Product Information

mobile easykey®

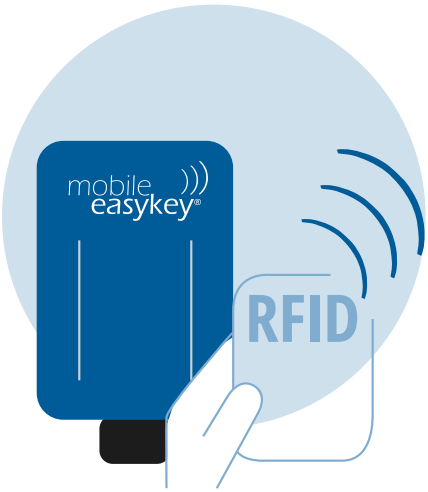
Modular
fleet management
for your intralogistics

manufacturer independent

Europe's 1

VDI interface ready

FFZ KPI



Hardware

modular – individually configurable

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Entry

Access control and basic analyses



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Classic

Access control and extensive analyses



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EX-Protection

Access control and extensive analyses in potentially explosive areas



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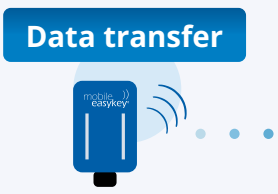
Accessories

Optional extensions to the system



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Data transfer



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Entry

Access control and basic analyses

smart lock



Entry

Accsess control and basic analyses

smart lock



RFID access control

The cost-effective entry

smart lock is the inexpensive way to join the world of Mobile Easykey. smart lock replaces the mechanical switch lock of your forklift. Furthermore smart lock can be used for doors, lifts, cranes etc.

Electronic login takes place with a personal transponder of the respective authorized employee. The smart lock module is mounted on the forklift or other machines. All safety-relevant basics of Mobile Easykey are already included here.

Data is transferred bidirectionally via Bluetooth or cable. All settings are made in the Mobile Easykey Manager software. The data is also collected and evaluated there. This makes it quick and easy to regulate who is allowed to drive or operate which device and for how long.

Easy, fast and low-priced

- Easy and cost-effective securing of vehicles against unauthorised use
- Access management via RFID technology
- Easily replaces the existing switch lock
- Gets over the key chaos in your company
- Easy and quick installation
- Easy to manage with the software MEKM
- Quickly retrofitted to existing fleets
- Manufacturer-independent – also for mixed fleets
- Reusable for vehicle replacement
- No intervention in the CE
- Recording of usage hours e.g. for lessor or leasing lessor
- Installation possible by own staff
- Maintenance-free system
- Automatic shutdown of the vehicle by integrated motion sensor
- Can be used as a standalone solution or integrated into the Mobile Easykey fleet management
- Up to 65,000 Logbook entries and 10,000 users can be saved
- Pro-active safety: monitoring of the legally required UVV inspections

Reading procedures smart lock 3

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

In general, external transponders must be checked for compatibility with the Mobile Easykey systems! Additional costs may incur.

smart lock 1



- Access control for drawbar and small electrical appliances
- Personal Mobile Easykey transponder
- Data transfer: Infrared programming cablekabel.

smart lock 3



- Universal reader for transponders (customer's own systems, such as e.g. factory ID cards can be used)
- Data transfer: Bluetooth
- Presence detection connection possible

Entry

Accsess control and basic analyses

	smart lock	smart lock 1	smart lock 3 Bestseller
			
Manufacturer independent	√	√	√
Retrofitting possible	√	√	√
Crash Sensor	X	X	X
Display	X	X	X
LED departure control	X	X	X
Intelligent departure control	X	X	X
MEK interface	X	X	optional
VDI interface	X		√
Data transfer: Infrared cable	√	X	X
Data transfer: Cable	X	X	X
Data transfer: Wi-Fi	X	X	X
Data transfer: Bluetooth	X	√	√
Data transfer: Mobile and GPS	X	X	X
Mobile Easykey transponder	√	√	√
RFID factory ID card	X	√	√
Auto shutdown combustion	X	√	√
Internal presence detection	√	√	√
External presence detection	X	optional	optional
Software MEKM smart	optional	optional	optional
Software MEKM	optional	optional	optional
Connection of additional sensors and accessories	X	optional	optional

Classic

Access control and extensive analyses

modular



Klassiker

Access control and extensive analyses

modular



modular is the all-rounder –
the choice is yours!

This module meets all customer requirements – from basic to high-end. Access control is of course always included. However, the crash sensor is now also a standard feature on the market. 95 % of all modular modules are equipped with it. Data is almost always exchanged via the existing WLAN network. Alternatively, the data can also be transmitted via Bluetooth, mobile radio or cable.

With the optional sensors, such as the EBZ Power Sensor, the Event Tool or the Load Sensor, Mobile Easykey determines every second whether the vehicle is currently energized, whether it is being driven, whether it is moving a load or whether it is unused and therefore available.

Manufacturer independent	√
Retrofitting possible	√
Crash Sensor	optional
Display	X
Departure control LED	optional
Departure control App	optional
Intelligent departure control	X
MEK interface	optional
VDI interface	optional
Data transfer: Infrared cable	X
Data transfer: Cable	√
Data transfer: Wi-Fi	optional
Data transfer: Bluetooth	optional
Data transfer: Mobile and GPS	optional
Mobile Easykey transponder	√
RFID factory ID card	optional
Auto shutdwon combustion	√
Internal presence detection	X
External presence detection	optional
Software MEKM smart	X
Software MEKM	optional
Connection of additional sensors and accessories	optional

EX-Protection

Access control and extensive analyses in potentially explosive areas

EX-Protection module



For potentially explosive areas

EX-Protection

Access control and extensive analyses in potentially explosive areas

EX-Protection module



For potentially explosive areas

Flett Management
in potentially explosive areas

Certified safety

Our technology is tested and certified according to the latest standards!

- Compliance with ATEX-Directive 2014 / 34 / EU
- Can be used in zone 1 (gas) 21 (dust)
- Marking according to ATEX: II 2G IIC T4 Gb; II 2D IIIC T85 °C Db
- Marking according to IEC / CENELEC: EN IEC 60079-0:2018 (general requirements), EN 60079-1:2014 (pressure proof encapsulation), EN 60079-11:2012 (intrinsic safety), EN 60079-31:2014 (Protection through housing)
- We recommend using Mobile Easykey ATEX-transponders
- Your own transponders (e.g. factory ID cards) can be used

Premium Equipment

The explosion protection version combines all the advantages of the latest generation of Mobile Easykey modules with the safety equipment necessary for explosion protection operations . An overview of the options can be found on the previous page of this document.

Interesting facts about EX-protection

Explosion triangle

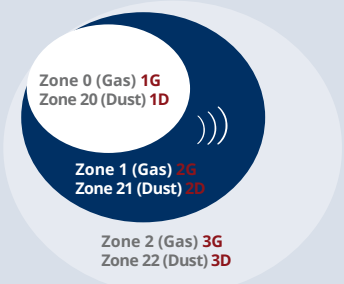


Combustible substance in finely dispersed form (gas or dust)

How do I read the ATEX- description?



EX-zones at a glance (Explosion group II)



Duration explosive atmosphere:

- constantly
- occasionally
- rarely

Device category:

Gas 1G – 3G
Dust 1D – 3D

Accessories

Optional extensions to the system

Accessories



Accessories

Optional extensions to the system

Accessories



Configure your system with our extensive range of accessories –

at any time and individually according to your needs

Load Sensor



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Battery Tool 2



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Presence Detection



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Crash Sensor Remote



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EBZ Power Sensor



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LED Departure Control



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Event Tool



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MOUNTING ACCESSORIES

MEK Interface modular



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Base Plate Crash Sensor Remote



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Universal Holder modular



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Accessories

Optional extensions to the system

Accessories



Load Sensor



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 and smart lock 3. The installed battery has a service life of several months and can be changed.

Load Sensor

easy to retrofit

- √ Less empty journeys, more efficiency
- √ Cost-effective retrofittable, without complex wiring (Prerequisite: at least F-71 hybrid and V6 module)
- √ Ultra sound-sensor – also functional when soiled
- √ Any change (loaded / unloaded) leads to an entry in the logbook of the software – with time stamp
- √ Communication: wireless via Bluetooth
- √ Changable AA-battery life: several months
- √ Additional data for the increase in efficiency in intralogistics

Accessories

Optional extensions to the system

Accessories



Battery Tool 2



This sensor is used to check the electrolyte level of the battery. If the electrolyte level is low, a 'Warning display' is switched on by the module (modular, smart lock 3: LED; modular plus: display screen). At the same time an entry is made in the logbook.

simple and cheap

- √ Battery-assignment by unique battery ID
- √ LED-Status indicator on the battery: electrolyte level ok / not ok
- √ Warning in the display / by LED: smart lock 3, modular, modular plus
- √ Communication: wireless via Bluetooth
- √ Comprehensive performance data on the use, e.g. electrolyte level / operating time / actual service life / battery change / continuous power
- √ Longer battery life
- √ Fully integrated into the MEKM software and analysis via app
- √ Analysis to avoid unnecessary investment
- √ Alarm profiles can be created for events e.g. maintenance, misconduct, cleaning

Battery Management

The forklift detects unauthorised batteries and logs this in the software`s logbook. In addition, information is send to a previously defined group of people by the software's alarm center. Further the Mobile Easykey Software analyses the charging behavior / characteristics:

- How long has each battery been in a vehicle?
- How long was it unfitted i.e. how long was it available for charging?
- Was there any charging or usage in between?

Charging cycles can be optimised for more efficient operations and for a longer service live. Expensive damages to replacement batteries are drastically minimized!

Accessories

Optional extensions to the system

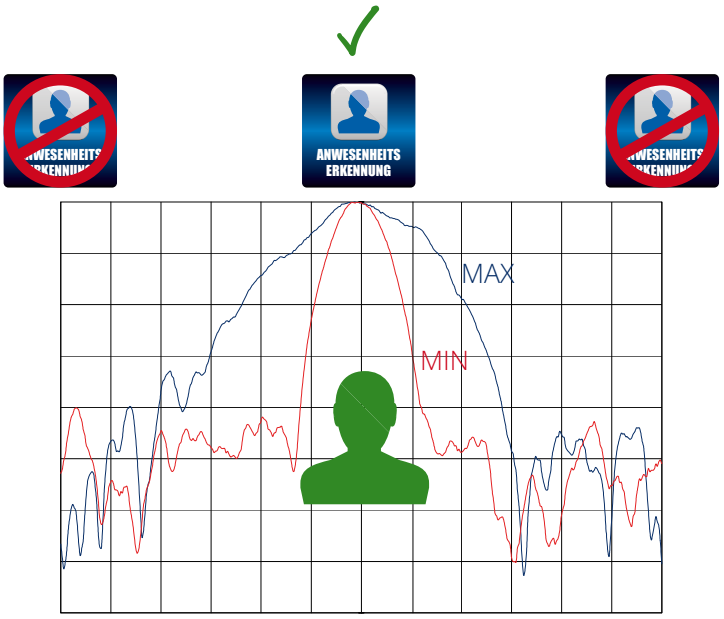
Accessories



Presence Detection



Radar Presence Detection is used for the safe detection of the presence of a driver and the automatic shutdown of the forklift truck when leaving and thus also to save energy. It is used when the vehicle itself does not have sensors (e.g. seat contact switches) for detection or if you do not want to intervene in the vehicle electronics. With this Presence Detection, usage hours can also be displayed. Plug & Play setup is possible in a few minutes.



Accessories

Optional extensions to the system

Accessories



Crash Sensor Remote



The digital Crash Sensor Remote is unique worldwide. The dual system has a three-axis accelerometer and a body sound microphone. Its settings are determined by a learning trip in operation and defined in three crash stages in the Mobile Easykey software. Scheduled actions are defined for each level. For example, level 1 may only be documented in the logbook, an e-mail is sent to the safety officer at level 2 and, at level 3, the vehicle is shut down or placed in a crawl speed. The sensor can be used in conjunction with the modules modular and modular plus.

Accessories

Optional extensions to the system

Accessories



EBZ Power Sensor



The EBZ Power Sensor generates logbook entries for the hours of use in electric vehicles. These entries automatically appear in the logbook every 15 minutes and record the used time during the 15-minute period. The data can be used to create detailed evaluations of the actual use of the vehicles. The efficient use of the EBZ Power Sensor is made possible by the software option ‘Maintenance and UVV‘.

Accessories

Optional extensions to the system

Accessories



LED Departure Control



With the departure control, drivers can log the condition of the forklift truck in the logbook of the Mobile Easykey software, before starting the journey by pressing a green or red button.



Event Tool



The Event Tool can be used to record the hours of use and two other events.

Channel 1 is used to record the actual use of the vehicle – important, for example, for efficient maintenance planning or for leasing invoices. These entries automatically appear in the logbook every 15 minutes and record the used time during the 15-minute period. The data can be used to create detailed evaluations of the actual use of the vehicles.

Channels 2 and 3 can be freely assigned with a switching signal: e.g. journeys with and without load (corresponding sensor provided) or warning indicators of the vehicle. All data appears in the logbook and can be used for reports and statistics.

Accessories

Optional extensions to the system

Accessories



MONTAGE ZUBEHÖR

MEK Interface modular

VDI Interface



The Mobile Easykey interface is used for the simple implementation of the system in the forklift.

For new vehicles, the interface is already installed ex works by many vehicle manufacturers. The effort required to install the module is therefore very low. The interface also significantly simplifies the conversion of our long-lasting hardware in the event of a vehicle change. The installation and commissioning for the module is considerably shortened.

Accessories

Optional extensions to the system



MONTAGE ZUBEHÖR

Base Plate Crash Sensor Remote



For safe and easy installation of the Crash Sensor Remote, we offer a base plate.



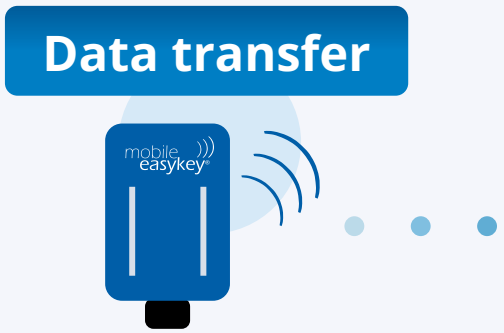
MONTAGE ZUBEHÖR

Universal Holder modular



The universal holder is mounted on the vehicle side with anM8 threaded bolt with a length of 20 mm.
On the module side, it is mounted with the aid of four M4 screws supplied.

Data transfer



Data transfer



The data is transmitted to the software via infrared cable (smart lock 1) or cable-free via WLAN, Bluetooth or mobile radio / GPS.

Wi-Fi



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Bluetooth



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Mobile / GPS



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RFID

Transponder



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Functional Coil

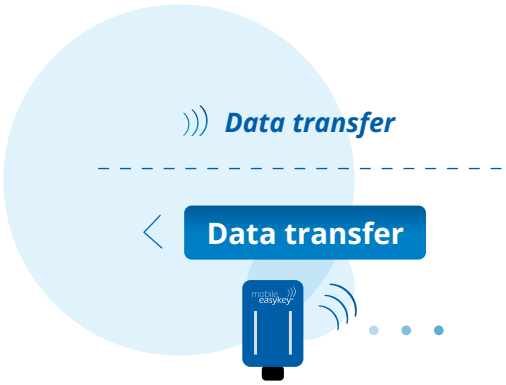


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Desktop Reader



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Data transfer

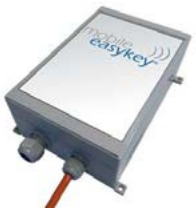
Wi-Fi

The Mobile Easykey Wi-Fi module is an in-house development. In function and performance, we exceed the requirements of the Federal Office for Security in Information Technology by twice as much! Easy encryption with WPA2 or via a radius server and with certificates up to 4096 bits are no problem for us. Of course, we 'radio' if necessary, in the 2.4 and or 5 GHz range. An associated configuration tool enables easy and fast commissioning.

Bluetooth

The Bluetooth module is also an in-house development and is based on the same platform as our Wi-Fi module. All our Bluetooth devices are delivered configured and work immediately without any additional effort – of course secured and protected from third-party access. Our hardware only communicates among itself and after initial initialisation, only with a specific database!

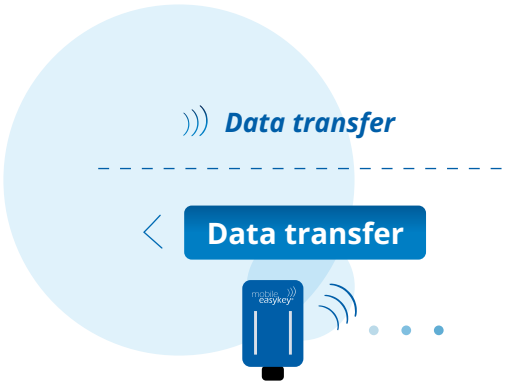
Bluetooth Base Station



The compact Bluetooth Base Station is mounted centrally, e.g. at a gas station or battery charging station, so that each vehicle can regularly transmit and receive data from the Mobile Easykey software.

Mobile / GPS

Our mobile network module is also an in-house development. It is ideal for all areas that cannot be covered by Wi-Fi or Bluetooth. Optionally, you can equip the mobile phone modules with GPS and display the current location of your vehicles in the software. For operation, you need a SIM card from any network provider to send data to the module or to read it out. In normal operation, less than 250 MB of data per month is sufficient.



RFID

Electronic login

Transponder



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

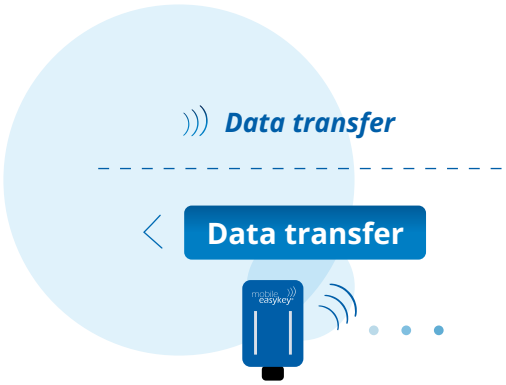
The supported reading methods are constantly being expanded. In the run-up to a project, we check the customer's own transponders for compatibility and reading range on our own test stand.

The passive transponders (EM4100/4102/ 4200) give users access to the forklift trucks, if they are entitled to do so. We offer different colours and styles. The transponder is also available in a special EX protection version. With the transponders we offer, we guarantee that each ID has been assigned only once and that the module is activated even at a distance of up to 3 cm. With the optional Universal Card Reader, we support the following variants:

Functional Coil



The Functional Coil is used for the practical attachment of the own transponder 'to the person'. The coil can be pulled out up to approx. 70 cm and carries the transponder back automatically and safely. The Function Coil is available in different colours. Lost transponders are thus a thing of the past.



RFID

Electronic login

Desktop Reader



Mobile Easykey Desktop Reader

The Mobile Easykey transponders (EM4100 / 4102 / 4200) can be conveniently assigned to different users or batteries via the Mobile Easykey Desktop Reader. The Mobile Easykey software contains all the necessary drivers and functions.

Universal Desktop Reader

All common transponders (125 kHz and 13.56 MHz) can be conveniently assigned to the different users or batteries via the Universal Desktop Reader. The Mobile Easykey software contains all the necessary drivers and functions.

The table readers can also be used as an additional authentication point to log on to the software.