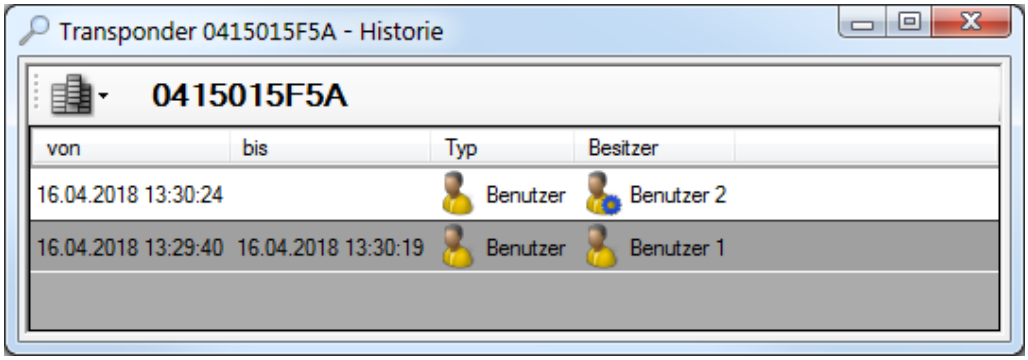
If (with a running driver) a transponder is held near the reader, the transponder number is displayed in ***transponder***.

5.13.5.1.1 Transponder history

Always when you hold a transponder near the table reader device, "Mobile Easykey Manager" automatically tries to recognise which action you aim at.

If at that time the sub window ***Batteries*** or ***Users*** is opened and the tab ***Properties*** is active, the logged transponder is assigned to this battery / this user (unless, the logged transponder is already assigned to a battery or a user).

Otherwise, the history of this transponder is automatically called up:



In the example of this graphic, the transponder was assigned first on the 16/04/2018 at 13:29:40 h (column ***from***) to user 1.

On the 16/04/2018 at 13:30:19 h (column ***until***) a new transponder was assigned to user 1 (this transponder was not associated to other users).

On the 16/04/2018 at 13:30:24 h (column ***from***) this transponder was used once more and assigned to user 2.

The column ***until*** has no value for user 2, i.e., the transponder is still currently associated to user 2.

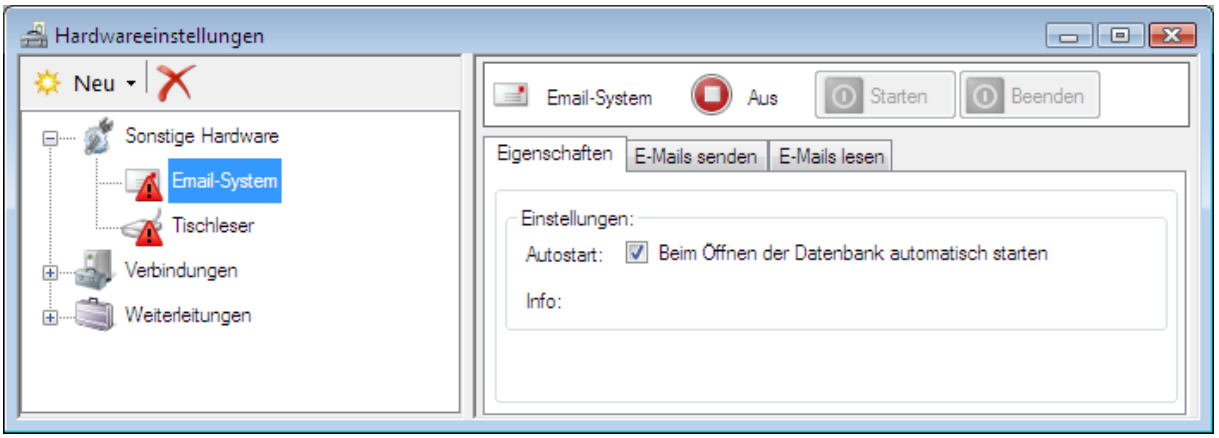
Note:
The driver of the table reader must be active.

Tip:
With a double-click in the respective line you can directly call the respective user.

5.13.5.2 Email System

The email system enables the functions of emailing and if necessary, the receiving of emails. It must not be installed on all used PCs, however, at least one "Mobile Easykey Manager" with launched email system must run, so that emails can be transmitted and be received.

Click on button Neu and then on the menu item ***Email system add*** on this PC to add an email system. Note that you can add only one email system. If an email system is already created, the menu item ***Email system add*** is disabled.



Attention

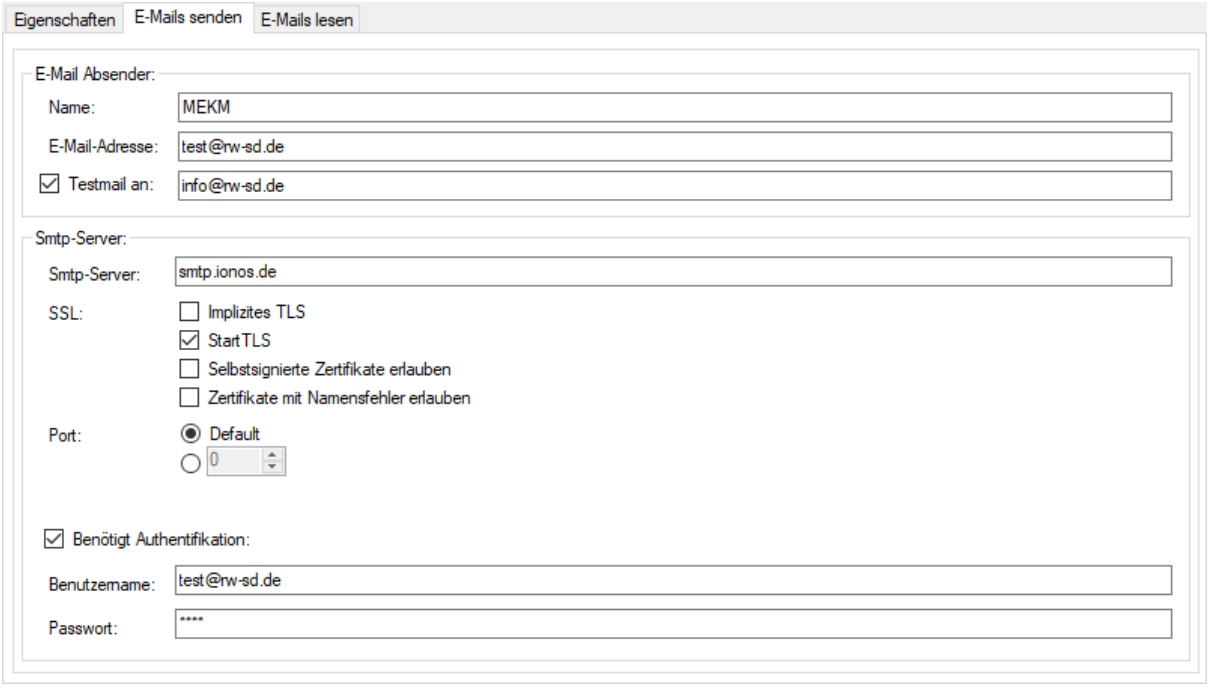
Do not forget to start the email system after the configuration, if necessary (see **5.13.6 Drivers Start and Quit**).

5.13.5.2.1 Properties

With the option ***while opening database automatically start*** you specify whether the driver of the table reader should be automatically started while opening a database or not (see **5.13.6 Drivers Start and Quit**).

In ***info,*** more information about the email system is displayed if necessary.

5.13.5.2.2 Transmit emails



Email sender

Name — Specify the name which should be used as a sender for transmitted emails.

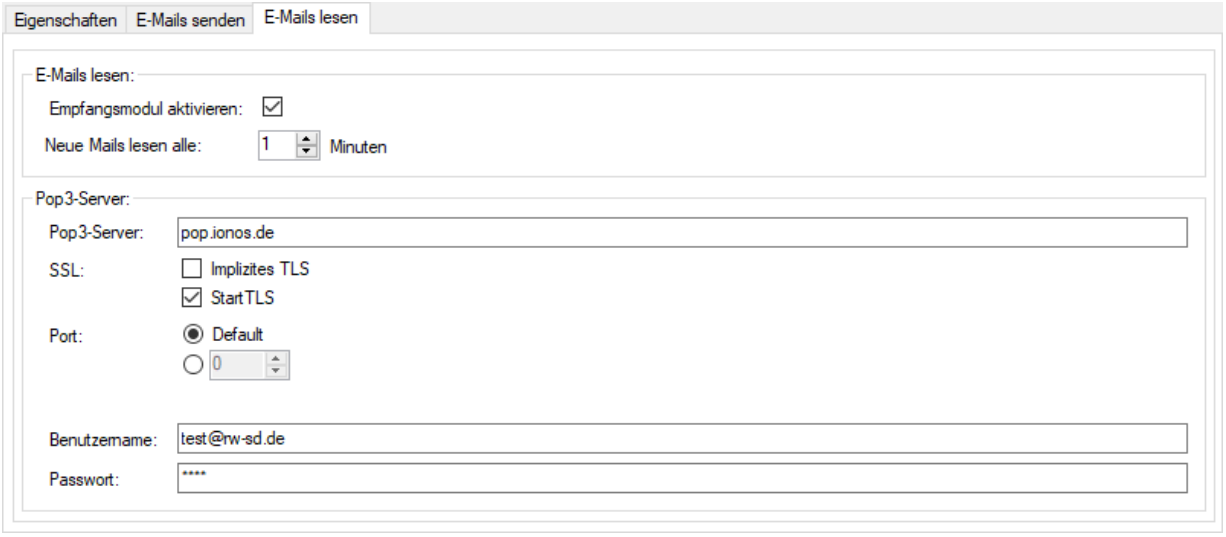
Email address — Enter the sender of the email address. If "Mobile Easykey Manager" should also receive emails, you need to enter the email address under which "Mobile Easykey Manager" is accessible. "Mobile Easykey Communicator" uses this email address to return an order if necessary.

Note:
Whenever the e-mail driver is started, a test e-mail is sent to this address!

Smtp-Server

SMTP server	Specify a SMTP server through which "Mobile Easykey Manager" should dispatch its emails.
Implicit TLS	Select this option if your SMTP server supports SSL encryption over implicit TLS and you only want to use SSL connections.
Start TLS	With this setting, the connection is established without encryption. If the SMTP server supports encryption, it will then switch to an encrypted connection.
Allow Self-Signed Certificates	Enable this option if you have secured your SMTP server with a self-signed certificate.
Allow Certificates with Name Errors	If the certificate is not issued exactly in the name used, the certificate will usually not be accepted. However, if this option is selected, this error will be ignored.
Port	Here you can specify the port of the SMTP server or select the ***Default*** for the standard port
Needs authentication	Select this option if your server SMTP needs an authentication in form of username and password.
Usernames	Enter the username for the authentication on your SMTP server.
Password	Enter the password for the authentication on your SMTP server.

5.13.5.2.3 Read emails



If "Mobile Easykey Manager" should also receive emails (for example, from "Mobile Easykey Communicator" send orders or read receipt of alarm emails), you ***must activate*** the ***reception module*** and specify a Pop3 server.

Read emails

Activate reception module	Select this option if "Mobile Easykey Manager" should also receive emails.
New mail read every xx	Specify here how often "Mobile Easykey Manager" should search for new emails on this PC.

Pop3 server

Pop3 server	Specify the POP3 server through which "Mobile Easykey Manager" should receive its emails.
Implicit TLS	Select this option if your POP3 server supports SSL encryption over implicit TLS and you only want to use SSL connections.
Start TLS	With this setting, the connection is established without encryption. If the POP3 server supports encryption, it will then switch to an encrypted connection.
Port	Here you can specify the port of the Pop3 server or select the ***Default*** for the standard port
Usernames	Enter the username for the registration (log on) on the server POP3.
Password	Enter the password for the registration (log on) on the server POP3.

5.13.6 Drivers Start and Quit

In the status line in the upper margin of the driver configuration you can read the present status of the respective driver.



Displays the name of the driver

Buttons for starting and quitting the driver

The driver stopped
The driver is just started
The driver runs
The driver just quit
The configuration of the driver was changed. However, this will only become effective, as soon as the driver was newly started.
The driver was quit on account of an error! However, it is tried regularly to restart the driver automatically.

Displays the type of the driver (e.g., example WI-FI)

All drivers entered in the hardware configuration must be started first before they function. In the configuration of the respective driver select the option ***start automatically on opening the database*** Then this happens automatically as soon as a database it is opened (Plug and Play driver start always automatically). If this option is not selected or the respective driver was quit for any reason, click on Starten button to start.

If the Starten button is deactivated this may have one of the following reasons:

- No database is opened
- The configuration of the driver is faulty or incomplete
- The driver already runs or is just started
- You do not have the necessary rights to start the driver (see **5.21 Software Operating Rights**)

With a click on button Beenden you can quit a running driver.

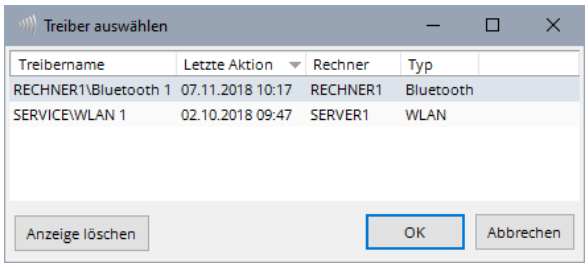
Note:
If you change the configuration of a driver, while this runs, you must quit the driver Beenden and start anew Starten so that the driver runs with the new configuration.

An exception is the status" Interrupted". A driver turns into this mode if it was unexpectedly quit, i.e., by an error. If for example, the USB cable is unplugged, with a running direct driver, the appropriate serial interface is not any longer available and the driver must quit. Now it is in the status" Interrupted ". Therefore, Mobile Easykey Manager tries to restart the driver every 2.5 minutes. If the USB cable is plugged in again, like in in the previous example, the driver starts automatically after some time. By a click on button Beenden the driver can be quit entirely, i.e., it is not any longer tried to restart the driver automatically. With a click on button Starten a restart of the driver is attempted immediately. If this misses, it is tried furthermore every 2.5 minutes to restart the driver automatically.

5.13.7 Driver Monitoring

For the WI-FI driver and the Bluetooth driver there is a special option to monitor their function. These drivers ordinarily run more or less unnoticed in the background. Whilst an order is being executed you can observe this in the communication central office (see **5.5.21 Communication central office**). However, if one or several orders for a module are not executed, it is not possible to get to know the cause. For this, amongst other tasks the driver monitoring is employed.

You can open the driver monitoring, clicking in the menu file on ***driver monitoring***. This is possible from every "Mobile Easykey Manager"; you must not necessarily open the driver monitoring of the actual computer in which the driver runs. The only requirement is that the same database is opened.



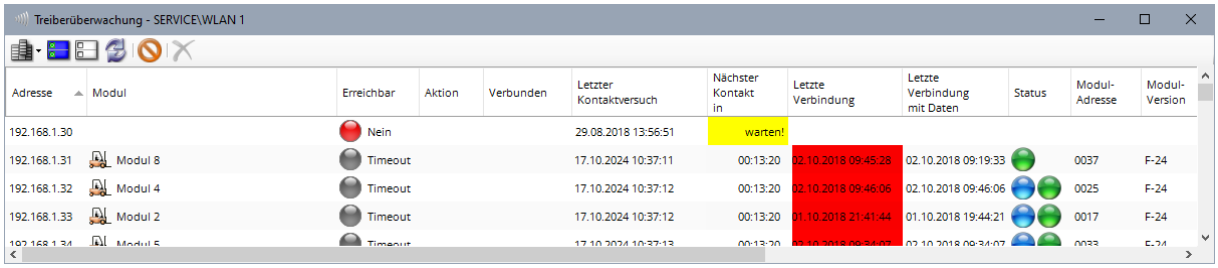
In the opening dialog you can select the driver which you want to monitor. Simply select the required row and click ***OK***. The driver names displayed here are identical with the names entered in the respective driver settings (Bluetooth see **5.13.3.1.3.1 Properties**, WI-FI see **5.13.3.1.4.1 Properties** or mobile radio see **5.13.3.1.5.1Properties**).

Note:

Note that the respective driver appears in this list only if the first connection test has taken place. In particular with the active drivers, you must wait until the first module has reported/contacted.

With the button ***Delete*** you can delete a driver from this list (temporarily). If the driver is still active, it is added again, as soon as a renewed connection test with any module has taken place.

After you have selected the driver, you see the window of the driver monitoring:



5.13.7.1 Buttons driver monitoring

With the button  you can switch on and switch off, whether Mobile Easykey should only display the in the list recognised modules or all possible addresses.

With the button  you can delete one or several selected rows. Note that this row reappears, if the driver again attempts a connection with the relevant address.

You find the meaning of the remaining default buttons in chapter **5.4.1 Default buttons in the toolbars**.

5.13.7.2 The Columns in Driver Monitoring

Address

Specifies the respective IP address (WI-FI) or MAC- address (Bluetooth) of the modules. Here are all addresses listed with which the driver tries to get in touch.

Module

If with the respective address a Mobile Easykey module was identified, it is displayed here. Note that the IP address of the Mobile Easykey module can change using a WI-FI driver and DHCP. The display here specifies the last known status.

Accessible

Specifies whether a Mobile Easykey module is accessible at the respective address.

OFF	The driver is either not started, or this address was deleted from the driver configuration.
No	This address is not accessible (currently), the module has not responded to Ping.
Ping	This address is accessible; however, it does not seem to be a Mobile Easykey module or port 10001 (see **2.5.2 Used network ports**) it is not accessible.
Module	This address is accessible and it seems to be a Mobile Easykey module, however, it has not responded. With active modules the reason may be a non-accessible port 10001 (see **2.5.2 Used network ports**).
Yes	At this address a Mobile Easykey module is currently accessible.
Unknown firmware	The module is accessible; however, the firmware of the module is not compatible with this program version.
Module locked	The module is accessible; however, it was contacted just from another place and is locked for a short time.
Filter	This address is accessible; however, it is not a valid MAC address for the "Mobile Easykey Manager".
Wrong password	This address is accessible and it seems to be a Mobile Easykey module, however, in the module a different Socket password is configured than in the driver.

Action

Specifies whether a connection is attempted, based on this address or a connection already exists.

Ping	The driver tries to establish whether this address is currently accessible.
Connect	The driver tries to build up a connection to the module. With active modules this means, the active module has contacted.
Hand-shake	The connection was built up and the driver tries to identify the module.
Data	There is currently a connection to the Mobile Easykey module and one or several orders are executed.

Connected

This icon is displayed, as long as there is a connection to the Mobile Easykey module and orders are executed.

Last contact attempt

Specifies the date and time, when the driver has last tried to build up a connection with this address.

Next contact

Specifies, when the driver attempts to build up a connection next time with this address.

Last connection

Specifies the date and time, when the driver was last connected (with this module, regardless whether orders were executed for this module)

Last connection with data

Specifies the date and time, when orders were executed for this module with this driver.

Status

Specifies the last known module status.

- No status was active.
- The relay is active (a user is logged in)
- The presence recognition is active (a user is present)
- The actual input is active (operating hours are counted)
- The input 1 is active.
- The input 2 is active.
- The module is in a passive crash mode.
- The module is an active crash mode.

Module address

Specifies an internally used module address.

Module version

Specifies the hardware version of the Mobile Easykey module.

MAC

Specifies (provided that available) the MAC-address of the Mobile Easykey module.

Name

Specifies (provided that available) the network name of the Mobile Easykey module.

AccessPoint

Shows (provided that available) the names of the AccessPoints through which the module was accessible last.

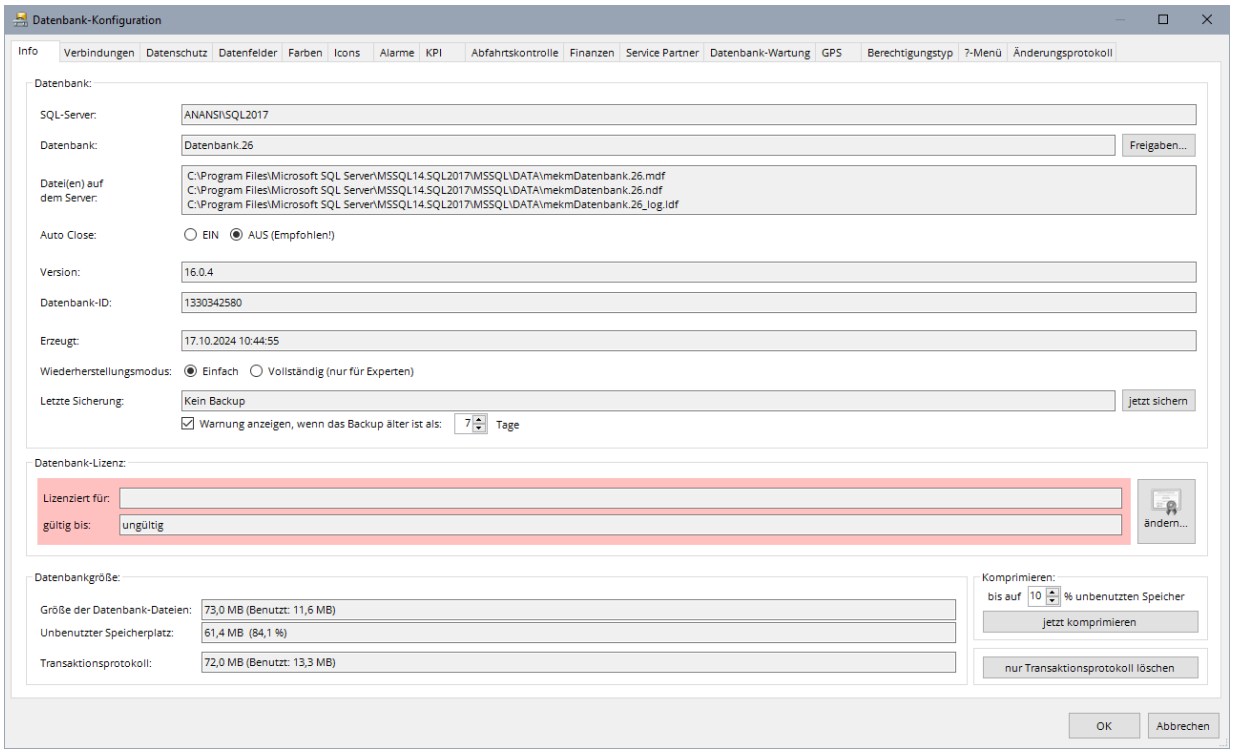
Note:

You can open several driver monitoring windows (from different drivers) at the same time. You can leave a driver monitoring window opened, while you quit a driver and/or start it. This can be particularly useful in particular with passive drivers because the driver immediately, after starting, attempts to build a connection with all known addresses.

5.14 The database configuration

To call up the database configuration, select in the menu file ***Configure database***.

5.14.1 Info (Information)



SQL-Server:

specifies the name of the SQL-Servers where the database is stored.

Database:

displays the name of the database.

Note: The prefix “mekm“ is given for the database. Based on this prefix, the manager can recognize their own databases and thus only displays MEKM databases when opening them. The prefix "mekm" is not displayed within the manager.

Enable / Release

With this button the release of the database can be changed (see **5.3.1.2 New Database**).

File (s) on the server:

Here the physical files are listed, where the SQL server stores the information of this database.

Auto Close:

Specifies what happens to the SQL server when the last user closes the database in Manager. For performance reasons, we recommend the OFF option here. This setting appears only when ***Auto Close*** is set to ON.

Version:

shows the (MEKM-interne) Versions number of this database.

Database-ID:

Specifies a MEKM Internal ID that was set (as a random number) when this database was created.

Generated:

indicates if this database was created.

Recovery model:

Specifies how the SQL Server handles the transaction log when backing up the database. We strongly recommend the setting ***Simple*** here (except for SQL experts). Therefore, this option is only displayed if the setting is ***not Simple***!

Last back up:

shows when the database was last saved. This is a SQL-Internal information. Backups saved outside of the Mobile Easykey Managers are also counted.

Save now

With a click on this button a backup of this database can be created (see **5.3.2.1 Database Backup**.

Show warning if the backup is older than

If this option is enabled, a warning is displayed when the database is opened if it has been too long since the last backup (see **5.3.1.1.6 Warning Database-Backup**).

Licensed for

To be able to use the Mobile Easykey Manager fully, a license must be entered. This license is displayed here. With the Change button you can display details about the license and also enter a new / different license (see **5.3.1.1.3.1 Database License**).

Valid until version

The version up to which this license is valid is displayed here. If the database is updated to a version beyond this limit, a new license must be entered. To purchase a license, please contact Mobile Easykey GmbH at khd@mobileeasykey.de (see also**2.3 Licensing model**).

Size of database files:

Specifies how much memory space the database needs on the hard drive an in brackets how much memory space is currently use.

Unused memory space:

With saving new data the database is growing larger and larger. Since enlarging the database is relatively time-consuming, it will always be made slightly larger than would actually be necessary at the moment. Here you can see how much "leeway is still available before the database has to be enlarged again.

Transaction log:

Whenever something in a database is transferred from A to B, a so-called transaction is performed. This ensures that the transferred element is not lost when e.g., during power failure. The transaction log grows when many tasks have to be done simultaneously. Normally, the transaction log will not be resized immediately as zooming in and out requires resources. The first number indicates how large the transaction log (i.e., the corresponding file) actually is. The second number in brackets indicates how much of it is actually used.

Compress now:

After deleting larger amounts of data, the database is not automatically downsized. In this case, the value specified under ***Unused space*** may become relatively large. Then it may be useful to compress the database. To do this click ***Compress Now.***

Note:

Deleting the transaction log is only possible with SQL administrator rights!

up to X% unused memory

In order not to have to enlarge the file again at the next change usually a small percentage leeway is given. This percentage can be specified here.

Only delete transaction protocol:

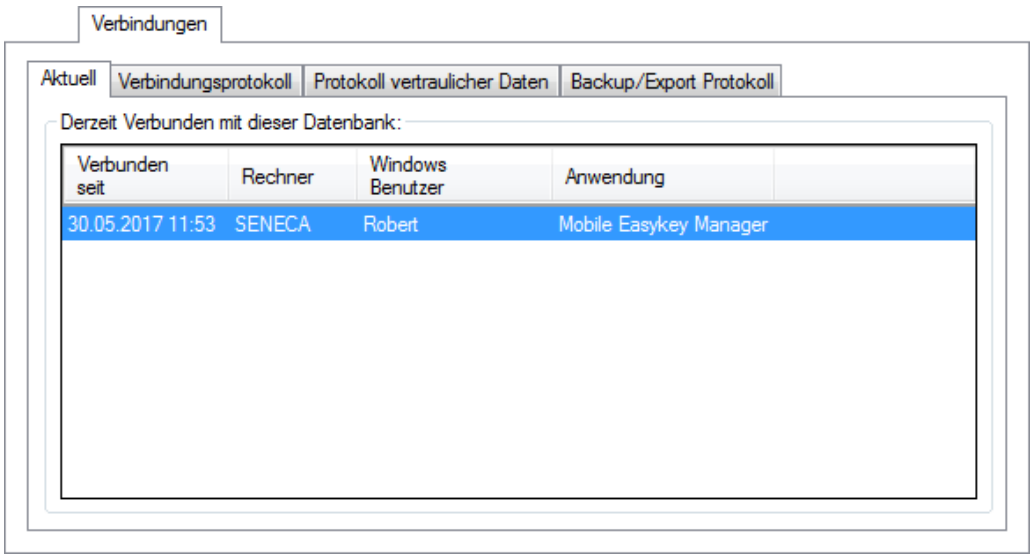
Normally, when the ***restore mode*** is set to ***Simple***, the transaction log is reduced when compressing the database (***compress*** **now**). With a click on ***Only Delete Transactions log***, the transaction log can be downsized without compressing the database.

Note:

If the ***recovery mode*** is not set to ***Simple***, the transaction log cannot be compressed! In that case, first set the ***recovery mode*** to ***Simple***.

5.14.2 Connections

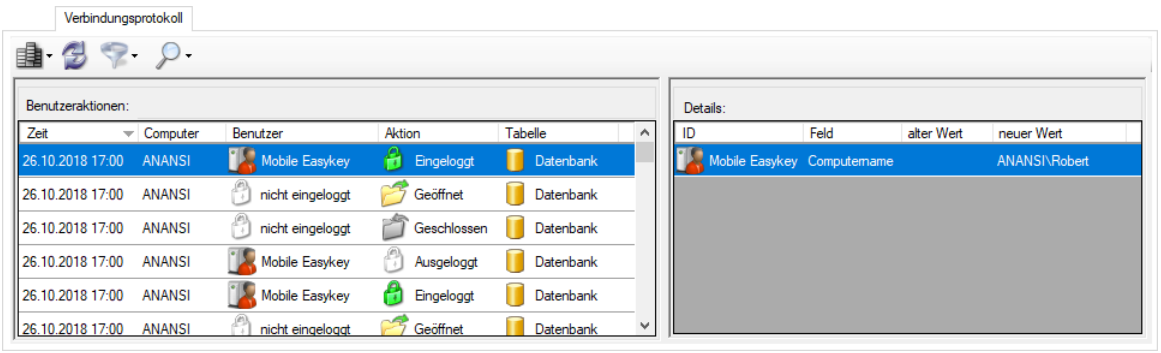
5.14.2.1 Actual



In the tab ***connections*** / actual a list with all present connections to this database can be called.

The display happens on a real-time basis, i.e., as soon as this database is opened once more with another programme or on another computer, this connection (within approx. 15 seconds) appears in the list. Vice versa the connection disappears, as soon as the other programme was quit or the database was closed.

5.14.2.2 Connection Protocol



The connection protocol records who has logged on to this database.

The **column User** corresponds to the respective software operator and is only displayed if the operating rights (see **5.21 Software Operating Rights**) are activated.

The following actions are possible:

Open: The time when the database was opened. At this time, no one is logged in, so the associated user is always 'not logged in'. The **table "Details**" displays the computer name on which computer the database was opened.

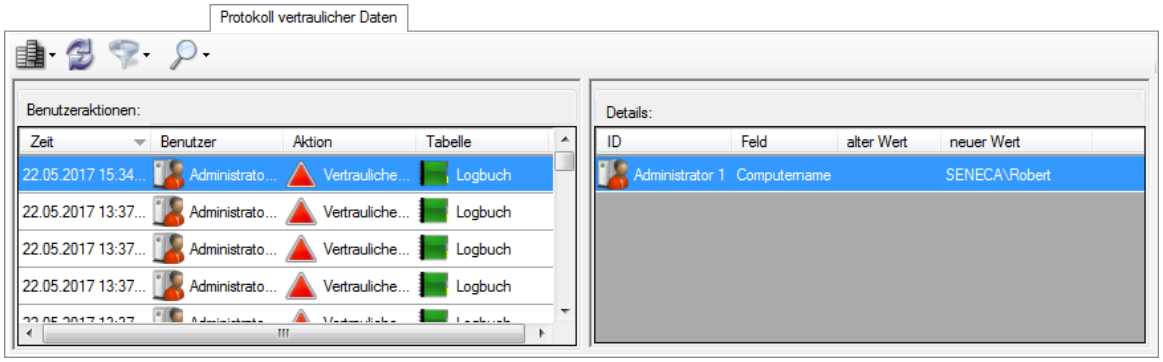
Logged On: Displays the user who is currently logged in to the database (only if the operating rights are activated).

Logged out: Displays the user who has logged out of the database at this time (only if the operating rights are activated).

Closed: The time when the database was closed again (or the program ended). Closing the database also automatically logs out a possibly logged in administrator or software user.

With the buttons and the connection protocol can be filtered and searched.
A description can be found in chapter **5.19 Change Log**.

5.14.2.3 Confidential Data Protocol



Whenever a works council user logs in or out it will be logged in the confidential data protocol. (see **5.14.3 Data Protection (Works Council User)**.

The column User corresponds to the respective software operator and is only displayed if the operating rights (see **5.21 Software Operating Rights**) are activated.

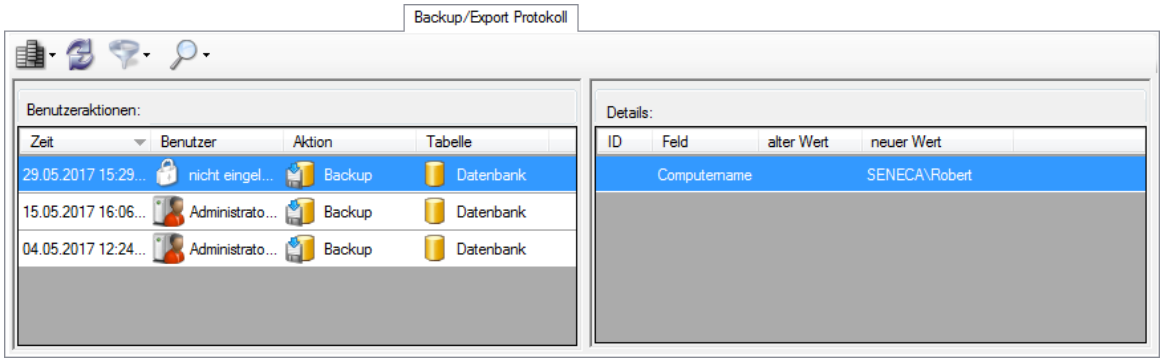
The log in or the display of confidential data is shown in the column ***Action*** and is marked with a red triangle ▲. The log out or a failed log in (e.g., Wrong password) is marked with a grey triangle (▲).

The column ***Table*** shows where the works council user logged in.

On the right side in the box ***Details*** the name of the respective works council user is displayed Using the and buttons, the confidential data can be filtered and searched.

Further details see chapter **5.19 Change Log**.

5.14.2.4 Backup / Export Protocol



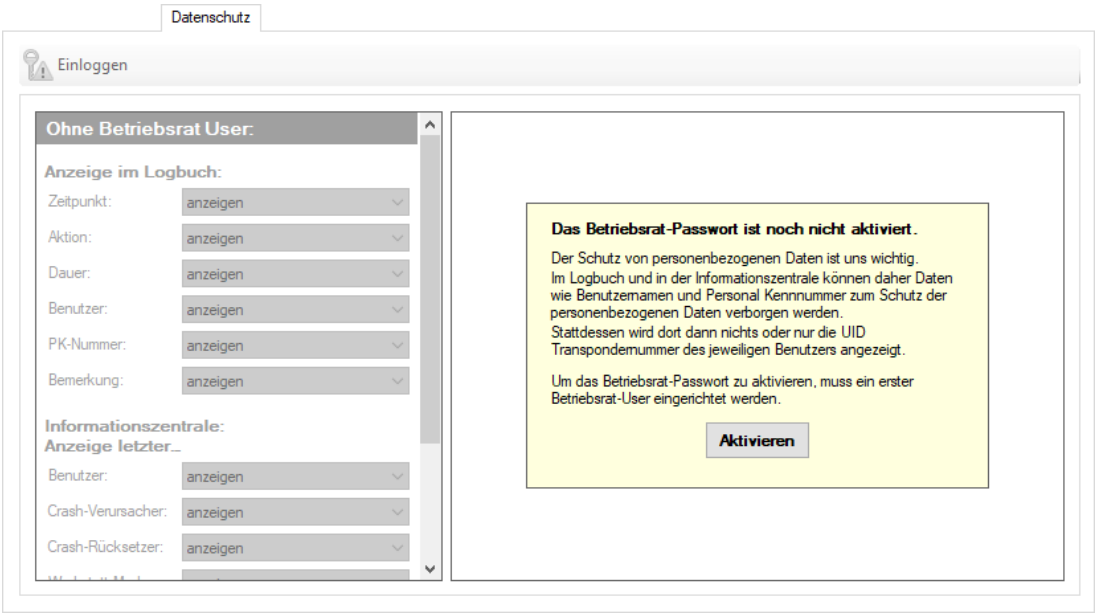
Whenever a backup of the database is created (via the Mobile Easykey system), an entry is generated in this protocol.

The column User corresponds to the respective software operator and is only displayed if the operating rights (see **5.21 Software Operating Rights**) are activated.

In the Details table, the computer name displays the database on which computer was opened and which Windows user was currently logged on.

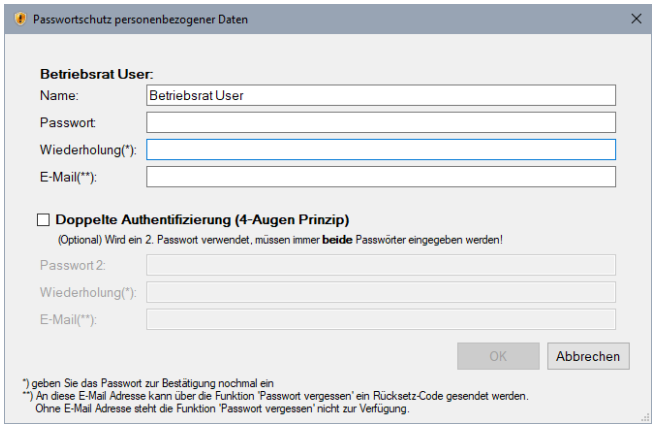
With the buttons and the backup / export protocol can be filtered and searched.
For a description see chapter **5.19 Change Log**.

5.14.3 Data Protection (Works Council User)



If the works council password is activated, personal data in the logbook (see **5.5.12 Logbook**) and in the Information Central office (see **5.5.20 Information central office**) are no longer displayed directly. Instead, only the UID transponder number of the respective user or the text "<< Data Protection >>" is displayed there (see **5.14.3.5 Data Protection – Display in Logbook** ff).
To unlock the display a so-called works council user password is needed.

In order to release the display, a so-called works council user with his password is required.
Click the ***Activate*** button to add the first works council user and to activate the works council password.



Note: If an older database is opened in which a "logbook password" was used, the first works council user automatically receives this logbook password and the works council password is automatically active.

Choose a name for the first works council user and enter a password.

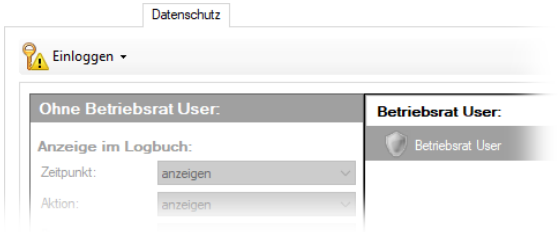
If the function ***forgot password*** (see **5.14.3.2 Forgot**) should be activated for this works council user, an e-mail address must also be entered.

If desired, ***a double authentication (4-eyes principle)*** can be used. The works council user then gets two (different) passwords, which must always be entered both. These passwords can be e.g., be entered by two different people. If you want the **forgot password** function (see **5.14.3.2 Forgot**) also to be activated for this second password, an e-mail address must be entered here as well

Click ***OK*** to add the first works council user and activate the works council password.

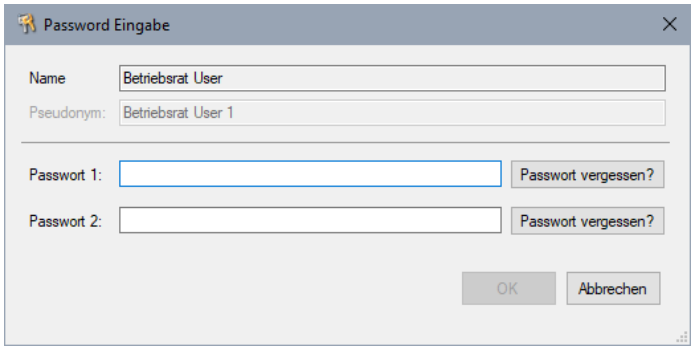
After the first works council user has been created, he will automatically count as logged.
If, on the other hand, the works council password has already been activated, you must first log in with any works council user (see **5.14.3.1 Login Works Council User**) before the settings can be changed.

5.14.3.1 Login Works Council User



To do this, click on ***Login*** and, if necessary, select the desired works council user.

You will now see the password entry window:



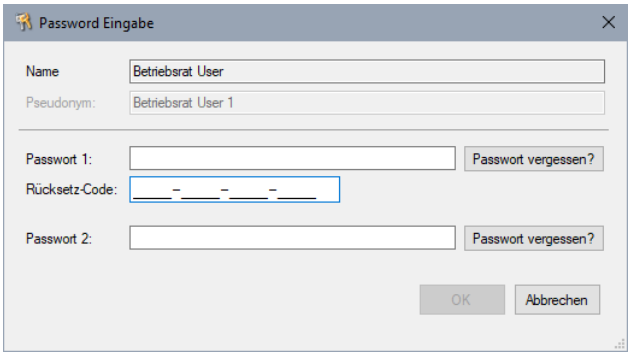
- ***Name:***
  Displays the name of the works council user.
- ***Pseudonym:***
  The pseudonym is displayed when the Mobile Easykey Manager is in service mode (see **5.1.2 Service Mode**) or an anonymized backup (see **5.1.3 Anonymised Backup**) has been restored.
  If you have a problem with a special works council user, please share this pseudonym with mobile Easykey service staff.
- ***Password 1:***
  Enter the corresponding password here.
- ***Forgot your password:***
  If a valid e-mail address is stored for the works council user for this password, the forgot password button is also displayed. Click this button if you have forgotten the password. See also chapter **5.14.3.2 Forgot** .
- ***Password 2:***
  The second password is only displayed if this works council user has been assigned a second password. In that case, you must enter both passwords.
- ***Forgot your password:***
  A reset code can also be requested for the second password if a valid e-mail address is stored for this second password of the works council user.

5.14.3.2 Forgot Password

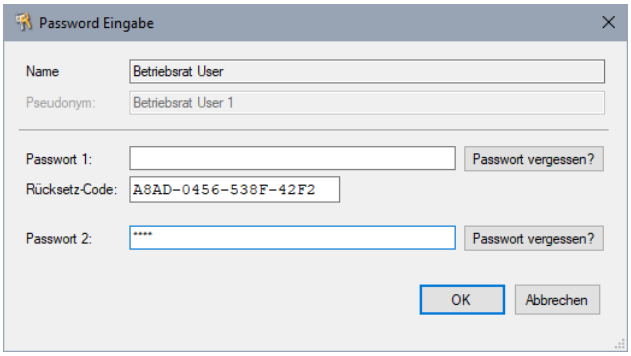
A special reset code can be requested via the ***Forgot Password*** function, which resets the password and replaces it with a newly entered password.

Prerequisite for the ***forgot password*** function is an internet connection and an e-mail address stored for the respective password.

Also, click forgot password next to the password you want to reset.

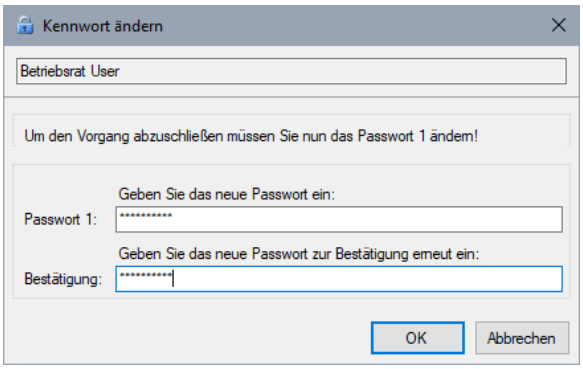


You will receive a notice that the request has been sent and an additional input field will appear with the name Reset Code.



Now enter the reset code that you received by email. If necessary, also enter the 2nd password.

Click OK



You will now be prompted to change the password.

Enter your new password.

Please re-enter the password to confirm.

Click OK.

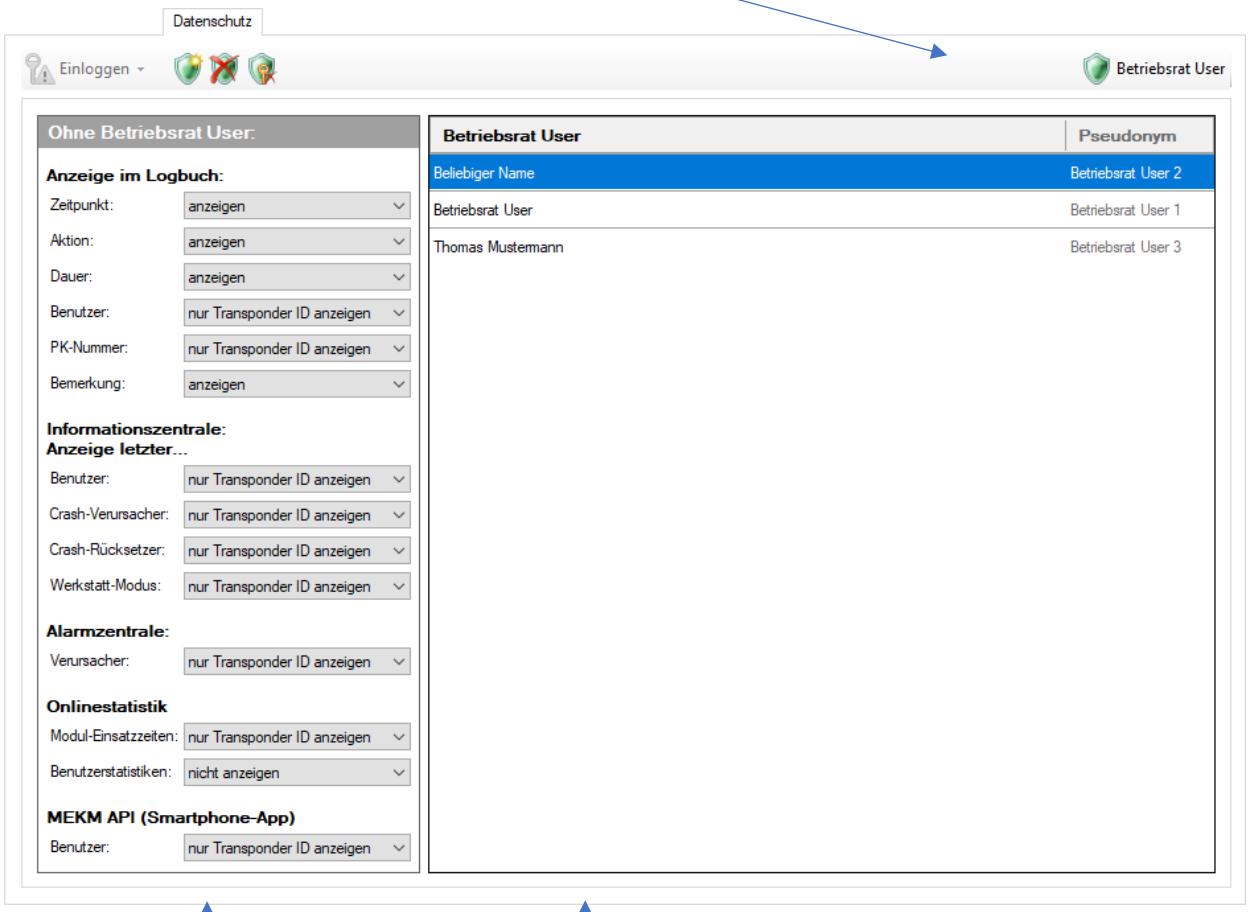
You are now logged in as a works council user and the password has been changed.

Note:
Note that the reset code is only valid for **12 hours.** During this time, the reset code is also displayed for each login attempt. However, you can still enter the original password if you remember it in the meantime. After the 12 hours have elapsed, the reset code field will disappear again.

Note:
Each time the reset code is entered incorrectly, the input is briefly locked. The lock starts with one second. With each further wrong entry, the lock will be one second longer. The maximum locking time is 60 seconds. After that, the locking period does not increase any further.

5.14.3.3 Data Protection (logged in)

After logging in, the user interface becomes active and in the upper right corner the currently logged in works council user account is displayed. (If the works council password has just been activated, nothing is displayed here)



The current configuration is shown on the left side (***without works council user***).

On the right all works council users are listed.

In the pseudonym column you can see the text that appears when the Mobile Easykey Manager is in service mode (see **5.1.2 Service Mode**) or an anonymized backup (see **5.1.3 Anonymised Backup**) was restored. If you have a problem with a particular works council user, please share this pseudonym with Mobile Easykey Service Staff.

Here you can now specify which data should be hidden and create additional works council users or change or delete existing ones.

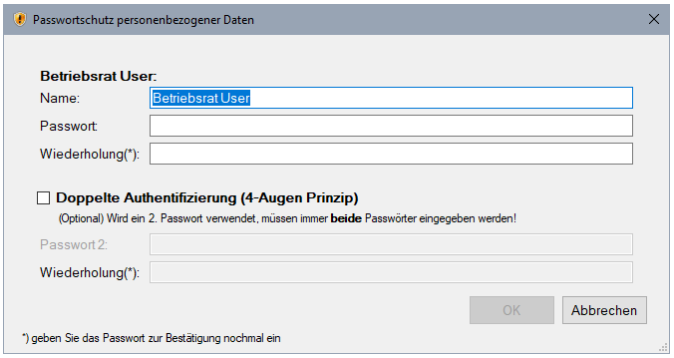
Note:
If operating rights are used (see **5.21 Software Operating Rights**) the operating rights apply first. Only if the display is allowed according to the current operating rights, the data will be displayed according to these settings (restricted or not at all). Therefore, the rights from operating rights **and** data protection are required.

5.14.3.4 Data Protection - Buttons

The buttons have following meanings:



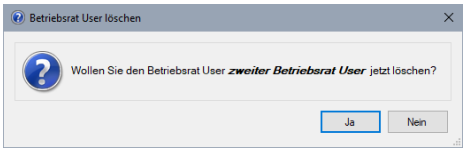
Add Works Council User.
Choose a name for the works council user and enter a password.



If desired, ***a double authentication (4-eyes principle)*** can be used. The works council user then gets two (different) passwords, which must always be entered both. These passwords can be e.g., be entered by two different people.



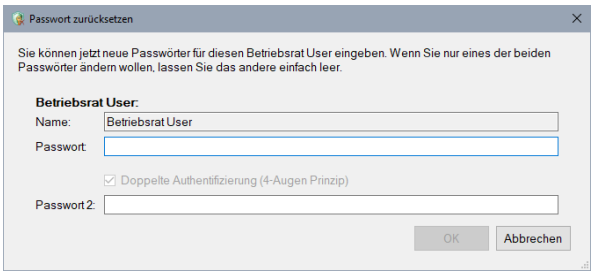
Delete Works Council User.
The currently selected (blue) works council user is deleted.



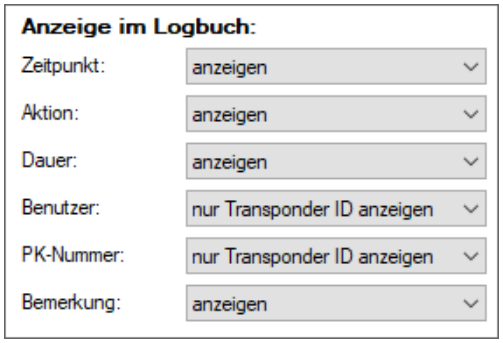
Attention: The works council user who is currently logged in (and displayed at the top right) cannot be deleted! Unless it is the last remaining works council user. In this case, the works council password is deactivated again by deleting the last work council user.



Reset/ Change Password
If a (different) works council user has forgotten his password, you can hereby assign a new password. You can also change your own password here. If two passwords have been assigned to the respective works council user, two password lines are displayed accordingly. If you only want to change one of the two passwords, just leave the other one empty.

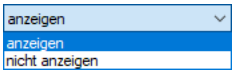


5.14.3.5 Data Protection – Display in Logbook



Here you can set for the specified columns whether or how the data should be displayed in the logbook, if no works council user is logged on. For the meaning of the individual columns, see chapter **5.5.12.5 The Columns in the Logbook**.

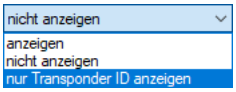
For the columns ***Time***, ***Action*** and ***Duration*** two settings are available:



Display: The information is displayed normally, even if no works council user is logged on.

Do not display: As long as no works council user is logged in, only the text << Data protection >> will be displayed.

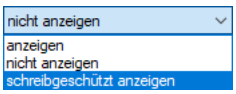
For the columns ***User*** and ***ID*** number, a third setting is available:



Only display transponder ID:

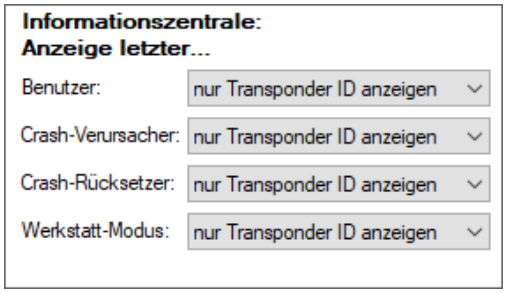
As long as no works council user is logged in, only the respective transponder ID is displayed (e.g., [0415015F5A]).

The column ***Comment*** can be additionally write-protected (read-only)



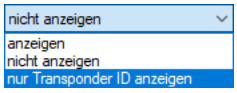
Display as read-only: Normally a comment can be entered in this column. With this setting, this remark can only be entered or edited, while a works council user is logged on.

5.14.3.6 Data Protection – In the Information Central Office



Here you can set how the columns are to be displayed in the Information central office (see **5.5.20 Information central office**) and the information window (see **5.5.20.4 Information Window**, if **no** council works user is logged in. For the meanings of the individual columns see chapter **5.5.20.3 The columns of the central information office**.

Three settings are available:

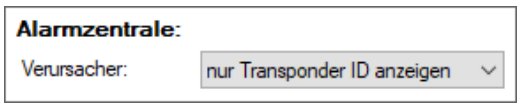


Display: The information is displayed normally, even if no works council user is logged in.

Do not display: As long as no works council user is logged in, only a blank page with the text << Data Protection >> is displayed. The statistics are not displayed!

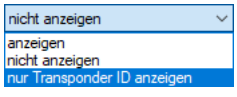
Only display Transponder ID: As long as no works council user is logged in, the statistics are displayed, but only with the respective transponder ID (e.g., [0415015F5A]).

5.14.3.7 Data Protection – in the Alarm Central Office



Here you can set if the „Causer“ should be displayed in the alarm control panel (see **5.5.22 Module-alarm central office**) if **no** works council user is logged in.

There are three settings available:

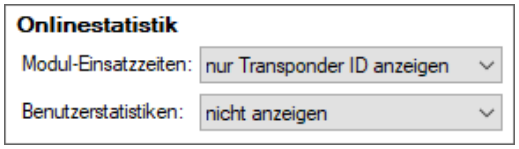


Display: The information is displayed normally, even if no works council user is logged in.

Do not display: As long as no works council user is logged in, only the text << Data protection>> will be displayed.

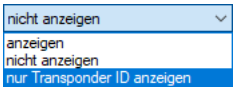
Only display Transponder ID: As long as no works council user is logged in, only the respective transponder ID is displayed (e.g., [0415015F5A])

5.14.3.8 Data Protection – In Online-Statistics



Here you can set whether and how user-related online statistics should be displayed if **no** works council user is logged on.

There are three settings available for the module statistics Operating Times (See **5.18.3.14 Operating**)

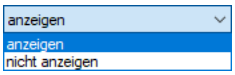


Display: The statistics are displayed normally and with all user names, even if no works council user is logged in.

Do not display: As long as no works council user is logged in, only a blank page with the text << Data Protection >> is displayed. The statistics are not displayed!

Only display Transponder ID: As long as no works council user is logged in, the statistics are displayed, but the bars are not labelled with the user names, but only with the respective transponder ID (e.g., [0415015F5A]).

For the statistics in the tab User (see **5.18.6 User-Statistics**) two settings are available:



Display: The statistics are displayed normally and with all user names, even if no works council user is logged in.

Do not display: As long as no works council user is logged in, only a blank page with the text << Data Protection >> is displayed. The statistics are not displayed!

5.14.3.9 Data Protection – In MEKM-API

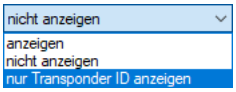


Here you can set whether and how user names should be displayed in the MEKM app (smartphone app).

Attention!

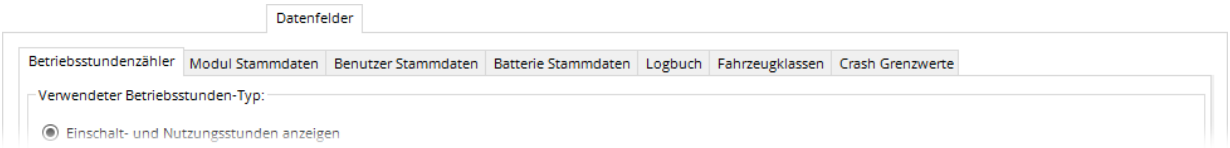
Since the MEKM app does not recognise a works council user, these settings **always** apply in the app.

There are three settings available for viewing users in the MEKM app:



Display:	Users are displayed normally with all usernames.
Do not display:	User names are generally not displayed. Instead, only the text << Data Protection >> will be displayed.
Only display Transponder ID:	User names are generally not displayed. Instead, only the respective transponder ID is displayed (e.g., 0415015F5A).

5.14.4 Data Fields



5.14.4.1 Operating time Counter

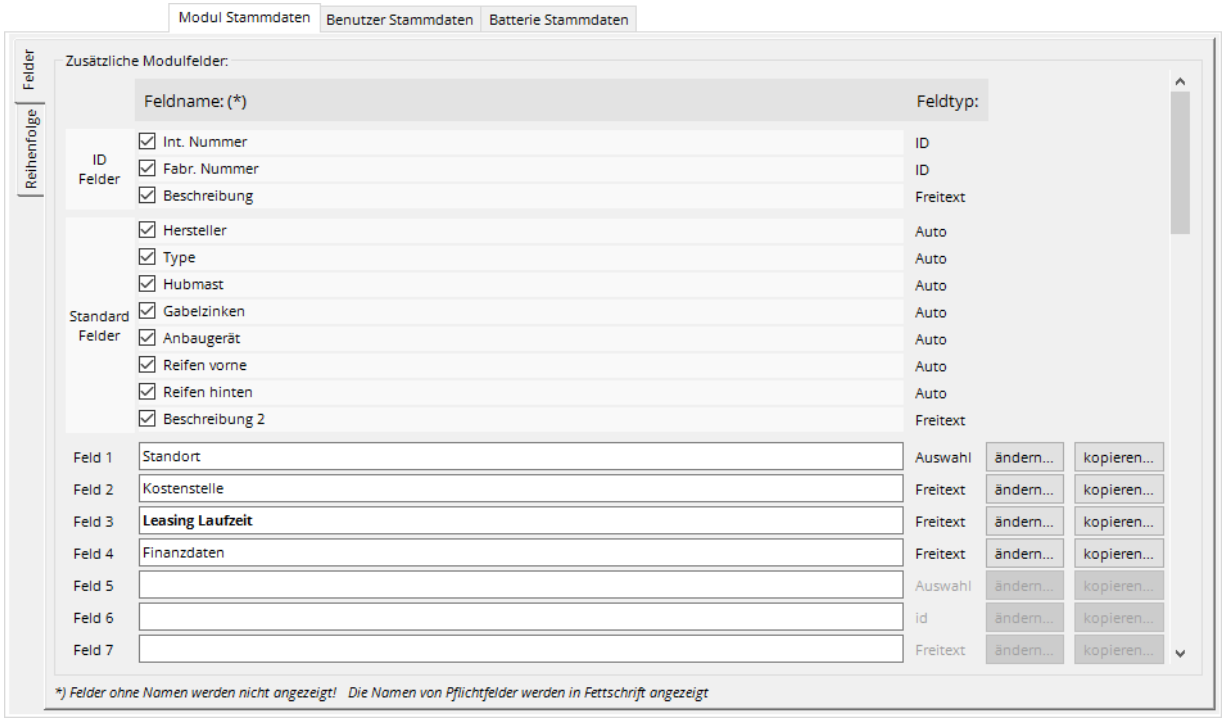


For operating hours, it is distinguished between so-called Cut-in hours (how long the module was logged in in the status) and operating hours (how long electricity was actually applied).
You can globally specify for the entire Manager, whether only the cut-in hours or only the operating hours or both should be displayed.

In addition, there are so-called application-specific counters, like a daily mileage counter. They count the same cut-in hours and operating hours like normal operating time counter; however, they can be put any time on any value. For example, a counter could be used as "the tyre counter" which is set (manually) on zero (null) after every tyre change.

Then the counters defined here are displayed in the window ***operating time counter*** as columns (see **5.5.13 Operating hours**) and can be set through the information central office (see **5.5.20.4.5 Read operating hours /set / create orders**).

5.14.4.2 Module-, User-, Battery Master data

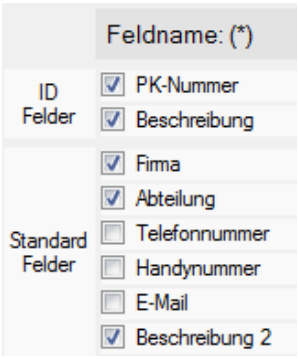


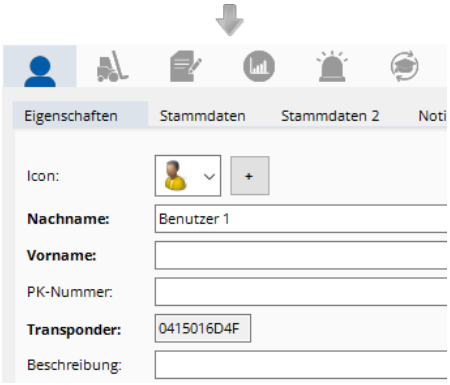
Some data can be recorded that are not relevant to the actual function of the program, but can be helpful in many cases. For users, **batteries**, and **modules,** some data can be collected that is not relevant to the actual function of the program, but is often helpful (**ID fields** and **Default fields**). In addition, up to 30 additional fields (**field 1 to field 30**) can be defined. For example, you can define a "Year of birth" field for the user's birthday or a "manufacturer" field for the manufacturer of a module / vehicle.

5.14.4.2.1 ID- and Default Fields

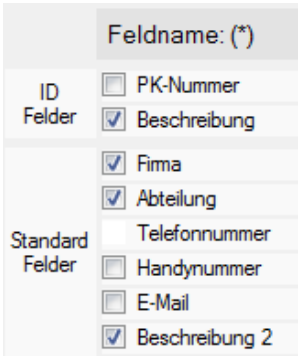
In the upper part individual ID fields and default fields can be individually displayed / or hidden. The program does not display hidden fields (where the checkmark is not set here).

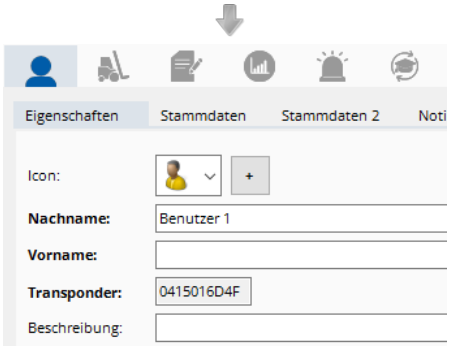
Example: Users with ID number:





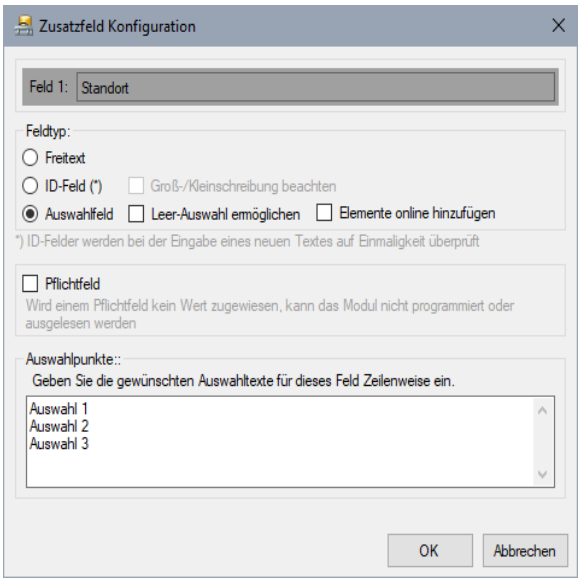
Example: Users without ID number:





5.14.4.2.2 Additional Fields

You can add an additional field by simply typing a name into the field (***field 1*** to ***field 60***).
The field is then displayed under this name, in the program in respective tab ***modules***, ***users*** or ***batteries***.

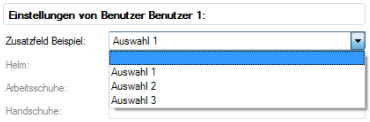


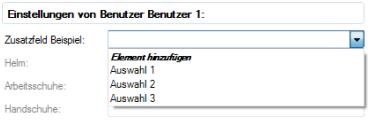
Click on the respective button to ***change*** the field type accordingly.

Such an additional field may have the following characteristics:

- ***Free text***
  You can enter any text (up to 40 characters long) into these fields**.**
- ***ID-field***
  You can also enter any text (up to 40 characters long) into these fields, but this text must be unique You cannot type the same text for two users in this field.
  In addition, you can set if case-sensitivity should be checked.
  Attention!
  Already entered texts are not checked during the conversion of the field type! A check only takes place when a new text is entered in the field**.**
- ***Selection field***
  For this field you can define a list of different texts. You can then assign one of these texts to each user.

  You can also specify if an ***empty-selection*** should be possible.





The option ***Add items online*** also displays the option Add item. After clicking on it, a free text can be entered. As long as at least one element of this free text is still assigned, this will be displayed for all other elements in the selection list.

- ***Mandatory field***
  You can make a master data field mandatory. A value must then be assigned to this field. If no value is assigned to the field, the corresponding object (module, user, battery) is considered invalid and is not programmed.
  As long as a required field has not yet been filled in, a red arrow will flash there as a reminder .

5.14.4.2.3 Copy Module Additional Fields

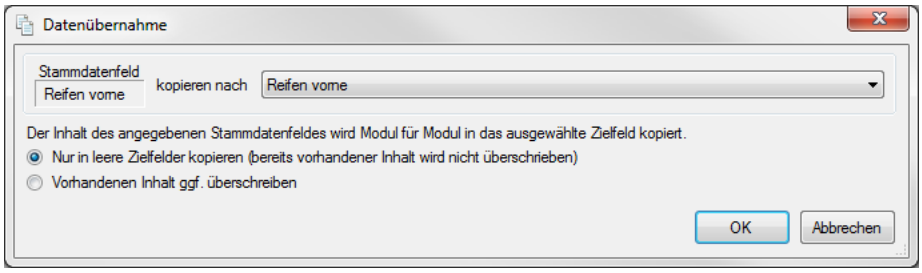
For the module master data, there is also the possibility to copy all contents of a master data field (i.e., the entered data of this one field) for all modules simultaneously) into another field.



This function is intended to facilitate the conversion to the new, predefined default fields (see **5.5.1.2 Settings of Module X, manufacturer – rear tires**).
For this, the additional **copy** button is displayed in each line.

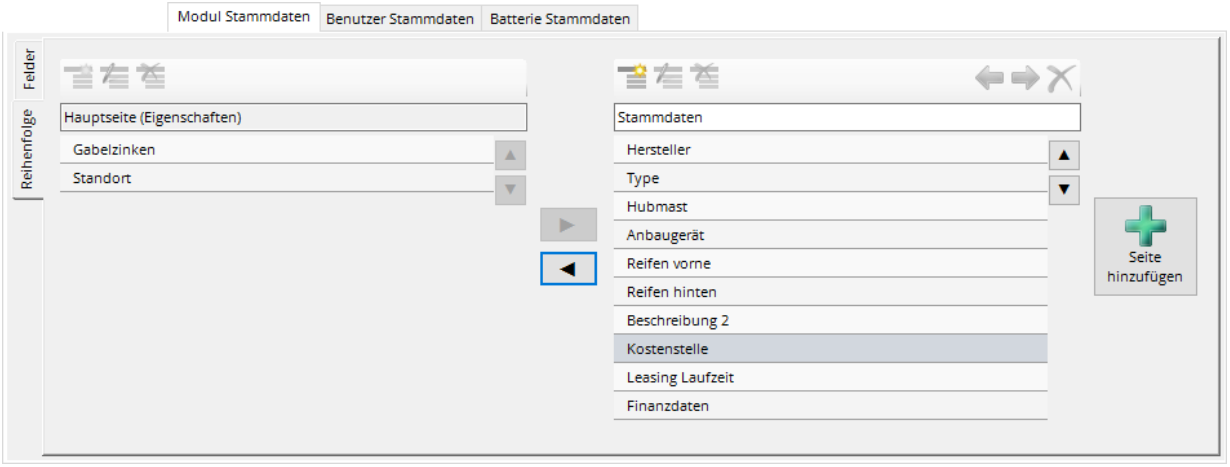
Attention!
Since the copying process extends over the entire database (with activated user rights, see **5.21 Software Operating Rights**) the copy buttons are only displayed for administrators!

Click the **Copy** button on the master data field to be copied.



The master data field is now preselected (left).
On the right, you can now select the target field.
By default, the content of the target field is override protected. If a text has already been entered in the target field for one or more modules, it is not overwritten.
In general, to copy all contents and overwrite existing values, select **override existing content** if necessary.
Click ***OK*** to start the copying process for this master data field.

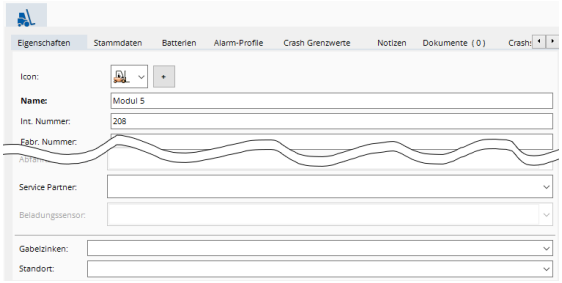
5.14.4.2.4 Sequence order



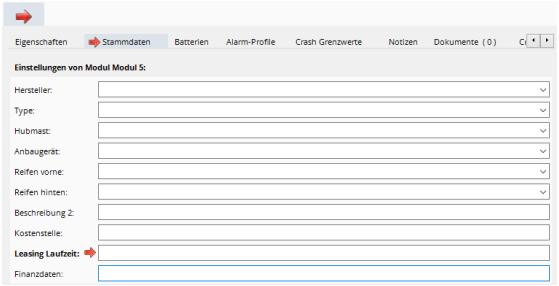
Finally, the order in which the individual ID standard and additional fields are to be displayed can be defined.

The fields can be distributed over several pages. The setting above corresponds to:

On the main page, where the respective name can be entered and essential configurations can be made:

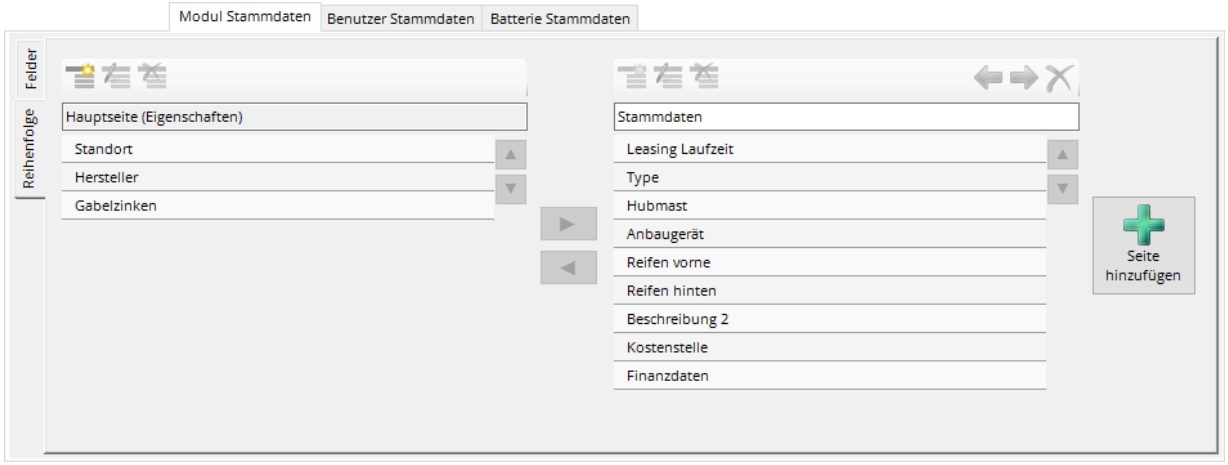


On the master data page for additional fields:



Use the ◄ and ► buttons to move individual fields between the two sides.
Use the ▼ and ▲ buttons to set the order within the page.

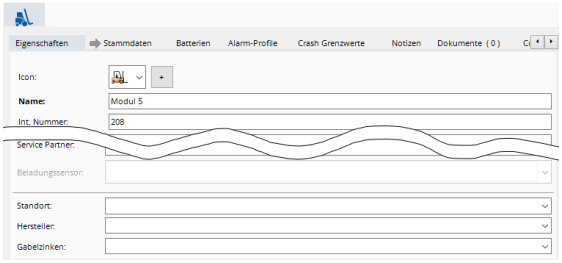
The configuration could e.g., have changed as follows:



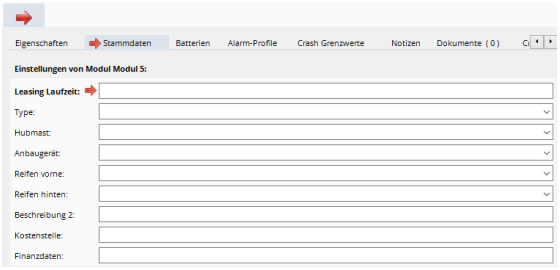
Note:
After changing the configuration, the database must be closed and reopened for the changes to take effect.

The display would now be as follows:

Main page:



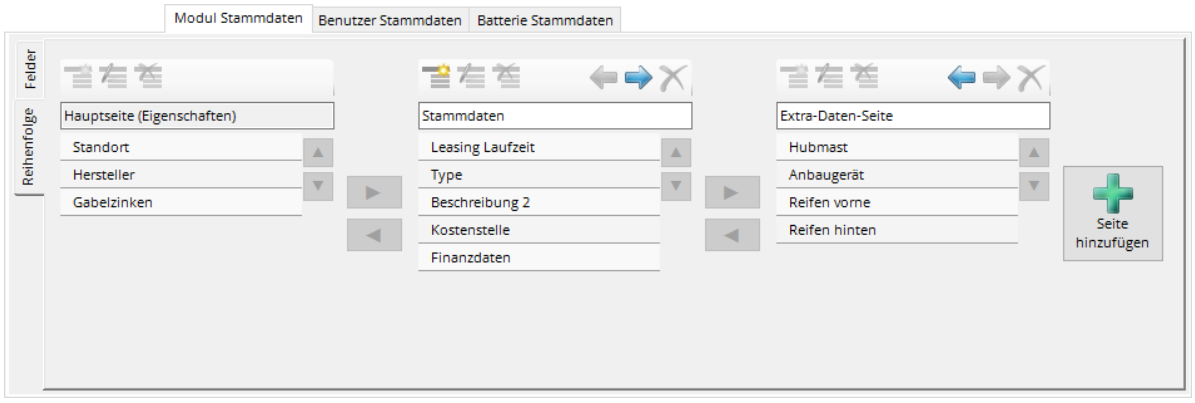
Master data:



5.14.4.2.5 Additional Master Data Pages

Additional master data pages can be added via the button .
The respective tab name is freely selectable

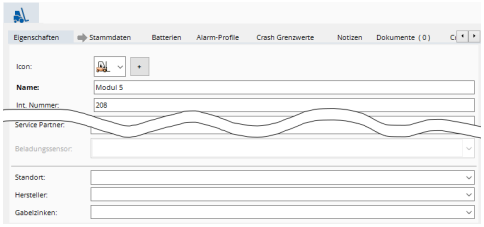
The fields could be distributed over 3 pages, e.g. as follows:



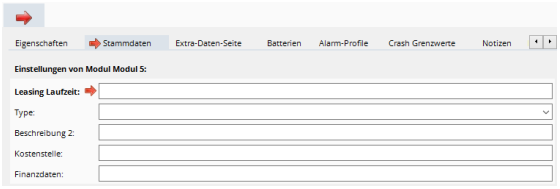
Note:
After changing the configuration, the database must be closed and reopened for the changes to take effect.

The display would now show as follows:

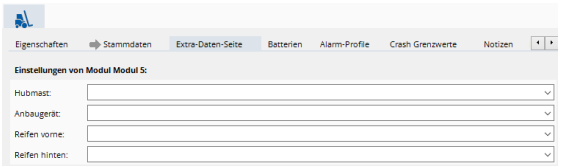
Main Page:



Master Data



Extra-Daten-Seite



Tip:
Via the buttons and the entire page can be moved to the right or to the left. The button can be used to remove a blank page.

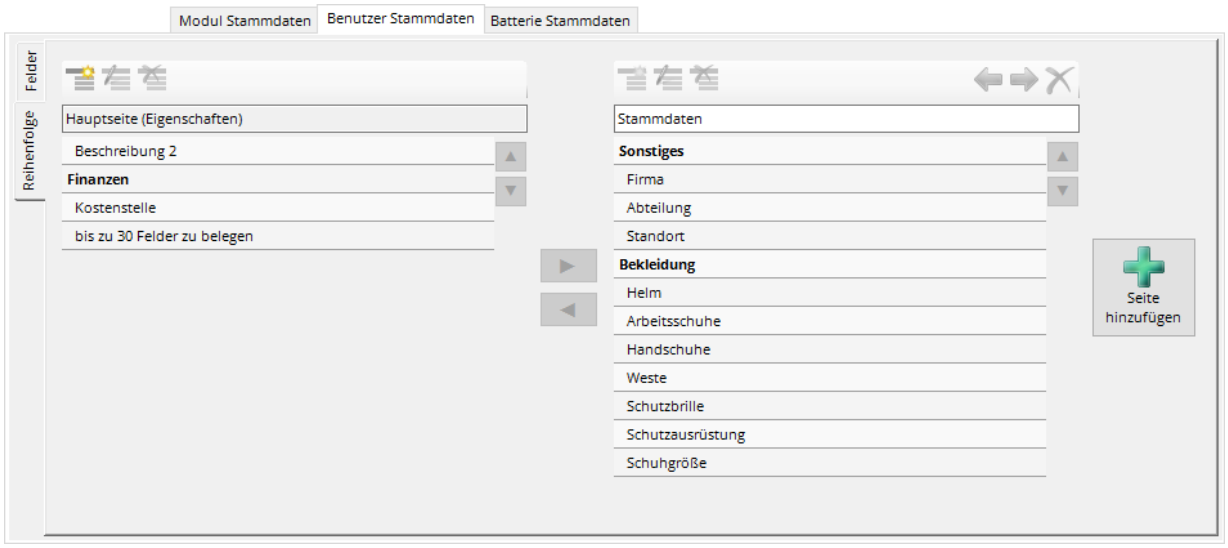
5.14.4.2.6 Master Data Groupings

Groupings can still be added within the respective pages.

Click the field in front of which you want to insert a grouping and click the button and enter a group name.

As long as a grouping is selected, you can use the button to change the group name or remove it using the grouping. With the buttons and the grouping can be moved up or down.

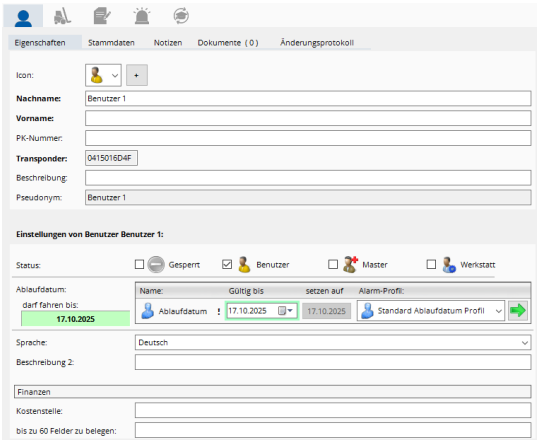
The configuration of user master data could be changed, for example. as follows:



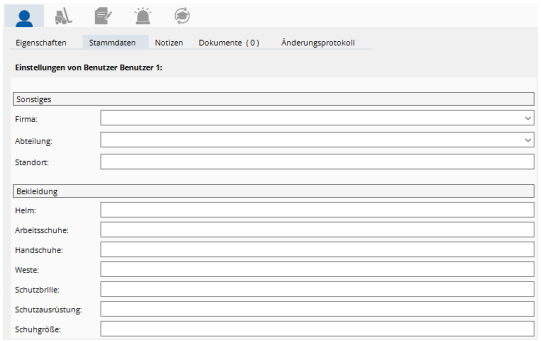
Note:
After changing the configuration, the database must be closed and reopened for the changes to take effect.

The display would now show as follows:

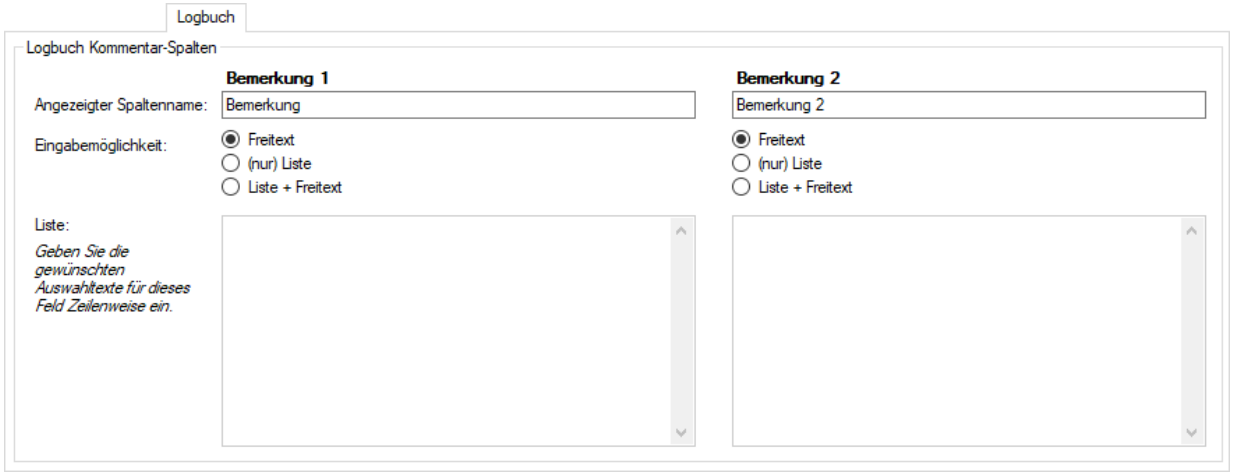
Main Page:



Master Data:



5.14.4.3 Logbook



Up to two comments can be entered in the logbook for each logbook entry (e.g., a description of a crash entry). See also **5.5.12.5 The Columns in the Logbook**.

Displayed column name

The column name of these two remark columns can be changed here.

Input options - free text

Usually you can simply enter any free text as a comment.

Input options – list (only)

The comments can also be restricted to a fixed list. Only one of the texts specified in the ***List*** can then be used as a comment.

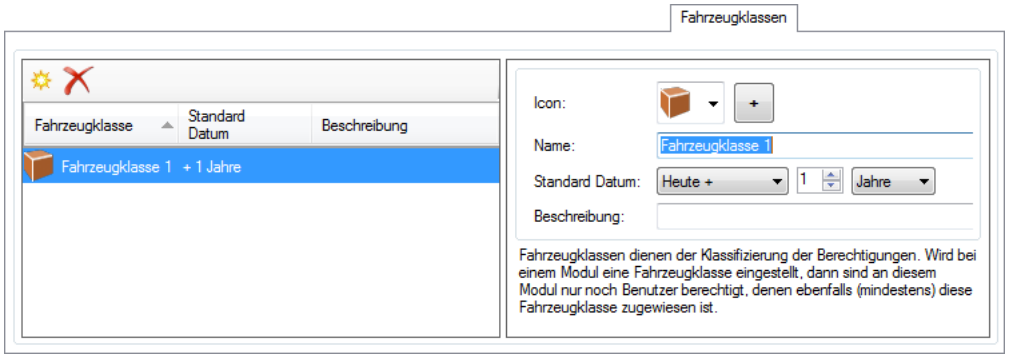
Input options - list + free text

Combines both options. On the one hand, one of the texts specified under ***List*** can be selected directly, on the other hand, any free text can be entered instead.

List

Enter the desired selection texts line by line here

5.14.4.4 Vehicle Classes



Vehicle classes are tools to check the driving authorisations.

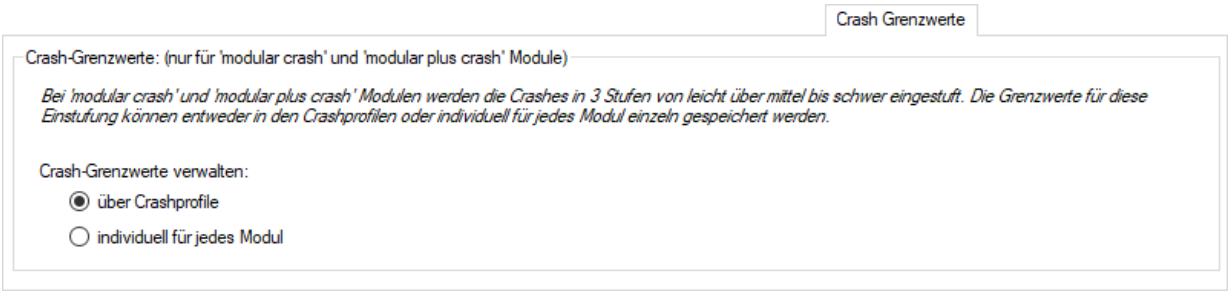
If a vehicle class is assigned to a module, only users who also own exactly this vehicle class may automatically log into the module!
Then it is not any longer sufficient that the user is assigned to the vehicle (see **5.5.10 Module-driving authorisations**, **5.5.11 Module group driving authorisations**, **5.6.6 User-driving authorisations** and **5.6.7 User groups-driving authorisations**).
Then the user needs the driving authorisation and the appropriate vehicle class.

By default, no vehicle classes are defined and the configuration of the vehicle classes it is not displayed. (**5.5.1.2 Settings of Module X *Vehicle classes*** and **5.6.1.2.3 Vehicle classes**)
You must first add at least one vehicle classes.
For this click on the ☼ button.

On the left you see a list of the vehicle classes. On the right side the different settings of the selected vehicle class are displayed.

- ***Icon***
  Here you can assign an icon or an image. See also **5.4.4 Icons**.
- ***Name***
  Enter the required name of the ***respective*** vehicle class.
- ***Standard date***
  If this vehicle class is assigned to a specific user, this is automatically only valid (for this user) for a certain time! The user receives an expiry date for this one vehicle class.
  Here you can enter which date will be assigned by default.
- ***Description***
  Here a description or another any text can be entered for this vehicle class.

5.14.4.5 Crash Limits



Here you can set whether these limits for light, medium and heavy crashes are entered directly in the respective crash + remote profile (see **5.9.4 crash+remote profile**) or be enters for each module individually in the tab Modules (see **5.5.5 Crash-Limits**).

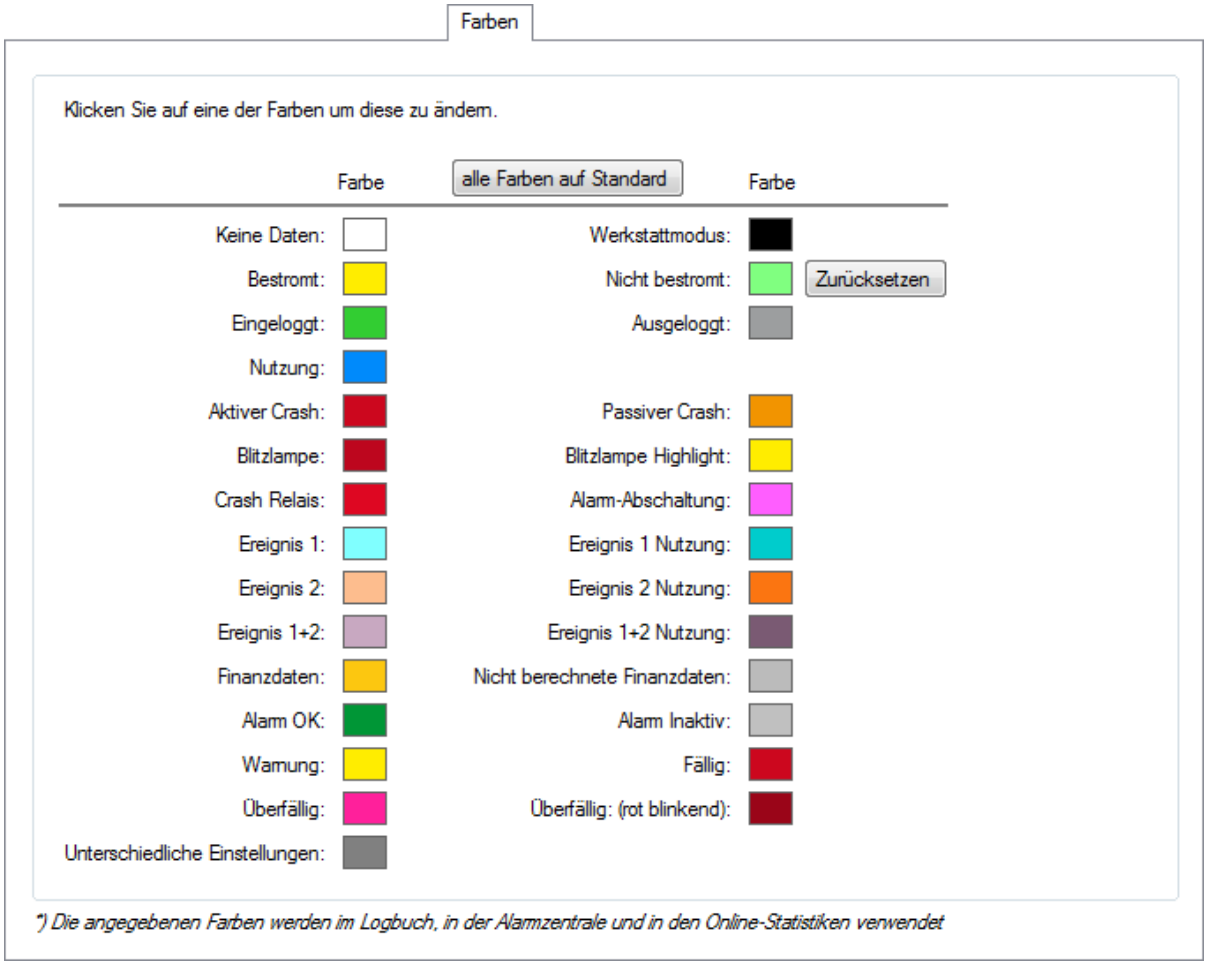
For modules with **crash+remote sensor** (**modular crash+remote** and **modular plus crash**), the sensitivity of the crash sensor for light, medium and heavy crashes is set electronically.

- ***About Crash profile***
  All modules that use the respective crash profile then have the same limit values. This setting is useful e.g., for large fleets of identical vehicles, where an individual limit value cannot or must not be captured for each vehicle.
- ***Individually for each module***
  If the conditions for the vehicles are often different (different vehicle types or different hall floors etc.) or you want to optimise the limit values individually for each vehicle, then select this setting.

Attention:
When switching to individual limit values, existing limit values are automatically set for each module based on the limit values previously stored in the profile.

In the reverse case, however, this is not possible! After changing to profile limits, you should immediately check all limits.

5.14.5 Colours



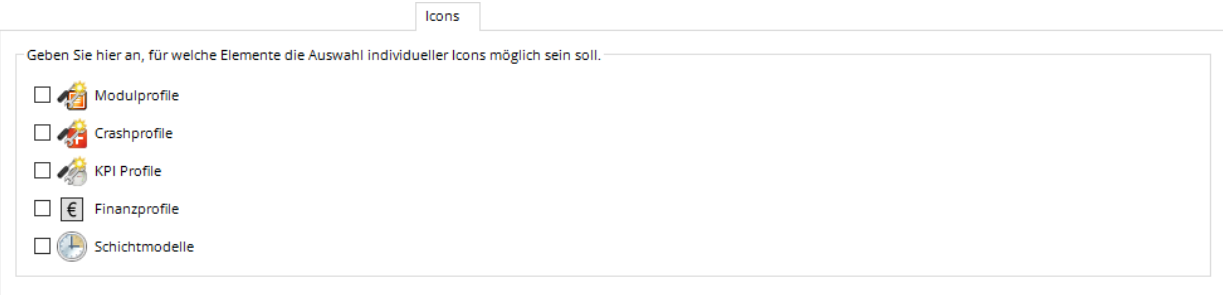
Within Mobile Easykey Manager always the same colours are used for the same (identical) processes. Thus, yellow is always used for the status *Powered*, (accordingly the yellow LED in the module) – no matter whether in the display of the logbook data or in the statistics.

However, each of these colours can also be changed individually.

With a click ***on reset to standard colour*** the original colour can be selected again.

With a click on ***all colours on standard*** all (changed) colours are set back to the standard colours accordingly.

5.14.6 Icons

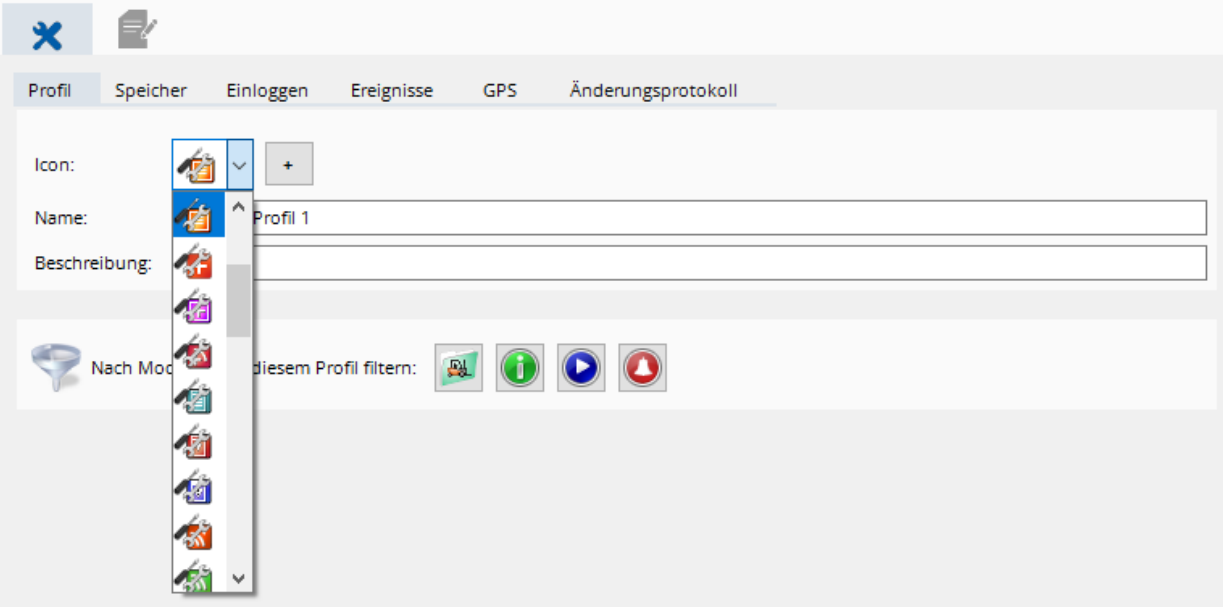


Here you can specify whether an individual icon can be assigned for each profile (see **5.9 Profile**). By default, the icon of the respective profile type is displayed there.

Example: Crash profile with default setting (no individual icons)

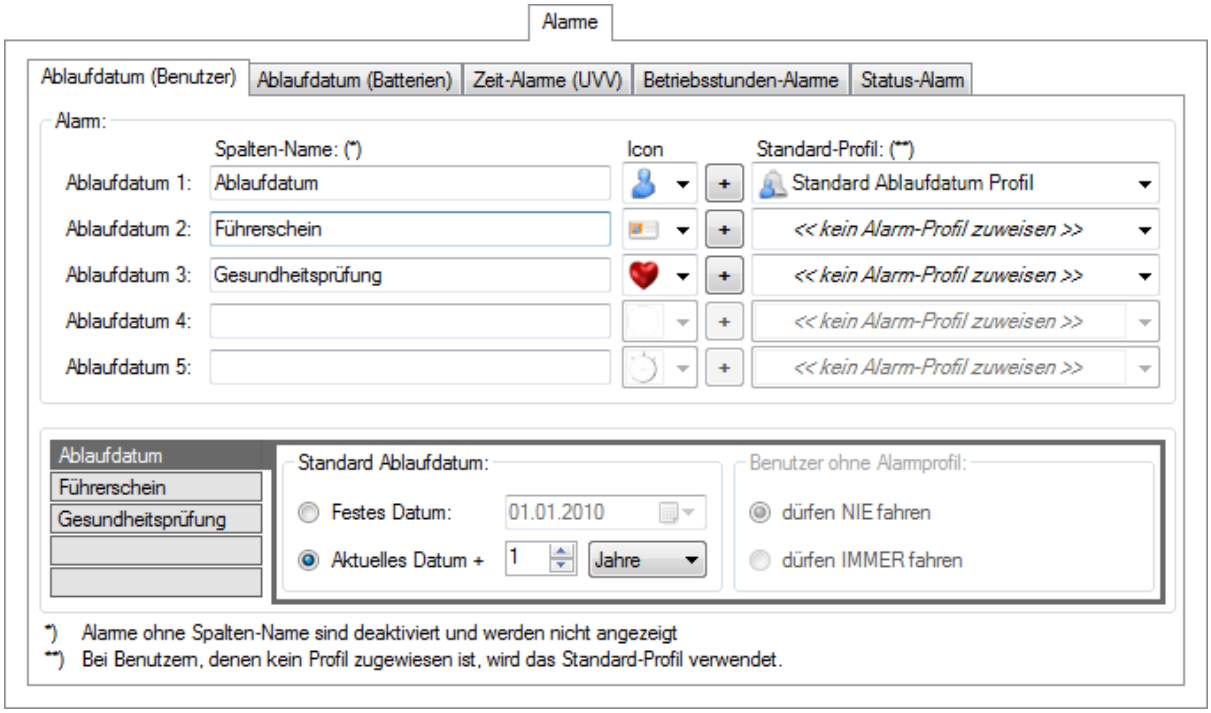


Example: Module profile with individual icons



5.14.7 Alarms

5.14.7.1 Expiry date User



For every user, up to five expiry dates can be associated. With achievement of one of these expiry dates an alarm can be triggered. It can be determined to revoke the authorisation for a user to log on or off the module.

At this point you can decide how many expiry dates you want to use, by assigning a column name to the respective expiry date. Within Mobile Easykey Manager only expiry dates are displayed and used to which a name is assigned.

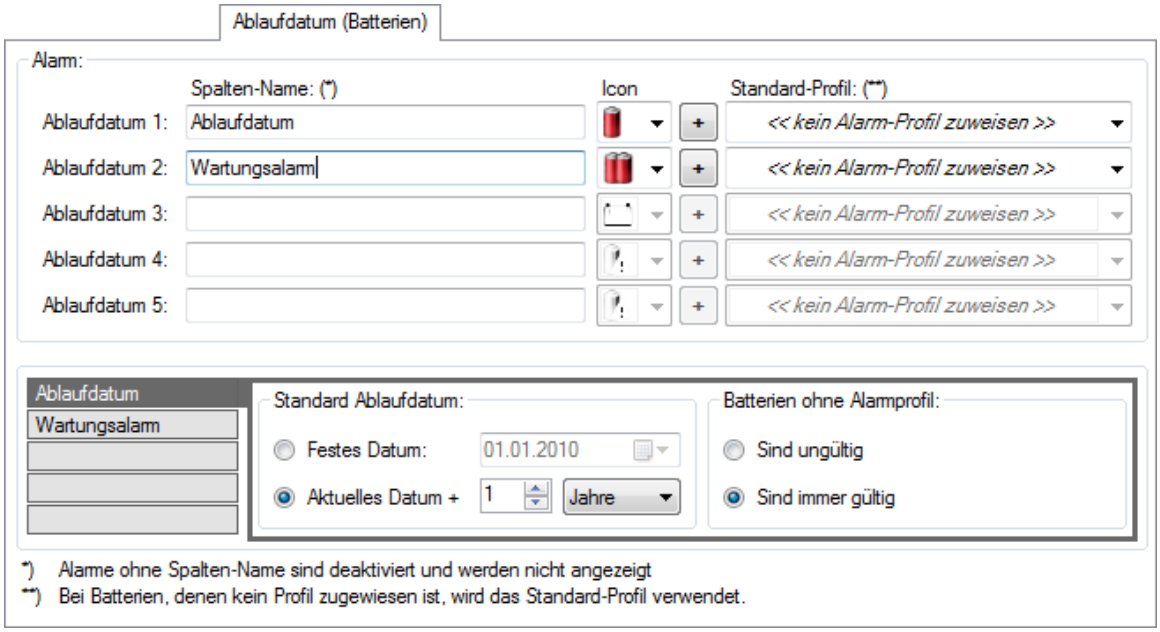
Moreover, you can assign an icon to the expiry date which is used in the alarm central office to display alarms of this expiry date (see **5.5.22 Module-alarm central office**). Click on button + if to want to add individual icons.

For every expiry date a standard profile can be (see **5.10.4.3 Expiry date Alarms**) assigned. If no alarm profile is assigned to a user for the respective expiry date (see **5.6.1 User properties**), the standard profile set here is used. At the same time an expiry date profile must be assigned to each user if the standard-expiry date profile is used. If no standard-expiry date profile is used, also *no* alarm profile can be assigned to a user. In this case it can be specified whether the users to whom no alarm profile was assigned, generally ***NEVER drive*** (log in and log off a module). If the option ***always drive*** is selected, a user is always allowed to do log in and log off without an alarm profile, provided he has authorisation to all the other expiry dates. (See also **5.10.4.3 Expiry date Alarms**)

Last, the standard expiry date can be specified, which is given in general if a new user is added.

Click on the name of the respective expiry date on the left beside these settings, to display or to change the standard expiry date and the driving authorisation of the users, without alarm profile for the respective expiry date.

5.14.7.2 Battery-Expiry Date



Every battery can be associated with up to five expiry dates. With achievement of one of these expiry dates an alarm can be triggered. It can be chosen if a battery is not authorised any more to activate a module after being newly powered.

At this point you can decide how many expiry dates you want to use, by assigning a column name to the respective expiry date. Within Mobile Easykey Manager only expiry dates are displayed and used to which a name is assigned

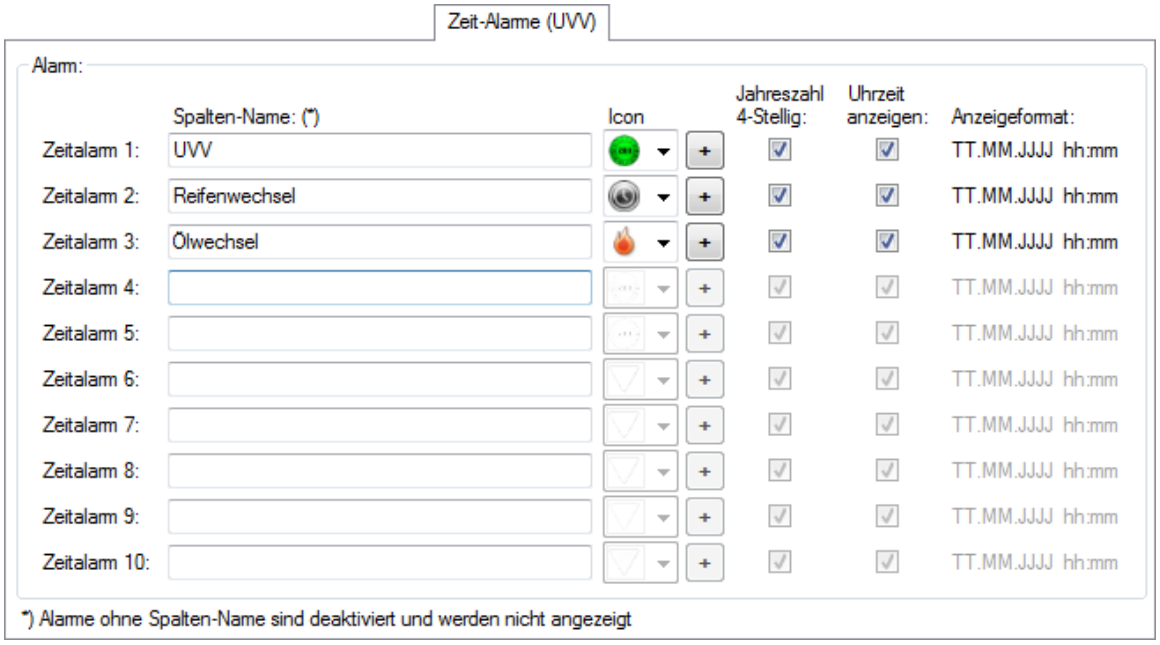
Moreover, you can assign an icon to the expiry date which is used in the alarm central office (see **5.5.22 Module-alarm central office**) to display alarms of this expiry date. Click on button + if to want to add individual icons.

For every expiry date a standard profile can be (see **5.10.4.3 Expiry date Alarms**) assigned. If no alarm profile is assigned to a battery for the respective expiry date (see **5.8.1 Battery properties**), the standard profile set here, is used. At the same time an expiry date profile must be assigned to each battery if the standard-expiry date profile is used. If no standard-expiry date profile is used, *no* alarm profile can be assigned to a battery.

Last, the standard expiry date can be specified, which is given in general if a new user is added.

Click on the name of the respective expiry date on the left beside these settings, to display or to change the standard expiry date and the driving authorisation of the users, without alarm profile for the respective expiry date.

5.14.7.3 Time Alarms (UVV)



The UVV alarms represent an appointment (date) in a calendar. For every single module up to 20 such dates can be defined. If this appointment becomes due, an alarm (see is able also **5.5.22 Module-alarm central office**) is triggered. For further information please refer to chapter **5.5.20.4.8 Time Alarm**.
Here you can define how many dates should be used. Name the respective alarms. This name is also displayed in the information central office (see **5.5.20 Information central office**) and the alarm central office (**5.5.22 Module-alarm central office**).
You can also define with which icon and which date format (annual number 2-or 4 digits and or without time) the appointments are displayed in the information central office or alarm central office.

5.14.7.4 Operating Hours-Alarms

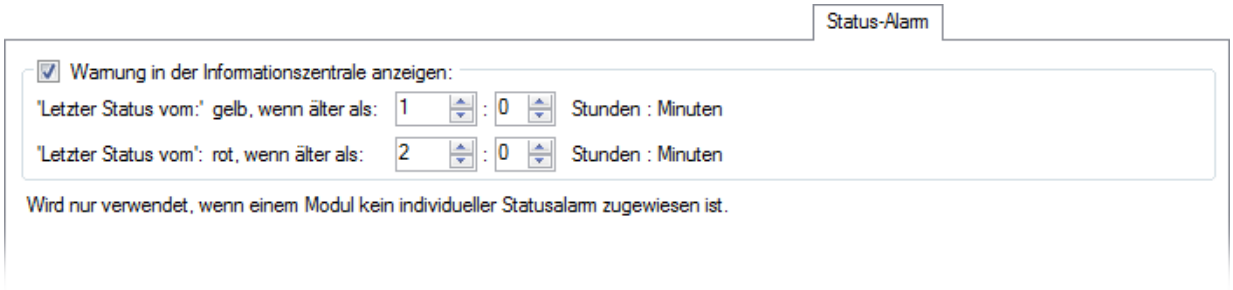


The operating hours alarms refer to the Cut-in- or Usage Hours (depending on the operating hours type). The modules can then be assigned a corresponding alarm profile for each of the operating hours alarms defined here **5.5.4 Alarm profiles**). In the Information central office (see **5.5.20 Information central office**) an alarm value can be set for each module and for each of these operating hour alarms (if an alarm profile is also assigned).

If this Cut-in- or Usage hours counter reading is reached, the alarm **5.5.22 Module-alarm central office**) is triggered. For further information see Chapter **5.5.20.4.7 Operating Hours Alarm**.

You can set up to 10 operating hours alarms here. I.e., up to 10 alarm values per module can be defined.
An operating hours alarm is active as soon as a name is assigned to it.
Also, the icon displayed in the alarm module for this alarm can be set.
Finally, it must be determined whether this alarm should refer to Cut in- or Usage hours.

5.14.7.5 Status Alarm



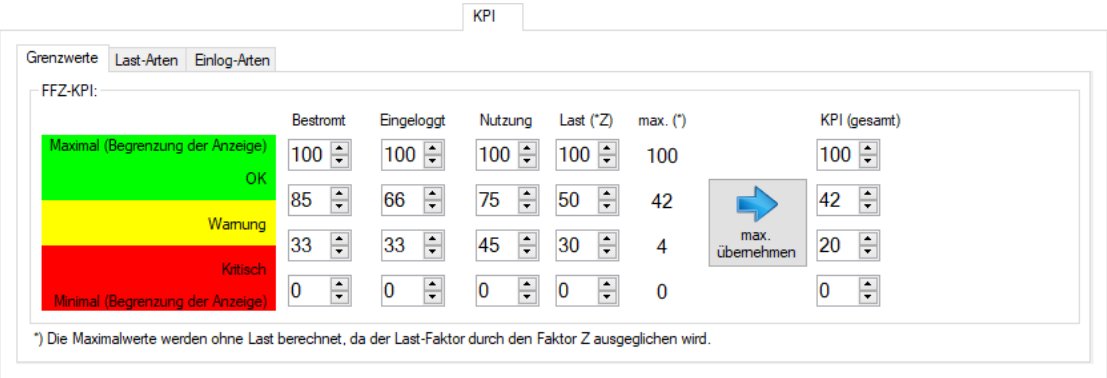
In the information central office (see **5.5.20 Information central office**) the last known status (e.g., crash) of every vehicle is displayed. In addition, the date and time of this status is shown. To be able to recognise immediately, when this status has become outdated, (because the module was not accessible for a longer period of time), the date can be colour highlighted.

Attention!
The global status alarm is only active if this module has not been assigned its own individual status alarm (see **5.5.4 Alarm profiles** and **5.10.2.4 Status-Alarm**).

5.14.8 KPI

For KPI general information, see chapter **5.5.24 KPI**.

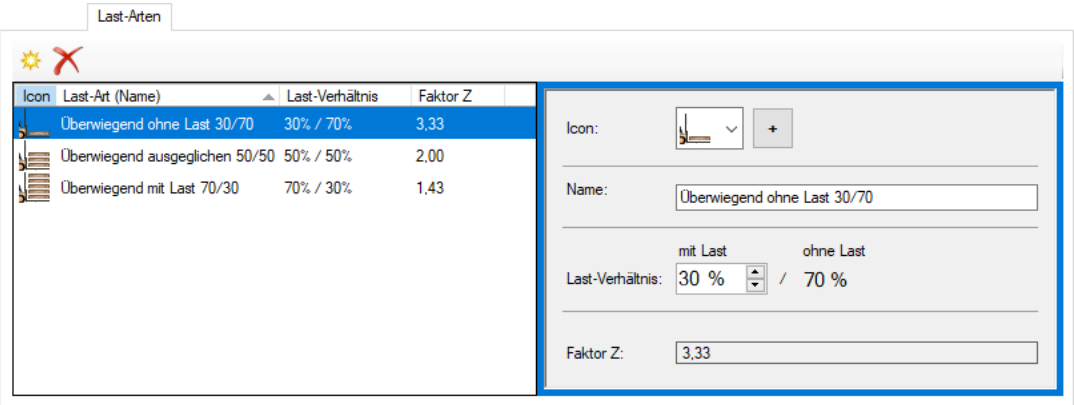
5.14.8.1 KPI Limits



These KPI limits apply if a module is not assigned a KPI profile **5.9.5 KPI Limit-Profile**).

Typically, each module is automatically assigned a KPI profile. However, if this KPI profile is deleted, the module is no longer assigned a KPI profile and this global setting is used.

5.14.8.2 Load Types

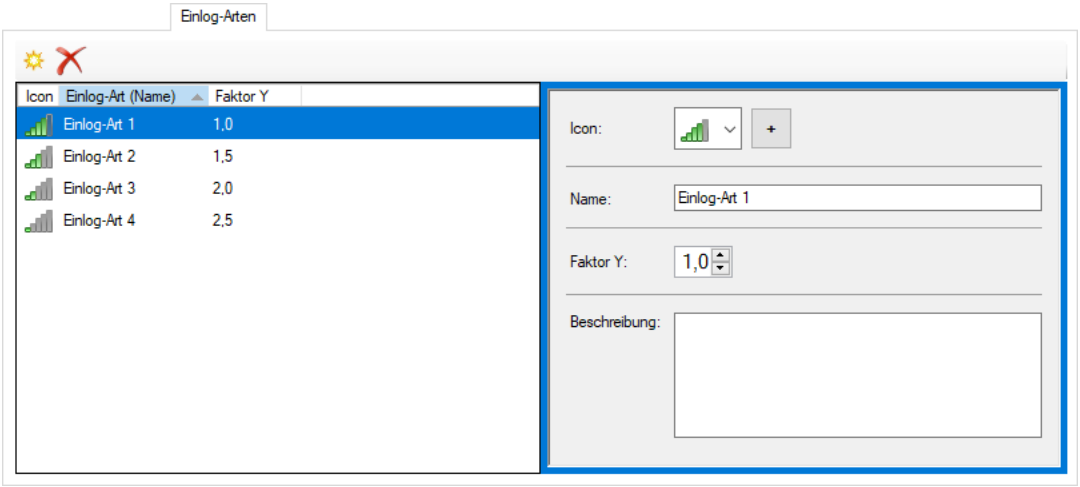


The different load types can be defined here. The 3 load types: Mostly without load 30/70, Mostly balanced 50/50 and mostly with load 70/30 are preconfigured when the database is created. However, you can change these load-types as you wish, delete them ( ) or add new load types ( ).

If a load-type is deleted that is still assigned to a module, no load-type is subsequently assigned to this module. If no load-type is assigned to a module, the load-type 50/50 always applies, i.e., the factor Z = 2.

By specifying how much is typically driven with load for this type of load, the associated factor Z is automatically calculated and stored. Further information on factor Z can be found in chapter **5.5.24.3 Load type (factor Z)**.

5.14.8.3 Log in Types

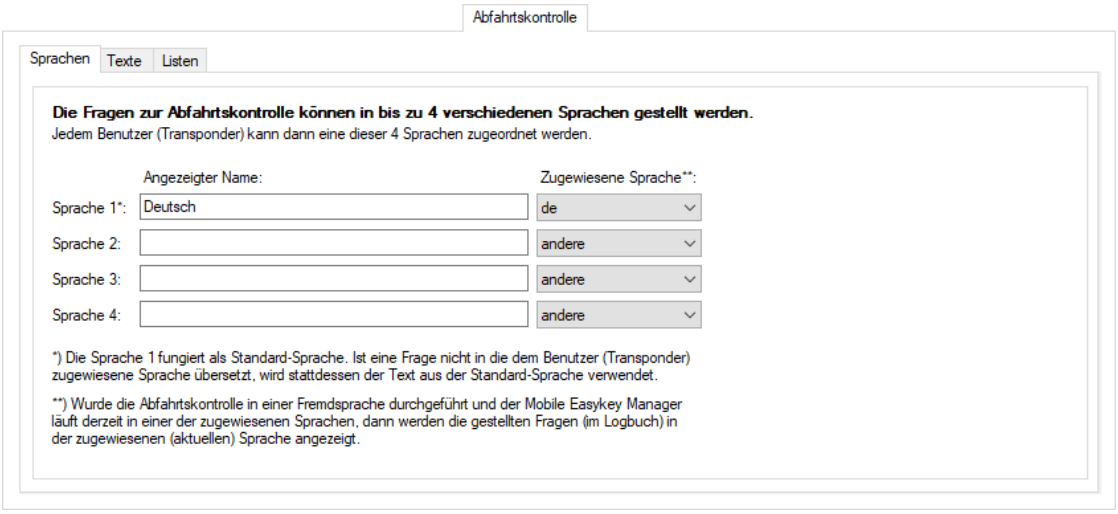


The different types of log-in can be defined here.
By default, **no login-types** are stored, which means that the login-type is **not displayed** in the module configuration (see **5.5.1.2 Settings of Module X**).

Use the buttons to add a new login-type or to delete an existing login type.
If a log-in-type is deleted that is still assigned to a module, no login-type is subsequently assigned to this module.
If no log in-type is assigned to a module, the factor Y = 1 always applies.

You can assign a factor Y between 1.0 and 2.5 to each log in-type. The respective log in-KPI (and thus also the overall-KPI) is multiplied by this factor Y. Further information on factor Y can be found in chapter **5.5.24.2 Log in type (factor Y)**.

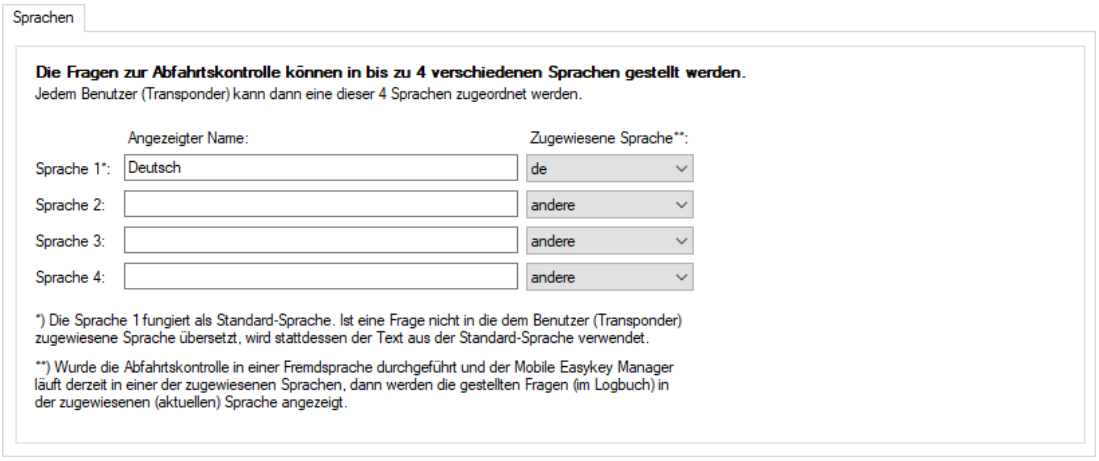
5.14.9 Departure Control



The aim of the departure control is a simple, fast and safe compliance with the accident prevention regulations.

The daily check includes a visual inspection and a functional test. The essential components are inspected and tested: body, drive, steering, electrics, electronics, mechanics and hydraulics, driver's cabin and workplace. The effort is only a few minutes. But it's worth it. On the one hand, it largely avoids the operation of a defective forklift. And on the other hand, a daily check also helps to detect signs of wear and tear early and to prevent expensive failures of the industrial trucks through preventive maintenance.

5.14.9.1 Languages



The check lists (see **5.14.9.3 List**) should be displayed in the language of the respective user to avoid misunderstandings. The language is assigned to the users (see **5.6.1.2.5 Other data**) and recognised by the transponder. When a user logs in with his transponder it is recognised in which language the departure control should be executed if necessary.

Displayed name

Up to 4 languages can be defined. Simply enter the names of the desired languages under ***Displayed Name***

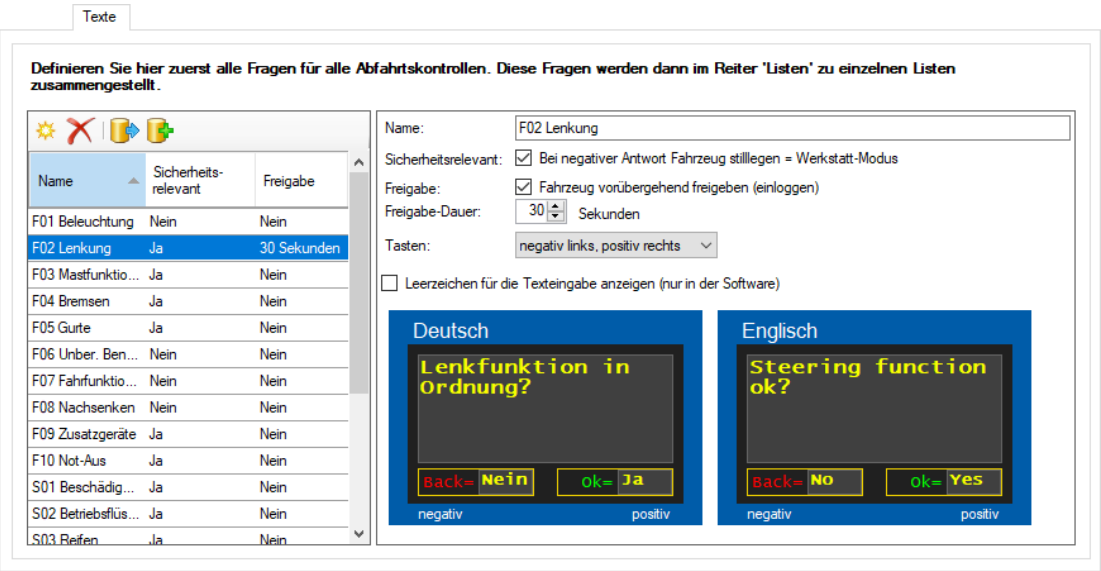
Assigned language

You can assign an Easykey internal language to the languages. This refers to one of the languages in which the Mobile Easykey Manager is translated to (see **5.3.5.5 Language**).

If the texts of a departure control are displayed (see **5.5.12.8 Display Departure Control** and **5.5.22.3 Display Departure Control**) the language in which the Mobile Easykey Manager is currently running can be automatically selected.

For languages in which the Mobile Easykey Manager has not yet been translated to, specify ***Others***. In this case, the preselected language is selected as the one in which the departure control actually took place.

5.14.9.2 Texts



In this tab all questions of the departure control are collected. Lists are compiled from these individual questions (texts), which may contain some or all of these texts (see next chapter **5.14.9.3 List**).

Some texts may already exist by default.

Click on the button to add a new text or select an existing text in the list on the left

With the button you can delete an existing text.

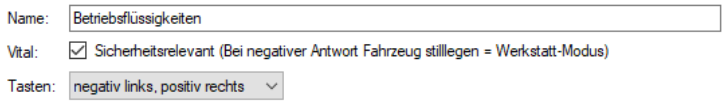
The button can be used to export the existing texts into a csv file. The texts are always exported in a uniform format in all 4 languages, even if fewer than 4 languages are used.

The button can be used to import texts from a csv file. The format of the text file must correspond exactly with the given format! An example of the required format can be obtained by exporting the existing texts.

Attention!

Always all texts contained in the csv file are always imported! Even if they already exist!

5.14.9.2.1 Properties of Text



Name

Enter a brief name for this text. Under this name the text will be listed within the lists. See **5.14.9.3 List**.

Safety-relevant

Indicate here whether the positive answer to this question is relevant to safety (vital). If a question marked vital is negatively answered during the departure check, the module is then automatically put into workshop mode! See **5.5.23.8 Workshop** .

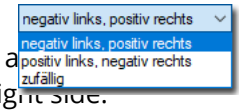
Release - Release vehicle temporarily (log in)

If a release (login) is required to answer the question asked, the module can be temporarily logged in with this option. As soon as this question is asked, the module is automatically logged in for a short time.

Release- Duration

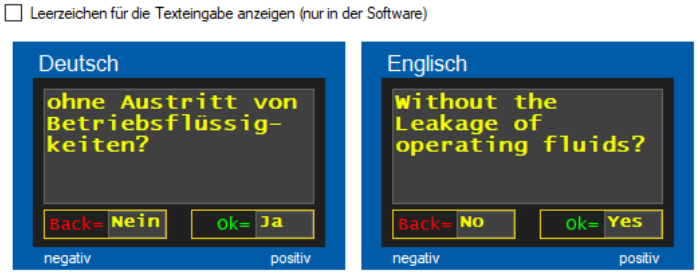
Here it is indicated how long the module remains unlocked at most. If the question is not answered within this time, it is considered negative.

Buttons



Negative left, positive right	The negative-button (vehicle is not in order) is a[illegible] the left. The positive-button is always on the right side.
positive left, negative right	The positive-button is always shown on the left, the negative-button always on the right side.
randomly	The buttons are randomly arranged. This is to avoid that the departure control can be easily bypassed by constantly pressing the same key.

5.14.9.2.2 Input Text



Depending on how many languages (see **5.14.9.1 Languages**) have been entered, one to four boxes are displayed in which the text of the respective question is entered in the respective language.

Just click on the text in the box to change it.

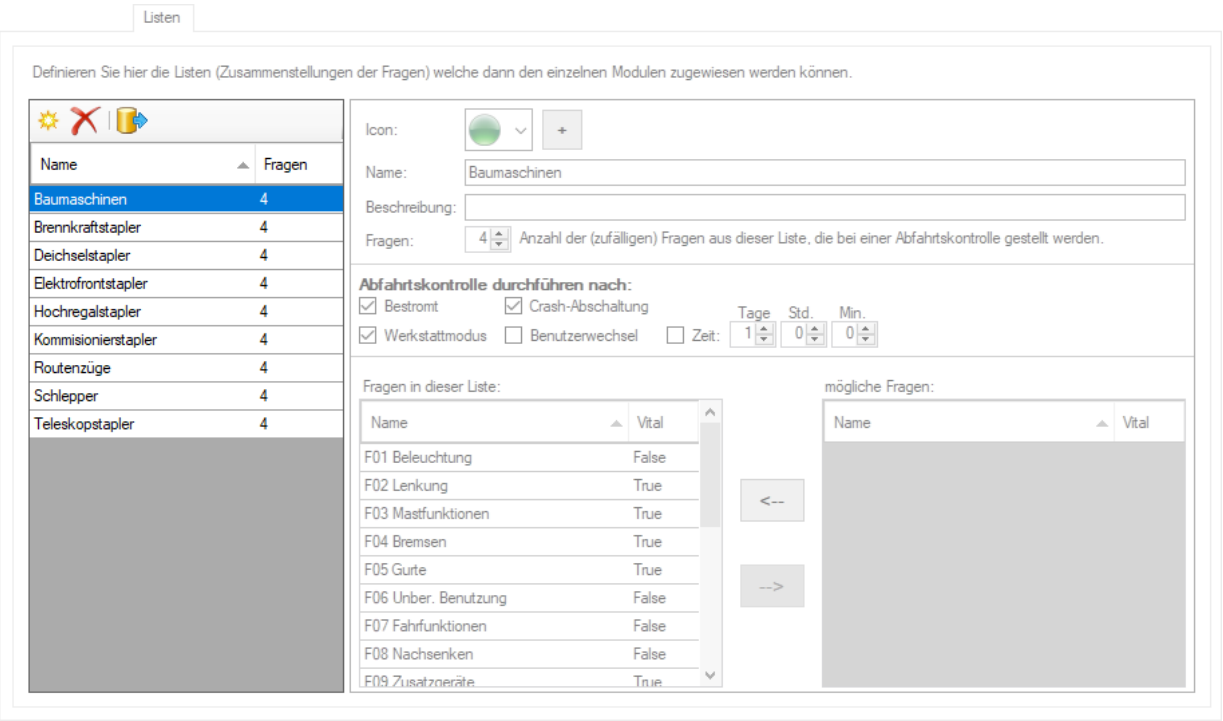
The display behaves in the same way as the text is displayed during the departure check.

With the ***Show spaces for text input*** option, the space can be displayed as a dot to better format the text. On the hardware (during departure control) a real space will be displayed anyway).

The respective answers are also entered individually for each text.

A positive answer is always the answer, where everything is fine.

5.14.9.3 Lists



Depending on the type of vehicle, some of the defined texts may be irrelevant (electric forklifts, for example, do not require cooling water for the engine, and for internal combustion engines, no battery level is required).

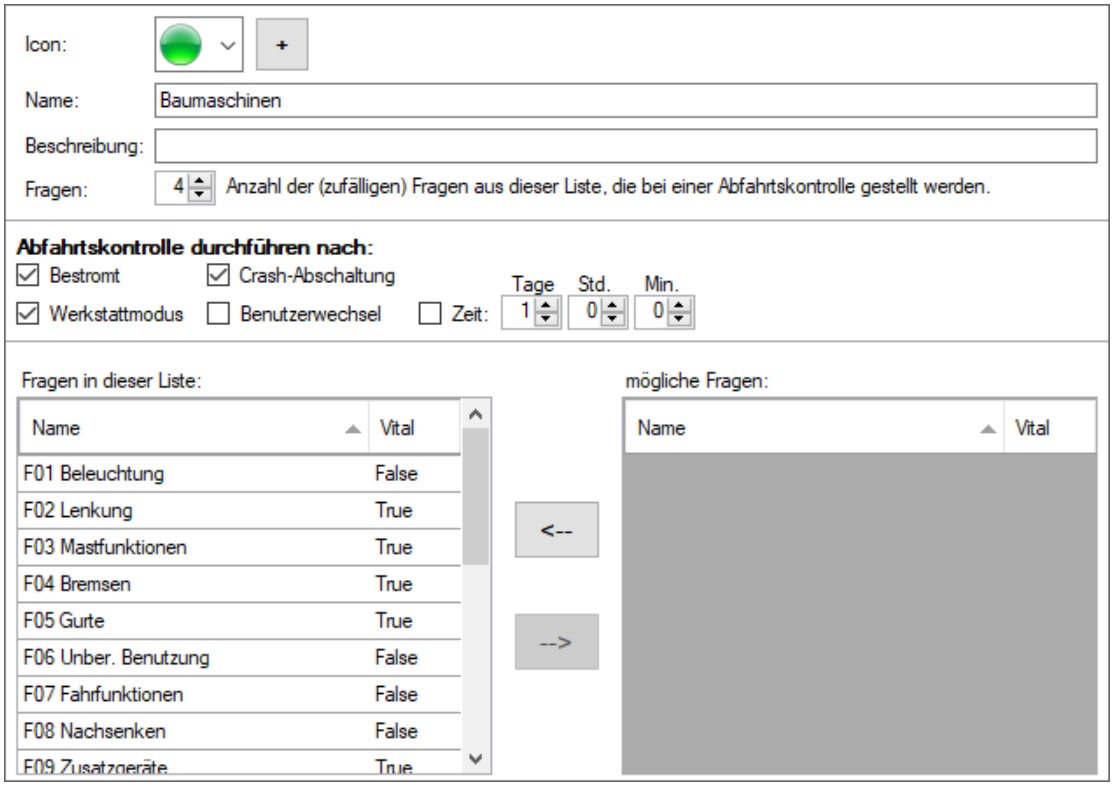
Therefore, different lists can be put together here, which will then be assigned to the individual vehicles (modules) (see **5.5.1.2 Settings of Module X**).

Click on ☼ to add a new list or select an existing list on the left side.

With button ✕ you can delete existing lists.

For documentation purposes the lists can also be exported with button . See chapter **5.14.9.3.2 Export**.

5.14.9.3.1 Properties In Lists



- ***Icon***
  Here you can assign an Icon to the list. See also **5.4.4 Icons**.
- ***Name***
  Name the list. Under this name the list will be assigned to the modules (see **5.5.1.2 Settings of Module X**).
- ***Description***
  Here a description or any other text can be entered for this list.
- ***Questions***
  At departure control not all possible questions have to be asked. You can specify how many questions you want to ask. The ***x*** questions are randomly selected from the list of questions in the list (displayed in the ***Questions area*** of this list) during the departure control and randomly placed.

Tip:
Set the number of questions to 0 to deactivate the list (temporarily). For modules, where the list is assigned with 0 questions the departure control is deactivated.

- ***Carry out departure check after***
  Set here when or under which conditions (see chapter **5.5.23 Module status** a departure check should take place. Multiple selection is possible. The departure check then takes place under all these conditions (or linkage). Possible settings are:

  ☑ Powered

  The departure check is carried out each time after a new power-up, as soon as the first user logs in.

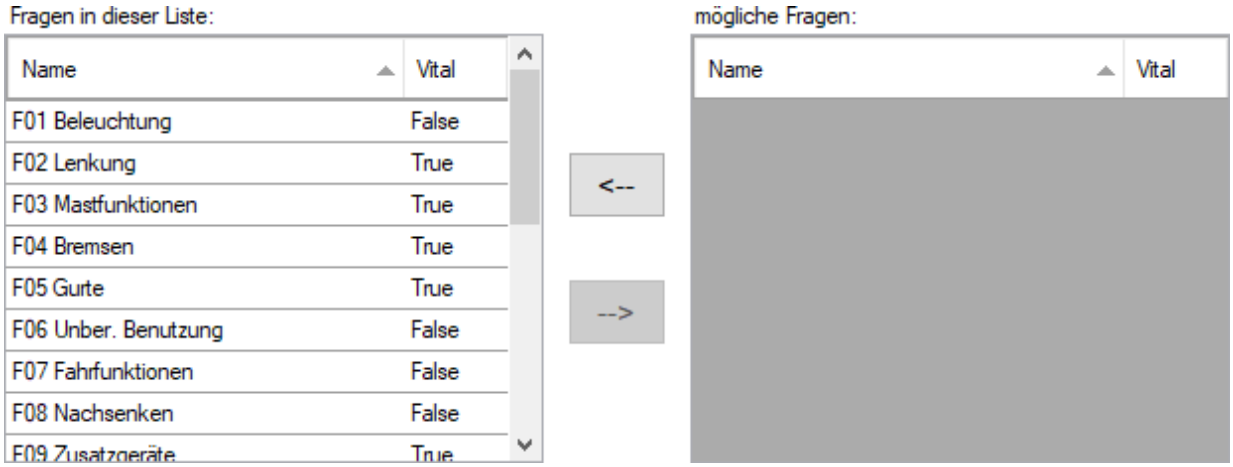
  ☑ Crash shut-down
  The departure check is carried out each time after a new power-up, as soon as the first user logs in.

  ☑ Workshop mode
  The first user who logs in after the module has been in workshop mode (i.e., has been reset from workshop mode to normal mode by software or by a workshop transponder) must perform a departure check.

  ☑ User change
  A departure check must always be carried out when a different user logs in other than before. If the same user logs in again (without another user having logged in in the meantime), he/she no longer has to perform a departure check (unless one of the other conditions is fulfilled).

  ☑ Time
  A departure check must always be carried out if (when a user logs in) the last departure check was carried out longer ago than the time set here. Every departure check counts as the last departure check, regardless of the condition on the basis of which it was carried out.

  The execution of a departure check is logged in the logbook. See also ***Tasks*** in the chapter **5.5.12.5 The Columns in the Logbook**.

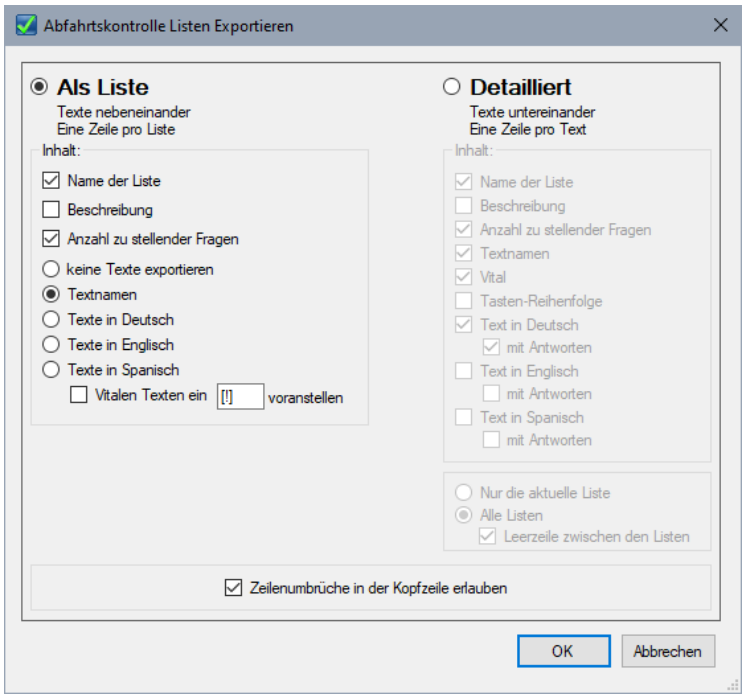


To add questions to the list, mark the appropriate question/s on the right side (under possible questions) and click on <--.

Accordingly, on the right side you can marl questions (under questions in this list) and click on --> to delete them from the list.

5.14.9.3.2 Export Tables

Click on button to export the existing list for documentation.



Generally, two formats are available.

As a table

As a simple table. Here a table is generated which uses only one row per list. The individual texts of the list are shown in columns. Only one language can be selected.

Detailed

Here a table is generated in which each text is shown in its own row. Between the lists a space row is inserted. In the columns next to each other different data like e.g., description, number of questions to ask, etc. can be put out. Also, texts in several different languages can be put out. Hierbei wird eine Tabelle erzeugt, in der jeder Text in einer eigenen Zeile steht.

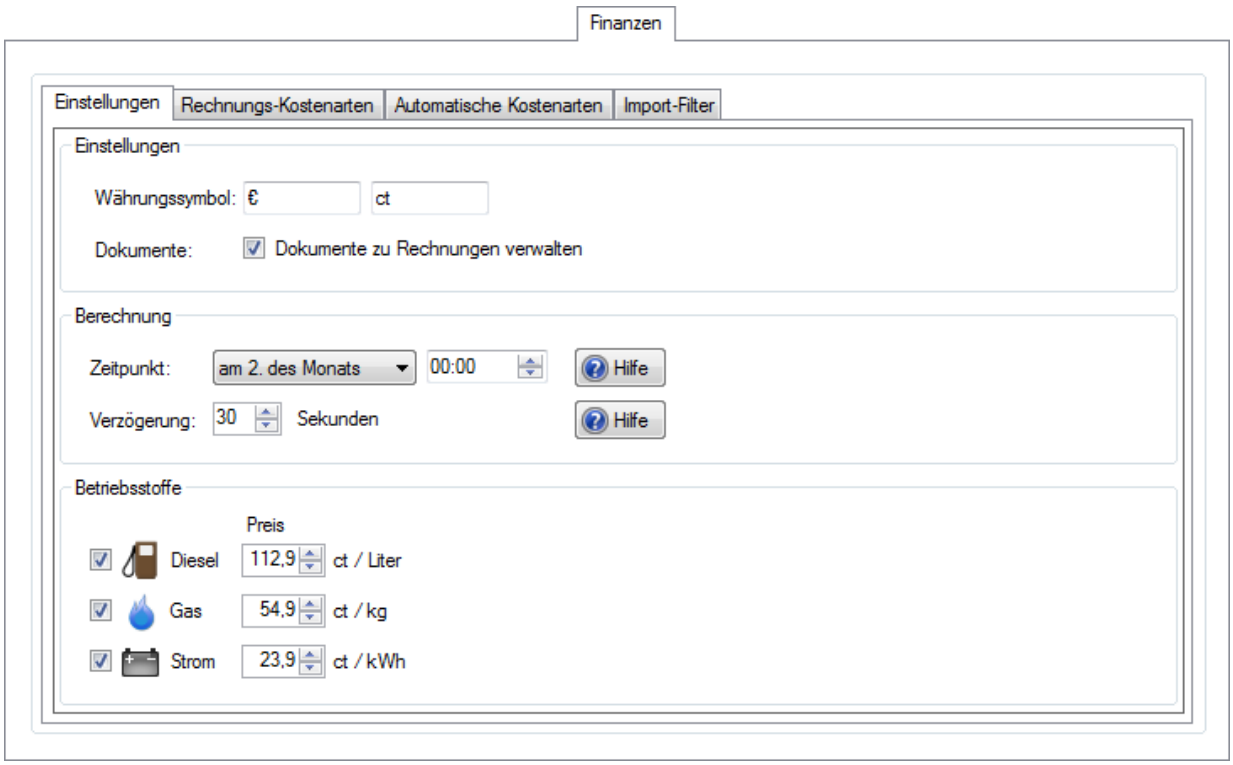
For both formats a csv-file is generated.

If the option ***wrap text in header*** is enabled, the headers can have several lines. In for e.g., Excel this means that the column width is narrower.

5.14.10 Finance module

Here, various settings are made for the financial module (see **5.22.3 Finance Module**).

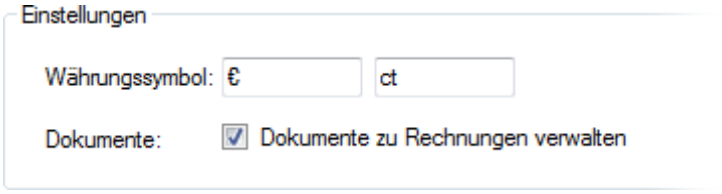
These settings and the financial module itself are only available if the software module ***Financial module*** (see **5.22 Software Modules (Optional)**) is enabled.



5.14.10.1 Finance Settings

Currency Symbol:

If you want to use a currency other than €, you can change the currency symbol here.

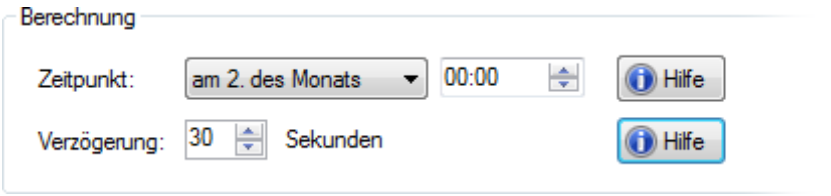


Documents

Here you can specify whether documents are to be managed for the individual invoices. If this option is not enabled, the corresponding controls for adding, changing, and deleting invoice documents are not displayed.

Time

Specify here, when the previous month should be calculated for the first time.



Since the respective operating hours for the previous month must be read out completely for the calculation, the calculation should not take place immediately on the first month of the month at 0:00, otherwise unnecessary re-calculations occur.

Should not all operating hours data be read out at a later date, a provisional financial status is calculated, which is then automatically corrected as soon as the corresponding data has been read out.

Delay

If data are subsequently added or manually data (such as invoices) are changed in the past, the financial status is recalculated. However, the time period specified here will wait for more data to change. The Financial status calculation is not activated until the time specified here; no data has been added for a long time.

Diesel/gas/electricity

If one or more of these fuels is activated, the input of the fuel type and quantity is activated when the invoice is entered.

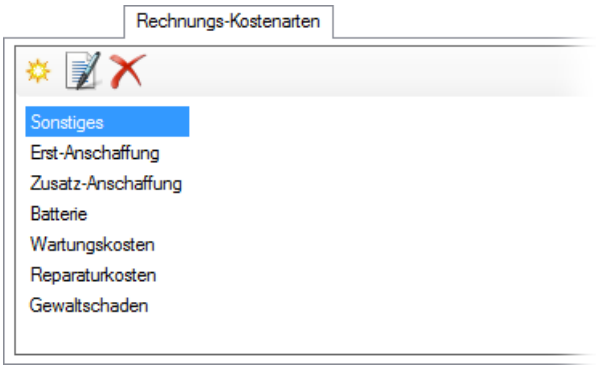


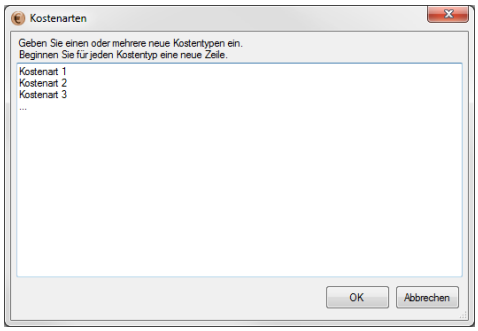
The quantity of input material entered is converted into an amount according to the conversion factor set here.

However, the respective quantity of fuel used is stored separately, because of which it is also possible to make evaluations based on the quantity of fuel used.

5.14.10.2 Invoice Cost Types

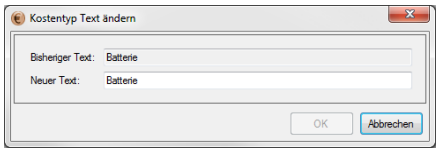
Each invoice you enter can be assigned its own cost element.
As a result, the financial data can also be analysed separately according to the different cost types.





You can also define your own cost elements.
To do so, click to add new cost categories.
In the window that opens, you can now simply enter the desired new cost types line by line.
Click OK to accept the entered cost types.

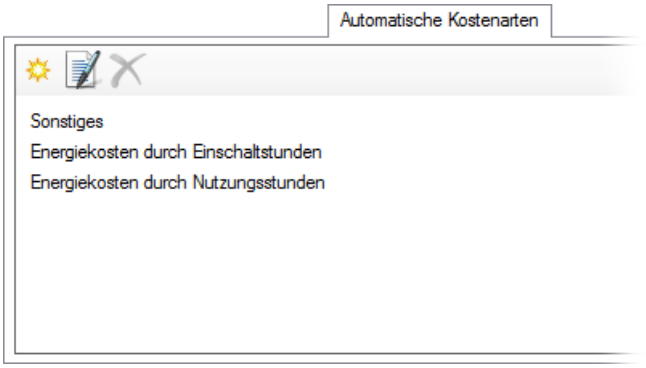
The button can be used to change the text of a cost element later. Note that this change also applies to all invoices already entered with this cost element.



With , an existing cost element can be deleted (after consultation).
However, existing invoices with this cost type remain unchanged - the cost element is not actually deleted. However, it becomes invisible and can no longer be used for new invoices.

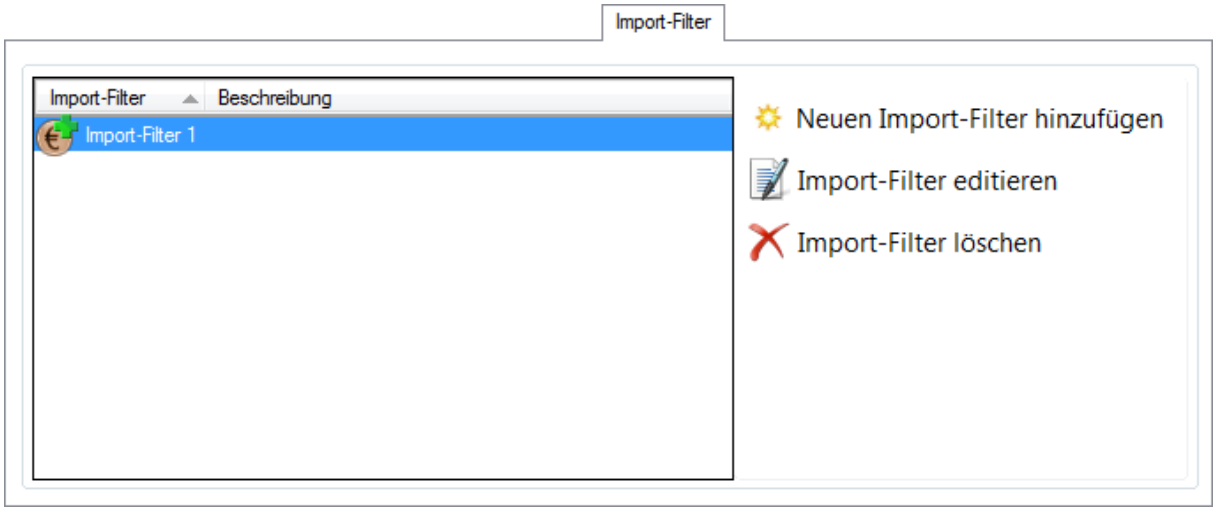
5.14.10.3 Automatic Cost Types

The automatic cost types are used exclusively for costs automatically added by means cut-in or usage hours.
In the financial profiles (see **5.9.6 Finance profile**), you can select one of these cost types for the respective costs.
Adding, changing, and deleting the automatic cost types will otherwise work in the same way as the invoice cost types above.



5.14.10.4 Finance Import-Filter

In Import-Filters its set which column of the csv-files to be imported have which meaning. Once assigned this import-filter is valid for all invoice files of this type. These files can be imported by a click of a button (see **5.15.1 Import Invoices**) or automatically (see **5.13.4.1 Import Invoice**).

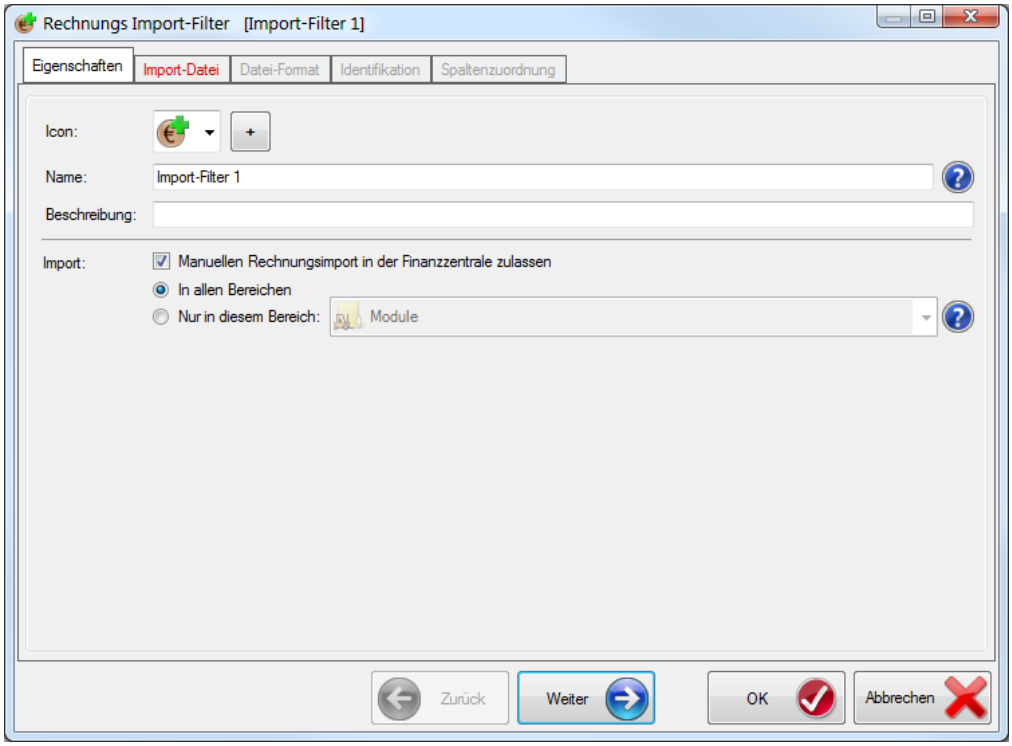


Click on ***Add New Import-Filter*** or select an already existing Import-Filter and then click on ***Edit Import-Filter***.

Tip:
Tabs in which entries are still to be made to enable the Import-Filter to work are marked in RED

With ***Delete Import-Filter*** you can delete existing filters.

5.14.10.4.1Import-Filter - Properties



In the ***Properties tab*** you can set the ***Icon*** and the ***Name*** of the Import-Filters.
Note that the name of the import filter is used as a subdirectory when importing automatically (see **5.13.4.1 Import Invoice**).
In ***Description*** you can enter any text.

Allow manual invoice import in finance central office

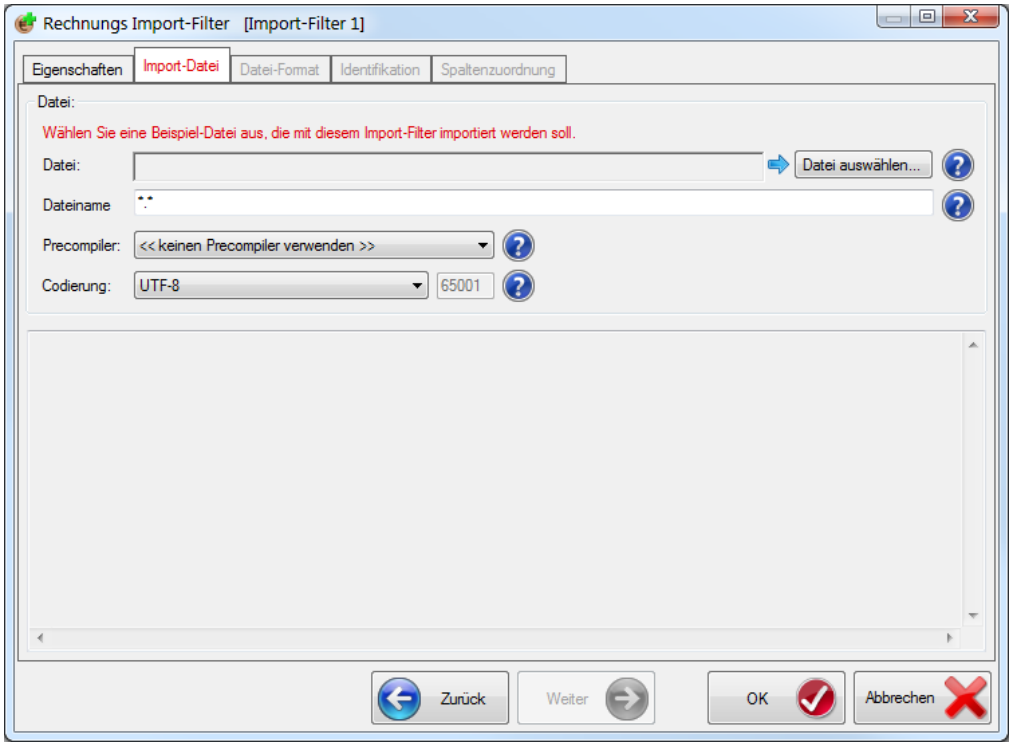
This option defines if the import filter can be used in the Finance Central Office. If this option is not selected the import filter will not be displayed in the list (see **5.15.1 Import Invoices**).

In all areas / only in this area

If using operating rights and several areas (see **5.21.4 Areas**) set here if in the finance central office this import filter is only shown in this area (e.g., because this invoice format is only used in this department).

Click on another tab or on ***Next*** to get to the next tab.

5.14.10.4.2Import-File



File:

You have to determine an example file from which the format of the file to be imported is read out. Use one file of the files you want to import. This file will not be imported! It only serves the purpose to appoint the dialogs e.g., the column names. Click on ***Select File*** to create an example file.

File name:

Here you can enter a filter condition (e.g., *.txt). The import filter can only call files that have these filter conditions.

Pre-compiler:

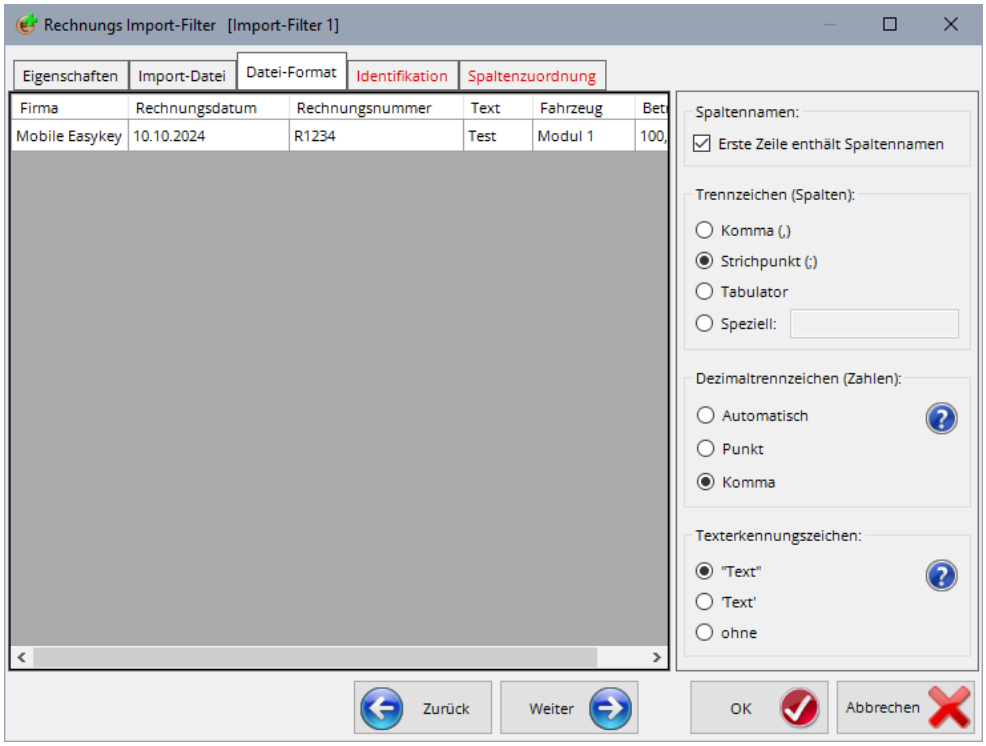
To import the file must be in a table format. If files are not in a format that can be imported, a pre-compiler is used. This is possibly a program you have written yourself or that of a 3rd party, which pre-formats and changes the files. Further information see **5.14.10.4.9 Pre-Compiler**.
In most cases a pre-compiler is not necessary.

Coding:

Through coding the format is determined. E.g., Umlaut (ü, ä, ö) are saved in this file. If the wrong coding is set, some characters may not be displayed/ imported correctly. The most common used code pages you can select straight from the list. können Sie direkt aus der Liste auswählen. With selection ***Enter Code Page*** you can enter any existing code page.
(See e.g. https://msdn.microsoft.com/de-de/library/windows/desktop/dd317756(v=vs.85).aspx).

Tip:
Click on button ? for help.

5.14.10.4.3File-Format



First the general format must be set.

Column names:

In most cases the first row will contain the respective column name. These column names will be used further. For files without column name the individual columns are called column 1 to column 2. In this case you need to know exactly what is entered in each column.

Separator (columns):

State which separator are used between columns. If the correct separator is used, the table should display correctly.

Decimal separator (numbers):

Indicate here whether decimal numbers such as the amount are written with a comma (45.67 €) or the English notation corresponding to a period (45,67 €). The Automatic setting attempts to automatically determine this setting for each imported number.

Attention! If the number also includes thousands separators (e.g. 1.234,56 €), then this automatism may not work correctly!

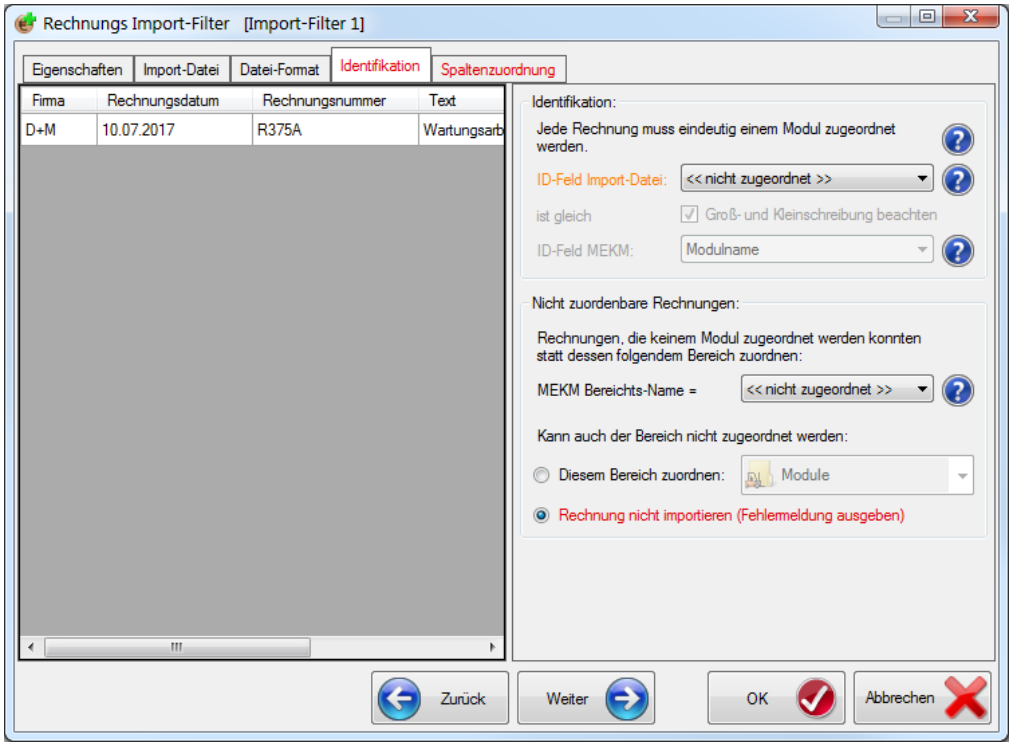
Text recognition character

A text recognition character is necessary if the used separator can occur within the file. The entire date will then be shown in simple or double quotation marks.

Tip:

Click on button ? for help.

5.14.10.4.4Identification



To reach the actual goal of the finance module all invoices must be clearly assigned to a module. Only then cost for the module can be calculated.

Therefore, in this tab it is configured how the module can be identified according to the imported data. Nur so können die Kosten für das Modul berechnet werden.

Tip:
Click on button ? for help.

ID-Field Import File:
Here a column of the files to be exported can be selected through which the respective module is clearly identified. The text, which has been entered in the column is then compared with the ID-Field in the MEKM database.

Equals (Note upper-and lower case)
specifies if during comparison upper- and lower case should be considered or not.

ID-Field MEKM:
specifies the field in the MEKM-Database with which the ID-Feld from the data import file is compared. By default, this is the module name. However, an ***internal-, model number*** or a configured master ID-field may be used (see **5.14.4.2.1 ID- and Default Fields**).

If an invoice cannot be clearly assigned to a module (because wrong or insufficient data in the import file, or because the invoice refers to several modules, see (**5.15.2.1 Invoice**) the invoices can still be imported. These invoices are not assigned to a module but to an area (see **5.21.4 Areas**) and only later edited and assigned manually to one or several modules in the Mobile Easykey Manager.

MEKM Area-Name:

If the area name (e.g., the department name) is already in the Import-file the respective field can be assigned from the Import-file. The area assignment applies only if the module could **not** be clearly assigned to a module.

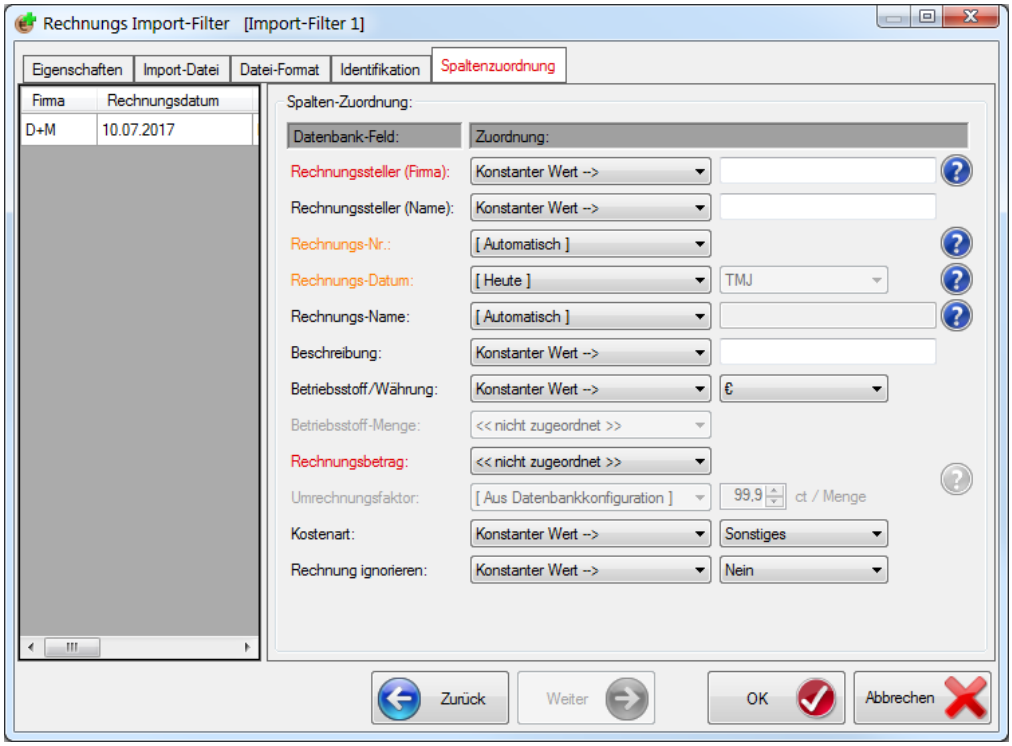
Assign to this area:

If the MEKM Area-Name is not assigned or the assignment to an area fails, another default area can be set.

Do not import invoices (issue error message)

If an invoice is not assignable and should not be assigned manually, an error message can be put out. The Import-file will be moved e.g., to an error directory according to the settings in **5.13.4.1 Import Invoice** and can after a check either be dismissed or again imported.

5.14.10.4.5Column Mapping



Finally, it must be determined in which columns of the import file which invoicing information is available.

Tip:

Click on one of the buttons to get help for each point.

Constant value ->

With some fields it is possible to use a fixed (constant) value instead of a value from the import file. The constant value is entered in the adjacent text field. If an import filter is used, e.g., exclusively to import invoices of the company XY, the company name XY can also be entered here.

Biller (Company):

Indicate here who this invoice came from.

Note: Based on the ***biller (company)*** and the ***invoice number***, an invoice can be clearly identified. If an invoice with this ***biller (company)*** and ***this invoice number*** is again in a file to be imported, then this invoice will ***not be*** imported again!

Biller (Name):

This field is optional. It can e.g., stand for the name of the fitter who performed maintenance.

Invoice no.:

Specifies the invoice number of this invoice. (See also the ***note*** under ***biller (company***))

A special feature here is the value ***[Automatic]***. An internal pseudo-invoice number is generated based on the current time. Attention! This pseudo-invoice number is different every time. If a file is imported by mistake twice, it cannot be checked for duplicity. Whenever possible, use a unique invoice number.

Date Of Invoice:

Specifies the date of this invoice. On this date (or at the end of the corresponding month), the invoice amount is taken into account in the Mobile Easykey Manager.

A special feature is the value ***[today]***. If the actual invoice date is not in the import file, then the date of the import process can be used instead.

Invoice Name:

Under this name, the invoice is displayed in the tables in the Mobile Easykey Manager. You can assign a field from the import file here, use a ***constant value***, or use the ***[Automatic]*** setting to generate an invoice name from the ***biller (company) + bill number***.

Description:

An optional field for a descriptive text of this invoice.

Fuel/ Currency:

In the case of a fuel invoice (diesel, gas or electricity), the quantity of fuel can be recorded in addition to the invoice amount.

In most cases, a constant value (€ for normal bills without supplies or diesel, gas, electricity) will probably be used here.

If different fuels can occur in the import file, then a field of the import file can be used to determine the fuel. In this case, a further tab for consumables is displayed (**5.14.10.4.7 Cost Types**).

Fuel quantity:

This entry is only relevant if it is a fuel invoice. Enter the column in which this quantity (for example litres of diesel) is located.

Invoice amount:

In the case of a normal invoice, a field from the import file ***must*** be assigned here, containing the respective invoice amount.

For a fuel invoice, either the invoice amount ***or*** the conversion factor can be specified in the next field.

Conversion factor:

Only relevant for fuel invoices for which **no** invoice amount is specified. Indicated here is how many cents a fuel unit costs.

The conversion factor can either be taken from the file to be imported (specification of a column), from the global database configuration (see **5.14.10.1 Finance Settings**) or from a constant value specified here.

Cost Type:

Each invoice is assigned to one of the defined cost elements (see **5.14.10.2 Invoice Cost Types**).This allows statistical evaluations by cost element.

If all invoices that are to be imported with this import filter always have the same cost element, then the cost element can be specified here as a constant value. Otherwise, the assignment can be made via a column in the imported file. In this case, another tab named ***Cost Elements*** will be visible.

See also chapter **5.14.10.4.7 Cost Types**.

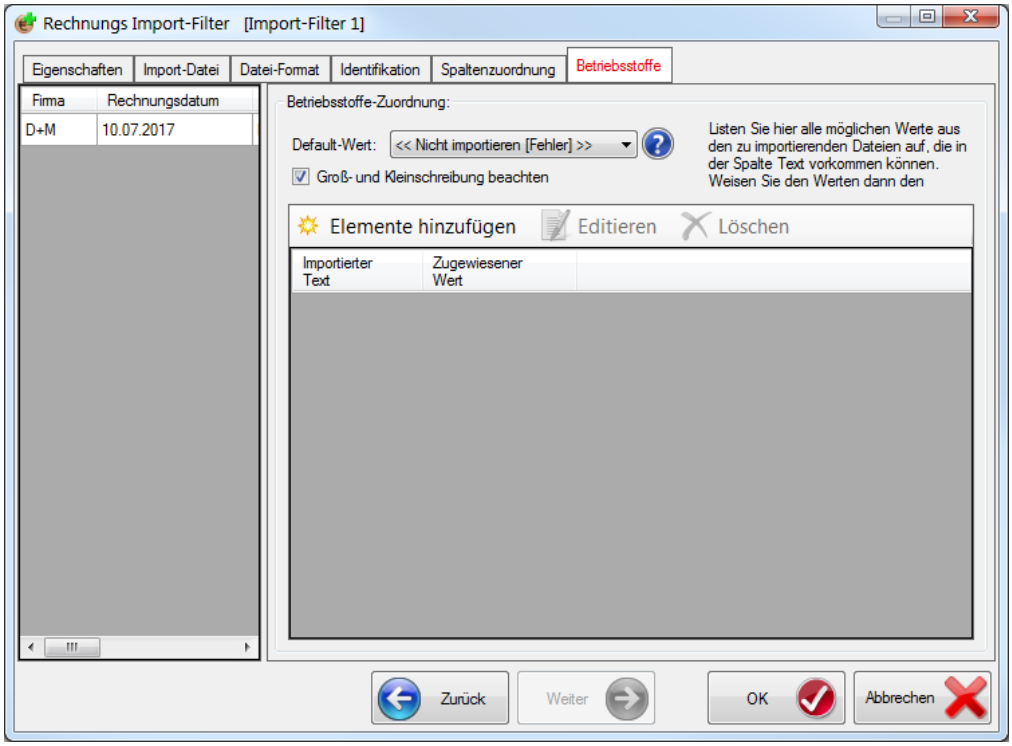
Ignore invoice:

Normally, all imported invoices are used to calculate the financial status of a module **5.15.3 Financial Status** In some cases, however, it may be useful to record invoices, but not to calculate them. (E.g., a violence damage).

With a constant value, you can specify whether invoices imported with this import filter are always ignored ***(No)*** or Never ***(Yes).***

Via a column to be imported, this decision can also be made on the basis of an imported text. If a column of the import file is selected here, an additional tab ***Do not calculate*** is Consumables (see **5.14.10.4.8 Do not calculate**).

5.14.10.4.6Cost Elements.



If a field for ***Consumables/Currency*** is selected in the column assignment (see **5.14.10.4.5 Column Mapping**) then you must define here which values (texts) in the imported file are for which consumable.

Click on ***Add Element*** to set the possible texts (as they can be in the files to be imported).

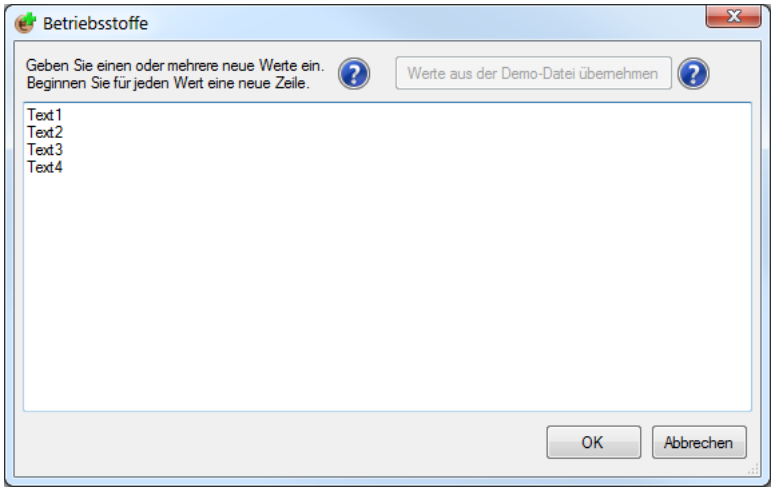
The addition of new texts works the same as with the consumables.

Select possible text for the respective cost type.

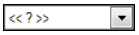
With the button ***Apply values from demo file*** **5.14.10.4.2 Import-** text for this field which are set in the demo file can be automatically added. The text can be edited and completed later.

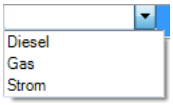
The button ***Apply values from demo file*** is only available if no text has already been entered.

Click on ***OK*** to add the entered text.

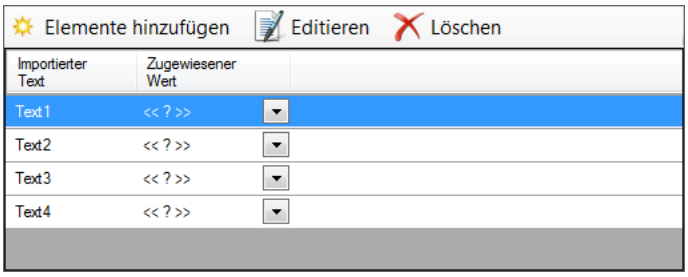


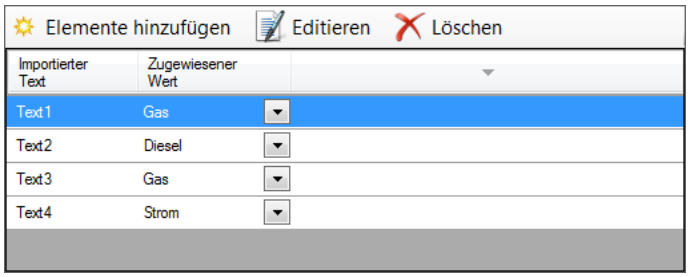
The texts must now be assigned the respective property.

Click on one of the  buttons and select the appropriate consumable.



In this example, an invoice with the text "Text1" or "Text3" would be interpreted as a gas bill, while "Text2" would be interpreted as diesel and "Text4" as the electricity bill.

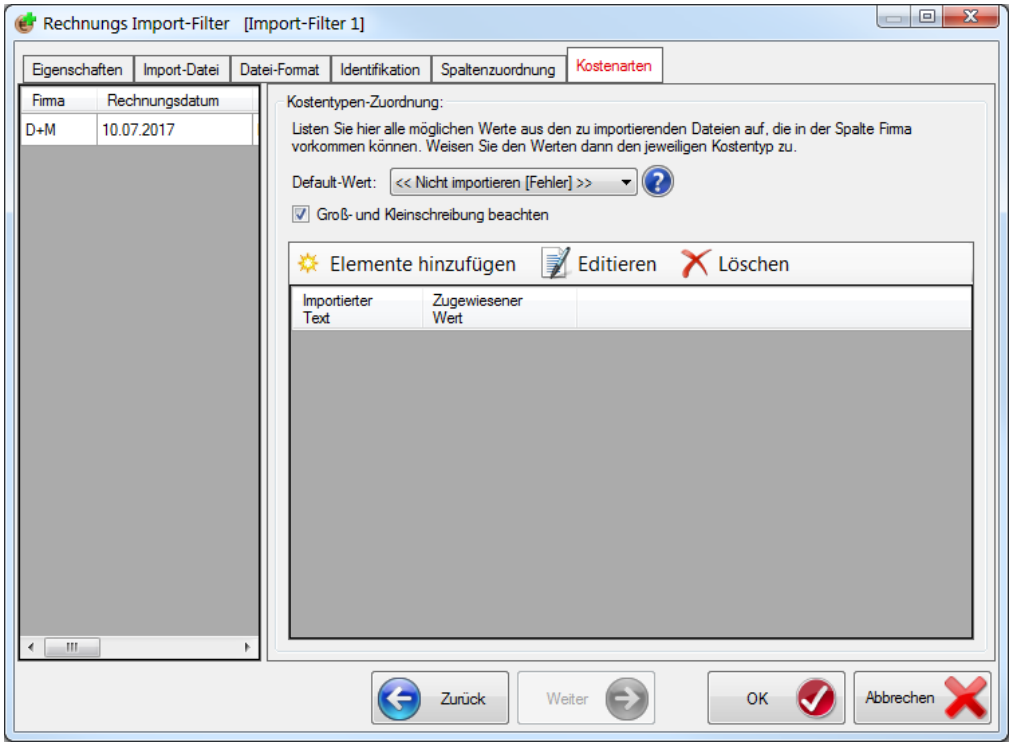




Default value:
If there is a text other than the texts defined here, you can set under ***Default Value*** whether this calculation should not be imported ***(<< Do not import [Error] >>)*** or whether one of the types of fuel should be used as standard instead.

Case sensitive:
Specifies whether or not the case of comparing the texts from the import file with the texts defined here is case-sensitive. If this option is activated, the text "text1" would **not** be recognised in the example above.

5.14.10.4.7Cost Types

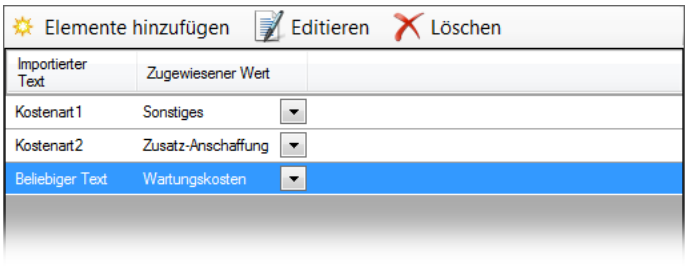


If a field for ***Cost type*** is selected in the column assignment (see **5.14.10.4.5 Column Mapping**) then you must define here which values (texts) in the imported file are for which consumable.

Click on ***Add Element*** to set the possible texts (as they can be in the files to be imported).

The addition of new texts works the same as with the cost elements (see **5.14.10.4.6 Cost Elements.**).

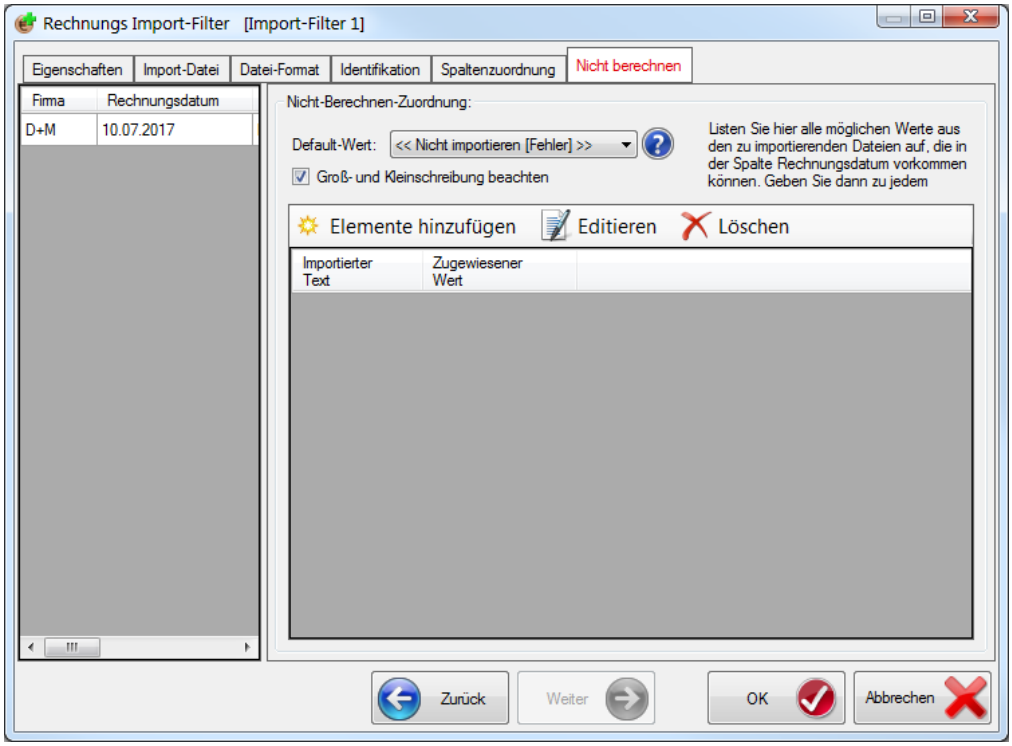
Select possible text for the respective cost type.



Default Value:
If a text other than the texts defined here is present, you can set under ***Default Value*** whether this invoice should not be imported (***<< Do not import [Error] >>)*** or whether one of the cost elements should be used as default instead.

Case Sensitive:
Specifies whether or not the case of comparing the texts from the import file with the texts defined here is case-sensitive. If this option is enabled, the text " Damage" in the above example would **not** be recognised.

5.14.10.4.8Do not calculate

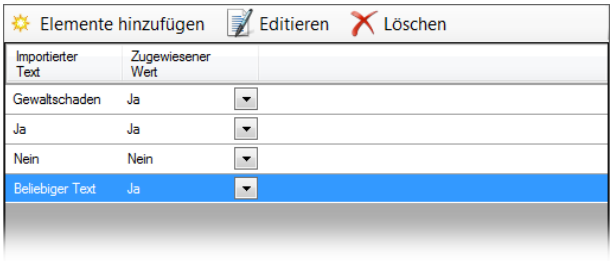


If a field for ***Ignore Invoice*** is selected in the column assignment (see **5.14.10.4.5 Column Mapping**) then you must define here which values (texts) in the imported file are to be ignored (and not used for the calculation of the Financial status).

Click on ***Add Element*** to set the possible texts (as they can be in the files to be imported).

The addition of new texts works the same as with the consumables (see **5.14.10.4.6 Cost Elements.**).

For each possible text, select whether the invoice should be ignored or not.



Default Value:
If a text other than the texts defined here is present, you can set under ***Default Value*** whether this invoice should not be imported (***<< Do not import [Error] >>)*** or whether one of the cost elements should be used as default instead.

Case Sensitive:
Specifies whether or not the case of comparing the texts from the import file with the texts defined here is case-sensitive. If this option is enabled, the text " Damage" in the above example would **not** be recognised.

5.14.10.4.9Pre-Compiler

A pre-compiler is a small, optional filter program which receives a file name as a command line parameter and then reissues this file to the standard output (console) in the form required or required by the Mobile Easykey Manager.

If a line begins with the text "@@@", the following text of this line is interpreted as an error message.

A simple example:

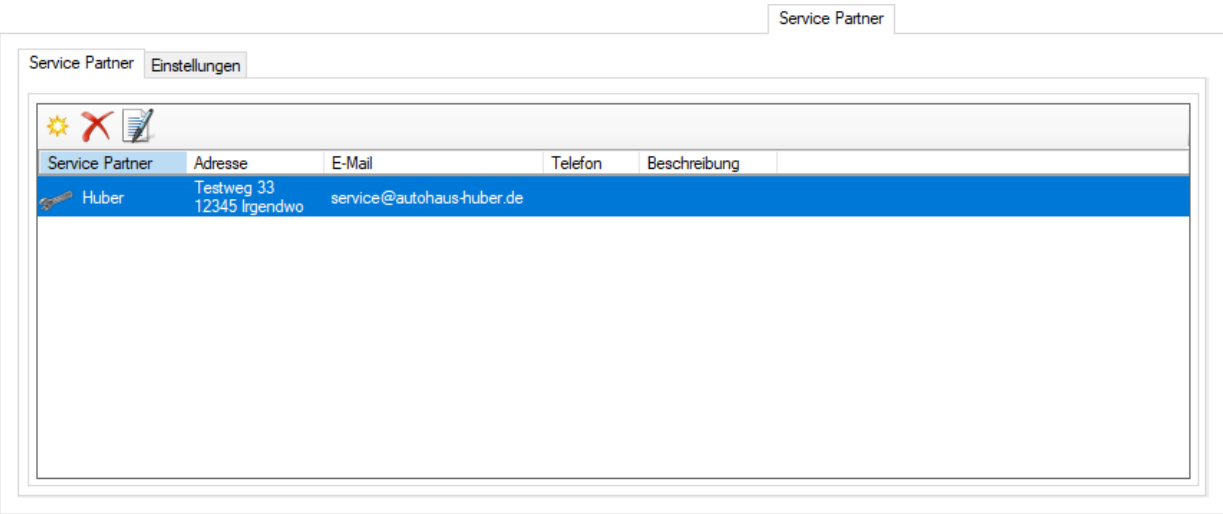
```
static void Main(string[] args)
{
  try
  {
    Console.OutputEncoding = System.Text.Encoding.UTF8;
    if (args.Length == 0)
      Console.WriteLine("@@@Dateiname nicht angegeben");
    else if (!File.Exists(args[0]))
      Console.WriteLine("@@@Datei nicht gefanden");
    else
    {
      using (StreamReader reader = new StreamReader(args[0]))
      {
        while (true)
        {
          string line = reader.ReadLine();    // Datenzeile lesen
          if (line == null)                   // Dateiende?
            return;                           // Fertig
          //ToDo: line entsprechend ändern
          Console.WriteLine(line);            // geänderte Zeile ausgeben
        }
      }
    }
  }
  catch (Exception ex)
  {
    Console.WriteLine("@@@" + ex.Message);
  }
}
```

The compiled exe file must then be copied to the Pre-compiler subdirectory of each Manager and, if necessary, the Service.

If the Manager is e.g., Installed on C: \ Program Files \ Mobile Easykey \ Manager, the precompile directory is located at C: \ Program Files \ Mobile Easykey \ Manager \ Precompile.

The respective pre-compiler is then set in **5.14.10.4.2 Import-**.

5.14.11 Service Partner



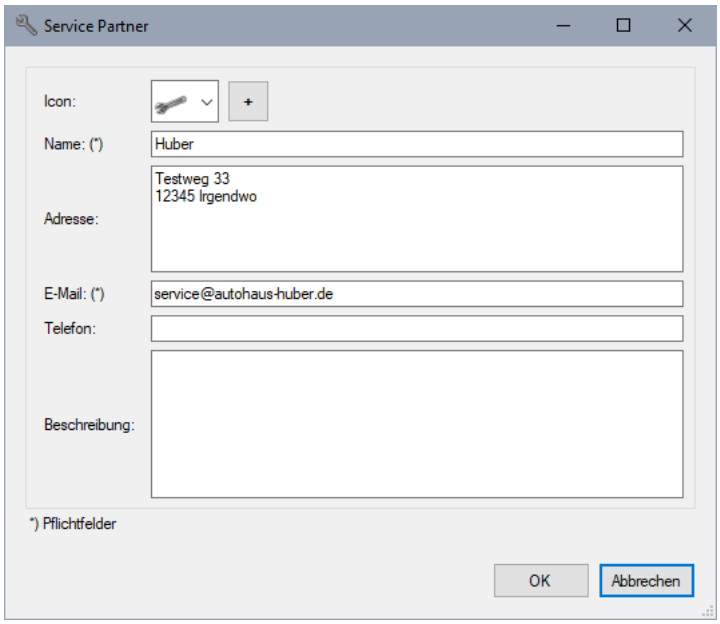
Service-Partners are required for the Service-Call (see **5.5.19 Service-Call-**).

Each module is assigned a Service Partner (see **5.5.1.2 Settings of Module X**), who is responsible for the service on this module.

In addition, Workshop-Transponders can be connected to a Service-Partner **5.6.1.2 Settings of User X**), whereby it can be automatically recorded that a module has gone into Workshop mode (see also **5.5.23.8 Workshop**) at this service partner.

Here, in the database configuration, all possible Service-Partners must first be defined.

Click on the button to add a new Service-Partner or to edit the currently selected Service-Partner.



- ***Icon***
  Here you can assign an icon or an image to the user.

  See also **5.4.4 Icons**.
- ***Name (required)***
  Enter the name of the service partner here.
- ***Address***
  Here you can optionally enter the address of this Service-Partner.
- ***E-Mail (required)***
  Enter the e-mail address to which the ServiceCall requests are to be sent.
- ***Telephone***
  The telephone number of the Service-Partner can optionally be entered here.
- ***Description***
  Here you can enter a description or any other text about this service partner.

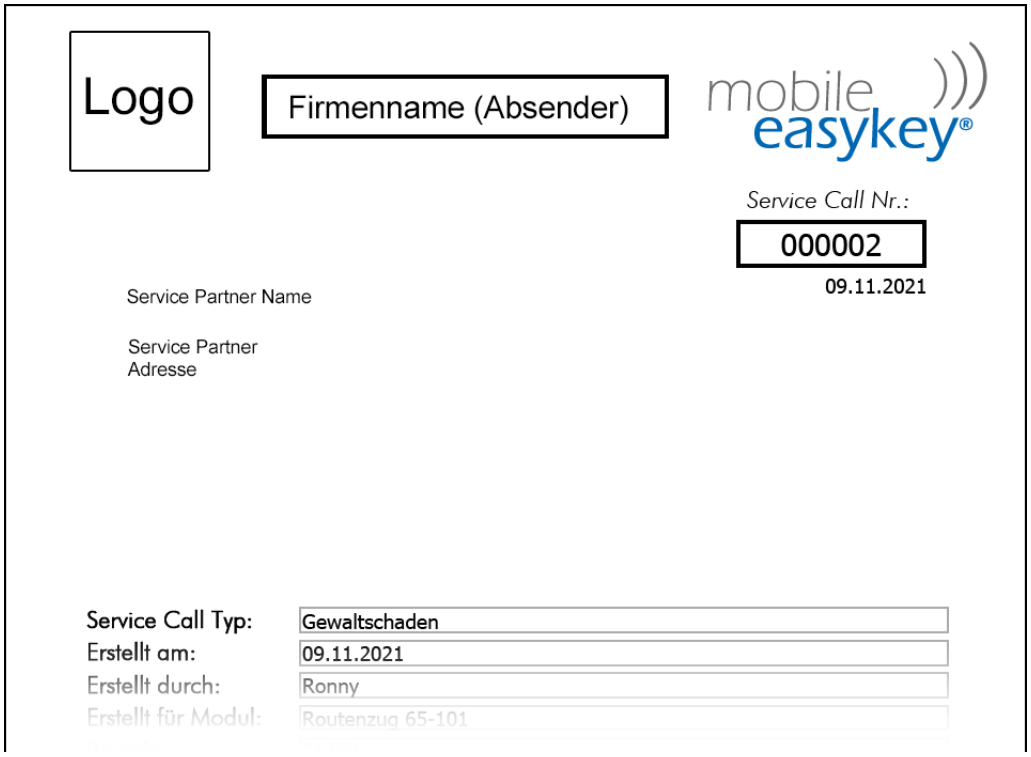
Click on button to delete the selected Service-Partner.

5.14.11.1 Service-Partner Properties

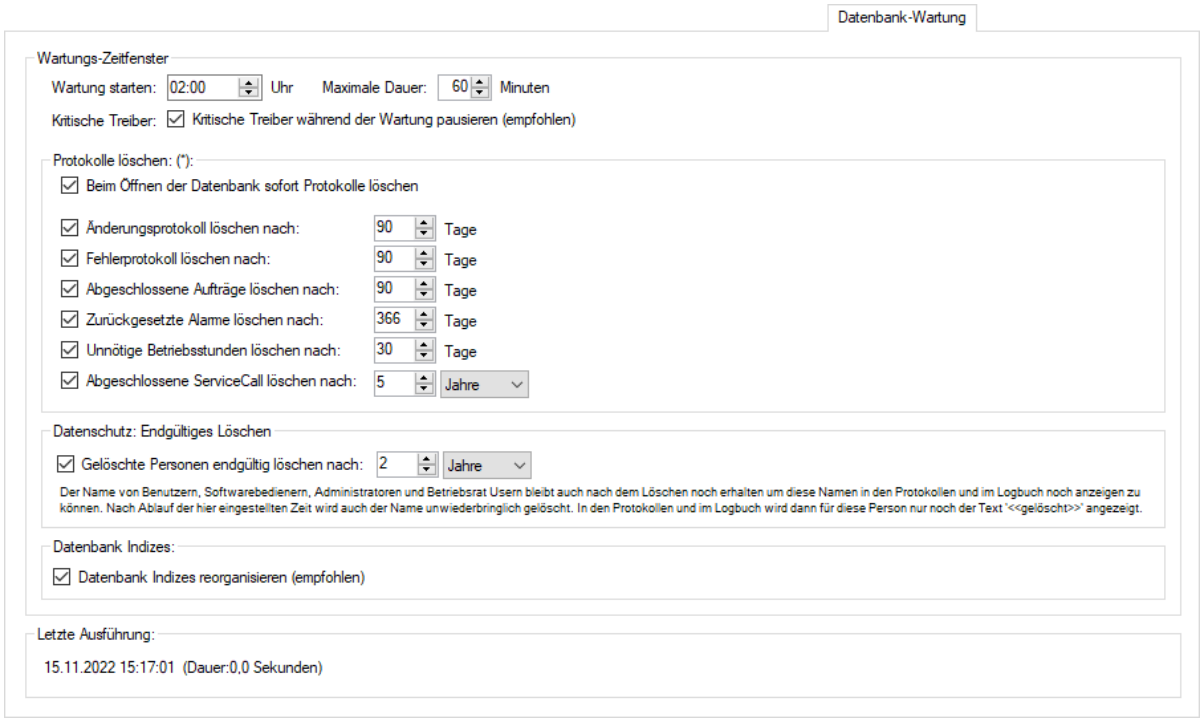


- ***Company name (Sender)***
  This company name is used as the sender for the order sent (via pdf) to the Service-Partner.
- ***Company Logo***
  Here you can store the company logo, which is used in the order.
- ***Master data field for year of construction***
  If you have your own master data field (see **5.14.4.2 Module-, User-, Battery Master data***)* for the year of construction of the module, you can link it here. The respective year of construction is then displayed in the order

Example of a Service-Call order:



5.14.12 Database-Maintenance



At this point it is defined how and when the different protocols (logs) are automatically deleted (shortened). If the automatic delete function is activated, the respective protocol (log) is shortened regularly accordingly.

Start Maintenance

Enter the time at which the maintenance work should be started. Usually, a time is chosen at which there is as little activity as possible. The fewer writes to the database during this time, the faster maintenance can be completed.

Maximum Duration

A maximum duration is specified here. If the maintenance work cannot be completed within this period, the maintenance is terminated in a defined manner and resumed the next day at the specified time.

Pause critical drivers during maintenance

Drivers such as the WLAN or Bluetooth driver can constantly provide new data by reading out the modules, which must be stored in the database. To avoid these writes during maintenance, these drivers should be stopped (paused) for this time. As soon as the maintenance is completed or at the latest after the maximum duration has expired, the drivers will be restarted.

Delete logs immediately when you open the database

If this option is selected, the logs (Change Log to ServiceCall Completed Jobs) are cleared each time the database is opened in a Manager. This setting is especially useful if the database does not run overnight on a single computer. This means that it is primarily intended for single-user solutions. When using a Mobile Easykey Service, we recommend that you deactivate this option.

Change log

Here is recorded when (with activated operating rights, see **5.21 Software Operating Rights**, also by whom) which setting was changed. See also **5.19 Change Log**.

Error log

Here, errors that have occurred in the background are recorded. See also **5.3.5.2.1 Error protocol of background services**.

Concluded orders

If jobs (such as log reading) have been completed, the information will still be kept for the specified time. See also **5.5.21 Communication central office**.

Reset alarms

Alarms are also kept for the specified time (after the alarm cause has been cleared. See also **5.5.22 Module-alarm central office**.

Unnecessary operating hours

With the modules (from version F) the operating hours are recorded very frequently (every ¼ hour). However, these quarter-hourly entries are usually no longer important after a few days. Therefore, they can be deleted automatically after the time set here. The operating hours levels are not deleted at 0:00 o'clock and before, or after a new power supply. Thus, enough data remains available to represent the operating hours to the day. See also **5.5.13.2 Relative** .

Completed ServiceCall

After this period, connected service call orders seee **5.5.19 Service-Call-Center**) are also deleted.

Permanently delete deleted people after:

After deleting a user or software operator, the respective name is still displayed in the logs (change log, log book, etc.).
After the time set here, the name of the deleted user / software operator is then permanently removed from all logs (by deleting the key with which the name is encrypted. See also **5.1.1 Encryption of personal data**).

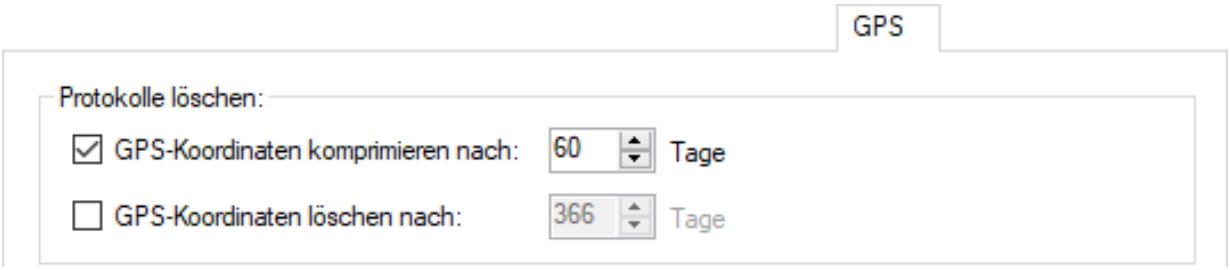
Database Indexes

To speed up database access, the SQL server constantly calculates several sorting tables, so-called indexes, in the background. During operation, these indexes can fragment, causing performance to degrade. Therefore, these indexes can be automatically reorganised (defragmented). We recommend that you deactivate this option only if you want to reorganise the indexes yourself.

Last Run

Here you can see when the database maintenance last ran and how long it took.

5.14.13 GPS



If the new mobile radio modules are used, the position data recorded with them can also be deleted automatically after a certain time. This prevents the database from becoming increasingly large due to too much GPS data.

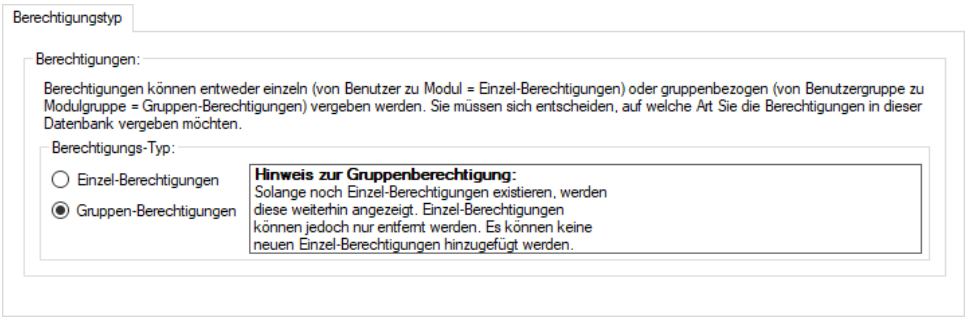
Compress GPS coordinates by

The automatic deletion can be carried out in two stages. In the first stage, the data is compressed. Coordinates are deleted until the remaining coordinates are at least one kilometer apart.
Data older than the number of days specified here (but not older than the one under Delete GPS coordinates after) is compressed accordingly.

Delete GPS coordinates after

After the time set here, the GPS data will be permanently deleted.

5.14.14 Authorisation Type

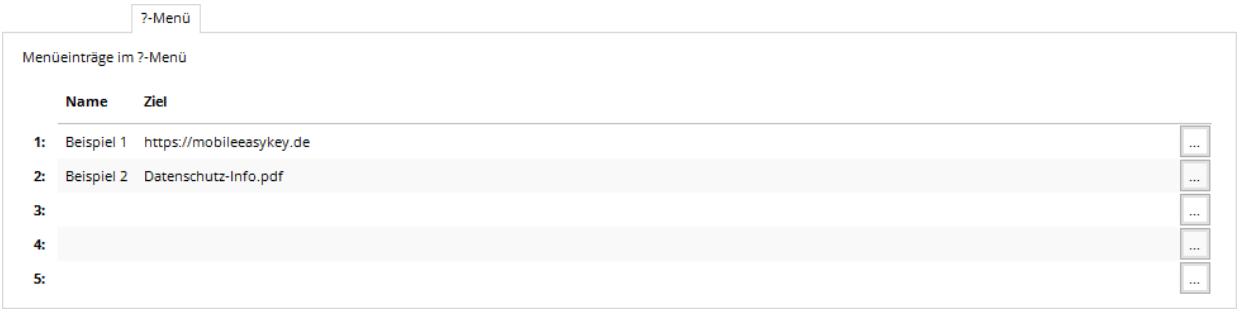


Authorisations (driving authorisations) can be assigned in two different ways.

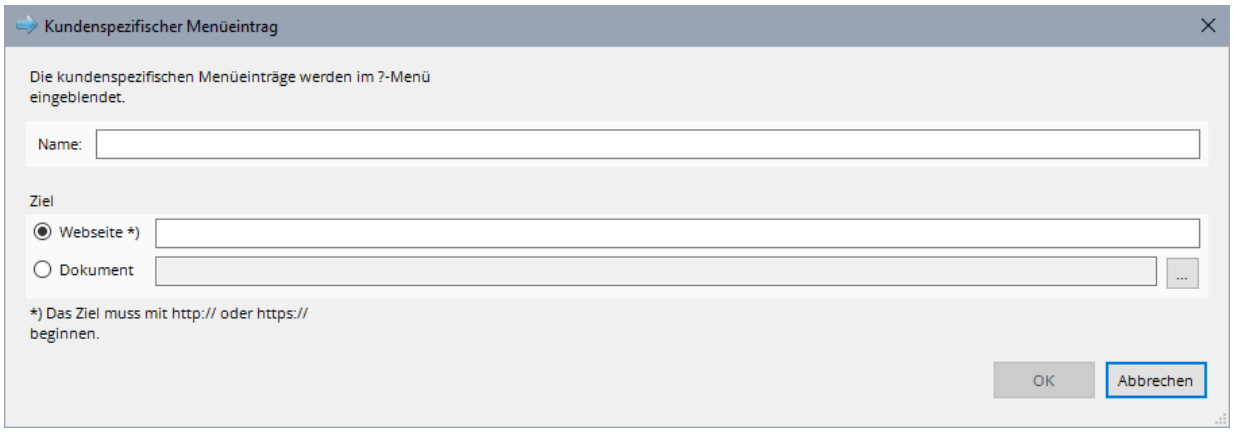
- ***Individual / single authorisations:***
  The authorisations are individually assigned between a user and a module (a module link, see **5.11.5 Create links**). The respective authorisation is fixed to the module, the user or the link. If the module, the user or the link is moved, the authorisations are moved as well. Likewise, the authorisations of the module, the user or the link are deleted. Read more about individual authorisations in chapter **5.11.6 Single authorisations**.
- ***Group authorisations:***
  The authorisations are assigned between module groups and user groups.
  If a module group is connected with a user group, all users and user's links of this user group (including the user and links from sub-groups), are authorised in all modules and module links of this module group (including the modules and links from sub-groups). If modules, users or links are moved, they automatically lose the present (previous) authorisations. Instead, they get associated with the authorisations of the new group. How group authorisations can be assigned please see **5.11.7 Group authorisations**.

5.14.15 ?-Menue

Up to five customer-specific menu items can be defined here.



Click the button ... to create or modify a menu item.



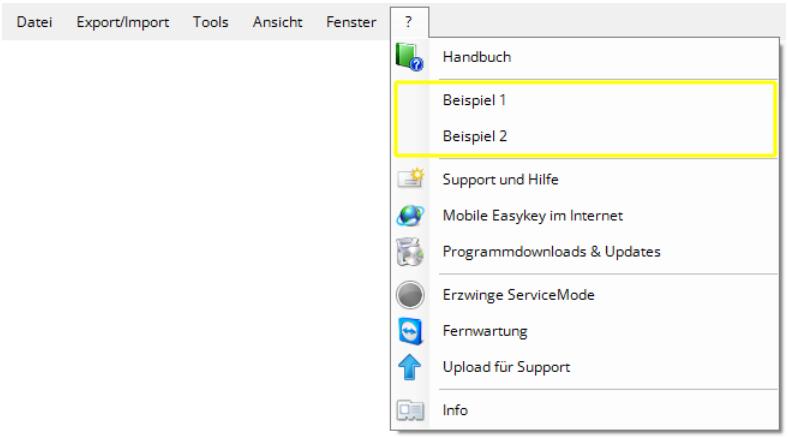
Name:

Enter the name under which the menu item should be displayed.

Target:

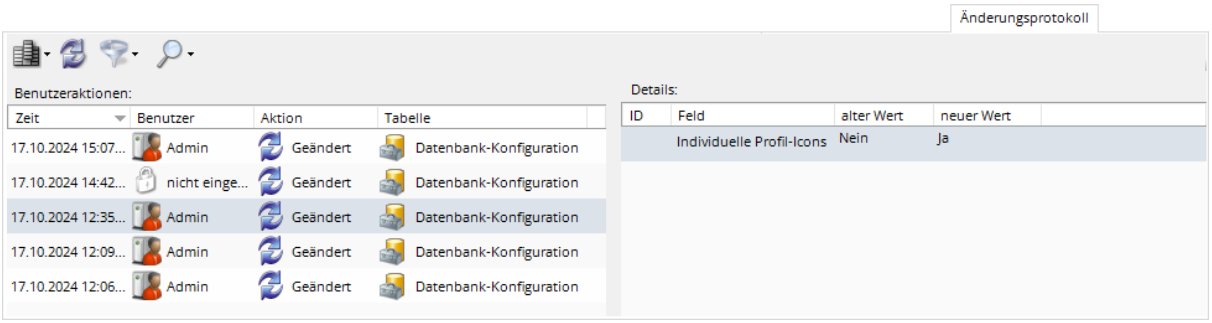
Enter a web address (starting with http:// or https://) or click to ... load a document.

If, for example, the two menu items Example 1 and Example 2 are defined from above, then they would be displayed in the ? menu (see **5.3.7.2 Custom menu entry**) e.g. as follows:



If such a customer-specific menu item is clicked, the corresponding website or the saved document is accessed.

5.14.16 Change Log (Data Base-Configuration)



Any change to the database configuration is stored in the change log and displayed here.

Attention:
Note that changes you have just made are not displayed until you have closed the database configuration with OK (and saved) and reopened!

Note:
By default, entries older than 90 days are automatically deleted. You can change this setting in the database configuration. See also **5.14.12 Database-Maintenance**.

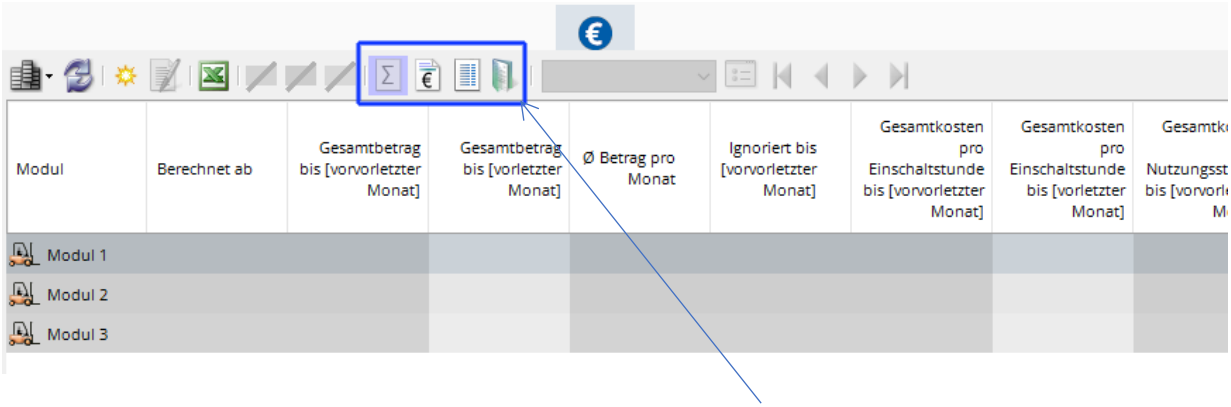
The column User corresponds to the respective software operator and is only displayed if the operating rights (see **5.21 Software Operating Rights**) are activated.
Use the and buttons to filter and search the change log.
For a description and further information, please refer to chapter **5.19 Change Log**.

5.15 Finance Module

To the use of the financial module an additional software module (see **5.22.3 Finance Module**) is required.

In the financial module, invoices and other cost factors can be entered for the individual modules in order to determine a financial status.
The financial status is dependent on the number of operating hours of the respective module and is intended to provide an indication of how profitable a module is.

The financial data can also be graphically displayed in online statistics (see **5.18 Online Statistics**) in order to analyse the financial development of a module (**5.18.3.12 Financial Development**) or to compare different modules (**5.18.3.13 Financial comparison**).



The financial module has essentially three different display modes.

Financial status
The financial and calculation status of all selected modules is displayed in an overview. See **5.15.3 Financial Status**.

Invoice list
The individual invoices are listed here. See the **5.15.4 Invoice List**.

Accounting list
The amount calculated per month is displayed here. In particular, for invoices that are depreciated over several months / years, a booking item is created in this list. See **5.15.5 Accounting List**.

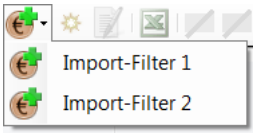
Documents
The individual invoices are listed here. See **5.15.6 List of documents**.

In each of these views, a new invoice can be added at any time with this button . See **5.15.2 Add New Invoice**.

If financial import filters have been added in the database configuration (see **5.14.10.4 Finance Import-Filter**), use the button to select the desired import and import a corresponding csv file with billing data.

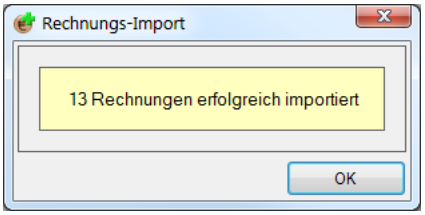
5.15.1 Import Invoices

Invoice import is only available if at least one import filter (see 5.15.8.4 Finance import filter) is defined. See **5.14.10.4 Finance Import-Filter**)

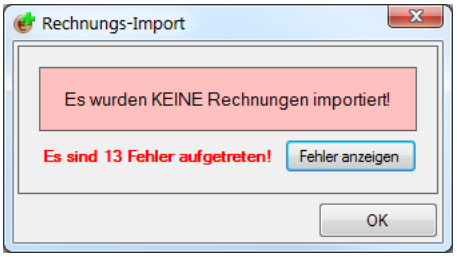


Click on , select an import filter, and then select the file to import.
The file will be imported immediately.

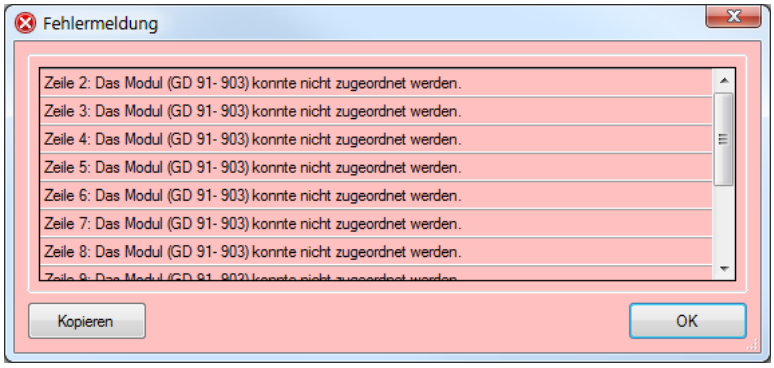
If the file was completely imported, the following window appears:



Otherwise, an error message will be displayed:



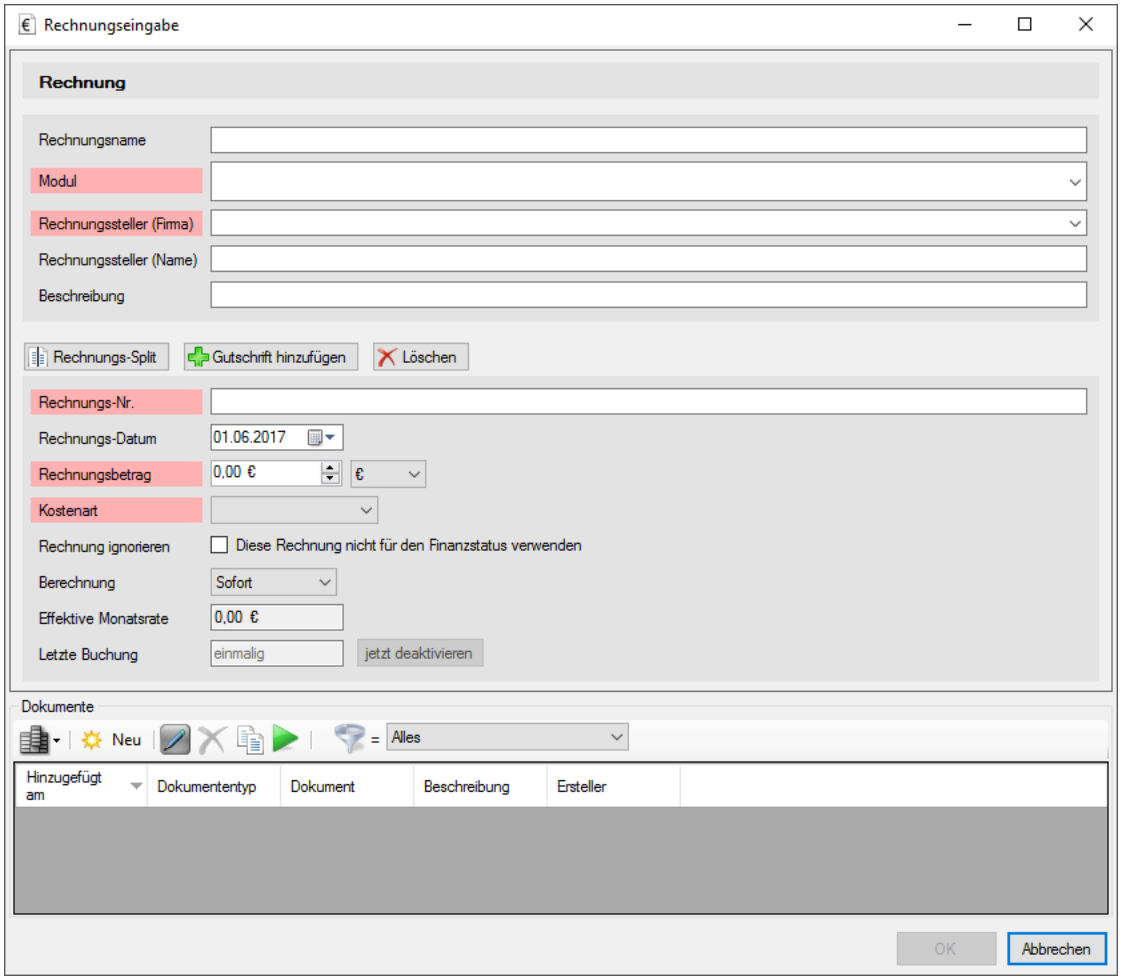
By clicking on ***Show error,*** a list of errors can be displayed



In this case, e.g., the module name "GD 91- 903" cannot be found. The invoice could therefore not be assigned to a module.

5.15.2 Add New Invoice

Click on ✲ to insert a new invoice.



Invoice name:

Here you can enter an invoice name. If the field is left empty, the invoice number and the invoice provider (company) are automatically used as the invoice name.

Module:

If exactly one module is currently selected, it is automatically pre-set. Otherwise, you must select here for which module this invoice applies.

If the invoice cannot be unambiguously assigned to a module, select an area (see **5.21.4 Areas**) or the main directory modules and split the invoice (see **5.15.2.1 Invoice**).

Invoice issued by (Company):

Please select the company that issued this invoice. Select **Add Element** to add a new company.

Invoice issued (by Name):

Here, you can optionally enter a name, e.g., the name of the executing engineer.

Description:

Here you can enter any text.

Invoice Split:

Splits this invoice into several individual statements, which can have different cost types or modules. See **5.15.2.1 Invoice** .

Add Credit Note:
You can add a credit note for each invoice or (split) subtotal. The credit can be over the full amount of the (partial) invoice or only part of it. See **5.15.2.2 Add Credit Note**.

Delete:
Click here to delete this invoice or partial invoice. The invoice is not removed from the database but marked as deleted. Deleted invoices are invisible by default, but can also be displayed with the button (see also **5.15.4 Invoice List**).

Invoice no:
Enter the invoice number of the invoice. This invoice number and the company name must be unique. That no two invoices with the same invoice number may exist for an invoice company.

Date of invoice:
Enter the invoice date here. For the month in which this date is located, this invoice is posted or the first posting made (for depreciation, rent, etc.).

Invoice amount:
Enter the amount of the invoice here. If the database configuration has defined resources (see **5.14.10 Finance module**), you can also select a fuel (for example diesel) instead of the currency symbol. In this case, enter the amount of fuel (e.g., litres). The amount is then automatically calculated using the conversion factor from the database configuration.

Cost type:

Select the cost element to which this invoice is to be assigned.
You can define the different cost types yourself. See **5.14.10.2 Invoice Cost Types**.

Ignore Invoice:
Specify here whether or not this invoice is to be taken into account for the calculation of the financial status. For example, it could be decided that a threat of damage impact should not enter the financial status. Ignored invoices are treated separately in the financial statistics. Ignored invoices are normally not visible in the invoice list (see **5.15.4 Invoice List**). However, the ignored invoices can be displayed with button .

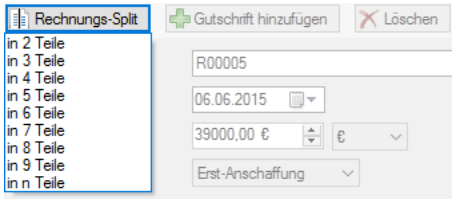
Calculation:
Here you can set whether this invoice is to be written off as a whole (**immediately**), recurring every month (**full service, MBV, leasing, rent**) or over a certain period (**depreciation**).
In the case of depreciation, you can enter the period in years or months.

Effective monthly rate:
The (automatically calculated) monthly amount is displayed here. Possible credits are taken into account.

Last booking:
In the case of depreciation, the month in which the month amount is posted for the last time is entered here. The **deactivate now** button allows the depreciation to be terminated prematurely. The remaining amount is **not** booked! In the case of **full-service, MBV, leasing** or **rent** a last-time debiting can be set via **now deactivate**.

Documents:
In this area documents (any files) can be assigned to the respective invoice. See chapter **5.15.2.3 Documents**.

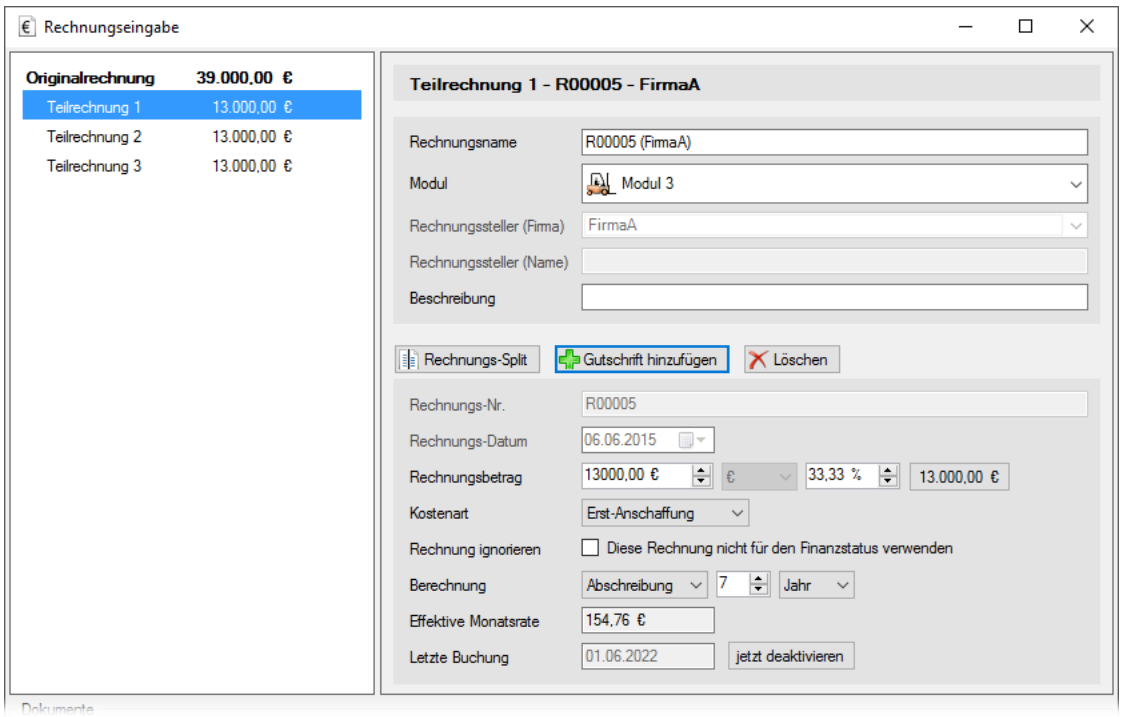
5.15.2.1 Invoice Split



Click on split invoice and select the desired number of split invoices.

Split invoices can also be deleted or split again.

Here an example of a split invoice in 3 parts.



On the left you can see the original invoice, above and below the individual subaccounts. You can click each of these sub-calculations and edit them on the right.
Some of the fields are read-only. They are taken over from the original invoice and can only be changed there. To do this, click on **original invoice**.
By default, the total amount is evenly distributed among partial invoices. You can change the individual partial amounts either by the invoice amount or by the% view. However, the sum of all partial invoices must correspond exactly to the invoice amount of the original invoice. If the sum does not match, the OK button is deactivated and the invoice cannot be saved. The line with the invoice amount displays a button on the far right, which can be used to set the currently displayed partial calculation exactly to the required amount.
You can assign different cost elements and calculation types (depreciation) to the different partial invoices. Likewise, the split calculations can be assigned to different modules.

Attention!
A partial calculation must be assigned to a module. Substitutions can**not** be assigned to a range.

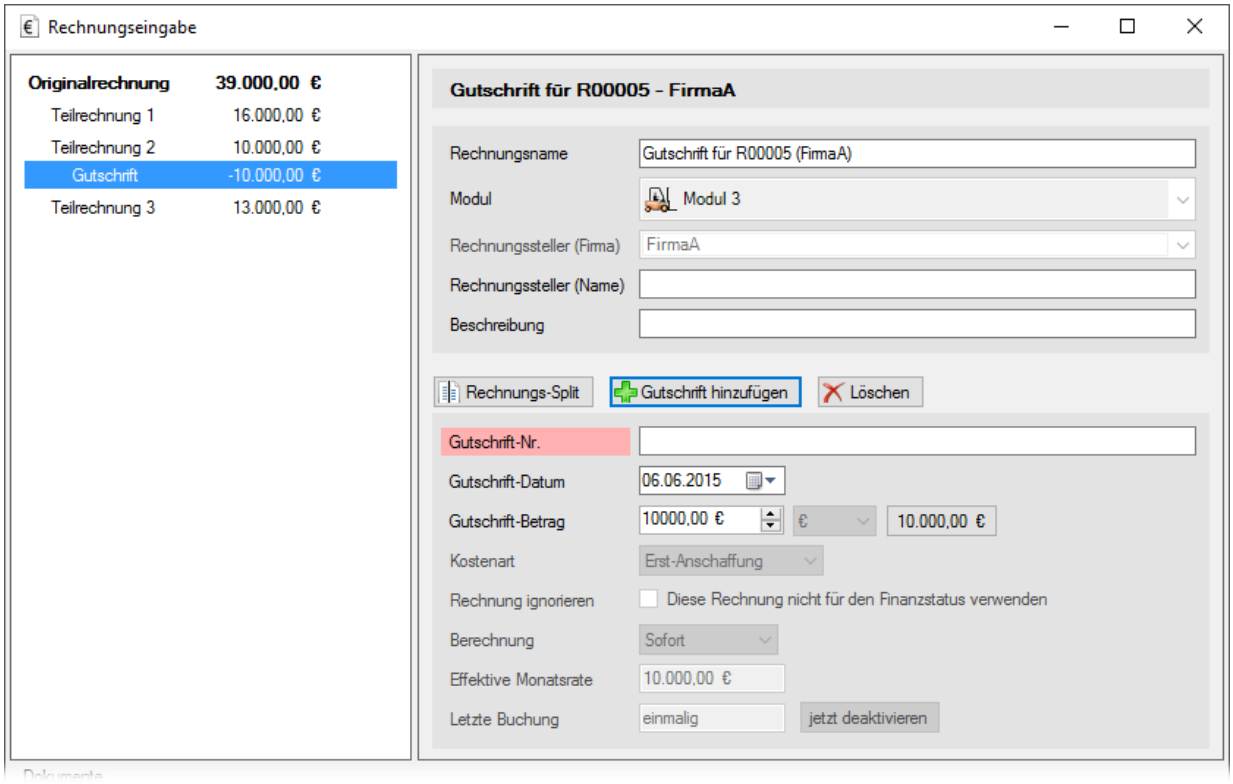
Lastly, you ***cannot use individual sub-revisions for the financial status***.

5.15.2.2 Add Credit Note

Click on Gutschrift hinzufügen to add a credit note.

Attention:

In a split invoice, credits can only be created for partial invoices. First, select the partial calculation for which you want to enter the credit memo.
Likewise, a (not split) invoice, which is already assigned a credit note, can no longer be split. In this case, the credit memo must first be deleted.

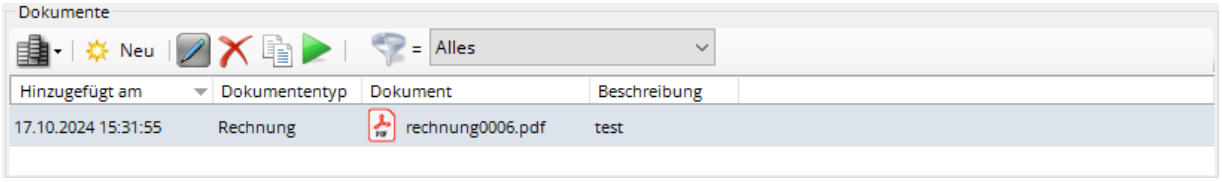


In general, the total amount of the respective invoice / partial invoice is accepted as the credit amount.

The credit note must have a credit note number.

The date of the credit note may differ from the date of the invoice. The credit is calculated in the month of the date entered.

5.15.2.3 Documents

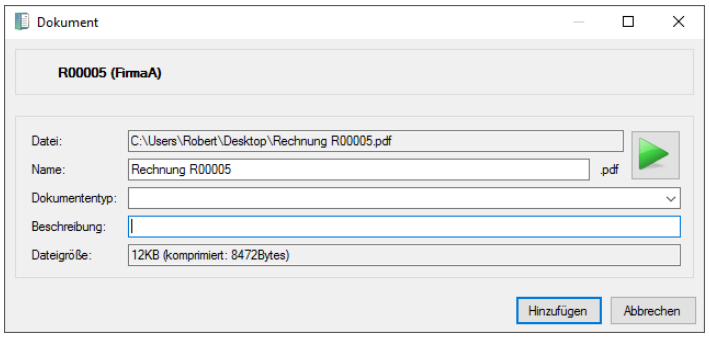


In the Documents area, any files can be saved to this invoice

This area is only visible if the option **manage documents for invoices** is activated in the database configuration (see **5.14.10 Finance module**).

Neu	Adds a new document
	The document type and the description of a document can be changed later, but the document itself is write-protected!
	Click this button to delete the selected document (s).
	Click this button to copy (save to a disc) the selected document (s).
	Click this button to open the selected document (s) (write-protected). The respective standard program is used, which is linked to the corresponding file transmission.
	Filters the view by document type. Simply select the desired document type. The setting ***All*** displays all document types, while the ***no document*** type setting assigns only documents that have not been assigned a document type.

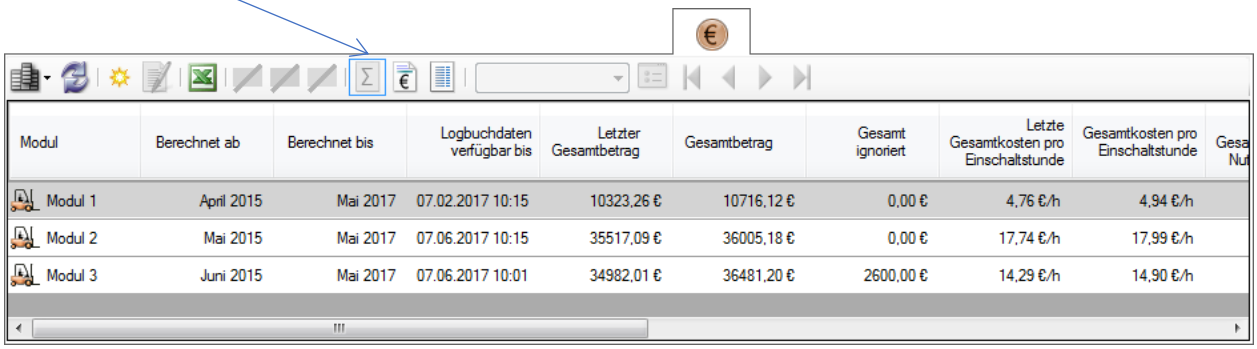
Click the Neu button and select the file you want to save or select the document you want to edit from the document list and click the button .



In the following dialog, you can **name** the document, set the **document type**, and add a **description.**
Click on **Add** to save this file in the database or click OK to apply the changes.

5.15.3 Financial Status

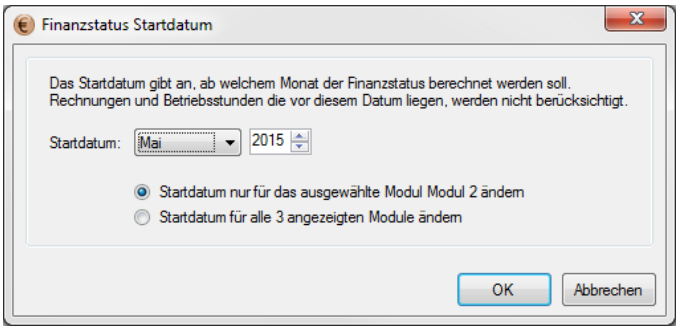
Click on the Σ button to display the financial status.



The financial status displays an overview of all currently selected modules.

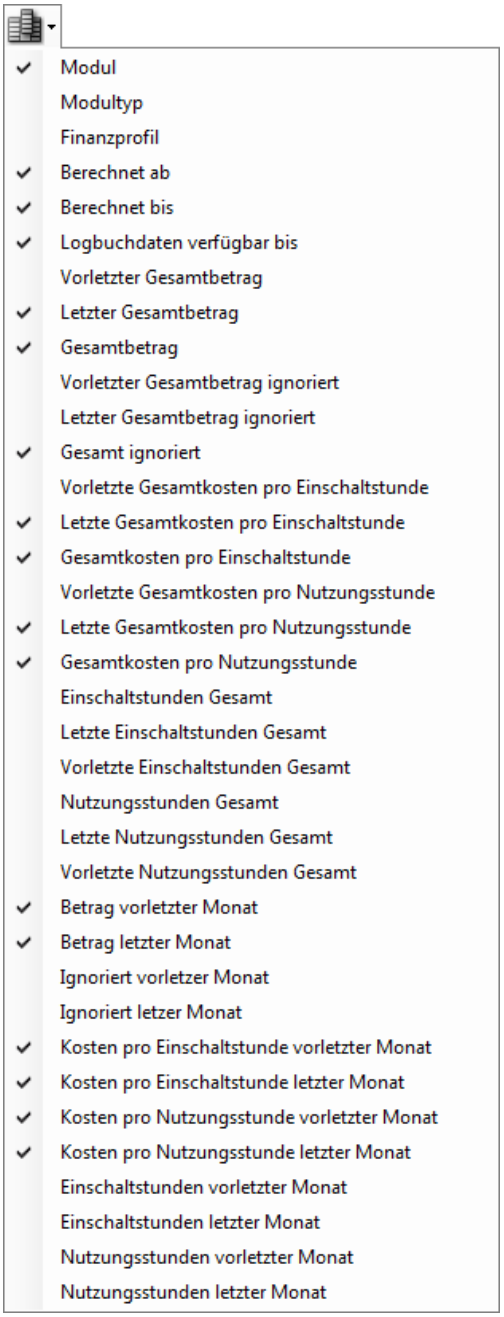
Grey lines:
For modules with insufficient operating hours data, the line is displayed with a grey background. The column **Calculated up to** (by default, invisible, to unhide, see **5.4.5.3 Columns View and Hide**) shows up to which month the financial status has already been calculated. The column **Logbook data available up to** (also standardly hidden) describes, by which date the module logbook (see also **5.5.12 Logbook**) was read out and also statically pre-calculated (see **5.18.3.1 Status of the calculations**). If the financial status has already been calculated for one or several months with no logbook and statistics data, the line is displayed in grey.
The absolute financial data are fully valid, whereas relative financial data, which relate to the costs per cut-in or usage hours, are correspondingly inaccurate (partially read out logbook data) or even cannot be calculated at all.

Calculation start (Calculated from)
Also very important is the **Calculated from** column. This parameter specifies the month from which the financial status is calculated, i.e., the start point of the calculation.
By default this date corresponds to the date of the first entered invoice.
Double-clicking on this date opens a dialog with which the start date of the financial calculation can be changed later.
You can change the start date either only for the one module you just double-clicked, or for all the modules currently selected in the tree diagram on the left.



5.15.3.1 The Columns Financial Status

In financial state, many columns are hidden by default. By clicking on you can hide or display further column.



The columns have following meanings:

Module
Displays the name of the module

Module type
Displays the module type

Financial profile
Displays the financial profile assigned to this module.

Calculated
Indicates the date on which the financial status is calculated. Double-click on this field to change the date. See **Calculation Start** on the previous page.

Calculated up to
Indicates up to which month (including) the financial status is calculated.

Logbook data available up to
Shows up to which date logbook and statistics data are available. See the notes on **Grey lines** on the previous page.

Penultimate / last total amount
The total amount shows the sum of all previously calculated invoices (individual amounts, see **5.15.5 Accounting List**). Ignored invoices (see **ignore invoice** in chapter **5.15.2 Add New Invoice**) are not taken into account.
The final total amount corresponds to the total amount one month before, the penultimate to the total amount two months ago.

Penultimate / last total amount ignored
Displays only the sum of all ignored invoices, in contrast to the total amount.

Penultimate / Last Total Cost per Hour
Displays the ***total cost per cut-in hour*** according to the formula ***Total amount / Total cut-in hours***. This means the sum of all costs incurred so far will be divided by the sum of all cut in hours of (since the time calculated ***starting from***).
The last or ***penultimate total cost per cut-in hour*** is the value calculated one or two months ago.

Penultimate / Last total costs per hour of use

Displays ***the total cost per hour of use*** according to the ***formula total amount / hours of use total***. This means the sum of all costs incurred so far is divided by the sum of all usage hours (since the time calculated starting from). ***The last*** or ***penultimate*** total cost per hour of use is the value calculated one or two months ago.

Penultimate / Last Cut-in Hours Total

Shows how many cut-in hours between ***Calculated from*** and ***Calculated up to*** accrued***. Last hours of total hours*** indicates how many hours of cut-in between ***Calculated from*** and ***Calculated up to*** accrued in one month. This corresponds to the value of total hours of cut-in hours one month ago. Accordingly, the penultimate cut-in hours total is identical to the value of cut-in hours total of two months ago.

Penultimate / Last Usage hours Total

Indicates how many usage hours between ***Calculated from*** and ***Calculated up to*** accrued. Last / last-usage hours total corresponds to the value of one or two months ago.

Amount of penultimate / last month

Indicates the amount that has been added in the last or last month of the calculated month. This is the ***total amount - last total*** or ***last total amount - penultimate total amount***.

Ignored last / last month

Same as last / last month, except that only the ignored invoices are considered.

Cost per operating hours before last / last month

Indicates the costs incurred during the last month of each operation hour. Calculated are the ***operating hours before the last / last month / amount of the last / last month***.

Cost per cut-in hour before last / last month

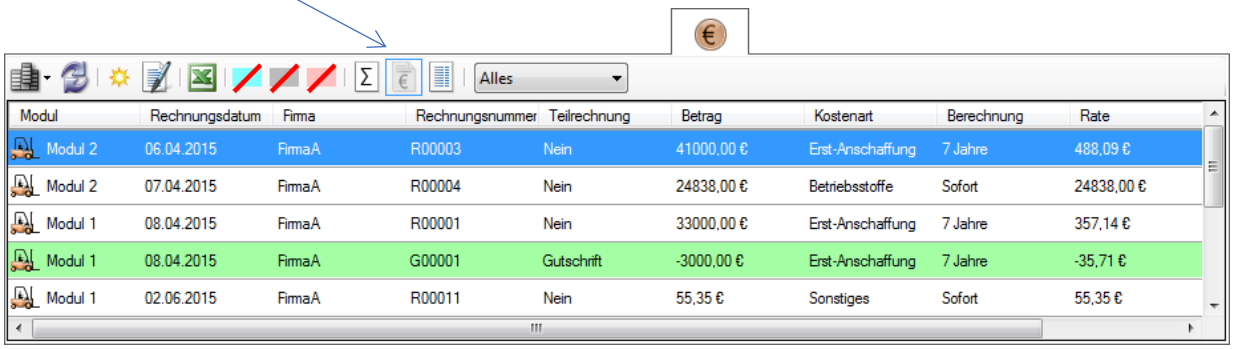
Indicates the costs incurred during the last month of each working hour. Calculated are ***cut-in hours last but one / last month / amount last month / last month.***

Hours of use last month / last month

Shows how many hours worked in the last or last (calculated) month. This means the number of hours worked in this one month. This corresponds to Total hours of use - Total last hours of use and / or Total last hours of use - Total penultimate hours of use.

5.15.4 Invoice List

Click on this button  to display the invoice list.



All invoices entered can be displayed in this view.
By default deleted, ignored, and split invoices are not displayed. However, the following buttons can be used:

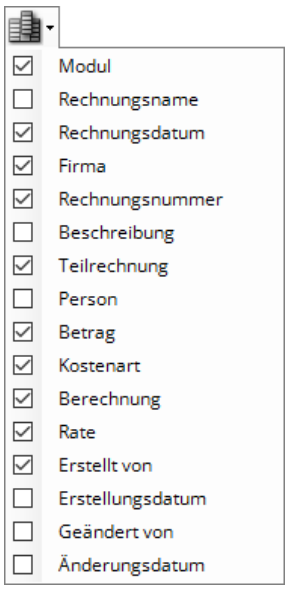
: Also displays deleted invoices. Deleted bills are displayed with light red background colour.

: Also displays invoices where the ***ignore invoice option*** is selected (see also **5.15.2 Add New Invoice**). Ignored invoices are displayed with grey background colour.

: Also displays split invoices. In the case of a split invoice, only the individual invoices, but not the original invoice, are displayed with the total amount. After clicking on this button , the split original invoice is displayed with a light blue background colour.

By double-clicking on a line or a simple click and then clicking the button, the corresponding invoice can also be edited. You can also split an invoice later, etc.
The procedure is identical to entering new invoices.
See **5.15.2 Add New Invoice**.

5.15.4.1 The columns of the invoice list



With a click on you can hide or view the columns.

The columns have following meanings:

Module
Displays the name of the module (or range) to which this invoice belongs.

Account name
Displays the automatically calculated or entered invoice name of this invoice.

Date of invoice
Displays the date entered.

Company
Displays the billing (company) from which this invoice originated.

Invoice number
Displays the invoice number of this invoice

Description
: Displays the text that was specified as a description in the invoice

Partial invoice
Indicates whether it is a partial calculation (for example, Part 3) or a credit note. For normal (non-split invoices) the text is no.

Person
Displays the text entered under Invoice (name).

Amount
Displays the entered amount of this (partial) invoice or credit memo.

Cost
Displays the cost type of this invoice.

Calculation
Indicates how this invoice is settled. For example, **Immediately, rent** or **a depreciation period over X years.**

Rate
In the case of depreciation, the effective amount per month is displayed here.

Created by
If the operating rights (see **5.21 Software Operating Rights**) are activated, the user who has entered this invoice is shown here.

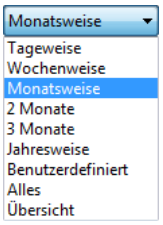
Creation Date
Indicates when this invoice was entered.

Changed by
If the operating rights (see **5.21 Software Operating Rights**) are activated, this shows who has changed this invoice last.

Change date
Indicates when this invoice was last modified.

5.15.4.2 Select Display Area

The display of the invoices can be limited to specific time ranges (e.g., weeks, months, etc.). Only invoices with an invoice in this time range date are displayed.
The selection field is used to select the size of the displayed time range. All entries of a day, a week, and so on are displayed accordingly.



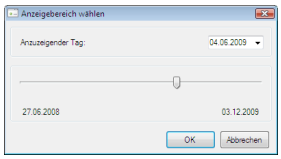
With the buttons 

on the right the day, week, month, etc. are displayed. If, for example, the time range is selected in day mode, then a specific day can be selected to be displayed.
On the right the selected area is described.

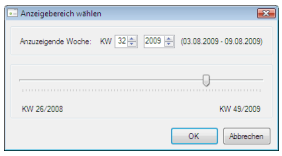
The buttons have the following meaning:

- Calls up a dialog with which the desired area can be selected comfortably
- Switches to the first (oldest) possible range of data.
- Switches to the previous range, e.g., to the previous week.
- Switches to the next area, e.g., next week.
- Switches to the last (most recent) possible range of data.

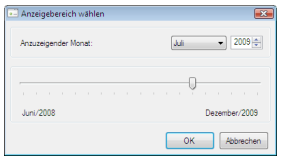
Depending on the size of the time range to be displayed, the dialog that is called with the button looks different:



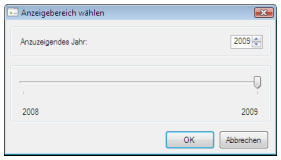
Days:
You can select the date to be displayed using the date button in the upper right corner of a calendar or the slider.
Click OK to display the selected tag.



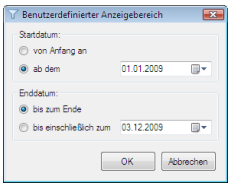
Weeks:
Select the desired calendar week and year or simply move the slider.
Click OK to display the selected week.



Months:
Select the desired month and year, or simply move the slider.
Click OK to display the selected month.



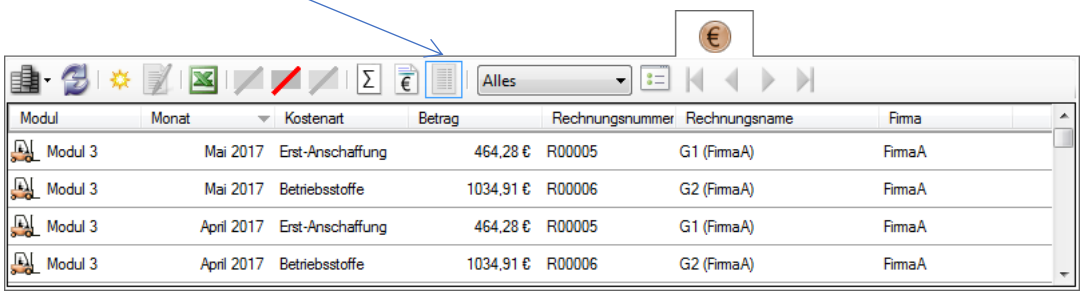
Year:
Select the desired year or just move the slider.
Click OK to display the selected year.



Custom:
You can select an area for this day.
To start from the oldest entry, select as starting date ***from the beginning***. Otherwise, enter the date the area to be displayed should start from.
If you want to display all entries, including today, from the start date, select the date ***up to the end***. Otherwise, you can enter a date to which (including) the range should be displayed.

5.15.5 Accounting List

Click on this button to display the accounting list.



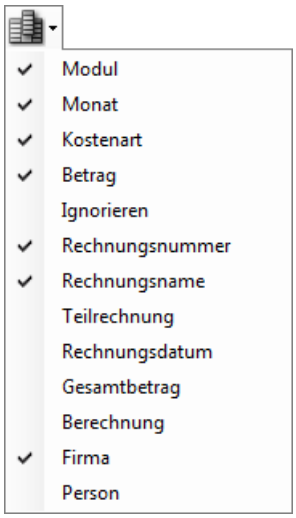
The individual booking items are displayed here.

If an invoice is amortized over a period of time, the corresponding amount is posted here monthly until the invoice is completely ***depreciated***.

For the calculation of ***rent, leasing, MBV*** and ***full service***, the invoice amount is posted monthly until the invoice is deactivated.

For invoices with calculation type i***mmediate***, the total amount is posted once.

5.15.5.1 The columns of the invoice list



With a click on the button you can hide or view the columns.

The columns have following meaning:

Module
Displays the name of the module (or range) to which this invoice belongs.

Month
Indicates the month in which the booking was made.

Cost
Specifies the cost type

Ignore
Indicates whether this amount is used for the calculation of the financial status or not (see also ***Ignore invoice*** in chapter **5.15.2 Add New Invoice**).

Invoice number
Displays the invoice number of the corresponding invoice.

Account name
Displays the invoice name of the corresponding invoice.

Partial invoice
Indicates whether the associated invoice is a partial invoice (for example, partial invoice 3) or a credit note. For normal (non-split invoices) the text is no.

Date of invoice
Displays the invoice date of the corresponding invoice.

Total amount
Displays the amount of the corresponding invoice. Relevant only for depreciation. For all other calculation types, this is identical to the amount specified above.

Calculation
Displays how the invoice is billed. For example**, *immediately, rent*** or a ***depreciation period over X years.***

Company
Displays the billing (company) from which the corresponding invoice originates.

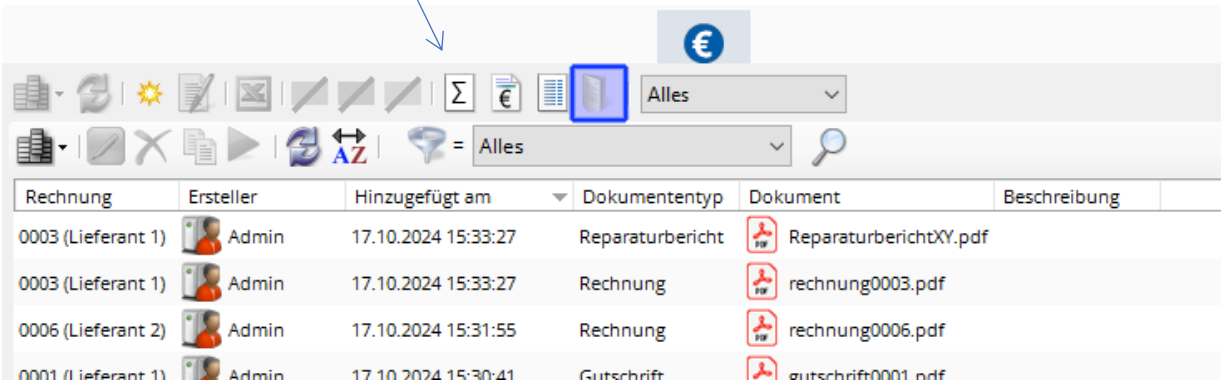
Person
Displays the biller (name) from which the corresponding invoice originated.

5.15.5.2 Select Display Area

In the booking list, the display can be restricted to specific time ranges (e.g., weeks, months, etc.). Only single entries that have been posted during this period are displayed.
For operation, see **5.15.4.2 Select Display Area**.

5.15.6 List of documents

Click the button to view the list of documents.

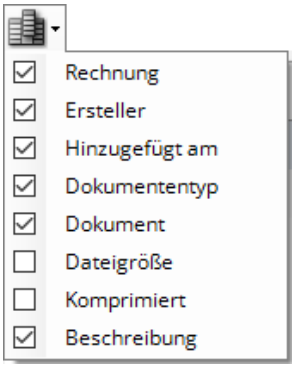


Here the individual documents with the corresponding invoice are displayed.

The button can also be used to search for text in the file name, document type and description.

5.15.6.1 The columns in the list of documents

Click to show or hide columns. The columns have the following meaning:



Invoice
Displays the invoice name of the associated invoice.

Creator
Shows who added the document

Added on
Indicates when the document was added

Document Type
: Displays the document type as it was entered when the document was added

Document
Displays the name of the added file

File Size
: Displays the size of the added file

Compressed
Displays how much memory the (compressed) document uses in the database.

Description
Displays the description that was entered when you added the document.

5.15.6.2 Select Display Area

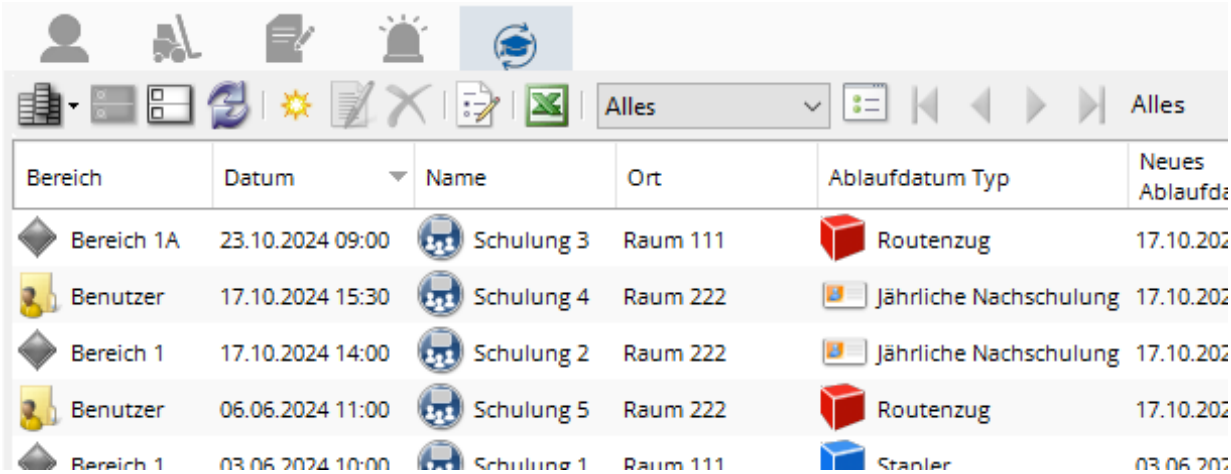
In the list of documents, the display can also be limited to certain time ranges (e.g. weeks, months, etc.). Only documents from invoices from this period will then be displayed.

For operation, see **5.15.4.2 Select Display Area**.

5.16 Training Module

With the training module, courses can be set up in which the corresponding expiry date of the participants is automatically increased after completing this training.

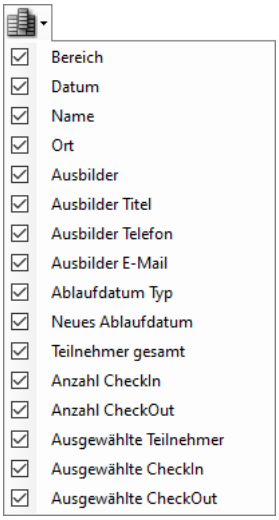
In tab click on User on the right side on to display the training centre.



All training courses from the areas selected in the tree diagram on the left are displayed here.
Training is always assigned to exactly one area (see **5.21.4 Areas**.
A time range can also be specified. Then only training courses from this time range are displayed.
See **5.16.2 Select display area**.

5.16.1 The columns of the training list

With a click on you can show or hide columns.
The columns have the following meaning



Area
Displays the area (see **5.21.4 Areas**) to which this training is assigned.

Date, Name, Location, Instructor, Instructor Title/Telephone/Email
Displays the relevant dates for this training.

Expiry date type
Shows which expiry date (see **5.14.7.1 Expiry date** and **5.14.4.4 Vehicle Classes**) is changed with this training.

New expiry date
Displays the date on which the corresponding expiry date is set if the user checks out properly (see **5.16.3.5 Check-Out**)

Total participants
Shows how many participants (users) are assigned to this training.

Number of Check-In
Shows how many participants (users) have already registered for the training (see **5.16.3.4 Check-In**)

Number of Check-Out
Shows how many participants (users) have already properly checked out (see **5.16.3.5 Check-Out**)

Selected participants
Shows how many users of the users currently selected in the tree diagram on the left are assigned to this training as participants.

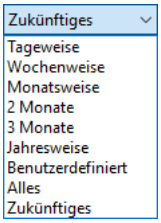
Selected Check-In
Shows how many of the users selected on the left have already registered for this training (see **5.16.3.4 Check-In**)

Selected Check-Out
Shows how many of the selected users on the left have already properly checked out of this training (see **5.16.3.5 Check-Out**)

5.16.2 Select display area

The display of the training can be restricted to certain time periods (e.g., weeks, months, etc.). Only training courses with a training date in this time range are then displayed.

With the selection field the size of the displayed time range is selected. All training sessions for a day, a week etc. are displayed accordingly.



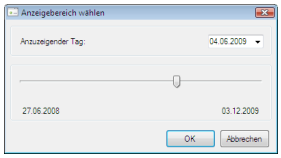
With the buttons to the right of 

, the respective day, week, month, etc. that should be displayed may then be selected. If, for example, the time range is selected on a daily basis, a specific day can be selected for display.
The selected area is described on the far right.

The buttons have the following meaning:

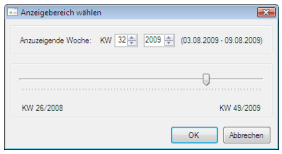
- Calls up a dialog with which the desired area can be comfortably selected
- Moves to the first (oldest) possible area with data.
- Moves to the previous area, e.g., to the previous week.
- Moves to the next area, e.g., to the next week.
- Moves to the last (youngest) possible area with data.

Depending on the size of the time range to be displayed, the dialog that is called up with the button looks different:

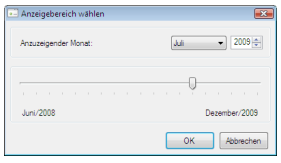


Days / Future:
You can select the day to be displayed using the date button in the top right of a calendar or using the slider at the bottom.
Click ***OK*** to display the selected day.

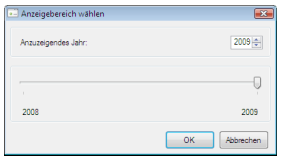
If you select ***Future***, all training courses from (including) this day are displayed.



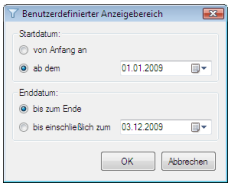
Weeks:
Select the calendar week and year you want, or just move the slider.
Click ***OK*** to display the selected week.



Months:
Choose the month and year you want, or just move the slider.
Click ***OK*** to display the selected month.



Years:
choose the year you want or just move the slider.
Click ***OK*** to display the selected year.



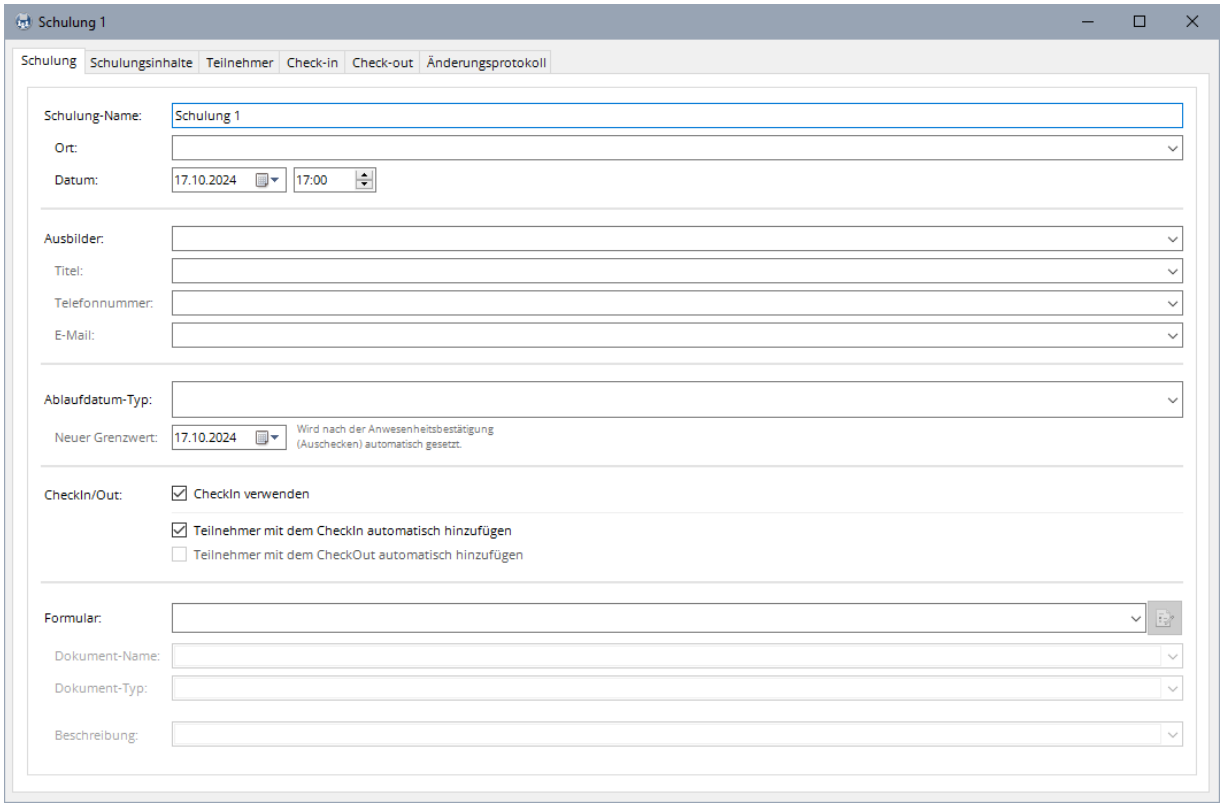
User defined:
You can select an area here on a daily basis.
To start from the oldest entry, select the start date from the start. Otherwise, enter the date on which the area to be displayed should start.

5.16.3 Add/edit/delete trainings

Click the button to add a new training.

With the button you can call up and edit / carry out the currently selected training. Alternatively, you can double-click on the respective training.

The selected training can be deleted with the button.



Training- Name /Location / Date

You can give this training a ***name***, an (event) ***location*** and a (event) ***date***. The name is used in several places in the Manager to refer to this training. The place and date, on the other hand, are purely informative. The information is not mandatory.

Instructor/Title/Telephone number/E-Mail

You can save the ***instructor*** for this training here. The information is purely informative and is otherwise not used in the Manager. The information is not mandatory.

Expiry date type / new limit

The ***type of expiry date*** for which this training is intended must be set here. The respective expiry date of the participants (users) is automatically raised if they properly log out of the training (see **5.16.3.5 Check-Out**). The corresponding expiry date is automatically set to the value specified under ***New Limit***.

Attention!
An expiry date type must be specified in order to add participants and start the Check-In or Check-Out.

Use Check-In

Check-in can ensure that all participants have been present from the start. To do this, the participants must briefly hold their transponder to the table reader for check-in (see also **5.16.3.4 Check-In**).

If this option is deactivated, Check-In is not used.

Automatically add participants with the Check-In

Automatically add participants with the check-in

If this option is activated, a user (who is not yet a participant in the training) is automatically added as a participant as soon as he holds his transponder against the reader at check-in.

If this option is deactivated, only users who are already (manually added) participants can check in.

The option is only available if Check-In is used.

Form / document name / document type / description

Along with increasing the expiry date, a PDF form can also be filled in automatically and saved as a document for the respective user (see **5.6.4 Documents**).

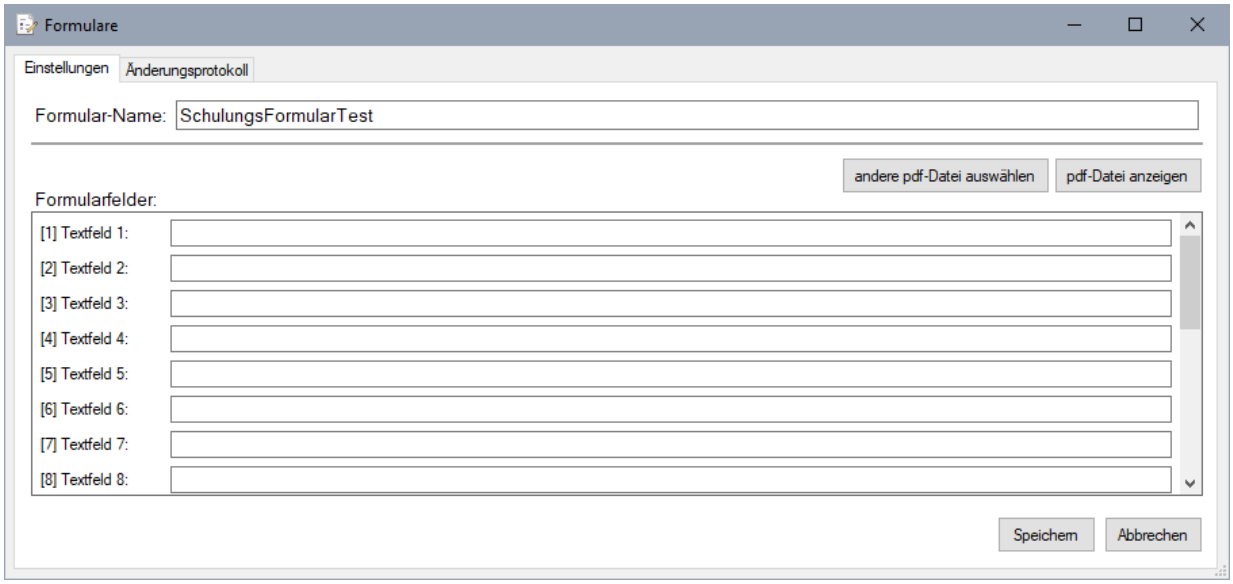
Select an existing form or create a new one by choosing Add new form. You can use the button to the right of the form name to open and view or edit the selected form. See the following chapter **5.16.3.1 Forms**.

Under ***Document Name / Type / Description*** you can set the name of the document that is automatically saved when you log off.

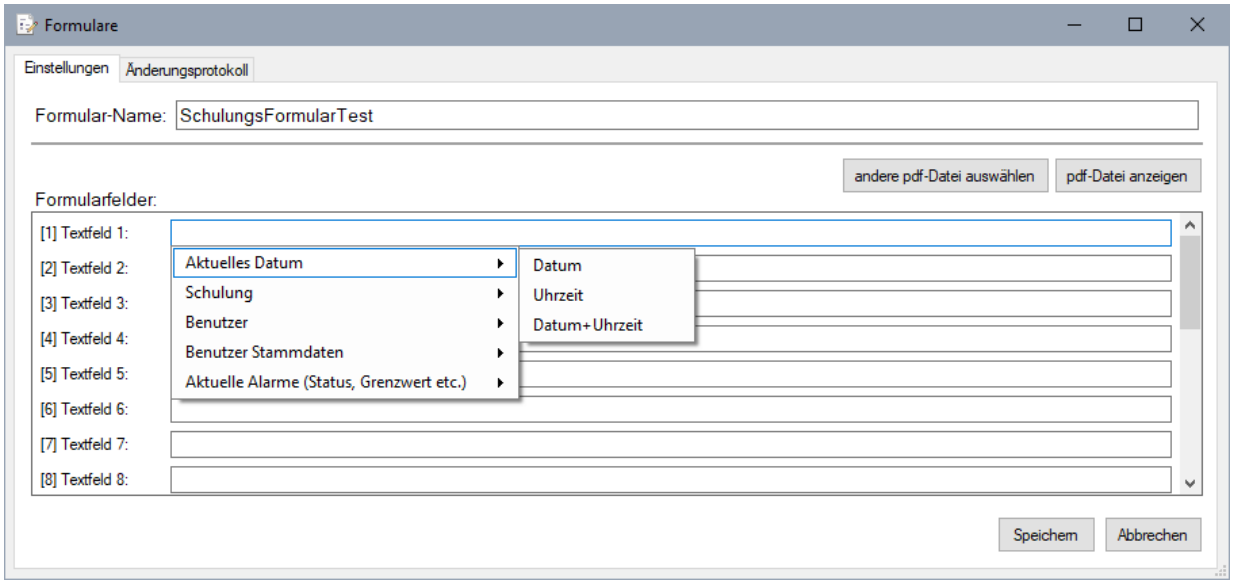
5.16.3.1 Forms

If you have created a new form, you will first be asked for a pdf file. Select a pdf file here that contains form fields.

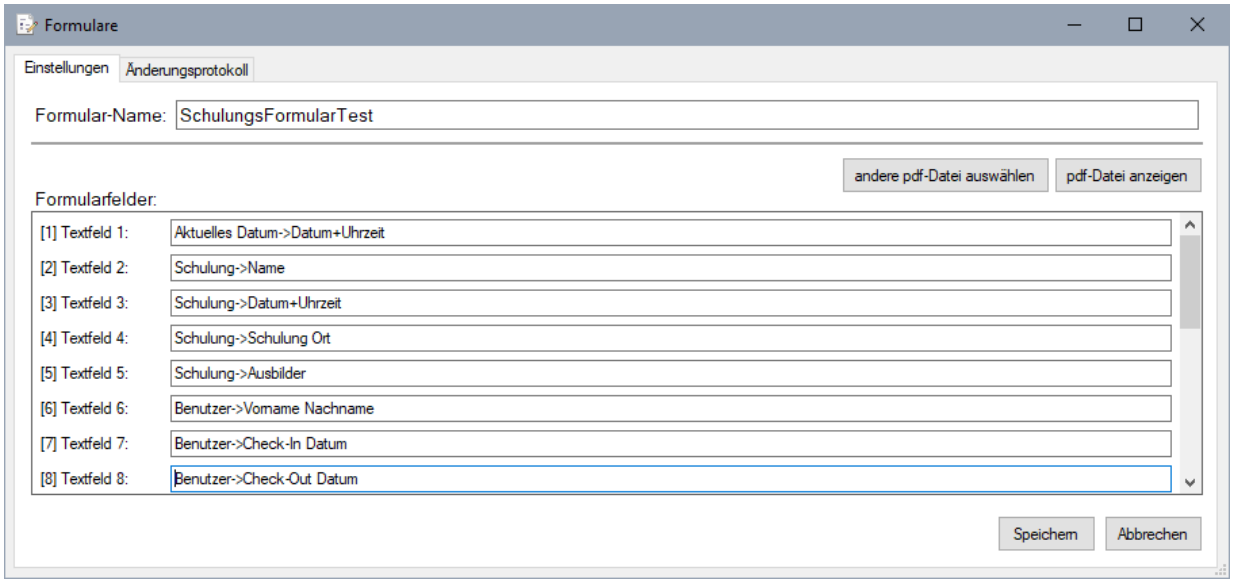
Caution! Only one-line text fields, multi-line text fields and marking fields () are supported. If you want to replace the underlying PDF file later, you can do so with the button ***Select another PDF file.***



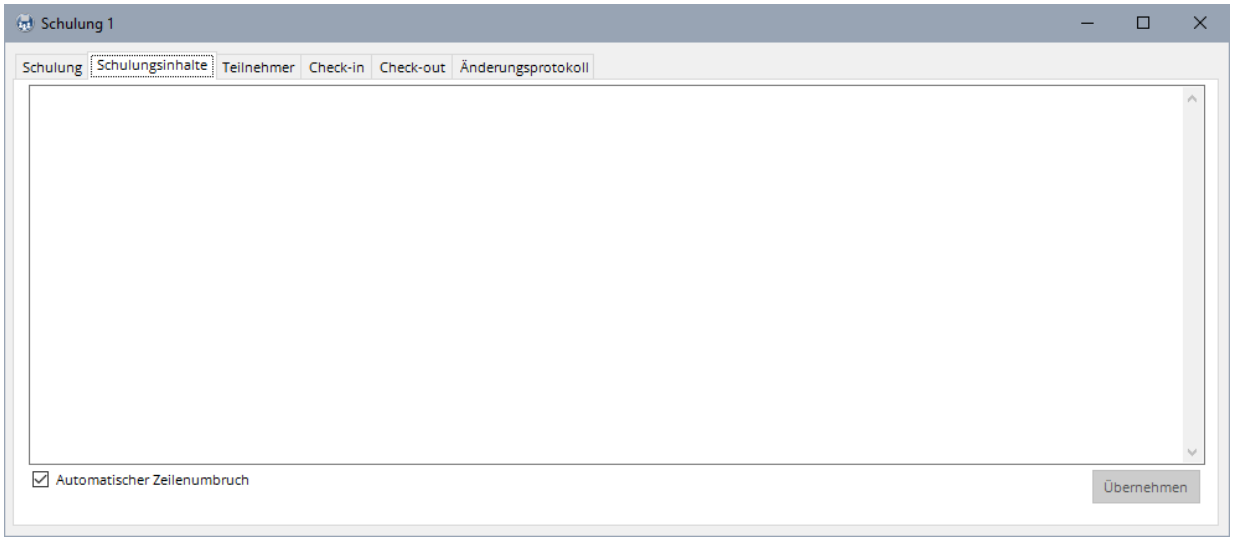
The Show pdf file button is used to fill out and display the pdf form with defined values. The form fields are numbered and filled with the name of the respective fields stored in the psd file. These numbers and names are displayed here as form fields. A variable can be assigned to each of these fields. To do this, click on the corresponding field.



This way, you can gradually assign all fields.
Note that only tags that can only take the values Yes or No can be selected for check boxes.



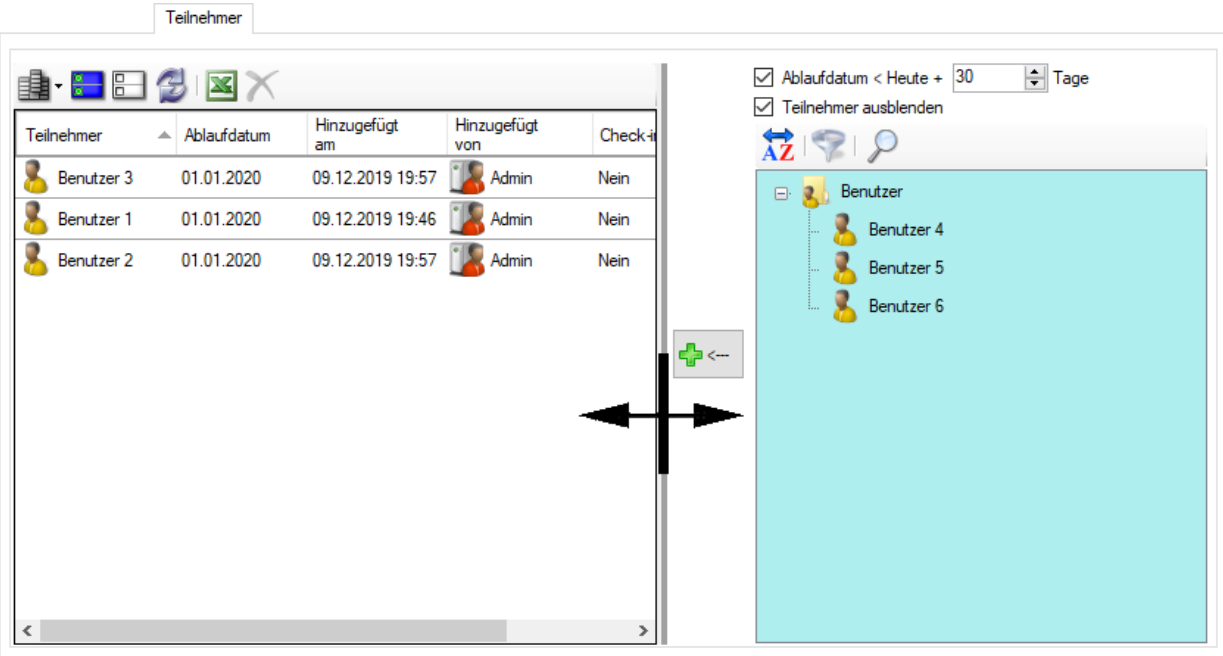
5.16.3.2 Notes



Im Reiter Notizen kann ein beliebiger Text zu dieser Schulung eingegeben werden.

Any text for this training can be entered in the Notes tab.
If you enter text in this field, it will not be saved permanently until you click any other field or click the ***Apply*** button. If the *Automatic text wrap* option is activated, the lines are automatically broken at the end of the field. Otherwise, a line can be of any length and a horizontal scroll bar may appear.

5.16.3.3 Participants



The participants of this training can be added in this window. Select the desired user (s) and click on the button to add the users as participants. Alternatively, you can drag the users from the right-hand side of the tree diagram to the list on the left-hand side.

With the option ***XXX <Today in X days***, the display of users can be restricted to those whose expiry date (of the respective expiry date type of the training) would expire within the specified period. In the example above, only users are shown whose expiry date would expire within the next 30 days or has already expired.

The option ***Last Login < Today before X days*** the display of users can be limited to those who have not logged in to a single module for more than X days.

The ***Hide participants*** option hides users already added as participants in the tree diagram.

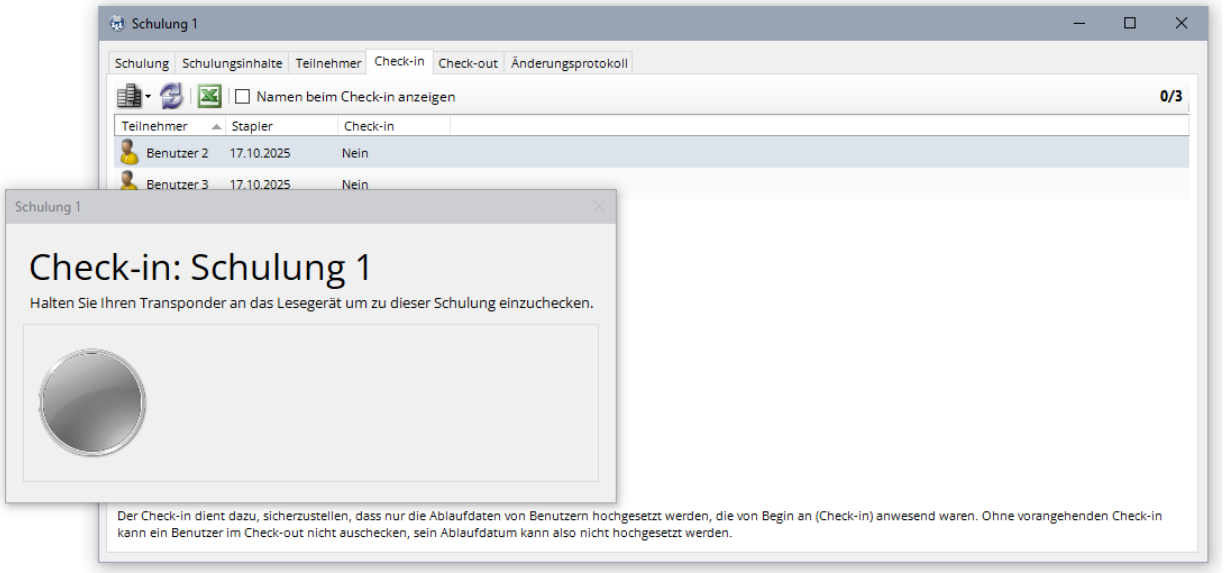
- Switches between "First Name Last Name" and "Last Name, First Name".
- Filters the display according to any criteria. See also **5.11.8 Filter display**.
- Searches the user's first name, last name or description in the tree structure. See also **5.11.9 Search**.

Note:
As long as the data is filtered by the option ***Expiration date <Today + X days*** or by the filter, the tree diagram is displayed with a turquoise background.

Tip:
The division between the right and left side can be moved with the mouse. To do this, move the mouse over the dividing line shown above until the mouse pointer changes to the symbol. Now you can move the dividing line to the left or right by holding down the mouse button

5.16.3.4 Check-In

The Check-In tab is only displayed if the *Use Check-In* option is activated for this training!



As long as the Check-In tab is selected, the Check-In window is also displayed. This check-in window can be moved freely and can e.g., can be moved to a second monitor, which can be positioned together with the desktop reader at a convenient location in the room.
Attention!
During this time, i.e., whenever the check-in window is open, all transponders are sent directly to the check-in window. During this time, the table reader has no other function than check-in.

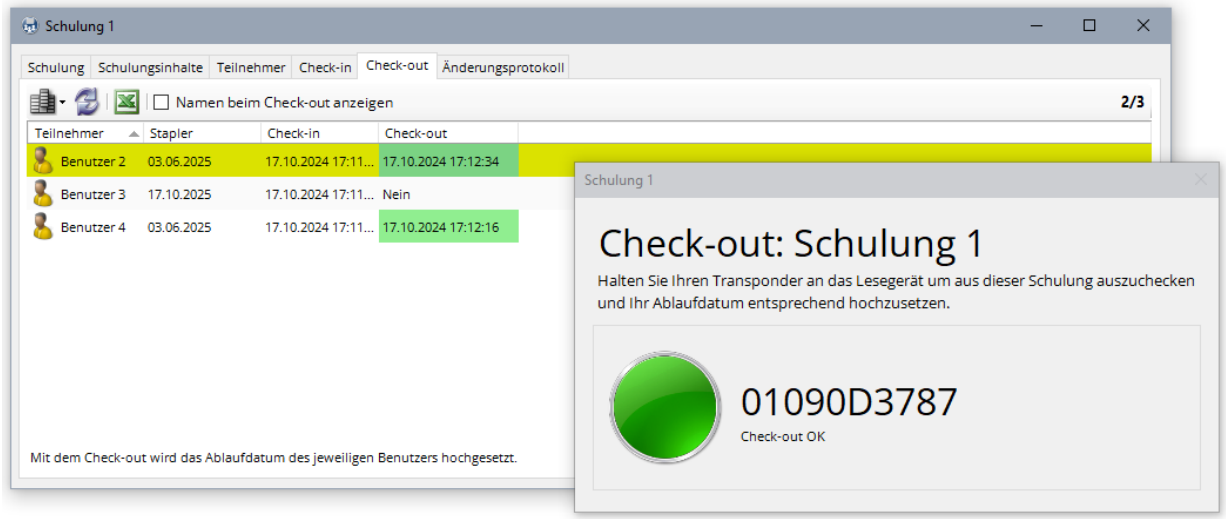
If a participant's transponder is held to the desk reader, this participant is checked in. The line briefly lights up yellow and the date and time are recorded in the Check-In column.

If the option ***Add participant automatically with Check-In*** is activated, a user who is not yet a participant can hold his transponder against the reader. He will then be automatically added as a participant and checked in immediately.

With the option ***Show names at Check-In***, you can select whether the name or only the transponder ID of the respective user should be displayed in the small check-in window during check-in.

5.16.3.5 Check-Out

A description and further information can be found in the chapter **5.16 Training Modul** and, if applicable, a form filled out and saved (see **form / document name / document type / description** in chapter **5.16 Training Modul**).



As long as the check-out tab is selected, the check-out window is also displayed. This check-out window can be moved freely and can e.g., be moved to a second monitor, which can be positioned together with the desktop reader at a convenient location in the room.

Attention!
During this time, i.e., whenever the check-out window is open, all transponders are routed directly to the check-out window. During this time, the table reader has no other function than the check-out.

If the option ***Use Check-In*** is activated, a participant can only check out if he was previously checked in. In the example above, user 2 cannot check out because they have not checked in.

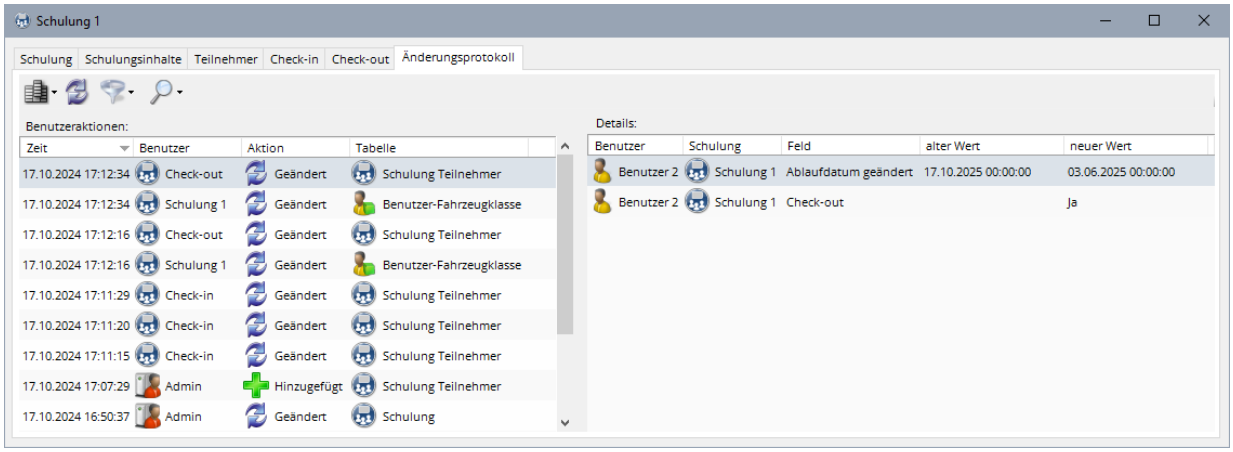
If the ***Use Check-In option*** is deactivated, he must either already have been added (manually) as a participant or the option ***Add participant with check-out automatically*** must be activated. In this case, he is automatically added as a participant by reading his transponder and checked out immediately.

As soon as you check out, the respective expiry date is set to the new limit set in the training. See expiry date type / new limit in chapter **5.16 Training Modul**.

If a form is stored in the training (see ***form / document name / document type / description*** in chapter **5.16 Training Modul**) this is automatically filled out when you check out and added to the respective user as a document.

With the option ***Show Names at Check-Out***, you can select whether the name or only the transponder ID of the respective user should be displayed in the small check-in window during check-in.

5.16.3.6 Change Log (Trainings)

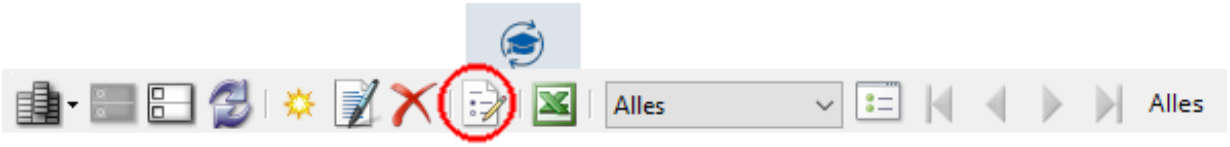


Every change to the training data is saved in the change log and displayed here.
Note:
By default, entries that are older than 90 days are automatically deleted. You can change this setting in the database configuration. See also **5.14.12 Database-Maintenance**.

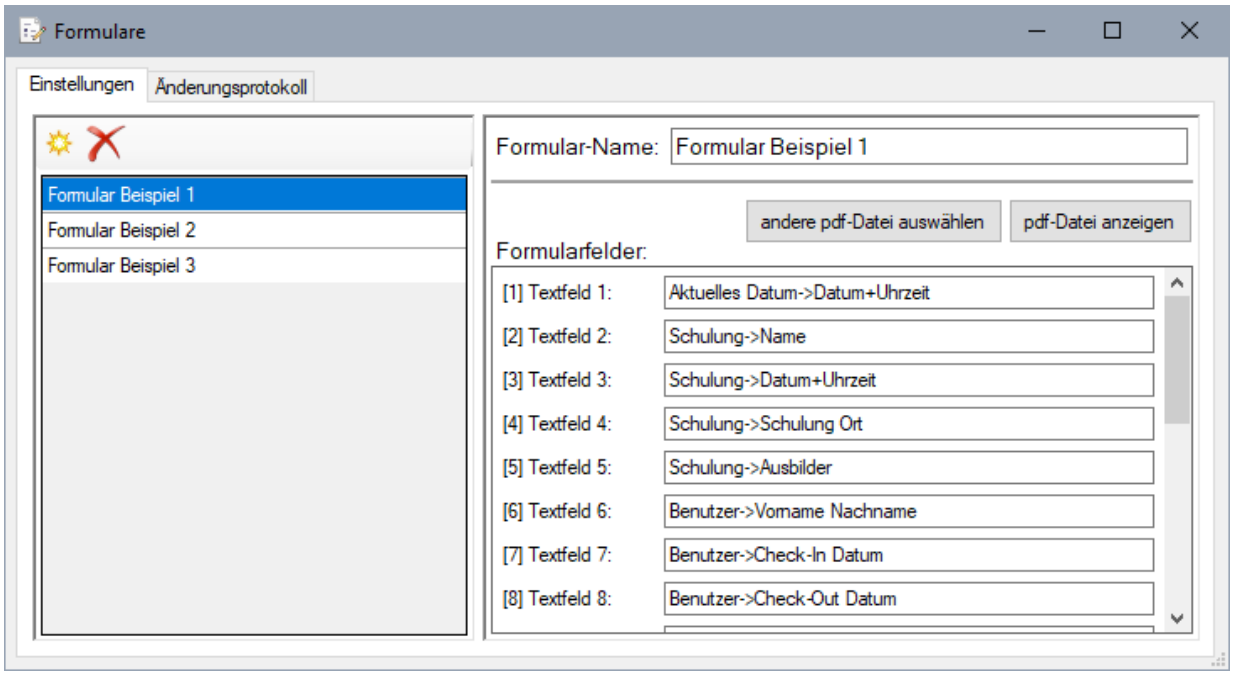
The ***User*** column corresponds to the respective software operator or administrator (see **5.21 Software Operating Rights**), who was currently logged on to the Mobile Easykey Manager. For actions that were carried out automatically by the Check-In or Check-Out, Check-In or Check-Out is displayed accordingly.

With the buttons and the change lock can be filtered and searched. A description and further information can be found in chapter **5.19 Change Log**.

5.16.4 Manage training forms



Click the button to open the forms manager.



All currently set up forms are now displayed on the left.
With the button you can add new forms and with the button you can delete the currently selected form. If the form is still used, a warning will appear. If the form is deleted anyway, all courses that have used this form will no longer use a form.
On the right you can edit the currently selected form.

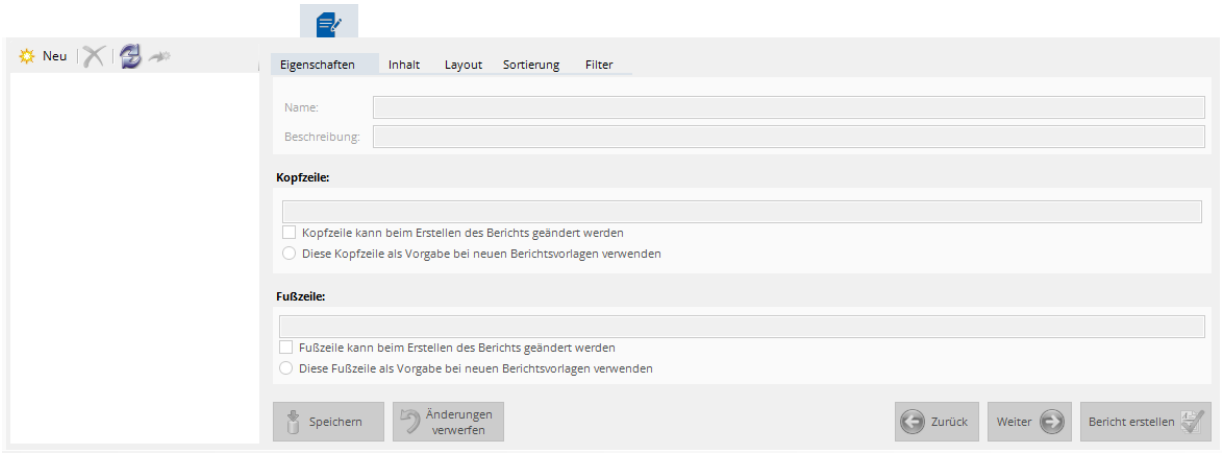
See also chapter **5.16.3.1 Forms**.

5.17 Reports

The report generator allows you to print lists, grouped and detailed reports of all modules, batteries, users, profiles or alarm profiles, save them as a pdf-file (for simple lists) or as an Excel spreadsheet. For modules, users and batteries, a PDF-form can be created individually by you and be filled out automatically.
A wide range of configuration options are available.

On the left, select the tab for the elements you want to create a report for. E.g., the tab *modules* if you want to print out a list of the modules.

Then on the right, select the tab .



With the button Neu you can create a new report template. Depending on which tab you have selected on the left, the appropriate report types are offered. In the right part of the selection, you see in each case, an example of the currently selected report type. Select the required report type now.
Further details on the report types see chapter **5.17.2 Report Types And Contents**.

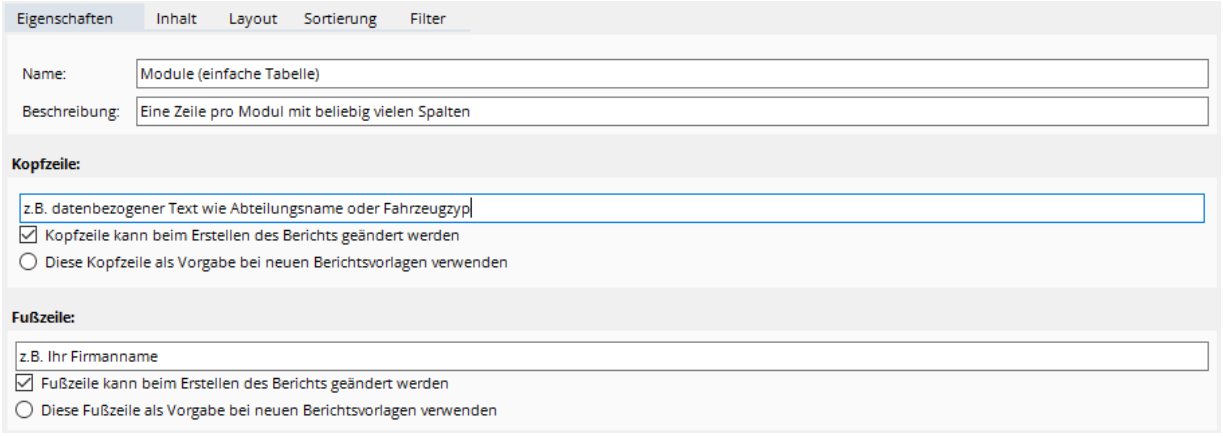
The remaining buttons in the toolbar of this sub window have following meanings:

- Deletes the currently selected template.
- Load the displayed data once more from the SQL server.
- Generates a copy of the actual template.

The buttons in the lower margin have following meanings:

Save	Saves the actual template with all changes made
Reject	Rejects all changes (since the last saving). If a new report template was never saved, this is thereby completely deleted
Back	Moves in the order of the tabs (***properties***, ***contents***, ***layout***, ***sorting***) to the previous tab. Alternatively, the required tab can be clicked directly.
Next	Moves in the order of the tabs to the next tab.
Create report	Calls the report generator with this template. See also **5.17.6 Report Create (print)**.

5.17.1 Properties



For every report template the following basic data can be entered:

Name	The name under which this report template is saved. The name of the template type is pre-set.
Description	Any description.

5.17.1.1 Header

You can specify a header which is saved together with the report template. The text of this header is displayed on every page of the final report in the upper grey row.

This configuration is not displayed in the special reports (see **5.17.2.4 Special**) because they do not have a header.

With the option ***Header can be changed on creation of report,*** you specify whether the header may be changed again just before printing. This can be helpful if the text of the header refers to the elements selected in the report. E.G., the department name of the selected users or the vehicle type of the selected modules can be entered.
Vice versa it can be helpful to have a fixed header if, e.g., your company name should be stated.

If the option ***Use his header as a default with new report templates*** is activated, this header as well as the setting for the option ***Header can be changed on creation of report***, is automatically pre-set for the creation of new report templates.

5.17.1.2 Footer

You can specify a footer which is saved together with the report template. The text of this footer is displayed on every page of the final report in the lower grey row.

This configuration is not displayed in the special reports (see **5.17.2.4 Special**) because they do not have a footer.

The options ***Footer can be changed on creation of report*** and ***Use this footer as a default with a new report template*** correspond to the respective options of the header.

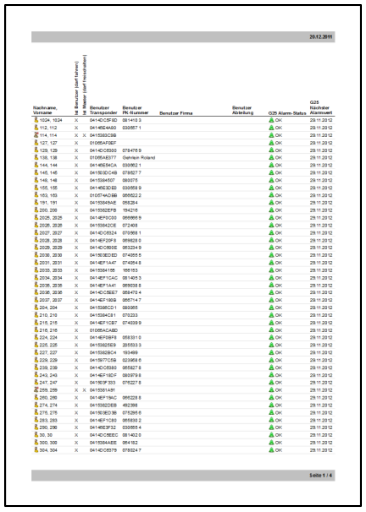
5.17.2 Report Types And Contents

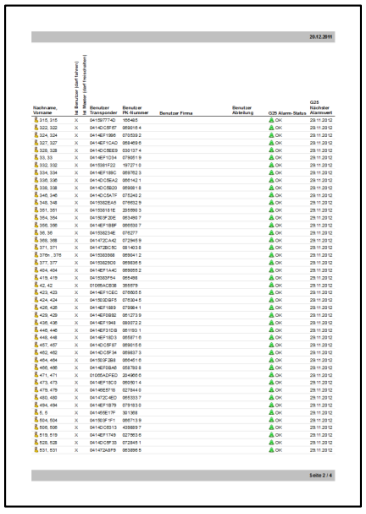
Essentially it is distinguished between List, simple tables, Grouped reports (e.g., modules with users or batteries with modules) and Detailed reports.
In addition, there are the special reports, see **5.17.2.4 Special** .

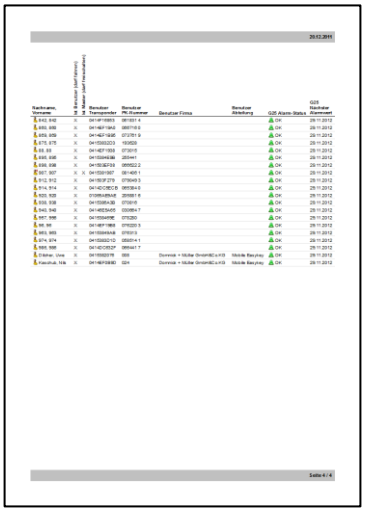
Examples for regular report types:

List (simple table)

User (simple table)



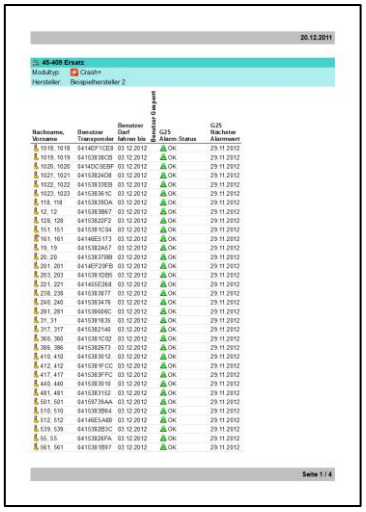


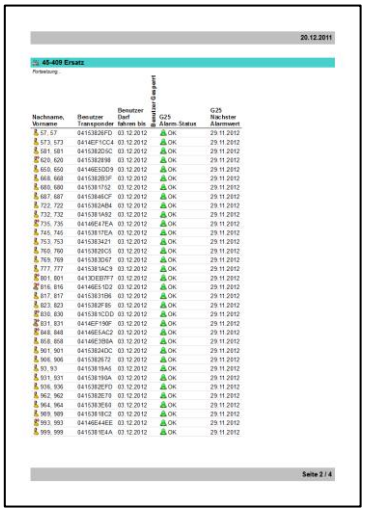


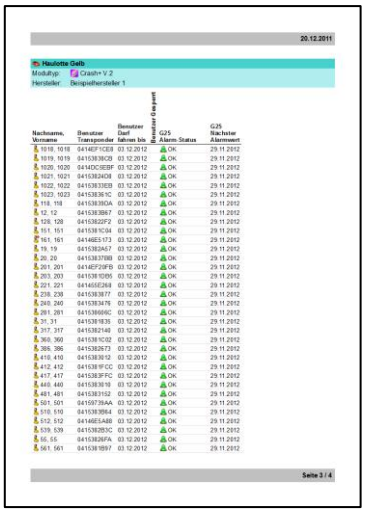
...

Grouped report

Modules with users



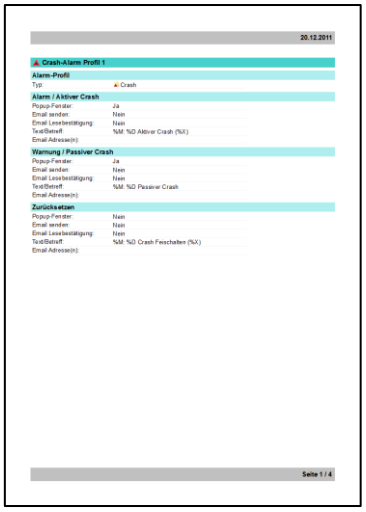


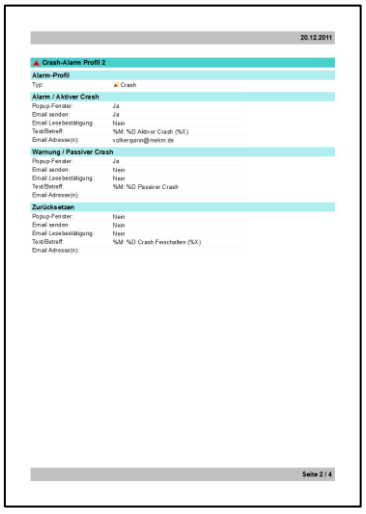


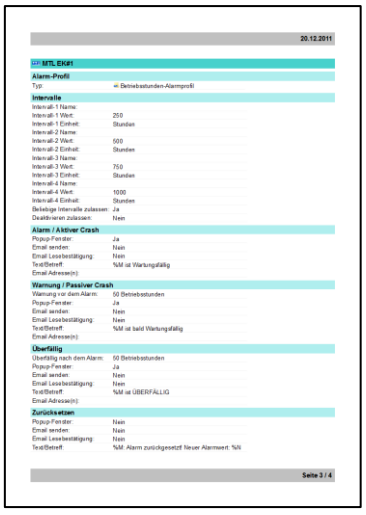
...

Detailed report

Alarm profiles, detailed report







...

5.17.2.1 List (simple tables)

With this report type simple lists of all modules, users, batteries, profiles, alarm profiles, shift models and holiday lists can be made. It can be specified which columns this template report list should contain. E.G., The list should display the columns of the user name, surname, department, phone number etc.

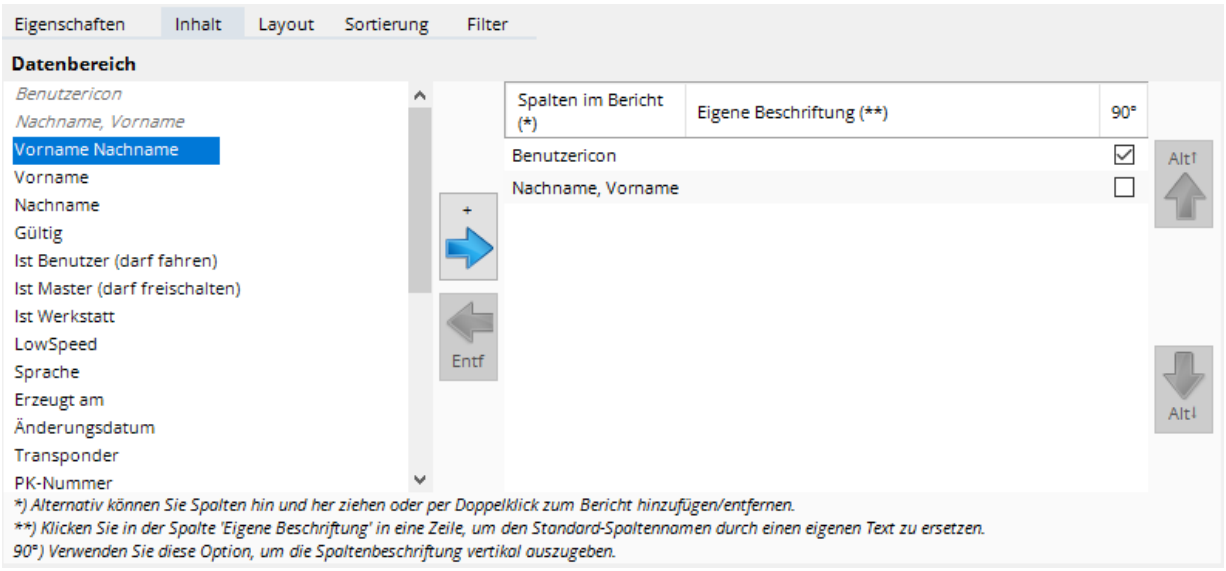
To create a report template with the report type *List*, click on button 

and select the appropriate template types now:

Tip:

In the example the template type ***User (simple table)*** is used.

Change, if required, the ***names***, ***description***, ***header*** and or ***footer*** (see **5.17.1 Properties**) and select then the tab ***contents***.



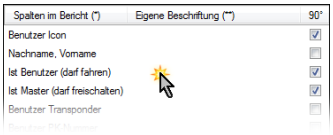
In the left section you see all available columns in a tree diagram.
In the right section you see the currently selected columns. By default, the respective icon and the respective name are always specified.
Now you can add further columns selecting the required column name in the left section and click on button . Alternatively, you can also press the plus button (+), double-click on the column name or drag the column name with the mouse to the right section.
Vice versa you can delete the columns by selecting the column name on the right section and click on the 

button. Here you can press Alternatively, the delete button, double-click on the column name or drag the column name with the mouse again to the left section.
Selected columns are displayed on the right section and are shown on the left section in *italic*.

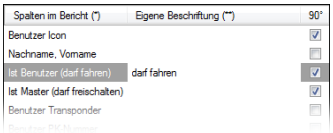
In the right section you can change the order of the columns by clicking on the respective column name and with the buttons 

or 

move them upwards or downwards. Alternatively, you can drag the column name with the mouse upwards or downwards.

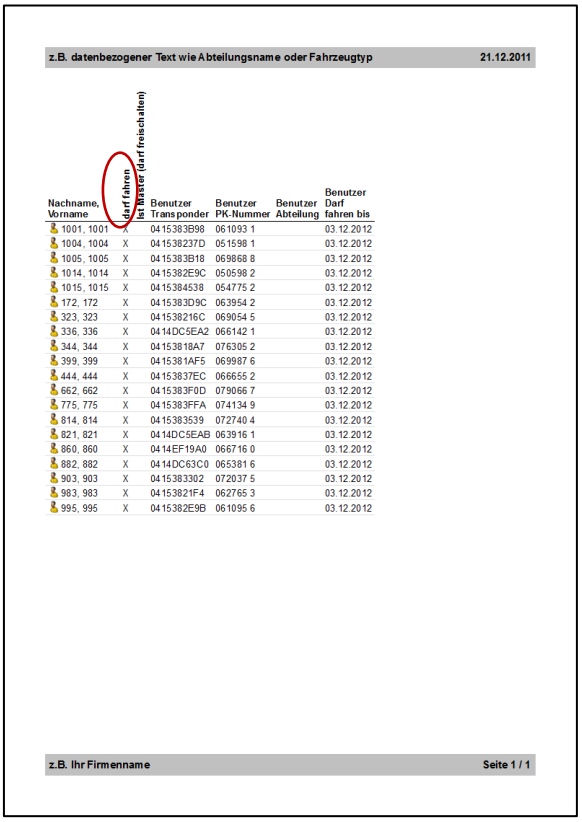


In the right section, in the column ***description*** you can change the column name when required. Click in the respective row on the column ***individual description*** and enter the required text. You can wrap the column text. Thus, space can be saved for very long column descriptions; because 90 ° rotated column descriptions are generally not automatically text wrapped.



Last you can specify in the column ***90 °*** whether the column description should be printed vertically in the report. This is helpful for very narrow columns, because otherwise the column becomes very wide in the column description.

The final report of this template could look like this:



z.B. datenbezogener Text wie Abteilungsname oder Fahrzeugtyp 21.12.2011

Nachname, Vorname	darf fahren	Ist Master (darf freischalten)	Benutzer Transponder	Benutzer PK-Nummer	Benutzer Abteilung	Benutzer Darf fahren bis
1001, 1001	X		0415383B98	061093 1		03.12.2012
1004, 1004	X		04153823 7D	051598 1		03.12.2012
1005, 1005	X		0415383B18	069868 8		03.12.2012
1014, 1014	X		0415382E9C	050598 2		03.12.2012
1015, 1015	X		04153845 38	054775 2		03.12.2012
172, 172	X		0415383D9C	063954 2		03.12.2012
323, 323	X		04153821 6C	069054 5		03.12.2012
336, 336	X		0414DC5EA2	066142 1		03.12.2012
344, 344	X		04153818A7	076305 2		03.12.2012
399, 399	X		0415381AF5	069987 6		03.12.2012
444, 444	X		0415383 7EC	066655 2		03.12.2012
662, 662	X		0415383F0D	079066 7		03.12.2012
775, 775	X		0415383FFA	074134 9		03.12.2012
814, 814	X		04153835 39	072740 4		03.12.2012
821, 821	X		0414DC5EAB	063916 1		03.12.2012
860, 860	X		0414EF19A0	066716 0		03.12.2012
882, 882	X		0414DC63C0	065381 6		03.12.2012
903, 903	X		04153833 02	072037 5		03.12.2012
983, 983	X		04153821 F4	062765 3		03.12.2012
995, 995	X		0415382E9B	061095 6		03.12.2012

z.B. Ihr Firmenname Seite 1 / 1

5.17.2.2 Grouped Reports

With this report type grouped reports can be created. Per main element (e.g., per user) a new page is used. The page always starts with a group header icon and the names of the respective main element (in the example the user icon and the username). In the report, type ***Users with modules*** can be selected, whether name and/or surname should be displayed in the first group header.

The report can also contain additional group headers. E.G., the ID number, department etc... These additional group headers are only displayed on the first page of the main element. If, e.g., the modules assigned to the user do not fit on one page, the group header is repeated first (and only first) and the list of the modules is continued.

The group header is followed by the already mentioned sub elements. In this example these are the users assigned to the respective modules.

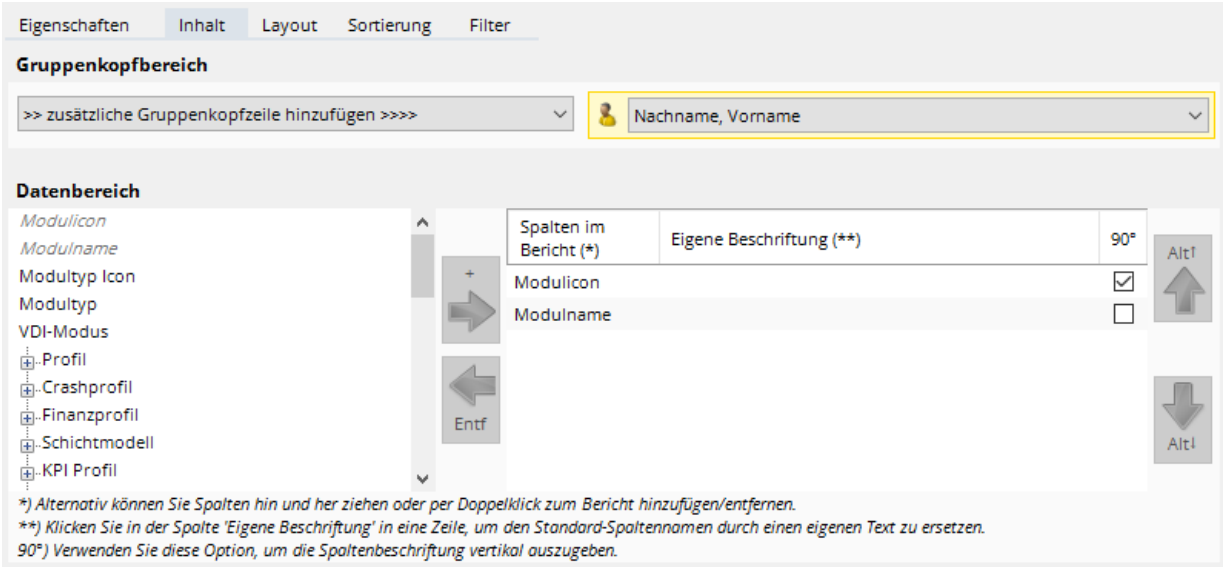
To create a report template with the report, type ***Grouped reports*** click on button 

and select the appropriate template type:

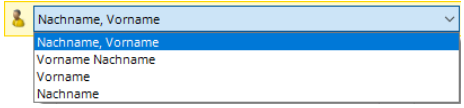
Tip:

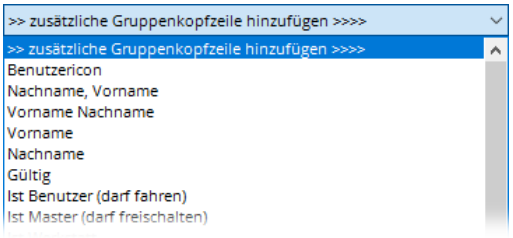
The following description and the example refer to the report template ***user with modules***. For the report template ***Modules with users***, ***Modules with batteries*** or ***Batteries with modules*** the same approach applies accordingly.

Change, if required, the ***names***, ***description***, ***header*** as well as ***footer*** (see **5.17.1 Properties**) and then select the tab ***contents***.



In the ***group header*** on top, you can select which name of the respective user should be displayed.

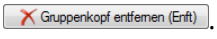




To the right of it you can add further group headers from the list.

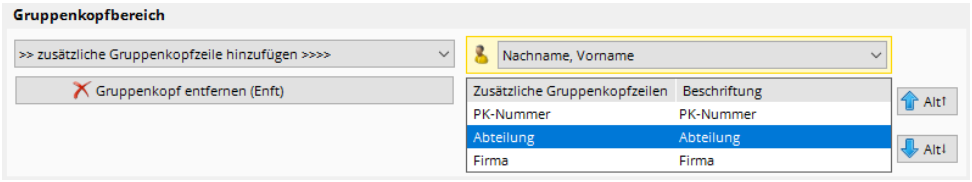
If additional group headers are defined, you can click on those and with the buttons 

or 

move them upwards or downwards Thus, changing the order of the group headers. Or you delete the additional group header with the button 

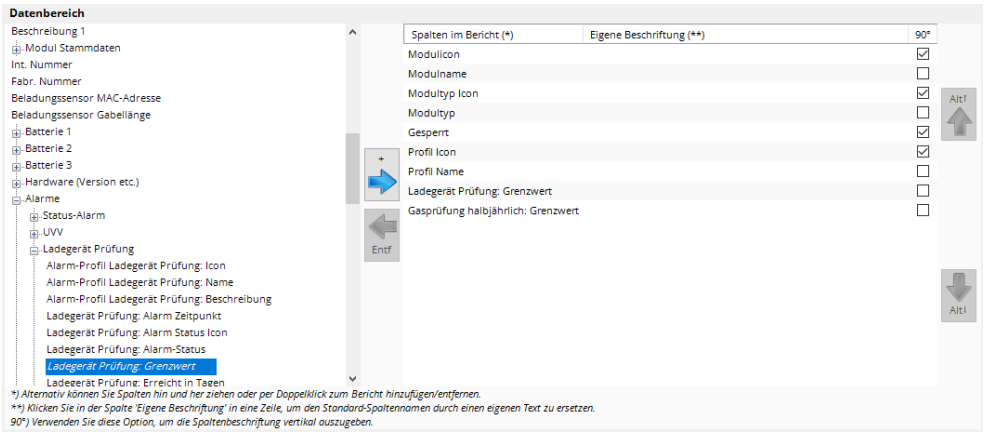
.

Example:



In the lower data area, the required columns of the sub elements are configured.
The procedure is the same like for Lists, see **5.17.2.1 List (simple tables)**

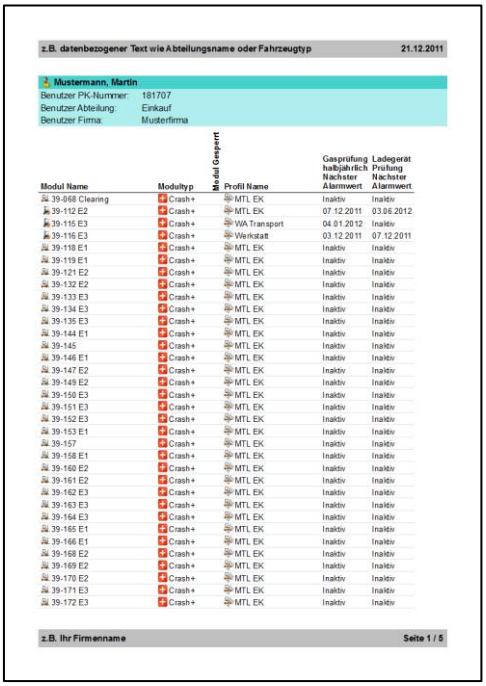
Example:



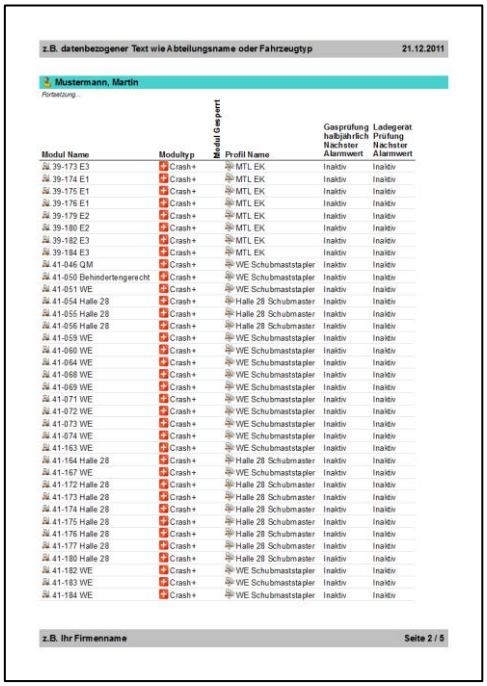
Note:
In the example database, the gas check every six months and the battery charger check, are the names of two-time alarms (UVV) (See also **5.14.7.3 Time Alarms (UVV)**).

The final report of this template could look like this:

Seite1



Seite2



Etc...

5.17.2.3 Detailed Reports

If a lot of data should be displayed for the respective elements, the space in a simple list (see **5.17.2.1 List (simple tables)** becomes very dense.
With the detailed report the same data, instead of being displayed side by side in columns (like with the lists), can be printed in rows. Per element (e.g., per module) this can amount to several pages.

Tip:

The following description and the example refer to the report template ***Modules- detailed report***. For the report templates ***Batteries-detailed report, User-detailed report***, ***Profile- detailed report*** and ***Alarm profiles-detailed report*** the same procedure applies.

Per element a new page (in the example per module) is started with this report type. The page always starts with a group header which includes the icon and the names of the respective element (in the example, the module icon and the module name).

Note:

In the report type ***User-detailed report*** it can be selected whether name and/or surname should be displayed in the group header.

If the data for one element does not fit on one page (in the example, a module), the group header is repeated on the following page.

The remaining data is divided into single areas which are displayed with their own group headers. Areas for the report type ***Modules-detailed report*** are, e.g.:

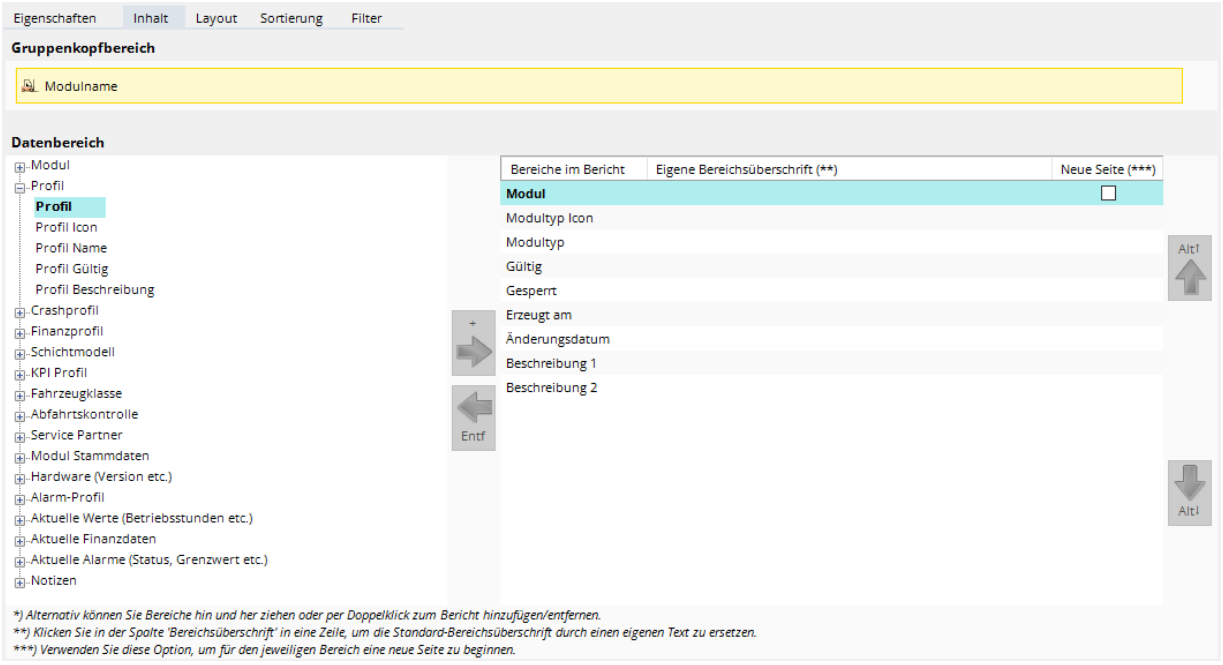
Module	All data directly linked with the module, like the module name or description
Profile	Name and description of the used profile
Hardware	Version number of the used hardware
Actual values	E.g., the actual operating hour metre reading

Etc.

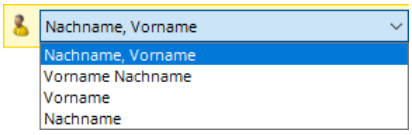
The names and the contents of the areas are identical with those used in simple lists (see **5.17.2.1 List (simple tables)**.

To create a report template with the report, type ***Detailed report,*** click on button Neu and select one of the detailed template types:

Change, if required, the ***names***, ***description***, ***header*** as well as ***footer*** (see **5.17.1 Properties**) and then select the tab ***contents***.



Note:
With the report type ***Users-detailed report*** you can select, in the ***group head*** on top, how the name of the respective user should be displayed. With all other detailed report types there is only one name.

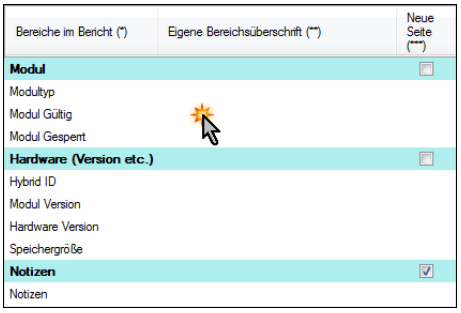


In the lower ***data range,*** the required areas are configured.
On the left, you see a list of all available areas and their elements. The first element is always the colour highlighted area heading (if the fork of the tree diagram is opened like in this example for *profile*). On the right you see the currently selected areas heading and elements. By default, the first areas with all elements is always selected.
Areas always begin with (colour highlighted) areas heading. All elements which follow these areas in the report are grouped under this heading. You can also sort elements from any area in any area heading.

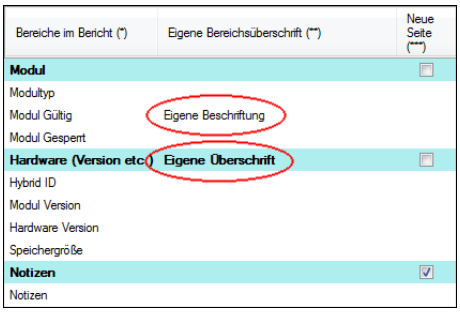
Add areas/ area heading/ elements:
Select the required area (the entire branch with all elements) or the required area heading or the elements on the left side and click on button . Alternatively, you can also press the plus button (+), double-click on the area, the area heading or the element name or drag it with the mouse into right side to the required position.

Removing area heading / elements
You can delete area headings and elements again by selecting the area heading or the element name in the right box and click on the button. Alternatively, you can press the delete button, double-click on the area heading or the element name or drag it with the mouse again onto the right side.

You can change the order of the columns on the right side by clicking the respective area heading or the respective element and with the buttons or move upwards or downwards. Alternatively, you can drag the area heading or the element upwards or downwards with the mouse.



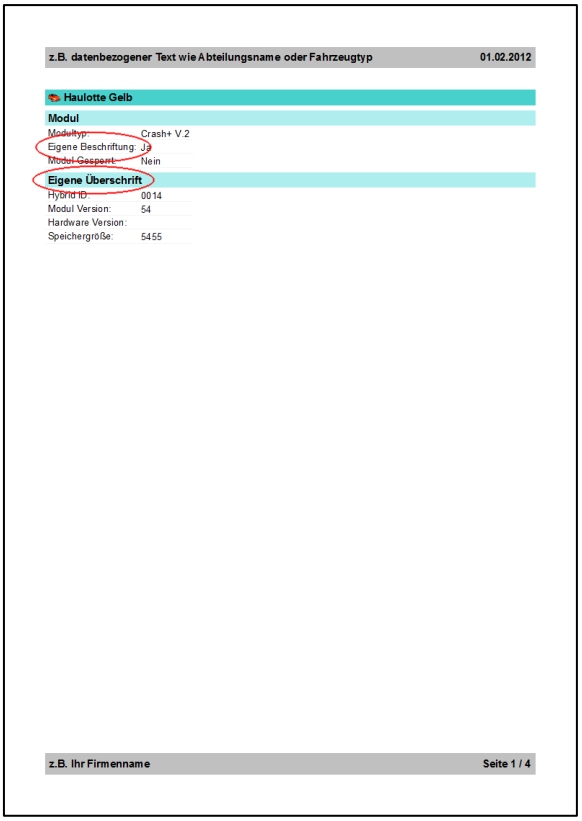
In the column ***Individual area heading*** you can change the text of the area heading and the description of the elements if required. (The area heading is displayed as a group head heading for the respective data.) Click on the respective row in the column ***individual area heading*** and enter the required text.



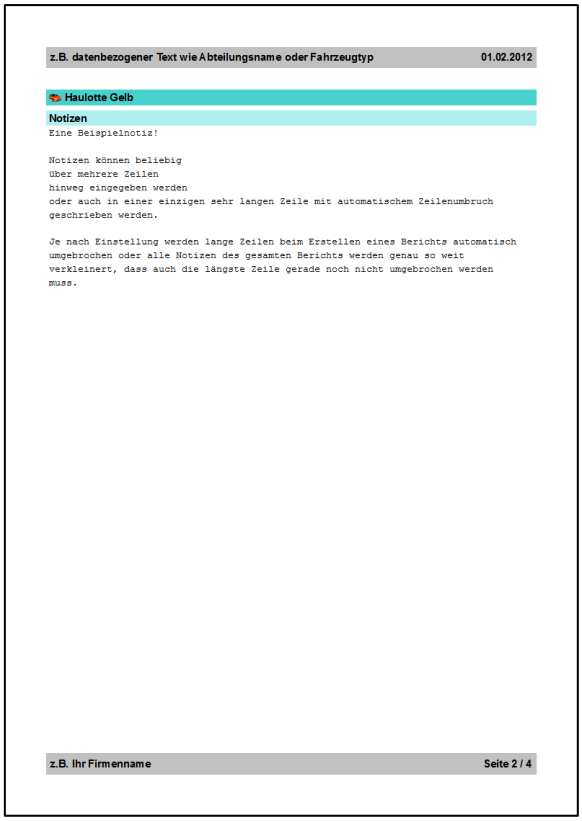
Last you can specify in the column ***new page*** whether before this area a page break should be forced.

Then the final report of this template could look like this:

Seite1



Seite2



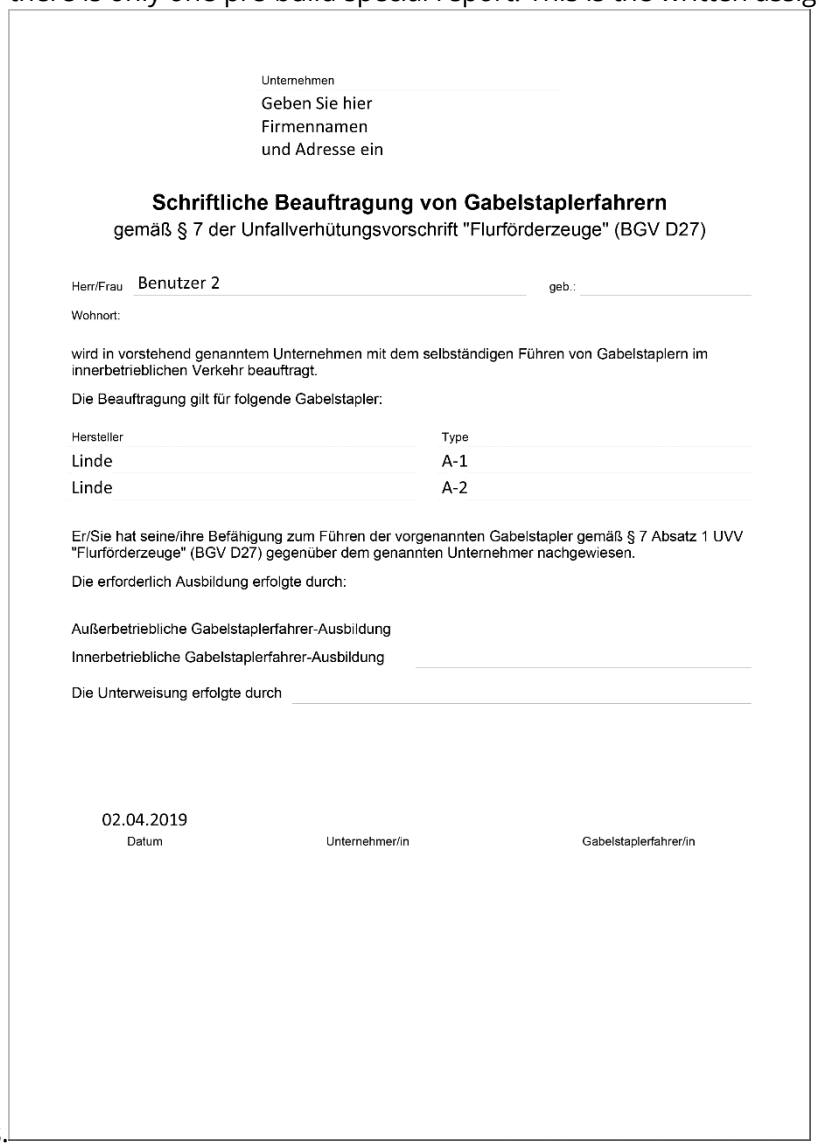
Etc...

5.17.2.4 Special Report

Special reports are used to output data in a specific, form-like representation.

5.17.2.4.1 Written assignment

Currently there is only one pre-build special report. This is the written assignment, which refers to



Unternehmen

Geben Sie hier
Firmennamen
und Adresse ein

Schriftliche Beauftragung von Gabelstaplerfahrern

gemäß § 7 der Unfallverhütungsvorschrift "Flurförderzeuge" (BGV D27)

Herr/Frau Benutzer 2 geb.:

Wohnort:

wird in vorstehend genanntem Unternehmen mit dem selbständigen Führen von Gabelstaplern im innerbetrieblichen Verkehr beauftragt.

Die Beauftragung gilt für folgende Gabelstapler:

Hersteller	Type
Linde	A-1
Linde	A-2

Er/Sie hat seine/ihre Befähigung zum Führen der vorgenannten Gabelstapler gemäß § 7 Absatz 1 UVV "Flurförderzeuge" (BGV D27) gegenüber dem genannten Unternehmer nachgewiesen.

Die erforderlich Ausbildung erfolgte durch:

Außerbetriebliche Gabelstaplerfahrer-Ausbildung

Innerbetriebliche Gabelstaplerfahrer-Ausbildung

Die Unterweisung erfolgte durch

02.04.2019

Datum Unternehmer/in Gabelstaplerfahrer/in

the users.

The objective of the written order is to issue a form for a user in which all vehicle types (by ***manufacturer*** and ***type***) are listed, which this user is allowed to drive. This means all vehicle types for which he has a driving authorisation (see **5.6.6 User-driving authorisations**).

The prerequisite is that the master data fields ***Manufacturer*** and ***Type*** (see **5.5.1.2 Settings of Module X**) of all modules have meaningful values.

To create a template for the report written assignment in the Reports tab, click on the button Neu and select ***Written assignment***:



Name
The name under which the report template is saved. The name of the template is pre-set.

Description
Any description.

Companies
Enter your company here. The entered text will be transferred to the form (see previous page).

Paragraph Heading / Paragraph Proof
Other countries have other paragraphs. Therefore, these texts can be adapted accordingly here. Again, these texts are taken directly into the form.

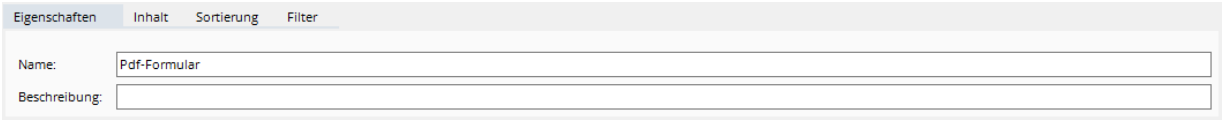
Date
If this option is used, the current date (when the ***Create Report*** button is clicked) is automatically entered in the form.
If you want to print the form earlier, deactivate this option, then the date can be added by hand.

Settings for the ***Sorting*** and ***Filter*** tabs can be found in the following chapters below **5.17.4 Sort by** and **5.17.5 Filter**.
There is no separate layout for this report. The layout is fixed.
Chapter **5.17.6 Report Create (print)** describes how this report can be created/ printed.

5.17.2.4.2 Pdf-Berichte

Mit Hilfe der Pdf-Berichte können Sie beliebige eigene Formulare in Form eines Pdf-Formulars erstellen, welche dann durch den Berichtsgenerator automatisch mit Daten aus der Datenbank ausgefüllt werden können.

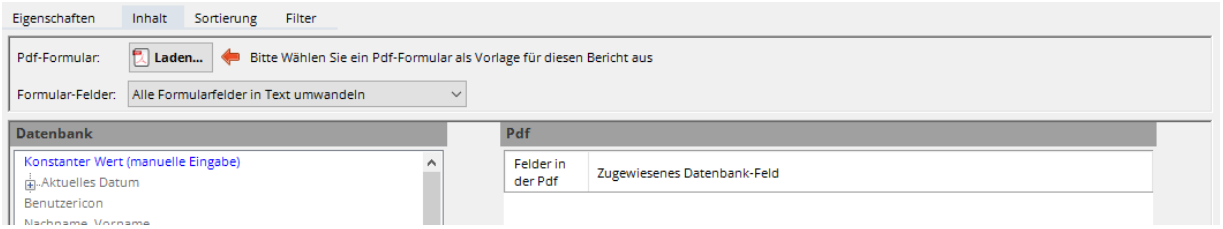
Um jetzt eine Berichtsvorlage mit dem Berichtstyp Pdf-Formular zu erstellen klicken Sie unter Module, Benutzer oder Batterien im Reiter Berichte auf die Schaltfläche Neu und wählen Sie ***Pdf-Formular*** aus:



Name
Der Name, unter dem diese Berichtsvorlage gespeichert wird. Voreingestellt ist der Name des Vorlagentyps.

Beschreibung
Eine beliebige Beschreibung.

Die eigentliche Konfiguration findet im Reiter ***Inhalt*** statt:



Hier muss als erstes ein (von Ihnen selbst erstelltes) Pdf-Formular geladen werden. Klicken Sie dazu auf die Schaltfläche ***Laden*** und öffnen Sie ein beliebiges Pdf-Formular.

Ist dem Bericht bereits ein Pdf-Formular zugewiesen, ändert sich der Name der Schaltfläche in ***Ändern***. Durch einen Klick auf diese Schaltfläche ***Ändern*** können Sie das vorhandene Pdf-Formulardurch ein anderes Pdf-Formular ersetzen. Sofern das neue Pdf-Formular Felder mit identischen Feldnamen hat, werden die Einstellungen (siehe nächste Seite) automatisch übernommen.

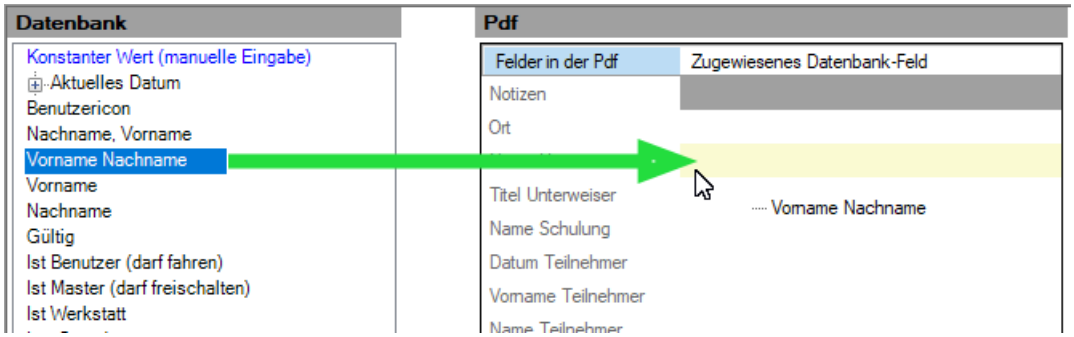
Sobald dem Bericht ein Pdf-Formular zugewiesen ist, erscheint auf der rechten Seite eine Liste aller Felder dieses Pdf-Formulars.

Tipp:
Zum Erstellen eines Pdf-Formulars benötigen Sie z.B. den Adobe Acrobat Pro oder den Libre Office Writer. Microsoft Word ist leider nicht in der Lage Pdf-Formulare mit ausfüllbaren Feldern zu erstellen.

Form Fields:

- ***Convert All Form Fields to Text***
  This option converts all form fields to normal (unchangeable) text when printed.
- ***Convert only completed form***
  fields to text Only those fields that are filled in during printing will be converted to text. In other words, those fields that have been assigned a database value. All other fields remain as form fields and can be edited accordingly even after printing.
- ***Preserve all form fields***
  Even fields that are automatically filled in when printing are retained as form fields. The values copied from the database during printing can be changed later.

Am einfachsten können Sie die benötigten Datenbankfelder einfach mit der Maus von der linken Seite in das entsprechende Feld auf der rechten Seite ziehen.



Alternativ können Sie links und rechts jeweils das gewünschte Feld markieren und mit der Schaltfläche bzw. der Taste **+** das Datenbank-Feld dem Formular zuweisen oder mit bzw. der taste ***Enf.*** die Zuweisung wieder aufheben.

The ***Constant value (manual entry)*** field has a special function. It is not a database field, but a constant text. If you drag this field to the right side, you can directly enter any text that should be assigned to this field when printing.

Under ⊞ ***Current Date*** there is another special field. For these fields, the current date (in the respective format) is inserted during printing.

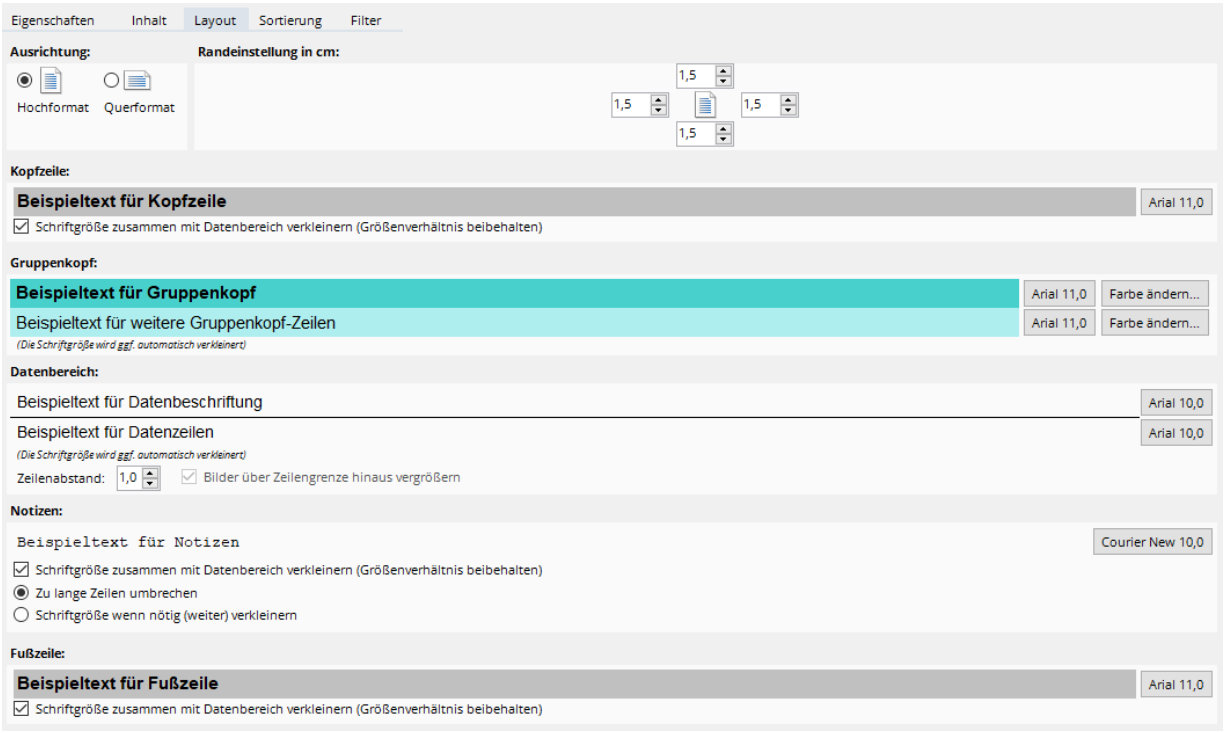
The other database fields correspond to the respective fields for a module, user or battery report.

Tip:
If you assign an icon field (e.g., user icon) to a (pdf) text field, the name of the respective element is automatically attached to the respective icon. If, on the other hand, you assign the icon field to an image field, only the image itself will be printed.

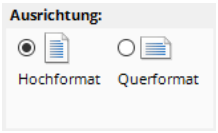
Settings for the ***Sorting*** and ***Filter*** tabs can be found in the following chapters below **5.17.4 Sort by** and **5.17.5 Filter**.
There is no separate layout for this report. The layout is fixed by the pdf form.
Chapter **5.17.6 Report Create (print)** describes how this report can be created/ printed.

5.17.3 Layout

In this tab it is set how the report should be structured.



5.17.3.1 Alignment

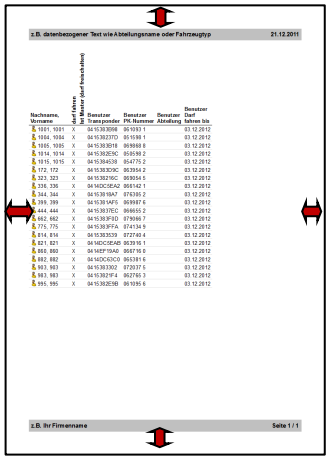


Specify the orientation (vertical format or landscape format) of the report.

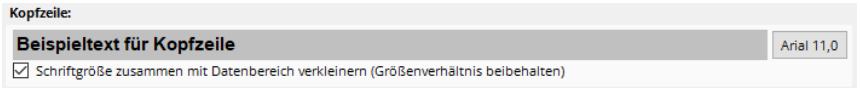
5.17.3.2 Margin Setting



Enter how wide the margin of the report should be. Note that many printers need at least a margin of some millimetres.



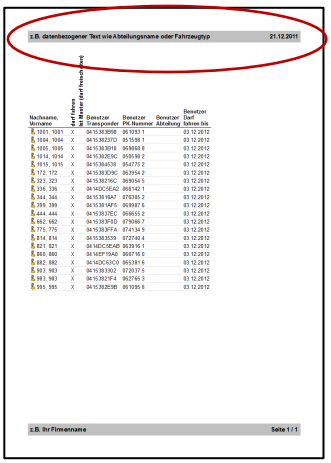
5.17.3.3 Header



Here you can change the font and font size for the header. For this, click on the button on the right (in the example on top ***Arial 11.0***). The actual font and size for the header are also displayed.

If the data range (see **5.17.3.5 Data**) is automatically reduced (when required) it can be helpful to scale down the header accordingly to maintain the relative size of the fonts for the data range.

If you always want to display the header in the specified font size, deactivate the option ***Reduce font size together with data range (maintain relative size)***.



5.17.3.4 Group Heading

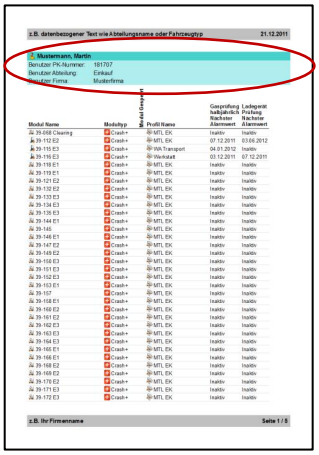
The setting for the group head is only displayed in Grouped- and Detailed reports. The List report- (simple tables) does not have group heads.



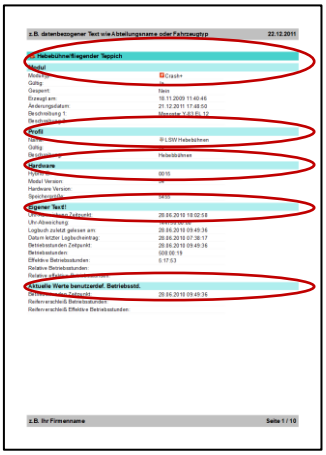
Here you can change the appearance of the group headers. With the respective font button (in the example ***Arial 11.0***) you can change the font, font colour and font size. With the respective button ***change colour,*** the background colour (in the example turquoise and bright turquoise) changes.

If the texts of the group lines are too long, the font size is automatically reduced when printing, to fit the text in a row.

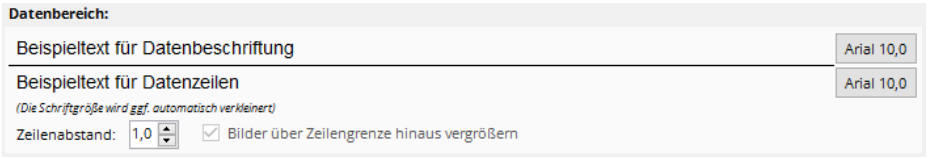
Grouped report



Detailed report



5.17.3.5 Data Range



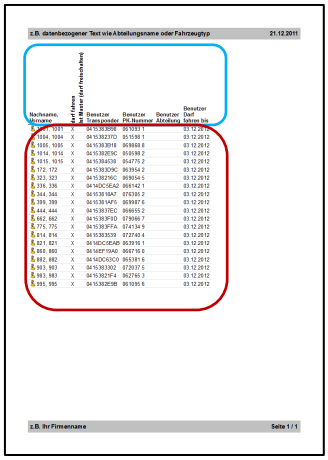
In the data range it is distinguished between the data description (the name of the columns or the single elements as for example „module name “or "department") and the data lines which contain the individual data (as for example „Haulotte yellow “or "purchase").

With the respective buttons on the right, the font and font size can be changed for the data description as well as for the data lines.

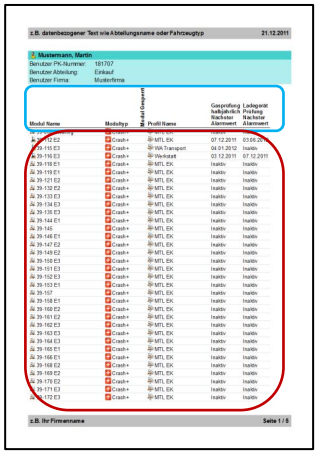
Whenever the data (in the specified font size) would cross over the side width, the font size is automatically reduced during printing.

With the option ***Line spacing*** the spacing can be enlarged between two rows.
With the option ***Enlarge image beyond line boundary*** (only active if the line spacing is greater than 1), it can be specified whether the additional space, achieved through the reduction of line spacing, is used to show the images larger.

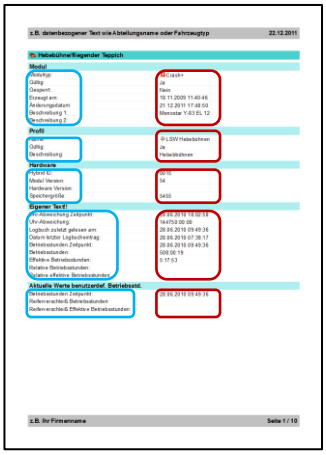
Lists simple tables.



Grouped reports



Detailed reports

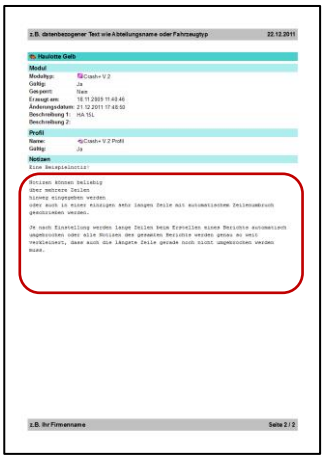


The data description is marked in blue and the data lines/rows in red.

5.17.3.6 Notes

The setting for notes is only displayed for the report templates ***modules-detailed report*** and ***use-detailed report***, because only those have notes.



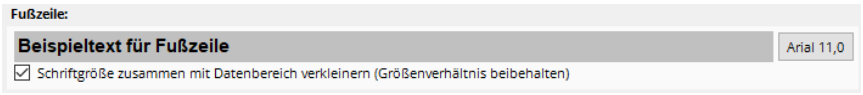


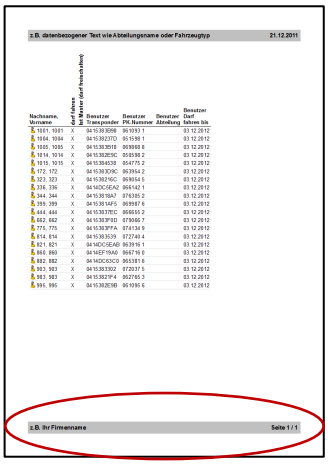
With the button on the right (in the example ***Couriers New 10.0***), set the font and font size with which the notes are to be displayed.
By default a non-proportional character font type with equal character width is selected. E.g., indents entered using the space bar would show correctly. If this kind of formatting is not necessary you can use any other font.

If the font size of the data range (see **5.17.3.5 Data**) was automatically scaled down, the option ***scale down font size together with data range (maintain relative size)***, the notes are customised accordingly. The ratio of the font sizes to each other thereby stays the same.

Should a row from the notes go beyond the page margin (if necessary, after scaling down with the option ***scale down font size together with data range (maintain relative size)***) the text can be wrapped with the option ***wrap text.*** This way the text is continued in the next row. Alternatively, the option ***Font size (further) scale down***, the font size for all notes is steadily automatically scaled down so that a wrap up is not necessary.

5.17.3.7 Footer



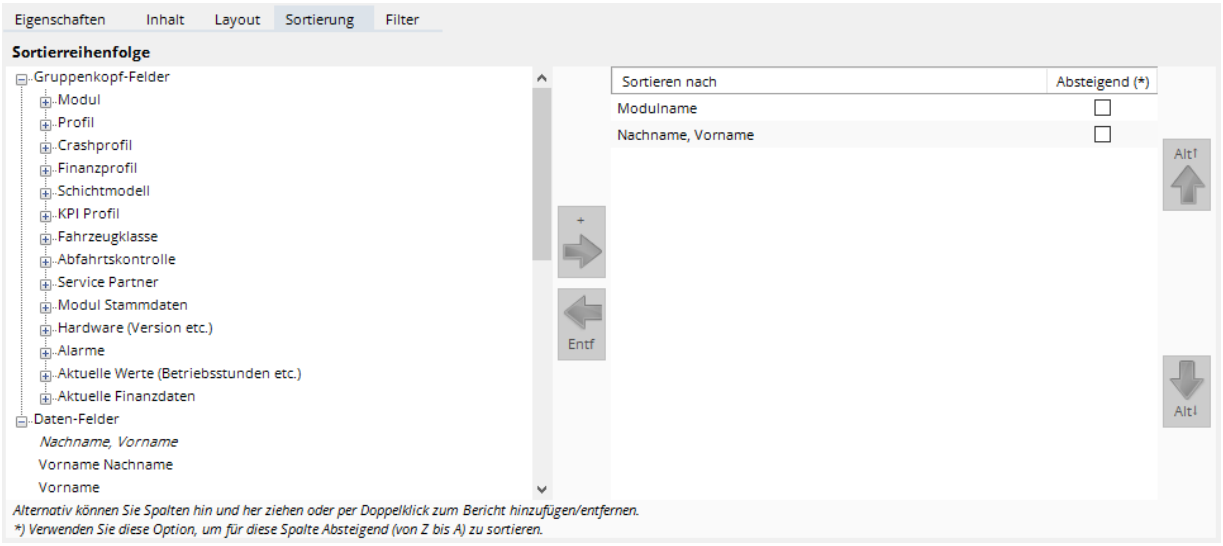


Here you can change the font and font size for the footer. Click on the button on the right (in the example on top, ***Arial 11.0***). The actual font and size for the footer are also displayed.

If the data range (see **5.17.3.5Data**) is automatically scaled down, when required, it can be helpful to reduce the footer accordingly to maintain the relative proportion of the data fonts and the footer.
If you always want to display the footer in the specified font size, deactivate the option ***Font size together with data range scale down (maintain relative size)***.

5.17.4 Sort by

Now it can be defined in which order the respective elements should be printed out.



In the left section you see in a tree diagram all available sort keys. In grouped reports and detailed reports, the tree diagram is split into the Main-elements-group- head-fields and Data-fields. With simple lists such splitting is not necessary.
In the right section you see the currently selected sort key according to what the report should be sorted by.
Now you can add further sort keys for sorting the order by selecting the required key name in the left section and click on the button . Alternatively, you can also press the plus button (+), double-click on the key name or drag the key name with the mouse into the right section.
Vice versa you can delete sort keys again, by selecting the key name in the right section and click on the  button. Alternatively, press the delete button, double-click on the key name or drag the key name with the mouse again into the left section.
Sort keys, according to which is sorted by, are displayed on the right section and are also displayed on the left section in *italic*.

In the right section you can change the order of the sort key by clicking on the respective key name and move them with the buttons  or  upwards or downwards. Alternatively, you can drag the key name with the mouse upwards or downwards.

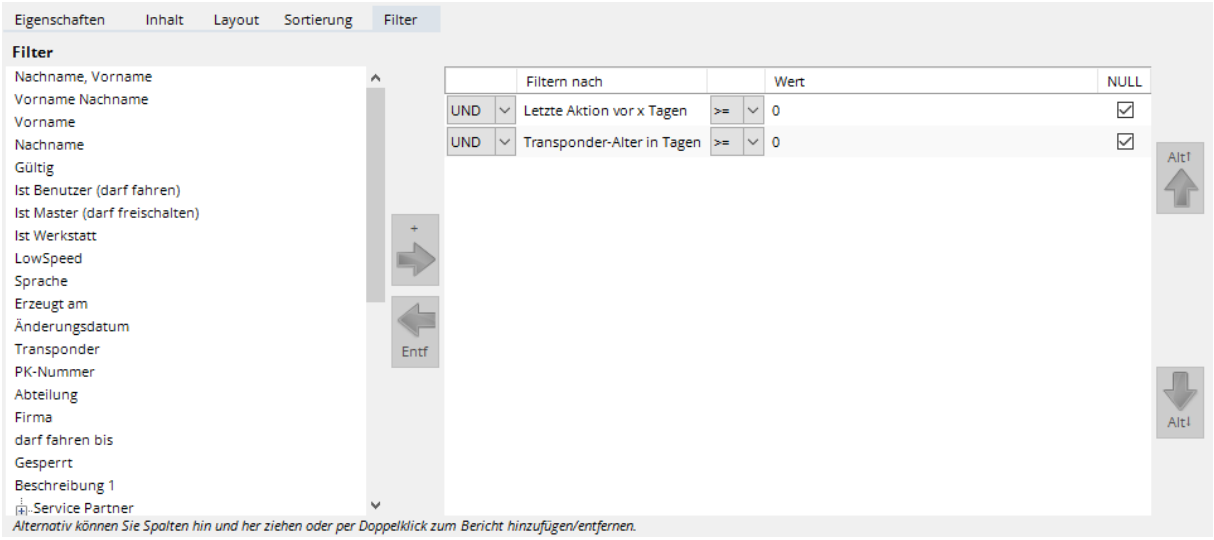
In the column ***Descending*** you can revert the sort order for the respective sort key, from Z-A instead of A-Z.

The entry of several sort keys is helpful if the value of the preceded sort key could be identical.

Example:
If e.g., a list of all profiles is sorted only according to the profile type, and there are several crash+ profiles, the sequence is random! To prevent this, the profile type can be used after the sort key, e.g., the Sort key and the profile name.

5.17.5 Filter

Finally, the report can be filtered according to certain criteria. E.g., only users are displayed whose expiry date runs out during the next days or they have not driven any vehicle for more than 6 months (Report type in this example: ***User with the last time of activity***).



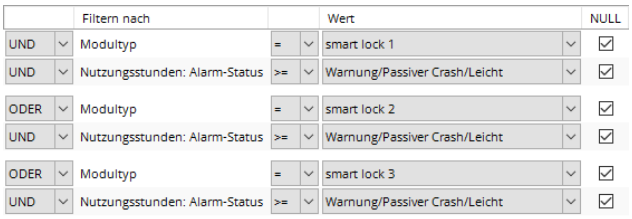
In the left section the tree diagram shows all available data which can be used for a report.

To add filter criteria, select the required data on the left and click on the button. Alternatively, you can also press the plus button (+), double-click on the data or drag the data with the mouse into the right selection field.
Vice versa you can delete the filter criteria again, by selecting the data in the section on the right and click on the button. Alternatively, press the delete button, double-click on the data or drag the value with the mouse again into the left selection field.

With the buttons or the order of the filter criteria can be changed. Alternatively, you can drag the filter criteria with the mouse upwards or downwards.

5.17.5.1 Filter Settings

Now the filter criteria must be configured accordingly:

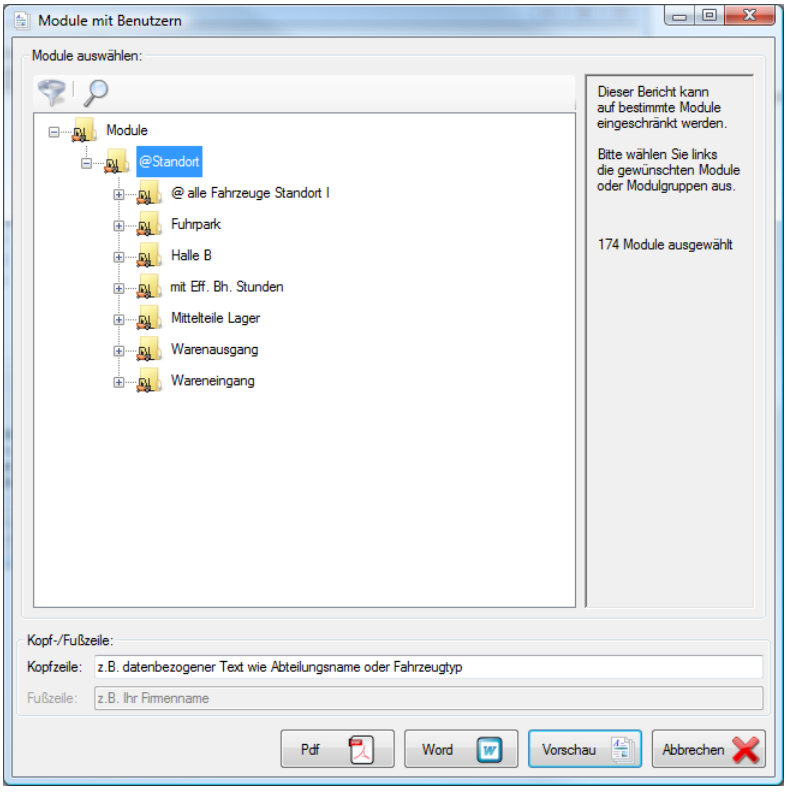


- ***Link***
  As soon as more than one filter criteria exists, you must specify whether all criteria (AND-link) or only just one of the criteria (OR-link) must be fulfilled at the same time. (The setting of the first filter criteria does not matter). You can also create complicated filters AND- and OR-links. AND-links are evaluated first.
- ***Filter according to***
  Specifies the name of the field for which should be filtered for.
- ***Comparison***
  Specifies whether for equality, inequality, greater or smaller etc. should be checked for.
- ***Value***
  Specify the value (element) according to which the field (e.g., of module) should be compared to. According to the field type you can specify a text (e.g., the module name), a number (e.g., for the Cut-in hours), a date (e.g., for one alarm time UVV) or the value from a list (e.g., alarm status).
- ***NULL***
  In some reports it can happen that for certain fields no value exists. E.G., the last operation time of a user (report type ***User with the last operation time***) is not defined if this user has never driven a vehicle. In this case the filter criteria are fully valid if the box is checked. Likewise, this means, that also users are displayed who have never driven a module. If the box is not ticked, only the users who have used a module in the specified period are displayed. Should e.g., all users be displayed who have not driven for a long time, it is helpful to also display users who have never driven a module. The box should be checked. If only the users, which have not driven during the last 10 days should be displayed, you do not need to check the box because it is not important to show users who never drove. The box should not be checked.

5.17.6 Report Create (print)

If the report template is configured according to your needs, you can create the appropriate reports and print them.

Click on button ***Report create*** to generate this report template. The following window is opened:



Depending on the template type you can select which modules, users, profiles or alarm profiles this report should print. Simply select an element or a group in the tree diagram.
If an element or a group is selected whilst holding the CTRL button, this element or the group, is selected additionally. In this manner you can select several elements and/or groups together.

Depending on the setting of the options ***Header*** and ***Footer*** the report can be changed on creation of the report. E.G., you can enter a header which refers to the elements selected by you or in general to this individual report.

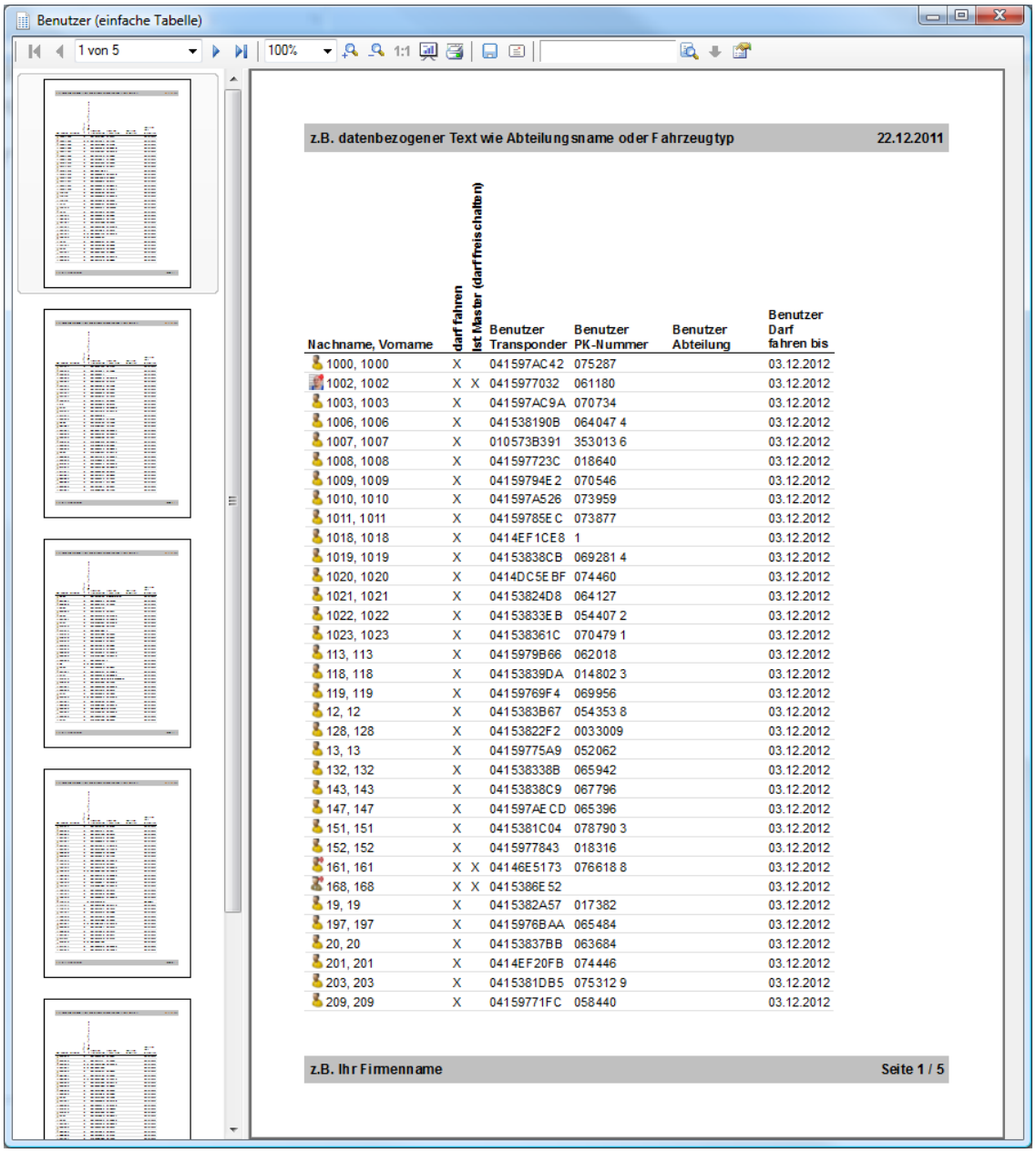
With the appropriate buttons below, you can start the actual report generator. The report template and the selected elements can be created either directly as a Pdf (Pdf) or a Word file (Word). If a programme exists to display Word or Pdf files, the generated file is automatically opened.

Alternatively, you can display a preview (Vorschau) in a separate window. (See the next chapter **5.17.6.1 Preview**).

Tip:
The report creation and the preview-window (see next chapter) run as separate programs independent of Mobile Easykey Manager. Should the report creation last longer, you can continue working.

5.17.6.1 Preview

The preview-window is opened, if a report was created with the Vorschau button. See also **5.17.6 Report Create (print)**.



Nachname, Vorname	darf fahren	ist Master (darf freischalten)	Benutzer Transponder	Benutzer PK-Nummer	Benutzer Abteilung	Benutzer Darf fahren bis
1000, 1000	X		041597AC42	075287		03.12.2012
1002, 1002	X	X	0415977032	061180		03.12.2012
1003, 1003	X		041597AC9A	070734		03.12.2012
1006, 1006	X		041538190B	064047 4		03.12.2012
1007, 1007	X		010573B391	353013 6		03.12.2012
1008, 1008	X		041597723C	018640		03.12.2012
1009, 1009	X		04159794E2	070546		03.12.2012
1010, 1010	X		041597A526	073959		03.12.2012
1011, 1011	X		04159785EC	073877		03.12.2012
1018, 1018	X		0414EF1CE8	1		03.12.2012
1019, 1019	X		04153838CB	069281 4		03.12.2012
1020, 1020	X		0414DC5EBF	074460		03.12.2012
1021, 1021	X		04153824D8	064127		03.12.2012
1022, 1022	X		04153833EB	054407 2		03.12.2012
1023, 1023	X		041538361C	070479 1		03.12.2012
113, 113	X		0415979B66	062018		03.12.2012
118, 118	X		04153839DA	014802 3		03.12.2012
119, 119	X		04159769F4	069956		03.12.2012
12, 12	X		0415383B67	054353 8		03.12.2012
128, 128	X		04153822F2	0033009		03.12.2012
13, 13	X		04159775A9	052062		03.12.2012
132, 132	X		041538338B	065942		03.12.2012
143, 143	X		04153838C9	067796		03.12.2012
147, 147	X		041597AECD	065396		03.12.2012
151, 151	X		0415381C04	078790 3		03.12.2012
152, 152	X		0415977843	018316		03.12.2012
161, 161	X	X	04146E5173	076618 8		03.12.2012
168, 168	X	X	0415386E52			03.12.2012
19, 19	X		0415382A57	017382		03.12.2012
197, 197	X		0415976BAA	065484		03.12.2012
20, 20	X		04153837BB	063684		03.12.2012
201, 201	X		0414EF20FB	074446		03.12.2012
203, 203	X		0415381DB5	075312 9		03.12.2012
209, 209	X		04159771FC	058440		03.12.2012

The control elements:



To navigate within the report.



Zoom


Presentation mode (display on full screen)


Prints this report


Saves this report as a Pdf or Word file.


To search within this report

5.18 Online Statistics

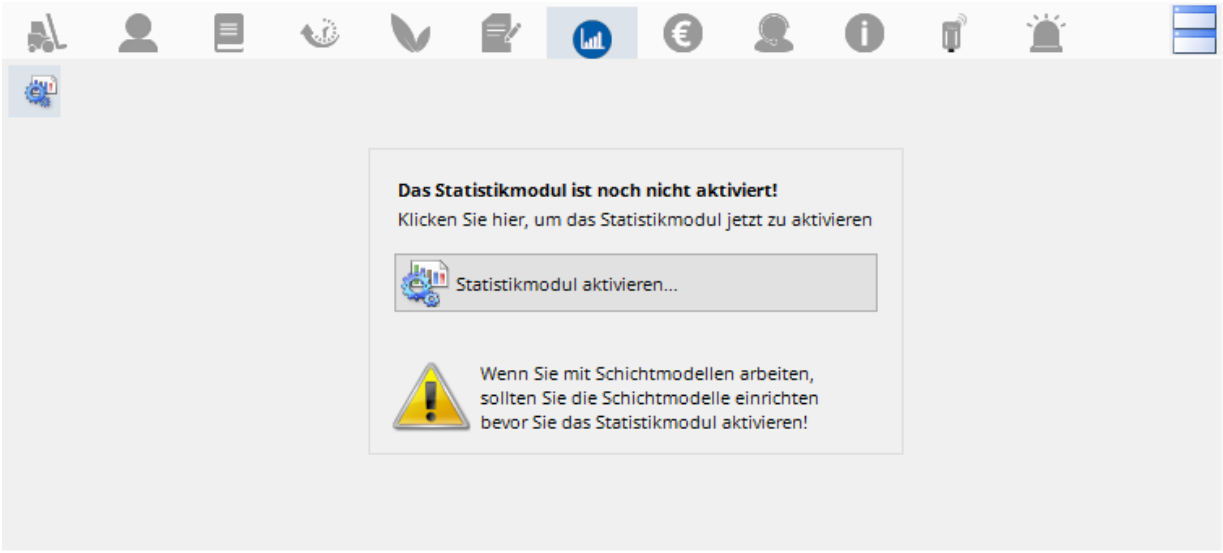
The online statistics module displays different statistics live.

For the online statistics an additional software module (see **5.22.2 Online Statistics**) is necessary.

5.18.1 Statistics module activation / configuring

The online statistics are continuously calculated in the background (for a given period, i.e., e.g., X months in the past).
These intervals are defined with the activation of the online statistics. Further, a background process is set up which automatically pre-calculates the logbook data statistically and saves them independent of the logbook. Hence, the logbook data which demands a lot of space in the database from a certain age, can be automatically deleted. These delete-periods are also defined with the activation.

In the window modules click on the statistics tab or alternatively, in the menu ***Tools*** on ***Activate statistics module***.

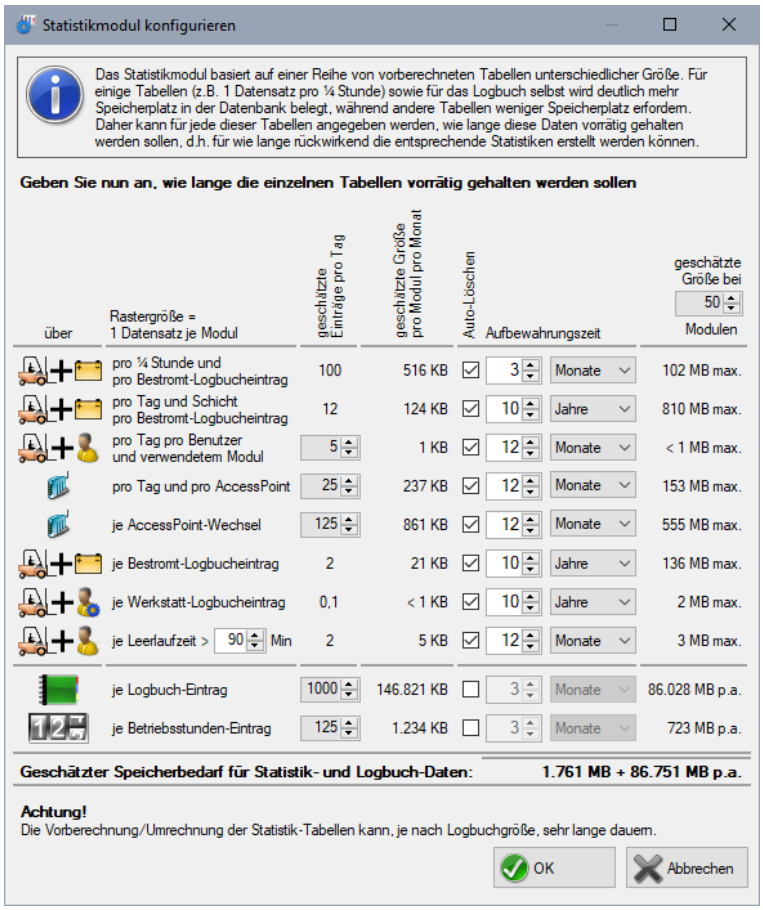


If the statistics module is already activated, you can call the configuration dialog in the menu ***Tools*** ***Statistics module configure***. The settings can still be changed afterwards.

Note that for logbook entries which may have been deleted till then, no more statistics can be calculated!

If you work with shift models you must assign the shift models to the modules first, because otherwise, the shift statistics cannot be calculated!

With the button  you enter the configuration dialog.



The statistics module saves the statistically pre- calculated data in several different tables and resolutions. The higher the resolution, i.e., the more data sets per time is needed, the more storage space is required in the database.

Hence, you can specify for every table individually, for which period the statistical data should be kept.

The estimated maximum size is displayed on the right for the respective table. The calculation is initially based on the actual number of modules in your database. You can change the number of the modules for the estimate, in the field on the top right if necessary. E.G., if you plan to equip more modules with Mobile Easykey.

Auto-delete

The auto delete can be switched off (disabled), by unchecking the corresponding box. Then the estimated size is specified per year. Therefore, the database grows by this amount per year.

The auto delete always refers to the last completed time range!
If e.g., 3 months are specified, the oldest month is only deleted when the 4th month is completely calculated! Only a complete month is deleted. Therefore, at the end of one month the database is a little larger and becomes smaller again after the 1st of the next month.
If you prefer continuous deletion, select 90 or 95 days instead of 3 months. Then the automatic deletion takes place daily and the oldest month is only partially available.

Auto-delete of logbook and operating hours data

Because the logbook- and operating hour data needs a lot of storage space, these can automatically be deleted in a similar pattern.
Deleting via this dialog has the advantage that data is only deleted when the appropriate statistical data is calculated.

For the table size it must be estimated how many logbook- and operating hours data incur on average per day. 125 entries per day are stated as a default. However, this value (especially for the logbook entries) can deviate a lot according to utilisation of the modules. Therefore, this value can be customised accordingly.

By default, the deleting of the logbook and operating hours data is not activated!

Idle time

Another important setting is the value for idle times. Here, intervals are recorded in which the module is *Powered*, however, no user is logged in. But only if this period is bigger than specified (Default is 90 minutes).
This setting concerns not only the auto delete, but also the choice which data is recorded statistically.
If you do not want to determine idle times, set the auto delete to one day not to waste storage space.

Estimated memory requirement for statistics- and logbook data

Here it is summarised, how large the memory requirement for the statistics and logbook data is. Since this data takes by far the largest part, the entire memory requirement size can be concluded.

Click on activation, to start the statistics calculation!

Note that the first calculation of the statistics can last very long! If the calculation is concluded for a module, only newly accrued logbook data is calculated. Then the calculation takes place almost in real-time.

5.18.2 Default Statistics Buttons



With this button, individual columns can be displayed and hidden in the tabular view of the statistics. See also chapter **5.4.5.3 Columns View and Hide**.

This button can be used to show or hide individual data parts (bars, lines, etc.) in the graphical view. See the following chapter **5.18.2.1 Statistics Elements View and Hide**.

Display graphical and tabular content at the same time.
See chapter **5.18.2.2 Graphic and Table View**.

Click this button to force the display to refresh. Possibly the statistics are reloaded completely.

Click this button to export the displayed table (tabular view) to Excel (Excel must be installed))

Creates a graphic of the current statistics (graphical view) and saves it as an image file.

Rotates the graphic by 90 °. Vertical bars become horizontal and horizontally corresponding become vertical bars. The X and Y axes are swapped.

Turns on the zoom mode. See chapter **5.18.2.3 Zoom**.

The following buttons are used to define the time range over which the respective statistics are to be displayed.



	Display area (Unit)	Navigation buttons.	End of the display area. Click this button to set the end directly.
			Start of the display area. Click this button to set the start directly.
Number, e.g., two months.			

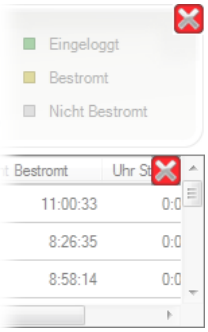
5.18.2.1 Statistics Elements View and Hide



With the help of the button, most statistics can be used to select which data (e.g., bars or lines) should be displayed in the statistics and which are not.

Click the button to display a list of available elements/items (bars / lines). Just click on one of the elements/items in the list to make the elements/items visible or invisible.

5.18.2.2 Graphic and Table View



Most statistics can be displayed in a graphical and / or a tabular view. If both views are displayed simultaneously, the window is split horizontally. You can change the layout by moving the mouse between the two views until the mouse pointer changes to the icon. Then you can move the border between the views up or down holding the mouse button pressed.

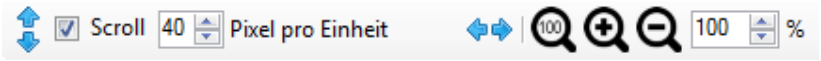
Alternatively, you can turn off one of the two views by clicking the button of each view.

If only one of the two views is displayed, you can click on the button at the top right or the bottom right ,to switch back the graphical or tabular view.

With the button in the toolbar at the top, both views can be activated again (if the statistics have both views).

5.18.2.3 Zoom

Many of the statistics with graphic view have a zoom function.
Click on the button (only visible if the zoom view is possible in these statistics). The following additional tool bar is thereby displayed:

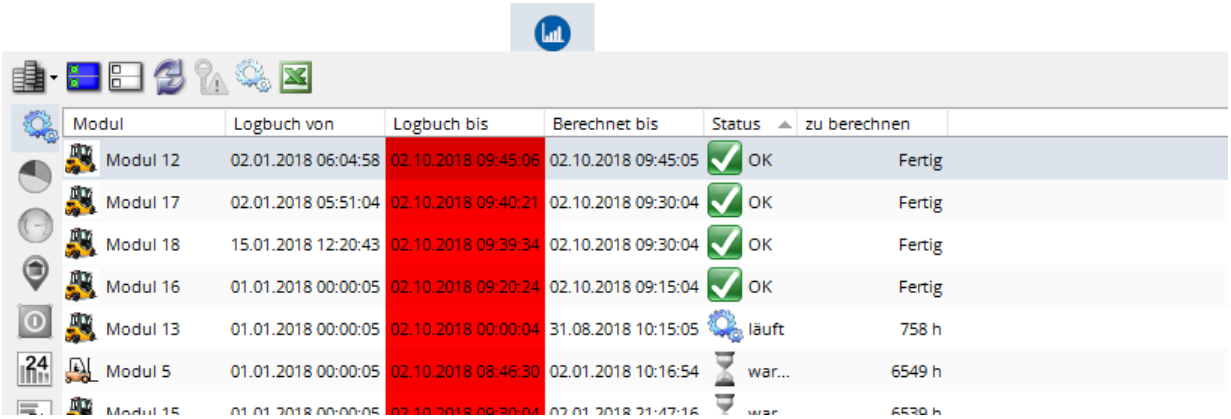


	Zoom vertically
	Zoom horizontally
Scroll 40 Pixel pro Einheit	The respective bar width (or height for vertical bars) is specified (40 pixels in the example). If not all the bars on the screen are scrolled accordingly.
Scroll 100 %	The bar width is automatically selected so that all bars fit into the statistics at 100%. This is only scrolled when the zoom level is set to over 100%.
	Ensures that all beams are displayed on the monitor at the same time.
	Zooms into the graphics. A Scroll bar is displayed.
	Zooms from the graphics.
100 %	Shows the actual zoom value. You can also enter a value.

5.18.3 Module statistics

5.18.3.1 Status of the calculations

In the tab of the statistics module the actual status of the calculations is permanently displayed.



Special buttons of the operating hour display

Click on this button to recalculate the statistics for the selected modules. However, note that the statistics can only be recalculated on the ranges with (still) available logbook data.

The remaining buttons are described in chapter **5.4.1 Default buttons in the toolbars** and **5.18.2 Default Statistics Buttons**.

The meaning of the individual columns:

Module
Displays the name of the respective module

Logbook from
Displays the oldest (still available) date of logbook entries.

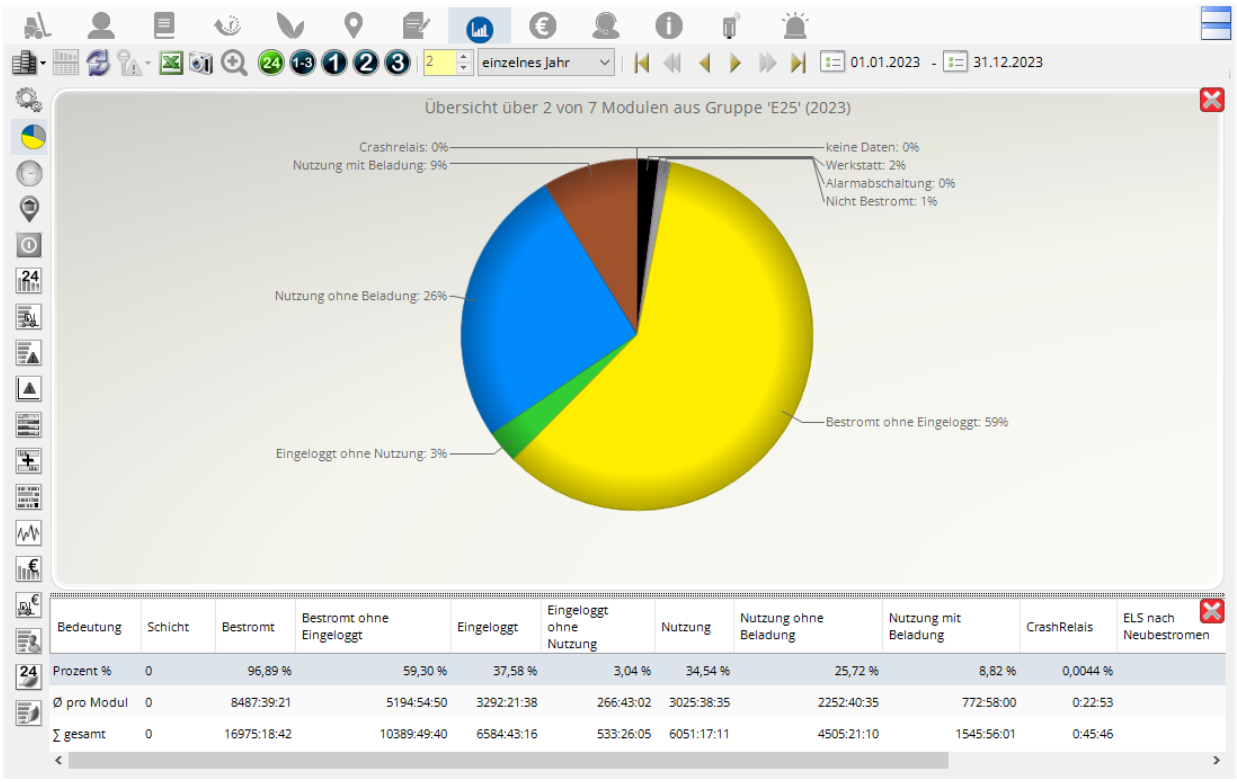
Logbook until
Displays the date of the latest (youngest) logbook entries.

Calculated up to
Displays up to which logbook date the statistics are already calculated.

Status
Displays the status of the calculation.
Possible values are:
- The calculation is complete
- This module is just being calculated
- For this module calculations must be carried out. However, currently another module is calculated.

To be calculated
Displays the difference between „calculated up to" and "logbook up to" and Thus, corresponds with the time (in hours:minutes:seconds) which must still be calculated.
For completely calculated modules the text "Finished" is displayed.

5.18.3.2 Overview



In this overview the sum of all modules and the entire selected time period is displayed.

Special buttons of the overview statistic

	visible	
24 Displays a complete day (from 0:00 h until 24:00 h	always	
1-X Selects all shifts.	if modules with different shift models are selected	
1-2 Selects shifts 1 and 2.	For 2-Shift Model	Visible only if the same shift model is assigned to all selected modules.
1-3 Selects shifts 1, 2 and 3.	For 3-Shift Model	
1-4 Selects shifts 1, 2, 3 and 4.	For 4-Shift Model	
1 Selects or deselects shift 1.	For 1-Shift Model	
2 Selects or deselects shift 2.	For 2-Shift Model	
3 Selects or deselects shift 3.	For 3-Shift Model	
4 Selects or deselects shift 4.	For 4-Shift Model	

The remaining buttons are explained in chapter **5.18.2 Default Statistics Buttons**.

1-X: For all modules with shift model, only data within the respective shift time is calculated. For modules that do not have a shift model assigned to them, the entire time range (0:00 to 24:00) is calculated.

The meaning of the individual colours/columns:

Shift
Here it is displayed which shift it concerns. Shift 0 stands for a whole day from 0:00 o'clock to 24:00 o'clock.

Powered
Specifies, how long the module was powered in this time period.

Powered without usage
Specifies, how long the module was powered in this time period, but not used.

Logged in
Specifies, how long the module was logged in in this time period but was not used.

Logged in with no usage
Specifies, how long the module was logged in in this time period.

Usage
Specifies, how long the module was used in this time period.

Usage without load
Indicates how long the modules have been used in total ***without*** load.

Usage with load
Indicates how long the modules have been used in total with load.

Crash relay
Specifies, how long the module was switched off (disabled) on account of a crash.

Workshop
Specifies, how long the module was in workshop mode for this time period.

Alarm disconnection (overdue)
Specifies, how long the module was in alarm overdue mode in this time period.

Not Powered
Specifies, how long the module was not powered in this time period.

No data
Specifies for which period no data is available. This is the difference from total time – data.

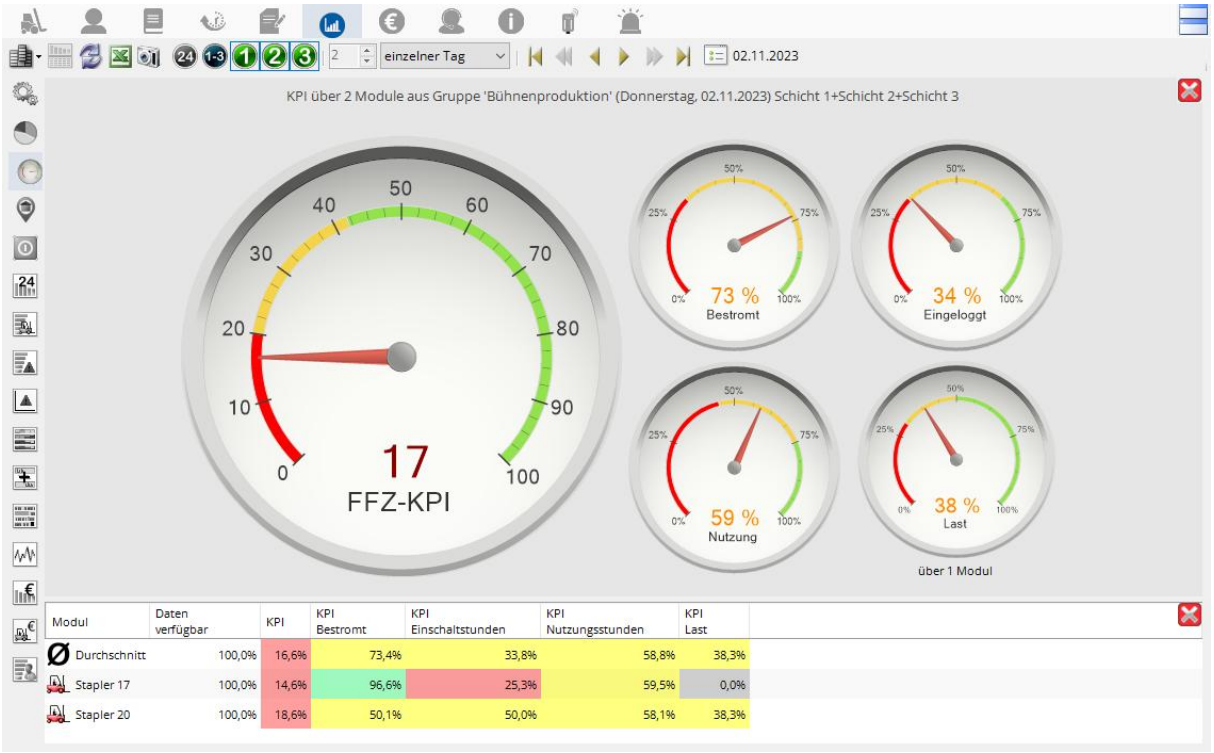
Clock set
If the clock of the module was reset in this time period, the recorded total time can deviate. If the clock was reset e.g., by 5 minutes, these 5 minutes "are missing". The sum of all resets is displayed here.

Time error
If logbook entries appear off the chronological order, the statistics are possibly wrongly calculated. The maximum possible error is recorded here.

Overall time
Displays the overall time, (sum of all modules) regardless of shift model and holiday lists. The total time is Therefore, the selected time period x sum of the selected modules.

Data from
Specifies for which period (referring to the overall time and sum of modules) data is available.

5.18.3.3 KPI



The KPI statistics show the average across all modules over the entire selected time period. For more information on the importance of KPIs, see Chapter **5.5.24 KPI**.

In the table below the graphs, these values are displayed numerically in the first row Ø Average. Below this, the KPI for each of the selected modules is displayed for the selected period.

Special buttons of the operating hour display

24	Displays a full day (from 0:00 to 24:00).
1-2	Selects shifts 1 and 2.
1-3	Selects shifts 1, 2 and 3.
1-4	Selects shifts 1, 2, 3 and 4.
1	Selects or deselects shift1.
2	Selects or deselects shift 2.
3	Selects or deselects shift 3.
4	Selects or deselects shift 4.

Only visible if all modules are assigned the same shift model. In the case of different shift models, always all shifts are used. Depending on the shift model, this corresponds to the setting 1-2, 1-3 or 1-4.

The buttons 1-2, 1-3, 1-4, 2, 3 and 4 shift 2,3 and 4 are only displayed when a corresponding shift model is assigned.

The remaining buttons are explained in chapter **5.18.2 Default Statistics Buttons**.

5.18.3.4 AccessPoint-History

The AccessPoint History statistics show when a module logged on to an AccessPoint and how many hours of use, crashes, etc. were incurred, until the connection to that AccessPoint was lost. This also allows you to track the order in which a module has driven from AccessPoint to AccessPoint.



The captured events correspond to the different columns.
The button at the top left button can be used to display additional columns.

The meaning of each column:

Location
The location that each AccessPoint is assigned to.

Module
Displays the name of the individual module

Connected (Time)
Specifies when the module logged on to this AccessPoint.

Duration Connected
Indicates how long the module was logged on to this AccessPoint.

Duration Workshop
Indicates how long the module was in workshop mode during this time.

Duration Login
Indicates how long the module was logged in during this time.

Duration of Use
Indicates how long the module was used during this time.

Duration Login with load
Indicates how long the module was logged in with load during this time.

Duration Use with loading
Indicates how long the module was used with load during this time.

Duration Crash shutdown
Indicates how long the module was in crash during this time (crash relay was on).

Permanent Flash light
Indicates how long the flash lamp was on during this time.

Number of Logins
The number of times users logged in to the module during this time.

Number of Workshop modules ON
Indicates the number of times the workshop module was turned on during this time.

Number of Loads ON
Indicates the number of times a load was picked up during this time.

Number of Loads OFF
Indicates the number of times a load was dropped off during this time.

Number Of Crash Active
Indicates the times an active crash (without crash values) occurred during this time.

Number of Crash I Active
Indicates the number of times (during this time) an active crash phase I occurred.

Number Crash II Active
Indicates the times (during this time) an active crash phase II occurred.

Number of Workshop modules OFF
Indicates the number of times the workshop module was turned off during this time.

Number of Crash III Active
Indicates the times (during this time) an active crash phase III occurred.

Number of Crash Passive
Indicates how many times during this time a passive crash (without crash values) occurred.

Number of Crash I Passive
Indicates the times a passive crash phase I occurred during this time.

Number of Crash II Passive
Indicates the times a passive crash phase II occurred during this time.

Number of Crash III Passive
Indicates the times a passive crash phase III occurred during this time.

Number of Flash lights
Indicates the number of times the flash light was turned on during this time.

Number of Crash Shutdowns
Indicates the number of times a crash shutdown (crash relay) occurred during this time.

Unlock the number of crash shutdown
Indicates the times a crash was unlocked during this time.

Number Set Clock
The number of times the clock has been re-set in the module during this time.

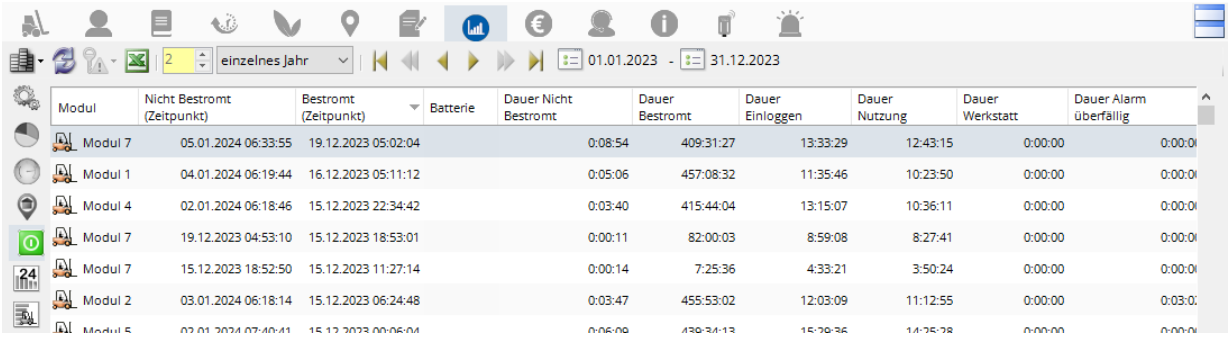
Number Time Errors
Indicates the amount the clock (total) was set during this time.

Number of time errors
Indicates whether so-called time errors have occurred. There are logbook entries whose timestamps are not in chronological order.

Time error
Indicates the total amount of time errors. If this value is not 0, then there are errors in the logbook, which can distort the statistics (by a maximum of this amount).

5.18.3.5 Powered Statistics (current applied)

In the powered statistics all powered entries of the selected module(s) are displayed.



With every powered entry it is recorded, how long this module was not powered before (for electric charging operation the recognised loading duration)

Also recorded, are the length and quantity of different events, until the module was again not powered.

The logged events correspond to different columns.
With the button on the top left, further columns can be made visible.

The meaning of the individual columns:

Module
Displays the name of the respective module

Not powered (time)
Specifies the time at which the module was not powered, before this powered entry.

Powered (time)
Specifies the time at which the module was powered

Battery
Specifies with which battery the module was run (if using an electrolyte sensor, see ***Record used batteries and electrolyte sensor in Logbook*** Chapter **5.9.1.1 Log in (smart lock)** and **5.9.2.2 Log in**).

Duration Not Powered
Specifies, how long the module was not powered. For electric load operation this is the estimated loading time. For electric change operation accordingly the change time.

Duration Powered
Specifies, how long the module was powered.

Duration logging in
Specifies, how long the module was logged in during this powered phase.

Duration usage
Specifies, how long the module was used during this powered phase.

Duration workshop
Specifies, how long the module was in workshop mode during this powered phase.

Duration alarm overdue
Specifies, how long the module was in alarm overdue mode during this powered phase (see, e.g., **5.10.2.1.1 Tab time alarm (UVV)**.

Duration event 1
Specifies, how long event 1 existed during this powered phase.

Duration event 1 usage
Specifies, how long event 1 existed and at the same time operating hours were counted (during this powered phase).

Duration event 2
Specifies, how long event 2 existed during this powered phase.

Duration event 2 usage
Specifies, how long event 2 existed and at the same time operating hours were counted (during this powered phase).

Duration event 1+2
Specifies, how long event 1 and event 2 existed during this powered phase.

Duration event 1+2 usage
Specifies, how long event 1 and event 2 existed and at the same time operating hours were counted (during this powered phase).

Number of loggings in
Specifies, how often users logged into the module during this powered phase.

Number of event 1
Specifies, how often event 1 occurred during this powered phase.

Number of event 2
Specifies, how often event 2 occurred during this powered phase.

Number of event 1+2
Specifies, how often event 1 and event 2 occurred during this powered phase.

Number of clock resetting
Specifies, how often the module clock was reset during this powered phase.

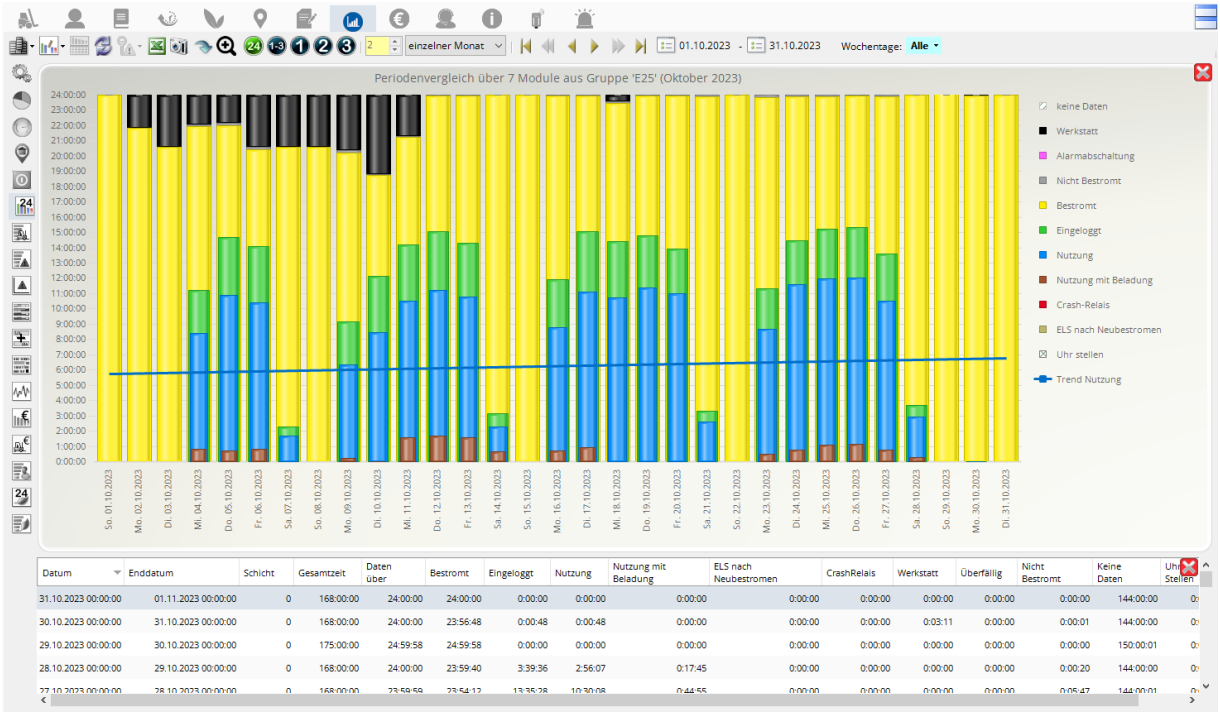
***Clock* resetting**
Specifies the all over time the clock was reset by, during this powered phase.

Number of time errors
Specifies whether so-called time errors have occurred. There are logbook entries with time stamps off the chronological order.

Time error
Specifies the total sum of time errors. If this value is unequal 0, the errors are in the logbook which can corrupt the statistics (to a maximum of this amount).

Overflow
Specifies whether during the statistics calculation errors have occurred.
An overflow usually suggests a faulty logbook.

5.18.3.6 Period comparison



The period comparison serves to trace the development of a module or a group of modules over a period of time.

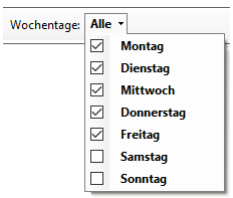
Special buttons of the operating hour display

- 24 Displays a full day (from 0:00 to 24:00).
- 1-2 Selects shift 1 and 2.
- 1-3 Selects shift 1, 2 and 3.
- 1-4 Selects shift 1, 2, 3 and 4.
- 1 Selects or deselects shift 1.
- 2 Selects or deselects shift 2.
- 3 Selects or deselects shift 3.
- 4 Selects or deselects shift 4.

Only visible if all modules are assigned the same shift model. In the case of different shift models, always all shifts are used. Depending on the shift model, this corresponds to the setting 1-2, 1-3 or 1-4.

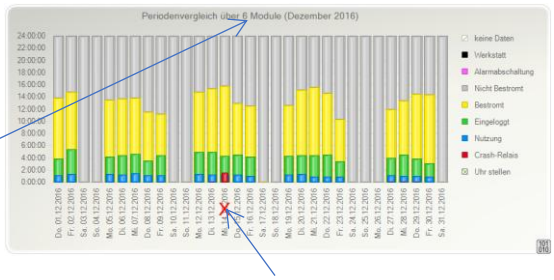
The buttons 1-2, 1-3, 1-4, 2, 3 and 4 shift 2,3 and 4 are only displayed when a corresponding shift model is assigned.

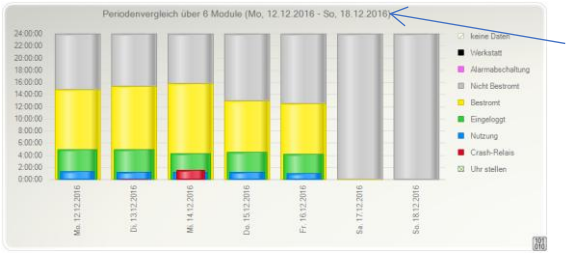
Wochentage: Alle : In addition, the statistics can be limited to certain days of the week. For example, the weekends can be hidden.



The remaining buttons are explained in chapter **5.18.2 Default Statistics Buttons**.

Special Function:
By double-clicking on the time axis, the correspondingly smaller time range can automatically be selected. For example, if the entire year 2016 is displayed and it is now double-clicked on the date 14.12.2016, then automatically December 2016 is selected.





If you double click again on 14.12.2016, now the week is selected, in which the 14.12.2016 is.

The meaning of the individual colours/columns:

Date
Every bar represents a day or a shift in a day. Here the start time for the calculation of this bar is displayed.

Final date
Here it is displayed up to which time the bar was calculated.

Shift
Here it is displayed which shift it concerns. Shift 0 stands for a whole day from 0:00 o'clock to 24:00 o'clock.

Total time
Displays for which period the bar was calculated. In general, these are 24 hours or the duration of the shift. However, on the days of the summertime conversion the value can deviate about one hour. If the clock was set (changed) in the module, a deviation can also arise.

Data
Specifies for which period (on average for all selected modules) data is available. If no data is available, e.g., if for one out of 10 modules no data is available but for all others 100%, the total time available displayed is only 90%.

Powered
Specifies, how long the module was powered in this time period (total time).

Logged in
Specifies, how long the module was logged in in this time period (total time).

Usage
Specifies, how long the module was used in this time period (total time).

Usage with load
Indicates how long the modules have been used in total with load.

Crash relay

Specifies, how long the module was switched off (disabled) in this time period (total time) on account of a crash.

ELS after re-energizing

Specifies how long the module's battery had an electrolyte level that was too low (immediately after re-powered.

A trend line can also be displayed for the following values:

- Trend Workshop
- Trend Alarm Shutdown
- Trend not powered
- Trend powered
- Trend logged in
- Trend Usage
- Trend usage with load
- Trend Crash-Relay
- Trend ELS to newly powered

Workshop

Specifies, how long the module was in workshop mode for this time period (total time).

Alarm disconnection (overdue)

Specifies, how long the module was in alarm overdue mode in this time period (total time).

Not Powered

Specifies, how long the module was not powered in this time period (total time).

No data

Specifies for which period no data is available. This is the difference from total time – data.

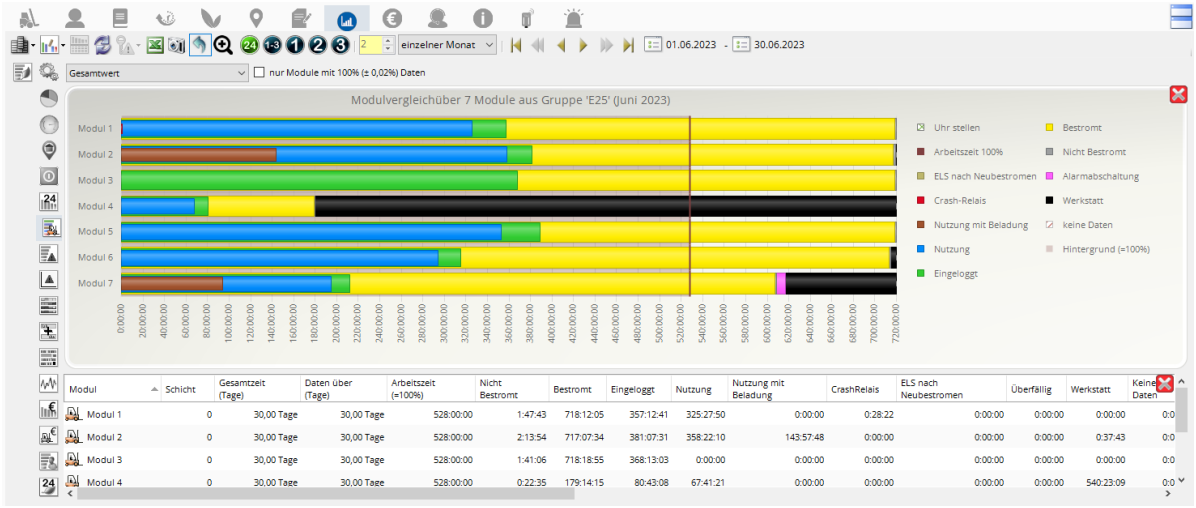
Clock set

If the clock of the module was reset in this time period, the logged total time can deviate. If the clock was reset e.g., by 5 minutes, these 5 minutes "are missing".

A trend line can also be displayed for the following values:

- Trend Workshop
- Trend Alarm Shutdown
- Trend not powered
- Trend powered
- Trend Logged in
- Trend Usage
- Trend Usage with load
- Trend Crash-Relay
- Trend ELS to newly powered

5.18.3.7 Module comparison



The module comparison serves to compare the selected modules for the given period. Every beam corresponds to the respective sum of the data for this period.

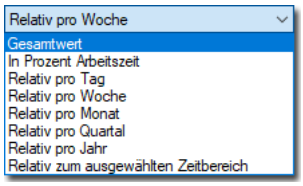
Special buttons of the operating hour display

- 24 Displays a full day (from 0:00 to 24:00).
- 1-2 Selects shift 1 and 2.
- 1-3 Selects shift 1, 2 and 3.
- 1-4 Selects shift 1, 2, 3 and 4.
- 1 Selects or deselects shift 1.
- 2 Selects or deselects shift 2.
- 3 Selects or deselects shift 3.
- 4 Selects or deselects shift 4.

Only visible if all modules are assigned the same shift model. In the case of different shift models, always all shifts are used. Depending on the shift model, this corresponds to the setting 1-2, 1-3 or 1-4.

The buttons 1-2, 1-3, 1-4, 2, 3 und 4 are only displayed when a corresponding shift model is assigned.

The remaining buttons are explained in chapter **5.18.2 Default Statistics Buttons**.



In this statistic, in addition to the totals, data can also be displayed in % working time (100% corresponds to the time available according to the shift model, see **5.9.7 Shift work models**, or relative to a certain period of time.

If the setting is ***relative*** per month, the values are e.g., projected so that they correspond to the average per month. A powered-time of 470 hours then means that the module was powered for an average of 470 hours per month in the selected period.

In addition, with the option ☐ ***only modules with 100% (± 0.02%) data***, the statistics can be limited to those modules for which data is available over 100% of the selected period. If a module has not been read out for a long time, data could have been lost between two read-out processes. A clock that is running too slowly or too quickly can also result in more, or less data than desired being available. To create statistics with 100% informative value, these modules can be filtered out. The statistics are then only calculated for those modules for which exactly 100% (± 0.02%) data is available.
Note: 0,02% equals 17,28 seconds per day

The meaning of the individual colours/columns:

Module
Displays the module name.

Shift
Here it is displayed which shift it concerns. Shift 0 stands for a whole day from 0:00 o'clock to 24:00 o'clock.

Working hours
Displays the theoretically available working hours in the specified period. The working hours are calculated based on the shift model and the holiday lists. The working hours are the reference value for the % entries and, Therefore, always 100%. Thus, working hours are shown in the % display as an absolute value.

Attention! If a module is run longer than in the shift model intended, the displays of the remaining values can become greater than 100%!

Powered
Specifies, how long the module was powered in this time period (total time).

Logged in
Specifies, how long the module was logged in in this time period (total time).

Usage
Specifies, how long the module was used in this time period (total time).

Usage with load
Indicates how long the modules have been used in total with load.

Crash relay
Specifies, how long the module was switched off (disabled) in this time period (total time) on account of a crash.

Workshop
Specifies, how long the module was in workshop mode for this time period (total time).

Alarm disconnection (overdue)
Specifies, how long the module was in alarm overdue mode in this time period (total time.

Not Powered
Specifies, how long the module was not powered in this time period (total time).

No data
Specifies for which period no data is available. This is the difference from total time – data.

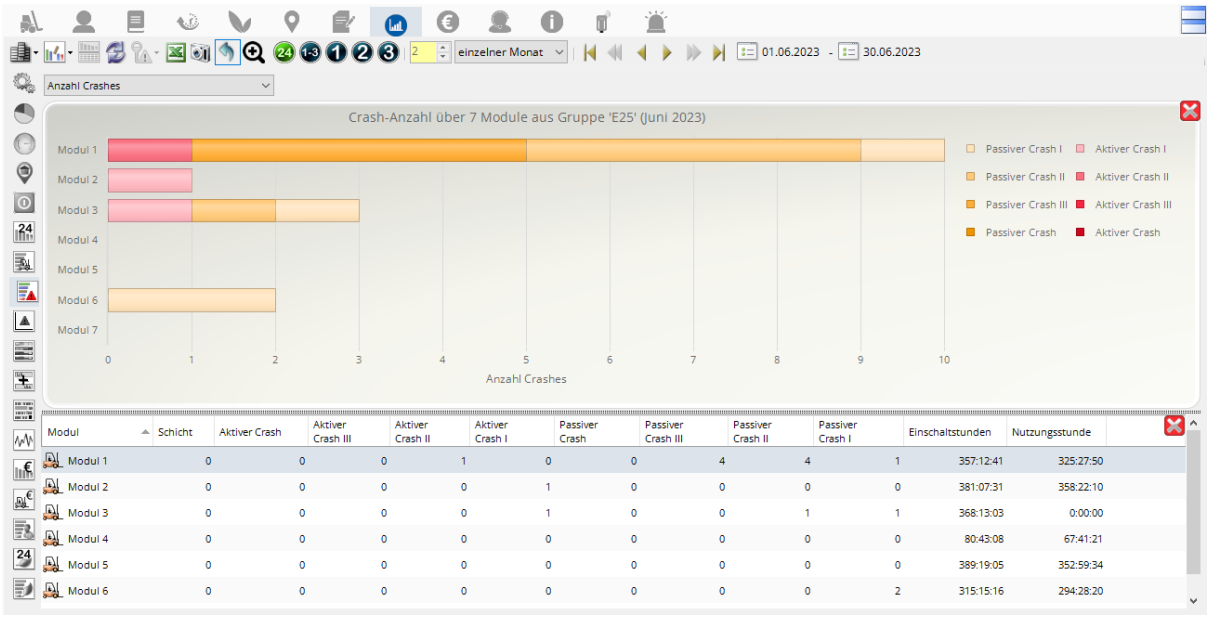
Clock set
If the clock of the module was reset in this time period, the logged total time can deviate. If the clock was reset e.g., by 5 minutes, these 5 minutes "are missing".

Time error
If logbook entries appear off the chronological order, the statistics are possibly wrongly calculated. The possible error is logged here.

Overall time
Displays the overall time, regardless of shift model and holiday lists.

Data from
Specifies for which period (referring to the overall time) data is available.

5.18.3.8 Crash-Numbers



This statistic can be used to compare the number of different crash types within a certain period of time for the selected modules.
The standard buttons are explained in chapter **5.18.2 Default Statistics Buttons**.

There are two different modes, which can be switched between using the button in the 

upper left corner:

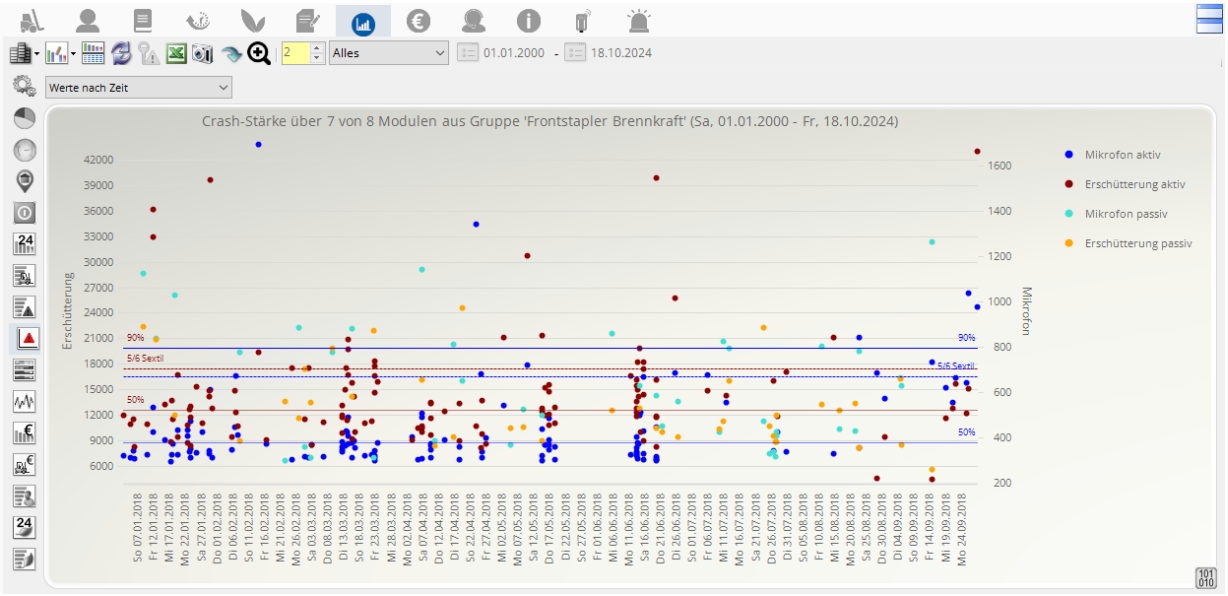
Count of crashes
Shown here is the respective number, how often e.g., an active Crash III has occurred.

Count of crashes per 100 hours of use
The count of crashes is related to the respective hours of use of the module.

This means that a module with many crashes, but also many hours of use, can perform better than a module with few crashes and very few hours of use.

5.18.3.9 Crash-Strength

This statistic is used to evaluate the crash strength of the ***modular crash*** modules.
This statistic is particularly helpful in determining the limit values for the crash-levels (see chapter **5.9.4.1 Crash (crash+remote)**)



The selection menu can be used to select one of the illustrations explained in the following chapters.

5.18.3.9.1 Value By Time

The individual measured values (crash and microphone strength) are displayed over time (X-axis) (see picture above). The left Y-axis indicates the crash strength (vibration), while the right Y-axis indicates the microphone strength.

Meaning of the individual colours:

- ***Microphone active***
  The respective microphone value of an active crash.
- ***Vibration active***
  The respective vibration value of an active crash.
- ***Microphone passive***
  The respective vibration value of a passive crash.
- ***Vibration passive***
  The respective vibration value of a passive crash.

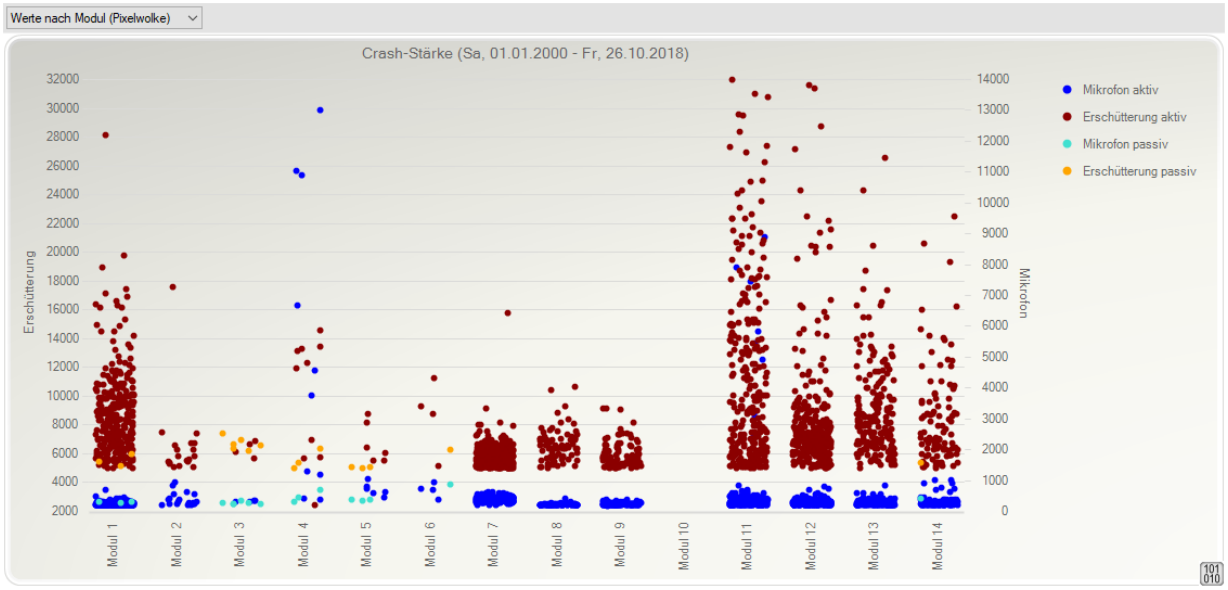
In addition, the 50%, 5/6 sextile and 90% lines are plotted (in red for vibration and in blue for microphone values).

The 90% line means that 90% of the readings are below this line and only 10% above.

For the 5/6 sextile line, it is 5/6 of the readings below and 1/6 of the readings above the line.

Note that the statistics only contain measured values that were also recorded. I.e., usually, only readings that were above the threshold level I.

5.18.3.9.2 Value By Module (Pixel cloud)

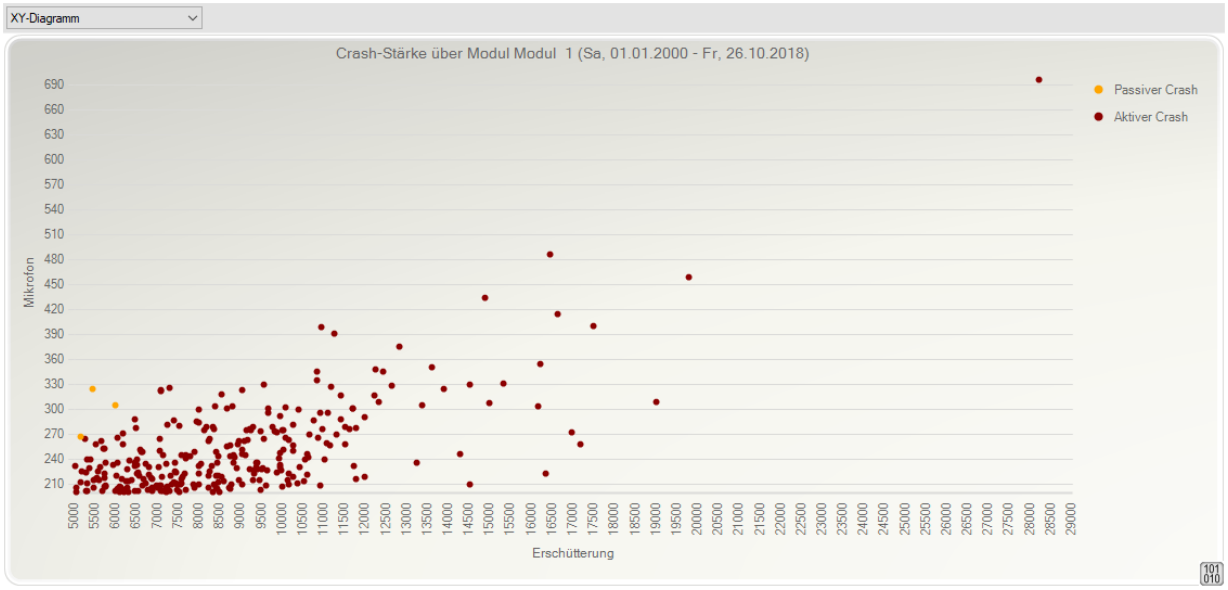


This statistic displays the values sorted by modules. The scattering to the left and right is based on coincidence and serves only for better visibility of the individual points.
Here, too, the vibration values are displayed in the left Y-axis and the microphone values in the right Y- axis.
Above all, this statistic serves to detect differences in the crash behaviour of different modules.

Meaning of the individual colours:

- ***Microphone active***
  The respective microphone value of an active crash.
- ***Vibration active***
  The respective vibration value of an active crash.
- ***Microphone passive***
  The respective vibration value of a passive crash.
- ***Vibration passive***
  The respective vibration value of a passive crash.

5.18.3.9.3 XY-Diagram



With this statistic the relationship between vibration and microphone strength can be examined. For this purpose, the individual measured values, which in each case have a value for the vibration and a value for the microphone strength, are plotted such that the vibration is in one axis and the microphone value in the other.
This makes it clear whether low vibration levels always occur along with low microphone levels and correspondingly high vibration levels, along with high microphone levels. In this case, all points would be on a straight line.
The more the individual points deviate from this ideal straight line, the greater are the differences in the microphone value with the same vibration values.

Meaning of the individual colours:

- ***Active Crash***
  The respective microphone/vibration value of an active crash.
- ***Passive Crash***
  The respective microphone/vibration value of a passive crash.

5.18.3.9.4 Box-Whisker-Plot

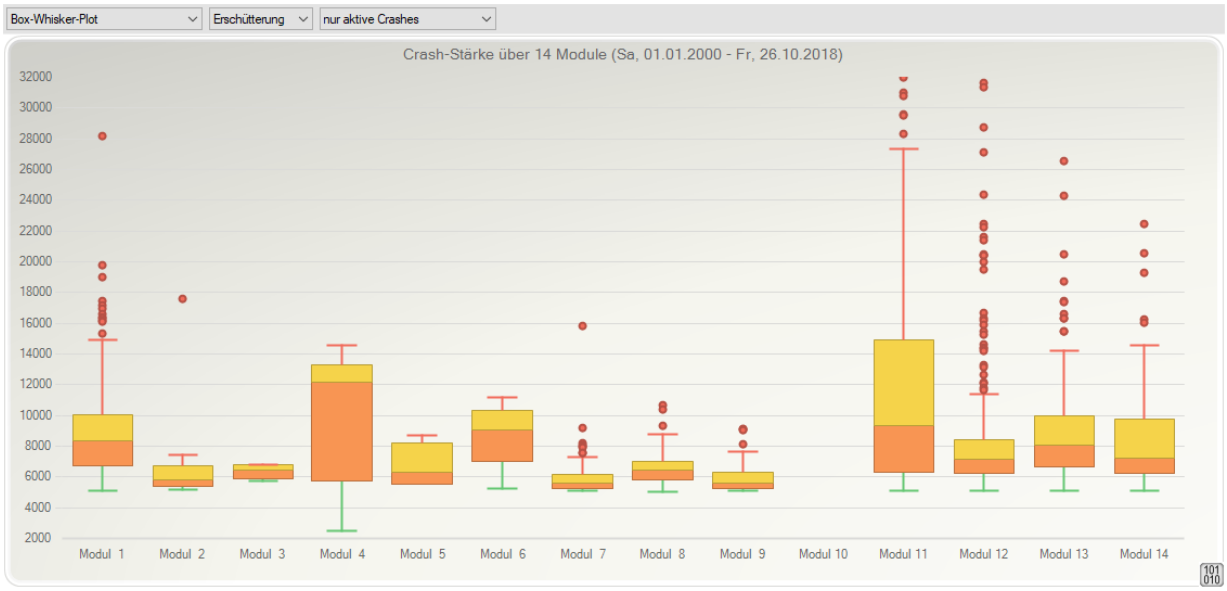
In the box whisker plot, only one (statistically processed) value can be displayed. Either the vibration or the microphone value is displayed.

The respective value can be set in the selection field above.

Further, it can be selected if

- ***only active crashes,***
- ***only passive crashes*** or
- ***active and passive crashes***

should be included in the calculation.



In the box whisker plot, the individual values (module-wise) are summarized statistically. For more information on Box Whisker Plot (or sometimes called Box Plot), see e.g., under https://de.wikipedia.org/wiki/Box-Plot.

5.18.3.10 Single comparison



The single comparison serves to compare the selected modules for the given period. In every row the respective status of the module for the selected period is displayed.

Finally, the respective total KPI of the selected period is displayed. Note that the KPI is calculated only over the shift time, while the display of the states is over the entire period.

Each of the single beams in a row represents a "time slice". The length of the slices is depending on the selected period. With longer periods (intervals) automatically bigger slices are used accordingly to keep a clear display. Following slices are used:

Selected period	Time slice
1 day	15 minutes*
From 2 to 31 days	1 hour*
> 31 days	1 day

In the above example a single week is selected, the slice corresponds to 1 hour. If a single beam is completely yellow, this means that the module was powered during these 1 hour, but not logged in etc.

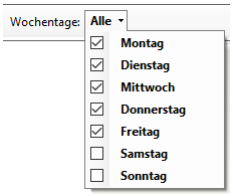
*) Note that the resolution of 15 minutes and 1 hour is only available for newer statistics according to the statistics settings (see **5.18.1 Statistics module activation / configuring**). If an older time range is selected that does not have 15-minute data, it is automatically switched to a grid of 1 day.

Buttons of the operating hours display

- 24 Displays a full day (from 0:00 to 24:00).
- 1-2 Selects shift 1 and 2.
- 1-3 Selects shift 1, 2 and 3.
- 1-4 Selects shift 1, 2, 3 and 4.
- 1 Selects or deselects shift 1.
- 2 Selects or deselects shift 2.
- 3 Selects or deselects shift 3.
- 4 Selects or deselects shift 4.

Only visible if all modules are assigned the same shift model. In the case of different shift models, always all shifts are used. Depending on the shift model, this corresponds to the setting 1-2, 1-3 or 1-4.

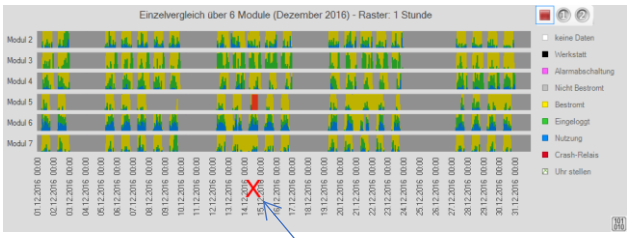
The Buttons 1-2, 1-3, 1-4, 2, 3 and 4 shift 2,3 and 4 are displayed only if a corresponding shift model is assigned.

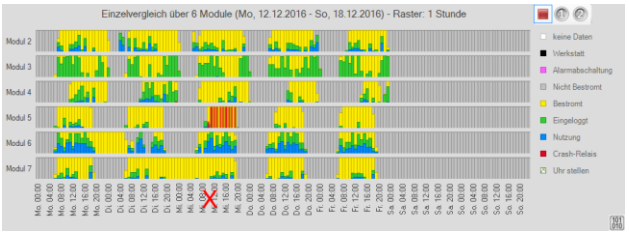


Wochentage: Alle : In addition, the statistics can be limited to certain days of the week. For example, the weekends can be hidden.

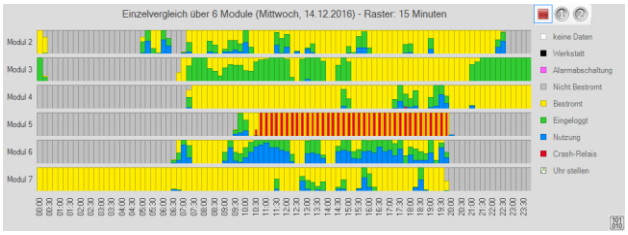
The remaining buttons are explained in chapter **5.18.2 Default Statistics Buttons**.

Special Function 1:
By double-clicking on the time axis, the correspondingly smaller time range can automatically be selected. For example, if the entire year 2016 I displayed and you now double click in the area of December 2016, then automatically ***December 2016*** is selected.





Now, again, e.g., in the area of 14.12.2016 double clicked, now the corresponding week is selected, in which the 14.12.2016 is.

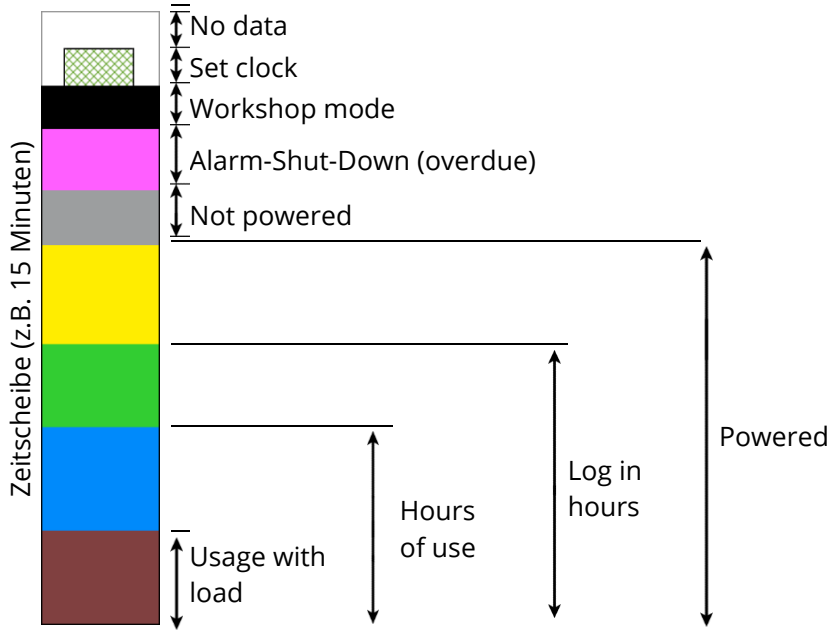


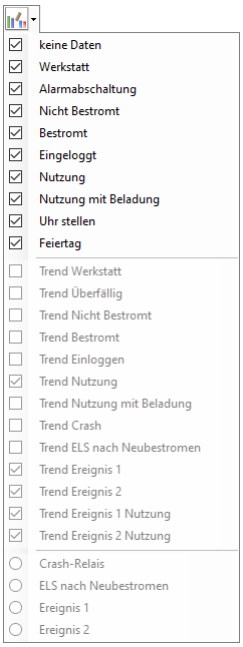
Again, e.g., click twice on Wednesday to select Wednesday.

Special Function 2:
If ***only one*** module is selected, there is a special time range called ***week (by day)*** in these statistics. Here (as with ***single week***) a whole week is displayed, but not in a single line but in a separate line for each day of the week.



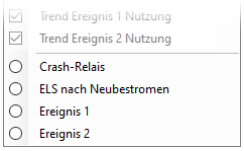
The meaning of the individual colour beams:





A trend line can also be displayed for the following values:

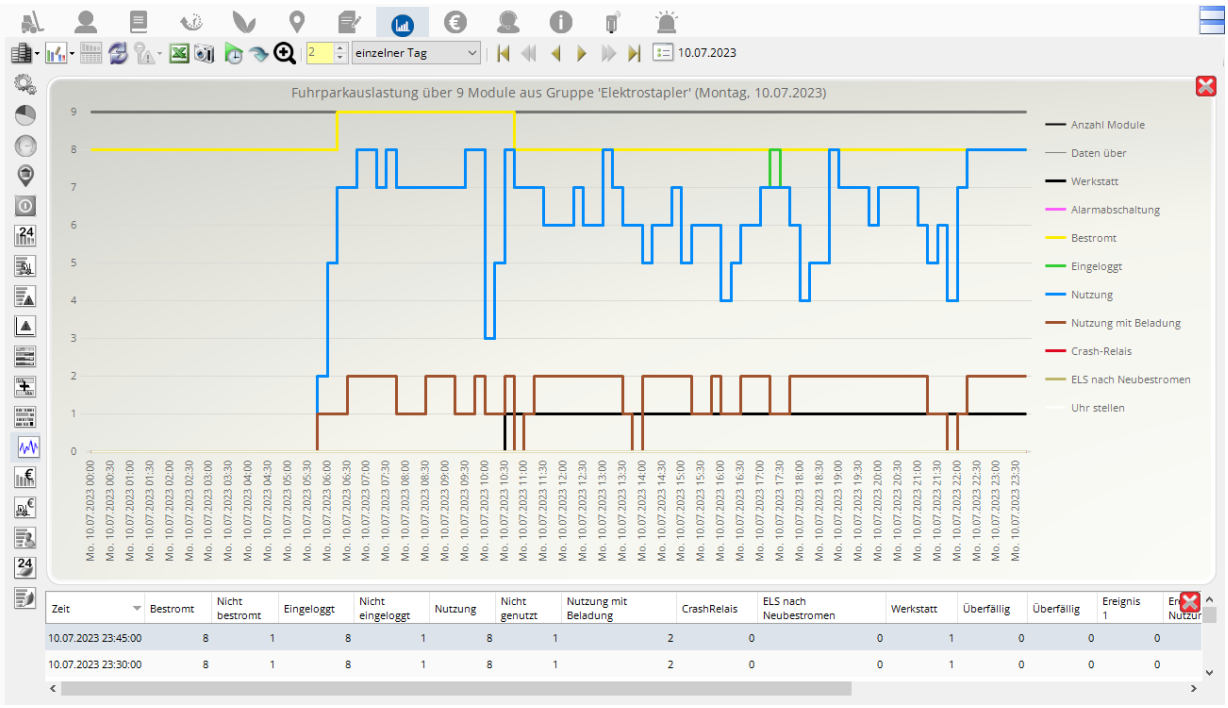
- Trend Workshop
- Trend Alarm Shutdown
- Trend not powered
- Trend powered
- Trend logged in
- Trend Usage
- Trend usage with load
- Trend Crash-Relay
- Trend ELS to newly powered
- Trend Event 1
- Trend Event 2
- Trend Event 1 Usage
- Trend Event 2 Usage



Finally, a single additional bar can be displayed.

In the case of the additional bars, only one of the bars can be displayed at a time. By clicking on the active additional bar again, it can be hidden again that no additional bar is displayed.

5.18.3.11 Fleet Utilisation



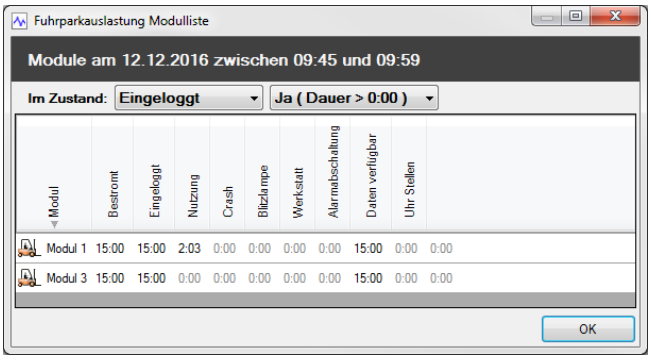
The number of modules that can be used at the same time can be determined using the fleet utilisation factor. The time range is divided into ¼ hour parts.

It is then counted how many modules were in a particular mode (e.g., powered or logged-in) within such ¼ hour. Even if a module is powered for only one second within this ¼ hour, this is counted for the height of the yellow power line.

The reverse is most interesting. If of 11 modules, e.g., 10 modules inside a ¼ hour were powered, then **one module was not** during this time.

If the utilisation curve does not reach the maximum value over the entire range, then more modules may be in use than would be necessary.
Of course, it must also be noted that it was not always the same modules that were not used and that these modules might be located in remote locations. It is in the driver's discretion, where the limit for possibly unnecessary modules is drawn.

If any of the lines are clicked in the diagram, an additional information window will open, showing which modules were exactly in this ¼ hour time. The displayed state (powered, logged in, etc.) can be changed via the selection field. Also, e.g., the reverse is shown, which modules did **not** have this state in the specified ¼ hours.



This statistic can be added as a ***scheduled action*** by clicking on (see **5.20 Scheduled Tasks**) The selected columns and lines as well as the size of the time range (single day, week, etc.) are transferred. Further configuration of the action is described in sections **5.20.3 Configure Actions**, **5.20.3.15 Schedule** and **5.20.3.14 Create Statistic**.

The meaning of the individual colours:

Time
Time of each ¼ hour.

- Data about
Specifies the number of modules in the ¼ hour data. If this thin black line is not continuous at the maximum value, then the displayed data are correspondingly more inaccurate because the modules, which do not have data, could not be considered.

Workshop
Specifies how many modules were in workshop mode in this ¼ hour.

Alarm shutdown (overdue)
Specifies how many modules were overdue in the respective ¼ hour in the alarm state.

Powered
Specifies how many modules were powered in this ¼ hour.

Logged in
Specifies how many modules were logged in this ¼ hour.

Usage
Specifies how many modules were used in this ¼ hour.

Usage with load
Indicates how many modules were used in each 1/4 hour with.

Crash relay
Specifies how many modules were disabled in this ¼ hour due to a crash.

Event 1 (the name of the respective event can also be displayed here)
Specifies the number of modules in this ¼ hour that event 1 was occurred.

Event 1 *usage* (here the name of the respective event can also be displayed)
Specifies the number of modules in this ¼ hour that event 1 occurred.

Event ***2*** (the name of the event can also be displayed here)
Specifies the number of modules in this ¼ hour that event 2 occurred.

Event 2 *Usage* (here you can also see the name of the event)
Specifies the number of modules in this ¼ hour that event 2 occurred.

Event 1 + 2 (the name of the respective event can also be entered here)
Specifies the number of modules in this ¼ hour at which event 1 was simultaneous with event 2.

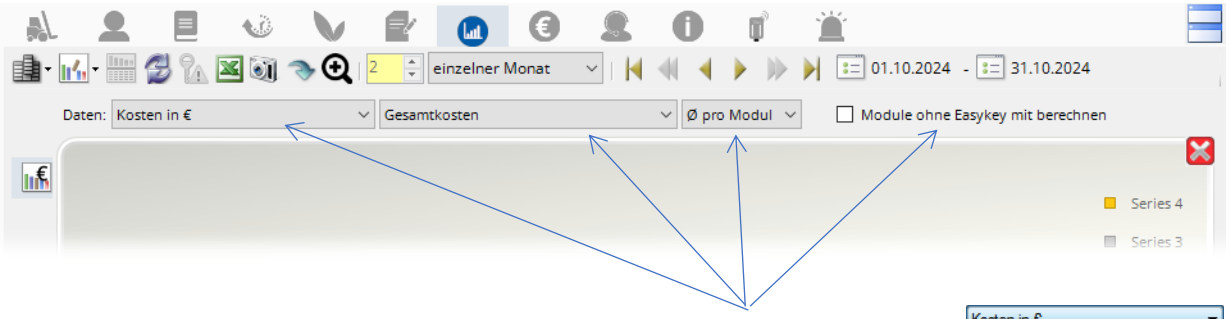
Event 1 + 2 *Usage* (here, the name of the respective event can also be displayed)
Specifies the number of modules in this ¼ hour that event 1 occurred at the same time as event 2 with usage.

Set clock
Specifies the number of modules where the clock has been set in this ¼ hour.

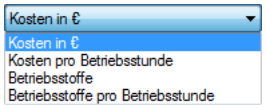
5.18.3.12 Financial Development

Note:
The financial development statistics are only visible if the financial module software module is activated. See also **5.22 Software Modules (Optional)** and **5.22.3 Finance Module**.

In this statistic, the sum of all costs for the selected modules is displayed.



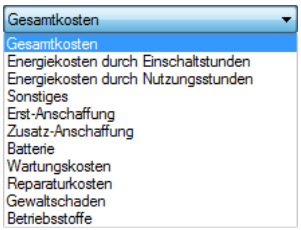
The statistics can be adapted accordingly via the selection menus.



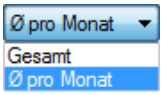
5.18.3.12.1Costs in €



The absolute costs (per module and per month) are shown (see figure above). You can also use the selection field to evaluate only one single cost element. Only invoices of this one cost type are taken into account. Cost types can be defined as required.
See also **5.14.10.2 Invoice Cost Types**.



If you select a single cost element, the average values cannot be displayed.



By default, the average cost per module (**Ø per module**) is displayed. This mean that the sum of all costs is divided by the number of modules displayed. By choosing **Tota**l, the total amount can be displayed over the entire period. For example, to represent the cost of an entire year.

Using the option ***calculate modules without Easykey*** you can specify whether modules with the **No Easykey module type** should be included in the calculation. If the option is not active, selected modules of the type No Easykey are filtered out, as if they were not selected

The meaning of the individual colours:

Costs
The respective amount in this month (total of all bookings in this month).

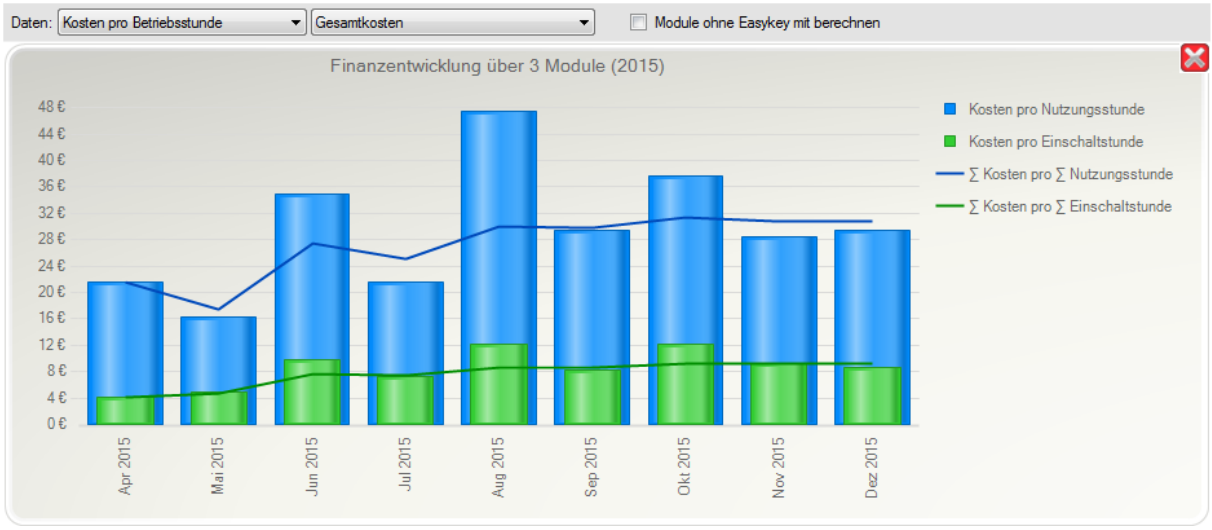
Not calculated
The sum of all not calculated bookings for the financial status (see ***Ignore invoice*** in chapter **5.15.2 Add New Invoice**) Postings in this month.

— ***Ø Costs*** *(Only when selecting total costs)*

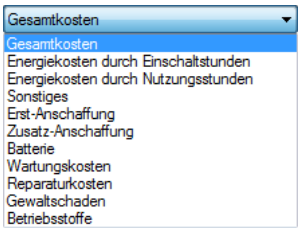
Indicates the average of all costs incurred per month. For example, if the financial calculation starts in June 2015, the line in June 2015 will show the average over 3 months, while the line in July 2015 will then show the average over 4 months, etc. (see notes ***Calculation start*** in chapter **5.15.3 Financial Status**)

— ***Ø Not calculated*** *(Only when selecting total costs)*
Like Ø costs, only that here the bookings with the status ***Ignore invoice*** are evaluated.

5.18.3.12.2Cost Per Operating Hour



This view calculates the cost per cut-in and / or usage hours.



You can also use the selection field to evaluate only one single cost element. Only invoices of this one cost type are taken into account. Cost types can be defined as required. See also **5.14.10.2 Invoice Cost Types**.

If you select a single cost element, the average values cannot be displayed.

The option ***Calculate modules with NO Easykey*** allows you to specify whether or not to display modules with the ***NO Easykey*** module type. If the option is not active, NO Easykey modules are not displayed.

The meaning of the individual colours:

Cost per hour of use

The amount in this month (sum of all postings of **all** modules this month) is divided by the sum of the usage hours that were incurred for **all** modules this month.
Example: Module 1 cost €100 and was used 100 hours, Module 2 cost €200 and was used 150 hours. This results in total cost of €300 and a total utilization of 250 hours. This will calculate €300/250 hours = €1.20 costs per hour of use.

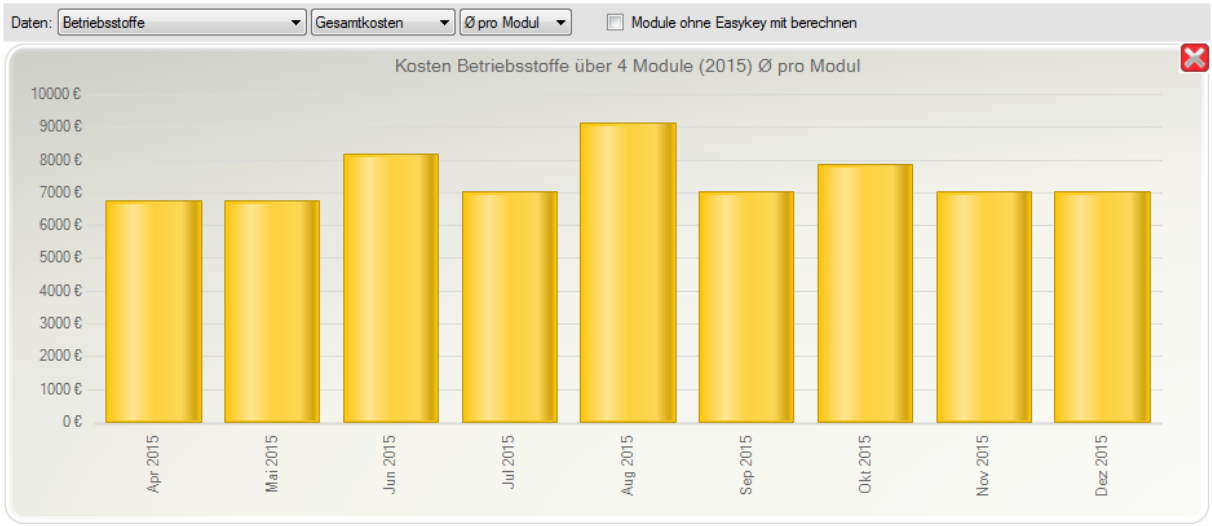
Cost per cut-in hour

The respective amount in this month (sum of all bookings of **all** modules this month) divided by the sum of the hours of duty incurred for **all** modules this month.

— **∑ Costs per ∑ hours of use** *(Only if Total cost is selected)*
The sum of the costs incurred by all modules (since calculation start, see **Calculation Start** in chapter **5.15.3 Financial Status**) up to this point divided by the sum of the usage hours of **all** modules that have been incurred up to this point.

— **∑ Costs per ∑ cut-in hour** *(Only if Total cost is selected)*
The sum of the costs incurred by all modules (since calculation start, see **Calculation Start** in chapter **5.15.3 Financial Status**), divided by the sum of the cut-in hours of **all** modules that have occurred up to this point

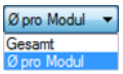
5.18.3.12.3Operating Supplies/ Raw Materials



This view only takes into account invoices for which an amount of operating supplies e.g., fuel has been entered (see Invoice amount in chapter **5.15.2 Add New Invoice** and **5.14.10 Finance module**). Depending on the selection, the fuel quantity or the amount in € will be displayed.



A single supply can also be analysed via the selection field. Only then are invoices taken into account where this supply was entered. Each supply may be displayed either in the number of supplies (e.g., litres) or as the amount (in €). Only when **total cost** is selected only the amount is possible to view, since the various quantities of supplies/fuel (for example, litters and kWh) cannot be added.

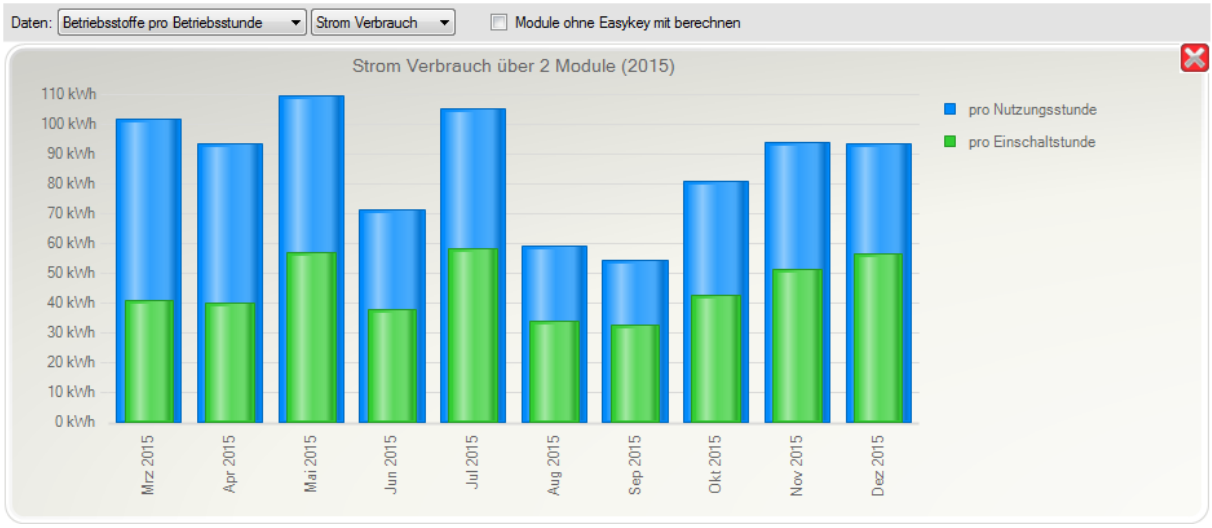


The cost or consumption per module is displayed by default. This means that the sum of the cost and consumption is divided by the number of modules displayed. By choosing **Total**, the total amount can be displayed instead of all modules. For example, to represent the consumption of an entire department.

Attention:
Only invoices with the appropriate supply/fuel are considered. The number of modules, however, results from the selected modules. If modules with different supply/fuel types are selected at the same time and if a single supply/fuel type is selected, the average is calculated over **all** selected modules, i.e., it is displayed lower than it actually is. Therefore, make sure that only modules of this supply/fuel are selected in this case.

The option **Calculate modules NO Easykey** can be used to specify whether modules with the **NO Easykey module type** should be included in the calculation. If the option is not active, selected modules of the type NO Easykey are filtered out, so whether they were not selected with.

5.18.3.12.4Operating Supplies/ Raw Materials Per Hour Of Use



Here, too, only invoices are considered for which a number of raw materials e.g., fuel has been entered. Depending on the selection, the fuel quantity per operating hour or the amount per operating hour is displayed in €.



A single fuel can also be analysed via the selection field. Only then are invoices taken into account where this fuel was entered. Each fuel may be displayed either in the amount of fuel (e.g., litres) or as the amount (in €). Only when **total cost** is selected the amount is shown, since the various quantities of fuel (for example, litters and kWh) cannot be added.

Achtung:

Only invoices with the corresponding fuel are considered. However, the number of cut-in and usage hours results from **all** selected modules. So, if modules with different fuel types are selected at the same time and now a single fuel type is selected, the average will still be calculated over **all** selected modules, so it will be displayed lower than it really is. Therefore, make sure that in this case only modules of this one fuel type are selected.

The option Calculate modules NO Easykey can be used to specify whether modules with the NO Easykey module type should be included in the calculation. If the option is not active, selected modules of the type NO Easykey are filtered out, so whether they were not selected with.

The meaning of the individual colours:

per hour of use

The respective amount or consumption in this month (total of all bookings of all modules in this month) divided by the sum of the usage hours for all modules used in this month.
Example: Module 1 consumed 100 kWh and was used for 100 hours, module 2 consumed 200 kWh and was used for 150 hours. This results in a total consumption of 300 kWh and a total use of 250 hours. This calculates 300 kWh / 250 hours = 1.20 kWh per hour of use.

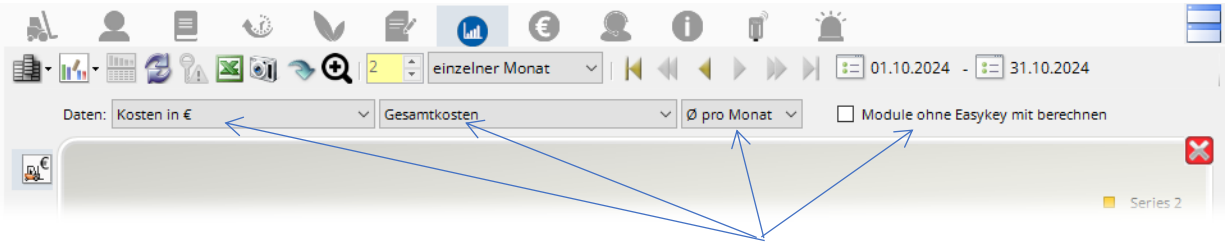
per cut-in hour

The respective amount or consumption in this month (the sum of all bookings of **all** modules in this month) divided by the sum of the cut-in hours worked on this module for **all** modules this month.

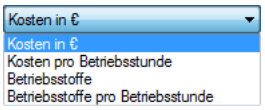
5.18.3.13 Financial comparison

Note:
The statistics financial comparison is only visible if the software module ***Finance module*** is activated. See **5.22 Software Modules (Optional)** and **5.22.3 Finance Module**.

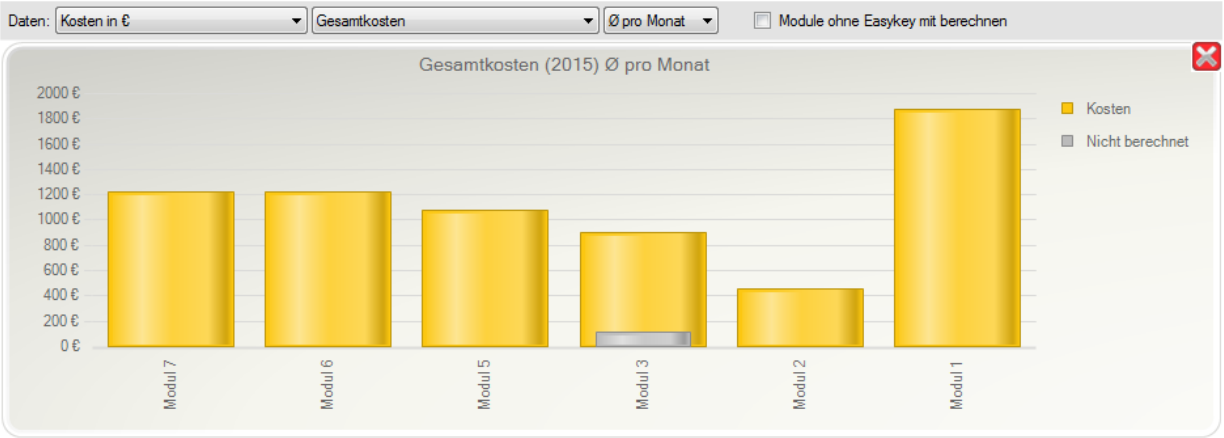
In this statistic, the sum of all costs for the selected modules is displayed.



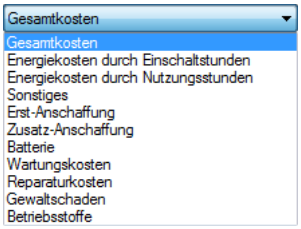
The statistics can be adapted accordingly via the selection menus.

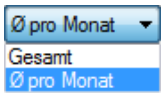


5.18.3.13.1 Costs in €



The absolute costs (per module and per month) are shown (see figure above). You can also use the selection field to evaluate only one single cost element. Only invoices of this one cost type are taken into account. Cost types can be defined as required. See also **5.14.10.2 Invoice Cost Types**.





By default, the average cost per module (**Ø per module**) is displayed. This mean that the sum of all costs is divided by the number of modules displayed. By choosing **Total**, the total amount can be displayed over the entire period. For example, to represent the cost of an entire year.
If you select a single cost element, the average values cannot be displayed.

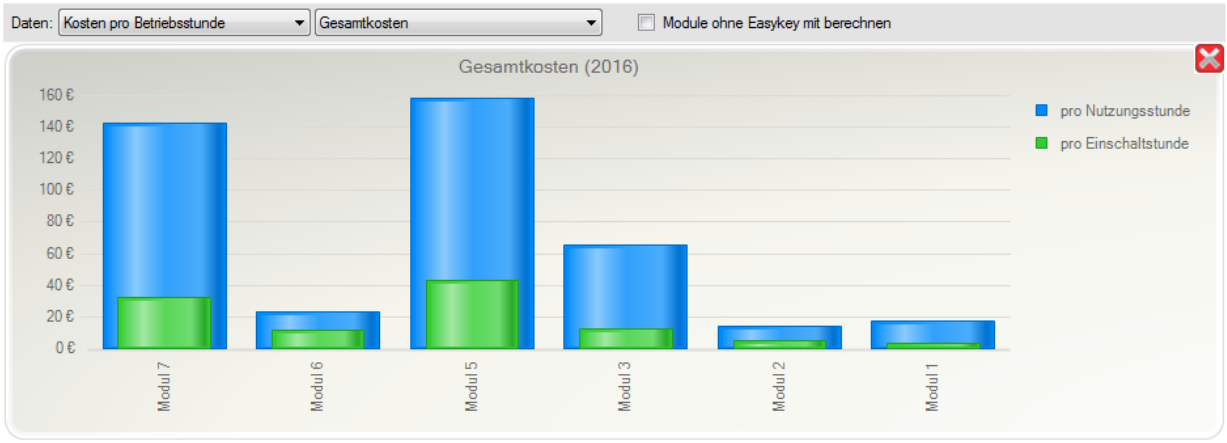
Using the option ***calculate modules without Easykey*** you can specify whether modules with the **No Easykey module type** should be included in the calculation. If the option is not active, selected modules of the type No Easykey are filtered out, as if they were not selected

The meaning of the individual colours:

Costs
The respective amount in this month (total of all bookings in this month).

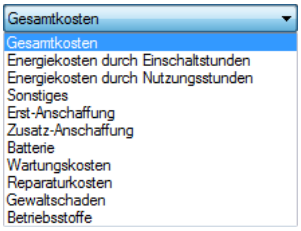
Not calculated
The sum of all not calculated bookings for the financial status (see ***Ignore invoice*** in chapter **5.15.2 Add New Invoice**) Postings in this month.

5.18.3.13.2Costs Per Cut-In Hour



This view calculates the cost per cut-in and / or usage hours.

You can also use the selection field to evaluate only one single cost element. Only invoices of this one cost type are taken into account. Cost types can be defined as required. See also **5.14.10.2 Invoice Cost Types**.



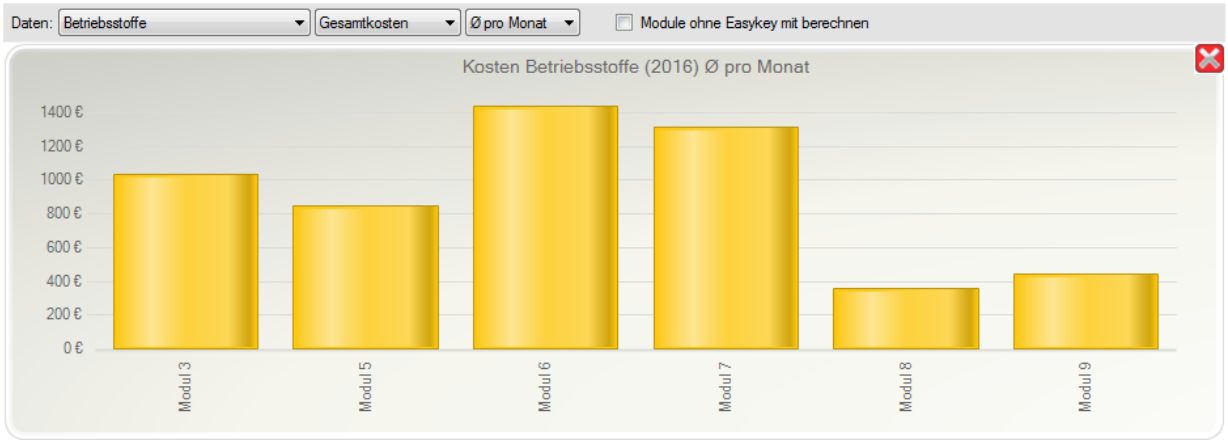
The option ***Calculate NO Easykey*** allows you to specify whether or not to display modules with the ***NO Easykey*** module type. If the option is not active, ***NO Easykey*** modules are not displayed.

The meaning of the individual colours:

Cost per hour of use
For each module, the costs incurred during the specified period are divided by the usage hours.

Cost per cut-in hour
For each module, the costs incurred during the specified period are divided by the number of power-on hours.

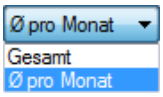
5.18.3.13.3Supplies/ Raw Materials



This view only takes invoices into account for which an amount of fuel has been entered (see Invoice amount in chapter **5.15.2 Add New Invoice** and **5.14.10 Finance module**). Depending on the selection, the fuel quantity or the amount in € will be displayed.



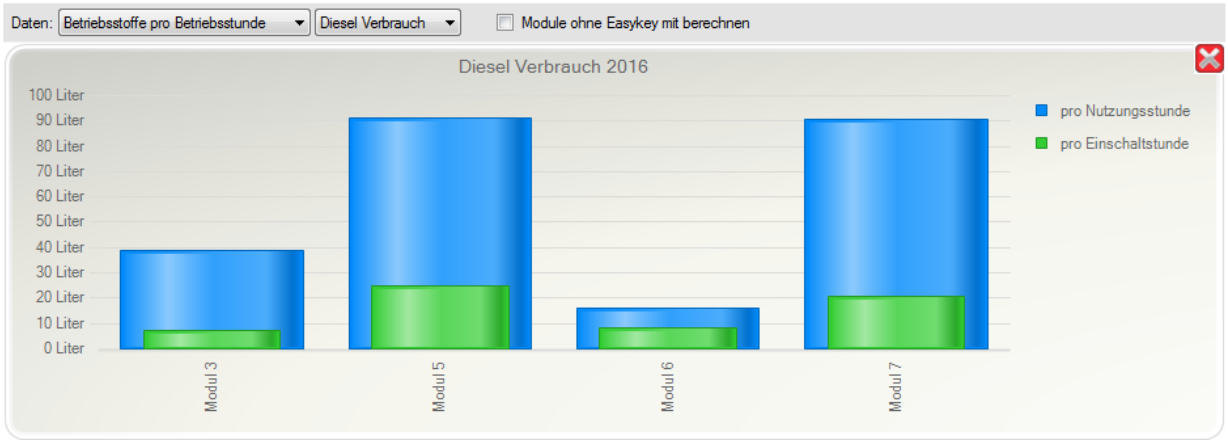
A single supply i.e., fuel can also be analysed via the selection field. Then only invoices are taken into account where this fuel was entered. Each fuel may be displayed either in the amount of fuel (e.g., litres) or as the amount (in €). Only when the ***total cost*** is selected, only the amount is possible to view, since the various quantities of fuel (for example, litres and kWh) cannot be added



By default, the average cost per month (***Ø per month***) is displayed. This means the sum of all costs is divided by the number of months displayed. By choosing ***Total***, the total amount can be displayed over the entire period. For example, to represent the cost of an entire year.

The option **Calculate modules NO Easykey** can be used to specify whether modules with the **NO Easykey module type** should be included in the calculation. If the option is not active, selected modules of the type NO Easykey are filtered out, so whether they were not selected with.

5.18.3.13.4Supplies/ Raw Material Per Hours Of Operation



Here, too, only invoices are considered for which an amount of fuel has been entered. Depending on the selection, the fuel quantity per operating hour or the amount per operating hour is displayed in €.



A single raw material/fuel can also be analysed via the selection field. Only then are invoices taken into account where this fuel was entered. Each fuel may be displayed either in the amount of fuel (e.g., litres) or as the amount (in €). Only when ***total cost*** is selected is the amount only possible, since the various quantities of fuel (for example, litres and kWh) cannot be added.

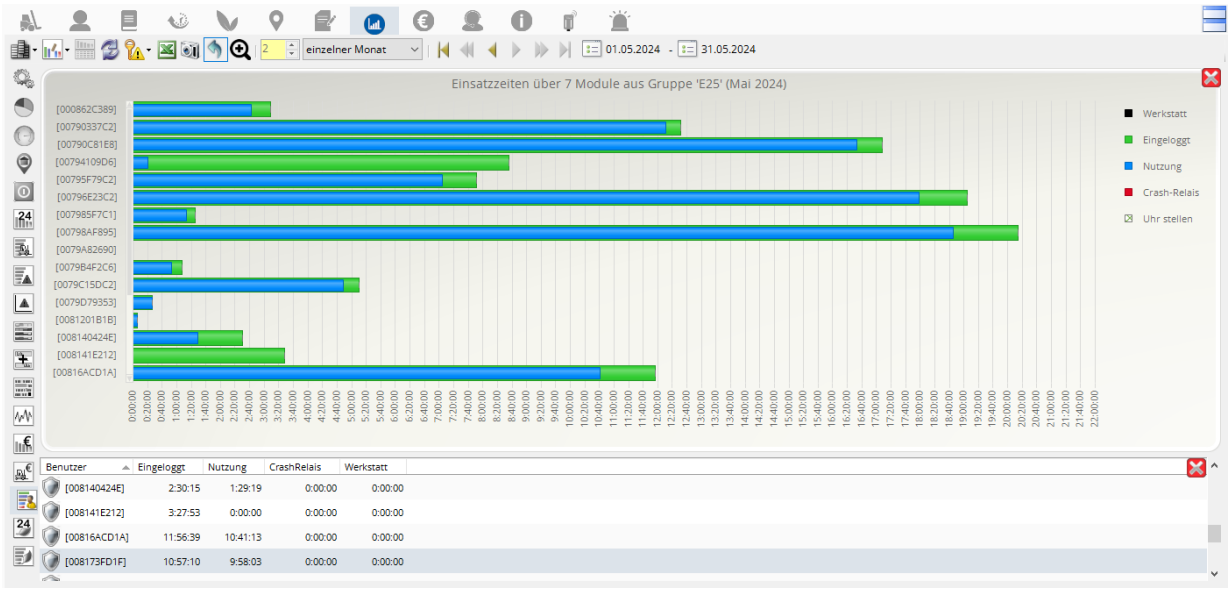
The option **Calculate modules NO Easykey** can be used to specify whether modules with the **NO Easykey module type** should be included in the calculation. If the option is not active, selected modules of the type NO Easykey are filtered out, so whether they were not selected with.

The meaning of the individual colours:

Cost per hour of use
For each module, the costs incurred during the specified period are divided by the usage hours.

Cost per cut-in hour
For each module, the costs incurred during the specified period are divided by the number of power-on hours.

5.18.3.14 Operating Times



These statistics can be used to show the amount of cut in hours, working hours, crash and workshop times used, during the selected period, on the selected modules, by user.

Only users who have also had access to one of the selected modules during the selected period are displayed.

The display of these statistics can be restricted via the works council password. See chapter **5.14.3.8 Data Protection – In Online-Statistics**.

The meaning of the individual colours:

Workshop
Specifies how long the user logged on to the selected modules when the workshop mode was active.

Logged in!

Specifies how long the user logged on to the selected modules.
Times during which the module was in the workshop module or was not or not completely ready for operation due to a crash or an alarm shutdown are **not** included here!

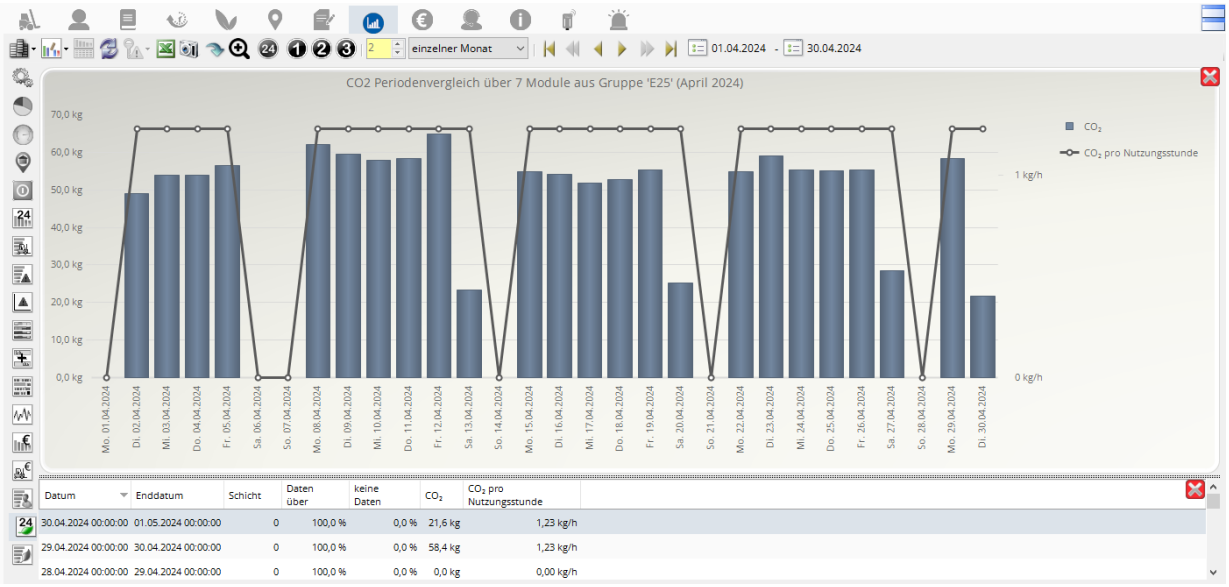
Usage
Specifies the user's time of use on the selected modules.
Times during which the module was in the workshop module or was not or not completely ready for operation due to a crash or an alarm shutdown are **also not** included here!

Crash-Relay
Specifies how long the user logged in to the selected modules when the crash relay was active.

Set clock
Indicates whether the module clock was set while the user was logged in to one of the selected modules. The total of all clock digit values is displayed.
If the clock is set by larger amounts, the remaining values distort accordingly**.**

5.18.3.15 CO_2 period comparison

The CO2 module must be activated for CO2 statistics.



The CO_2 period comparison is used to track the development of the CO_2 consumption of a module or a group of modules over a period of time.

Special buttons of the operating hours display

- Displays a full day (from 0:00 to 24:00).
- Displays shift 1 only.
- Displays shift 2 only.
- Displays shift 3 only.
- Displays shift 4 only.

Shifts 2, 3, and 4 are displayed only if a corresponding shift model is assigned.

The remaining buttons are explained in Chapter **5.18.2 Default Statistics Buttons** .

If the time range X weeks is selected, the data is summed up on a weekly basis rather than on a daily basis. This means that one bar per week is created.

If the time range is selected in such a way that exactly several complete months (from the1st of one month to the last of a month), the data will be summed up on a monthly basis. This means that one bar is created per month.

For all other time ranges, one bar is created per day.

Date

Each bar represents a day or shift in a day. Here you can see the start time for calculating this bar.

End date

Shows the time up to which the bar was calculated.

Shifts

Here you can see which shift it is. Shift 0 stands for a whole day from 0:00 a.m. to 12:00 a.m.

Data on

Specifies the period of time (on average across all selected modules) over which data is available. If, for example, there is no data at all for one of 10 modules, but 100% for the rest, then only 90% of the time available under Total Time would be displayed.

No data

If there is not 100% data available, i.e., data is missing for at least one module in a selected time period, the percentage of missing data is displayed here.

CO_2

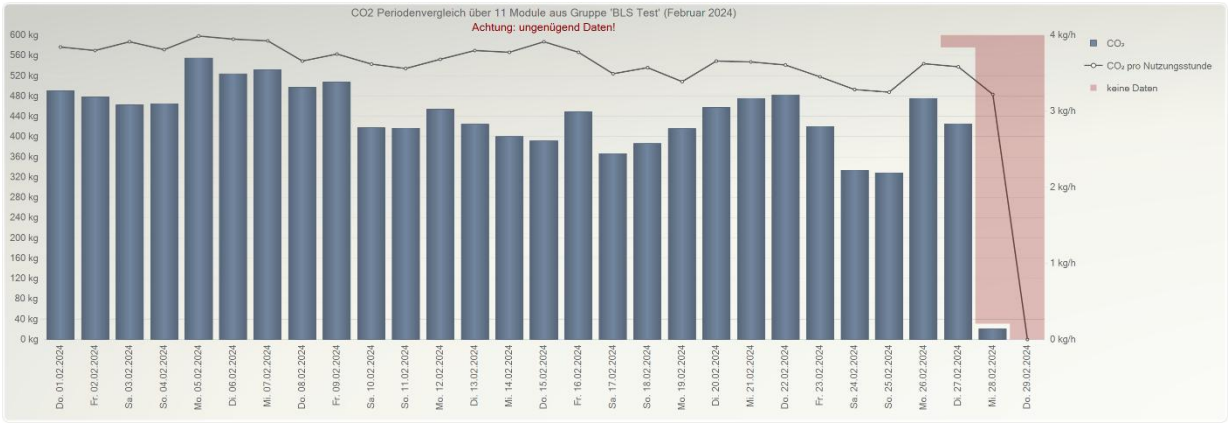
Indicates the total CO_2 consumption of the respective day/week/month. The left Y-axis shows the corresponding values.

CO_2 ***per hour of use***

Indicates how much CO_2 was consumed per hour of use on average. The right Y-axis displays the corresponding values.

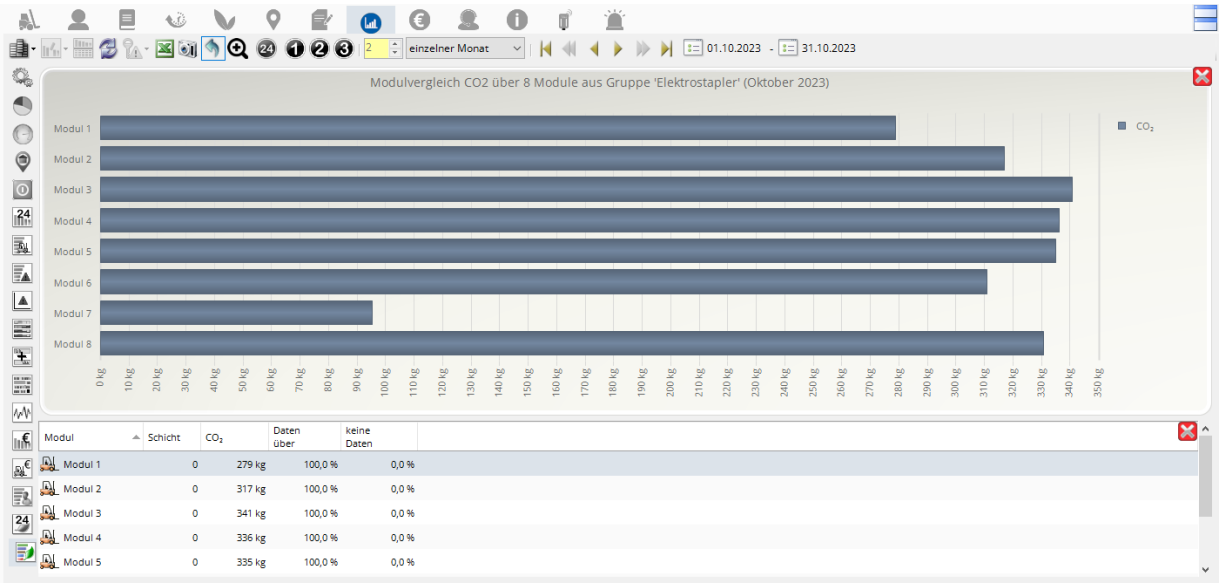
Insufficient data:

If data is missing in the specified time range, the text "Attention: insufficient data" is displayed at the top. In addition, a pink bar representing the missing data is displayed from top to bottom.



5.18.3.16 CO_2 Module Comparison

The CO2 module must be activated for CO2 statistics.



The CO_2 module comparison is used to compare the CO_2 consumption of the individual modules. Each bar corresponds to the sum of the CO_2 consumption over the selected period.

Special buttons of the operating hours display

Displays a full day (from 0:00 to 24:00).	Shifts 2, 3, and 4 are displayed only if a corresponding shift model is assigned.
Displays shift 1 only.	
Displays shift 2 only.	
Displays shift 3 only.	
Displays shift 4 only.	

The remaining buttons are explained in Chapter **5.18.2 Default Statistics Buttons** .

The meaning of each colour/column:

Module

Displays the module name.

Shifts

Here you can see which shift it is. Shift 0 stands for a whole day from 0:00 a.m. to 12:00 a.m.

Data of

Specifies the period of time (on average across all selected modules) over which data is available. If, for example, there is no data at all for one of 10 modules, but 100% for the rest, then only 90% of the time available under Total Time would be displayed.

No data

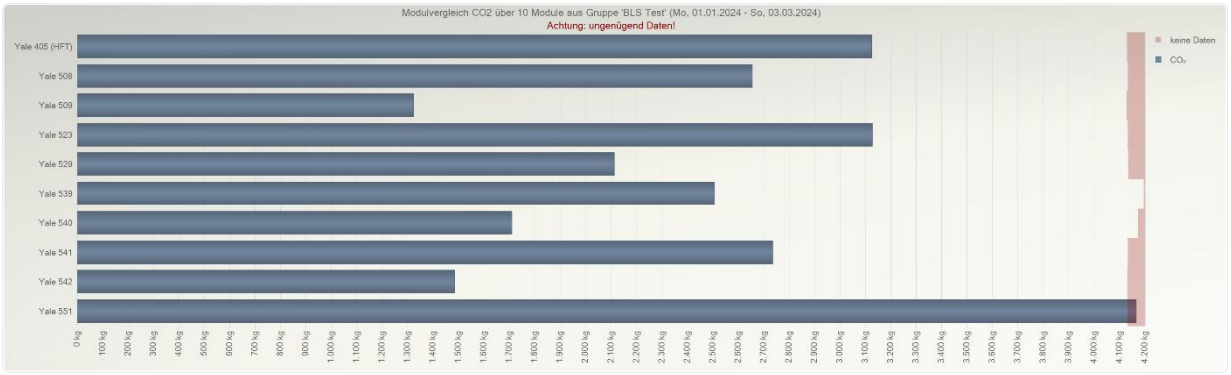
there is not 100% data available, i.e., data is missing for at least one module in a selected time period, the percentage of missing data is displayed here.

CO_2

Indicates the total CO_2 consumption of the respective day/week/month. The left Y-axis shows the corresponding values.

Insufficient data:

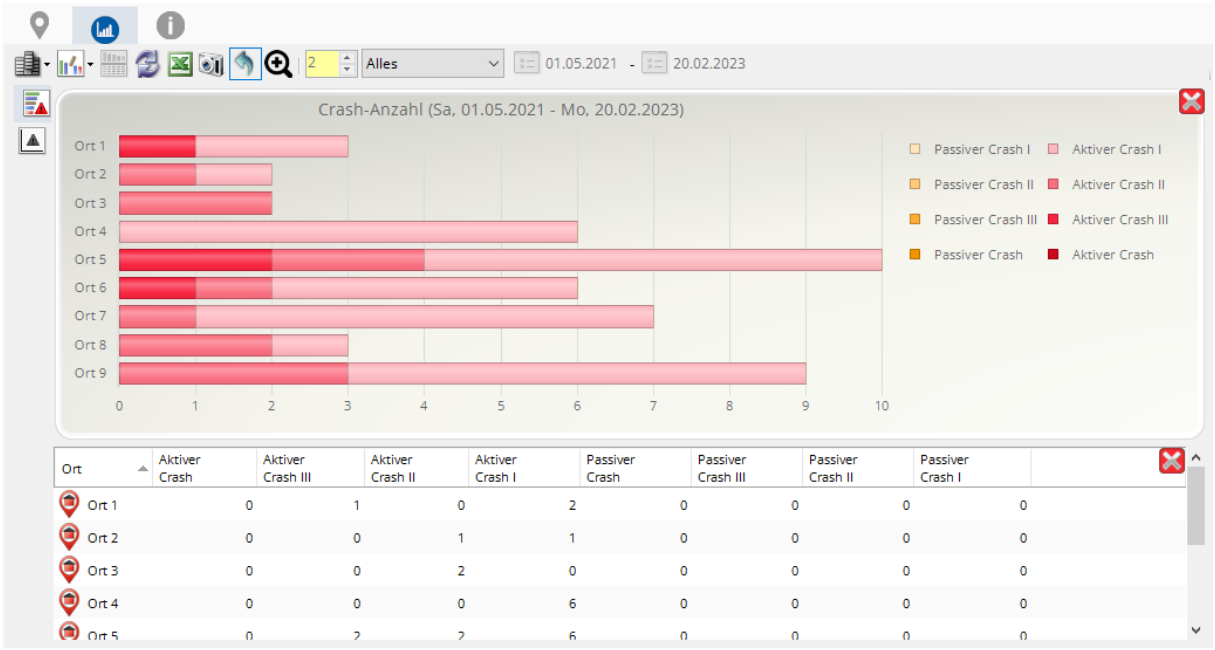
If data is missing in the specified time range, the text "Attention: insufficient data" is displayed at the top. In addition, a pink bar representing the missing data is displayed from top to bottom.



5.18.4 Location based statistics

Location-based statistics are comparable to the module statistics, but the modules are not evaluated directly here, but the data generated at the respective locations (AccessPoints). The data of all modules that were at one of the selected AccessPoints during the selected time period are summed up per AccessPoint (for the period that the module was logged on to the AccessPoint)

5.18.4.1 Crash-Amount

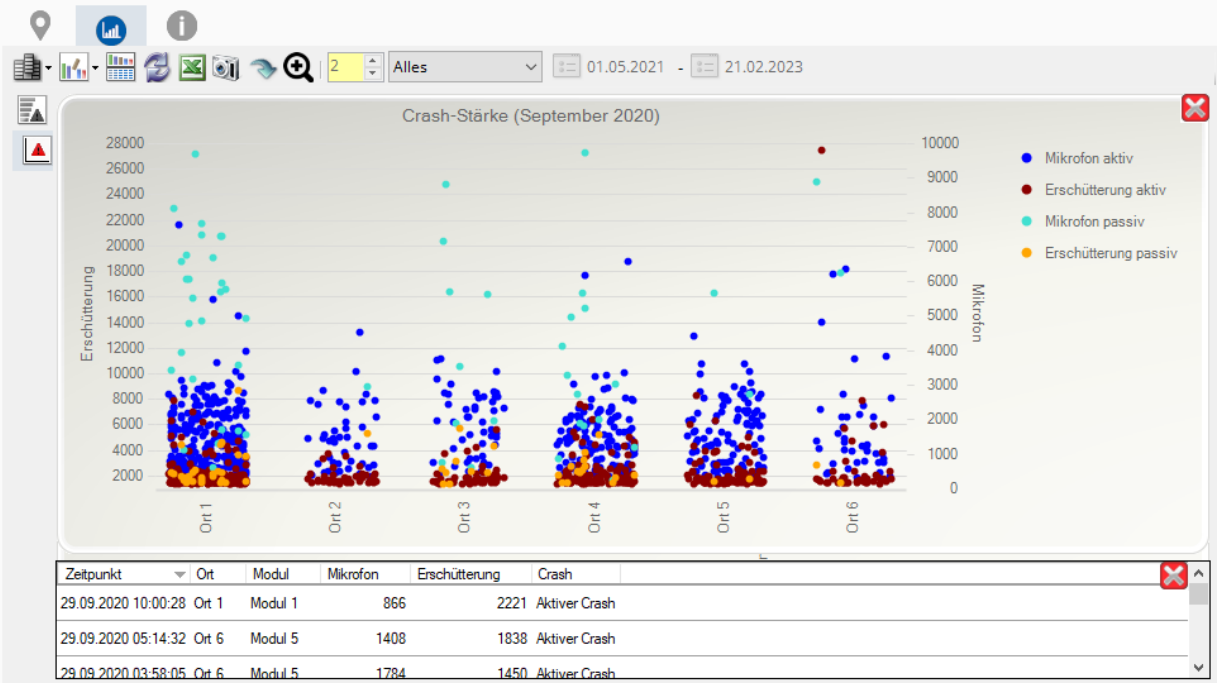


This statistic can be used to compare the number of different crash types in the selected locations within a certain period of time.

The default buttons are explained in the chapter **5.18.2 Default Statistics Buttons**.

The number of times, for example, an Active Crash III has occurred at this location is displayed here.

5.18.4.2 Crash-Strength



This statistic displays the values sorted by location. The scattering to the left and right is based on chance and serves only to improve the visibility of the individual points.

The left Y axis shows the vibration values and in the right Y axis the microphone values

This statistic is primarily used to detect differences in crash behaviour in different locations.

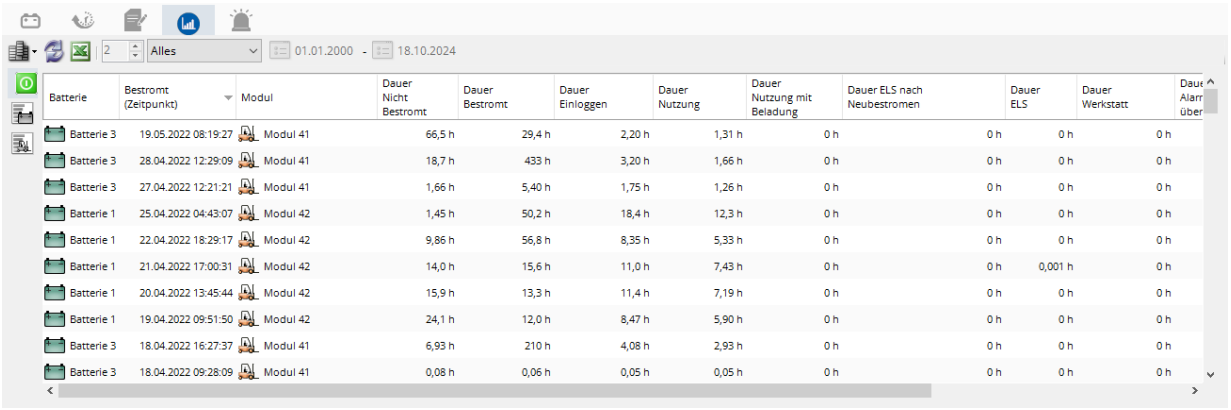
The meaning of the individual colours:

- ***Microphone active***
  The respective microphone-value of an active crash.
- ***Vibration/shock active***
  The respective vibration-value of an active crash.
- ***Microphone passive***
  The respective microphone-value of a passive crash.
- ***Vibration/shock passive***
  The respective vibration-value of a passive crash.

5.18.5 Battery Statistics

5.18.5.1 Load / Change Statistics

In the charge/ change statistics all powered entries of the selected battery will be displayed. Here it is recorded, when the individual battery was used and above all not used (= loading time or change time).



Batterie	Bestromt (Zeitpunkt)	Modul	Dauer Nicht Bestromt	Dauer Bestromt	Dauer Einloggen	Dauer Nutzung	Dauer Nutzung mit Beladung	Dauer ELS nach Neubestromen	Dauer ELS	Dauer Werkstatt	Dauer Alarm über
Batterie 3	19.05.2022 08:19:27	Modul 41	66,5 h	29,4 h	2,20 h	1,31 h	0 h	0 h	0 h	0 h	
Batterie 3	28.04.2022 12:29:09	Modul 41	18,7 h	433 h	3,20 h	1,66 h	0 h	0 h	0 h	0 h	
Batterie 3	27.04.2022 12:21:21	Modul 41	1,66 h	5,40 h	1,75 h	1,26 h	0 h	0 h	0 h	0 h	
Batterie 1	25.04.2022 04:43:07	Modul 42	1,45 h	50,2 h	18,4 h	12,3 h	0 h	0 h	0 h	0 h	
Batterie 1	22.04.2022 18:29:17	Modul 42	9,86 h	56,8 h	8,35 h	5,33 h	0 h	0 h	0 h	0 h	
Batterie 1	21.04.2022 17:00:31	Modul 42	14,0 h	15,6 h	11,0 h	7,43 h	0 h	0 h	0,001 h	0 h	
Batterie 1	20.04.2022 13:45:44	Modul 42	15,9 h	13,3 h	11,4 h	7,19 h	0 h	0 h	0 h	0 h	
Batterie 1	19.04.2022 09:51:50	Modul 42	24,1 h	12,0 h	8,47 h	5,90 h	0 h	0 h	0 h	0 h	
Batterie 3	18.04.2022 16:27:37	Modul 41	6,93 h	210 h	4,08 h	2,93 h	0 h	0 h	0 h	0 h	
Batterie 3	18.04.2022 09:28:09	Modul 41	0,08 h	0,06 h	0,05 h	0,05 h	0 h	0 h	0 h	0 h	

Because with every powered entry it is also recorded how long the module (with which this battery was used at this time) was logged in and was used etc., this data can be assumed for to the battery too.

The value *duration not powered*, refers to the time of how long **this** battery was not powered**.** NOT the time how long the module was not powered.

The recorded values correspond to different columns.
With the button on the top left, even further columns can be viewed.

The meaning of the single columns:

Battery
Displays the name of the respective battery

Not Powered (time)
Specifies the time at which **this** battery was not powered before this powered entry.

Powered (time)
Specifies the time at which the module with this battery was powered

Module
Specifies in which module the battery was run.

Duration Not Powered
Specifies, how long **this** battery was not powered before. For electric change operation this is the recognised loading time. For electric change operation accordingly the change time.

Duration Powered
Specifies, how long the module was powered with this battery.

Duration logging in
Specifies, how long the module was logged in with this battery.

Duration use
Specifies, how long the module was used with this battery.

Duration workshop
Specifies, how long the module was in the workshop mode with this battery.

Duration alarm overdue
Specifies, how long the module, with this battery, was in the alarm overdue mode (see, e.g., **5.10.2.1.1 Tab time alarm (UVV)**.

Duration event 1
Specifies, how long event 1 existed.

Duration event 1 usage
Specifies, how long event 1 existed and operating hours were counted.

Duration event 2
Specifies, how long event 2 existed.

Duration event 2 usage
Specifies, how long event 1 existed and operating hours were counted.

Duration event 1+2
Specifies, how long event 1 and event 2 existed at the same time.

Duration event 1+2 usage
Specifies, how long event 1 and event 2 existed and at the same time operating hours were counted.

Number of log in
Specifies, how often users logged into the module.

Number of event 1
Specifies, how often event 1 occurred.

Number of event 2
Specifies, how often event 2 occurred.

Number of event 1+2
Specifies, how often event 1 and event 2 occurred at the same time.

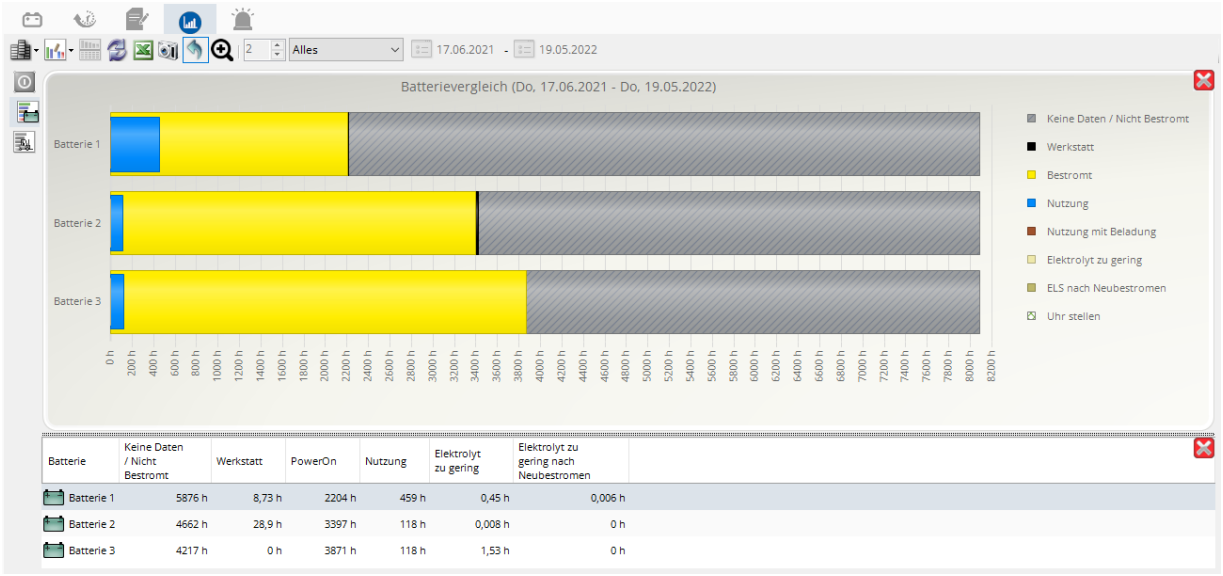
Clock resetting
Specifies the all over time the clock was reset by.

Number of time errors
Specifies whether so-called time errors have occurred. There are logbook entries with time stamps off the chronological order.

Time error
Specifies the total sum of time errors. If this value is unequal 0, the errors are in the logbook which can corrupt the statistics (to a maximum of this amount).

Overflow
Specifies whether during the statistics calculation errors have occurred.
An Overflow usually suggests a faulty logbook.

5.18.5.2 Batterie-Comparison



This statistic can be used to compare individual batteries.
The times caused by the selected batteries, in the selected time period, are displayed.

The meaning of the individual colours:

Workshop
Indicates how long the module with this battery was in workshop mode.

Powered
Indicates how long this battery was used in the selected period of time.

Usage
Indicates how long the module was used with this battery in the selected time period.

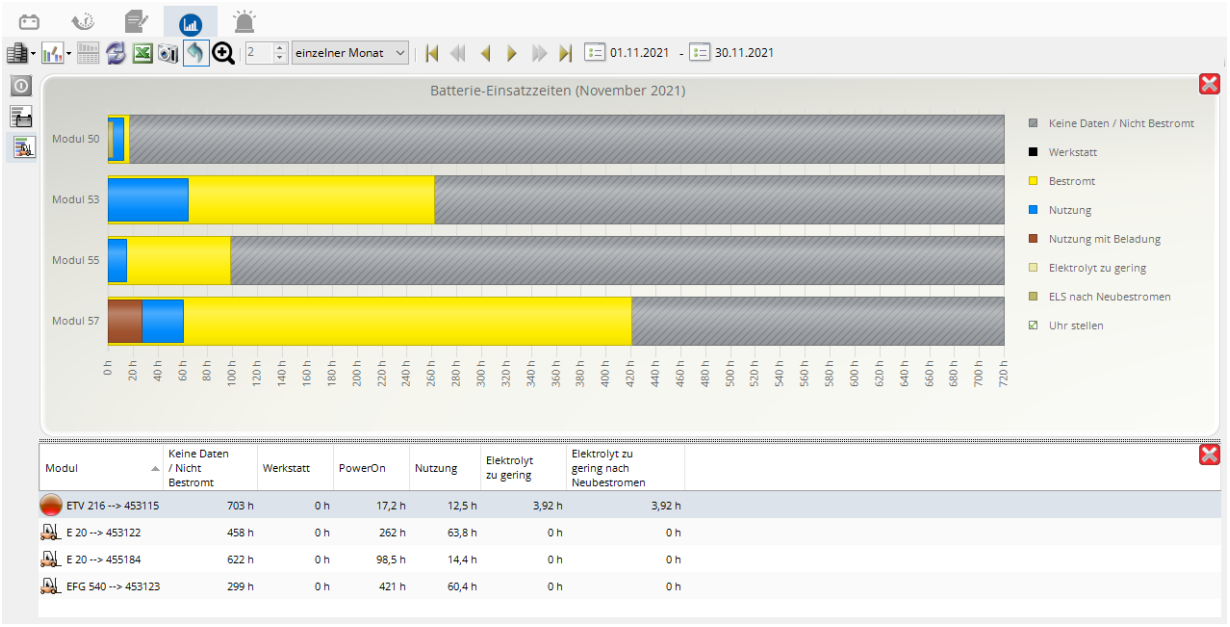
Usage with load
Indicates how long the module was used with this battery with load during the selected period.

Electrolyte too low
Indicates how long this battery has been operated with too low an electrolyte level.

ELS after newly powered
Indicates how long the module operated with this battery during the selected period, even though the electrolyte level after re-powering (after charging) was too low.

Set clock
If the clock of the module has been set in the selected period, the recorded total time may vary by this amount. If the clock was preset e.g., by 5 minutes, then these 5 minutes "miss" so to speak.

5.18.5.3 Battery-Operating Times



This statistic can be used to show which modules were used with the selected batteries during the selected time period.

Only modules that were also equipped with one of these batteries during the selected period are displayed. This statistic can be used to display which modules were used in the selected period with the selected batteries.

The meaning of the individual colours:

No data / Not powered
No data from this battery are available over this period. Usually this means that it was not used in any module, so it was not powered or charged.

Workshop
Indicates how long the module with this battery was in workshop mode.

Powered
Indicates how long the battery was used in the selected time period.

Usage
Indicates how long the module was used with this battery in the selected time period.

Usage With Load
genutzt wurde. Indicates how long the module was used with load and with this battery during the selected period.

Electrolyte too low
Indicates how long this battery has been operated with too low an electrolyte level.

ELS after Re-Powered
Indicates how long the module operated with this battery during the selected period, even though the electrolyte level after re-powered (after charging) was too low.

Set Time
If the clock of the module has been set in the selected period, the recorded total time may vary by this amount. If the clock was preset at e.g., by 5 minutes, then these 5 minutes "miss" so to speak.

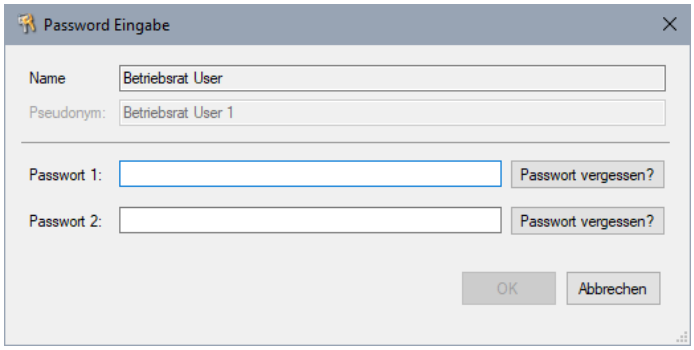
5.18.6 User-Statistics

The display of these statistics can be restricted via the works council password. See chapter **5.14.3.8 Data Protection – In Online-Statistics**.

5.18.6.1 Logging in as works council user

Click on the button to log in as a works council user. If there are already several works council users, you must first select the desired user.





Now enter the password (or passwords) of this works council user.

Further information on logging in as a works council user can be found in chapter **5.14.3.1 Login Works Council User**.

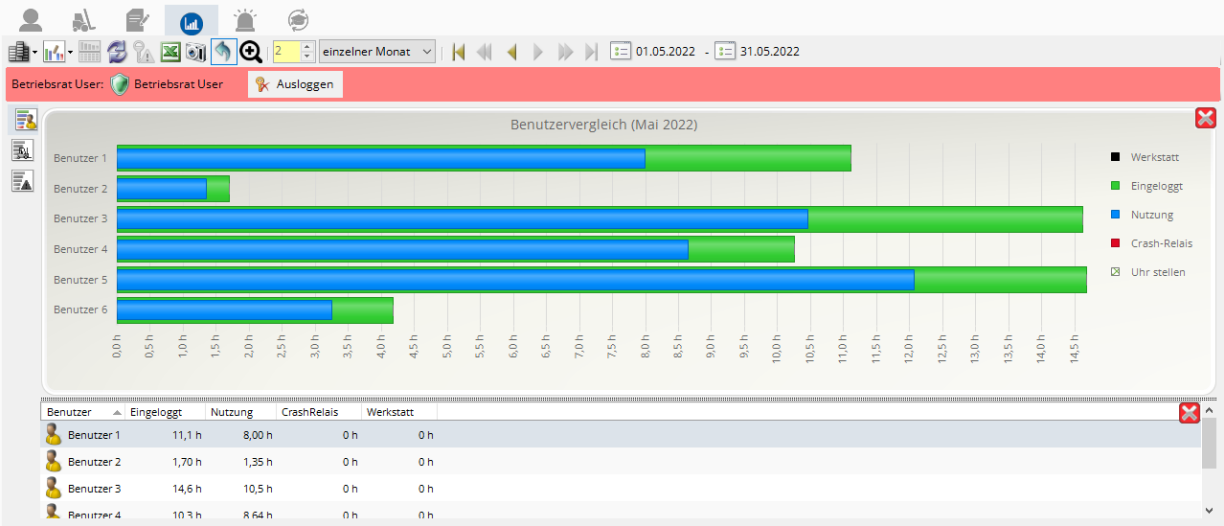
Note: If an older database has been opened in which a "logbook password" was used, the first works council user will automatically get the name "Log-Password" and this old logbook password.



The hidden data is now displayed.

In addition, a light red line with the currently logged-in works council user is displayed. Click on the button Ausloggen to hide the data again.

5.18.6.2 User comparison



With this statistics, individual users can be compared.
The cut-in hours, usage-, crash- and workshop times caused by the selected users in the selected period are displayed.

The meaning of the individual colours:

Workshop
Specifies how long the user logged on to the selected modules when the workshop mode was active.

Logged in!

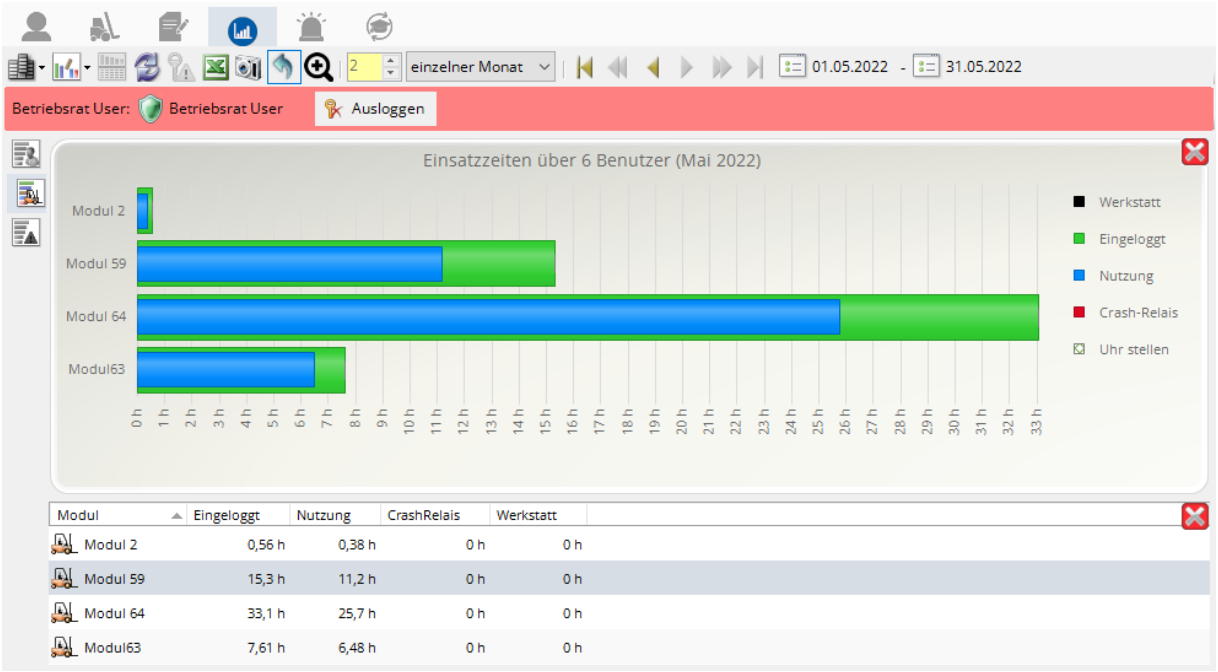
Specifies how long the user logged on to the selected modules.
Times during which the module was in the workshop module or was not or not completely ready for operation due to a crash or an alarm shutdown are **not** included here!

Usage
Specifies the user's time of use on the selected modules.
Times during which the module was in the workshop module or was not or not completely ready for operation due to a crash or an alarm shutdown are **also not** included here!

Crash-Relay
Specifies how long the user logged in to the selected modules when the crash relay was active.

Set clock
Indicates whether the module clock was set while the user was logged in to one of the selected modules. The total of all clock digit values is displayed. If the clock is set by larger amounts, the remaining values distort accordingly**.**

5.18.6.3 Operation Times



These statistics can be used to show the amount of cut in hours, working hours, crash and workshop times used, during the selected period, on the selected modules, by user.

Only users who have also had access to one of the selected modules during the selected period are displayed.

The meaning of the individual colours:

Workshop
Specifies how long the user logged on to the selected modules when the workshop mode was active.

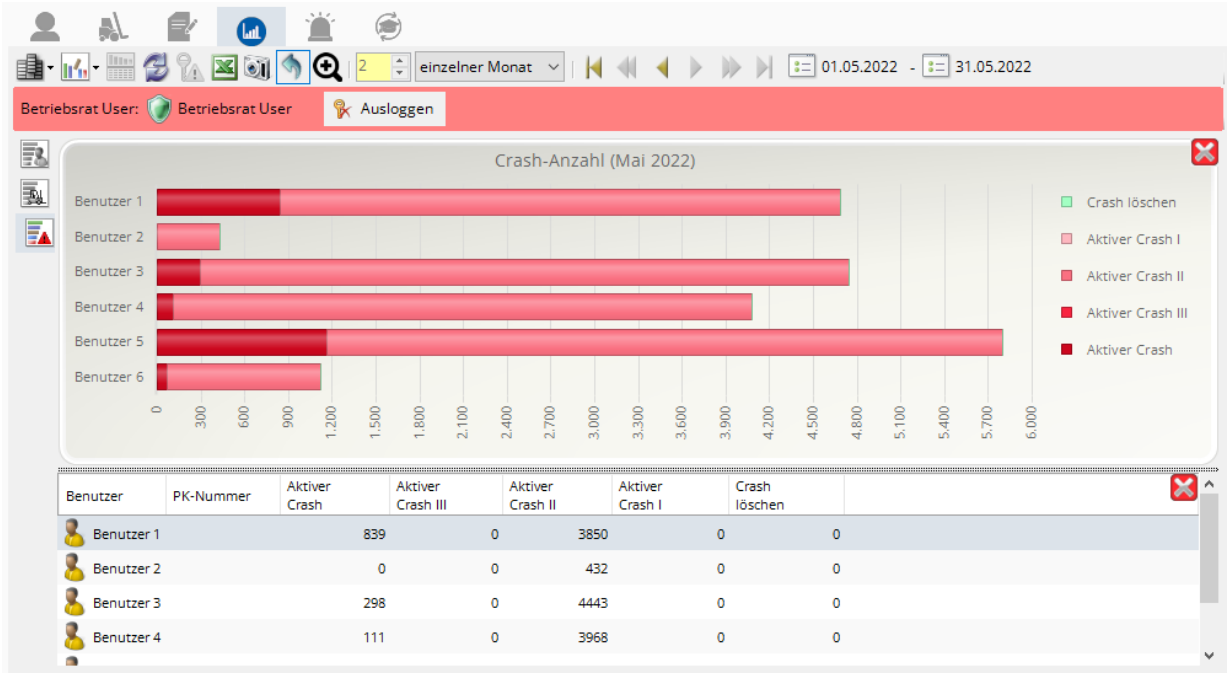
Logged in!
Specifies how long the user logged on to the selected modules.
Times during which the module was in the workshop module or was not or not completely ready for operation due to a crash or an alarm shutdown are **not** included here!

Usage
Specifies the user's time of use on the selected modules.
Times during which the module was in the workshop module or was not or not completely ready for operation due to a crash or an alarm shutdown are **also not** included here!

Crash-Relay
Specifies how long the user logged in to the selected modules when the crash relay was active.

Set clock
Indicates whether the module clock was set while the user was logged in to one of the selected modules. The total of all clock digit values is displayed.
If the clock is set by larger amounts, the remaining values distort accordingly.

5.18.6.4 Crash-Amount



This statistic can be used to compare how many crashes (of a certain level) were caused by the individual users in the given period, or how often a master has activated a crash.

5.19 Change Log

Each change made to the data master (user, modules, profiles, authorisations, etc.) is stored in the so-called change log. This makes it possible to always retrace what was changed when.
With activated operating rights (see **5.21 Software Operating Rights**), you will also be shown who has made this change.
Note:
By default, entries older than 90 days are automatically deleted. You can change this setting in the database configuration. See also **5.14.12 Database-Maintenance**.

The change log is always displayed where data can also be changed.
The following tabs are available:

- **5.5.9 Change log (Modules))**
- **5.6.5 Change log (Users))**
- **5.7.5 Change log (locations)**
- **5.8.5 Change log (Batteries))**
- **5.9.9 Change log (Profiles)**
- **5.10.5 Change log (Alarm profile))**
- **5.14.16 Change Log (Data Base-Configuration)**
- **5.20.4 Change Log (scheduled tasks)**
- **5.21.1.5 Change Log (User Rights Settings))**
- **5.21.2.1 Change log (Administrators)**
- **5.21.3.10 Change Log (Software Operator)**
- **5.21.4.3 Change Log (Areas)**
- **5.21.5.1 Change Log (Global Rights)**
- **5.21.6.1 Change Log (Area-Related Operating Rights)**
- **5.22.8 Change Log (Software module)**

At the respective position at which the change log is displayed, only the data changes which can be made at this position are displayed.

In the change log under modules, only changes to the module settings are displayed, whereas changes to users are displayed in the Change log- Users.

Also, only changes are made to the elements currently selected in the tree view.

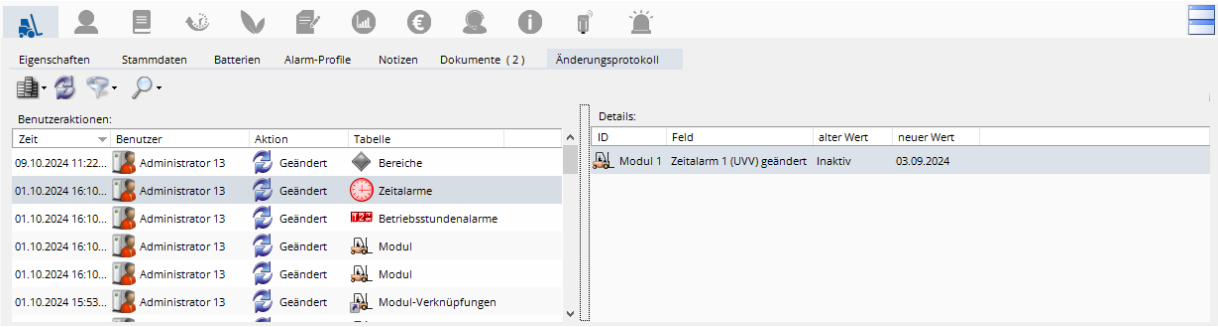
Deleted elements:

A special feature results with deleted elements. Since a deleted element is no longer visible in the tree structure, it cannot be selected explicitly.
Deleted elements are Therefore, displayed only when the root (e.g., modules) is selected in the tree diagram.

If areas (see **5.21.4 Areas**) are used with activated control rights, deleted elements (in the case of deletion) are also assigned to the respective area. It is Therefore, sufficient to select the area in the tree diagram to display deleted elements from this area.

5.19.1 Operating the Change Log

(Here the example modules)



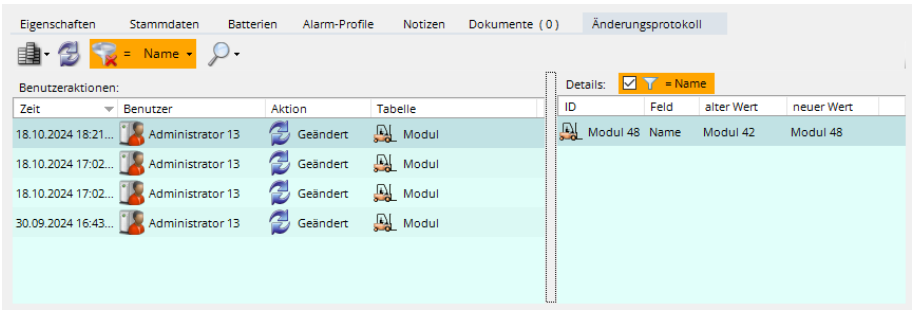
5.19.1.1 Filter Change Log

You can restrict the display to changes in a specific field (e.g., the name).

Cick on to open the list of the changed fields.
Only fields are displayed in which changes have been made.

Select the required field (for example, Name).





Only the changes (of the modules selected to the left) are now displayed in the field ***Name***.
In the example above, it can be seen that the module name has been changed twice. Lastly on 6.6.2017 at 13:22 from "Modul 3" to "Modul 25".

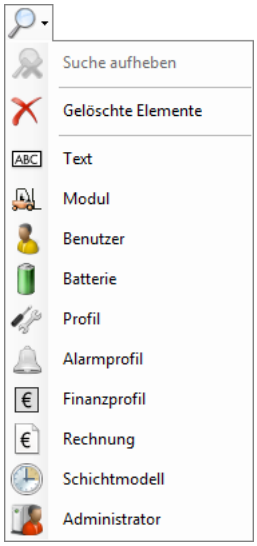
The window background is displayed in light blue to indicate that the display is currently filtered.

Also in the right details window, only the changes to the name are displayed. Sometimes there are several changes at the same time. If the checkmark is removed, all changes made now are displayed.

Click on to cancel the filtering.

By clicking on the right side of the filter field, you can also directly select another field.

5.19.1.2 Search in the change log



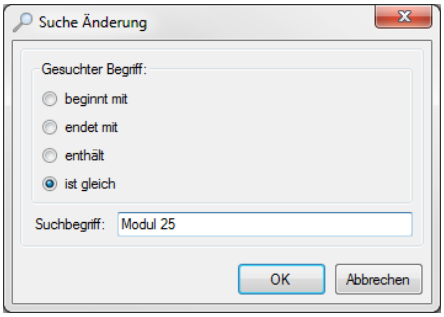
Within the displayed changes, it is also possible to search for a specific value (e.g., a name or a user, etc.). Click on and choose what you want to search for. Depending in which tab you have accessed the change log, more or less search options are available.

After the search type has been selected, another window opens in which the search term can be entered or selected.

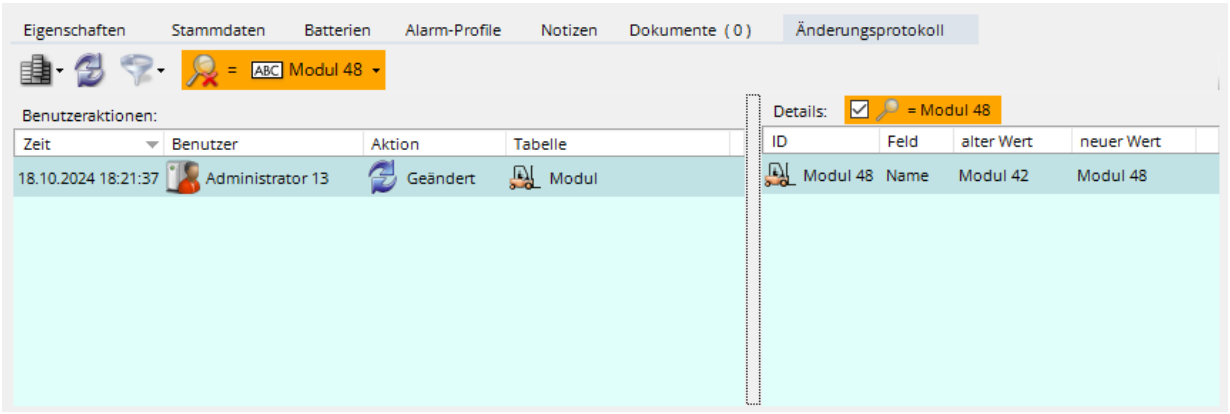
Example 1: Search by name (text).

Select Text and type in the search field, for example. "Module 25".

You can choose whether the term must exactly match, begin or end with the search text, or simply contain the search text somewhere.



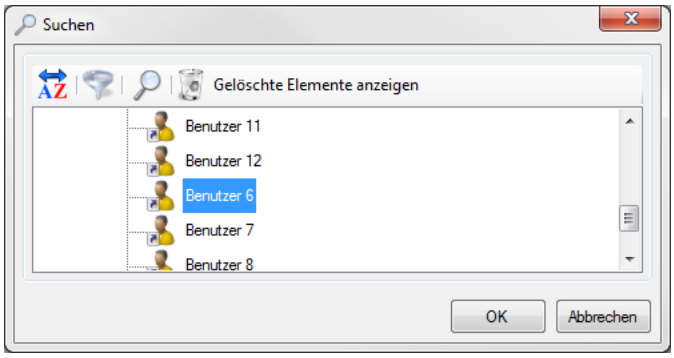
Click ***OK*** to start the search.



All changes are now listed with the text "Module 25". Whether as an **old value** or as a **new value.**

Click on to exit the search mode.

Example 2: Search for a user

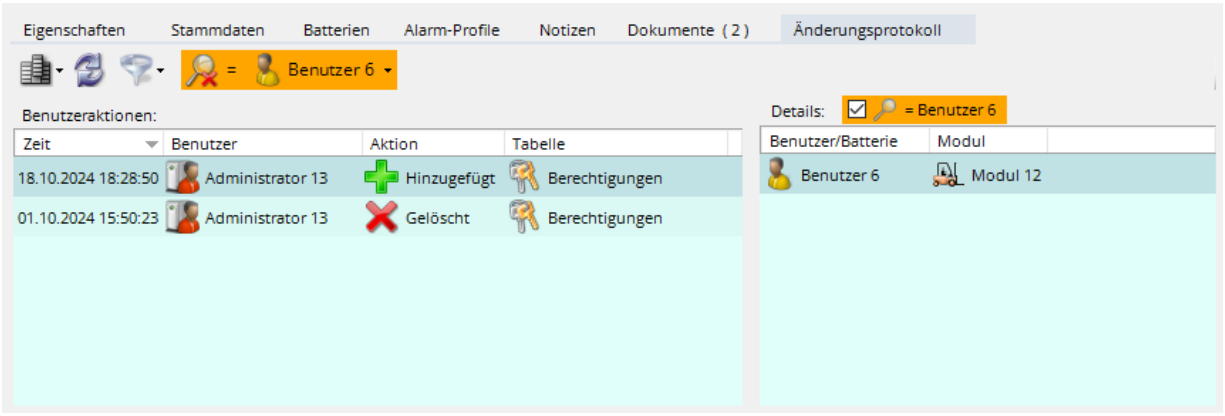


Choose ***User*** and select the wanted user**.**

You can filter and search in the search selection (see also **5.4.1 Default buttons in the toolbars**).

With the button ***Deleted elements*** also already deleted elements (here *Users*) can be displayed, to explicitly search for already deleted elements.

Click on ***OK*** to start the search.



All changes (at the modules selected to the left) are now displayed, in which the selected user (here user 6) was involved.
For example, "User 6" was entitled to 6.6.2017 at 16:14 clock on the "Module 5".

Click on to exit the search modus.

5.19.2 The Columns In User Actions:

Time

Specifies the exact time of each change.



User

The column ***User*** corresponds to the respective software operator who made the change and is only displayed if the operating rights (see **5.21 Software Operating Rights**) are activated.

Action

Specifies the type of action:

Added	A new element (e.g., user or driving permission) has been added to the corresponding table.
Changed	Data has been changed to an existing element (e.g., the name of a module)
Deleted	One element (e.g., A profile) was deleted.
Opened	The database has been opened. Under *Details*, the computer on which the database was opened is displayed.
Confidential data	Confidential data (logbook, statistics) have been displayed. Under Details, you can see the computer on which the confidential data was displayed.
Backup	A backup of the database was created. Under *Details*, the computer on which the backup was created is displayed.
Logged in	A software operator has logged on (at the computer displayed under Details).
Log-in attempt	A software operator has attempted to log on to the computer, but entered the wrong password.
Logged out	A software operator has logged out (on the computer displayed under *Details*).







These actions only exist if the software operating rights are used.
See **5.21 Software Operating Rights**.

Table

Indicates where the change occurred in the database.

5.19.3 The Columns In Details:

ID

Specifies the item (e.g., user) to be added, modified, or deleted. For some actions (such as sensitive data), the change does not apply to a single item, so in this case the ID is not displayed under ID.

Field

Specifies the name of the field in which data has changed. (e.g., module type when modifying a module's module type).

Old value

Displays the value that the field had before the change. If no old value exists, nothing is displayed.

New value

Displays the new current value in the database.

Note:

For actions where driving or battery permissions have been removed or added, a list of the user / battery / module mapping assignments is displayed under *Details*.

5.20 Scheduled Tasks

Certain, recurring tasks can be automated through scheduled actions. Select in the menu ***Tools*** the sub area ***scheduled actions*** or click in the toolbar on , to open the scheduled actions window.



In the ***scheduled actions*** window, you see a list of the saved tasks.

The toolbar:

- : Click on this button to add a new scheduled task. See also **5.20.2 Add Scheduled Tasks**.
- : Click on this button to edit the at the moment selected task. The procedure is the same as when adding a task. Only the operation type is already fixed.
- : Click on this button to delete the at the moment selected task (after a security query).
- : This is only active if a just running task is selected. With a click on this button this task is cancelled and started only again at the time of the next implementation.
- : Click on this button to reload the list of tasks.

Note that actions that are in any way related to a local directory can only be executed if the action (i.e., the manager or the service) is running on the corresponding machine. For actions of this type, the respective host's name is displayed in the ***Implementation only on*** column (see also ***Implementation only on*** the next page).

5.20.1 The Meaning Of The Individual Columns

Action

Specifies the operation type of this task. You find further explanation about the possible task types in chapter **5.20.2 Add Scheduled Tasks**.

Extent

Here you can see which elements (modules, users, profiles, etc.) are affected by this action. It can be a single item, a group, multiple items, or the entire database. For more information, see **5.20.3 Configure Actions**.

Last implementation

Indicates when this action was last performed or when the last attempt was made.

The next implementation

Specifies the time, when this task is implemented next time.
See also **5.20.3.15 Schedule**.

Repetitions

Displays whether and if so, in which intervals this task is repeated.
See also **5.20.3.15 Schedule**.

Implementation only on

With the creation of a task by which a file is generated (**5.20.3.6 Export Logbook**, **5.20.3.8 Database Backup**, **5.20.3.9 Delete Logbook Data**, **5.20.3.13 Run a Saved Report**), a local directory must be specified for this as a destination. Because this local directory is only available on this computer, such a task can only be executed on the computer on which this task (and thus, the local directory) was created.

Status

Specifies whether this task is just being implemented (status ***runs***)
If the task was cancelled (e.g., on account of an error or because the programme was quit during the implementation), the task is not immediately restarted, but after a waiting period from up to 15 minutes. During this time the status “waiting” is displayed.

Progress / progress beam

Displays how far the respective order is already processed.

Number of unsuccessful attempts

If an error appears during the implementation of the task, the task is possibly cancelled and implemented after a waiting period from up to 15 minutes. Only if the task after a total of 10 attempts could not be carried out, an error message (see **5.3.5.2.1 Error protocol of background services**) is generates. Then it is only again attempted to be carried out at the time of the next scheduled implementation.

Message

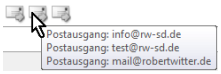
During the implementation short explanations can be displayed here.
If an error occurs during the implementation, an error message is displayed here.
If a task was completely executed, it is noted here, when the last successful implementation was carried out.

E-Mail

Individual actions can also be sent by e-mail. The status of the respective e-mails is displayed here. The symbols have the following meanings:

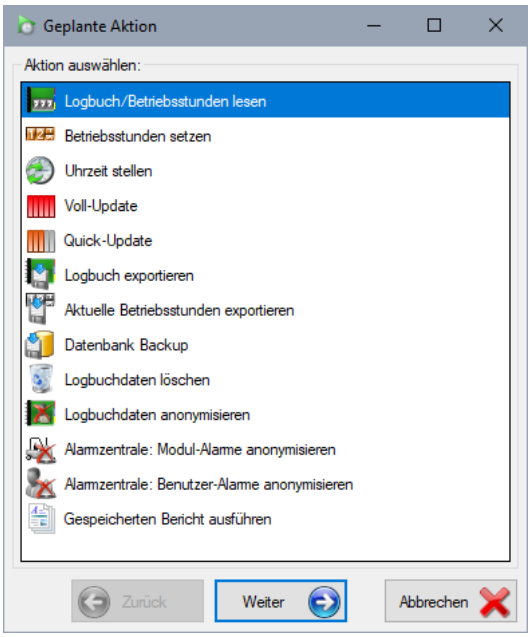
- Email sits in the outbox and was not dispatched yet.
- Email was dispatched.
- Email was dispatched and the receiver has read email.
- Sending this email an error occurred.

Tip: if you hover with the mouse pointer over one of these icons, all email addresses and their status are displayed.



5.20.2 Add Scheduled Tasks

Click on the button to add new scheduled tasks.



Read logbook / operating hours, Set operating hours, Set clock, Full update and Quick update:

Automatically generates an appropriate order at the specified time, as if you would have done so in the information central offices (with transmission path ***auto***) at that time (see **5.5.20 Information central office**).

Logbook export, Export current operating hours:

Use scheduled tasks to export the logbook time-controlled as an Excel- or csv file (compare with chapter **5.5.12.10 Export Logbook to Excel**).

Database backup:

With this scheduled task a time-controlled backup (compare with chapter **5.3.2.1 Database Backup**) is created.

Delete logbook data:

Use this scheduled task to delete older logbook data automatically (compare with chapter **5.5.12.11 Delete Logbook Entries**). To avoid an accidental data loss, a database backup is always created first, before the deletion of the logbook entries!

Anonymise logbook data:

Use this scheduled task to automatically anonymise older logbook data. The information who has logged out, caused a crash or has released it, is thereby deleted from the database. However, the remaining information of the logbook data (when and what happened) is preserved.

Alarm control panel: Anonymize module alarms, Alarm center: Anonymize user alarms:

Use these actions to anonymize the originators of the alarms.

To run a saved report:

With this action, a saved report (see e.g., **5.5.16 Report templates** and **5.17 Reports**) can be executed on a scheduled basis. The created report can be saved as a file and/or sent as an e-mail (prerequisite is the e-mail driver, see **5.13.5.2 Email**).

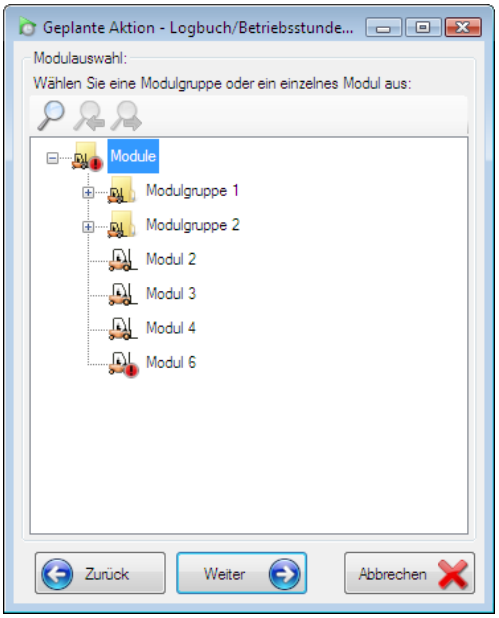
Create Statistic:

This action cannot be created directly. Instead, call up the desired online statistics in the statistics module (see **5.18 Online Statistics**), configure them as desired, and then click on the button in the statistics to add these statistics as an action.
Attention! Currently, only the "***Fleet Utilization***" statistics (see **5.18.3.11 Fleet Utilisation**) can be added as an action!

Double click on the required task
or select the task and click on ***NEXT***.

5.20.3 Configure Actions

For most actions, the scope of the action must first be defined, i.e., which elements (modules, users, etc.) are affected by this action. Select the desired element, e.g., a single module or a module group. To perform the action for all elements, select the root, e.g., ***Modules***.

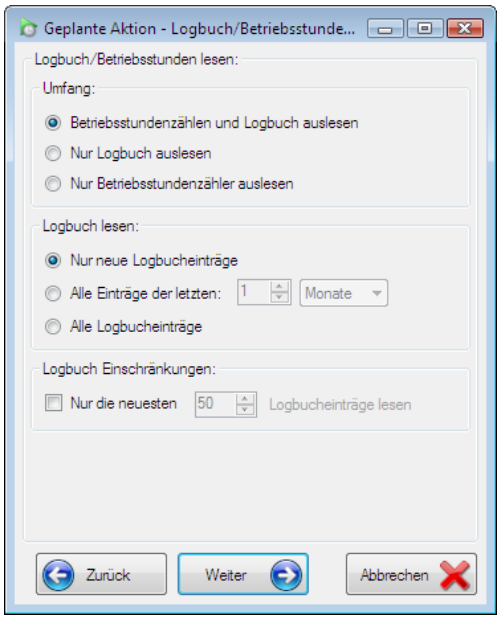


Note that if you have limited operating rights (see **5.21 Software Operating Rights**) you may not be able to see and/or select all items.

In the following, the individual actions and their special features are described.

Chapter **5.20.3.15 Schedule** describes how to set the time for the action. Again, this is the same for all actions.

5.20.3.1 Read Logbook / Operating Hours



Perimeter:
Specify whether you want to read out the operating time counters and/or the logbook.

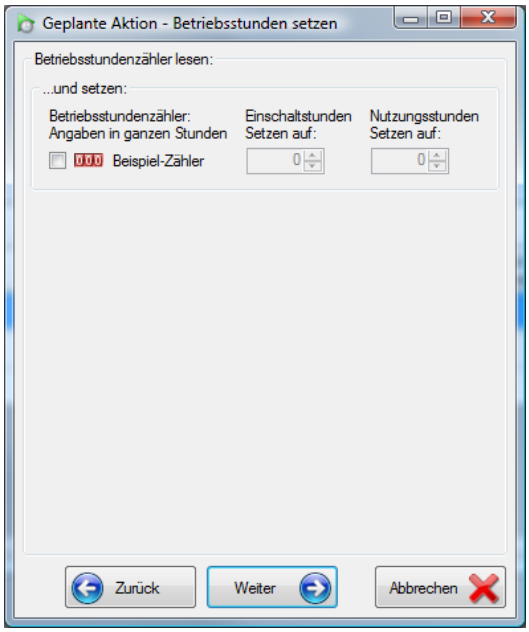
Read logbook:
Specify whether automatically ***only new logbook entries***, all entries of a certain period (***all entries from***) or in general ***all logbook entries*** should be read out.

Logbook restrictions
You can specify a limitation of how many logbook entries should be read out at most.

Note:
Note that gaps can originate (except for the default setting) (**5.5.12 Logbook**) in the logbook!

Click on ***NEXT***.

5.20.3.2 Set Operating Hours



Select the individual operating time counters which should be set to a certain value for this task.

For example:

The operating time counter could be set up to automatically reset the time to zero, at 0:00 o'clock on every first day of the month.

Click on ***NEXT***.

5.20.3.3 Set Clock

No special configuration is necessary for this task.

5.20.3.4 Full Update

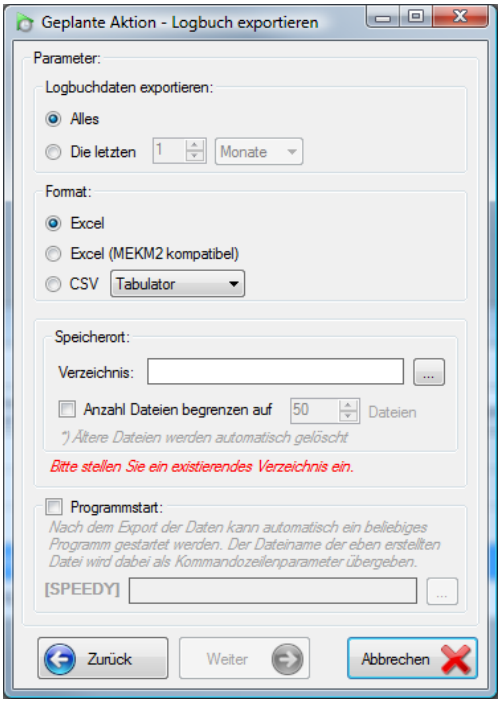
No special configuration is necessary for this task.

5.20.3.5 Quick Update

No special configuration is necessary for this task

5.20.3.6 Export Logbook

With this task, the entire logbook, or a part thereof, can automatically be exported.



Specify whether you want to export the entire logbook ***(everything)*** or only ***the last*** (more recent) data.

Format:
You can export the logbook as an ***Excel file*** or as a ***csv file***.

A csv file is a simple text file in which the single columns are separated of each other by a ***tabulator***, ***semicolon*** or ***comma***. Such files can be opened by most table-processing programmes (e.g., Excel).

File save under:
Click on the ... button to select a directory in which the exported file should be saved or click in the field itself, to enter the destination folder manually.

Limit number of files to:
Activate the option ***use number limit,*** if you generally only want a certain number of exported files to remain in the specified directory. E.g., if you specified 10 files and 10 files exist, the next file (no.11) to be saved will automatically delete the oldest file. Therefore, always the most recent 10 files exist.

Program start:
Straight after the export of the logbook any external programme (e.g., a batch file) can be called. The filename of the just created file will pass as a command line parameter. As the second command line parameter the filename incl. the path will pass, e.g., “test.bat test.csv c:\temp\test.csv“. The programme is executed in the directory of the just created file.
Enable the option Program start and click on button ... to select a programme.

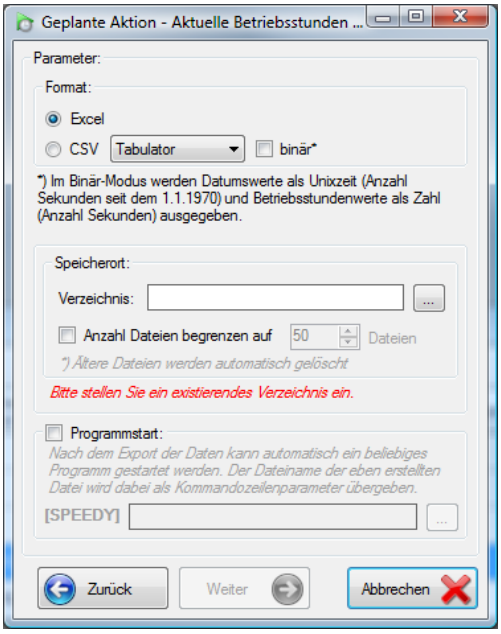
Attention!
The program runs invisibly in the background! Make sure that the programme runs through without user's inputs!

Click on ***NEXT***.

Note:
You must first under ***save file,*** specify a directory, so that the button ***NEXT*** is activated.

5.20.3.7 Export Current Operating Hours

With this task the current operating hour metre reading (threshold and operating hours) can be exported.



Format:
You can export the operating hours as an Excel file (Microsoft Excel must be installed) or as a text file (csv). The Csv format makes the additional option ***binary*** available. All values are exported as numbers. Date values are exported as a Unix time (number of seconds since the 1/1/1970) and operating hours as a number of seconds. Without the binary option these values are exported as a formatted text (e.g., 11/25/2012 9:22:41 for a date or 3461:24:51 for operating hour metre reading).

File save under:
Click on button ... to select a directory in which the exported file should be saved or click in the field itself to enter the memory location manually.

Limit number of files to:
Enable the option ***limit number of files to,*** if you generally only want a certain number of exported files to remain in the specified directory. E.g., if you specified 10 files and 10 files exist, the next file (no.11) to be saved will automatically delete the oldest file. Therefore, always the most recent 10 files exist.

Program start:
Straight after the export of the logbook any external programme (e.g., a batch file) can be called. The filename of the just created file will pass as a command line parameter. As the second command line parameter the filename incl. the path will pass, e.g., “test.bat test.csv c:\temp\test.csv“. The programme is executed in the directory of the just created file.
Enable the option Program start and click on button ... to select a programme.

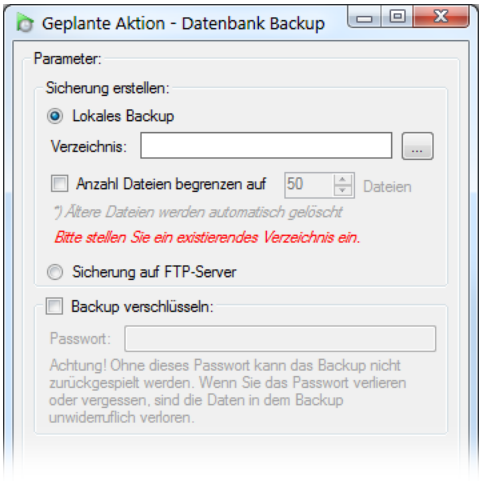
Attention!
The program runs invisibly in the background! Make sure that the programme runs through without user's inputs!

Click on ***NEXT***.

Note:
You must first under ***save file,*** specify a directory, so that the button ***NEXT*** is activated.

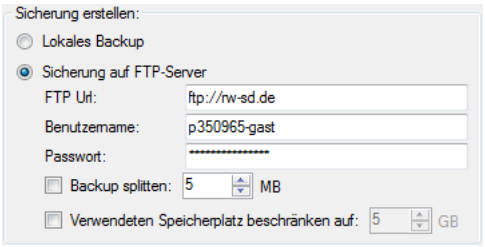
5.20.3.8 Database Backup

Specify where the backup should be saved.



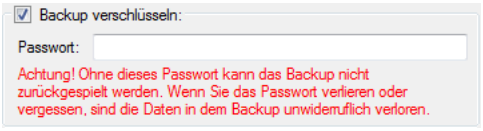
- ***Local Backup***
  Click on button ... to select a directory in which the backup should be written to or click in the field itself, to enter the memory location manually.

  Enable the option ***limit number of files to,*** if you generally only want a certain number of exported files to remain in the specified directory. E.g., if you specified 10 files and 10 files exist, the next file (no.11) to be saved will automatically delete the oldest file. Therefore, always the most recent 10 files exist.



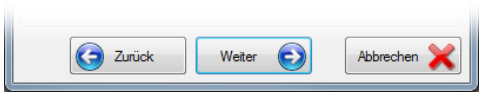
- ***Backup on FTP server***
  Select this option to automatically copy the backup on any FTP server.
  FTP URL/ Username/ Password:
  Enter the data for your FTP server here
  Split backup:
  Some Antivirus programs, which also monitor the FTP upload, have problems with files that are too large. For this reason, the backup can be split into several smaller files using the Split Backup option. The size of each file can be adjusted.
  Limit used storage space:
  With this option, you determine how much storage space is to be used at the most, for backups on the SQL server. Note that the limitation is only enabled after the respective backup. Hence, the actual used storage space can be crossed temporarily by the size of the actual backup.

Encrypt backup:
The backup is internally created as a zip file, which can optionally be backed up with AES256-encryption.



Attention
Without this password the backup cannot be restored! If you lose or forget the password the backup data is irretrievable lost!

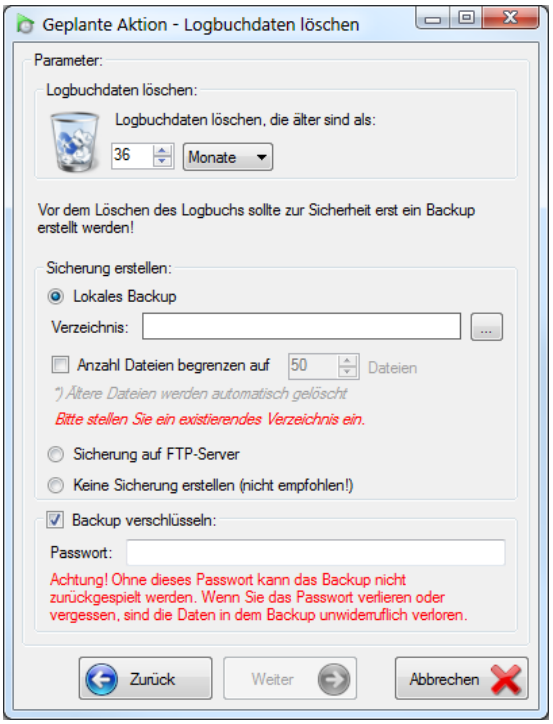
Click on ***NEXT***.



Note:
You must first specify a directory (***local backup***) or the appropriate access data (***backup on FTP server***), so that the button ***NEXT*** is activated.

Without this password, the backup cannot be restored! If you lose or forget the password, the data in this backup will be lost irrevocably!

5.20.3.9 Delete Logbook Data



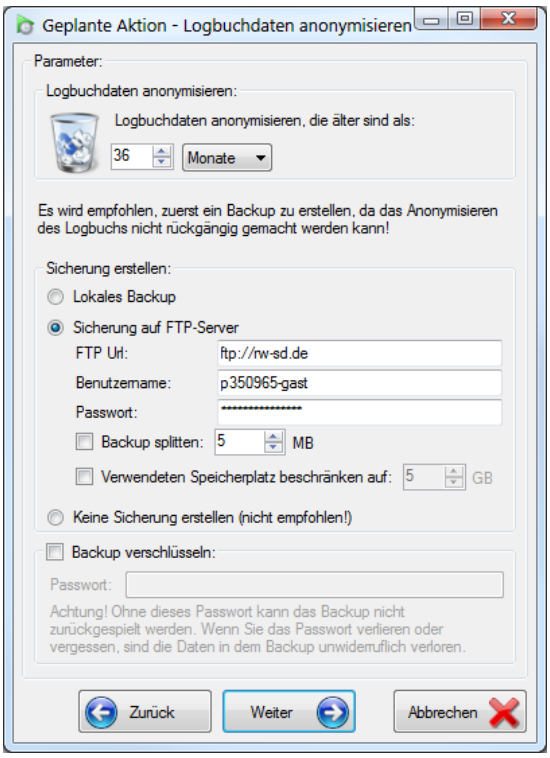
Enter the period within which the logbook data should be preserved. Logbook data older than the specified period are deleted with implementation of this task.

Before the deletion of the logbook data, you ought to create a backup of the database!
For this, select the location where the backup should be saved. See also in the previous chapter **5.20.3.8 Database Backup**.

Click on ***NEXT***.

Note:
You must first specify a directory (***local backup***) or the appropriate access data (***backup on FTP server***), so that the button ***NEXT*** is activated.

5.20.3.10 Anonymise Logbook Data



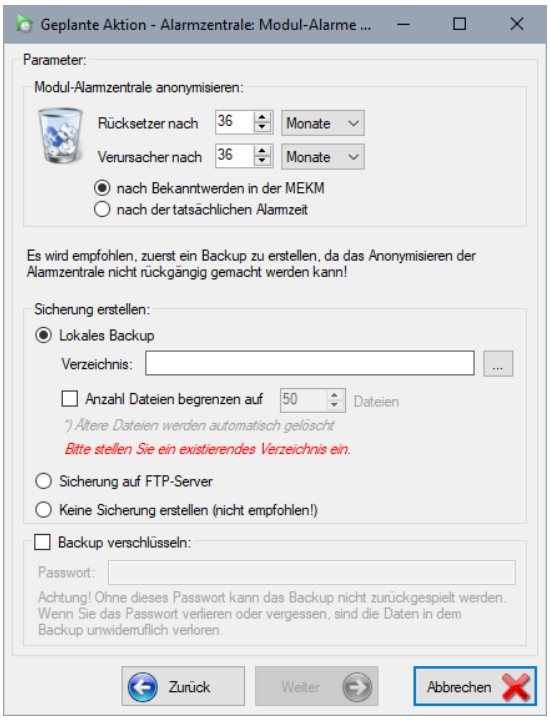
Enter the period within which the logbook data should be preserved. Logbook data older than the specified period are anonymised with implementation of this task, i.e., the information on who has executed a task is deleted.

Before anonymising the logbook data, you ought to create a backup of the database!
For this, select the location where the backup should be saved. See also in the previous chapter **5.20.3.8 Database Backup**.

Click on ***NEXT***.

Note:
You must first specify a directory (***local backup***) or the appropriate access data (***backup on FTP server***), so that the button ***NEXT*** is activated.

5.20.3.11 Alarm Center: Anonymise Module-Alarms



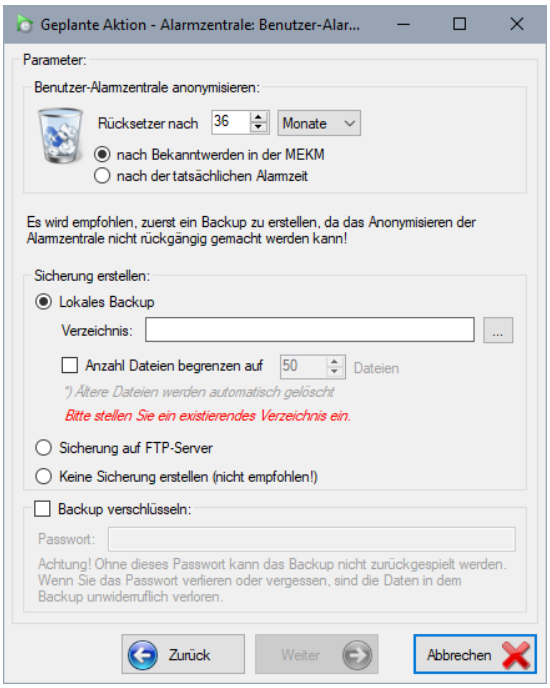
Enter the period within which the personal data should be retained. Personal data that are older than the specified period will be anonymized when this action is carried out, i.e., the information about who caused an alarm is removed.

Before anonymizing the alarm data, you should make a backup of the database! To do this, select the location where the backup should be saved. See also previous chapter **5.20.3.8 Database Backup**.

Click on ***NEXT***.

Note:
You must first enter a directory ***(local backup)*** or the corresponding access ***data (backup on FTP server)*** so that the ***Next*** button is activated.

5.20.3.12 Alarm Center: Anonymise User Alarms



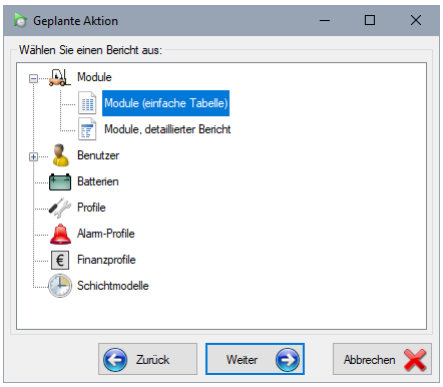
Enter the period within which the personal data should be retained. Personal data that are older than the specified period will be anonymized when this action is carried out, i.e., the information about who reset a crash is removed.

Before anonymizing the alarm data, you should make a backup of the database! To do this, select the location where the backup should be saved. See also previous chapter **5.20.3.8 Database Backup**.

Click on ***Next***

Note:
You must first enter a directory ***(local backup)*** or the corresponding access ***data (backup on FTP server)*** so that the ***Next*** button is activated.

5.20.3.13 Run a Saved Report



With this report, the first thing to do is to select the respective (saved) report, even before the extend of the report can be determined.

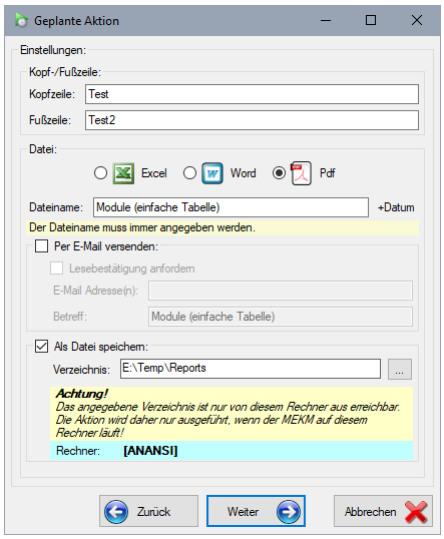
This list varies depending on which reports have been created and stored in your database. See also chapter **5.17 Reports**.

Select one of the saved reports and click ***Next*** (or double-click the report you want).

Now you need to determine the extend of the action here as well. In this case, that means you specify which items should be included in the report.

This action also allows you to select multiple items at the same time (unlike all other actions). The elements just have to be all in the same "depth". You can see this by the fact that the elements displayed in the tree diagram are all indented to the right to the same extent.

For some special reports, additional data is also requested. Simply enter the information you want and click ***Next***.



Now you have to enter some general data about the report:

- Header/Footer:

  If the report supports headers and footers, you can now enter the header and footer for this report here. Make sure that the header and/or footer of a report can be read-only (see **5.17.1.1 Header** und **5.17.1.2 Footer**)

File:

Select the format in which the report is to be generated. Some reports are not available in all formats.

Filename:

Specify here what the file should be called. The file name is also required if the report is to be sent by e-mail only, because the report is attached to the e-mail as a file (with the same file name).

Send by e-mail:

Select this option if you want the report to be sent to one or more e-mail addresses.

Request a read receipt:

If this option is activated, a notification is sent back as soon as the addressee has read the e-mail (the e-mail program used must support this function). This read receipt is then indicated by a corresponding icon (see **5.20.1 The Meaning Of The Individual Columns** → e-mail)

E-mail address(es):

Enter the e-mail address(es) to which the report should be sent. Separate multiple e-mail addresses with a semicolon or a comma.

Note: To send emails, the ***email system*** driver must be activated (see **5.13.5.2 Email System**).

Subject:

Enter here how the subject of this e-mail should work.

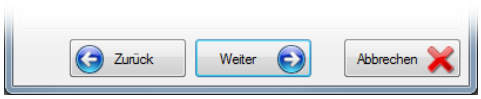
Save as file

Select this option if you want the report to be saved as a file (if necessary).

Directory:

Click the ... button to select a directory where you want to save the report, or click in the box itself to manually enter the location.

After entering the data, click ***Next***.



Note:

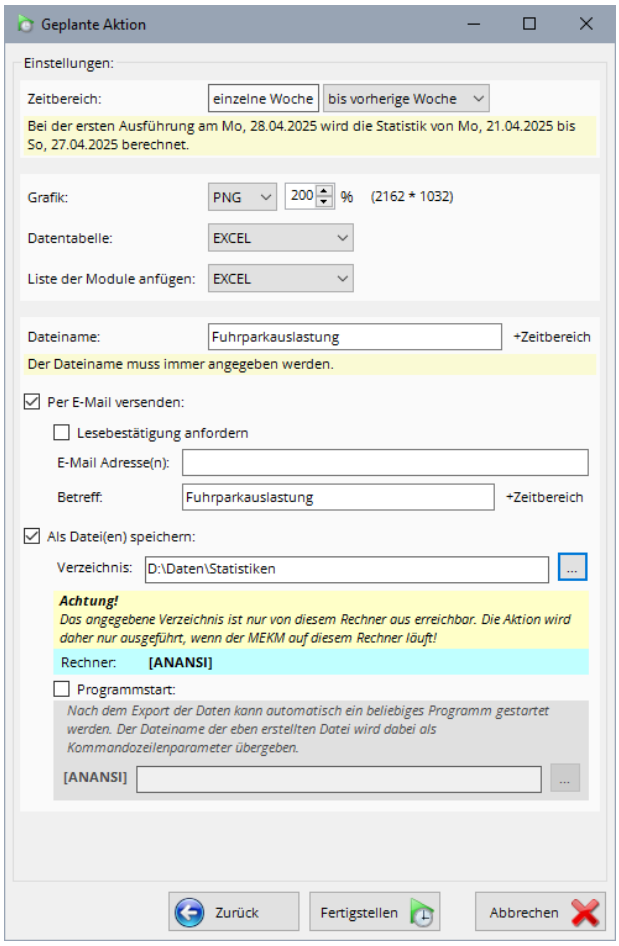
In any case, a ***file name*** must be specified and at least one of the options ***Send by e-mail*** or ***Save as file*** must be activated.

The ***Send by e-mail*** option requires at least one e-mail address to be entered, and the ***Save as file*** option requires a valid directory to be selected.

Otherwise, the ***Next*** button is disabled!

5.20.3.14 Create Statistic

Note: When creating statistics, the schedule must be set first (see **5.20.3.15 Schedule**), as the data in the Create Statistics window refers to this schedule!



Time domain:
The length of the time range is fixed here. It is taken from the statistics settings when the action is added using the button.

The time frame over which the statistics are compiled is calculated based on the time when the action is performed. The default setting is the last completed time frame. If, for example, the length of the time frame is specified as one week (i.e., the statistics are calculated from Monday to Sunday) and the action is performed on a Tuesday, then the setting "***until previous week***" means that the statistics are calculated for the week up to the previous Sunday. The setting "***up to current week***" would generate statistics from last Monday to next Sunday – however, since the data for the current week does not yet exist in its entirety, the statistics would then be incomplete! With the setting "up to before," statistics can also be generated for even earlier time periods. For clarification purposes, the period over which the statistics will be calculated during the next execution is displayed as a note.

Graphic:
Specify here the format in which the statistics should be exported. The aspect ratio of the statistics corresponds to that of the online statistics at the time this action was created. However, you can adjust the size of the file in %. A higher resolution is particularly useful if the graphic is to be printed. By default, the graphic is output in double size (200%).

Data Table:
Here you can specify the format in which the data table (usually located under Online Statistics) should be output. You can also select ***None*** here if you only want to create the graph.

Attach list of modules:
In addition, a list of the modules included in these statistics can be output. Here, too, the format can be selected, or the list can be omitted by selecting the setting ***None***.

File name:
Enter a name here under which the graphic and, if applicable, the table/list should be saved. This name will then be extended to include the respective time range. This allows multiple statistics to exist side by side in the export directory (see Save as file(s)).

You must specify the file name. If no file name is specified, the Complete button will not be available!

Send by E-Mail:
The generated statistics can also be sent by email (together with the table/list, if applicable) to one or more email addresses separated by semicolons or commas.

Note: The email system driver (see **5.13.5.2 Email System**)) must be active to send emails!

Save as file(s):
You can also save the statistics you have created, together with the table/list, directly as a file or files (e.g. on a network drive). To do this, enter the desired directory.

Startup:
When the statistics are saved as a file, any (external) program can be started automatically after startup. The files created are passed as command line parameters %1 to %3 (if graphics, tables, and lists have been created).

5.20.3.15 Schedule



Finally, you must specify when exactly the respective task should be executed.

Repetitions:
Specify the required interval in which this task should be executed. By choosing the interval ***once,*** the scheduled task is automatically deleted after the implementation and is Therefore, only executed once.

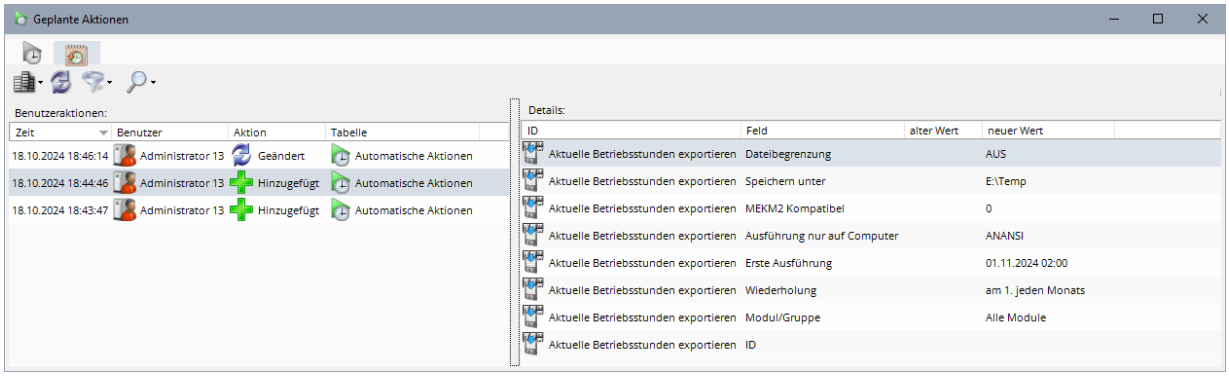
The first implementation:
Specify date and time, when this task should be executed the first time. The time is also changed for the respective repetitions. If for example, 17:51 h is specified for the first implementation and as an interval ***every 1 day***, the task is executed every day at 17:51 h.

Click on ***finish*** to generate the scheduled task.

Note:
If date and time of the first implementation are in the past, the task is executed immediately after the completion (***finish)***.
If it is a one-time only task, it is deleted immediately afterwards. In this case, according to implementation speed, it can happen, that the task is not shown in the list of the scheduled tasks (**5.20 Scheduled Tasks**).

Note that actions that are in any way related to a local directory can only be executed if the action (i.e., the manager or the service) is running on the corresponding machine. For actions of this type, the respective host name is displayed in the column ***Implementation only on*** (see also ***Implementation only on*** in Chapter **5.20.1 The Meaning Of The Individual Columns**.

5.20.4 Change Log (scheduled tasks)



Jede Änderung an den Geplanten Aktionen und jede Ausführung einer der Aktionen wird im Änderungsprotokoll gespeichert und hier angezeigt.

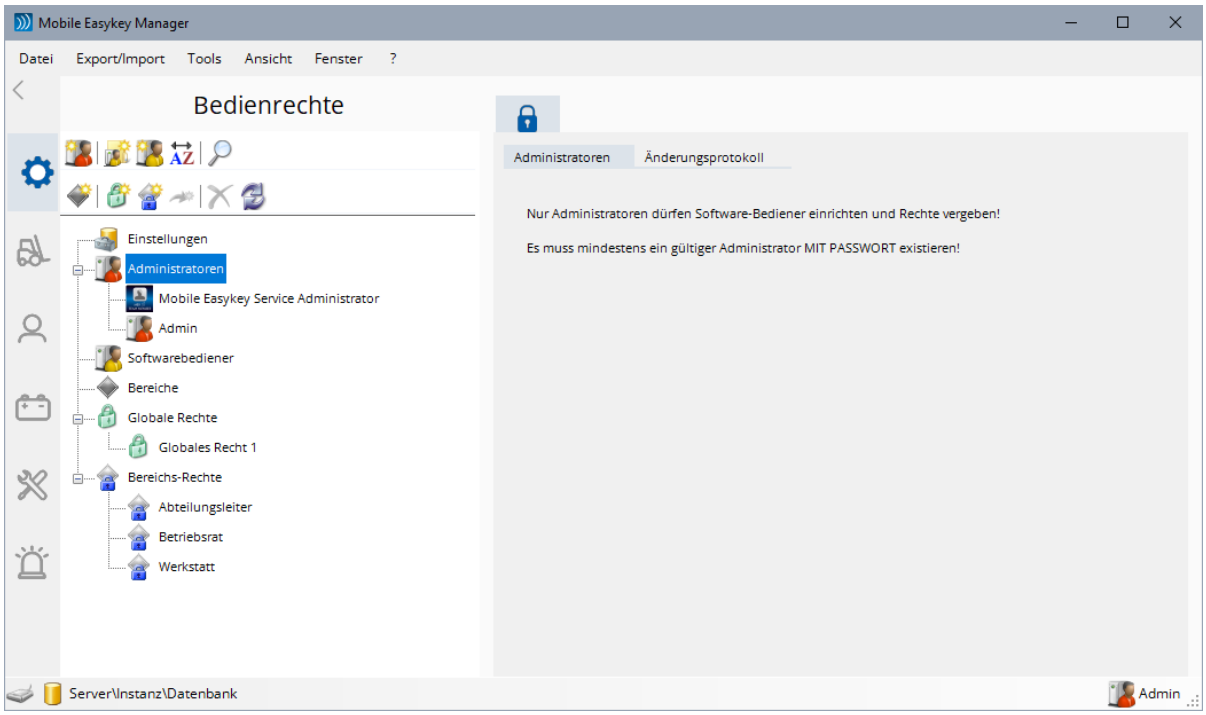
Note:
By default entries that are older than 90 days are automatically deleted. You can change this setting in the database-configuration. See also **5.14.12 Database-Maintenance**.

The ***User*** column corresponds to the respective software operator or administrator (see **5.21 Software Operating Rights**), who was logged on to ***Mobile Easykey Manager*** at that time. Since no user is logged in to perform an action, ***planned Actions*** are displayed there instead.

With the buttons and the change log can be filtered and searched.
A description and further information can be found in chapter **5.19 Change Log**.

5.21 Software Operating Rights

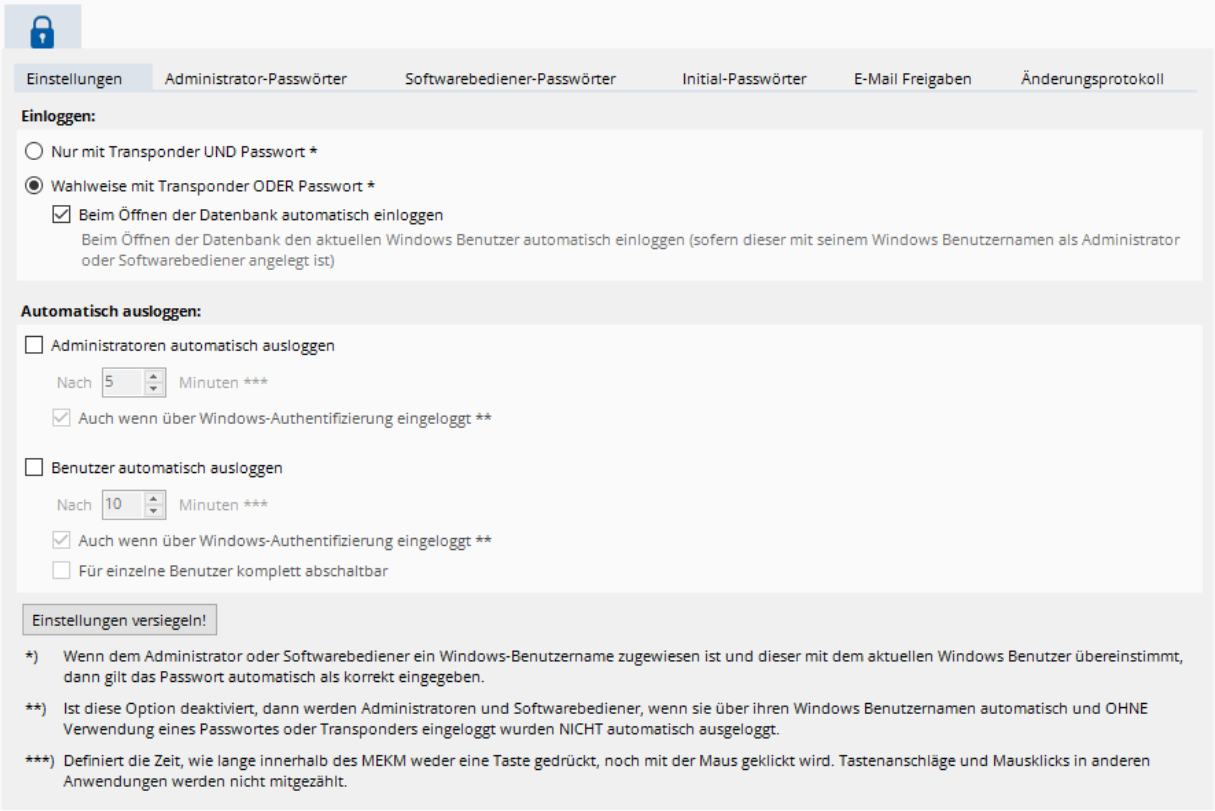
You must first log on as an administrator (see **5.21.2 Administrators** and **5.21.7.1 Log in**) to display the Controls tab ⚙. Then click on the tab on the left⚙ to display the configuration of the operating rights on the right.



On the left, the different configuration areas of the software operating rights are displayed in a tree (hierarchical) structure.

5.21.1 Configure Operating Rights

5.21.1.1 Settings

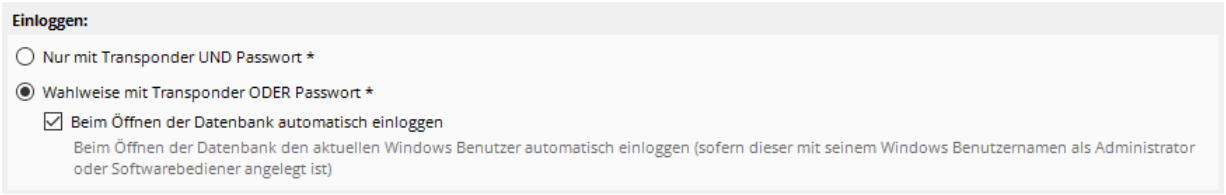


Here some basic settings are carried out for the software operating rights.

In all tabs the carried-out settings can be "sealed". The respective settings are protected against change with a password (seal password). Click on the button ***Settings*** and enter a seal password.

Attention! Memorise the seal password! Without it, it is not possible to change these settings. You can assign different seal passwords for all four tabs.

Log in



Under ***log in,*** you can determine whether software operators and administrators can/must log into "Mobile Easykey Manager" only ***with transponder AND password*** or alternatively, ***with transponder OR password.***

- ***Only with transponder AND password:***
  With this option always a transponder as well as a password (or alternatively, a Windows username) must be associated to a software operator (and administrators). If the in "Manager" entered Windows user name matches with the actual Windows user, then he only needs to identify himself with a transponder or the password. See **5.21.2 Administrators**. Otherwise, he must identify himself with his transponder and his password.
- ***Optional with transponder OR password:***
  With this option a software operator (or administrator) can identify himself with his transponder, his password or the entered *Windows username*, depending on which data is entered in Manager.
  For software operators generally a matching password *in Windows* and in Manager *is valid as an entered password.* (Depending on settings, if necessary *computers / domain names*).
  E.g., the software operator "Herbert Meier" is logged into Windows with the name "HMeier" and in this software the Windows username "HMEIER" is entered (see **5.21.2 Administrators** and **5.21.3 Software Operator**, Mr. Meier does not need to enter the password anymore.
  With the setting ***transponders AND password,*** he must only hold his transponder near the reader. With the setting ***transponder OR password,*** he does not need to enter anything more.
- ***Log in automatically while opening the database:***
  In this case the software operator (or the administrator) is automatically logged in if his Windows username corresponds with the database.

Log off automatically

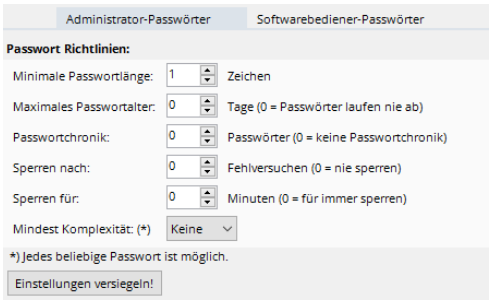


To be able to use its advanced serving and display-function perimeter, a software operator (or administrator) must first log into "Mobile Easykey Manager" (see **5.21.7 Log in and log off**).

- ***X automatically Log off:***
  If the respective software user (or administrator) has forgotten to log off, he can, after a pre-set time, automatically be logged off. This assures a safe status for "Mobile Easykey Manager". Disable this function if software operators (or administrators) should never be automatically logged off in general.
- ***After X minutes:***
  Here you can specify the time span (period) after which the respective administrator or software operator is automatically logged off if he has not operated "Mobile Easykey Manager for this period.
- ***Even if logged in through Windows authentication:***
  If an administrator or software operator was logged in exclusively through his Windows usernames (without transponder or entry of a password), the option automatic log off can be disabled. Then a user who was automatically logged in through Windows authentication remains persistently-logged in. However, software operator or administrators who logged in with transponder and/or password are still automatically logged out.
- ***Disable for single users:***
  Software operators additionally have the possibility to disable the automatic log off for individual single software operators (see **5.21.3.2 Settings of Software Operator X**).

5.21.1.2 Administrator and Software User Passwords

The configuration options for administrator passwords and user passwords are identical.



The software operators (and administrators) can change their passwords freely.

- ***Minimum password length:***
  specify, how long such a password must be at least.
- ***Maximum password period:***
  Determine after which time span (period) a software operator or administrator must change his password at the latest. If the password is older than here specified, he must change the password automatically when trying to log into "Mobile Easykey Manager", to complete the registration process. The setting 0 Days deactivates this function.
- ***Password chronicle:***
  If a software operator (or administrator) changes his password, you can specify here that the new password may not be identical with the last X used passwords. The setting 0 Passwords means, even the current password can be entered again (and the password is Therefore, not changed).
- ***Lock after:***
  With this option you can specify, after how many unsuccessful attempts (password wrong entered) these software operators (or administrator) are locked. As long as this lockout is active, this software operator (or administrator) cannot even log in with the correct password any more. The setting *0 Unsuccessful attempts* deactivate this function and unlimited registration attempts are possible.
- ***Lock for:***
  This option determines, how long a software operator (or administrator) remains locked. With the setting 0 minutes the respective software operator (or administrator) remains locked until another administrator lifts it.
- ***Minimum complexity (impeded):***
  With this option it can be determined how "complicated" a password must be. Four complexity levels are available:

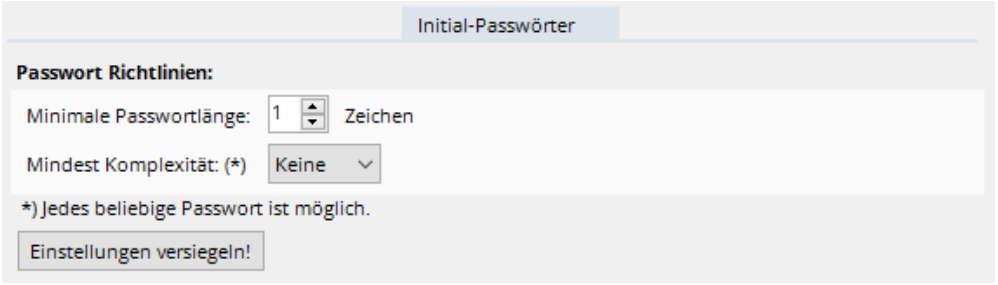
None	Any password is possible. Also, passwords like "1234" are possible.
Low	The password must contain characters from at least two of the categories, see further down. Additionally, the password may NOT contain the first nor the surname.
Medium	The password must contain characters from at least three of the categories specified further down. Additionally, the password may NOT contain the first nor the surname.
High	The password must contain characters from all four of the categories specified below. Additionally, the password may NOT contain the first nor the surname.

Categories:

- Caps (A to Z)
- Lower case (a to z)
- Figures (from 0 to 9)
- Non- alphabetic characters (for example! $, #, %)

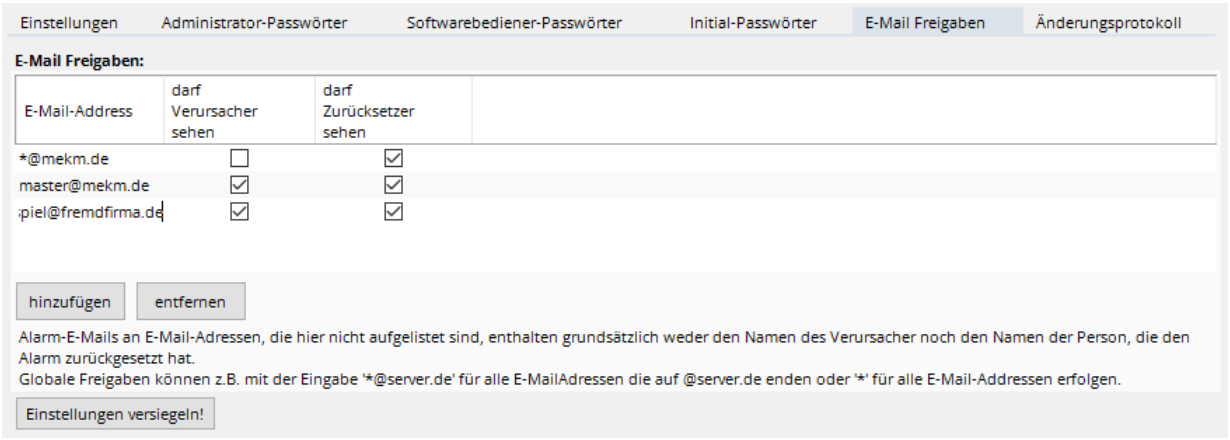
5.21.1.3 Initial Passwords

If an administrator assigns a password or the password was reset for a software operator (or another administrator) for the first time (because the respective user has forgotten the password), the initial password instructions apply.



- ***Minimum password length:***
  specify, how long such a password must be at least.
- ***Minimum complexity (impeded):***
  With this option it can be determined how "complicates" a password must be. Four complexity levels are available. See previous page.

5.21.1.4 Email Releases



The mailing of alarm emails can contain the name of the respective cause (with crash or event alarms) or the release names (the master which has released a crash or the software operator who has reset an operating hours or time alarm)!

by default, the placeholder %X (for the cause or release in the email text of the alarm message, see **5.10 Alarm profiles**) is replaced with the text „<<display prevented>>“! Only if the respective email address is entered under *email releases*, (according to option ***may see cause*** and ***may see release***) the respective name entered.

Click on button add, to add a new email address to the list of the released email addresses. In the list a new, empty row is added. Now you can enter the required email address directly in the table (in the column email address).

To delete an email address, click on the required email address and afterwards on the button ***delete***. If you have deleted an email address by mistake, you can click on the button ***reverse delete*** to recover the last deleted email address.

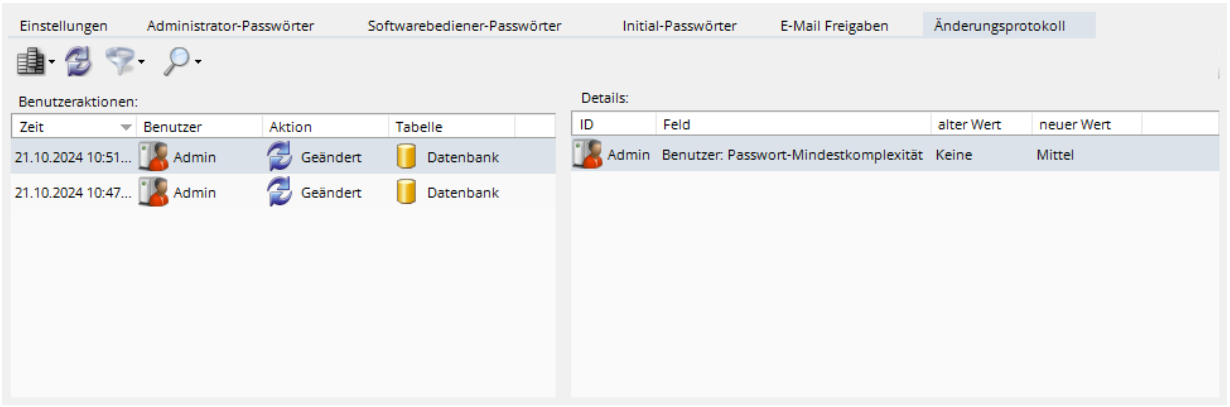
In the columns ***may see cause*** and ***may see release***, you can configure whether the cause and the release for the respective email address may appear in emails.

Entering "*"@domain.de you can set up the release for a whole domain.

In the example above the alarm emails to all addresses which end on @mekm.de may contain the name of the release/ reset. However, only alarm emails may contain the name of the cause, to the address "master@mekm.de" or "example@company.de".

Entering "*" you can set up a global release for all email addresses.

5.21.1.5 Change Log (User Rights Settings)



In this tab all changes to the user right settings are displayed.

Note:
By default entries that are older than 90 days are automatically deleted. You can change this setting in the database-configuration. See also **5.14.12 Database-Maintenance**.

The ***User*** column corresponds to the respective software operator or administrator (see **5.21 Software Operating Rights**), who was logged on to ***Mobile Easykey Manager*** at that time.

With the buttons and the change log can be filtered and searched.
A description and further information can be found in chapter **5.19 Change Log**.

5.21.2 Administrators

The administrators are software operators who automatically own all rights and have, furthermore, the authorisation to configure the software operating rights and to assign or remove operating rights of other (non- administrator) software operator.

Der oberste Administrator mit dem Namen ***Mobile Easykey Service Administrator*** ist ein spezieller Administrator für Service-Zwecke, der im Kapitel **5.21.2.2 Mobile Easykey Service Administrator** näher beschrieben wird.

You can define numerous administrators. In order to add an administrator, click on button .

Attention

Note that there must always be at least one valid administrator! To be able to always access the database, even if a Windows username changed, a password must be entered for at least one valid administrator!
The first administrator was already created when the database was created (see **5.3.1.2.2 Activation of operating rights**) or when upgrading to this version (see **5.3.1.1.3.4 Activation Of Operating Rights**).

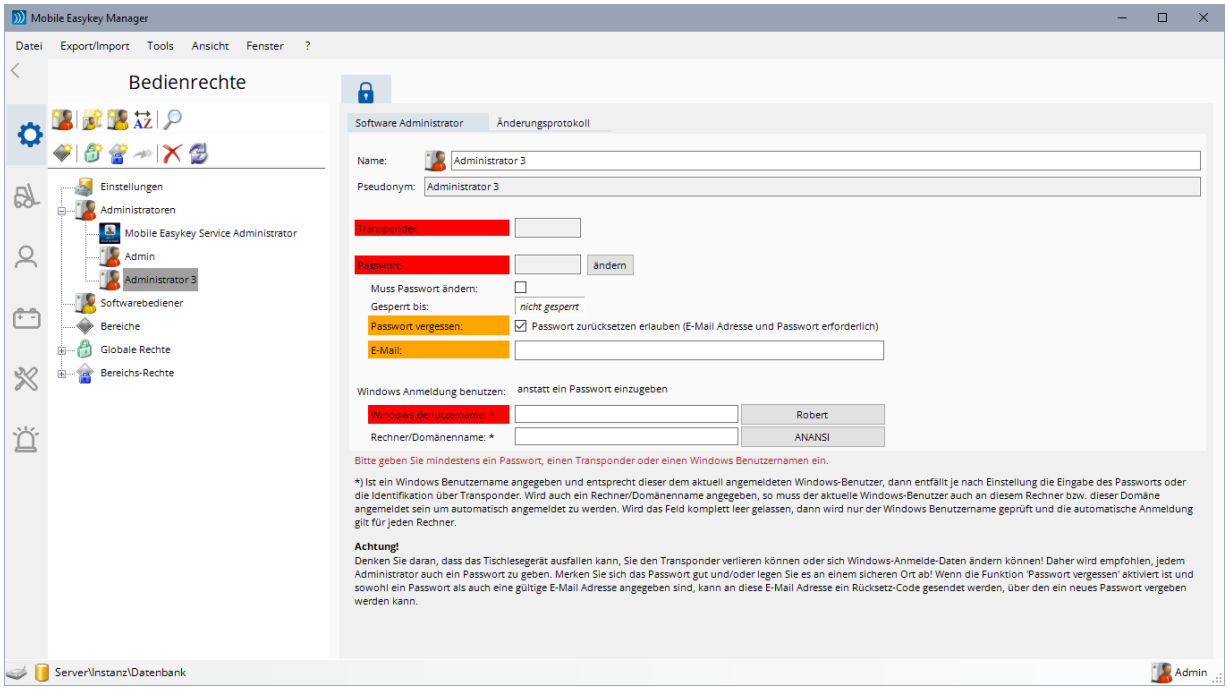
Note:

Depending on the setting (see **5.21.1.1 Settings**), an administrator must have at least one transponder and/or password or Windows user name to be valid.

If the administrator is invalid, the corresponding fields (e.g., the text ***transponder***) are highlighted in red.

Orange highlighted passages (for example the **forgot password** text) indicate that an option (in this case, the option **Reset password**) is not valid, as not all necessary data (in this case **password** and **e-mai**l address) are recorded.

It is recommended to always give each administrator a password, as transponders may be lost and Windows user name / computer name may change. To indicate this, the text Password is highlighted in yellow if the **password** is missing (if not orange or red)

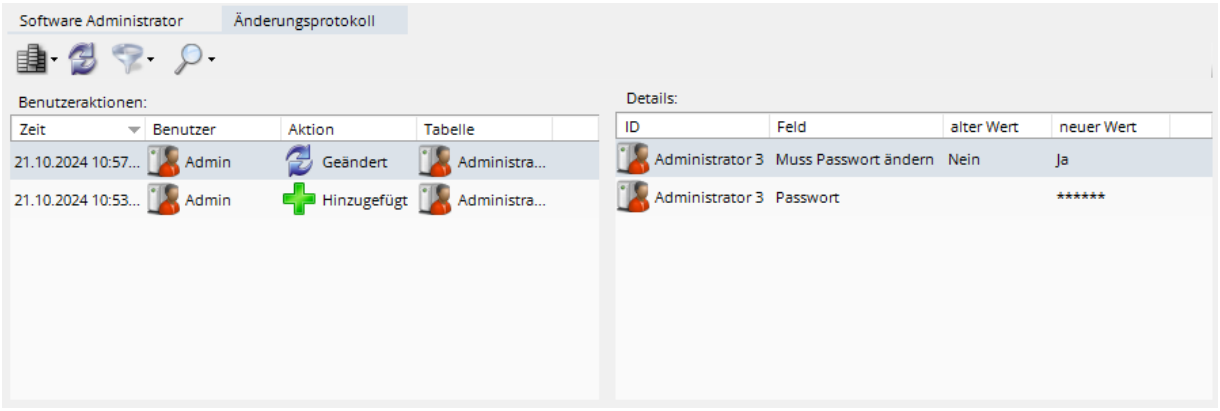


- ***Name:***
  You can give any name to the respective administrator.
- ***Pseudonym***
  As soon as a Mobile Easykey employee works with the database (see **5.1.3 Anonymised Backup** and **5.1.2 Service Mode**), personal data is automatically displayed only pseudonymised. Instead of the name, the text displayed under Pseudonym will be used. If you have a problem with a specific administrator, tell Mobile Easykey Service Personal the pseudonym written here.
- ***Transponder:***
  You can assign a transponder to this administrator, while holding the required transponder near the reader (the drivers of the reader must be active) (see **5.13.5.1 Table**). To delete a transponder, click on the transponder number and press the ***delete*** key. Thereby on the right, beside the transponder number the ***delete*** button appears. Click on this button to delete the transponder.
- ***Password:***
  Click on button ***set/ reset*** to assign a (new) password to this administrator. If a password is already assigned, you can change this with a click on ***set/ reset*** or with the button ***delete***. The new password must fulfil the regulations of the initial password settings, described in chapter **5.21.1.1 Settings**.
- ***Must change password:***
  Activate this option to force the respective administrator to change his password as soon as he logs in "Mobile Easykey Manager" next time.
- ***Locked until:***
  If necessary, it is here displayed whether (and till when) the selected administrator is locked at the moment (e.g., 14.12.2009 15:41:21 Sperre aufheben). Click on button ***cancel lock*** to unlock (release) the administrator.
- ***Forgotten password***:
  If the option ***Allow reset password*** is activated, the respective administrator can request an e-mail (see **5.21.7.3 Forgot password**), which contains a reset code for his password. This

option is only active if the administrator also has a password and an e-mail address associated with it.

- ***E-Mail***:
  To use the ***Reset password*** option, the software user must also have an e-mail address associated with it.
- ***Use Windows registration (log in):***
  If in the option settings ***only with transponder AND password*** is selected it can be determined whether the Windows registration log in should be used with this administrator (and only with corresponding ***Windows username*** and ***computer / domain name***) as an entered password or as a transponder. Then the administrator must log in accordingly only with password (option ***instead of transponders***) or only with transponder (option ***instead of password***).
- ***Windows username:***
  If the name entered here corresponds with the name of the currently in Windows logged in user, this administrator must not enter the password any more. The password is also valid as already entered even if the administrator owns no password. Thus, the Windows authentication (Windows username + Windows password) can be used indirectly as an authentication for this administrator.
- ***Computer / domain name:***
  If a computer or domain name is specified here, the Windows username is only valid if he is also logged in on the actual specified computer or the specified domain. If no computer / domain name is specified here, the Windows username is valid on every computer!

5.21.2.1 Change log (Administrators)



Any change to the administrator data is stored in the change log and displayed here

Note:
By default entries that are older than 90 days are automatically deleted. You can change this setting in the database-configuration. See also **5.14.12 Database-Maintenance**.

The ***User*** column corresponds to the respective software operator or administrator (see **5.21 Software Operating Rights**), who was logged on to ***Mobile Easykey Manager*** at that time.

With the buttons and the change log can be filtered and searched.
A description and further information can be found in chapter **5.19 Change Log**.

5.21.2.2 Mobile Easykey Service Administrator



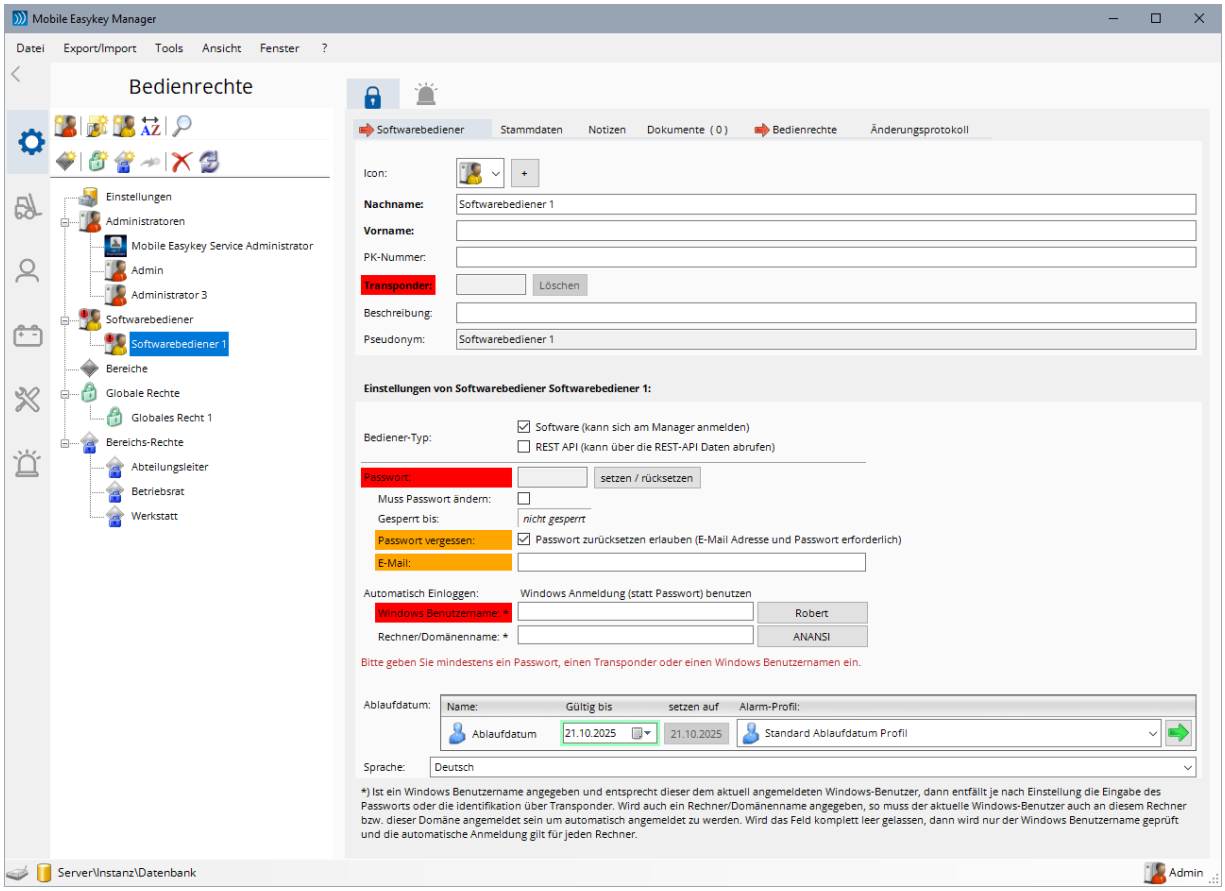
Der ***Mobile Easykey Service Administrator*** ist ein spezieller Administrator der nicht gelöscht werden kann. Er wird ausschließlich vom Mobile Easykey Service Team verwendet, wenn sich ein Mobile Easykey Mitarbeiten an dieser Datenbank anmelden muss.

Sobald ein Mobile Easykey Mitarbeiter über diesen ***Service Administrator*** angemeldet ist wird unmittelbar der sogenannte ***Service Mode*** (siehe **5.1.2 Service Mode**) aktiviert und alle personenbezogenen Daten werden nur noch pseudonymisiert angezeigt.

5.21.3 Software Operator

A software operator is a user, who (after log in see **5.21.7 Log in and log off**) has assigned rights (see **5.21.3.8 Assign Operation Rights**).

Click on to add a new software operator.
Click on to create groups. See also **5.11 Groups and tree (hierarchical) structure**.



Attention!

In which area (see **5.21.4 Areas**) a software operator is located, has no influence to which elements (modules / users, etc.) he is authorised. This is controlled exclusively with the settings in the ***Operating Rights*** tab (see **5.21.3.8 Assign Operation Rights**).

Red highlighted passages (for example, the text **transponder** or **password**) signal that the software operator is invalid because there is no input here.

Orange highlighted passages (for example the ***forgot password*** text) indicate that an option (in this case, the option ***allow reset password***) is not valid, as not all necessary data (in this case ***password*** and ***e-mail address***) are recorded.

It is recommended to always give each software user a password as well, since transponders can be located and Windows user name / computer name can change. To indicate this, the text Password is highlighted in yellow if the password is missing (if not orange or red.

5.21.3.1 Software Operator

In the upper part of the tab Software operator data are entered, which relate individually to only this one software operator. This part is therefore only active if only a single user is selected.

- ***Icon***
  Here you can assign an Icon or picture for the software operator.
  See also **5.4.4 Icons.**
- ***Surname / First name***
  Enter the name of the individual software operator.
- ***PK/ID-Number***
  Here you can enter an optional PK/ID-number. This field can be hidden in the database configuration (see **5.14.4.2.1 ID- and Default Fields**).
- ***Transponder***
  Here, the transponder currently assigned to this software operator is displayed. See chapter **5.6.1.1 Assign User** .
- ***Description***
  Here a description or any other text can be entered to this software operator. This field can be hidden in the database configuration (see **5.14.4.2.1 ID- and Default Fields**.
- ***Pseudonym***
  Sobald ein Mobile Easykey Mitarbeiter mit der Datenbank arbeitet (siehe **5.1.3 Anonymised Backup** und **5.1.2 Service Mode**), werden personenbezogene Daten automatisch nur noch pseudonymisiert angezeigt. Statt des Namens wird dann der hier unter Pseudonym angezeigte Text verwendet. Wenn Sie ein Problem mit einem speziellen ***Softwarebediener*** haben, teilen Sie dem Mobile Easykey Service Personal das hier stehende Pseudonym mit.

5.21.3.2 Settings of Software Operator X

In the middle part, settings are made that determine how this software user can log on.



User-type:

Specifies what this software operator is responsible for.

Software (can log into Manager): This option is required if the software operator is to log into the manager (via the File Login menu).
REST-API (can retrieve data via REST-API Dates): The respective user must also identify himself with name and password via the REST-API (see **5.13.3.1.6 MEKM-API Driver (REST-API)**)
Identification via the REST API is only permitted if the software operator is given this option.

Password:

With the button ***Set/Reset*** you can assign a password for this software operator for the first time or a new password if the user has forgotten his password
The ***Remove*** button is only visible if a password has already been entered. You can use this button to remove the password and, if necessary, invalidate the software operator.
It is recommended to always give each software operator a password, as transponders may be lost and Windows username/computer name may change.

Must change password:

This option is automatically activated when Set/Reset a password. You can then deactivate it, if desired, or activate it at any time. If enabled, the next time the software operator logs on to the "Mobile Easykey Manager," he must first change his password before logging in. This option is automatically reset.

Locked until:

If applicable, this will indicate if, and if so, until when this software server is locked. A software operator is blocked if he has entered the password incorrectly several times (see **5.21.7.1 Log in**). With the ***Unlock*** button (only visible if the software server is locked) you can unlock the software operator.

Forgot password:

If the option Allow ***reset password*** is activated, the respective software operator can request an e-mail (see**5.21.7.3 Forgot password**), which contains a reset code for his password. This option is only active if the software operator also has a password and an e-mail address assigned to it.

E-Mail:

To use the ***Allow Password Reset*** option, the software operator must also have an email address assigned to it.

Windows Username:

If the name entered here matches the name of the Windows user currently logged on to Windows, then this software user no longer needs to enter the password. The password is considered as already entered even if the software operator has no password at all. This allows Windows authentication (Windows username + Windows password) to be used indirectly as authentication for this software server.

Computer/Domain Name:

If a computer or domain name is specified here, then the Windows user name only applies if it is actually logged in to the specified computer or domain. If no computer / domain name is specified here, the Windows user name is valid on every computer!

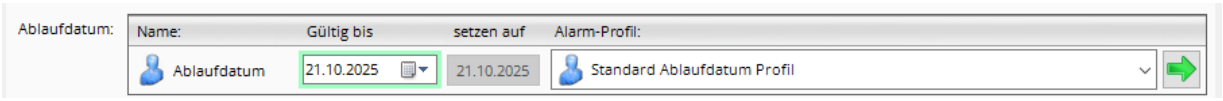
Automatic Log Out:



This option is only visible if the settings for (see **5.21.1.1 Settings**) the individual users ***switched off completely*** is.

If this option is deselected, then this user will not be logged out automatically (after logging in, **5.21.7 Log in and log off**). This can e.g., be useful for an automatic scoreboard.

5.21.3.3 Expiry Date



Here you can enter the different expiration dates of a software operator.

The expiration date is only valid if an alarm profile is also stored!

With the button ***Set to XX.XX.XXXX*** you can set the expiration date to a default value. The default value can be found in the database configuration (see **5.14.7.1 Expiry date**)

By default, there is only one expiration date named "***expiration date***". However, up to 5 such expiration dates can be defined in the database configuration (see **5.14.7.1 Expiry date**). With the button you can jump directly to the respective alarm profile configuration.

Here you can enter the various expiration dates of a software operator.

The expiration date is only valid if an alarm profile is also stored!

5.21.3.4 More Settings

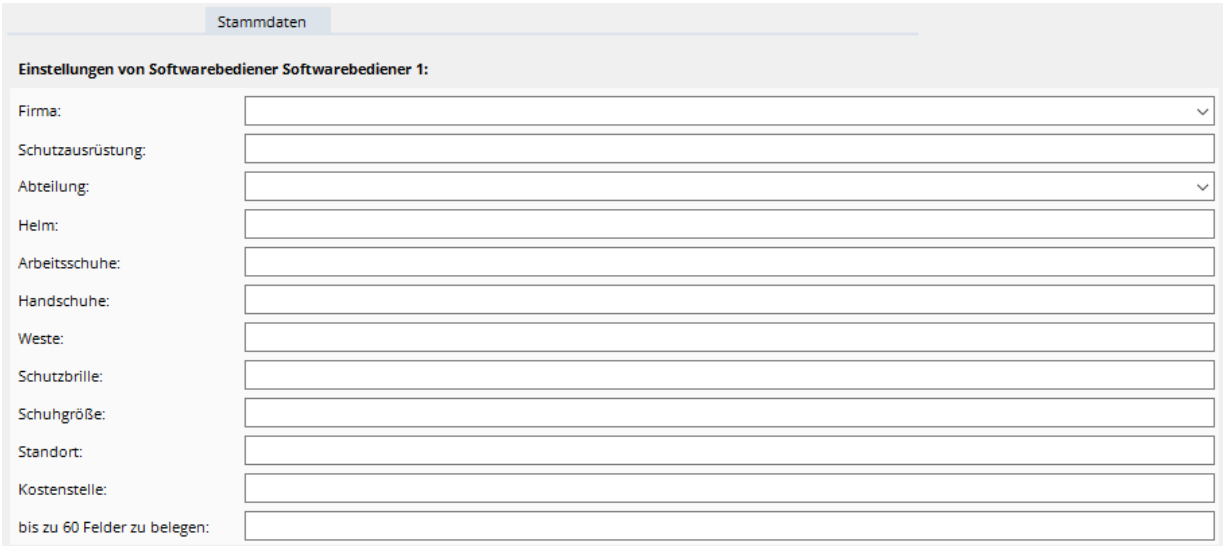
The software operators are assigned the same master data fields as normal users. You can set the master data fields in the database configuration (see **5.14.4.2 Module-, User-, Battery Master data**). There you can also specify which fields should be displayed here on the main page. By default, this is only the language.



- ***Language***

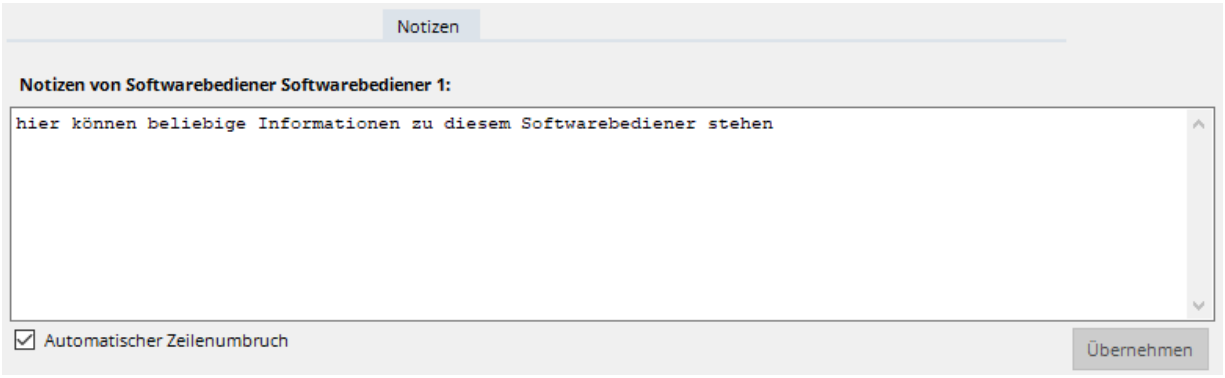
  The texts of the departure control stored in the logbook (see **5.14.9 Departure Control**) may be displayed in this language.

5.21.3.5 Master Data



In the tab master data, all additional user fields (see **5.14.4.2 Module-, User-, Battery Master data**) summarized. You can enter the corresponding data here.

5.21.3.6 Notes



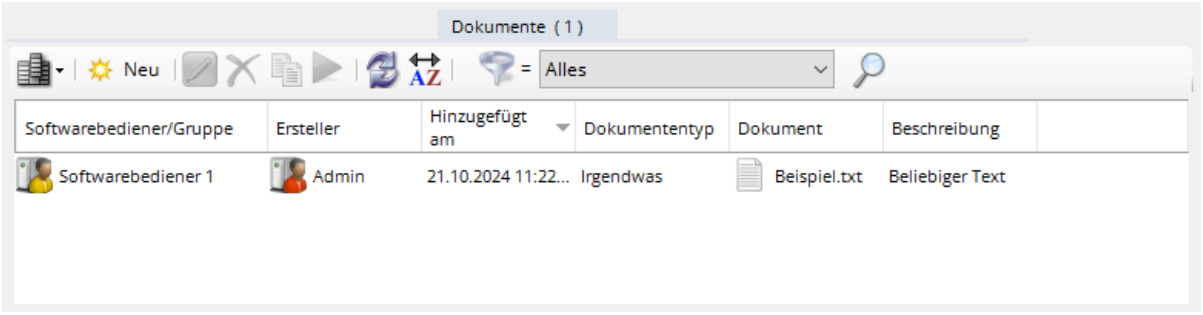
In the ***Notes*** tab, any text can be entered to this software operator.

If you enter text in this field, it will not be permanently saved until any other field is clicked or you click the ***Apply*** button.

If the option Automatic line break is activated, the lines automatically wrap at the end of the field. Otherwise, a line may be of any length and a horizontal scroll bar may appear.

The notes can only be entered if exactly one software operator is selected (see **5.11.3 Select several elements at the same time**).

5.21.3.7 Documents

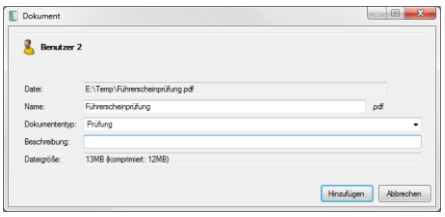


Under Documents any files can be saved to the respective software operator or a group. The number of stored documents is displayed in the name of the tab.

- New — Adds a new document. Adding a new document is only possible if only one! Software operator or only one! group is selected. See also **5.6.4.1 Add documents**.
- The document type and the description of a document can be changed later. See also **5.6.4.2 Edit Document Description**. The document is write-protected!!
- Deletes document/s.
- Copies document/s to a data carrier.
- Opens document/s (write-protected). The respective standard program is used, which is linked to the corresponding file extension.
- Refreshes and reloads the table.
- Filters the view by document type. Simply select the document type. The ***All*** setting displays all document types, while the ***No document type assigned*** setting displays only documents that have not been assigned a document type.

5.21.3.7.1 Add Documents

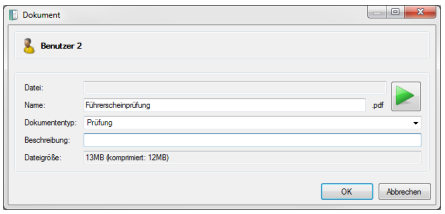
Click on button Neu to select a file.



In the following dialog you can ***name*** the document, set the ***document type*** and add a ***description***.

Click on ***Add*** to save the file in the database.

5.21.3.7.2 Edit Document Description



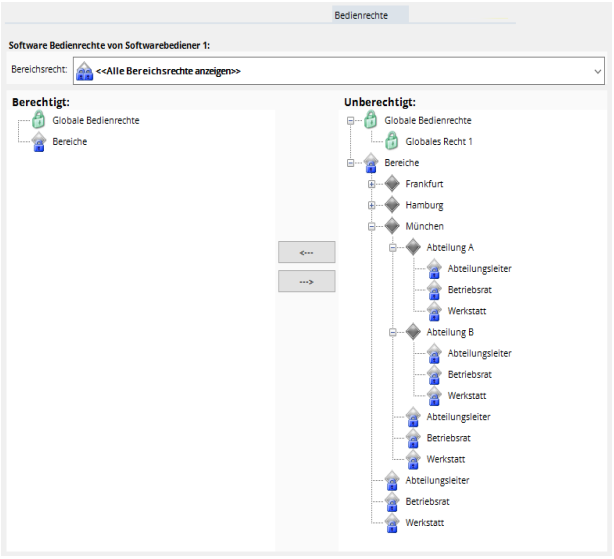
Name, document type and description can be changed later. Click on the button and change the data accordingly.

Clicking on button opens the document write-protected. The document cannot be changed afterwards!

Click on ***OK*** to save changes.

5.21.3.8 Assign Operation Rights

After the software operating rights are set up (see **5.21 Software Operating Rights**), the individual global- and area related operating rights, of the respective software operator, must be assigned.

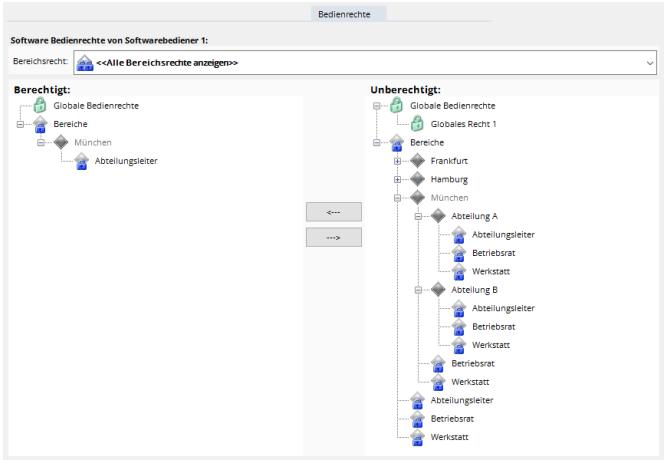


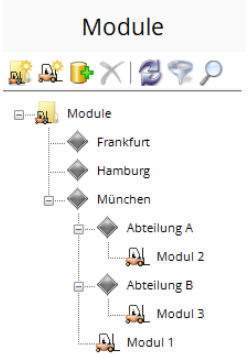
Here you can assign the operating rights for him or the selected users, which have been created in **5.21.5 Individual Global Operating Rights** and **5.21.6 Individual Area-Related Operating Rights**). The allocation works in the same way as the assignment of driving authorisations. The selected user/user own all operating rights listed on the left side of the window (as well as the once set in **5.21.4.1 Global Default Rights** and **5.21.4.2 Area Related Default Rights**). To assign or to delete a right simply move it with the mouse between both windows or select it and click on button <--- or. --->.

The area related rights represent a special feature. Area related operating rights are automatically listed in every range! Simply assign the area related rights from the required area.

Attention!
Unlike the driving authorisations and battery authorisations the area related operating rights are **not** inherited by the sub groups! If e.g., only the area related rights from the area "Munich" is assigned (however, not from the areas department A and department B), then the area related rights are only valid for the elements which are directly in the range "Munich" and not in the sub areas "department A" or "department B".

Example:





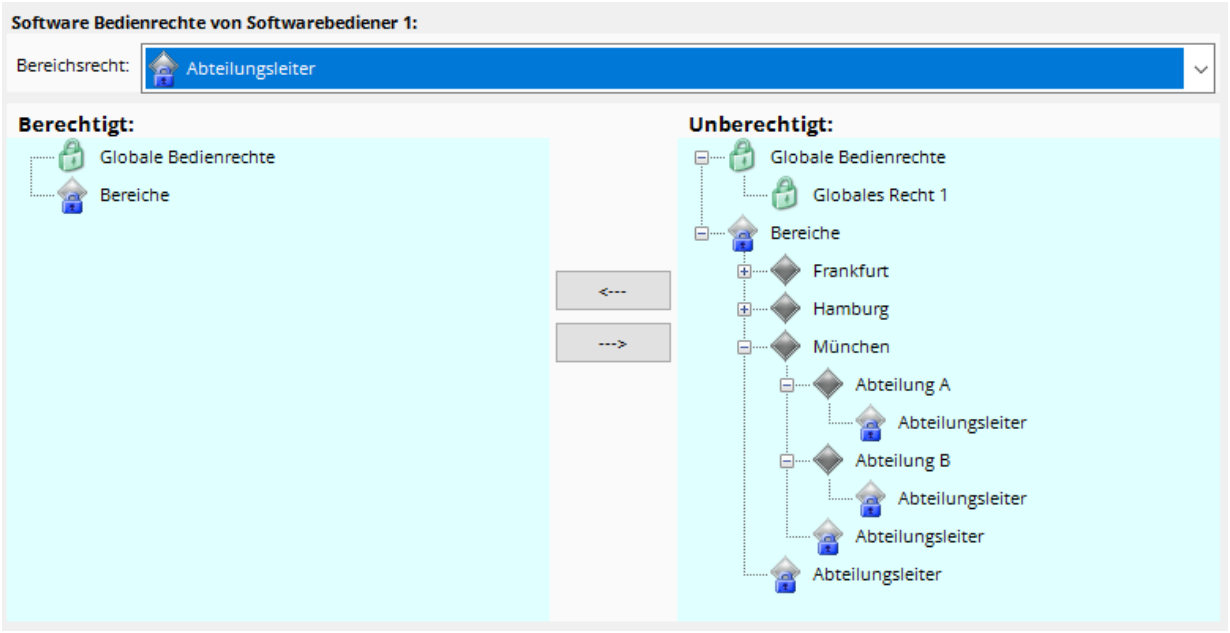
In this example the area related rights ***right 1*** would be valid for ***module 1***, **not**, however, for the ***module 2*** or ***module 3***.

Instead of transferring the right of ***department heads***, you could also move the entire ***Munich*** area . This would also move the area rights from the sub-areas. However, also the possibly undesirable other area rights, such as here e.g., ***Works council*** and ***workshop***.

The range rights drop-down menu can therefore be used to restrict the display in the tree diagrams to a single area right. By default***, <<Show all area rights>>*** is selected. This will display all area rights, as shown in the image above.



If, on the other hand, the area right ***Head of Department is*** selected, for example, only this area right is displayed, as in the image below. As an indication that the display is currently restricted, the background is displayed in light blue.



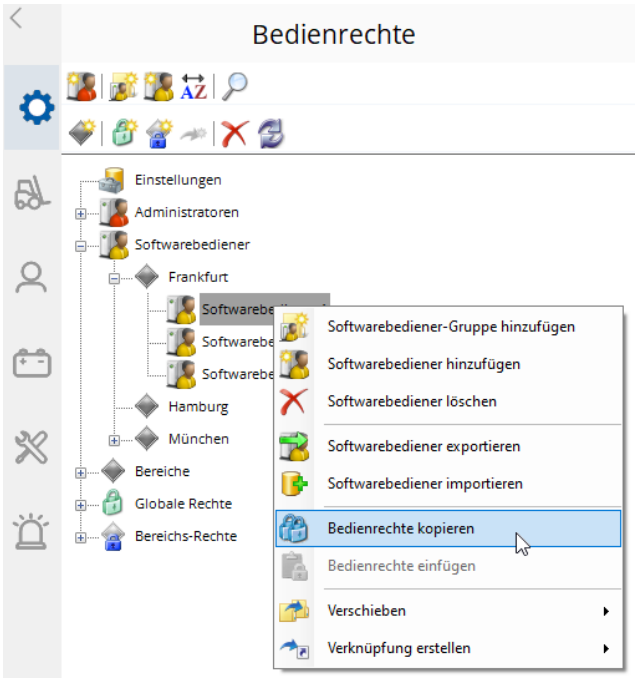
Attention!
If you now move an area with sub-areas (as shown in the example above, the Munich area) entirely, then only this one operating right selected above (in the example, Head of Department) will be moved for this area and all sub-areas. You can use it to move a single scope right for many areas at once very quickly.

5.21.3.9 Copy User Rights

The set operating rights can also be transferred (copied) from one software operator to another.

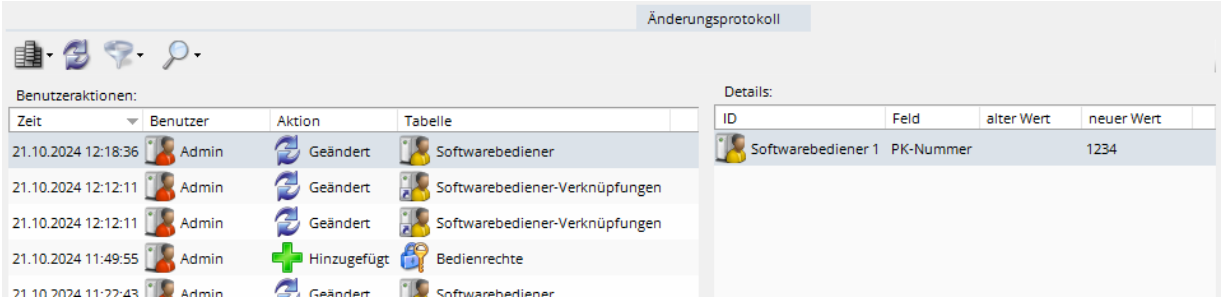
To do this, right-click on the software operator that has the desired operating rights and select the menu item ***Copy operating rights***.

Now select the software operator(s) who are to receive these operating rights. Now right-click on it and select the menu item ***Insert operating rights***.



With the paste (***insert operating rights***), all copied operating rights are then added to the selected software operator(s). Previously existing operating rights remain in place!

5.21.3.10 Change Log (Software Operator)



Any change to the software operator data is saved in the change log and displayed here.

Note:
By default, entries older than 90 days are automatically deleted. You can change this setting in the database configuration. See **5.14.12 Database-Maintenance**.

The ***User*** column corresponds to the respective software operator or administrator (see **5.21 Software Operating Rights**), who was logged on to ***Mobile Easykey Manager*** at that time.

With the buttons and the change log can be filtered and searched.
You will find a description and further information in chapter **5.19 Change Log**.

5.21.4 Areas

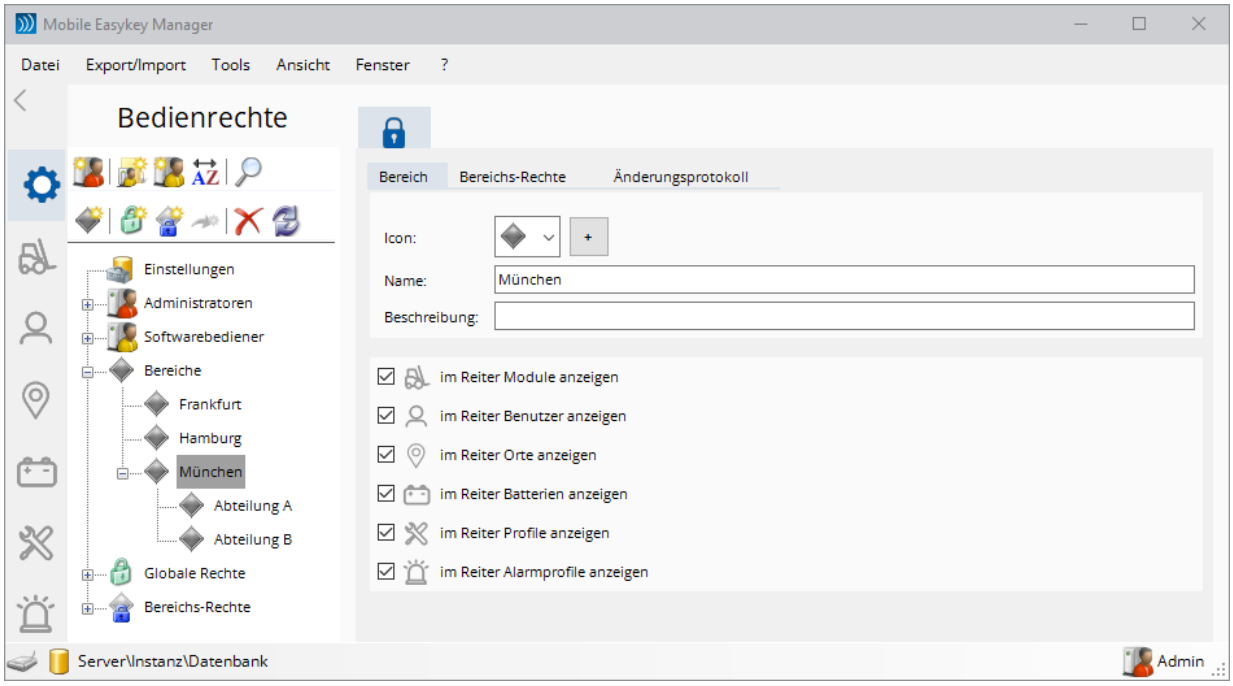
Areas serve the division of the database in individual operating areas. Then for the respective areas completely different operating rights can be assigned. E.G., the operating rights can be set up in such a way that only employees can change modules, batteries, users and profiles in their own department. Then an employee from department A would not be able, e.g., to add new users in the department B. In this case you would set up an area for each department.

Another possible scenario would be different locations or even a combination of locations and departments etc.

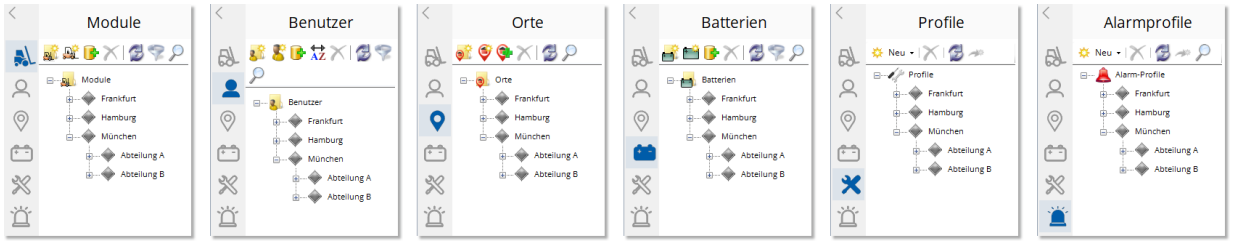
To add an ***area,*** click on button .
To add a sub area select the required ***area*** and then click on . Or right click on an ***area*** and select the menu item ***Area add***.
You can also move the areas with the mouse afterwards.

The root of this structure (***area***) is already the first area. Operating rights which are assigned from here, apply in each case in the root of the windows ***profiles***, ***alarm profiles***, ***modules***, ***batteries*** and ***users***. If you only need operating rights which are always valid for the entire database, then you do not need to add further areas.

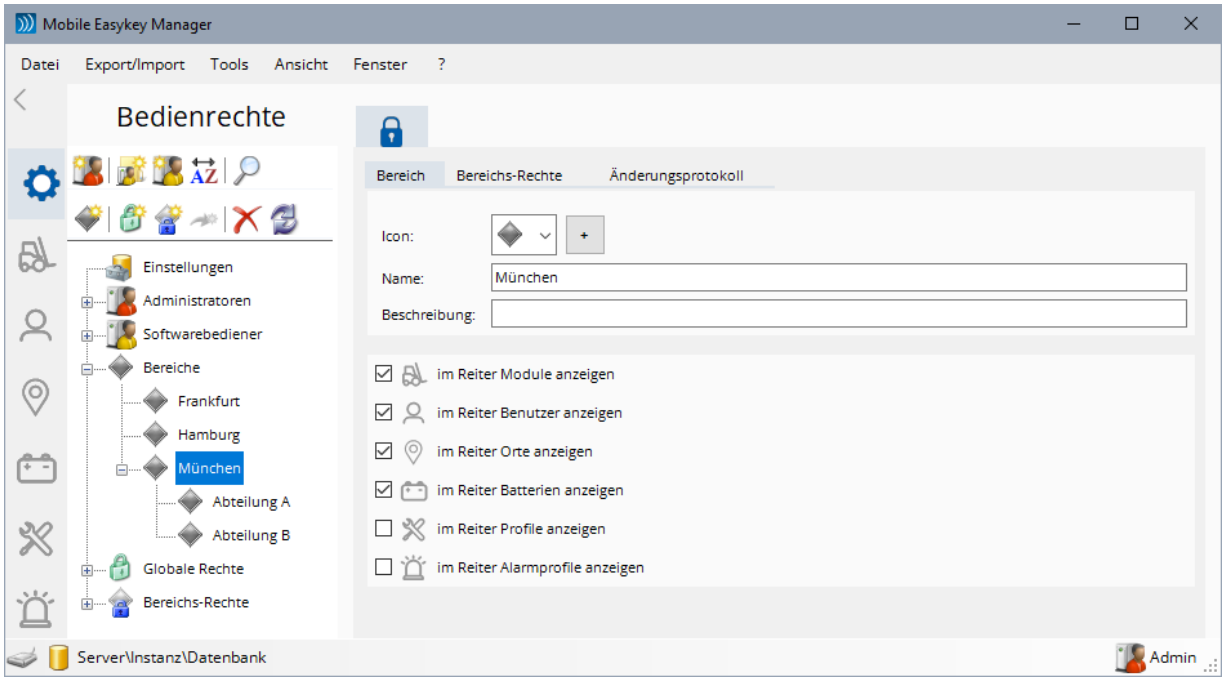
If you have added some areas it could look like this:



The individual areas are shown in the tabs ***Modules***, ***User***, ***Locations***, ***Batteries***, ***Profiles*** and ***Alarm profiles*** as write-protected groups. Thus, the entire database is divided into identical areas.



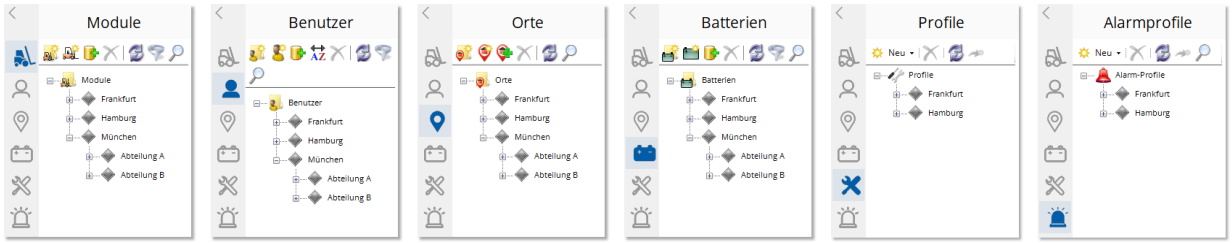
If an area should not be used in a tab (if, e.g., the profiles or alarm profiles should have another structure), the respective area can be hidden in this tab.



Deactivate the checked box of the respective area for the required window.

Note:
You cannot hide the display if in this area, in this tab already data (e.g., profiles) are saved or a sub area of this tab is not hidden yet.

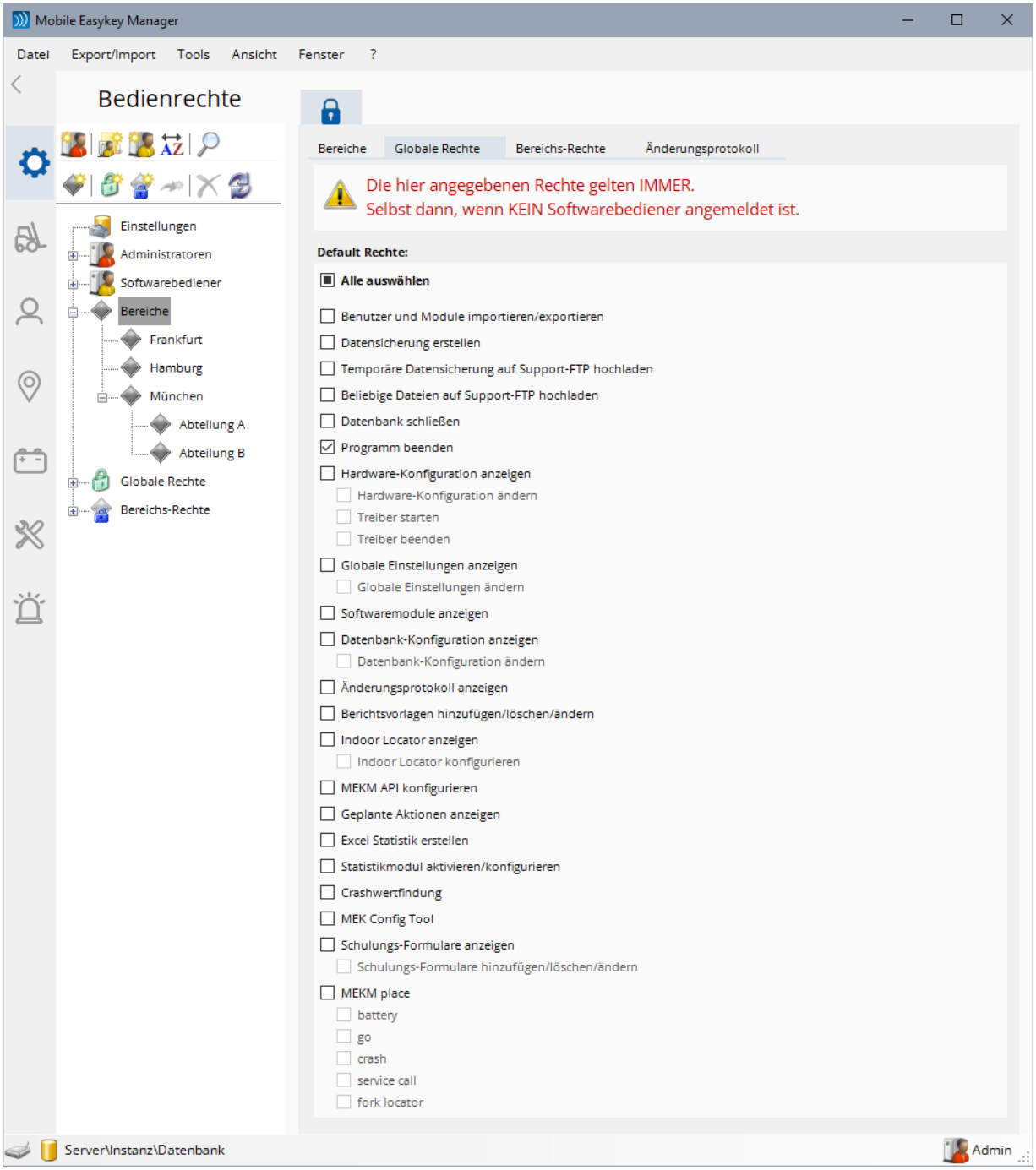
Then the area structure could look like this:



5.21.4.1 Global Default Rights

Global rights are rights which cannot be assigned area specific. E.G., the authorisation to back up the database or to quit Manager.

To set the global default rights you click on ◆ ***Areas*** and there select the tab ***global rights***.



The global default rights assigned here are generally always and everywhere valid. Even if currently no software operator is logged in!

The meaning of the individual rights:

☑ ***Select all:***
With this button you can activate or deactivate all options at the same time.

☑ ***User and modules import / export:***
This right activates or deactivates the menu items ***Modules / users import***, ***users export***, ***modules export*** in the menu ***Edit*** and the button in the toolbar. Without this right it is neither possible to import modules or users, nor to export.
See also **5.3.3.1 Import data** and **5.3.3.2 Export data**.

☑ ***Create backup:***
This right activates or deactivates the menu item ***backup*** in the menu ***File*** and the button in the toolbar. Without this right it is not possible to create a backup of the database. See also **5.3.2.1 Database Backup**.

☑ ***Upload Temporary data protection on support FTP***
With this right, a software operator can create a data backup in a temporary folder and for support purposes, upload it encoded onto a special FTP server. Afterwards the temporary backup file is automatically deleted, unless the user has, in addition, the ***data protection creates*** right and has selected local data back up before uploading.

☑ ***Upload any files on support FTP***
With this right the software operator can upload any files onto the support FTP server. Also, these files are encoded when uploading.

☑ ***Close database:***
This right activates or deactivates the menu item ***Database close*** in the menu ***File***.
See also **5.3.2.12 Close Data Base**.
The program starts automatically when a database is opened.
(See **5.12.1 Global settings – database**) Without this right no other database can be used.

☑ ***End programme:***
This right activates or deactivates the menu item ***End*** in the menu ***File***. Further, without this right the "Mobile Easykey Manager" cannot end the program with the button ( ).

☑ ***Display hardware configuration:***
This right activates or deactivates the menu items ***Hardware configure*** and ***driver monitoring*** in the menu ***File*** and the button  in the toolbar. Without this right the hardware configuration cannot be called and no new drivers can be added or existing ones be configured. Because to log in possibly a table reader is necessary, an additional menu item ***Table reader configure in*** the menu ***file*** is displayed. Here exclusively table reader drivers can be added and/or be configured. See also **5.13 Configure hardware**.

☑ ***Change hardware configuration:***
Without this right no change can be made in the hardware configuration. I.e., no new drivers can be added or existing ones be deleted or be configured. If the software operator owns the right ***hardware configuration display*** (see above), he can display the partner configuration, cannot change it but without out this right. See also **5.13 Configure hardware**.

☑ ***Start driver:***
Without this right the drivers cannot be manually started in the hardware configuration. Regardless, the drivers can be started automatically while opening the database. Should a driver end (e.g., on account of an error), it cannot be restarted without this right (without closing the database and reopening it). See also **5.13.6 Drivers Start and Quit**.

☑ ***End driver:***
Without this right the drivers cannot be manually end in the hardware configuration. Note that the drivers are also end with closing the database. See also **5.13.6 Drivers Start and Quit**.

☑ ***Display global settings:***
This right activates or deactivates the menu item ***global settings*** in the menu ***File***. Without this right the global settings (with opened database) cannot be called. Note that the global settings can always be called with closed database! See also **5.12 Global settings**.

☑ ***Change global settings:***
Without this right no changes can be made in the global settings. If the software operator owns the right ***global settings display*** (see above), he can display the configuration in the global settings, but cannot change it. See also **5.12 Global settings**.

☑ ***Display software modules:***
This right activates or deactivates the menu item ***Software modules*** in the menu ***File***. Without this right, the activated software modules (with opened database), can neither be displayed nor be changed. Note that the software modules can always be called up and be changed with a closed database.
See also **5.22Software Modules (Optional)**.

☑ ***Display database configuration:***
This right activates or deactivates the menu item ***Database configure*** in the menu ***Edit*** and the button in the toolbar. Without this right the database configuration cannot be called. See also **5.14The database configuration**.

☑ ***Change database configuration:***
Without this right no change can be made in the database configuration. If the software operator owns the right ***database configuration display***, the actual database configuration is displayed, but cannot be changed without this right. See also **5.14The database configuration**.

☑ ***Display of activity log:***
This right activates or deactivates the menu item of activity logs in the menu *view* and the button in the toolbar. Without this right it is not possible to display the activity log. See also **5.19 Change Log**.

☑ ***Report templates add/ delete / change:***
This right is required to create new report templates or to delete available report templates or to change.
Note, that even without this report right (with the help of already available report templates) a report can be created! The creation of the reports can be limited with area related operating rights
See also **5.17 Reports**.

☑ **Display Indoor Locator**

This right determines globally whether the indoor locator may or may not be called (via the menu ***Tools - Indoor Locator***, see **5.3.4.3 Indoor Locator** by double-clicking on a position in the information centre, see **5.5.20 Information central office**).
This right is only visible and relevant if the corresponding software module Indoor Locator (see **5.22.4 Indoor Locator**) is enabled.

☑ ***Configure Indoor Locator***
If this right is additionally given, the configuration may also be changed in the Indoor Locator.

☑ ***MEKM API configure:***

This right defines whether the ***MEKM API configurator*** (via menu ***Tools*** – ***MEKM API configure***, see **5.3.4.4 Configure MEKM-API**) can be called or not.
This right is only visible and relevant if the corresponding software module ***MEKM-API*** (see **5.22.6 MEKM-API**) is enabled.

☑ ***Display Scheduled Actions***
This right specifies whether the configuration of the Global Actions (menu item Global Actions in the ***Tools*** menu, see **5.3.4.1 Scheduled Task**) may be called or not.

☑ ***Create Excel statistics***
This right specifies whether Excel statistics may be created (via the menu item Create statistics in the Tools menu, see **5.3.4.2 Create Statistics**).

☑ ***Activating/configuring the statistics module***
This right specifies whether the online statistics may be activated or configured. (See 5.3.4.6 Activate statistics module **5.3.4.6 Activate Statistics** Configure statistics module**5.3.4.7 Configure Statistics**

☑ ***crash value determination***
This right specifies whether the crash value determination may be called up in the Tools menu (see **5.3.4.8 Crash**).

☑ ***MEK Config Tool***
Specifies whether the MEK Config Tool can be invoked from the Tools menu (see **5.3.4.9 MEK Config Tool**).

☑ ***Display Training -Form***
This right specifies globally whether or not the settings of the forms used for training (see **5.16 Training Modul**e) may be displayed (see **5.16.3.1 Forms** and **5.16.4 Manage training forms**).

☑ ***Display / Change / Delete Training -Form***
If this right is also given, the settings may also be changed.

☑ ***MEKM place***
All new smartphone APPs change under this section. Here you can set which APPs are allowed.

☑ ***battery***
The electrolyte sensors can be read out with this app.

☑ ***go***
This APP enables departure control with smart lock 2 and 3 modules that do not have their own display. The questions about departure control must instead be answered in the APP.

☑ ***crash***
This APP is used to document crashes. The app is informed of every crash (via WLAN). The user can take up to 5 photos and enter a text on site. Photos and text are transferred to the Mobile Easykey system and can be viewed in the logbook.

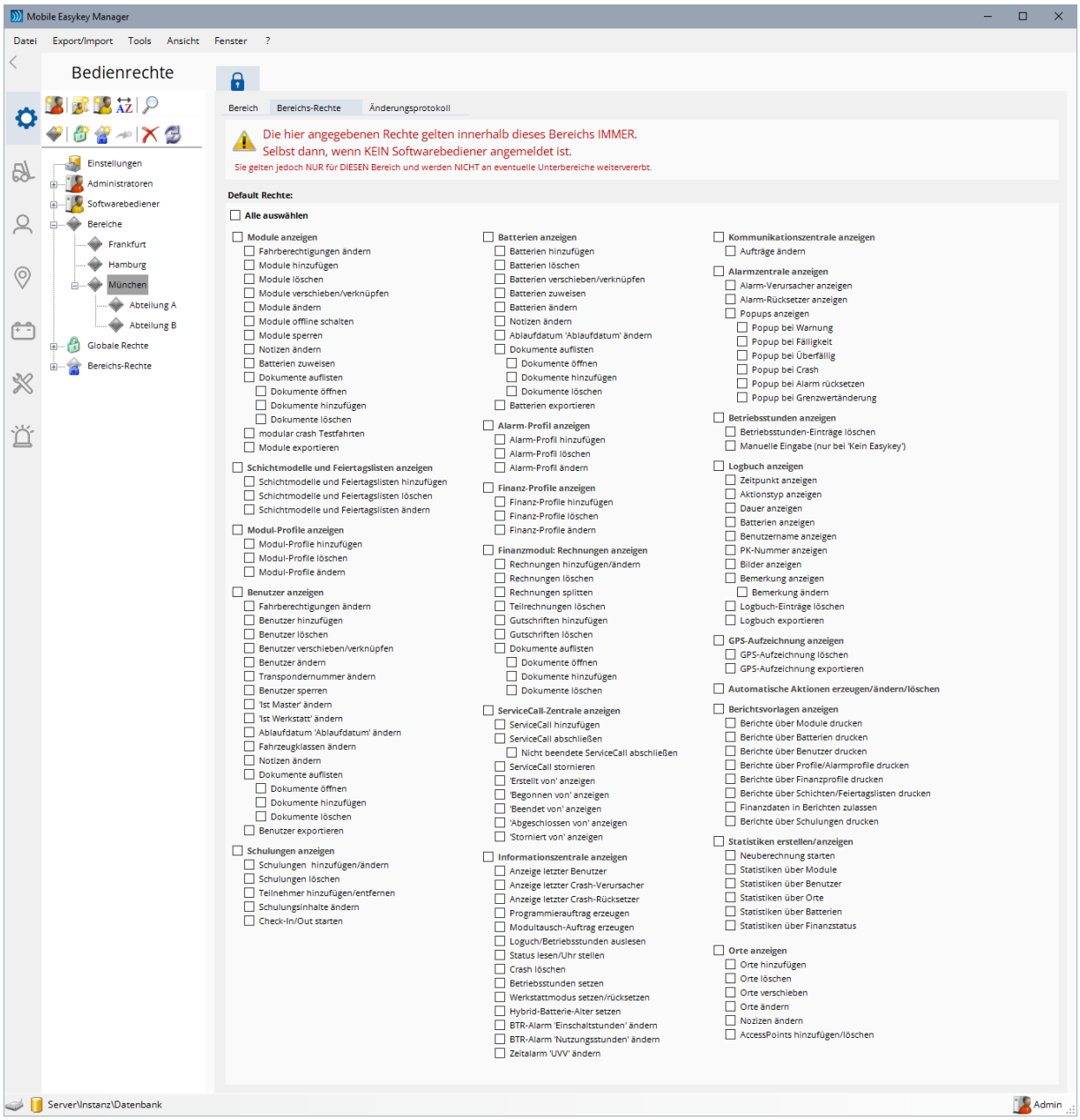
☑ ***call a fork***
This APP is still in the development stage.

☑ ***service call***
This APP is still in the development stage.

5.21.4.2 Area Related Default Rights

Area-related rights can be assigned differently for different areas.

To set the area related default rights click on an area and then select the tab ***area rights***.



The here assigned global area rights are generally always valid within **this** range. Even if currently no software operator is logged in!

Attention

Area-related rights are not inherited by sub areas! A right which was assigned, e.g., for the area of Munich is not valid in department A or department B – unless, the right is assigned explicitly in these areas as well!

The rights given in the example above therefore apply to all elements (in this case modules and batteries) which are located directly in the "***Munich***" area but not in "***Department*** A" or "***Department B***" areas.

5.21.4.2.1 The Meaning Of The Individual Rights:

☑ ***Select all:***
With this button all options can be activated or deactivated at the same time.

☑ ***Display modules***
In the tab (see **5.5 Modules**) generally only the areas for which this right is assigned to are displayed (in the tree (hierarchical) structure). I.e., the modules which exist only in areas without this right are not displayed.

- ☑ ***Change driving authorisations:***
  Only module- and user driving authorisations can be assigned or removed, which are in the areas for which the respective right to ***change module-driving authorisations*** and ***user-driving authorisations change*** is given.
- ☑ ***Add modules***
  Only in the areas in which this right is given, modules and module groups can be added. (See **5.5 Modules**).
- ☑ ***Delete modules***
  Only in the areas in which this right is given, modules and module groups can be deleted. (See **5.5 Modules**).
- ☑ ***Move/link modules***
  In or from a range with this right you can move modules, even if in these areas the right to ***do not add / delete*** is given.
  In these areas' module links can also be created and be deleted. Merely only the last link and thus, the module, ***can add / delete*** is deleted with the right.
- ☑ ***Change modules:***
  Only in the areas in which this right is given the data of the modules (e.g., name, module type, profile etc.) can be changed. If modules are selected from several areas at the same time, the right must be given for all these areas. See also **5.5 Modules**.
- ☑ ***Switching modules offline***
  Specifies whether the offline mode (see **5.5.1.2 Settings of Module X**) can be switched on and off for the modules
- ☑ ***Lock modules***
  Only if this right is given the function lock (see ***Locked*** in chapter **5.5.1.2 Settings of Module X**) can be applied.
- ☑ ***Change notes:***
  This right is required to be permitted to change the notes of a module (in the respective area). See **5.5.6 Notes**.
- ☑ ***Assign batteries***
  Indicates whether batteries (electrolyte sensors, see **5.5.3 Batteries**) may be assigned to modules in this area. However, only batteries can be added for which the "Assign battery" right is also given under "Show batteries".
- ☑ ***List documents***
  Only the documents are listed (see **5.5.7Documents**) of areas for which this right is given.
  - ☑ ***Open documents***
    This right is necessary to open a document (write-protected).
  - ☑ ***Add documents***
    This right is necessary to add a document to a module.
  - ☑ ***Delete documents***
    This right is necessary to delete documents of a module.

☑ ***Allow modular crash test drives***
If this right is given, in the window module for crash+ Remote modules, the tab ***crash sensor test drive*** is additionally displayed. Test drives can be started, be ended and be read out. (See **5.5.8Crash sensor teach drive**)

☑ ***Export modules***
Only modules from the areas for which this right is given can be exported. The modules for which this right is not given are not exported. See also **5.3.3.2 Export data**.

☑ ***Display shift models and holiday lists:***
In the tab (see **5.9 Profile**), shift models and holiday lists are only displayed in the areas for which this right is assigned. I.e., shift models and holiday lists in areas **without** this right are not displayed.

☑ ***Add/delete shift models and holiday lists:***
Only in the areas in which this right is given shift models and holiday lists can be added or be deleted. Also see **5.9.7 Shift work models** and **5.9.8 Holiday lists**.

☑ ***Change shift models and holiday lists***
Only in the areas in which this right is given the settings of the shift models and holiday lists can be changed. See also **5.9.7 Shift work models** and **5.9.8 Holiday lists**.

☑ ***Display module profiles***
In the tab (see **5.9 Profile**), the module profiles (smart lock Profile, modular Profile, modular crash+duo Profile, crash+remote Profile) and KPI profiles are only displayed in the areas for which this right is assigned. I.e., the profiles which exist only in areas **without** this right are not displayed.

☑ ***Add / delete module profiles***
Only in the areas in which this right is given module profiles can be added or be deleted. See also **5.9 Profile**.

☑ ***Change module profiles***
Only in the areas in which this right is given the data of the module profiles (e.g., name, log in behaviour etc.) can be changed. See **5.9 Profile**.

☑ ***Display users:***
In the tab (see **5.6 User**) only the areas for which this right is assigned to are displayed (in the tree (hierarchical) structure). I.e., the users who exist only in areas **without** this right are not displayed.

☑ ***Change driving authorisations:***
Only module- and user driving authorisations can be changed or removed, which are in the areas for which the respective right to ***change module-driving authorisations*** and ***user-driving authorisations change*** is given.

☑ ***Add users:***
Only in the areas in which this right is given users and user groups can be added. See also **5.6 User**.

☑ ***Delete users:***
Only in the areas in which this right is given users and user groups can be deleted. See also **5.6 User**.

☑ ***Move/link users***
In or from a range with this right you can move user, even if in these areas the right ***do not add / delete*** is given.
In these areas' user links can also be created and deleted. Merely only the last link and thus, the user, ***can add / delete*** are deleted with this right.

☑ ***Change users:***
Only in the areas in which this right is given the data of the users (e.g., name, transponder, expiry date etc.) can be changed. If several users are selected at the same time, this right must be given for all selected users to be able to carry out changes. Also see **5.6 User**.

☑ ***Change Transponder number***
Only in those areas where this right is granted can the transponder number of the respective users be assigned or changed.

☑ ***Lock user***
Only if this right is given a user can be locked
(see ***Locked*** in chapter **5.6.1.2 Settings of User X**).

☑ ***Change ‚Is Master'***
Only in those areas where this right is given, the option 'Is Master' can be changed.

☑ ***Change ‚Is Workshop'***
Only in those areas where this right is given can the option 'Is Workshop' be changed

☑ ***Change expiry date, XY'***
Only in the areas in which this right is given the respective expiry date (see also **5.14.7.1 Expiry date**) is changed. If several users are selected at the same time, this right must be given for all selected users to be able to carry out changes. Also see **5.6 User**.

☑ ***Change vehicle classes***
Only in the areas in which this right is given, the user vehicle class authorisation (see also **5.14.4.4 Vehicle Classes**) can be added, be removed or the expiry date be changed. If several users are selected at the same time, this right must be given for all selected users to be able to carry out changes. Also see **5.6.1.2.3 Vehicle classes**.

☑ ***Change notes:***
This right is required to be allowed to change the notes of a user (in the respective range). See **5.6.3 Notes**.

☑ ***List documents***
Only the documents are listed (in the list view displayed, see **5.6.4 Documents**) in areas for which this right is given.

- ☑ ***Open documents***
  This right is necessary to open a document (write-protected).
- ☑ ***Add documents***
  This right is necessary to add a document to a user.
- ☑ ***Delete documents***
  This right is necessary to delete documents of a user.

☑ ***Export user***
Only users from the areas for which this right is given can be exported. The users for whom this right is not given are not exported. See also **5.3.3.2 Export data**.

☑ ***Display training***
The individual training courses (see 5.17 Training Module) are each assigned to an area. Training courses are only listed and displayed if this access right is given for the relevant area. (See **5.16 Training Module**)

- ☑ ***Add/change training***
  Training can only be added or edited in areas where this right exists.
- ☑ ***Delete training***
  Training can only be deleted in areas where this right exists.
- ☑ ***Add/remove participants***
  Only if the training is assigned to an area for which the current software operator has the access right can he add or remove participants to the training. See also **5.16.3.3 Participants**.
- ☑ ***Change notes***
  This right is required in order to be able to change the notes of a course (in the respective area). See also **5.16.3.2 Notes**.
- ☑ ***Start Check-In/Out***
  This right is required to start the Check-In or Check-Out of a training course (in the respective area). See also **5.16.3.4 Check-In** and **5.16.3.5 Check-Out**.

☑ ***Display batteries***
In the tab (see **5.8 Batteries**) only the areas for which this right is assigned to are displayed (in the tree (hierarchical) structure). I.e., the batteries which exist only in areas **without** this right are not displayed.

- ☑ ***Add batteries***
  Only in the areas in which this right is given, batteries and battery groups can be added. Also see **5.8 Batteries**.
- ☑ ***Delete batteries***
  Only in the areas in which this right is given, batteries and battery groups can be deleted. Also see **5.8 Batteries**.
- ☑ ***Move/link batteries***
  In or from a range with this right you can move batteries, even if in these areas the right to ***do not add / delete*** is given.
  In these areas' battery links can also be created and be deleted. Merely only the last link and thus, the battery, ***can add / delete*** with the right are deleted.
- ☑ ***Assign batteries***
  Only batteries for which this right is given can be assigned under *modules* (if the module is also given the module right "Assign batteries".
- ☑ ***Change batteries***
  Only in the areas in which this right is given *the data of the batteries (e.g., name, transponder, expiry date etc.)* can be changed. *If several* batteries are selected at the same time, this right must be given for all selected batteries to be able to carry out changes. See also **5.8 Batteries**.
- ☑ ***Change notes:***
  This right is required to be allowed to change the notes of a battery (in the respective area). See **5.8.3 Notes**.
- ☑ ***Change expiry date, XY'***
  Only in the areas in which this right is given the respective expiry date (see is able also **5.14.7.2 Battery-Expiry Date**) is changed. If several batteries are selected at the same time, this right must be given for all selected batteries to be able to carry out changes. Also see **5.8 Batteries**.
- ☑ ***List documents***
  Only the documents are listed (in the list view displayed, see **5.8.4 Documents**) in areas for which this right is given.
  - ☑ ***Open documents***
    This right is necessary to open a document (write-protected).
  - ☑ ***Add documents***
    This right is necessary to add a document to a battery.
  - ☑ ***Delete documents***
    This right is necessary to delete documents of a battery.
- ☑ ***Export batteries***
  Only batteries from the areas for which this right is given can be exported. The batteries for which this right is not given are not exported. See also **5.3.3.2 Export data**.

☑ ***Display alarm profiles***
In the tab (see **5.10 Alarm profiles**) only those areas are displayed (in the tree (hierarchical) structure) for which this right is assigned to. I.e., the alarm profiles which exist only in areas **without** this right are not displayed.

☑ ***Add alarm profiles***
Only in the areas in which this right is given, alarm profiles can be added. See also **5.10 Alarm profiles**.

☑ ***Delete alarm profiles***
Only in the areas in which this right is given, alarm profiles can be deleted. See also **5.10 Alarm profiles**.

☑ ***Change alarm profiles***
Only in the areas in which this right is given, the data of the alarm profiles (e.g., name, alarm text etc.) can be changed. See also **5.10 Alarm profiles**.



☑ ***Display finance profiles***
In the tab (see **5.9 Profile**), financial profiles are only displayed in the areas for which this right is assigned. I.e., the finance profiles which exist only in areas **without** this right are not displayed.

☑ ***Add finance profiles***
Only in the areas in which this right is given, finance profiles can be added. See also **5.9.6 Finance profile**.

☑ ***Delete finance profiles***
Only in the areas in which this right is given, finance profiles can be deleted. See also **5.9.6 Finance profile**.

☑ ***Change finance profiles***
Only in the areas in which this right is given, the data of the finance profiles (e.g., name, alarm text etc.) can be changed. See also **5.9.6 Finance profile**.



☑ ***Finance module display invoice:***
In tab subtab (see **5.9.6 Finance profile**) only those invoices are displayed which are assigned to modules for which this right has been assigned.

- ☑ ***Add/change invoices****:*
  Invoices can be added or changed only for the modules for which this right is given. See also **5.15.2 Add New Invoice**.
- ☑ ***Delete invoices***
  This right is required to delete invoices.
- ☑ ***Split invoices***
  This right is required to split invoices. See also **5.15.2.1 Invoice** .
- ☑ ***Delete partial invoices***
  This right is required to delete a partial invoice (a split invoice).
- ☑ ***Add Credit notes***
  This right is required to be able to add a credit note to an invoice or a partial invoice. See also **5.15.2.2 Add Credit Note**.
- ☑ ***Delete Credit notes***
  This right is required to delete a credit note.
- ☑ ***List documents***
  This right is required to display the list of documents that are assigned to an invoice. See also **5.15.2.3 Documents**.
  - ☑ ***Open documents***
    This right is required to open a document (read-only).
  - ☑ ***Add documents***
    This right is required to add a document.
  - ☑ ***Delete documents***
    This right is required to delete a document.

☑ ***Show ServiceCall-Centre***

In tab subtab (see **5.5.19 Service-Call-**) only modules are displayed for which (in addition to the right: ***Display modules***) this right is also assigned.

☑ ***Add ServiceCall***

A service call can only be added via the associated APP. This operating right therefore only applies to software operators with operator type ***REST-API (Can retrieve data via the REST API)*** (see **5.21.3.2 Settings of Software Operator X**).

☑ ***End ServiceCall***

A ServiceCall that is in the state ***End Work***, may only be completed with this operating right.

☑ ***Closing an unfinished ServiceCall***

With this operating right, a ServiceCall may be completed (and thus ended), even if the status is not yet in the state ***End Work.***This is necessary, for example, if the module was forgotten to be handed over properly (via Exit workshop mode and logging in with a normal transponder).

☑ ***Cancel ServiceCall***

As long as a ServiceCall has not yet been taken over by the Service Partner (***status Work started*** by activating the workshop mode by a Service Partner workshop transponder), it can still be cancelled - if this operating right is given.

☑ ***Show ‚created by'***

Allows the software operator who created this ServiceCall (via the APP) to be displayed.

☑ ***Show ‚Started by'***

Allows the display of the service partner (name of the corresponding workshop transponder) that has taken over the module by activating the workshop mode.

☑ ***Show ‚Ended by'***

Allows the display of the user who has taken over the module after deactivating the workshop mode by logging in with his transponder.

☑ ***Show ‚Closed by'***

Allows the software operator who completed the job (in the manager) to be displayed.

☑ ***Show ‚Canceled' by***

Allows the software operator who cancelled the job to be displayed.

☑ ***Show Information centre***
In tab subtab (see **5.5.18 Finance module**) only modules are displayed (apart from the right modules display) for which this right is assigned to.

☑ ***Show last users***
Only for modules from areas where this right is given, the last locked in user of the respective module, will be displayed in the information window. See **5.5.20.4 Information Window**

☑ ***Show last crash causer***
Only for modules from areas where this right is given, the last user of the respective module who has caused a crash, will be displayed in the information window. See **5.5.20.4 Information Window**

☑ ***Show last crash reset***
Only for modules from areas where this right is given, the last master of the respective module who has reset a crash, will be displayed in the information window. See **5.5.20.4 Information Window**

☑ ***Create programming orders***
Only for modules from areas in those this right is given; program orders can be created. See also **5.5.20.4.2 Create program orders**.

☑ ***Create module exchange orders***
Only for modules from areas where this this right is given, module exchange order can be created and executed. See also **5.5.20.4.2 Create program orders**.

☑ ***Read out logbook entries / operating hours:***
Only for modules from areas where this right is given, information orders can be created to readout the logbook or the operating hours. Also see **5.5.20.4.4 Create logbook reading orders** and **5.5.20.4.5 Read operating hours /set / create orders**.

☑ ***Read status / set clock:***
Only for modules from areas where this this right is given, orders to read out the module status or to clock set/adjust can be created. See also **5.5.20.4.3 Create status orders**.

☑ ***Reset crash***
Only for modules from areas where this this right is given, orders can be created to the delete a crash.
See also **5.5.20.4.3 Create status orders**.

☑ ***Set operating hours:***
Only for modules from areas where this this right is given, orders can be created for setting the operating hours.
See also **5.5.20.4.5 Read operating hours /set / create orders**.

☑ ***Workshop reset***
Only for modules from areas where this this right is given, orders to switch the workshop mode on or off (see **5.5.23.8 Workshop)** can be created.
See also **5.5.20.4.3 Create status orders**.

☑ ***Set hybrid-battery-age***
Indicates whether the battery installation date or the battery age of the hybrid battery may be changed. The hybrid battery is a button cell and is responsible for the functioning of the clock.

☑ ***Change BTR-Alarm ‚xy'***
Only for modules in areas where this right is given can the operating hour alarm limit (see **5.5.20.4.7 Operating Hours Alarm**) be changed. For each operating hours alarm set in the database configuration (see **5.14.7.4 Operating Hours-Alarm**), a separate right is displayed here.

☑ ***Change time alarm, XY':***
Only for modules from areas where this this right is given, the appropriate maximum ratings (see **5.5.20.4.8 Time Alarm**) for the different time alarms (see **5.14.7.3 Time Alarms (UVV)**)can be changed.

☑ ***Display communication centre***
In tab subtab (see **5.5.21 Communication central office**) only modules are displayed for which this right (as well as the ***modules display*** rights) is assigned.

☑ ***Modify orders***
Only for modules from areas where this this right is given, the transmission path of an existing order can be changed afterwards.
See also **5.5.21 Communication central office**.

☑ ***Display alarm centre***
In tab subtab (see **5.5.22 Module-alarm central office**, **5.6.10 User-alarm Central Office** and **5.8.9 Battery-alarm central office**) only modules, users and batteries are displayed for which this right is assigned to (as well as the ***modules display-***, ***user display-*** or ***batteries display*** right).

☑ ***Display alarm causer***
Only if this right is given, the alarm-cause is displayed (the name of the user who has caused an active crash or which was logged in, when an event 1 or event 2 alarms occurred) in the appropriate areas. Without this right, the text "<< *display supressed*>>" is shown.

☑ ***Display alarm reset causer***
Only if this right is given, the alarm-reset operator is displayed (the name of the software operator who has reset an active crash or the master who has released the crash) in the appropriate areas. Without this right, the text "<< *display supressed*>>" is shown.

☑ ***Display Popups***
Whenever an alarm (with enabled PopUp, see **5.10 Alarm profiles**) occurs, a PopUp window in which the number of the new alarms is displayed can be opened.
However, this PopUp window is only opened if this right is given for the respective area the alarm is triggered from.
The display of the PopUp windows can be further limited to the individual alarm values:

☑ Popup on warning
☑ Popup on due
☑ Popup on overdue
☑ Popup on crash
☑ Popup on alarm reset
☑ Popup on limit value change

☑ ***Display operating hours:***
In tab subtab (see **5.5.13 Operating hours**) only modules are displayed for which (as well as the ***modules display*** right) this right is assigned.

☑ ***Delete operating hour entries***
Only for modules from areas where this this right is given, older operating hour entries can be deleted.

☑ ***Manual input (only with 'NO Easykey')***
For modules with the '***NO Easykey***' type (see **5.5.1.2 Settings of Module X**), the operating hours can be entered manually (see **5.5.13.1 Only the Newest Values**). With this right, you can manage who can manually enter operating hours for '***No Easykey***' modules and who does not.

☑ ***Display logbook***
In tab subtab (see **5.5.12 Logbook**) only modules are displayed for which (as well as the ***modules display*** right) this right is assigned.

☑ ***Display time***
Permits the display of the data in the column ***Time***.
Without this right, ***<locked>*** is displayed instead.

☑ ***Display action type***
Permits the display of the data in the column ***Task***.
Without this right, <***locked***> is displayed instead.

☑ ***Display duration***
Permits the display of the data in the column ***Duration***.
Without this right, <***locked***> is displayed instead.

☑ ***Display battery***
Allows the display of battery names in the ***Users*** column.
Without this right, <***locked***> will be displayed instead.

☑ ***Display username:***
Permits the display of the data in the column ***User***.
Without this right, <***locked***> is displayed instead.

☑ ***Display stuff number:***
Permits the display of the data in the column ***stuff number***.
Without this right, <***locked***> is displayed instead.

☑ ***Display images***
With the help of the **EventDocuApp** (see **5.3.4.4 Configure MEKM-API**) pictures can be added to individual crash logs. With this right it can determined if these images may be displayed.

☑ ***Display notes***
Permits the display of the data in the column ***Notes***.
Without this right, <***locked***> is displayed instead.

☑ ***Change notes***
Permits changing a ***note***.

☑ ***Delete logbook entries***
Permits the deleting of logbook data for modules from the respective area.

☑ ***Export logbook***
Permits the export of modules from the respective area.
Only data (columns) for which also the appropriate display right exists are exported.

☑ ***Display GPS-recording***
Indicates whether (with mobile radio modules) the recorded GPS coordinates may be displayed (see **5.5.15 GPS**).

☑ ***Delete GPS-recording***
Specifies if GPS data is allowed to be manually deleted (via the button).

☑ ***Export GPS-recording***
Specifies whether the recorded GPS coordinates can be exported to Excel or a kml file or displayed via Google Earth.

☑ ***Create/change/delete scheduled actions***
In Scheduled tasks (see **5.20 Scheduled Tasks**) only orders can be created for modules from areas with this right.

☑ ***Display report templates***

- ☑ ***Print reports on modules***
  Only for modules from areas in which this right is given Reports (see **5.5.16 Report templates**) can be created / printed.
- ☑ ***Print reports on batteries***
  Only for batteries from areas in which this right is given Reports (see **5.8.7 Report templates**) can be created / printed.
- ☑ ***Print reports on user***
  Only for users from areas in which this right is given Reports (see **5.6.8 Report templates**) can be created / printed.
- ☑ ***Print reports on profiles / alarm profiles***
  Only for profiles or alarm profiles from areas in which this right is given Reports (see **5.9.10 Report templates** and **5.10.6 Report templates** can be created / printed.
- ☑ ***Print reports of financial profile***
  Only for financial profiles from areas where this right is given reports (see **5.9.10 Report templates**) can be created/printed.
- ☑ ***Print reports on shifts / holiday lists***
  Only for shifts or holiday lists from areas in which this right is given Reports (see **5.9.10 Report templates**) can be created / printed.
- ☑ ***Allow financial data in reports***
  Only displayed if the software module Finance Module is activated.
  This right can be used to indicate whether the reports also allow financial data to be displayed. Without this right Reports that may contain financial data cannot be created (printed).
- ☑ ***Print reports on trainings***
  Reports can only be created / printed for training courses in areas where this access right is given. (**5.6.8 Report templates**).

☑ ***Display and create statistics***



☑ ***Start recalculation***
Only for modules from areas where this right is given a new calculation of the online statistics (see **5.18.3.1 Status of the calculations**) can be triggered.

☑ ***Statistics of modules***
Only for modules from areas in which this right is given statistics can be created.

☑ ***Statistics of user***
Only for users from areas in which this right is given statistics can be created.

☑ ***Statistics of locations***
Only for locations from areas in which this right is given statistics can be created.

☑ ***Statistics of batteries***
Only for batteries from areas in which this right is given statistics can be created.

☑ ***Statistics of financial status***
The financial development statistics (see **5.18.3.12 Financial Development**) and financial comparison (see **5.18.3.13 Financial comparison**) may only be displayed if this right is given. The financial statistics may only be created via the modules for which this right is given.

☑ ***Display locations***
In the tab (see **5.7 Locations**) only the areas for which this right is assigned to are displayed (in the tree (hierarchical) structure). I.e., the locations which exist only in areas **without** this right are not displayed.

☑ ***Add locations:***
Only in the areas in which this right is given, locations and location groups can be added. Also see **5.7 Locations**.

☑ ***Delete locations:***
Only in the areas in which this right is given, locations and location groups can be deleted. Also see **5.7 Locations**.

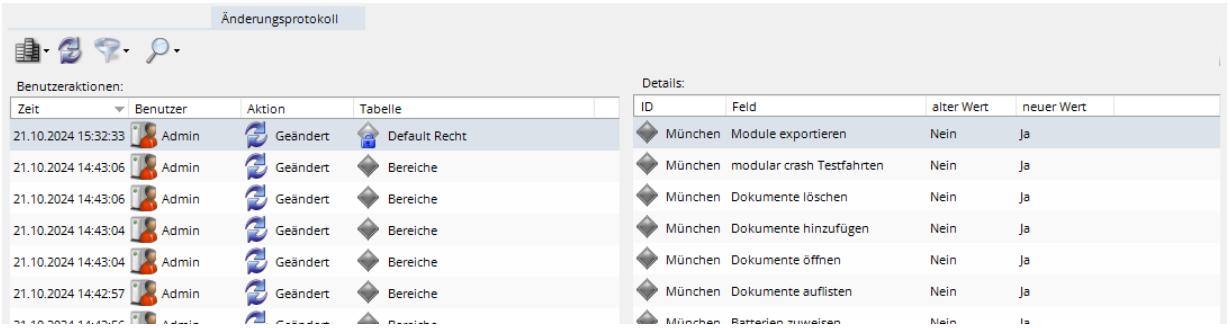
☑ ***Move locations***
In or from a range with this right you can move locations, even if in these areas the right to ***add / delete*** is **not** given. Also see **5.7 Locations**.

☑ ***Change locations:***
Only in the areas in which this right is given *the data of the location (e.g., name, description etc.)* can be changed.

☑ ***Change notes:***
This right is required to be allowed to change the notes of a location (in the respective area). See **5.7.4 Not**.

☑ ***Add/delete access points***
Only in the areas in which this right is given (additional to the right Change location), access points can be added or removed.

5.21.4.3 Change Log (Areas)



Any change to the area-related and the default rights is saved in the change log and displayed here.

Note:
By default, entries older than 90 days are automatically deleted. You can change this setting in the database configuration. See **5.14.12 Database-Maintenance**.

The ***User*** column corresponds to the respective software operator or administrator (see **5.21 Software Operating Rights**), who was logged on to ***Mobile Easykey Manager*** at that time.

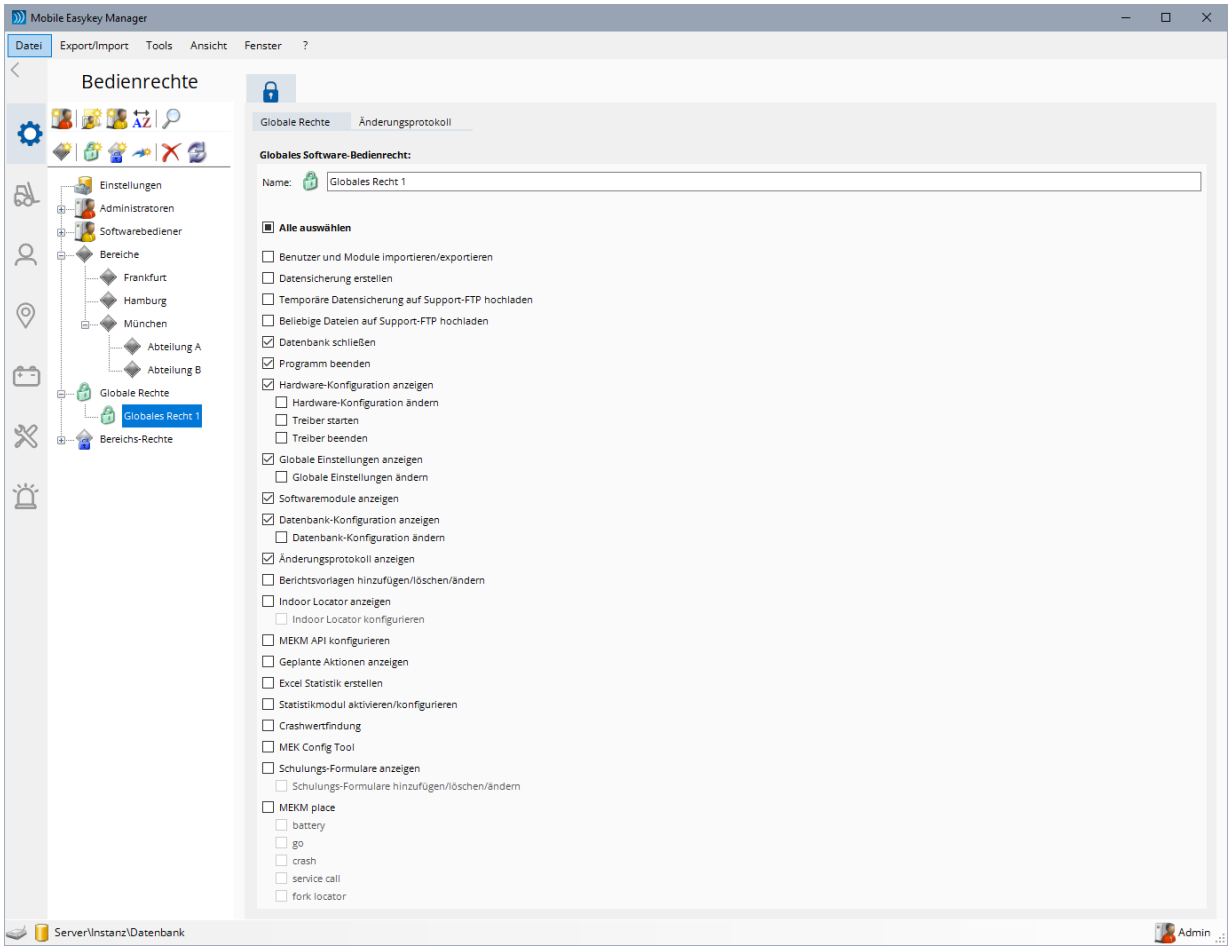
With the buttons and the change log can be filtered and searched.
You will find a description and further information in chapter **5.19 Change Log**.

5.21.5 Individual Global Operating Rights

In the software operating rights, it is distinguished between global rights which are valid for the entire database and area related rights (see **5.21.6 Individual Area-Related Operating Rights**) which are only valid for a certain area.

Click on button to add a new global operating right or select an available global operating right and click on to duplicate it.

Some rights have already been added by default to the demonstration.

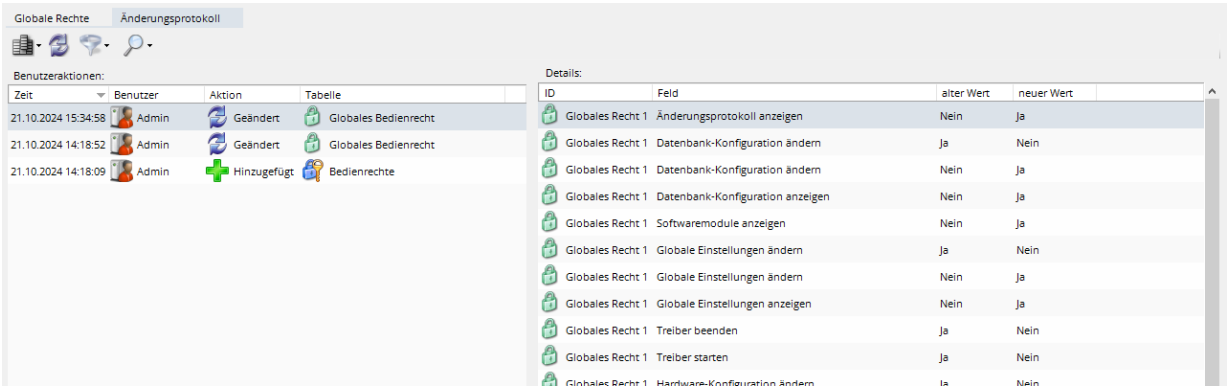


Under ***name*** you can give a unique, meaningful name to this global right! Under this name the right is displayed if it should be associated to a software operator (see **5.21.3.8 Assign Operation Rights**).

The individual rights have the same meaning described in **5.21.4.1 Global Default Rights**. However, they are only valid if a software operator is logged in to whom this global right was assigned.

The global right displays a combination of different individual rights in a sort of container. Now this container is associated to one or several software operators. Thus, not all rights need to be assigned to the software operator individually.

5.21.5.1 Change Log (Global Rights)



Any change to the individual, global operating rights is saved in the change log and displayed here.

Note:
By default, entries older than 90 days are automatically deleted. You can change this setting in the database configuration. See **5.14.12 Database-Maintenance**.

The ***User*** column corresponds to the respective software operator or administrator (see **5.21 Software Operating Rights**), who was logged on to ***Mobile Easykey Manager*** at that time.

With the buttons and the change log can be filtered and searched.
You will find a description and further information in chapter **5.19 Change Log**.

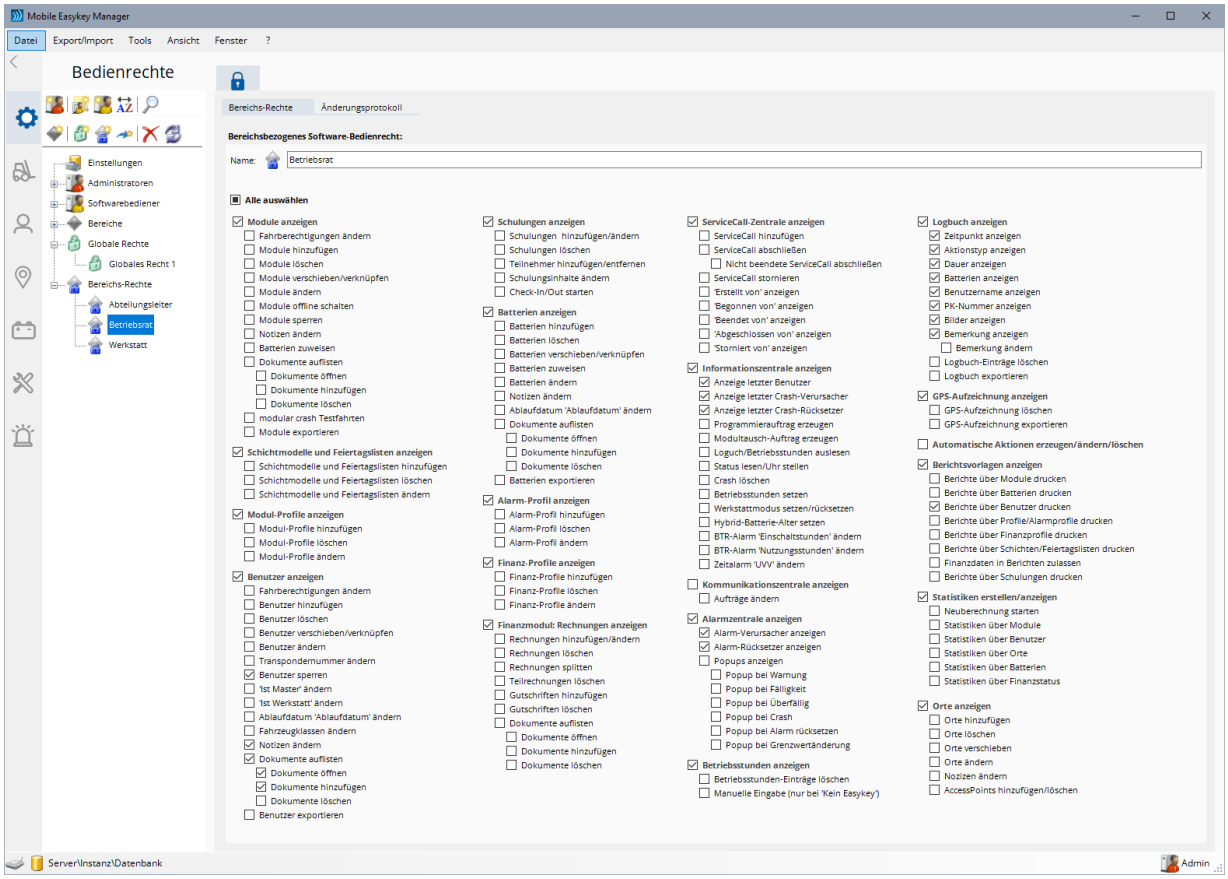
5.21.6 Individual Area-Related Operating Rights

Area-related operator rights are always valid exactly for the areas which are associated to a software operator.

The area related operating right is like the global right only a combination of different single rights in a sort of container. Then this container is explicitly associated to a software operator for one or several areas.
The same area related operating right can also be associated to another software operator other areas. See also **5.21.3.8 Assign Operation Rights**

Click on button add new area related operating rights or select an already available one and click on , to duplicate this operating right.

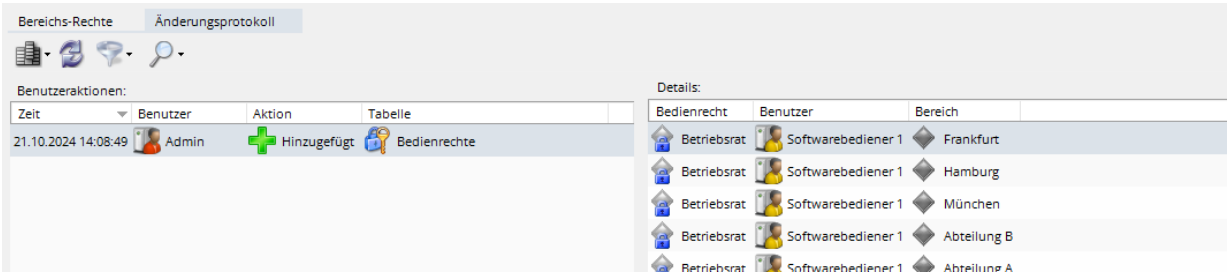
Some rights may have already been added by default to the demonstration.



Under ***name*** you can give a unique, significant name to this area related operating right! Under this name the right is displayed if it should be associated to a software operator (see **5.21.3.8 Assign Operation Rights**).

The individual rights have the same meaning as explained in **5.21.4.2 Area Related Default Rights**. However, they are only valid if a software operator is logged in to whom this right was assigned to. Further all these rights are only valid in the areas for which the software operator area related right was associated to.

5.21.6.1 Change Log (Area-Related Operating Rights)



Any change to the individual, area-related operating rights is saved in the change log and displayed here.

Note:
By default, entries older than 90 days are automatically deleted. You can change this setting in the database configuration. See **5.14.12 Database-Maintenance**.

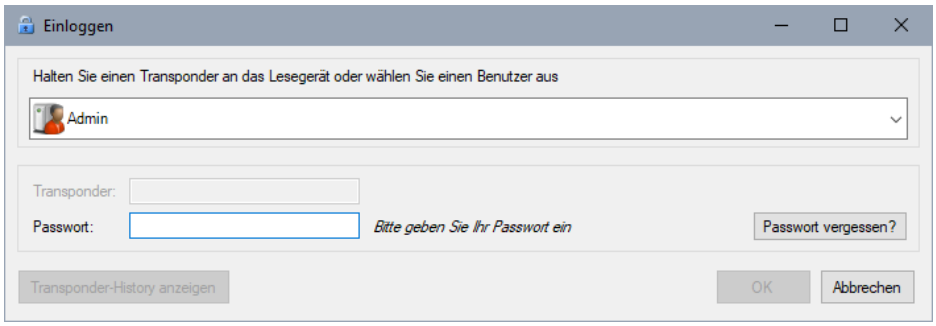
The ***User*** column corresponds to the respective software operator or administrator (see **5.21 Software Operating Rights**), who was logged on to ***Mobile Easykey Manager*** at that time.

With the buttons and the change log can be filtered and searched.
You will find a description and further information in chapter **5.19 Change Log**.

5.21.7 Log in and log off

5.21.7.1 Log in

If the required administrator or software operator is associated to a transponder, it is usually sufficient to hold the respective transponder near the reader to open the registration dialog.
Alternatively, or if no transponder is associated, select in the menu ***File*** the subarea ***Log in*** or click on button in the right lower corner of "Mobile Easykey Manager".



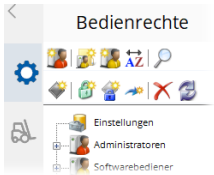
Select, if necessary, the required administrator or software operator.

Enter the transponder, while you simply hold the respective transponder near the reader. (The respective administrator or software operator is automatically selected)

If required enter the password and click on ***OK***.

If the respective administrator or software operator has both, a password and an e-mail address assigned and the Forgot Password function has been activated, (see **5.21.2 Administrators** and **5.21.3.2 Settings of Software Operator X**), on the right-hand side an additional button ***Forgot password*** appears.
By clicking on this button, you can request a reset code that allows you to reset the password and enter a new password. See also chapter **5.21.7.3 Forgot password**.

If the login was successful, you can see the currently logged on administrator or software operator in the status bar (see **5.3.5.2 Status bar**) at the bottom right. 



If you are logged in as an administrator the tab Operating rights is additionally displayed on the left. There you can configure the software operating rights (see **5.21 Software Operating Rights**).

5.21.7.2 Log off

You can log off any time from "Mobile Easykey Manager". In the menu ***File,*** click on the subarea ***<name> Log off (CTRL-empty)***.
Alternatively, press the ***CTRL*** key and the ***space*** key at the same time.

All windows, which without logged in software operator cannot be opened, are automatically closed.

Data which is not to be displayed any more is automatically hidden.

Note:
Depending on the settings (see **5.21.1.1 Settings**) the currently logged in administrator or software operator can be automatically logged off after a certain time of inactivity.

5.21.7.3 Forgot password

A special reset code can be requested via the ***Forgot Password*** function, which resets the password and replaces it with a newly entered password.

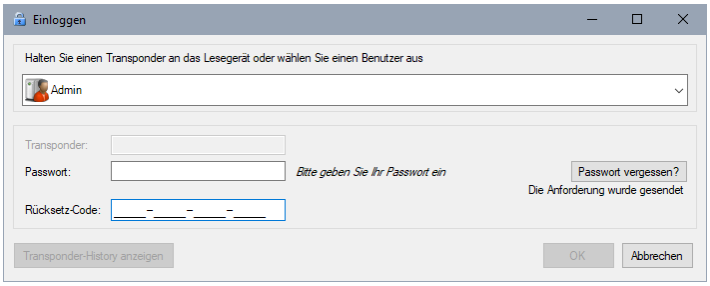
Requirements for the ***Forgot password*** function:

- an Internet connection
- A password must also be assigned to the respective administrator or software operator
- a valid e-mail address must be assigned to the respective administrator or software operator.
- The ***forgot password*** option must be enabled

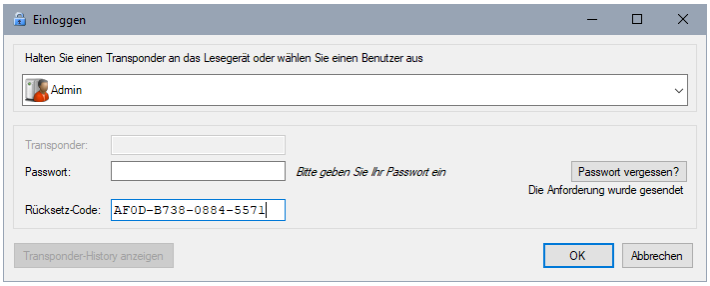
See also **5.21.2 Administrators** and **5.21.3.2 Settings of Software Operator X**.

To reset a forgotten password, click ***Forgot Password***.

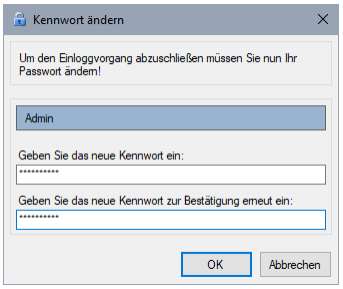
The login window changes and an additional field reset code appears.



Now enter the reset code that you received by email.
Click OK



You will now be prompted to change the password.
To do this, enter your new password.
Please re-enter the password to confirm.
Click OK.



You are now logged in and the password is changed.

Note:
Note that the reset code is only valid for **12 hours.** During this time, the reset code is also displayed for each login attempt. However, you can still enter the original password if you remember it in the meantime. After the 12 hours have elapsed, the reset code field disappears again.

Note:
Any incorrect entry of the reset code will briefly lock the input. The lock starts with one second. With each further wrong entry, the lock becomes one second longer. The maximum locking time is 60 seconds. After that, the locking period does not increase any further.

5.21.8 Example

In this example it is supposed that the different modules are distributed to several departments (divisions), here called *department 1*, *department 2* and *department 3*.
For every department a software operator, here called *department manager 1*, *department manager 2* and *department managers 3* is to be assigned.
Further, a superior *master* is to be assigned.

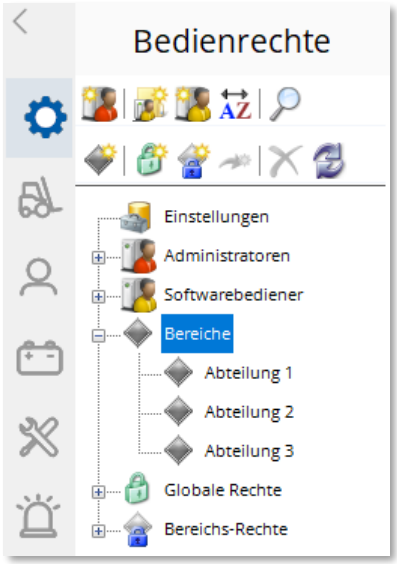
Therefore, "Mobile Easykey Manager" should be configured as follows:

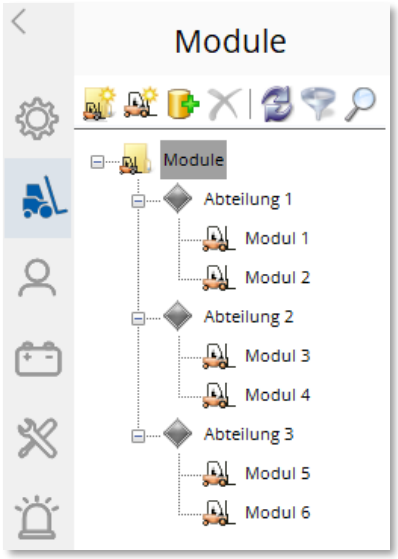
- All data should be displayed any time (even if no software operator is logged in). Not, however, personal data in the logbook and in the alarm central office.
- Every department manager should only be allowed to change data in his own department.
- The department managers may only see data of personal data in the logbook and in the alarm central office of their own departments.
- The department managers should in general not be able to create orders.
- The master should be able to create orders for all modules, however, not to change data or to display personal data.

Now create a database:

- Log in as administrator (See **5.21.7.1 Log in**)
- Click on the tab on the left ⚙ or in the menu ***File*** on ***software-operating rights set up*** and add 3 areas. Use *department 1*, *department 2* and *department 3*.
- Click on tab ***Modules*** and add two modules for each area. Set a module type (e.g., modular plus crash).
  Note:
  As long as only modules are selected from one single area, a module profile is automatically created and selected. If several areas are selected at the same time, this automatic process is switched off and you must create the profiles yourself.

Now your database should look this:



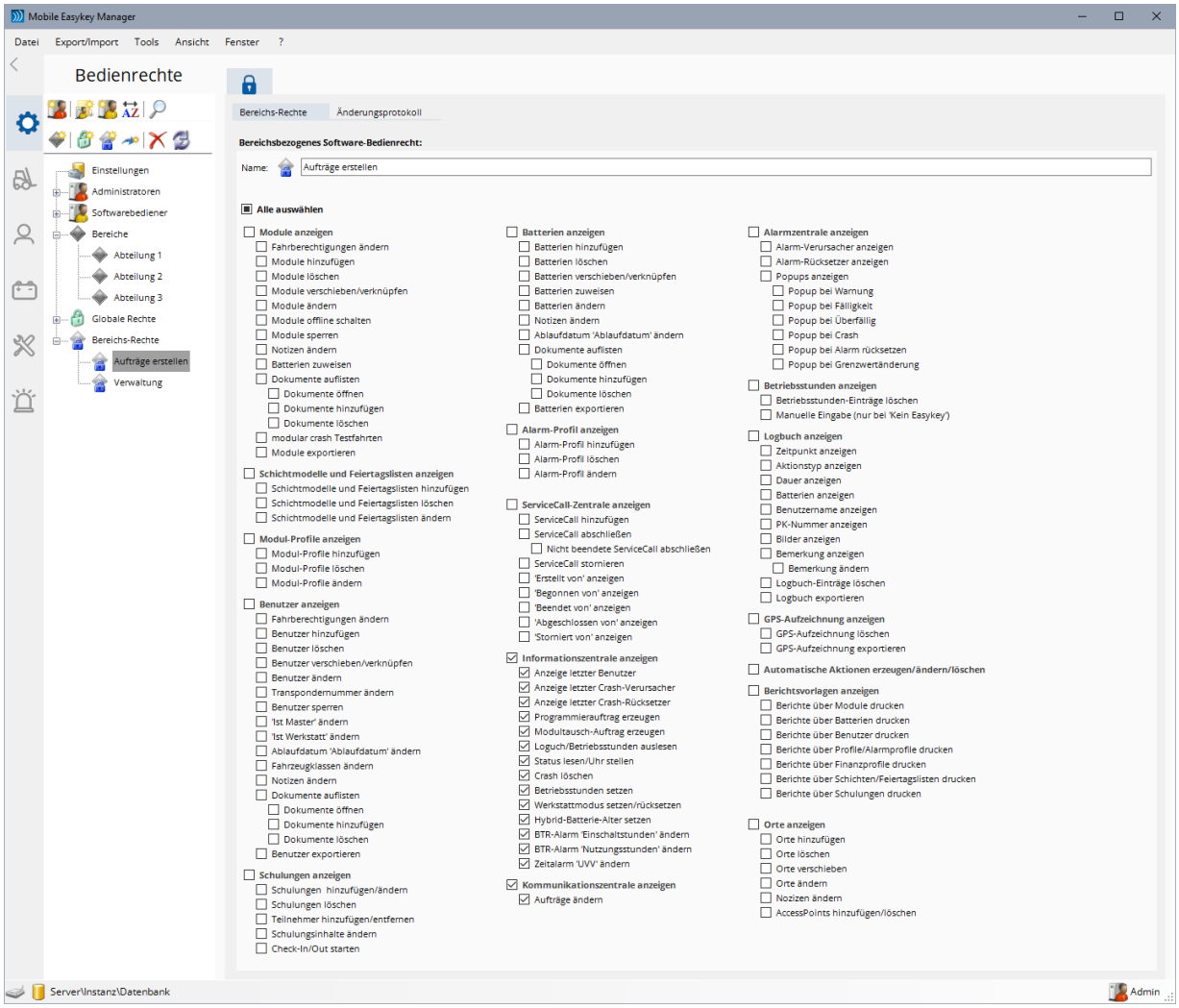


5.21.8.1 Configure Default Rights

Now the default rights must be configured accordingly.

In this example (even if no software operator is logged in) always all data is displayed, apart from personal data in the logbook and in the alarm central office. Because the default rights are also valid if no software operator is logged in, these configurations must be carried out in the default rights.

Click successively on three areas and configure the default setting of the respective area (in the tab *area right*) as follows:



Therefore, all modules, batteries, users, profiles and shift models / holiday lists are displayed, but generally **cannot** be added or be deleted **nor** can driving authorisations be changed.
Also, the central ones can be displayed; however, no orders can be created. Further, operating hours and logbook data can be displayed. In the logbook, however, only the module name, time, operation type duration and (if available) battery, but no personal data.

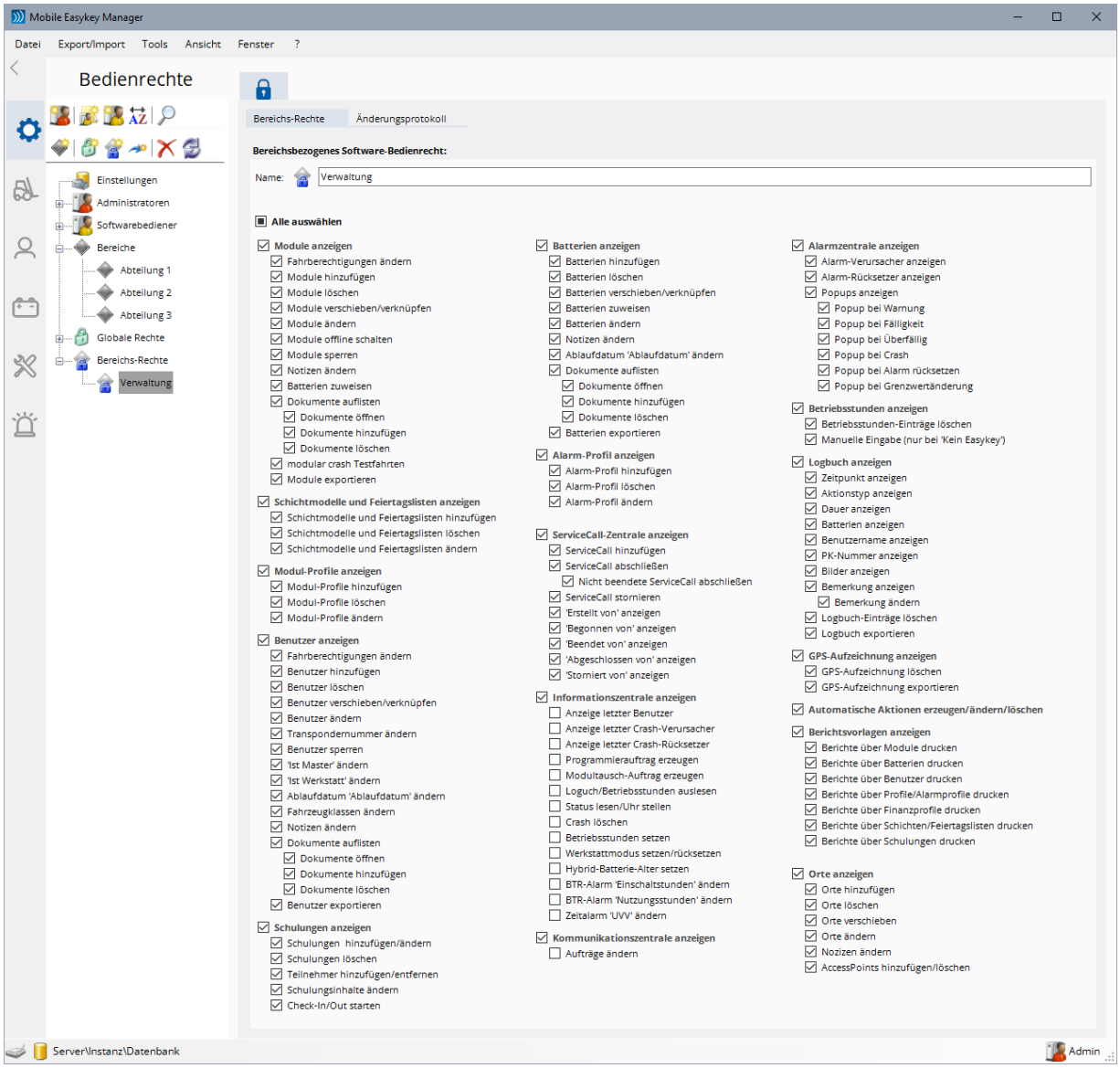
Tip:
If a right of display such as ***Show*** modules, all child rights are automatically enabled as well. If you only want to activate the display right, you can use a child right (e.g. ***Change driving authorizations***) (which automatically activates the higher-level display right) and deactivate it immediately. Now only the right to display itself is active.

5.21.8.2 Create Area Related Rights

Now several area related rights must be created which afterwards are assigned to the department managers and the master.

Note:
When creating the database, three divisional rights are automatically *created**: department head***, ***works council*** and ***workshop***. However, they are not required for this example. You can delete these three rights (click/mark the rights and delete them) or simply ignore them.

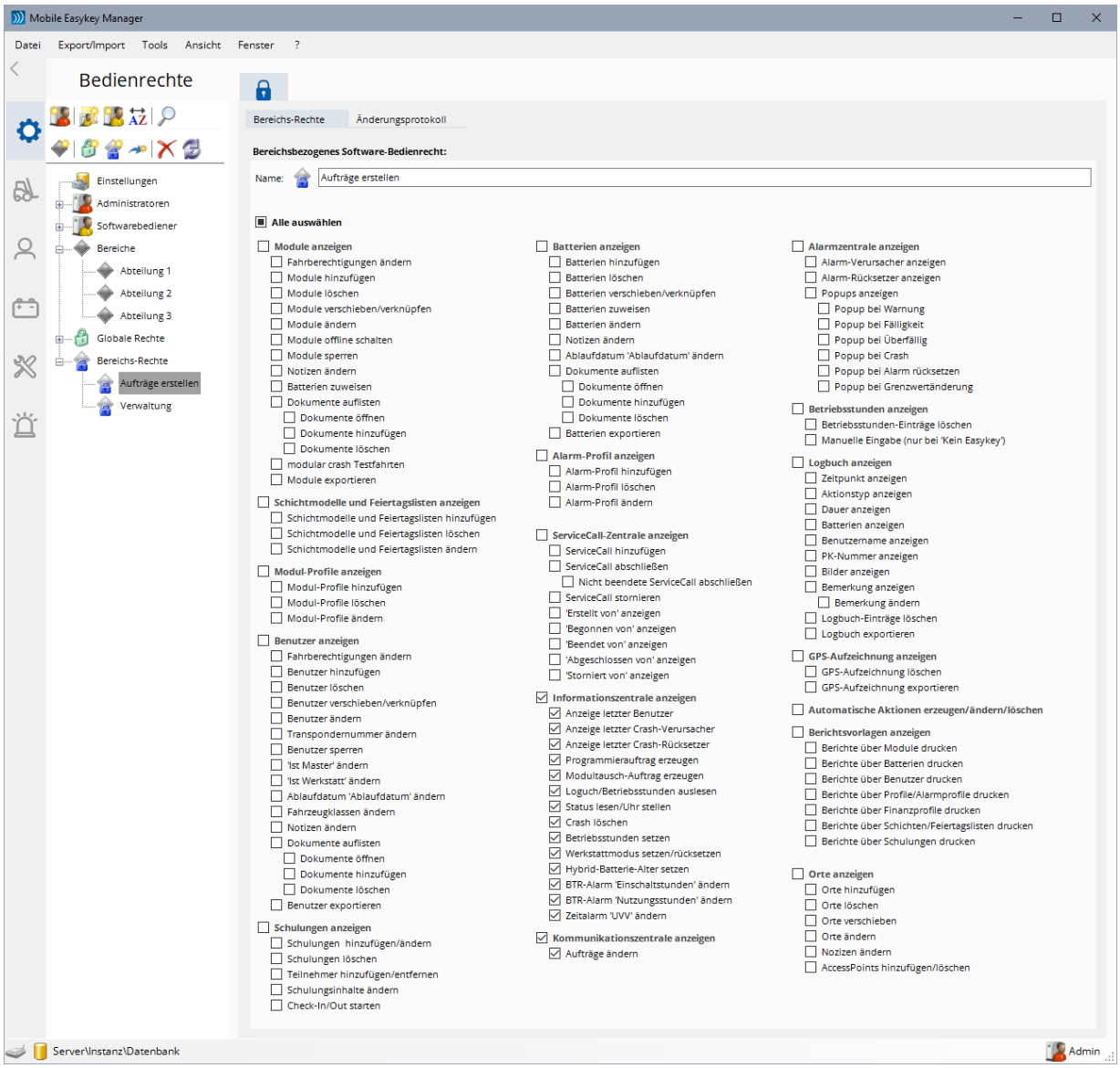
Click on button , to add a new area related operating right. Call it, e.g., *administration* and configure it as follows:



This right is supposed to allow the respective department managers full access within their own department. Except for the creation of orders!

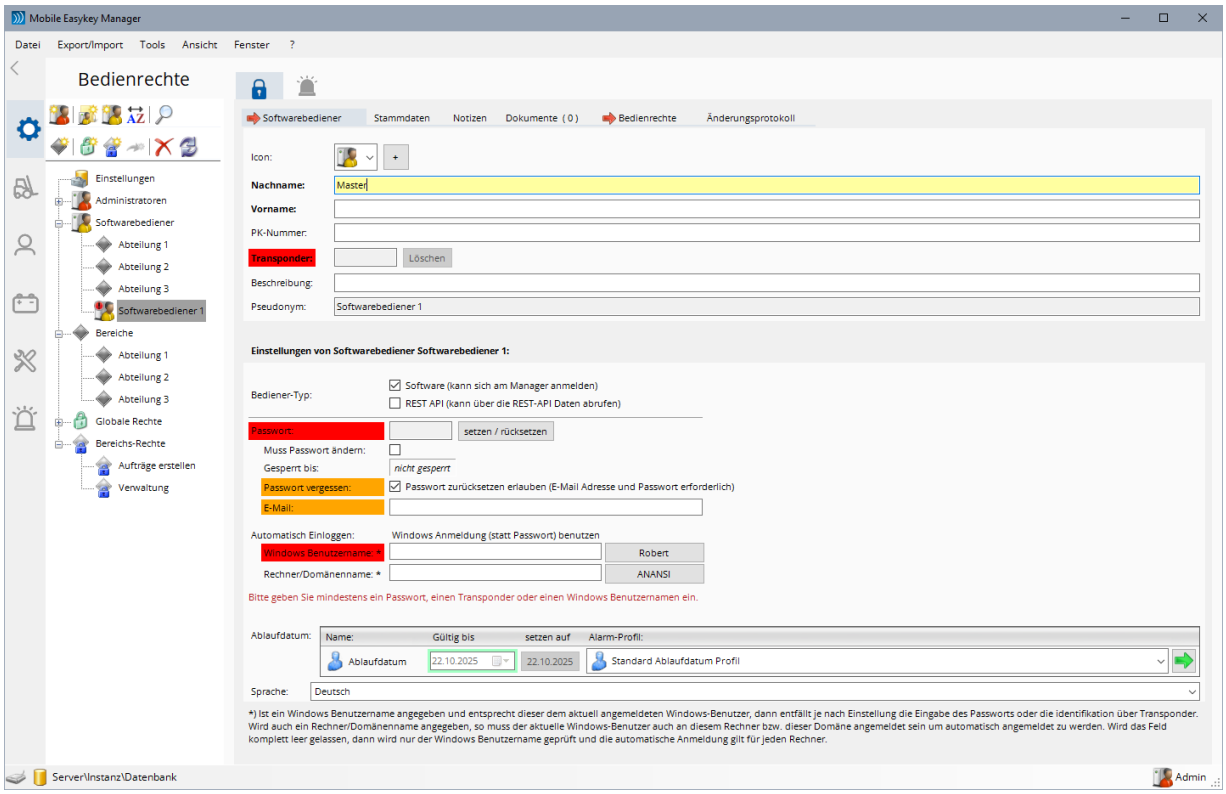
Tip:
First, click Select ***All,*** which will tick **all** the boxes, and then remove the unchecked ones you don't want.

In our example the creation of orders should be left to the master.
In addition, add another area right as follows:



5.21.8.3 Add Software Operator

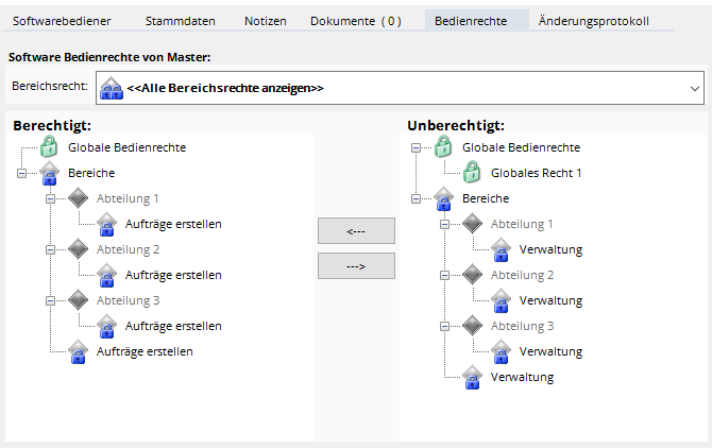
In the tree diagram click on software operator and then on
change the name of the software operator to „Master“



Now click on the button ***set/reset*** to assign a password to the software operator for the first time. In this example, for simplicity, you can use a very simple password such as "1234" for all software users.

It is usually desirable for this software operator to change his password when logging in for the first time. In this example, we skip this step and now disable the option ***Must change password***.

Now click on the tab ***Software operating rights***:



Drag the right ***Create Orders*** from the individual areas to the left side.

The ***Master*** has the right to create orders in all departments.

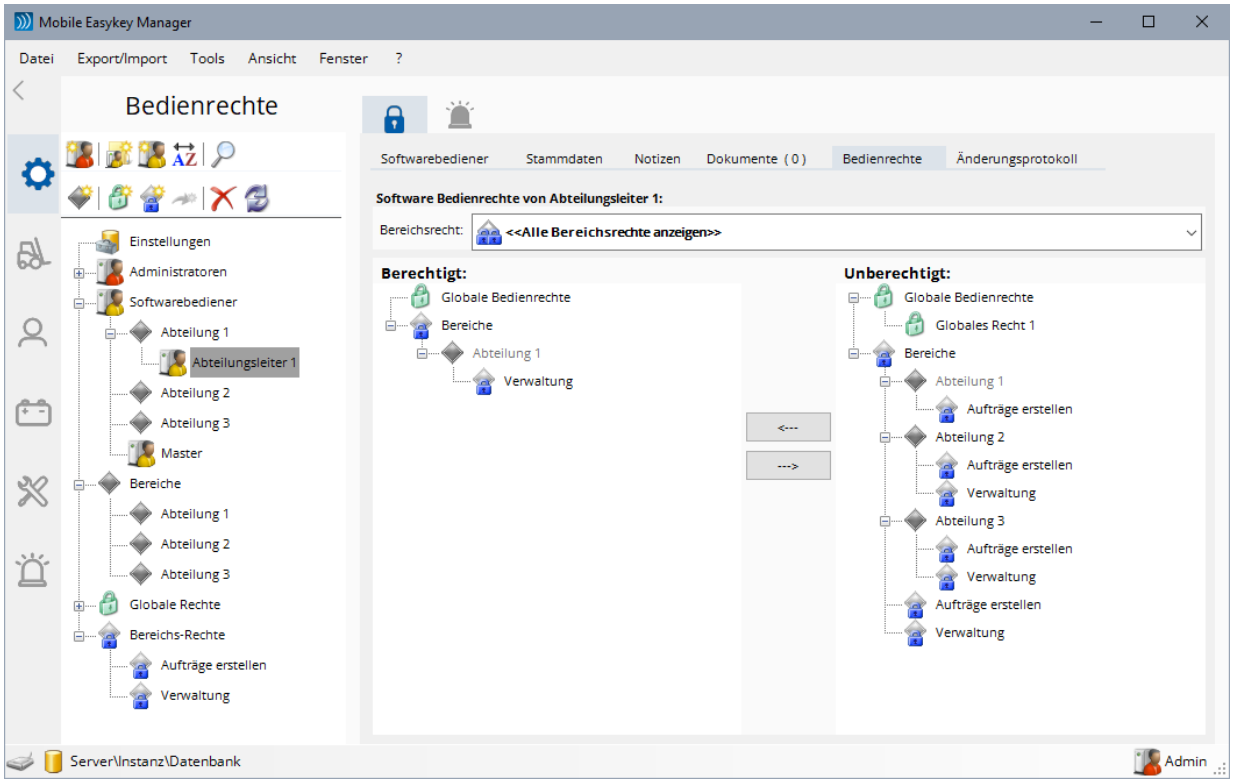
Now click in the tree diagram on the ***Department 1*** to select it.

Click the button again to add another software operator and name it "Department Leader 1" and also give it a password.

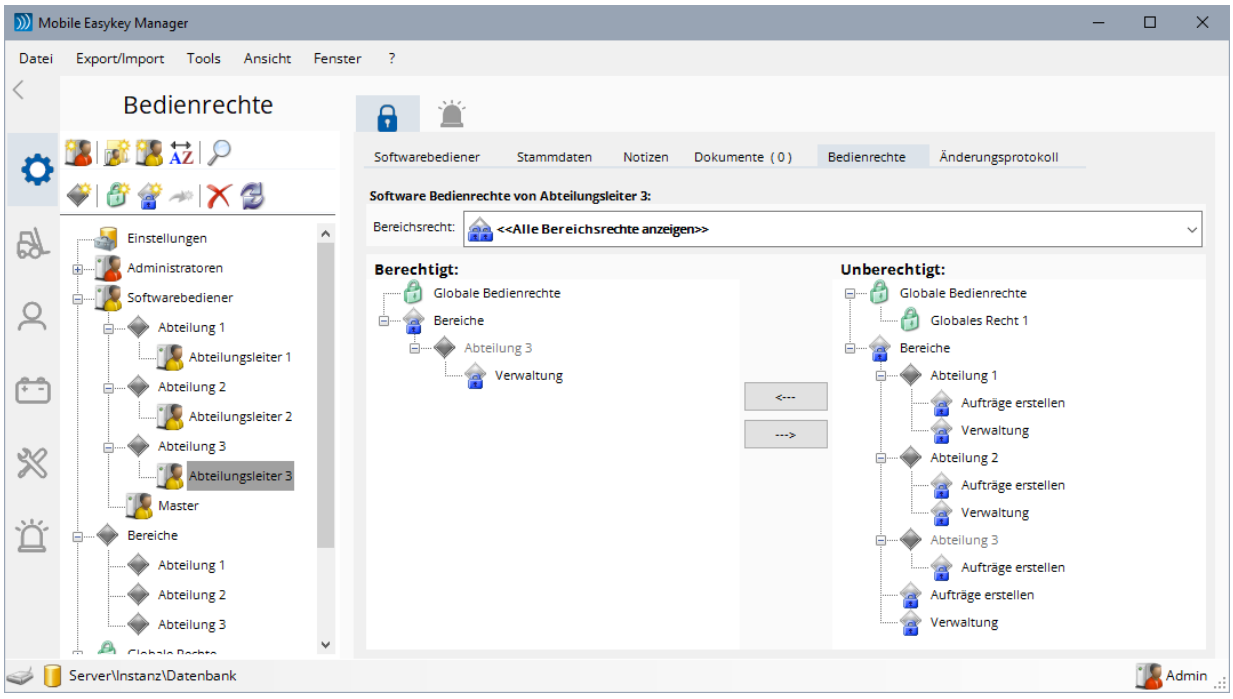
Now click on the tab ***Software operating rights***:

Drag the right ***Administration*** from ***Department 1*** to the left side.

Department Leader 1 now has the right to change data in ***Department 1*** and see personal data.



Now click on the tree diagram on department 2 or department 3 and repeat the steps. The diagram should now look like this:

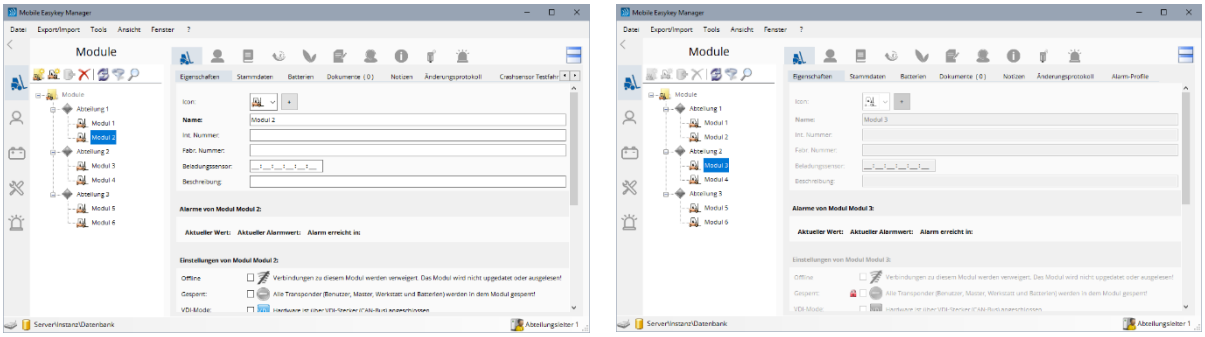


5.21.8.4 Function Test 1

Log off now (***administrator 1 Log off*** in the menu ***File*** or by using the keyboard short cut ***CTRL +space key***) and log in again as *department manager 1*.

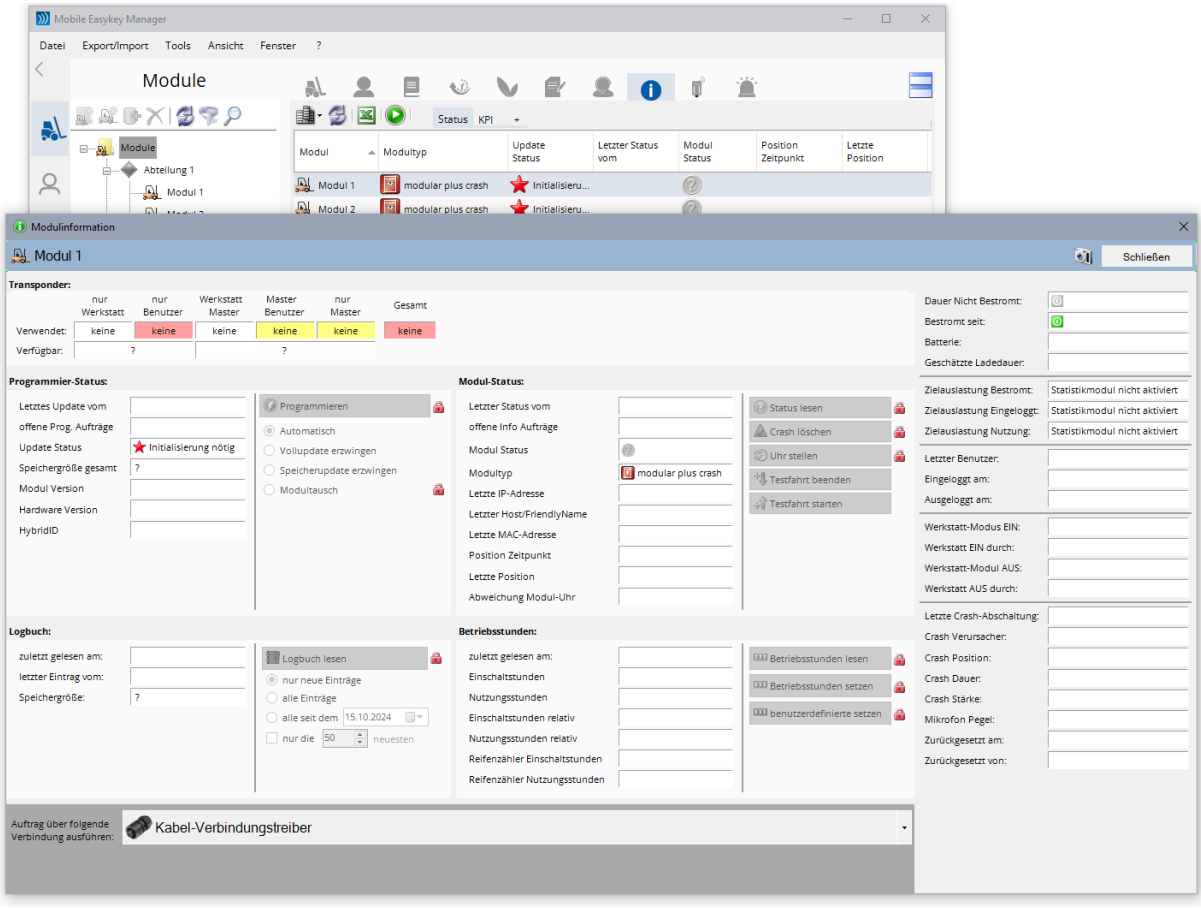
Now click on button to open the window ***modules***.

Select modules successively from the module group *Department 1* and from other module groups and observe the right side of the window.



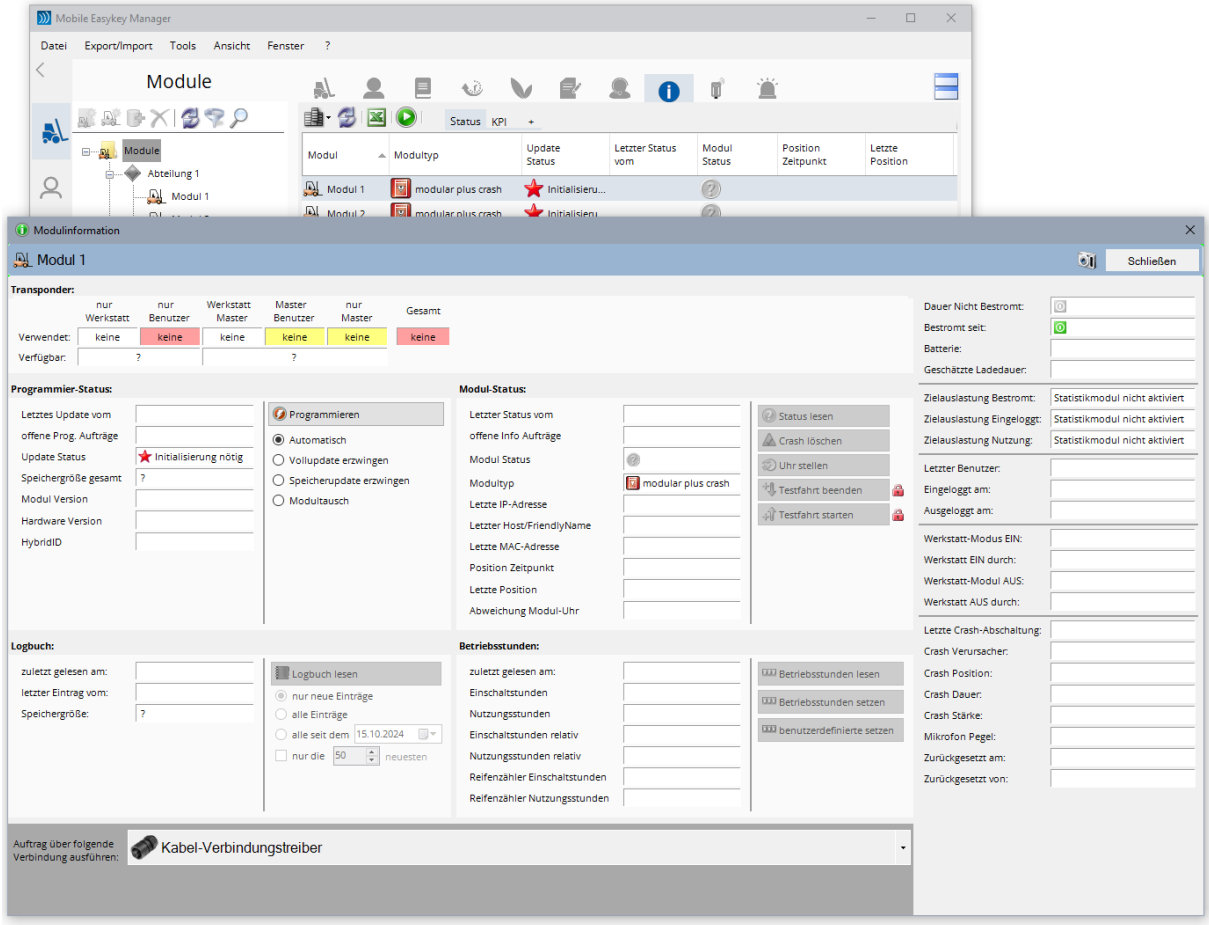
You can see that now only the data of the modules in *department 1* can be changed.

Click now on tab , to open the information central office, select one of the modules (e.g., module 1) and click on to open the information window.



You see that the *department manager 1* cannot create orders – displayed by the red lock icon.

Close the information window and log off and log in again as *a master*.
Click again on ▶ to open the information window



You see that the *master* can create orders (no red lock icon).
(However, because the modules are not initialized yet, only program orders can be created.)

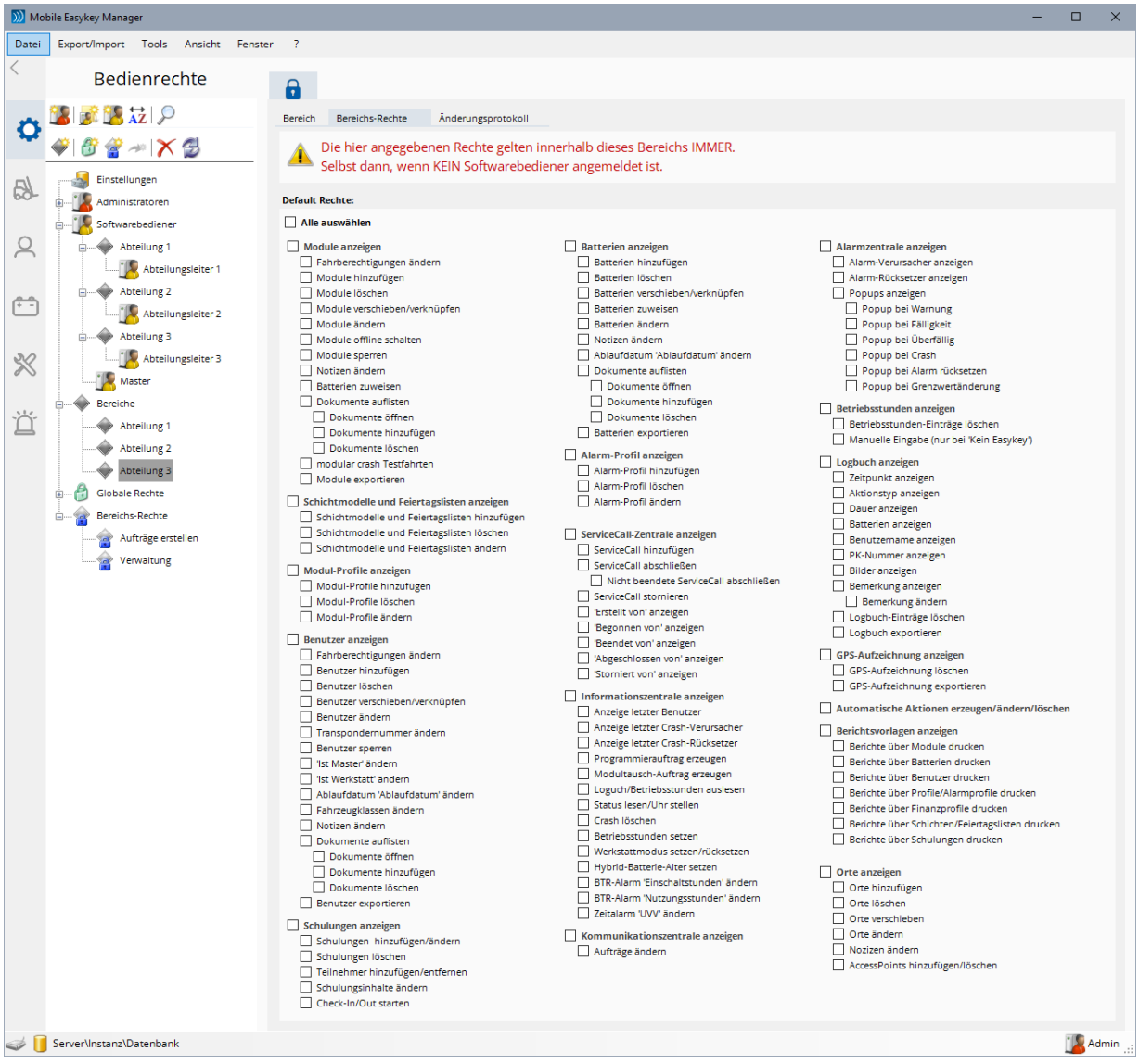
5.21.8.5 Variation of the example

We now assume that all data should only be displayed if one of the department managers is logged in and only within his own department. For this, only the area default rights must be changed accordingly.

Log off, and log in again as *administrator 1* and click on tab⚙.

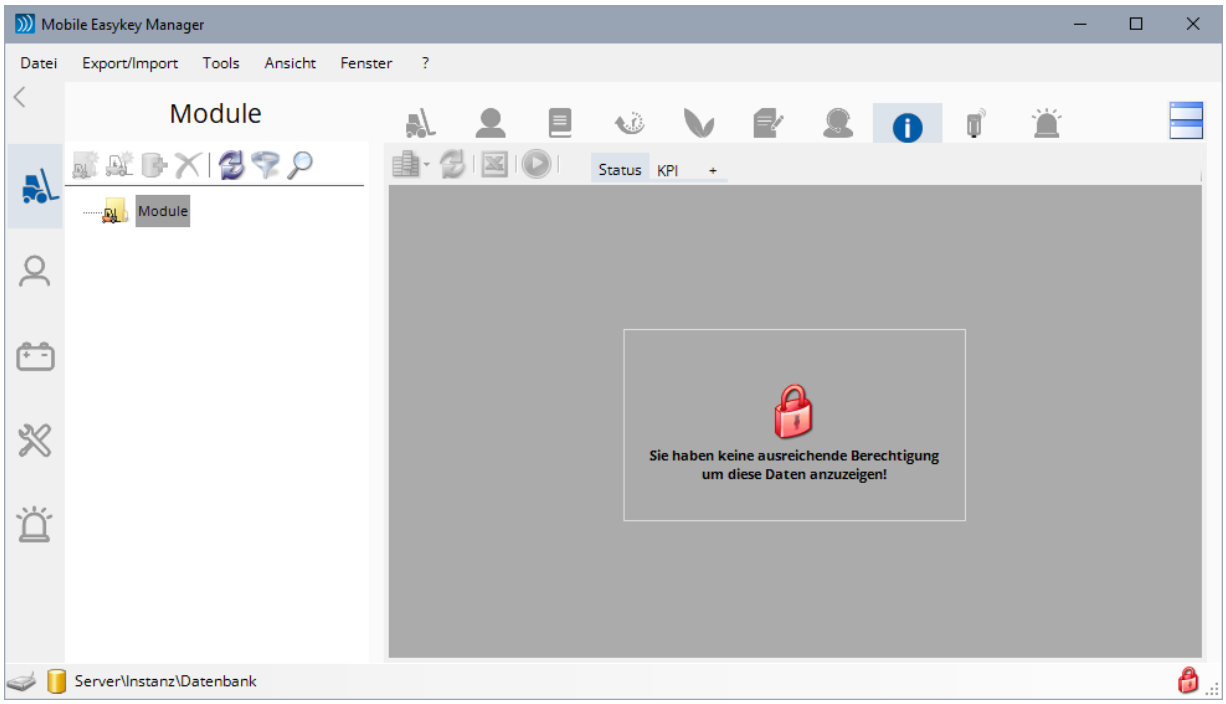
Select successively the areas *department 1* to *department 3* and in the tab ***area rights*** delete all rights. The fastest way is to click on ***select all***.

The root of the ***areas*** represents an area as well. Therefore, select this area and delete all rights. Only this way Manager can recognise that without logged in software operator no area rights are active!



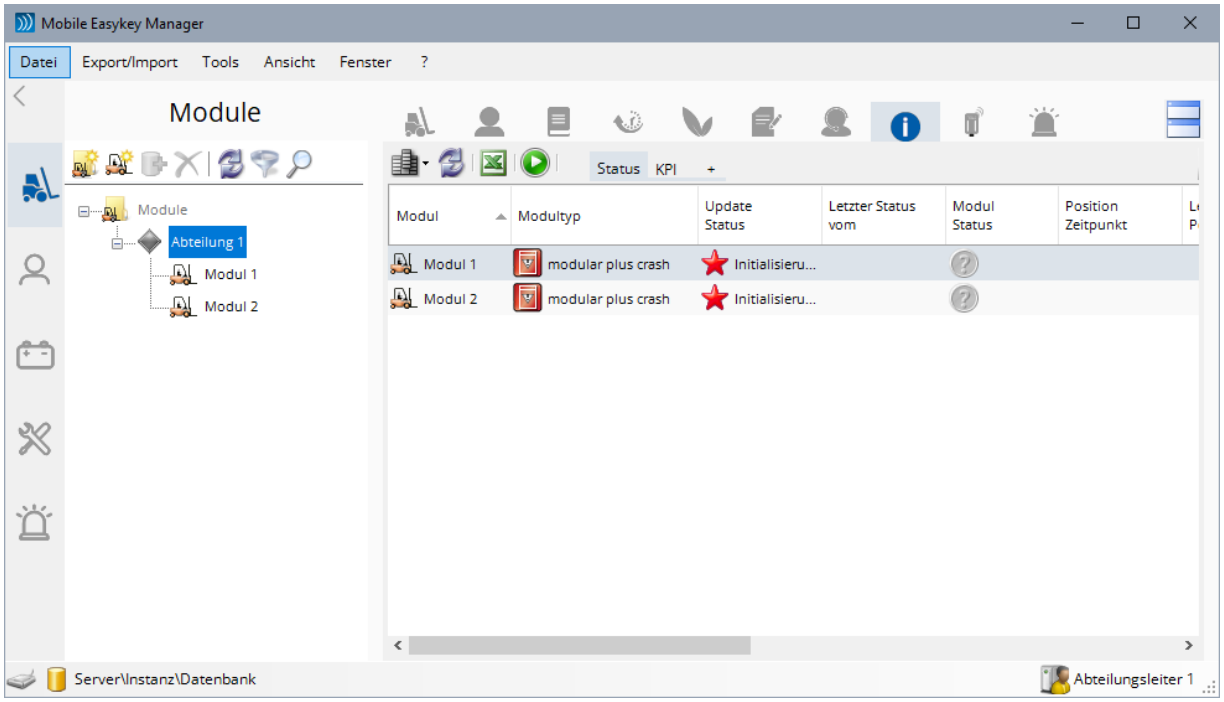
5.21.8.6 Function Test 2

Log off now, so that no software operator (and no administrator) is logged into "Mobile Easykey Manager".



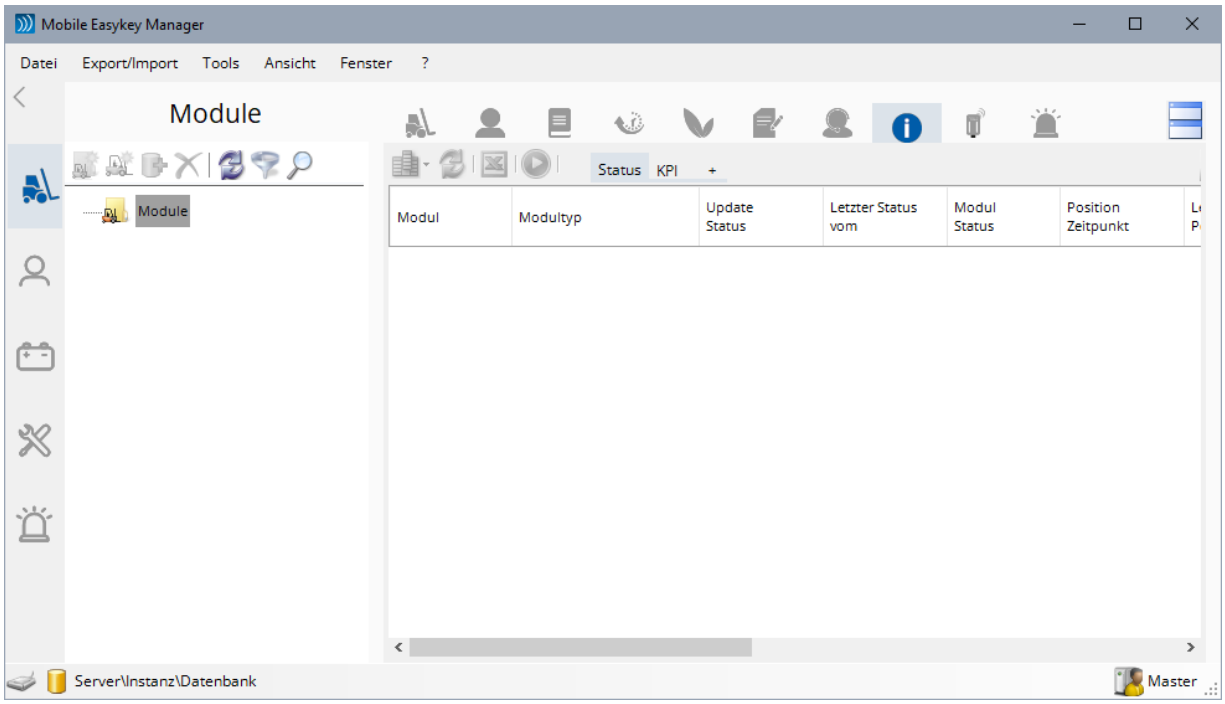
On the left, no modules are displayed in the tree (hierarchical) structure anymore, because currently no display authorisations exist for any module!

Log in now as *a department manager 1*.



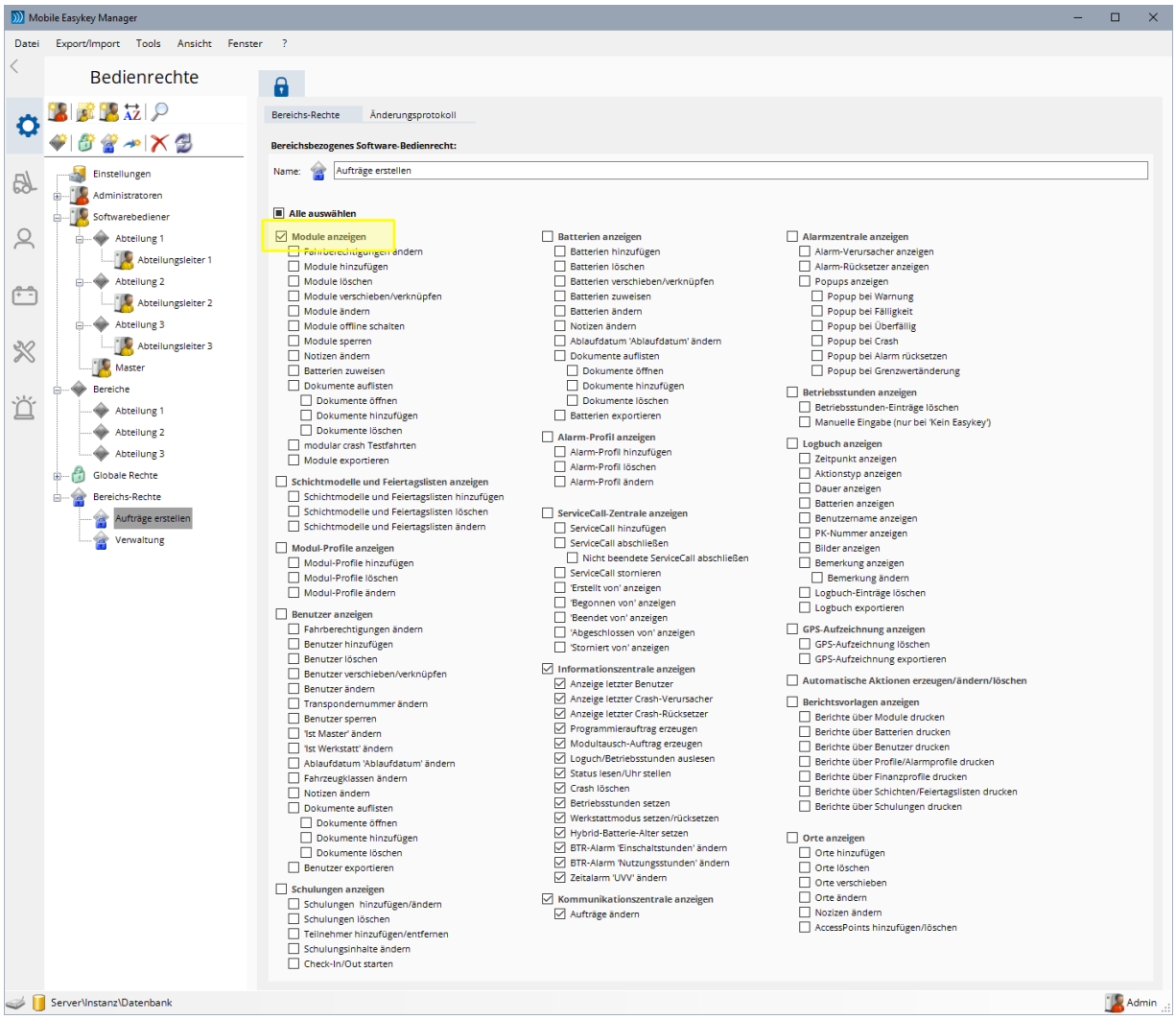
Only the modules from department 1 are displayed.
However, the *department manager 1* can still not create orders. Try it out it.

Log off again and log in as *a master*.

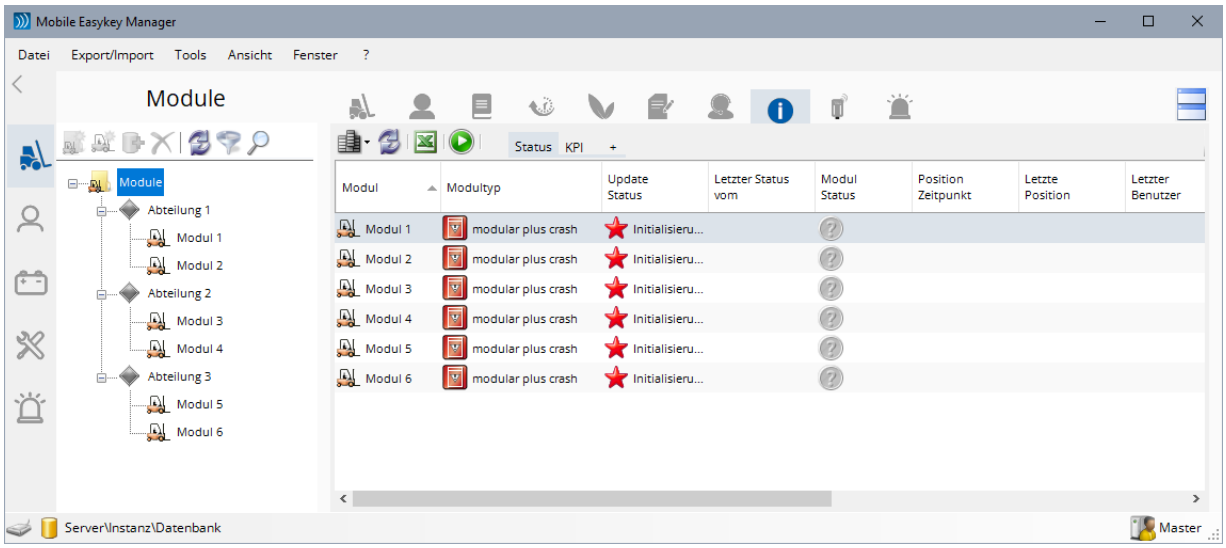


What has happened?
Currently the *master* has no right to display any module.
His right to create orders is thereby ineffective for the moment.

Log off again and log in as *administrator 1*.
Click on tab ⚙ and select the right *orders create*.
Now add to this right the item ***Modules display***.

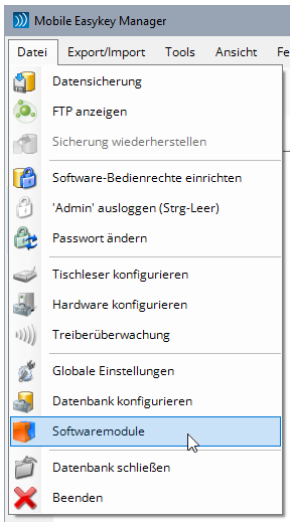


Log off and log in as a *master*.



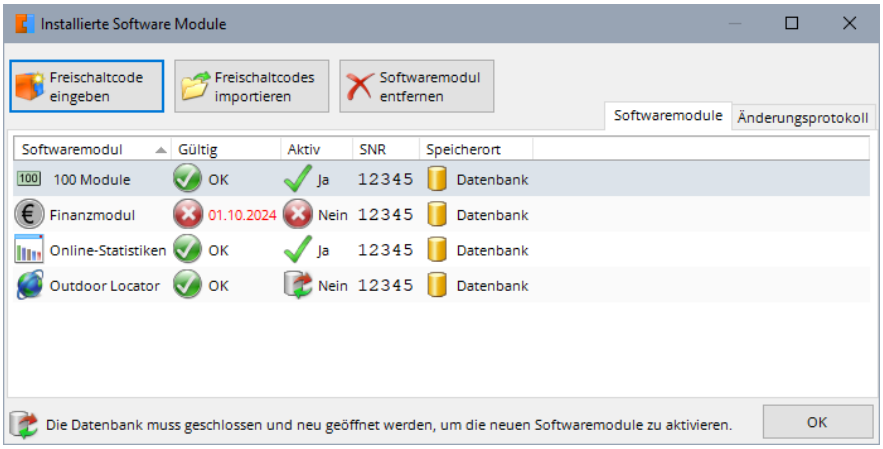
Now the master can see all modules and can also create orders again.

5.22 Software Modules (Optional)



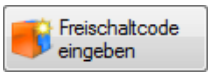
Mobile Easykey Manager" offers some add-ons (called software modules) which are optionally available and must be activated first. If you have acquired one or several of these software modules, select the entry ***software modules*** from the ***file menu*** now.

Now you see all activated software modules:



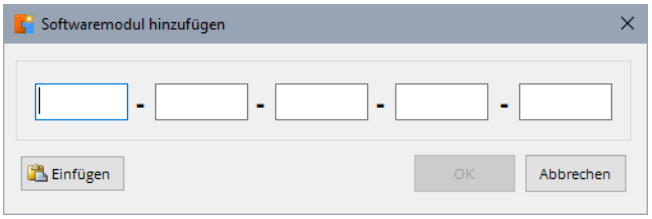
Single software modules can be valid as a demo version only up to a certain date. After this date the software module becomes invalid ( ). Here, for example, the ***Finance module*** has already run out on the 10/01/2017.

A new added software module (see ***Enter code*** further down), is only enabled when the database is opened the next time. The active status is displayed until the next opening of the database with the icon .

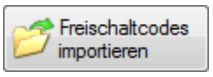


Calls the following dialog in which a single release code can be entered.

Enter the activation code here.
The activation code is stored directly in the database. Anyone opening this database may use the appropriate software module.

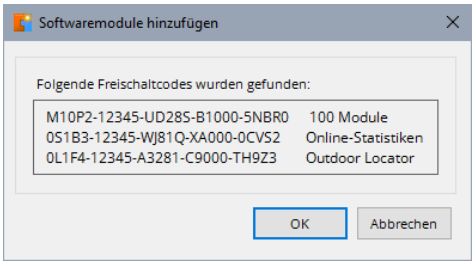


If there is a valid activation code in the clipboard, the ***Insert*** button is also displayed. Clicking on this button (or by pressing the key combination Ctrl-V) will take over this activation code.

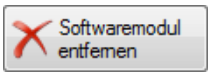


Click on this button to import release codes from a file. Select in the following dialog the required file and click on ***open***. Now the following dialog is displayed:

The release codes contained in the file are displayed.



Click on OK around the release codes to take over.

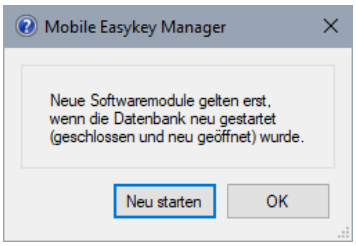


Click on this button to delete the software module selected in the list.

Note that release codes are always only activated while opening the database. A release code which is entered on opening a database is only active when the database is closed afterwards and is reopened.

Click on ***OK*** to close the window of the "installed software modules" and to return to "Mobile Easykey Manager".

If changes have been made to the software modules, you can automatically close and reopen the database in the final dialog with the ***Restart*** button.



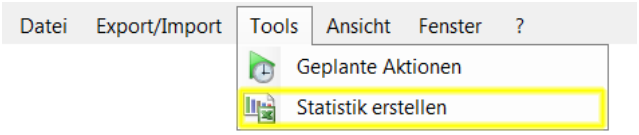
The functionality of the single software modules is explained in the following chapters in detail.

If in the manual described functions require an activated software module, this is marked in the margin with the icon .

For more information how to acquire the add-on modules please contact your Mobile Easykey dealer.

5.22.1 Offline Statistics

With a released statistics module the additional item ***Statistics create*** is inserted in the menu.

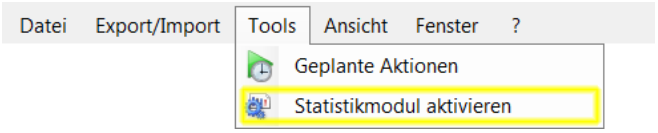


The (old) statistics module serves the production of Excel statistics.

The documentation for the statistics module is supplied later in one of the next versions of the "Mobile Easykey Manager".

5.22.2 Online Statistics

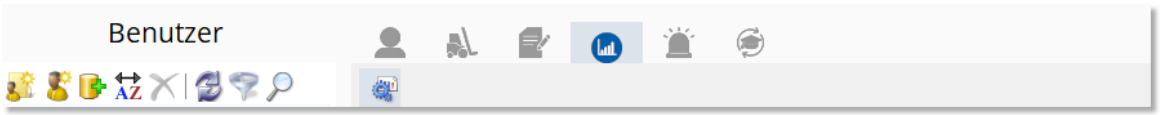
With a released online statistics module, the additional item ***Statistics module activate*** is inserted in the menu.

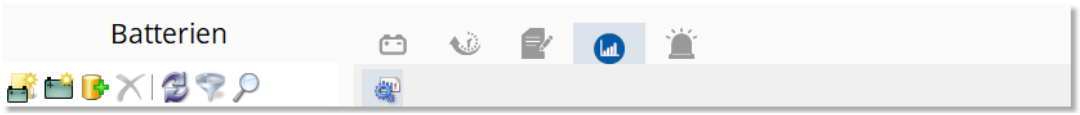


If the online statistics module is already released, the Menu item is called ***Configure statistics module***.

An additional tab Statistics is shown in the modules, users and batteries tabs.





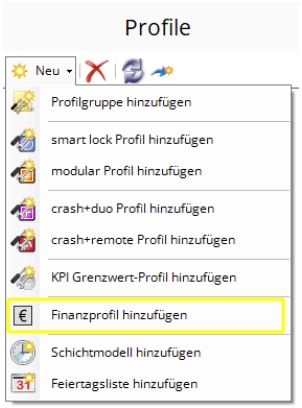


For more information about online statistics, see **5.18 Online Statistics**.

5.22.3 Finance Module

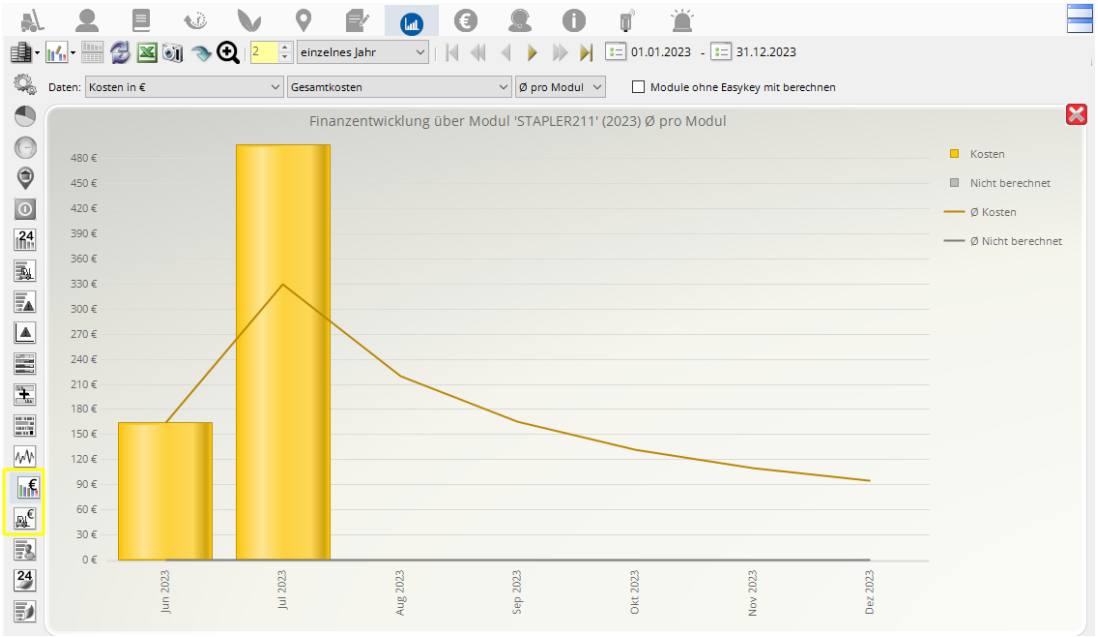
When the finance module is activated, the Finance module tab is also displayed.
See chapter **5.5.18 Finance module** and **5.15 Finance Module**.



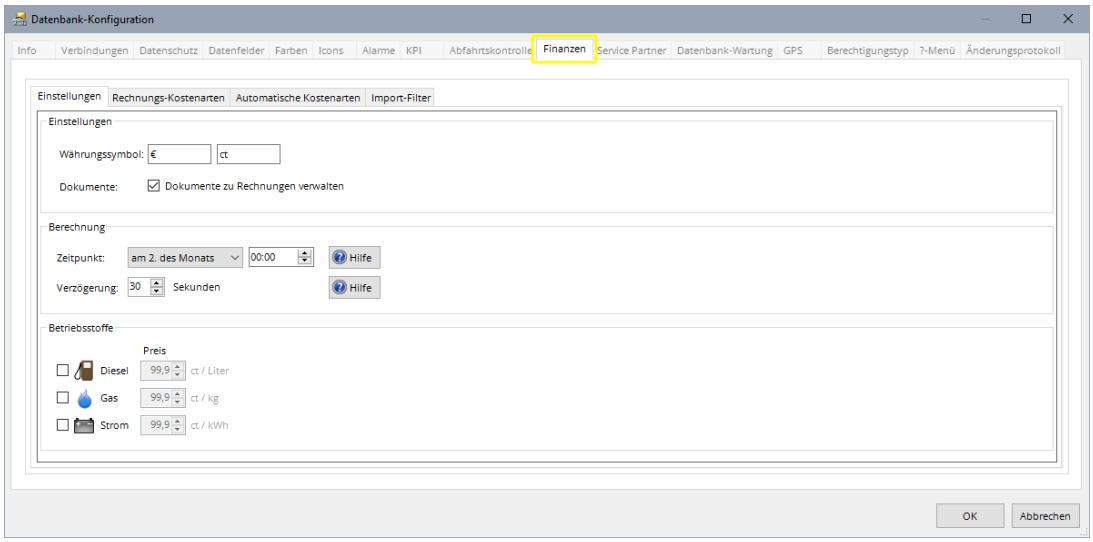


The financial profiles are also displayed. See also **5.9.6 Finance profile**.

In addition, two additional online statistics are displayed (for online statistics, see **5.22.2 Online Statistics** and **5.18 Online Statistics**).
See **5.18.3.12 development and 5.18.3.13 Financial comparison**.

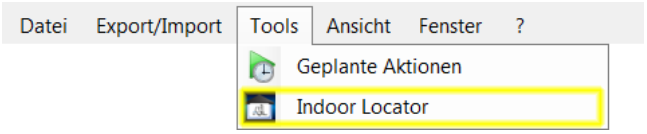


Likewise, some database settings are enabled for the finance module.
See **5.14.10 Finance module**.



5.22.4 Indoor Locator

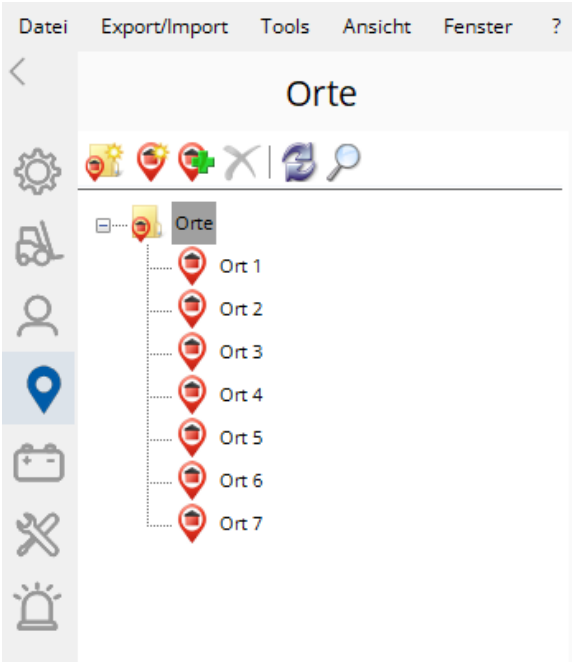
With activated **Indoor Locator** in the menu the additional button ***Indoor Locator*** is added.



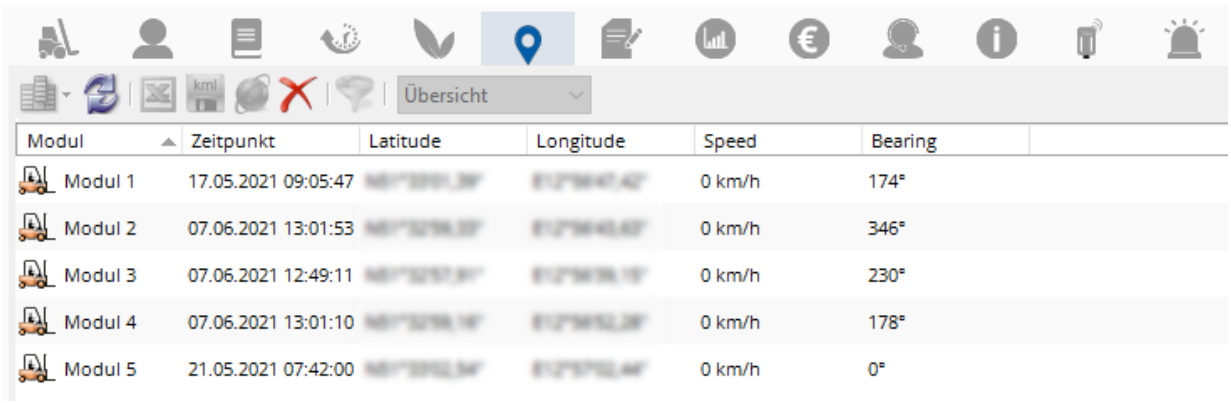
You will find more detailed information in a separate documentation that is installed with the Mobile Easykey Manager. Usually you find this here:

`C:\Program Files (x86)\Mobile Easykey\Manager\Indoor Locator\IndorLocator.pdf`.

In addition, the ***Location tab*** (see **5.7 Locations**) becomes visible for the access point exact location.

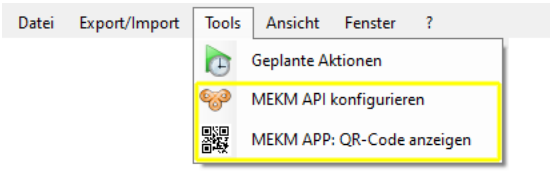


5.22.5 Outdoor Locator



5.22.6 MEKM-API

When the **MEKM-API** is activated, the items ***configure MEKM-API*** (old APPs, see also **5.3.4.4 Configure MEKM-API**)and ***MEKM APP: Display QR-Code*** (new APPs) are inserted.



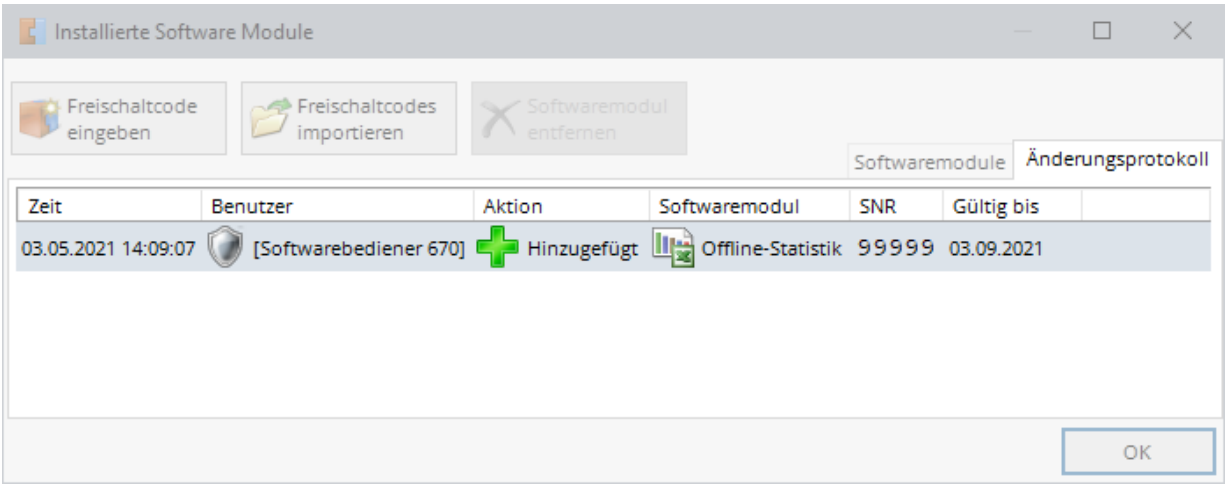
In addition, the API driver (see **5.13.3.1.6 MEKM-API Driver (REST-API)**) is activated.

5.22.7 CO_2 Module

When the **CO_2 module** is activated, the CO_2 tab (see **5.5.14 CO2**) is also displayed under Modules.

In addition, (if online statistics are activated, see **5.22.2 Online Statistics**) two further statistics are available (see **5.18.3.15 CO2 period comparison** und **5.18.3.16 CO2 Module Comparison**).

5.22.8 Change Log (Software module)



Any change to the unlocked software modules is saved in the change log and displayed here.

Note:
By default, entries older than 90 days are automatically deleted. You can change this setting in the database configuration. See **5.14.12 Database-Maintenance**.

The ***User*** column corresponds to the respective software operator or administrator (see **5.21 Software Operating Rights**), who was logged on to ***Mobile Easykey Manager*** at that time.

With the buttons and the change log can be filtered and searched.
A description and further information can be found in chapter **5.19 Change Log**.

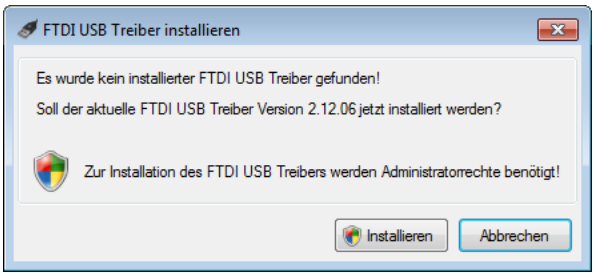
6 Mobile Easykey Communicator

"Mobile Easykey Communicator" serves to implement orders (**5.5.20.4 Information Window**), generated with "Mobile Easykey Manager" without the need of an existing connection to "Mobile Easykey Database" or to the SQL server.

Individual orders are thereby created in the Mobile Easykey information central office (see **5.5.20 Information central office**). However, the orders are not implemented within Mobile Easykey Manager or Mobile Easykey Service, but are instead saved in a file. The Mobile Easykey Communicator together with the created orders are copied automatically in the specified directory, e.g., on an USB-Stick.

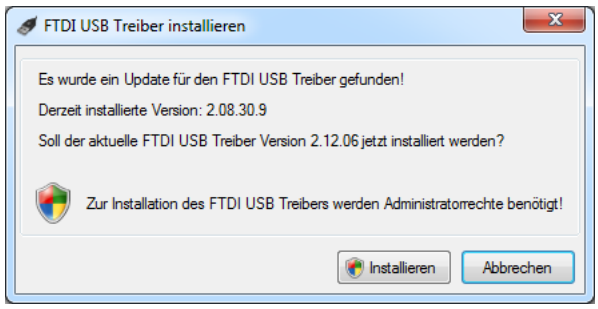
Mobile Easykey Communicator can be started directly from there, so, e.g., from the USB-Stick. Simply double-click on the file ***MobileEasykeyCommunicator.exe***.

A special USB driver is necessary for the communication with the modules (via the program cable). If this is not installed yet, the window illustrated on the right, opens the start of the Communicator automatically.

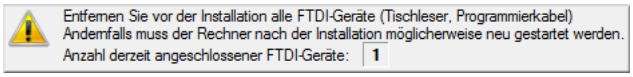


If an older driver is already installed, an appropriate update is displayed here.

Click on ***installation*** to install the USB driver now.
Note that **administrator rights** are necessary for the installation!
However, all other functions of the Communicator also work without administrator rights.

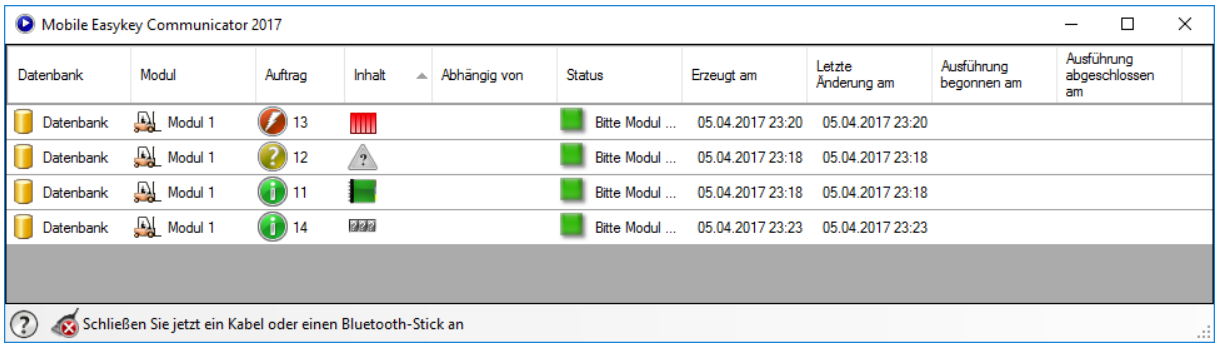


If FTDI devices are already connected during the installation process, a restart is usually necessary after the installation. By unplugging (during the installation) the restart can usually be avoided. Hence, following tip is displayed in the update window if plugged in FTDI devices are found:



Note:
The Mobile Easykey Communicator requires a .NET Framework minimum version 4.5 or higher! This is already preinstalled on Windows 8/10.
For Windows 7, the .NET Framework automatically loads the operating system when needed.
However, an internet connection is required!

6.1 The main window



All orders which are in the same directory as the Communicator are automatically loaded.

6.1.1 The Status Bar

: Click on this button to call the menu (see further information in chapter **6.1.2 The menu**).

: **Connect a cable or Bluetooth stick now...**
No programming cable, no infrared cable and no Bluetooth stick were found. If a cable is already connected, you can click on the icon to open the configuration window (see **6.1.4 Cable- / Infrared-connection (configuration)**) and manually select the Com port. Otherwise, simply connect the appropriate cable or Bluetooth stick. The driver is then started automatically (see **6.1.3 Plug and Play**).

: ***click here to connect a cable/ Bluetooth stick***
Several programming or infrared cables have been found. Click on the icon to open the configuration window (see **6.1.4 Cable- / Infrared-connection (configuration)**) and select one, or connect another cable or Bluetooth stick.
Alternatively, you can also plug the desired cable back and forth again. It is then automatically recognised (see **6.1.3 Plug and Play**).

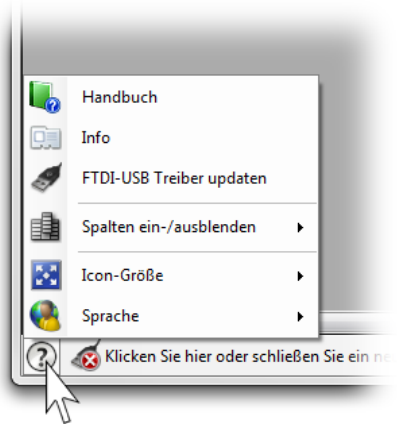
: **COMx**
The driver for the programming cable is started. Simply connect the required module to the programming cable (see **6.2 Implement/Execute orders**) or click on the icon to open the configuration window (see **6.1.4 Cable- / Infrared-connection (configuration)**) and select another Com port. You can also simply disconnect the active programming cable and plug in an infrared cable. The infrared driver is then automatically started (see **6.1.3 Plug and Play**).

: **COMx**
The driver for the infrared cable is started. Now simply hold the infrared cable to the desired module (see **6.2 Implement/Execute orders**) or click the icon to open the configuration window (see **6.1.4 Cable- / Infrared-connection (configuration)**) and select another Com port. You can also simply disconnect the active infrared cable and plug in a programming cable. The programming cable is then started automatically (see **6.1.3 Plug and Play**).

: **Bluetooth**
A Bluetooth stick was found. Smart lock 2 modules in Bluetooth range are connected automatically. Click this icon to configure the Bluetooth connection.

Further information see chapter **6.1.3 Plug and Play**.

6.1.2 The menu



: Opens this documentation

: Displays information (version number, copyright etc.) about this programme.

: If an update was found for the FTDI driver and this was not executed on program start, it can be installed any time later from here.

: With this menu item individual columns (see **6.1.6 The meaning of the individual columns**) can be displayed or hidden to personalise a window.

: With this menu item you can change the size of the displayed icons (images).

: With this menu item the language of this programme can be changed. This menu item is only displayed if at least two languages are available.

6.1.3 Plug and Play

If by the start of the Mobile Easykey Communicator a (single) USB cable or a Bluetooth stick is already connected, this is generally automatically recognised.

A connected cable has priority over the Bluetooth driver! Disconnect all cables to start the Bluetooth driver or simply plug in a cable while the Bluetooth driver is running to switch to cable / infrared.

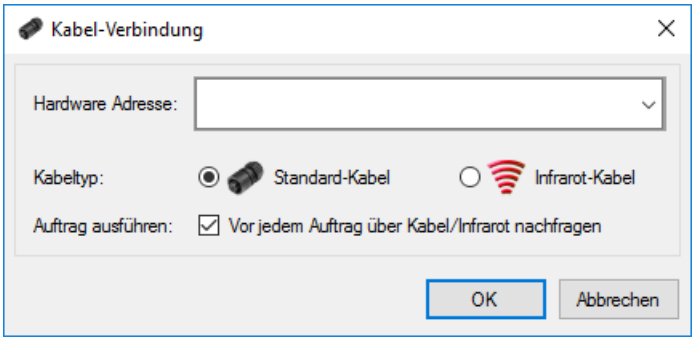
If several cables are connected at the same time, the Communicator tries to first restart the last used cable.

Could no cable or Bluetooth be restarted, then in the left lower corner the icon is displayed. Simply unplug and reconnect the USB cable or Bluetooth stick.

Note:
If you disconnect a Bluetooth stick while the Communicator is running, you must restart the Communicator if you want to insert the Bluetooth stick again!

6.1.4 Cable- / Infrared-connection (configuration)

If the cable is not detected automatically or if several cables are connected and you want to select another cable (another COM port), click on the symbol in the status bar (see **6.1.1 The Status Bar**) , or to call up the configuration window.

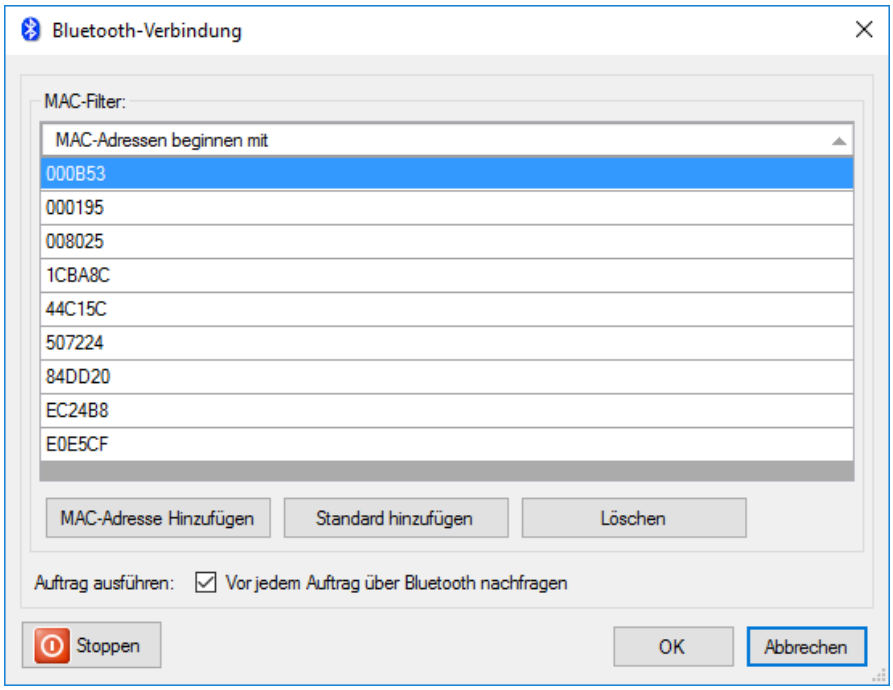


Enter here the **hardware address** (the COM port) at which the modules are to be connected for programming or read-out.
If the **cable type** cannot be determined automatically, you must manually select whether the Com port should be started as a standard cable (programming cable) or infrared cable.

With **Execute order** you can specify whether to automatically run existing jobs for the connected module, or whether the Communicator will ask for each job beforehand, whether to run it. You can specify whether to automatically run existing jobs for the connected module, or whether the Communicator will **ask for each job beforehand,** whether to run it. or infrared cable.

6.1.5 Bluetooth-connection (configuration)

By default, the Bluetooth driver is only compatible with Mobile Easykey devices.
However, newer device types may not yet be included in the list of allowed devices. In this case, you can click on the icon and enter the corresponding filter.



If you have experience with Bluetooth and Mac addresses, you can read out the Mac address of one of the unrecognised devices and enter the first 3 bytes of it with a click on the ***Add MAC address*** as a new filter.

Otherwise, please contact support at khd@mobileeasykey.de

6.1.6 The meaning of the individual columns

Database:

"Mobile Easykey Communicator" can display orders from several different databases at the same time. In this column the name of the respective database is displayed.

Module:

Displays the name of the respective module.

Order:

Shows the order type (=Update-, =Status- or =Information order) and a sequential internal order number.

Contents

Here the contents of this order are specified with the different icons.

First initialisation	This is the very first order which is transmitted to a module. With this order the "Mobile Easykey Manager" gets to know the module.
Module exchange	If the Mobile Easykey Module was exchanged in the vehicle, the module cannot automatically recognize the module any longer. With the module exchange order, they pair up again.
Firmware update D	Carries out a firmware update on the actual D version.
Firmware update F	Carries out a firmware update on the actual F version.
Memory partitioning	With this order the memory partitioning (see **5.9.2.1 Memory**) in the module changes. **Attention:** the logbook memory in the module is deleted.
Configuration	With this order the configuration (e.g., the Switch-off time after absence detection) is changed.
Crash Sensor configuration	With this order the configuration of the Crash Sensor is written
Alarm configuration	With this order the alarm maximum ratings are written in the module.
Full update	With this order all users and master (transponder) are newly written in the module.
Quick update	With this order all changed user and master data are written in the module.
Read status	With this order the actual module status is read out.
Delete crash	With this order the module (provided that it is in the crash status) is activated.
Set clock	With this order the internal clock is set in the module.
Set operating hours	With this order the counters are changed for cut-in and operating hours in the module.
Read logbook	With this order logbook data from the module are read.
Read operating hours	With this order the cut-in and operating hours from the module are read out
Start test drive	With this order a test drive is started for the Crash sensor.
End test drive	The test drive will end with this order and (provided that a test drive was started) the maximum values from the test drive read out.
Switch on workshop mode	With this order the module goes into the workshop mode (see **5.5.23.8 Workshop**).
Switch off workshop mode	The workshop mode ends with this order.

Depending on

The different update orders can be dependent on each other. In this case "Mobile Easykey Manager must follow" the right order. For example, a Quick update can be dependent on the fact that the before generated full update is executed first, because this would overwrite the updates (changes) of the Quick update again.

Status:

Specifies the actual order status:

Please connect module	"Mobile Easykey Communicator" waits for this module to be connected to the COM port **6.1.4 Cable- / Infrared-connection (configuration)**. Then the order is automatically started.
OK	The order is completely executed.
OK	The order is completely executed and was saved on a data carrier (e.g., USB-Stick).
OK	The order is completely executed and was emailed back to the sender.
Frail (Invalid)	This order lapsed. For example, a Quick update could lapse if (through another connection) a full update was executed.
Error	During implementation of the order an error has occurred.

Generated on

Specifies date and time, when this order was created. If it is the date of the present day, only the time is displayed.

The last change on

Specifies the date and time when this order was last changed. To an existing order additional part orders can be added under certain circumstances. In this case the time of this or the last change is displayed here. If it is the date of the present day, only the time is displayed.

Implementation started on

Specifies date and time, when (communication with the module) the implementation started. If it is the date of the present day, only the time is displayed.

Implementation concluded on

Specifies date and time when the implementation (communication was concluded with the module). If it is the date of the present day, only the time is displayed.

6.2 Implement/Execute orders

The orders saved in "Mobile Easykey Communicator" are automatically executed, as soon as the appropriate module is connected to the in **6.1.4 Cable- / Infrared-connection (configuration)** (configuration) set COM port or Bluetooth module in reaching distance of the Bluetooth stick (see **6.1.5 Bluetooth-connection (configuration)**).

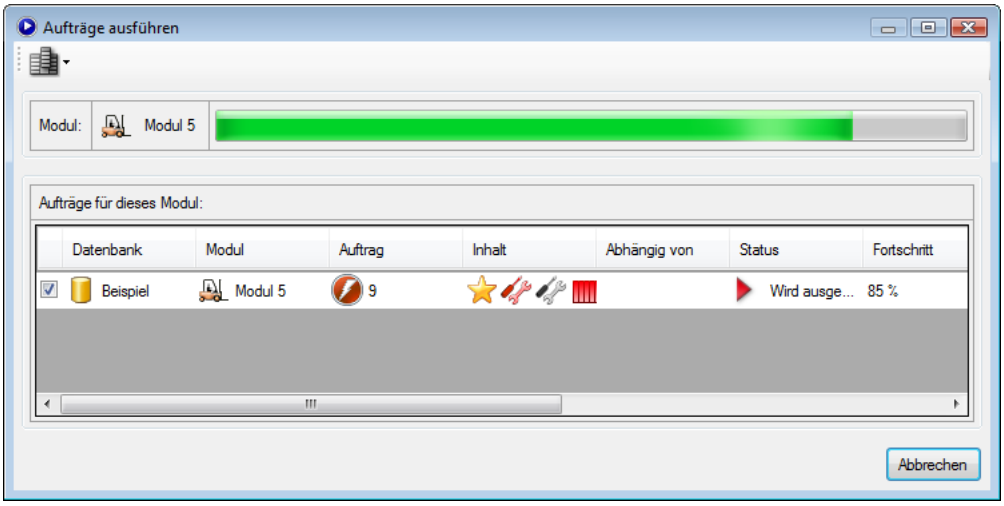
6.2.1 Module exchange and initialization orders

With a module exchange and initialisation orders the respective module is not known to the "Mobile Easykey Manager" and thus, also not yet to "Mobile Easykey Communicator". If the connected module is a new, still unknown module, a dialog opens, listing all currently existing module exchange- and initialisation orders. Now you must manually select the order which corresponds to the at the moment connected module.



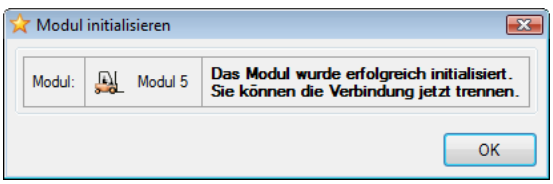
Click on ***module define*** to begin with the implementation.

Note:
Make sure that you have connected the correct module and have selected the correct order!



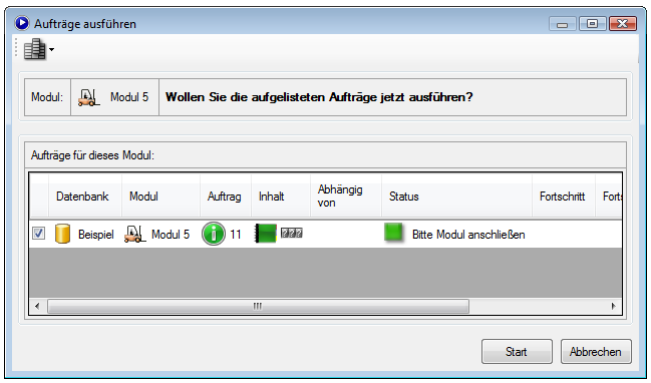
While the order is implemented, see the window ***implementing orders***.

After the order was completely executed the message on the right is shown. This message automatically disappears, as soon as you have disconnected the connection.



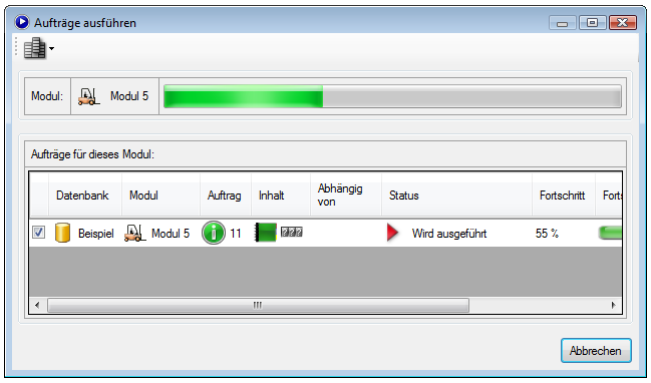
6.2.2 Normal orders

If orders exist for a connected module, these will automatically be recognised, by the module.

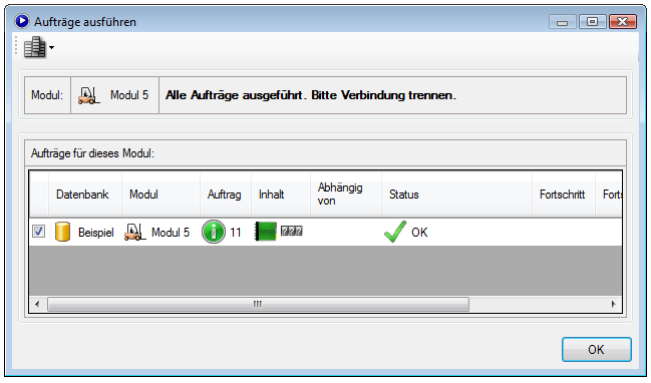


Click on ***start*** to execute orders now.

Depending on configuration (see **6.1.4 Cable- / Infrared-connection (configuration)**) this query is skipped and the orders are immediately automatically executed (see the next window).



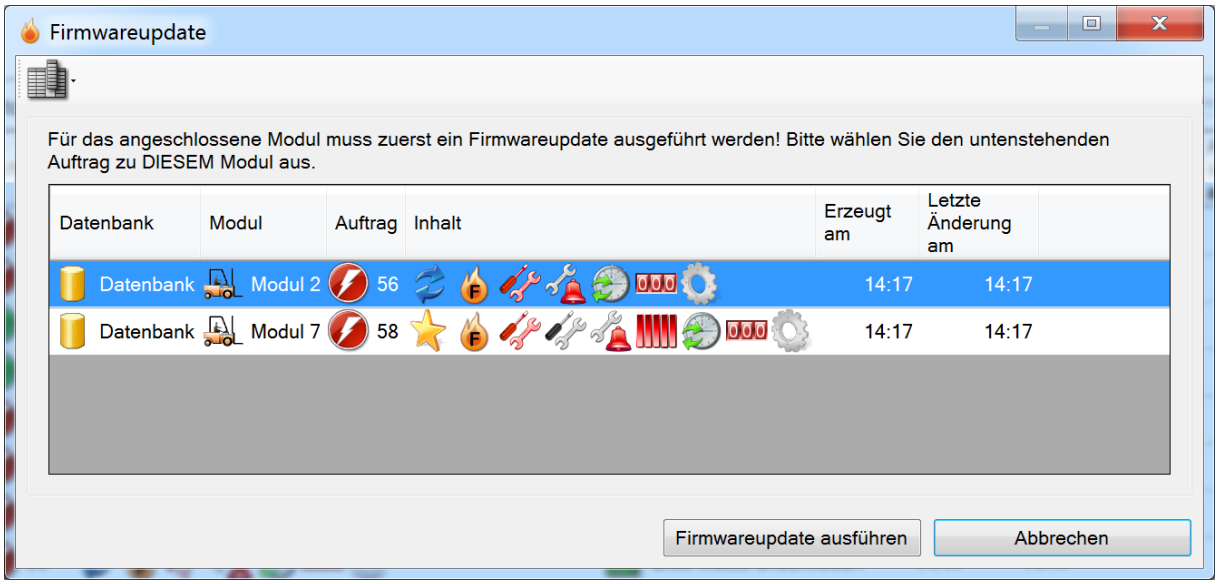
During the order processing you see this window.



If all orders are executed, you can disconnect the module. Then this window is automatically closed.

6.2.3 Firmware updates

Normally, firmware updates are treated as normal jobs (see **6.2.2 Normal orders**). However, if a firmware update is interrupted, the module cannot automatically be detected the next time it is connected. Instead, a window is displayed that contains all open jobs with firmware updates.



In this case, simply select the appropriate module and click on Execute Firmware Update.

6.3 Return Orders to Manager

After an order is completely executed, this information must be transmitted back to the Mobile Easykey Manager. The Mobile Easykey Communicator additionally automatically saves all necessary data in the respective order file (*. mekm).

In Manager, click in the menu ***Export / Import*** on the menu item ***Orders import*** and select the executed orders (e.g., from the USB-Stick). Thereby, the with "Mobile Easykey Communicator" executed order, including the new data (e.g., read out logbook data) are copied again to the database and the order is concluded in "Mobile Easykey Manager".