

CES OMEGA FLEX

Locking media

Radio Key



Operating manual



Version VA

BRO2259-2



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1 About this manual

These assembly and operating instructions, hereinafter referred to as "manual", will help you with the proper, safe and comfortable use of the OMEGA FLEX Radio Key. Anyone who administers, uses, maintains or disposes of the Radio Key must have read and understood the entire contents of this manual. These operating instructions should be kept within reach at all times. This manual should be given to end users.

If you do not understand the functions of the OMEGA FLEX system, please contact your CES partner for further information.

1.1 Design features

Refers to other documents



Indicates additional information and tips

Indicates warnings in step-by-step instructions and particularly important information.

1.2 Target group of this manual

This manual is intended for

- maintenance personnel
- operators
- end users

It is assumed that the user of this manual has the necessary expertise for the intended use of the product.

1.3 Scope of application of this manual

- CES OMEGA FLEX Radio Key
- Always use the latest version of this manual. The version number of this manual is shown on the cover page. You can get the latest version free of cost under www.ces.eu

1.4 Manufacturer and service

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For service assistance please contact your CES partner.

1.5 Notes on trademark protection

MIFARE, MIFARE classic and MIFARE DESFire are registered trademarks of NXP B.V. and are used under license.



For your safety 2

2.1 EU Declaration of Conformity

The EU Declaration of Conformity is available at www.ces.eu.

2.2 Intended use

The Radio Key and its components are used to control OMEGA FLEX locking devices. It may only be used for the intended purpose. The Radio Key must not be modified in any way without the written consent of C.Ed. Schulte GmbH Zylinderschlossfabrik.

All other uses are considered as improper use and may lead to material damage or even personal injury. C.Ed. Schulte GmbH Zylinderschlossfabrik assumes no liability for damage caused by improper use.

2.3 Safety instructions in this manual



"Caution" warns against hazards that may result in minor to

2.4 Basic safety instructions

The Radio Key has been built with state-of-the-art technology and according to established safety regulations. Nevertheless, its use may constitute function-related hazards for the user or third parties and may impair the Radio Key itself or cause other material damage.

2.4.1 Danger of injury

Danger of explosion

• Live parts could cause an explosion. Do not use live parts in potentially explosive areas.

2.4.2 Danger of damage to material assets

Transportation

• Do not drop the device onto the floor, hard surfaces or other objects.

Operation

• Protect the electronic components against water and other liquids.



Maintenance

- Always have repairs performed by qualified personnel.
- Only use the accessories and spare parts recommended by CES.
- Do not use lubricants or oils for care and maintenance.

Danger due to climatic influences

- Do not use the device in corrosive atmospheres (chlorine, ammonia, lime water).
- Do not use the device in areas with high dust formation.
- Do not use the device near heat sources.

2.5 Notes on handling batteries

- Before inserting the batteries, check that the contacts in the device and on the batteries are clean. If necessary, clean them. Do not touch the contacts after cleaning.
- When inserting the batteries, ensure that the polarity is correct (+/-).
- Never try to recharge the batteries. Danger of explosion!
- Do not short circuit the batteries.
- Store batteries in a cool, dry place. Direct heat may damage the batteries. Do not expose battery-driven devices to any strong heat source, and do not throw batteries into a fire.
- If the device is not used for an extended period, remove the batteries.
- Remove leaking batteries immediately from the device. Clean the contacts before inserting new batteries. Danger of chemical burns caused by battery acid!
- Remove flat batteries from the device.
- Recycle flat batteries.

2.6 Manufacturer warranty

The manufacturer warranty does not cover the following damage:

- Damage to exterior mechanical parts as well as subsequent damage arising from normal wear and tear.
- Damage caused by external events or influences
- Damage caused by defective installation
- Damage caused by defective maintenance
- Damage caused by incorrect operation
- Damage caused by overvoltage
- Damage caused by fire, water or smoke



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3 About the OMEGA FLEX system

3.1 What is OMEGA FLEX?

OMEGA FLEX is a product group consisting of various electronic locking devices and locking media, which can be combined with each other as desired. They can also be easily combined with mechanical locking cylinders.

Your chosen combination of OMEGA FLEX components builds your personal **OMEGA FLEX system**, which can be extended or modified at any time.

3.2 How does the OMEGA FLEX work?

OMEGA FLEX is based on radio communication between locking media and battery-powered locking devices. Each locking medium contains a transponder that can both transmit information wirelessly to, and receive it from, the locking device.

Doors can be easily fitted with an **electronic locking device** (e.g. electronic cylinder) from the OMEGA FLEX system range instead of using a mechanical locking cylinder. The doors can then be opened with an authorised **locking medium** (e.g. a key ring or an identity card containing a transponder).

When an authorised locking medium is placed in the reading field of a locking device, the coupling disengages and the door can be opened. After a specified amount of time (="opening period"), the locking device automatically engages again. This prevents the latch and deadbolt from being retracted when the locking device is actuated and the door can no longer be opened.

Depending upon the intended use, OMEGA FLEX fulfils a variety of complex tasks.

3.3 Which system components are included in the OMEGA FLEX?

The OMEGA FLEX system comprises various locking devices, locking media and administration devices.



3.3.1 Locking devices

Locking devices are either built into the door or installed close to it and subsequently control access.









Electronic cylinders

Electronic handle sets

ets Wall terminals

Radio Switches

The Long shield ILS electronic handle set is also available as mechanical locking device (Long shield MLS). This allows you to combine the electronic and mechanical handle sets in a uniform design.

3.3.2 Locking media

Locking media can be used to open doors fitted with OMEGA FLEX locking devices:



A combination key is a mechanical key with a built-in transponder for combining mechanical locking cylinders with electronic locking devices in a locking system.



3.3.3 Administration devices

Administration devices are used to manage the OMEGA FLEX system:

CES O	MEGA FLEX		and the		
MIFARE	CES OMEGA FLEX	•			
	_{MiFARE} * System-Master	OF 12345	Sal		en (B)
		CEStronics (B)			
Γ	Master m	nedia	RF-Stick	Desktop-Reader	Access-Point
				and Desktop-Writer	and Repeater
	•		Tast.	ST ST	
	PC wit	h	Programming adaptor	Programming cable	

3.3.4 Update terminals

CEStronics Suite

With update terminals, users can program and validate their locking media in the V-NET.



Key-Point



Update terminals (no locking device function)



Validation terminals (wall terminal of the /VA variant, no programming function)

4 About OMEGA FLEX Radio Keys



An OMEGA FLEX Radio Key is a locking medium for OMEGA FLEX locking devices and can also be used as a remote control for OMEGA FLEX wall terminals. A Radio Key contains an active 868 MHz transponder and a passive 13.56 MHz transponder. A Radio Key is operated with a commercially available battery type CR 2032.

Different uses of a Radio Key

Use as	Type of transponder	Compatible with	Range
Locking medium	Passive	All OMEGA FLEX lock- ing devices	Approx. 10 mm
Remote control	Active	OMEGA FLEX wall ter- minals	Approx. 3 to 20 m (depending on set transmission power and environment)

(1) Use as a locking medium is possible without battery.

Information on using the radio key with V-NET locking devices

In the V-NET, a radio key cannot be used as a remote control. If you read in a radio key as a V-NET locking medium, you can only use it as a normal locking medium for V-NET locking devices.



Administration of Radio Keys 5

5.1 Radio Keys – scope of delivery



1 Radio Key (incl. inserted battery)

5.2 Authorising Radio Keys

5.2.1 Authorising using master media

As with any other locking medium, you can use the Program Master to authorise the Radio Key. Detailed instructions for programming locking devices with master media can be found in the relevant manual for your locking device.



(1) If you administer your system exclusively with master media (i.e. without the CEStronics Suite), a Radio Key automatically serves as both locking medium and remote control for wall terminals after authorisation by a Program Master.

5.2.2 How to authoise a Radio Key using CEStronics Suite

In OMEGA Client, you can authorise the Radio Key via the locking plan.

- $(\mathbf{1})$ Two requirements must be met before the Radio Key can be used as a remote control for wall terminals:
 - "Radio Key" must be specified in the "Version" field of the locking media editor.
 - For the wall terminal to be controlled, "On" must be activated in the "Parameters" tab "Radio Key" field of the device editor.
 - Detailed instructions can be found in the **CEStronics Suite help**.



5.3 Setting the transmission power

If you want to use a Radio Key as a remote control, you can adjust its transmission power accordingly. The transmission power influences the radio range. By reducing the transmission power, you can avoid, for example, the unintentional control of other wall terminals.



- 1. Move close to a wall terminal.
- 2. Press and hold the Radio Key button for approx. 8 seconds.

First you see the signalling of the wall terminal as if you wanted to control it (e.g. 4 x red if the Radio Key is not authorised for this wall terminal).

After a few seconds, the current setting is displayed (level 1, 2 or 3).

The wall terminal then scrolls through the three setting levels one after the other and indicates them by flashing:

Level	Free-field range*	Signalling at the wall terminal when setting the transmission power
Level	approx. 3	
1	m	
		slow flashing
Level	approx.	
2	10 m	
		medium-fast flashing
Level	approx.	
3	20 m	
		fast flashing

*The range depends on the ambient conditions.

3. Release the button when the desired level has been reached.

The desired transmission power is now stored in the Radio *Key*.



6 Use of Radio Keys

Different uses of a Radio Key

Use as	Type of transponder	Compatible with	Range
Locking medium	Passive	All OMEGA FLEX lock- ing devices	Approx. 10 mm
Remote control	Active	OMEGA FLEX wall ter- minals	Approx. 3 to 20 m (depending on set transmission power and environment)

(1) Use as a locking medium is possible without battery.

6.1 Use as locking medium

Radio Keys can be used as locking medium with any OMEGA FLEX locking device. In the following, use of the Radio Key as locking medium is shown using the example of an electronic cylinder.

Procedure:



1. Hold an authorised locking medium in the reading field of the locking device (maximum distance approx. 10 mm) for approx. 1 second.

The following signals appear:

1x flashing green light and 1x short signal

You can now open the door for a specific amount of time. The amount of time depends on the **opening period** set.



During the opening period no further locking media or master media are read. Only when you hear that the locking device has disengaged can you hold another locking medium in the reading field of the locking device.



Troubleshooting:

Signalling	Reason	Solution
The locking	The locking media was not held close	Hold the locking medium closer to the
medium cannot	enough to the reading field of the locking	reading field of the locking device.
be read (no sig-	device.	
nal).	The reading field is shielded by metallic	Remove metallic materials from the
	materials.	reading field of the locking device.
	Another authorised locking medium has	You can open the door without having to
	just been held in the reading field of the	have your locking medium read.
	locking device and the opening period of	
	the locking device has not yet expired.	
	The battery is discharged (for wall	Replace the batteries.
	terminals: the power supply is inter-	For wall terminals: restore the power
	rupted).	supply.
	The locking medium is defective.	Request the administrator of the OMEGA
		FLEX system to issue a new locking
		medium.
	The locking medium is not authorised.	The locking medium has to be authorised
9		by the administrator of the OMEGA FLEX
		system.
	The locking medium is authorised but	If the blocking time or blocking mode is
	the blocking time or blocking mode is act-	active, a locking device cannot be opened
	ive.	by an authorised locking medium.
	The locking medium is authorised and	You can also open the door without an
9	the locking device is currently in release	authorised locking medium.
	mode.	



6.2 Use as remote control

(1) Radio Keys can only be used as remote controls for wall terminals.



- 1. Move close to the wall terminal. The maximum distance depends on the set transmission power.
- 2. Press the button of the Radio Key. The wall terminal now responds according to its settings.

If the relay mode of the wall terminal is set to "dead man", the Radio Key is ignored as remote control.

If several wall terminals are within the range of the Radio Key, an opening event might be recorded in these wall terminals, although no opening process actually occurred.



7 Battery replacement

Touching the battery with bare hands may reduce the battery life. Use a cloth or plastic gloves when inserting the battery.



1. Insert a coin into the slot on the side of the Radio Key and carefully loosen the cover by turning the coin.



2. Lift off the cover.



3. Slide out the old battery.



4. Slide in the new battery.



Make sure the polarity is correct.



5. Press the cover back on the Radio Key until it clicks into place. The battery replacement has now been completed.

8 Technical data

8.1 Equipment features

Article number	Radio Key
Description	Remote control for wall terminals
	Integrated active 868 MHz transponder and passive 13.56 MHz transponder for MIFARE Classic 1k/4k and all ISO 14443 media, DESFire EV1 as well as LEGIC prime, advant
Dimensions	Width/length: approx. 34 × 58 mm Height: approx. 14 mm
Radio range	When used as remote controlApprox. 3 to 20 m (depending on set transmission power and environment)
	When used as locking medium, approx. 10 mm
Radio frequency	868 MHz/13.56 MHz
Encrypted data transmission	128 Bit/AES
Connected loads	Battery: 3.0 V (type CR 2032)
Useful life of the Key	10 years
Service life of the battery	When used as remote control: approx. 10,000 closing operations (at 20 °C) When used as locking medium: no power consumption
Temperature range	0 °C to +50 °C
Humidity	0 95 %, non-condensing
Inadmissable ambient conditions	Not suitable for use in corrosive atmospheres (chlorine, ammonia, lime water)
CE approval	EN 300 220-1; EN 300 220-2; EN 301 489-1; EN 301 489-3; EN 60950-1; EN 62479

8.2 Dimensions







9 Disposal

9.1 Notes on disposal

Device

In accordance with the Waste Electrical and Electronic Equipment recycling (WEEE) Regulations, every consumer has a duty to dispose of old electronic/electrical appliances safely and separately from household waste. The disposal of electronic equipment with household waste is prohibited. Old equipment can be handed in free of charge at the public collection points in your municipality. You can also return the device to C.Ed. Schulte GmbH Zylinderschlossfabrik. Please note that sufficient postage must be paid for returns.



The symbol with the crossed-out dustbin indicates that old electrical appliances must not be disposed of with household waste.

Electronic equipment contains a variety of substances and materials. If waste electrical and electronic equipment (WEEE) is not disposed of correctly, environmental and health risks may arise due to the pollutants contained. In addition, recyclable materials can be recovered and recycled through proper disposal, which makes a significant contribution to the preservation of natural resources.

Packaging

Component packaging is made from environmentally friendly, reusable materials. Specifically, these are:

- Outer packaging and inlays made of cardboard
- Inlays and protective foils made of polyethylene (PE)



Please dispose of the packaging in an environmentally friendly way through waste separation streams.



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