CESTronics

CES OMEGA FLEX
RF-NET Access-Point

Fitting and Operating Instructions

Translated fitting and operating instructions version 0-1, 2017

1 Contents

2 Notes on the layout

In these Fitting and Operating Instructions, various elements are highlighted with defined layout features:

	Additional information on the efficient use of the Access-Point
	Reference to additional information
	The electronic components of the Access-Point may be damaged for static charge.
	Notes on the correct disposal
	▸ Steps in a sequence of actions. Tips with this symbol require you to perform an action

3 Preface

These Fitting and Operating Instructions will help you fit and use the RF-NET Access-Point (Access-Point) as intended, safely, and advantageously.

Any person, who fits, operates, or disposes of this Access-Point must have read and understood the entire contents of these Fitting and Operating Instructions.

These Fitting and Operating Instructions should be kept within reach at all times as long as the Access-Point is used.

These Fitting and Operating Instructions should be handed over to the end users.

Be sure to use the most recent version of these Fitting and Operating Instructions. Updated versions are available free of charge at **www.ces.eu**.

3.1 Remarks

These fitting and operating instructions are only valid for:

CES OMEGA FLEX RF-NET Access-Point

3.2 Manufacturer and Service

The manufacturer from the Access-Point is:

C.Ed. Schulte GmbH
Zylinderschlossfabrik
Friedrichstr. 243
42551 Velbert
Tel: +49 (0) 2051-204-0
Fax: +49 (0) 2051-204-229
www.ces.eu

For support in case of service please contact your CES partner.

3.3 Target group

These Fitting and Operating Instructions are intended for trained fitting staff, maintenance staff and operators.

As regards the use of these Operating Instructions, it is assumed that the necessary technical knowledge on how to use the product as intended is available.

The necessary product training is provided by your professional CES partner. If this has not yet taken place, please contact your professional CES partner to obtain training on the product.

NOTICE

Unintended condition of your system possible!

If you are not fully familiar with the various possibilities of your system, it may perform unexpected functions.

- If you program the OMEGA FLEX system, you must be clearly aware of the consequences of your programming to prevent undesired results.
- If there are functions of the OMEGA FLEX system you do not understand, contact your professional CES partner to obtain further information.
- Always satisfy yourself that your programming produces the desired result.

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4 ⚠ For your safety

4.1 Explanation of the safety notes

These Fitting and Operating Instructions include safety notes of the following types:

NOTICE

These notes warn against possible property or environmental damage.

⚠ CAUTION

CAUTION notes warn against hazards that may result in slight or medium injuries.

4.2 Intended use

The Access-Point serves to transmit data between locking devices and the control centre of your OMEGA-system. Between the Access-Point and the locking devices, data are transmitted via 868 MHz radio signals. The connection of the Access-Point to the master computer is wired.

The OMEGA FLEX Access-Point must not be changed without our written consent.

It is exclusively intended and may only be used for that purpose.

Any other use is considered to be improper and may result in property damage or even personal injury.

C.Ed. Schulte GmbH Zylinderschlossfabrik does not accept any liability for any damage resulting from improper use.

4.3 CE Declarations of Conformity

The Declaration of Conformity is available online via
www.ces.eu

4.4 Basic safety instructions

Observe all warnings and notes in these Fitting and Operating Instructions. Always keep these Fitting and Operating Instructions near the Access-Point.

To prevent danger to life and limb, the following safety instructions must be observed:

4.4.1 Danger of explosion

Live parts of the Access-Point may cause an explosion. Do not use the Access-Point in potentially explosive atmospheres.

4.4.2 Danger of suffocation

Never allow children to play with packaging material and/or plastic bags. There is a risk that children pull them over their head and suffocate.

4.4.3 Danger of poisoning

Always keep the Access-Point out of the reach of children. There is a risk that children swallow small parts such as screws.

4.4.4 Danger of property damage

- Always have repairs performed by properly qualified personnel.
- Only use accessories and spare parts recommended by CES.
- Only use the proper tools to open the Access-Point.
- Do not drop the Access-Point on the floor, on hard surfaces or on hard objects.
- Use surge arresters to avoid damage to your Access-Point through overvoltage, for example by lightning.
- Protect the electronic components of the Access-Point against water and other liquids.
- The Access-Point contains highly sensitive electronic parts that may be damaged or destroyed through static charges.

Do not disassemble the Access-Point in rooms with built up static charge.

- Ensure potential equalization when working on the Access-Point to remove any static charge.
- Do not use the Access-Point in corrosive atmospheres (chlorine, ammonia, lime water).
- Only use the Access-Point in rooms in which the humidity does not exceed 95 %.
- Do not use the Access-Point in rooms with a high level of dust formation.
- Do not use the Access-Point near sources of heat.
- Do not expose the Access-Point to temperatures below 0 °C or above +40 °C.

4.4.5 Danger of malfunctions

- Do not cover the housing of the Access-Point with any metallic material.
- Satisfy yourself when installing the Access-Point that both the Access-Point and all other system components are in perfect working order. Malfunctions of the Access-Point and other system components may compromise the functioning of the entire system.
- If necessary, use uninterrupted power supply (UPS) systems to ensure an uninterrupted operation of your locking system.

5 Introduction

5.1 Description

The Access-Point is part of the OMEGA-system.

It establishes the connection between the OMEGA locking devices and the overall control centre via a radio frequency (RF) link.

The master computer is a commercial PC with the OMEGA software.

The Access-Point is connected with the control centre via an RJ45-Ethernet cable (10/100 MBit). The Access-Point is thus the network interface of the system.

The desired access authorizations are created in the control centre and transmitted via the Ethernet to the Access-Points. The Access-Points then transmit the authorizations over the RF link to the locking devices.
In return, the log data are retrieved from the cylinders and then fed back to the control centre via the Ethernet.

The wide range of the Access-Points allows a wireless deployment of locking cylinders and wall terminals. No further installation work on your doors is required.

Parts of the software are covered by the BSD license. Please notice the copyright notices under: copying liquorice.txt and copying-gpl.txt.

Other features of the Access-Point:

- Integrated 868 MHz RF transceiver.
- The maximum RF range to the locking devices is 25 metres.
- Power supply of the Access-Point with the supplied power pack. No other power supplies are permitted.
- Two colour LEDs at the Ethernet connection for visual signalization of data traffic.

Available accessories for the Access-Point:

- D-LAN™ adapter (System Powerline, to implement IP networks using the 230 V power network). This option makes it possible to transmit the network signal via the 230 V power network using suitable adapters. This means that no separate network cables must be installed.
- PoE (Power over Ethernet) adapter. To reduce the installation expense and increase the failure prevention you can supply the Access-Point with power via the network interface. This eliminates the need to use the plug-in power supply.

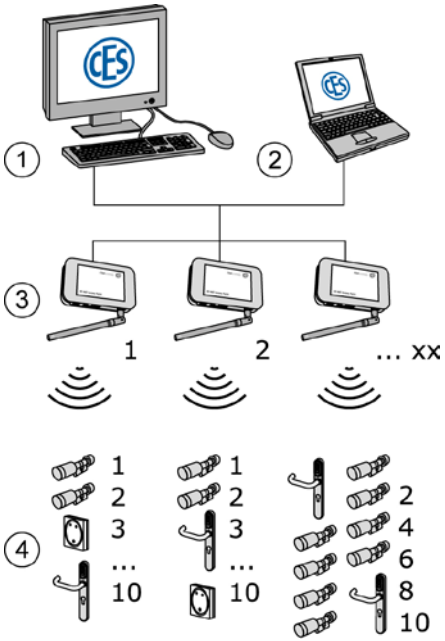
The stated reading ranges of 25 m cannot be guaranteed as the reading range depends on the local building conditions. CES recommends to have your building situation checked by your professional CES partner.

For further information on the available options, please contact your CES partner.

5.2 Components of a wireless system

The following components are required for the system:

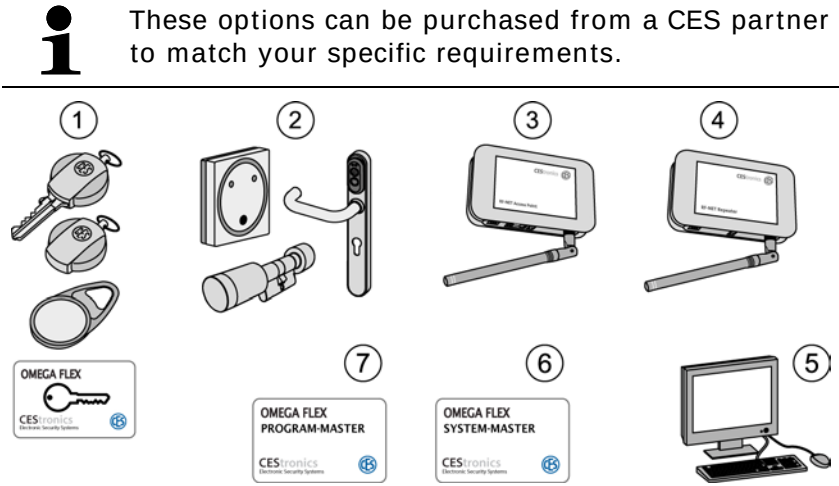
- Standard PC (No. 1, 2) with Windows 7™, Windows 8™, Windows Server 2008™ or Windows Server 2013™
- Network card (TCP/IP)
- Monitor with a resolution of 1024 × 768 pixel or higher
- OMEGA Access-Points (pos. 3, maximum ten points of entry per Access-Point), additional Repeaters if applicable
- OMEGA software
- At least one locking device (No. 4).



For further information, please refer to the User Manual of the CEStronics Suite which is available free of charge at **www.ces.eu.**

5.3 OMEGA system components

The following shows the components that can be combined within the OMEGA system:

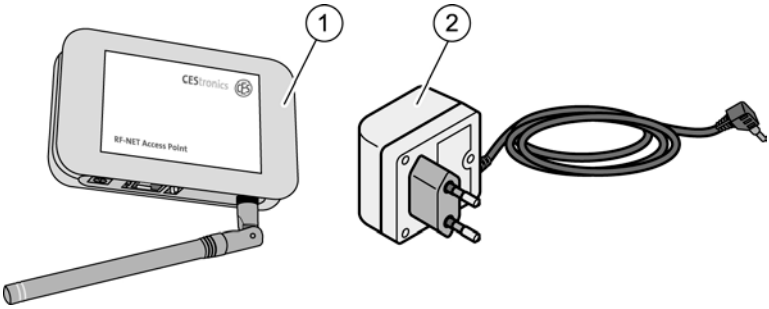


1	Locking media (optional): Your locking devices can be operated with the following locking media: Transponder key, key fob, card.
2	Locking devices (optional)
3	Access-Point
4	RF-NET Repeater to extend the range of Access-Points (optional)
5	Standard-PC (optional)
6	With the SYSTEM-MASTER, you can authorize PROGRAM-MASTERS. For each locking system, there is one and only one valid SYSTEM-MASTER.
7	The PROGRAM-MASTER is used to authorize and delete the authorization of your locking media.

5.4 Scope of delivery

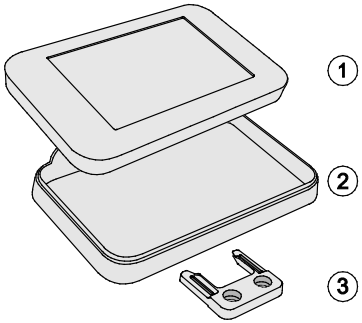
- Before proceeding with fitting and commissioning, please check the contents of the package and the scope of delivery.
- Check new devices for transport damage and inform your CES partner promptly if any damage is found.

5.4.1 Device overview



1	Access-Point with mounting plate
2	Plug-in power supply with connection cable

5.4.2 Case parts



1	Housing top
2	Housing base
3	Wall holder

5.5 Unpacking the Access-Point

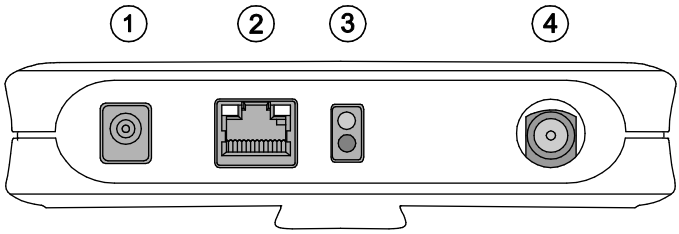
- Take the Access-Point out of the package and remove any packaging material such as film, padding and packaging board.

NOTICE

Risk of damage to the Access-Point.

- Only use the supplied power pack for the power supply of your Access-Point.

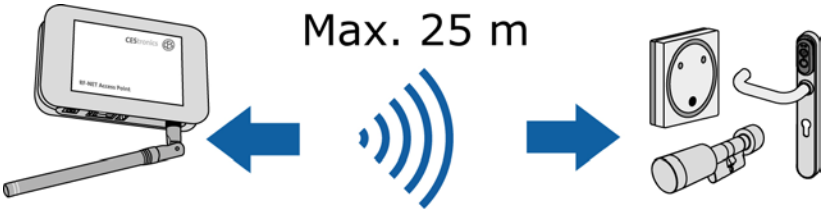
5.6 Connections



1	Socket for the plug-in power supply
2	Socket for the network cable (RJ45), Indication of network connection
3	LEDs for signaling RF traffic and operating state
4	Screw terminal for the antenna

5.7 RF ranges

- Ensure that the permissible RF ranges are observed. Install the devices within the maximum RF range of 25 metres.



5.7.1 Checking the range

The optional RF-TRACE-MASTER transponder card allows you to check the quality of the radio frequency (RF) link between the OMEGA server and your locking devices.

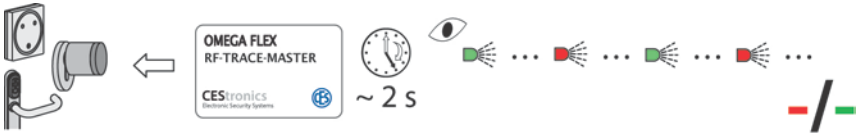
The RF-TRACE-MASTER triggers the following signals of your locking devices:

- Hold the RF-TRACE-MASTER for about two seconds in front of your locking cylinder or wall terminal.

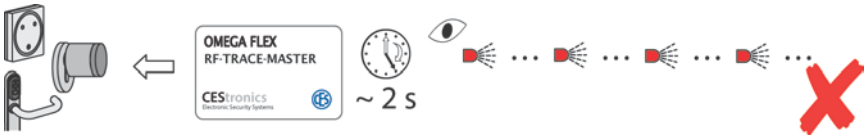
- Green LED of your locking cylinder, IES fitting or wall terminal flashes twice: strong RF link.

- Green LED of your locking cylinder, IES fitting or wall terminal flashes once: adequate RF link.

- If the red LED of your locking device flashes, the RF link is not OK and must be checked.



- If the red and the green LEDs flash alternately or simultaneously, the RF link is weak and should be checked to ensure full functionality and reliability.



6 Fitting the Access-Point

NOTICE

If an Access-Point fails, your locking devices cannot be reached any more.

- Make sure that the Access-Points are always easily accessible.
- Make sure that all electrical connections can be separated at any time.

NOTICE

The Access-Point may be damaged if not fitted properly.

- Only skilled personnel may fit the Access-Point.
- This personnel must have been trained on the product by CES or a CES partner.

NOTICE

Static charges may damage or interfere with the electronic components of the Access-Point.

- Do not disassemble the Access-Point in rooms with built up static charge.
- Ensure potential equalization when working on the Access-Point to remove any static charge.

When fitting the Access-Point, you must ensure the following conditions:

- Make sure that the power supply and the power supply cable can be plugged in.
- Make sure that the network cable can be plugged in.
- The Access-Point must not be fitted on metallic surfaces.
- Always install the Access-Point as far away from ground potentials as possible to avoid interference with the radio traffic.
- The Access-Point may not be fitted outdoors.

The Access-Point is supplied preassembled. To commission your Access-Point, you only have to fasten the wall mount at a suitable position and push on the Access-Point.

In addition, you require suitable fasteners for the Access-Point. The fasteners and the related tools required depend on the material at the place of installation.

- Purchase suitable fasteners material from your specialized dealer for fastening engineering.

⚠ CAUTION

Danger of injury by improper fitting.

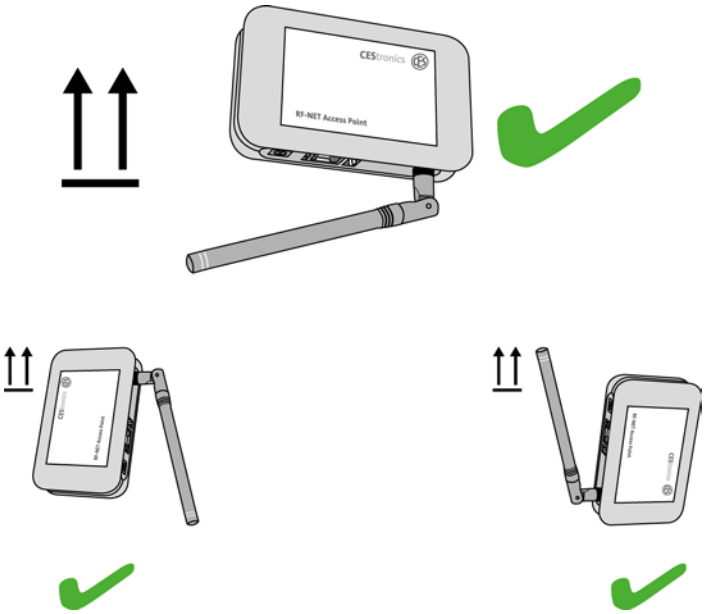
- Ensure that the Access-Point is only fitted by appropriately trained skilled personnel.

The Access-Point must be fitted at an easily accessible location, e.g. near a ceiling or on a wall.

A suitable fitting position is for instance

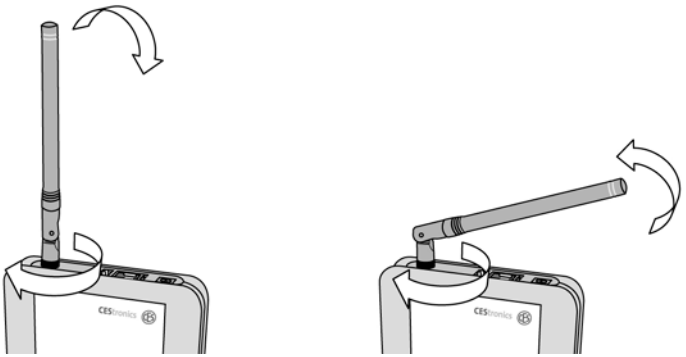
- above a door frame, at a height of about 2 metres and with as much distance to the nearest object or wall as possible.

If the reception is good, install the Access-Point with the ports pointing downwards. However, also all other orientations are possible, such as with the antenna pointing to the as shown in the figure.

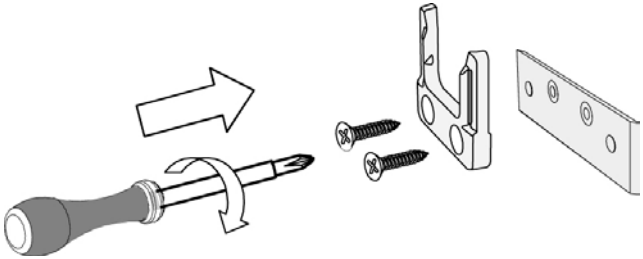


- Wherever possible, you should check the reception before the final fastening to determine the orientation of the Access-Point and the antenna.
- For this purpose, put the Access-Point temporarily into service (see page 23 ff).
- Verify the reception at your locking devices with the optional RF-TRACE-MASTER (see page 17).

The orientation of the antenna can be adjusted. As long as the antenna has not yet been screwed in tight, it can be rotated by 360°. After it has been tightened, the antenna can only be aligned vertically and horizontally.

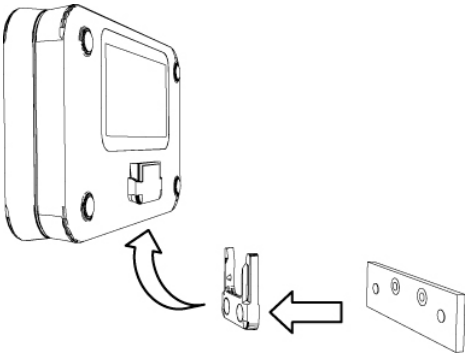


- If the RF link is satisfactory, fit the Access-Point permanently in the determined position:
- Fasten the wall mount with suitable fasteners at a right angle at its proper position.
- Use the included mounting plate.

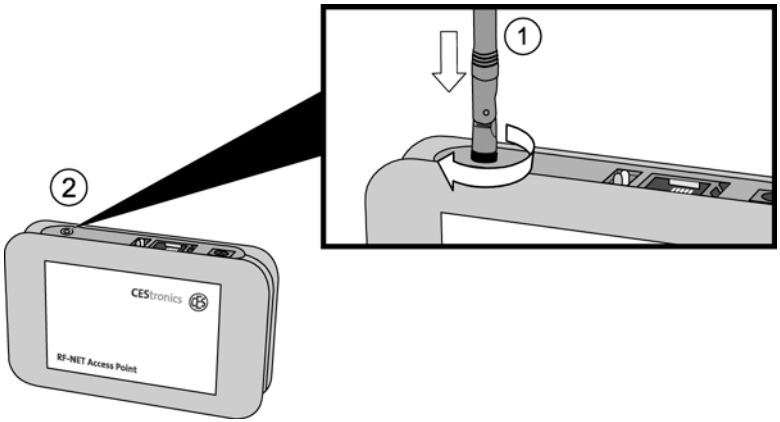


- Push the Access-Point onto the wall mount.

The Access-Point only sits properly after it has snapped in the wall mount.



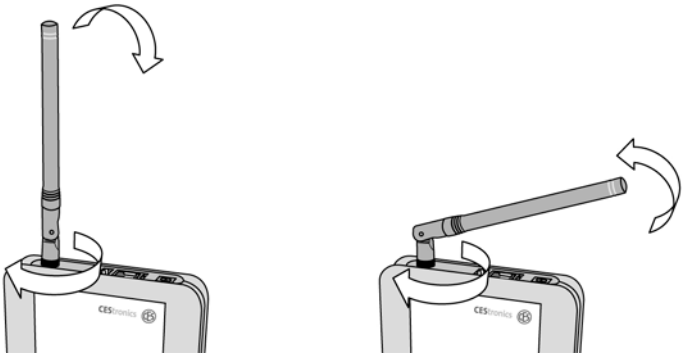
- Do not yet screw the antenna (1) tight in the antenna base (2) at this point. Do not use any tools for tightening.



- Establish the required cable connections as described on page 16.
- Put the Access-Point into service.
- Check the orientation of the antenna to ensure sufficient effective radiated power.

- Use the optional RF-TRACE-MASTER to check the effective radiated power (see also note on page 17 "Checking the range").
- Orientate the antenna so that your locking devices receive the maximum effective radiated power.

As long as the antenna has not yet been screwed in tight, you can rotate it by 360° and align it vertically and horizontally.



- Once you have found the best position of the antenna, tighten it with your hand. Never use a tool to tighten the antenna.

The antenna is tight if it can no longer be rotated.

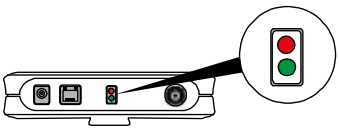
NOTICE

The printed circuit board of Access-Point may be damaged through mechanical forces.

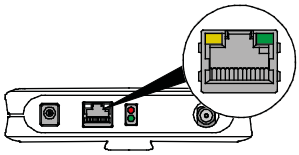
- Be careful not to damage the printed circuit board when fitting the case.

- If possible, verify the perfect functioning of the Access-Point already at this stage:

Normal operation

Signal location	Meaning
	Is the network connection available? Is the Access-Point operative? The two LEDs signal the following conditions:

Signal	Meaning
Green LED, permanent	Network connection established (perfect connection to the OMEGA server)
Red LED, flashing	Operative
Red LED, flashes short/ flickers	Data transmission in progress

	Is a data link available? The two LEDs signal the following Ethernet interface conditions:

Right hand side		Left hand side	
Colour	Meaning	Colour	Meaning
OFF	no connection	OFF	no connection
Green	Network connection established	Yellow	Data transmission in progress

7 Care

The outer accessible parts of your Access-Point such as covers, fittings, etc. can be cleaned with a soft, slightly moist wipe.

NOTICE

Risk of damage to surfaces of the Access-Point!

- Never use solvent-containing cleaning agents to avoid damage to your devices.

8 Maintenance

- Have the Access-Point serviced and its perfect functioning verified every six months by CES or by a CES partner only.

9 Spare Parts

The Access-Point does not require any spare parts for you to change.

- If you need service, please contact your professional CES partner.

10 Trouble shooting

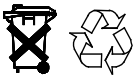
Symptom	Possible cause and remedy
No connection to the locking devices can be established.	***Your connection cables are mechanically damaged or broken.*** ▸ Check the installation for broken wires or faulty connections. ▸ Check the continuity of your wires with a suitable instrument (multimeter, ohmmeter). ▸ Verify the proper functioning of the plug-in power supply of the Access-Point with a suitable instrument (multimeter, ohmmeter). ▸ Check the plug-in power supply for mechanical damage. ▸ Check the signalization of the LEDs. ▸ Eliminate any interruptions and correct any damage found. ▸ In case of mechanical damage, have your Access-Point repaired by your CES partner.

No connection to the locking devices can be established.	***The Access-Point has no connection to the power supply and/or the network.*** ▸ Check the terminals and connections. ▸ Establish missing connections. ▸ Check the signalization of the LEDs.
	Locking devices are outside the radio frequency range of Access-Points. ▸ Reduce the distance to your locking devices. ▸ Verify the quality of the wireless transmission with the optional RF-TRACE-Master.
	The locking devices have no power. ▸ Check the power supply of your locking devices. ▸ Re-establish the proper power supply of your locking devices. ▸ For further information on establishing the power supply, please refer to the operating instructions of your locking devices. ▸ Replace any flat batteries of your locking devices. ▸ For further information on the replacement of batteries, please refer to the operating instructions of your locking devices.

No connection to the locking devices can be established.	***The OMEGA software is not configured correctly. Your PC does not work properly.*** ▸ Check the software settings as described in the OMEGA User Manual. ▸ Check the functioning of the software as described in the OMEGA User Manual. ▸ Verify the perfect functioning of your PC. ▸ If you are not able to verify the perfect functioning, please contact your PC dealer.
	Your locking devices do not operate in RF mode. ▸ Use the optional RF-INI-MASTER to enable the RF mode of your locking devices.

▸ If the trouble still cannot be eliminated, please contact your CES partner.

11 Disposal



Neither the Access-Point, nor the batteries nor parts of the Access-Point may be discarded with the normal household waste.

- Always observe the applicable national and regional regulations.

Our packaging is made of environmentally friendly, reusable materials.
It comprises external packaging and inserts made of cardboard, inserts and protective film made of polypropylene (PE).

- Please dispose of the packaging in an environmentally responsible manner through separate waste streams.
- Ask your local authorities about recycling and/or the proper disposal of the device in line with environmental regulations.

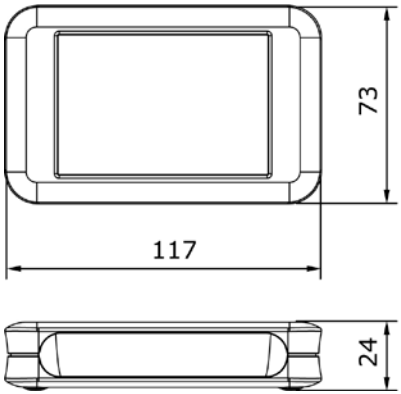
NOTICE

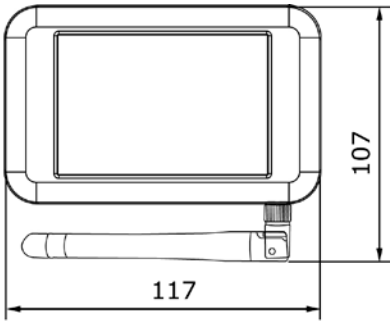
Risk of environmental pollution by improper disposal!

If you violate the disposal regulations, environmental pollution is possible.

- Always recycle empty batteries.
- Adhere to the local disposal regulations.

12 Technical data





Dimensions:	Length: approx. 117 mm, Width: approx. 107 mm, Height: approx. 24 mm
Power supply:	Only via plug-in power supply unit CES art. no. 345132 (100-240V AC / 12V DC)
Power consumption	Max. 1,0 W
Connection:	Phonoplug 5.5 × 2.1 mm 5.5 mm: -, 2.1 mm: +
Communication frequency:	Sending/transmitting 868 MHz
Network protocol:	TCP/IP
RF range:	approx. 25 m
Temperature rage:	0 °C to + 40 °C
Environmental conditions:	Not suitable for use in corrosive atmospheres (chlorine, ammonia, lime water). Maximum air humidity: 95 %
Service life of the Access-Point:	At least 10 years

13 Glossary

Locking devices	Locking devices are locking cylinders electronic shields and wall terminals. If these are operating in RF mode, the Access-Point can be linked with them.
Reader module	The reader module is installed in the outside knob of the locking cylinder or in the wall terminal. It detects your locking media.
Master media	Cards to program your locking devices. The OMEGA system comprises two types of Master media, the SYSTEM-MASTER and the PROGRAM-MASTER. Optional transponder cards also have Master medium status.
Locking medium	A medium with which you can lock and unlock an electronic locking cylinder and/or a wall terminal.
SYSTEM-MASTER	Master medium used to authorize PROGRAM-MASTERS for the system. For each locking system, there is one and only one SYSTEM-MASTER.
Transponder	A transponder is a wireless communication or control medium that receives signals and automatically responds to them.
RF-TRACE-Master	An optional Master card which enables you to test the quality of your RF link.
RF range	The distance within which a safe transmission of data is possible.

14 Notes on the manufacturer's warranty

As stated in our Standard Terms and Conditions, the manufacturer's warranty does not extend to the following types of damage:

- damage to outer mechanical parts and damage resulting from normal wear and tear
- damage as a consequence of external events or influence
- damage as a consequence of improper installation
- damage as a consequence of improper maintenance
- damage as a consequence of improper operation
- damage as a consequence of excess voltage
- damage as a consequence of fire, water or smoke.

All technical data and features are subject to change without notice.

Part number: BRO2254-002

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since 1840

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