ekey lock

English

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General

ekey biometric systems GmbH operates a quality management system in compliance with EN ISO 9001:2008 and is certified accordingly.

Note

These instructions form a component of the product. Ensure that they are stored in a safe place. Please contact your dealer for further information about the product.

Product liability and limitation of liability

Safe operation and function of the devices can be impaired in the following situations. Liability due to malfunctioning is transferred to the operator/user in such cases:

- ☐ The system devices are not installed, used, maintained, and cleaned in accordance with the instructions
- ☐ The system devices are not used within the scope of proper use
- ☐ Unauthorized modifications are carried out on the system devices by the operator.

These operating instructions are not subject to updating. We reserve the right to make technical modifications and change the product's appearance; any liability for errors and misprints is excluded.

Warranty and manufacturer's warranty

The version of our general terms and conditions in force on the date of purchase shall apply. See http://www.ekey.net.

Notices, symbols, and abbreviations

!	NOTICE
	Denotes additional information and useful tips.

⚠	DANGER
	Denotes imminent danger which could lead to death or serious injuries.

⚠	ATTENTION
	Denotes possible property damage which cannot result in injuries.

Symbols:

1.	Step-by-step instructions
$\boxed{\mathbf{i}}$	References to sections of these instructions
$\boxed{\mathbf{o}}$	References to the mounting instructions
$\boxed{\mathbf{4}}$	References to the wiring diagram
□	Listing without specified order, 1st level
Displayed value	Displayed values
ekey lock radio module 3.0	Product names
Button	Buttons

Abbreviations and terminology

Radio cylinder	Functioning unit comprising a module knob, radio emitting module, and mechanical knob with permanently assembled cylinder

Safety information

DANGER	⚠
All *ekey lock* devices are to be operated with safety extra-low voltage (SELV). Only use power supplies rated protection class 2 according to VDE 0140-1. **Failure to do so will create a risk of electrocution.** **Only certified electricians are authorized to carry out the electrical installation work!**	**Life-threatening danger resulting from electricity**

Mount the *ekey lock radio module 3.0* in a secure internal area. This prevents tampering from the outside.	**Tamper-proofing**

Product description
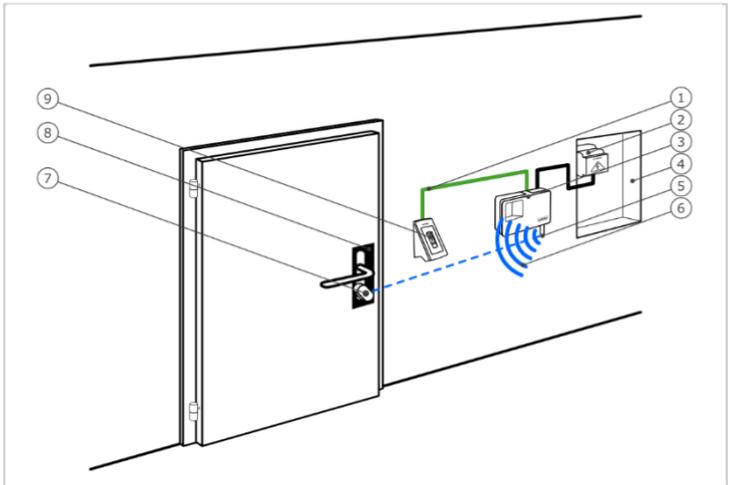
Fig. 1: Overview of the system

1 Connecting cable from finger scanner to control panel
2 Power supply
3 Control panel
4 Distributor
5 Built-in radio emitting module with antenna
6 Radio path
7 Radio cylinder
8 Lock
9 Finger scanner

Scope of delivery

□ *ekey lock radio module 3.0*:

  - Module knob
  - Radio emitting module
  - Short antenna (41 mm)
  - RFID card set (commissioning, mounting, battery replacement)
  - Two CR2 batteries
  - Battery replacement clamp
  - Self-tapping fillister head screw

□ Mechanical knob with permanently assembled cylinder and fixing screw
□ Operating instructions
□ Additional mandatory system components:

  - Registration unit
  - Control panel

□ Optional: Compatible accessories:

  - *ekey lock long antenna*
  - *ekey lock wireless transponder 3.0*;
  - *ekey lock e-opener*
  - Power supply
  - Connecting cable

Proper use and area of application

This product is an accessory for a finger scan or pin code access control system. It is integrated into the system. The system is comprised of radio modules, a mechanical knob with permanently assembled cylinder, a registration unit, and a control panel.

The access control system reads the features of the finger lines or the pin codes entered, compares them to the stored fingerprint or reference code, and activates the mechanical knob in order to unlock and open the door.

The system is primarily designed for opening house doors, apartment doors, garage doors, and office doors in homes, businesses, and industrial areas.

Radio cylinder

The radio cylinder is comprised of:

□ A sealed, watertight module knob
□ A radio emitting module
□ A mechanical knob with permanently assembled cylinder in lengths from 30/30 through 70/70 in 5 mm increments or Swiss round cylinder 32.5/32.5 through 72.5/72.5 in 5 mm increments.

Function of the radio cylinder
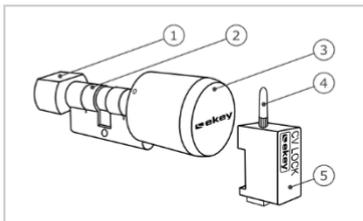
1 Mechanical knob
2 Cylinder
3 Module knob
4 Antenna
5 Radio emitting module

Fig. 2:   Radio cylinder

The radio cylinder receives the signal from the radio emitting module and couples with the cylinder. You can unlock the door by turning the mechanical knob.

Controls of the radio cylinder

Controls	Function
Turning the module knob	Activation of the module knob.
Card set	Execution of the corresponding functions.

Table 1: Controls of the radio cylinder

Optical signals and acoustic signals on the radio cylinder

Module knob

The module knob has a status LED for the operating status. It also sends acoustic signals.
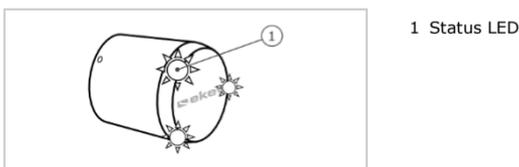
1 Status LED

Fig. 3: Optical signals on the module knob

Radio emitting module

The radio emitting module has a status LED for the operating status.

1 Status LED
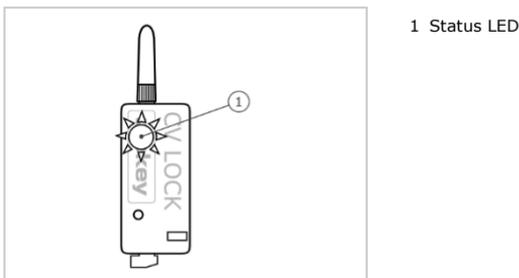
Fig. 4: Optical signals on the radio emitting module

Wireless transponder

The *ekey lock wireless transponder 3.0* is an accessory part of the *ekey lock* system.

Function of the wireless transponder

With the *ekey lock wireless transponder 3.0*, you can even open doors that are equipped with the radio cylinder if the *ekey finger scanner*, the *ekey keypad*, or the *ekey control panel* is not operational. This may be the case in the event of a power failure or a technical fault.

Controls of the wireless transponder

Controls	Function
Button	Enroll and delete the wireless transponder, door opening

Table 2:   Controls of the transponder

Optical signals on the wireless transponder

The wireless transponder has a status LED for the operating status.

1 Button
2 LED
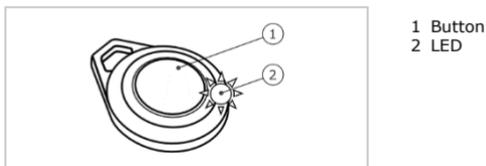
Fig. 5:   Optical signals on the wireless transponder

Technical specifications

Name	Unit	Values
Supply	VDC	3 (2 CR2 lithium batteries)
Operating temperature	°C	-20 to +65
Storage temperature	°C	-40 to +85
Dimensions	mm	40 x 41
Unlock cycles (battery service life)	Cycles	Up to 70,000 (at 20°)
Storage service life	Years	4
Wireless transmission (AES128 encryption)	MHz	868
RFID frequency	MHz	13.56
IP code	IP	65

Table 3:   Technical specifications: Module knob

Name	Unit	Values
Supply	VAC/VDC	5-15
Operating temperature	°C	0 to +70
Storage temperature	°C	-20 to +70
Dimensions	mm	42 x 24.5 x 60
Wireless transmission (AES128 encryption)	MHz	868
Radio range	m	Max. 7, typical 10

Table 4:   Technical specifications: Radio emitting module

Name	Unit	Values
Supply	VDC	3 (1 CR2032 lithium battery)
Temperature range	°C	0 to +70
Number of operations per battery charge	-	Approx. 10,000
Range	m	Max. 5, typical 1
IP code	IP	41

Table 5:   Technical specifications: Wireless transponder

Installation

⚠️ | **ATTENTION**

Mount and cable the product correctly before connecting power.
Possible property damage!
Do not connect the grid supply yet!

<table>
<tr><td align="center">**ATTENTION**</td><td>⚠</td></tr>
</table>

You are not permitted to use the radio cylinder on doors with rosettes or fittings on the outside that can easily be removed.

Otherwise, you will not be able to rely on protection against unauthorized opening.

If you have a door with a security set featuring a core pull-out protection rosette on the outside, replace the set.

<table>
<tr><td align="center">**ATTENTION**</td><td>⚠</td></tr>
</table>

Some locking systems are not suitable for in-wall mounting of the radio cylinder.

In some circumstances, the function of doors with panic function may be impaired, for example.

Check if your system is suitable before commencing mounting. Variants with panic locking nose, for example, are available to purchase from dealers.

Mount the system in accordance with the supplied mounting instructions.	🗋
Cable the system in accordance with the supplied wiring diagram.	🗋

Commissioning

The devices are commissioned by connecting the radio cylinder to the *ekey home/net* system in order to set up an operational *ekey lock* system.

Commissioning the devices

The devices can only be commissioned if you have assembled and cabled the components of the *ekey lock radio modules 3.0*, the mechanical knob with permanently assembled cylinder, and the *ekey home/net* components.

<table>
<tr><td align="center">**NOTICE**</td><td>❗</td></tr>
</table>

The radio emitting module is configured prior to delivery. You do not have to enroll the radio emitting module on the module knob. If you have had to replace the radio emitting module, you will have to enroll the new radio emitting module. Contact your dealer for assistance.

d!	Mount the ekey home/net components in accordance with the supplied mounting instructions.

Step	Instruction
1st	Commission the *ekey home/net* components.

i	See the corresponding operating instructions for instructions on commissioning the *ekey home/net* components.

The devices have been commissioned. Your *ekey lock* system is ready for operation.

Use

Opening a door

The primary purpose of the product is to open doors. The system is in normal mode.

Using the finger scanner

Step	Action	Description	Display	
1st		Swipe a stored finger over the sensor.		Status LED lights up green.
				Status LED lights up red.
		The finger was not recognized. Repeat step 1.	-	-
2nd		Turn the mechanical knob to unlock and open the door.		Status LED lights up blue.
3rd	No action required.	The door opens.	-	-

The system is in normal mode. The cylinder decouples again. The mechanical knob rotates unengaged.

Using the code pad

Step	Action	Description	Display	
1st		Enter a stored user code on the keypad.	-	-
2nd	✓	Press ✓.		The status LEDs light up green.
				The status LEDs light up red.
☹		The user code was not recognized. Repeat the procedure beginning at step 1.	-	-
3rd		Turn the mechanical knob to unlock and open the door.		Status LEDs are off.
4th	No action required.	The door opens.	-	-

The system is in normal mode. The cylinder decouples again. The mechanical knob rotates unengaged.

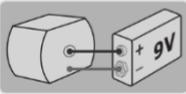|	
We are working to improve our products and add new functions all the time. Accordingly, software updates are available for both the radio cylinder and the radio emitting module. More information about this can be obtained from your dealer.	**Updating the software**

Performing an emergency opening

Your radio cylinder has been manufactured according to the very latest standards in terms of technology and quality. However, malfunctions or defects as a result of external influences or incorrect operation may still occur. ekey has implemented emergency opening solutions which will enable the door to be opened in the event of the following problems:

| **Empty batteries** | You can also connect a 9 V block battery via the mechanical knob to supply power to the module knob. |

Step	Figure	Description
1st		Establish contact between the battery and the mechanical knob. The positive pole is located in the center of the mechanical knob. The negative pole is located on the outer ring of the mechanical knob.
2nd		Swipe a stored finger over the sensor or enter a stored user code on the keypad or press the wireless transponder.

You have opened your door. Insert new batteries into the radio cylinder.

| ℹ️ | See Batteries, page 15. |

| ℹ️ | See Wireless transponder, page 6. |

| **Power failure or technical fault** | With the *ekey lock wireless transponder 3.0*, you can even open doors that are equipped with the radio cylinder if the *ekey finger scanner*, the *ekey keypad*, or the *ekey control panel* is not operational. This may be the case in the event of a power failure or a technical fault. |

❗	**NOTICE**

The batteries of the module knob must be intact for the wireless transponder to function.

⚠️	**ATTENTION**

The radio cylinder can also become inoperative.
The lock unit or the door might have to be damaged beyond repair before you can open the door from the outside. A locksmith can help.
A second way into the house must be available (a cellar door, for example).
Should the system suffer a complete failure of this nature, ekey does not accept any liability for consequential damage and costs.

Enrolling the wireless transponder

You can enroll a wireless transponder for emergency opening.

Step	Action	Description	Display	
1st		Turn the module knob until it flashes red.		Status LED flashes red.
2nd		Hold the commissioning card in front of the module knob within 5 s.		Status LED flashes green. Low acoustic signal followed by high acoustic signal.
3rd		Press the button on the wireless transponder within 15 s.		Status LED flashes green. High acoustic signal sounds twice.
4th		Hold the commissioning card in front of the module knob.		High acoustic signal followed by low acoustic signal.

The wireless transponder has been enrolled.

NOTICE	

Test the wireless transponder before relying on this emergency option. Close and lock the door and use the wireless transponder to open it from the outside. Test the function of the wireless transponder monthly. Replace the batteries annually.

Deleting wireless transponders

You can delete individual wireless transponders that have been enrolled.

Step	Action	Description	Display	
1st		Turn the module knob until it flashes red.		Status LED flashes red.
2nd		Hold the commissioning card in front of the module knob within 5 s.		Status LED flashes green. Low acoustic signal followed by high acoustic signal.
3rd		Press the button on the wireless transponder within 15 s.		Status LED flashes red then green. High acoustic signal sounds twice.
4th		Hold the commissioning card in front of the module knob.		High acoustic signal followed by low acoustic signal.

The required wireless transponder has been deleted.

Error displays and troubleshooting

Display/Problem	Meaning	Remedy
The module knob is not responding to the RFID card being held up in front of it.	Automatic wake-up is deactivated.	Turn the module knob until the red LED starts to flash. Hold up the card. The module responds and automatic wake-up is reactivated.
	There is no connection between the wireless transponder or radio emitting module and the module knob.	Enroll an wireless transponder or contact your dealer.
The module knob is not responding.	The module knob is not receiving a signal.	Check the wireless transponder battery.

If these suggestions fail to solve the problem, the *ekey lock radio cylinder* must be returned to ekey biometric systems GmbH to be checked. Please ship the equipment in suitable packaging. Improper packaging can lead to the warranty being voided.

Maintenance

With the exception of the batteries, the *ekey lock radio cylinder* is maintenance-free.

Battery management

The module knob has a built-in battery management function. This function signals when the battery charge is running low. There are 3 phases.

Phase 1

The radio emitting module is activated by the door being accessed. The module knob beeps 5 times and the red status LED flashes 5 times. The door opens immediately.

NOTICE	!

Replace the batteries as quickly as possible.

Phase 2

The radio emitting module is activated by the door being accessed. The module knob beeps 5 times and the red status LED flashes 5 times. The door opens after 5 s.

NOTICE	!

Replace the batteries immediately.

Phase 3

You can no longer open the door without a standby power supply. You can still replace the batteries.
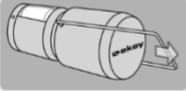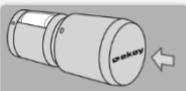
See Performing an emergency opening, page 11.	i

See Battery replacement, page 16.	i

Battery replacement

You do not have to remove the module knob from the cylinder in order to replace the battery.

Step	Figure	Description
1st		Slide the battery replacement clamp over the module knob.
2nd		Press down on the two locking bolts on the module knob with the battery replacement clamp.
3rd		Remove the protective cap. A little force may need to be applied in order to remove the cap.
4th		Now replace the batteries. Check that the polarity is correct. A short acoustic signal sounds as soon as the 2nd battery has been inserted.
5th		Slide the protective cap over the module knob.
6th		Press the locking bolts into place.
7th		Position the protective cap. Both locking bolts must engage in the bore hole on the protective cap.

The process to replace the batteries is complete.

Disposal

Pursuant to Directive 2002/96/EC of the European Parliament and Council of January 27, 2003 on the sale, return and environmentally friendly disposal of waste electrical and electronic equipment (WEEE) supplied after August 13, 2005, electrical and electronic equipment is to be recycled and may not be disposed of with household waste. As disposal regulations within the EU can differ from country to country, please contact your dealer for further information as necessary.

Declaration of conformity

ekey biometric systems GmbH hereby declares that the product conforms to the relevant provisions of the Electromagnetic Compatibility Directive 2004/108/EC of the European Union. The complete text of the declaration of conformity can be downloaded from http://www.ekey.net/downloads.

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