ekey

YOUR FINGER. YOUR KEY.

ekey with CES OMEGA FLEX

OPERATING INSTRUCTIONS

01

English

Table of contents

About these instructions

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.

Declaration of conformity

ekey biometric systems GmbH hereby declares that the product conforms to the relevant European Union regulations.

Warranty and manufacturer's guarantee

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

Copyright

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Target group

These instructions are aimed at persons who activate and perform maintenance on the ekey system, create users, and instruct users in how to operate the system.

Applicable documents

☐ Instructions for electronic cylinder:
https://www.ces.eu/de_us/cesmedia/faffd486-514c-42f1-adb3-2879e1b17879/en.

☐ Short instructions for electronic cylinder:
https://www.ces.eu/de_us/cesmedia/ac7dddbd-45b5-4c7e-aebe-00899e1e4ae2/int.

☐ Instructions for radio switch: https://www.ces.eu/de_us/cesmedia/8d30dde4-1ead-4156-8f09-83f930284d81/en.

Legend of symbols, abbreviations, and terminology

Symbols:

◇	Individual instructions
1st	Step-by-step instructions
•	Listing within the action
>	Results of action steps
✓	Outcomes of instructions
⌁	Requirements for performing instructions
i	References to sections of these instructions
♂	References to the mounting instructions
⚡	References to the wiring diagram
ⓘ	Information
☐	Listing without specified order, 1st level
—	Listing without specified order, 2nd level
Displayed value	Displayed values
ekey home FS OM	Product names
MENU ITEM	Menu items
Button	Buttons

Safety information

Proper use and areas of application

This product is an accessory for a fingerprint scanner or user code access control system. The product is integrated into the system. The system consists of the radio switch, an electronic cylinder, a registration unit, and a control panel.

The access control system reads the features of the finger lines or the user 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.

To ensure proper use, the ekey system must be installed in accordance with the mounting instructions and the wiring diagram. The installation must be performed in full and by a professional. The electrical engineer who installs the equipment must approve the ekey system for use, as well as any accessories that are installed.

The ekey system is suitable for use as outlined in these instructions. Any other kind of use is deemed improper use.

Product liability and limitation of liability

Safe operation and function of the devices can be impaired in the situations outlined below. In the event of malfunctions, damage, consequential damage, costs, or expenses associated directly or indirectly with the use of the safety information and instructions or the products that they describe, liability shall transfer to the operator/user in the following cases:

☐ The system devices are not installed, used, maintained, or 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.

Classification of notices

⚠	DANGER

Safety information: Denotes imminent danger which could lead to death or serious injuries.

⚠	WARNING

Safety information: Denotes a possibly dangerous situation which can lead to death or serious injuries.

⚠	CAUTION

Safety information: Denotes a possibly dangerous situation which can lead to slight or minor injuries.

⚠	ATTENTION

Notice: Denotes possible property damage which cannot result in injuries.

!	NOTICE

Notice: Denotes additional information and useful tips.

Notices

⚠	DANGER

Risk of death from electricity: All ekey devices are to be operated with Safety Extra Low Voltage (SELV). Only use power supplies rated protection class 2 with safety approval according to EN 62368-1.
Failure to do so will create a risk of fatal electrocution.
Only certified electricians are authorized to carry out electrical installation work on mains systems.

⚠	ATTENTION

Security against manipulation: You may not mount the control panel and the *CES OMEGA FLEX radio switch* outdoors.
If they are mounted outdoors, they could be tampered with.
Mount the control panel and the *CES OMEGA FLEX radio switch* in safe indoor areas.
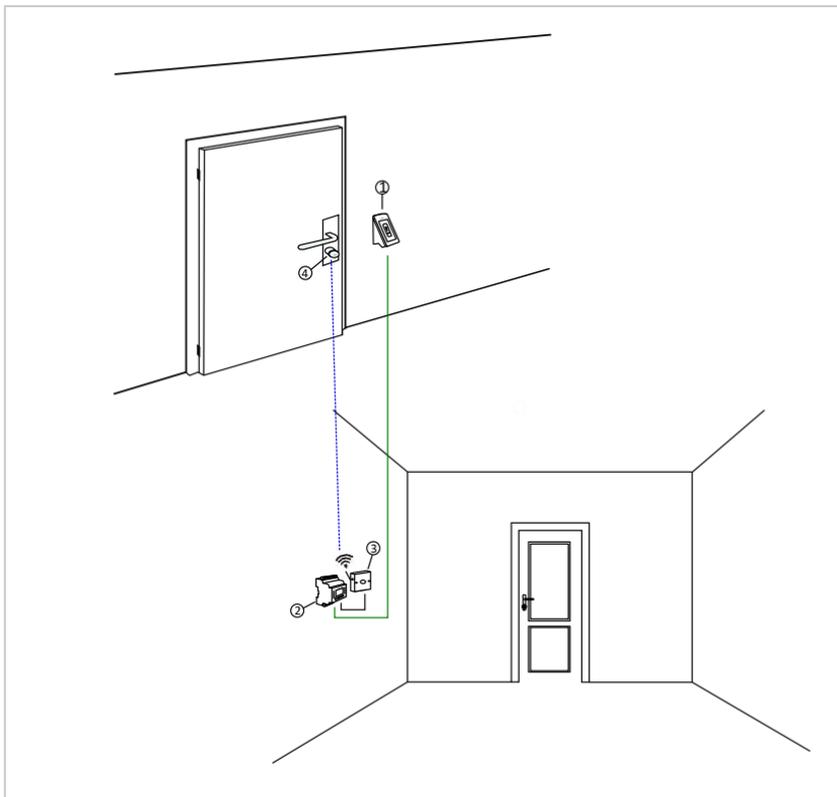
Introduction to the system

System overview

Fig. 1:   *Overview of the system (example)*

1 ekey registration unit
2 ekey control panel
3 CES OMEGA FLEX radio switch
4 CES OMEGA FLEX electronic cylinder

Components required

- □ *CES OMEGA FLEX electronic cylinder*;
- □ *CES OMEGA FLEX radio switch*;
- □ *CES OMEGA FLEX URC-Master*;
- □ Power supply
- □ Additional mandatory system components:

    - ekey registration unit
    - ekey control panel

Optional: compatible accessories:

- □ *CES OMEGA FLEX SMA rod antenna*
- □ Connecting cable

!	NOTICE

Keep the URC Master card: Take good care of the *CES OMEGA FLEX URC-Master*. You need the supplied card to couple the radio switch with the cylinder.
All *CES OMEGA FLEX* products are given a system identification code from the factory. You can find this system identification code, for example, on your URC-Master card. The system identification code must be provided for replacement orders or follow-up orders; otherwise, the *CES OMEGA FLEX* products cannot be connected to each other.
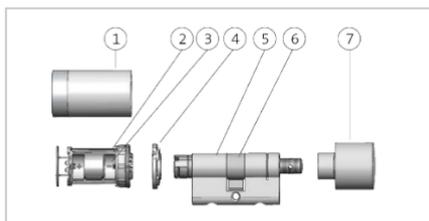
CES OMEGA FLEX electronic cylinder

The *CES OMEGA FLEX electronic cylinder* consists of:

- □ a sealed, watertight electronic knob
- □ a cylinder in various lengths and versions
- □ a mechanical knob

Function of the *CES OMEGA FLEX electronic cylinder*

The *CES OMEGA FLEX electronic cylinder* receives the signal from *CES OMEGA FLEX radio switch*. You can then unlock and lock the door by turning the knob.
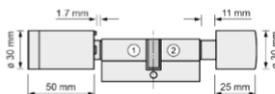

1 Knob sleeve
2 Electronic knob
3 Battery compartment
4 Securement
5 Cylinder
6 Locking cam
7 Mechanical knob
  (only with double cylinder)

Fig. 2:   Electronic cylinder

Dimensions of the *CES OMEGA FLEX electronic cylinder*
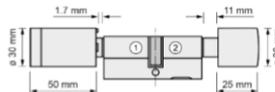
Euro profile cylinder
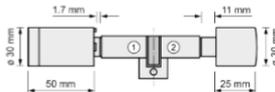
1 Outside (Locking side "S")
2 Inside (Knob side "K")

Euro profile cylinders AP and GS
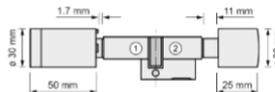
1 Outside (Locking side "S")
2 Inside (Knob side "K")

Swiss round cylinder

1 Outside (Locking side "S")
2 Inside (Knob side "K")

Swiss round cylinders AP and GS

1 Outside (Locking side "S")
2 Inside (Knob side "K")

Inside (K) /All dimensions in mm				(AP and GS from 32,5)		(FH variants from 32.5)						Outside (S) /All dimensions in mm	
87.5	...	72.5	...	62.5	...	32.5	27.5	27.5	32.5	...	62.5	...	72.5	...	87.5
Max. Axial dimension 87.5 mm. Extension in 5 mm steps.						Max. Axial dimension 87.5 mm. Extension in 5 mm steps.							
Max. total length 175 mm.													

CES OMEGA FLEX radio switch

The radio switch consists of:
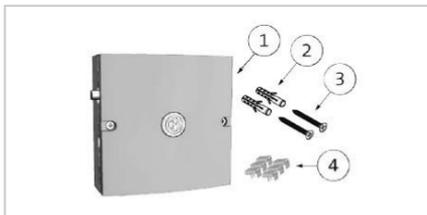
1 Radio switch
2 2 screw anchors
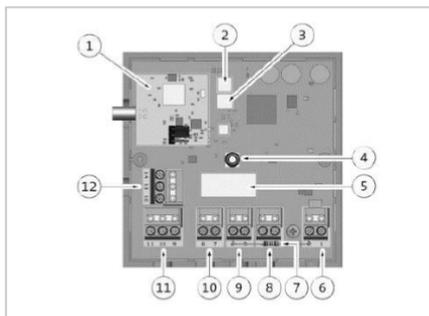3 2 fixing screws
4 6 solder pins

Fig. 3:   Radio switch

Function of the *CES OMEGA FLEX radio switch*

With a radio switch, you can integrate third-party systems, such as an ekey fingerprint scanner, into the *CES OMEGA FLEX* unit. The radio switch controls the following locking devices:

- □ Electronic cylinder (R2 cylinder)
- □ Long shield ILS
- □ Smart shield SIS

Relays and circuitry

1 URC
2 Coupling button
3 DIP switch
4 Tamper switch
5 Bridges
6 Power supply
7 Resistance (1.8 kΩ, 250 mW)
8 Opto-isolator input 2
9 Opto-isolator input 1
10 Plug connector for tamper switch
11 Relay output 1
12 Relay output 2

Fig. 4:   Relays radio switch

<table>
<tr><td>!</td><td>NOTICE</td></tr>
</table>

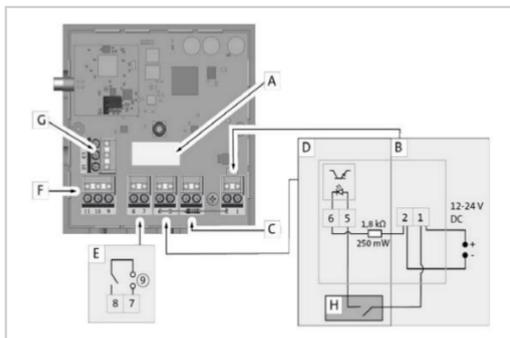**Safe working:** Carry out all work on and in the device only when it is disconnected from a power source!

Fig. 5:   Circuitry radio switch

Name	Relay no.	Function	Description
A		None	Currently not used
B	1 2	Power supply	Power supply 12–24 VDC
C	3 4	Opto-isolator input 2	Currently not used
D	5 6	Opto-isolator input 1	Input for triggering via button or similar.
E	7 8	Tamper switch	Relay of the integrated tamper switch
F	9 10 11	Relay output 1	Currently not used
G	12 13 14	Relay output 2	This relay switches for 3 seconds if a locking medium is recognized as authorized on the locking device. (Release) After the 3 seconds it switches back to the rest position. The switching duration can be changed at the factory
H		Switch, button, etc.	Dry-contact (relay)

More information on *CES OMEGA FLEX* products

Further information, such as mounting and operating instructions for CES products, can be found in the CES media center.

https://www.ces.eu/en_us/downloads.html.

Installation

Mounting of the ekey components

|	
	Mount the system in accordance with the supplied mounting instructions.
	Wire the system in accordance with the supplied wiring diagram.

Mounting of the *CES OMEGA FLEX electronic cylinder*

ⓘ The electronic cylinder is not compatible with protective fittings with a core pull-out protection rosette in the outside area.

The mounting steps depend on which electronic cylinder you want to install. Basically, proceed as follows:

1. Dismantle electronic knob or mechanical knob
2. Fitting the cylinder in the door
3. Fitting the electronic knob or mechanical knob

Mounting videos
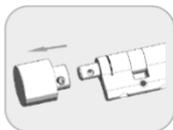
1. Dismantle the mechanism knob
2. Fitting the cylinder in the door
3. Fitting the mechanism knob

1. Dismantle the electronic knob
2. Fitting the cylinder in the door
3. Fitting the electronic knob

Tools required:

Tool		Required for	Part of the assembly set*
	Torx screwdriver for TX25 with security pin	Cylinder fixing screw	✓ (Torx-Bit TX25)
	CES spanner	Knob sleeve	✓
Only for assembling the double-knob cylinder, if the mechanical knob is disassembled:			
	2.5 mm Allen key	Grub screw in mechanical knob	✗

ⓘ *The assembly set is supplied one-off with the first order of a system. You can order additional tools from your CES partner.

⚠ **NOTICE**

Mounting set: The mounting set is included in the packaging of the *CES OMEGA FLEX electronic cylinder*.

Mounting of the *CES OMEGA FLEX radio switch*

Mount the system in accordance with the mounting instructions.

The mounting instructions can be found along with the product or at:

https://www.ces.eu/de_us/cesmedia/8d30dde4-1ead-4156-8f09-83f930284d81/en.

System wiring

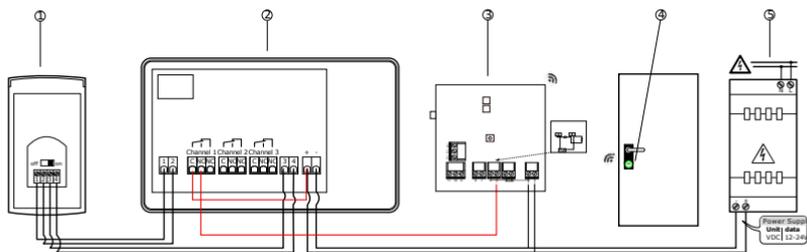Perform the wiring between the ekey control panel and the CES radio switch.

Fig. 6:   System wiring

1 ekey registration unit
2 ekey control panel
3 CES OMEGA FLEX radio switch
4 CES OMEGA FLEX electronic cylinder
5 Power supply

Activation

Activating the system

You must activate the devices in order to operate your system. The devices are activated by connecting the electronic cylinder to the ekey system in order to set up an operational system.

☼ The system devices must be installed in order for you to activate the system.

!	**NOTICE**

System identification code: The CES components are provided with a system identification code. The electronic cylinder, the URC-Master card, and the radio switch only work in the system if the components have a matching system identification code.

⚙	Activate the ekey components.

ℹ	See the corresponding operating instructions for instructions on activating the ekey components.

Coupling of locking devices

If you want to control a locking device with a radio switch, you have to couple the locking device to the Radio Switch.

To be able to couple and control a locking device, the **URC mode** of the locking device has to be activated. As soon as you activate the URC mode, the locking device automatically tries to couple to the relevant module.

ⓘ You can couple a maximum number of four locking devices.
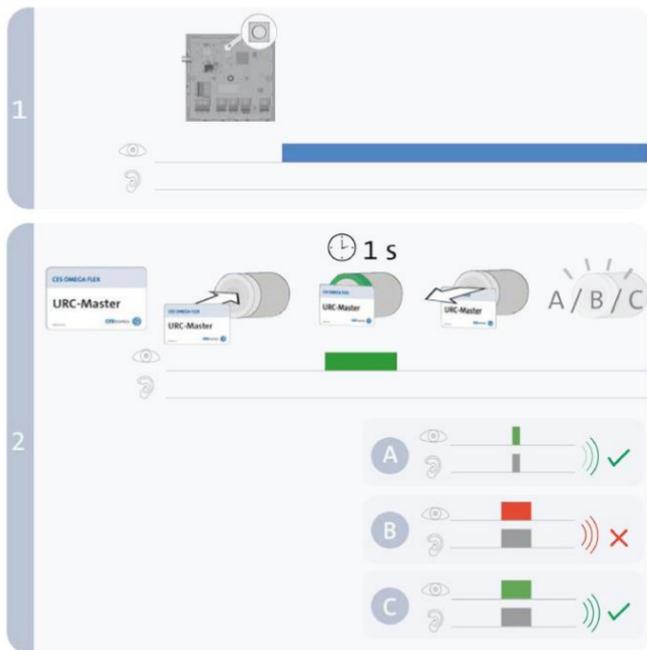
Required master media:

- URC-Master

ⓘ The URC-Master does *not* have to be authorised first.

How to proceed:

ⓘ As an example, the picture shows an electronic cylinder, but the procedure is identical for other locking devices.

1. **Press the coupling button.**

   Now, the Radio Switch is in coupling mode. The LED is continuously illuminated in blue.

   ⓘ If you press the coupling button again, you switch off the coupling mode. After five minutes, the coupling mode will end automatically.

2. **To end the URC mode, hold the URC-Master for approx. 1 second in the reading field of the locking device.**

   One of the following signals will appear:

A: 1x short green flash and 1x short beep	Coupling has been successful
B: 1x long red flash and 1x long beep	Coupling is not possible
C: 1x long green flash and 1x long beep	Coupling has already been established

   If coupling has been accomplished successfully, the URC mode is activated, and the Radio Switch will control the locking device. The URC mode will be activated until you deactivate it with the URC-Master.

   If coupling could not be established successfully, the URC mode will not be activated. Make sure that the Radio Switch is in coupling mode and in the near vicinity of the device, and repeat the coupling process.

   ⓘ When a locking device has been coupled successfully, it will automatically couple again to the coupled Radio Switch after restart.

✓ The devices have now been activated and are in normal mode.

Use

Opening the door

The primary purpose of the product is to open doors. This can be carried out using a fingerprint scanner, an RFID transponder, a code pad, or a digital input. The system is in normal mode.

With the fingerprint 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 electronic 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 electronic cylinder decouples again. The electronic knob rotates engaged.

Using the code pad

Step	Action	Description	Display
1st		Enter a stored user code on the keypad.	
2nd		Press ✓.	 Status LEDs light up green. Status LEDs light up red.
		The user code was not recognized. Repeat the procedure beginning at step 1.	
3rd		Turn the electronic 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 electronic cylinder decouples again. The electronic knob rotates engaged.

With the locking media

Step	Action	Description	Display
1st		Hold the stored locking medium up to the electronic knob.	
2nd		The locking medium is authorized.	Status LED lights up green.
		The locking medium was not recognized.	Status LED lights up red.
		The locking medium was not recognized. Repeat the process from step 1 or check whether the locking medium has been stored.	
3rd		Turn the electronic 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 electronic cylinder decouples again. The electronic knob rotates engaged.

Updating the software

We are working to improve our products and add new functions all the time. More information about this can be obtained from your dealer.

Power failure or technical fault

With a stored locking medium, you can also open the electronic cylinder if the ekey fingerprint scanner, the ekey code pad, or the ekey control panel are not operational. This may be the case in the event of a power failure or a technical fault.

❗	NOTICE

Functional locking medium: The batteries of the electronic knob must be intact for the locking medium to function.

⚠	ATTENTION

System failure: The electronic cylinder can also become non-operational!
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.
Should the system suffer a complete failure of this nature, ekey does not accept any liability for consequential damage and costs.
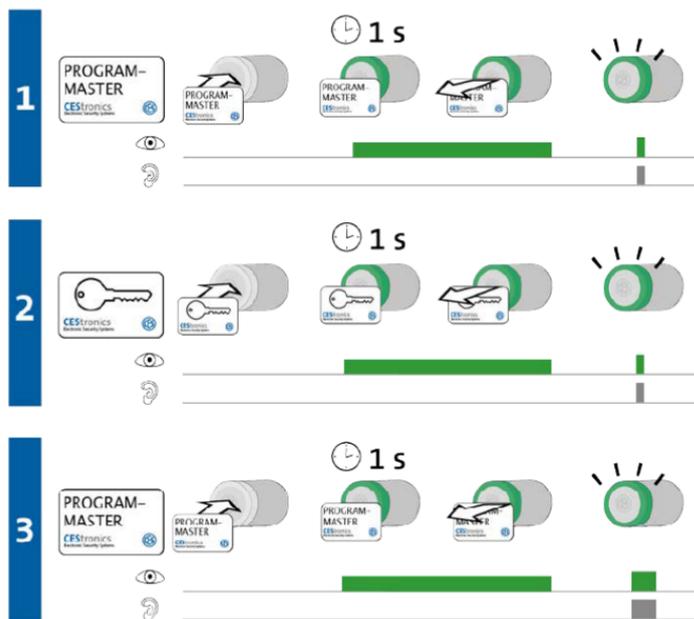A second way into the house must be available (e.g. a cellar door).

Authorizing locking media

Required media:

- Program-Master
- Any locking media that needs to be authorised

ℹ️ The Program-Master must first be authorised for the locking device on which it is to be used, see "Authorising additional master media" on page 113

Procedure:

1. Hold the Program-Master for ca 1 second in the reading field of the locking device to start the "authorise mode.

   The following signal appears:
   1x short green and 1x short beep

2. Now you can authorise any number of locking media one after the other by holding each locking media for ca 1 second in the reading field of the locking device.

   The following signal appears for each locking media:
   1x short green and 1x short beep

3. Hold the Program-Master for ca 1 second in the reading field of the locking device to end the "authorise mode.

   The following signal appears:
   1x long green and 1x long beep

   ⓘ The "authorise mode" will end automatically after 5 seconds. Die new authorisations remain stored.

⚠	NOTICE

Master media: To be able to authorize locking media, you always need a system master and a program master. These media are included in the *CES OMEGA FLEX Home & Office sets*. Ensure that they are stored in a safe place. Before you can authorize a locking medium, the master media must be stored. Information on storing master media is available with the product or from: https://www.ces.eu/de_us/cesmedia/faffd486-514c-42f1-adb3-2879e1b17879/en.

Error displays and corrections

CES OMEGA FLEX products

You can find error displays and corrections with the product and in the CES media center: https://www.ces.eu/en_us/downloads.html.

ekey fingerprint scanner, code pad, or control panel

You can find error displays and corrections with the product and in the ekey download center: https://www.ekey.net/en/download-center/.

Maintenance

Battery management

The *CES OMEGA FLEX electronic cylinder* is basically maintenance-free except for the batteries.

The electronic knob has a built-in battery management function. This function signals when the battery charge is running low.

Warning levels of the battery alarms

⚠ **CAUTION** | **Lockout possible!**

If the battery is empty, the door cannot be opened any more.

- Therefore, replace the battery immediately **at warning level 1!**

Warning level	Signalling the battery alarm	Reason	Required action
1	👁 ▮	Battery capacity low	Replace the battery

!	**NOTICE**

Battery replacement: Replace the batteries as quickly as possible. Since the electronic knob is on the outside, if the battery has died, you can also use a suitable tool to replace it from the outside.

Battery replacement

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

Replacing battery in electronic cylinder
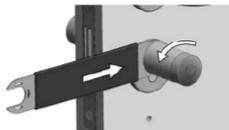
1. Loosen the KNOB SLEEVE with the CES SPANNER and by hand.

   ℹ️ If the knob sleeve cannot be loosened by hand, you can use CES FREE-RUNNING RATCHET to loosen it.
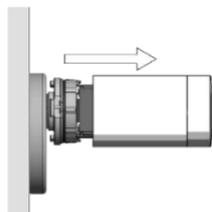   You can acquire the CES free-running ratchet through your CES partner.

   ⚠️ Use the CES free-running ratchet only on the stainless steel sleeve, never on the light ring.
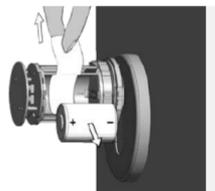
   ⚠️ Turn the CES free-running ratchet **against the locking direction** while placing it on or taking it off, so as not to scratch the knob sleeve.
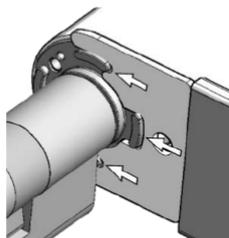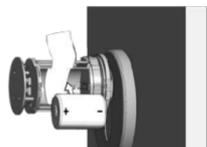
2. Pull the KNOB SLEEVE off from the knob.
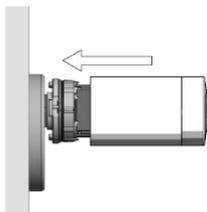
3. Remove the battery by pulling the BATTERY STRAP .

⚠ Remove the batteries only by hand. Do not use any foreign objects for this.
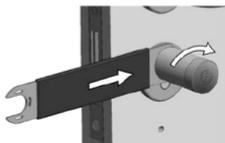
4. Insert the new batteries with correct polarity.

⚠ Use only Panasonic CR2 Industrial Lithium 3,0 V 850 mAh batteries.

⚠ Make sure that the battery strap lies below the

5. Place the KNOB SLEEVE **again on the knob.**

6. Tighten the knob sleeve with the CES SPANNER **and by hand.**

⚠ Do **not** use the CES free-running ratchet **for assembly**. You could damage the knob by over tightening it.

✓ The process to replace the batteries is complete.

Disposal

Pursuant to Directive 2012/19/EU of the European Parliament and Council of July 4, 2012 on waste electrical and electronic equipment, electrical and electronic equipment supplied after August 13, 2005 is to be recycled. It must 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.

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