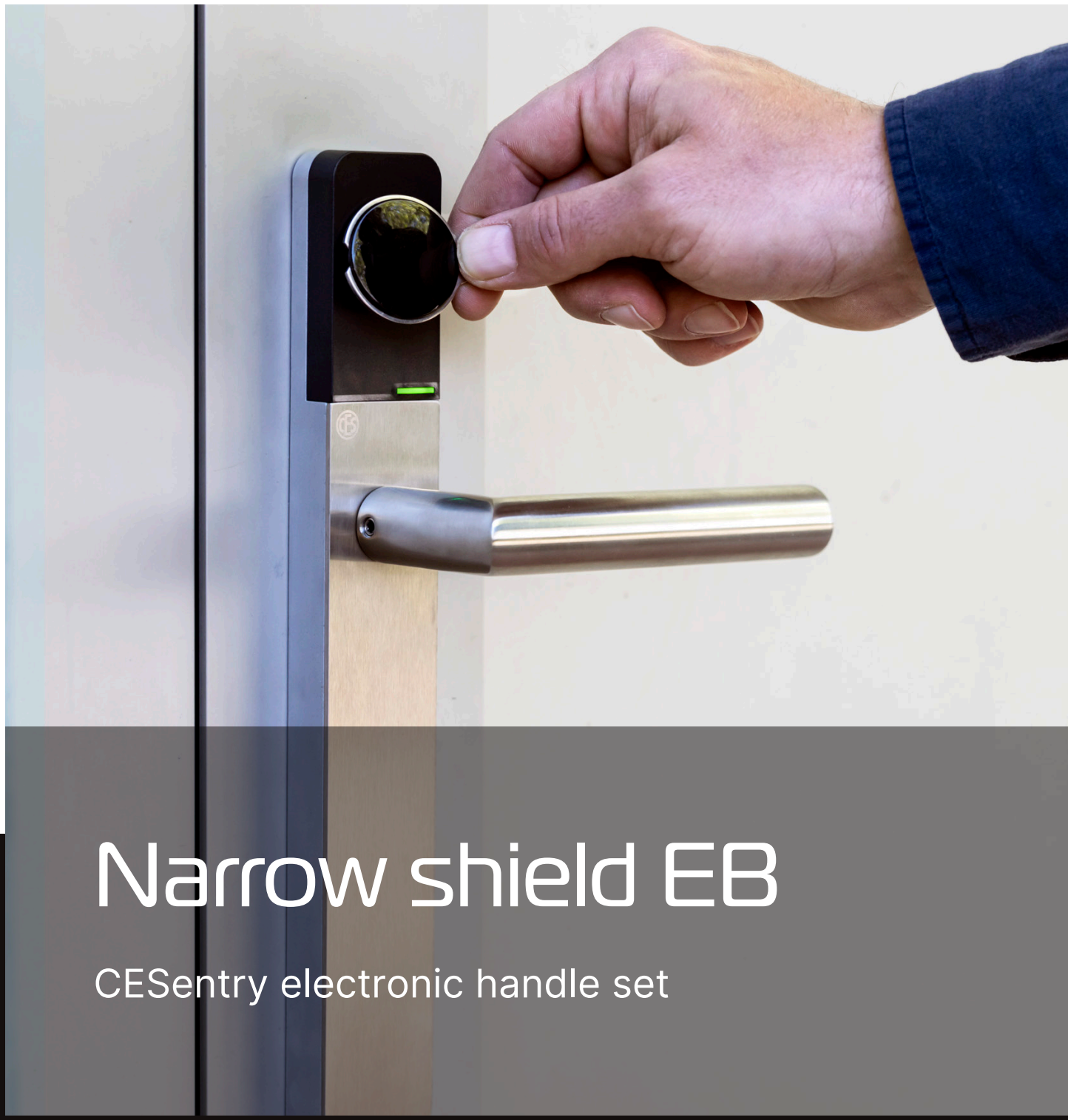

Narrow shield EB

CESentry electronic handle set

Installation and Operating Manual

Connect people.
Create access.

1 About this manual

This installation and operating manual, hereinafter referred to as the 'manual', will help you to install the electronic handle set you have purchased and use it safely, for its intended purpose and to your advantage. Any person who installs, administers, maintains, or disposes of electronic handle sets must have read and understood the complete contents of this manual.
This manual must be considered part of the product and must be kept for the entire service life of the product. The manual must be passed on to any subsequent user or owner of the product.

Other applicable documents
Depending on the system environment in which the device is to be used, the following documents will be required for its subsequent integration:

AccessOne	Desktop-Writer manual	> BRO2405_EN_EB_Manual_Desktopwriter
CESentry system	Administration manual	> BRO2410_EN_EB_Manual_Administration
	Desktop-Writer manual	> BRO2405_EN_EB_Manual_Desktopwriter

Symbol conventions


Refers to other information documents.


Indicates additional information and tips.


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

Notes on trademark protection
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The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of these trademarks by CES is under licence.

BRO2400-2 Version: VA5


Always use the latest version of this manual. Updated versions are available free of charge from www.ces.eu.

1.1 Manufacturer and Service

Manufacturer	Service and Support
C.Ed. Schulte GmbH	Tel.: +49 (0)2051-204-0
Zylinderschlossfabrik	Fax: +49 (0)2051-204-229
Friedrichstr. 243	www.ces.eu
D-42551 Velbert, Germany	info@ces.eu

1.2 Target groups of this manual

If a section of this manual is intended for a particular target group, this is stated at the start of the section. Sections that do not specify a particular group are relevant for all target groups.

Target group	Skills
IT/administration specialists	have many years of professional experience in the fields of IT structures, administration and networks. Particular characteristics of this target group: • Knowledge of specialist IT terminology • Knowledge of the structure and maintenance of networks, particularly knowledge of the network that they maintain
System operators	are experienced in the management of master key systems. This could be either knowledge of a number of such systems or an in-depth knowledge of a single master key system. Particular characteristics of this target group: • Knowledge of the specialist terminology related to master key systems • Skilled in the use of PCs and software
Personnel with product training	have been given product training by CES or a CEStronics partner. These personnel are given detailed and specific information to prepare them for the required task. Particular characteristics of this target group: • Knowledge of CEStronics products and experience in handling them (installation, operation, etc.)
CEStronics partners	are trained experts in locking and security technology who have also worked with CES for many years and have a special level of product knowledge. Particular characteristics of this target group: • Detailed knowledge of CES products • Participate regularly in (product) training

Target group	Skills
Locking and security technology specialists	have many years of professional experience and/or relevant training in locking and security technology. For some tasks, it may be necessary for specialists to have received training on the product beforehand. Particular characteristics of this target group: • Knowledge of specialist terminology from the field of locks and handle sets • Knowledge of specific risks, e.g. when installing electronic cylinders and handle sets • Experience of working with tools (relevant to lock systems) • Knowledge of relevant standards and regulations, e.g. for fire safety or emergency and escape routes • Basic understanding of electronic locking systems
Electricians	have many years of professional experience and/or relevant training in the field of electronics. For some tasks, it may be necessary for specialists to have received training on the product beforehand. Particular characteristics of this target group: • Knowledge of specialist electrical terminology and its symbols • Knowledge of the risks associated with handling sensitive electronic components
End users	do not require specific skills.

2 For your safety

2.1 EU Declaration of Conformity

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

2.2 Intended use

This electronic handle set is intended to allow the authorised opening and closing of doors with locks that have a latchbolt function.
The product is intended solely for this purpose and may only be used for this purpose. Any other use is considered improper use and can lead to material damage or even personal injury.

The product must not be modified in any way without the written consent of C.Ed. Schulte GmbH Zylinderschlossfabrik.

2.3 Basic safety instructions

This device has been built using state-of-the-art technology and in accordance with recognised safety regulations. Nevertheless, its use may result in hazards for the user or third parties, or may also have negative impacts on the device and other material assets.
Use the product only when it is in proper working order and only for its intended purpose, taking due account of safety and potential hazards, and in accordance with the operating manual. Faults that affect safety must be remedied **immediately**.

2.3.1 Danger to life

Particular dangers for children

Children playing with packaging films or plastic bags are at risk of suffocation. If children swallow small parts such as screws, they are at risk of suffocation or poisoning.
☑ Do **not** allow children to play with the device or its packaging.
☑ Keep the device and its packaging **out of the reach** of children.

Emergency and escape routes

Doors in emergency and escape routes (e.g. with anti-panic function) require special locking devices approved for this purpose. If the wrong type of locking device is used, people may not be able to open the doors in emergency situations and could be injured or killed.
☑ Use only suitably approved locking devices in emergency and escape routes.

Fire safety

Fire safety doors (e.g. fire- and smoke-resistant doors) require special locking devices approved for this purpose. If the wrong type of locking device is used, people could be injured or killed in the event of a fire.

☑ Use only suitably approved locking devices on fire safety doors.

☑ Check the permissibility of devices before drilling holes in the door.

Panic locks with split follower

Electronic handle sets cannot be installed on locks with a split follower since an end-to-end square spindle is required. In addition, the passage function (panic function D) is not assured since the outside lever handle only couples when an authorised locking medium is used.

☑ Do not install electronic handle sets on locks with a split follower.

2.3.2 Risk of injury

Risk of explosion

Parts of the device that carry electric currents can produce electrical sparks even at low voltages (e.g. when electric circuits are switched on or off) and can thus act as sources of ignition. In potentially explosive environments, this can cause an explosion and cause injury to persons.

☑ Do not use the device in potentially explosive environments.

2.3.3 Risk of material damage

Hard shocks

Hard shocks can damage mechanical and electronic components of the device. Under some circumstances, damaged devices do not function correctly or do not function at all.

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

Electrostatic discharges

Highly sensitive electronic components can be damaged by electrostatic discharges or overvoltage. Under some circumstances, damaged devices do not function correctly or do not function at all.

☑ Do not install the device in areas affected by electrostatic charges.

☑ Do not touch electronic components.

Liquids

Water and other liquids can damage the electronic components of the device. Under some circumstances, damaged devices do not function correctly or do not function at all.

☑ Protect the electronic components from water and other fluids.

Climatic influences

Climatic influences such as heat, cold and moisture can damage the device. Under some circumstances, damaged devices do not function correctly or do not function at all.

☑ Do not use the device in corrosive atmospheres (chlorine, ammonia, lime water).

☑ Do not use the device in areas with high levels of dust formation.

☑ Do not use the device in the immediate vicinity of heat sources.

☑ Observe the maximum permissible temperatures and the air humidity data for using the device.

Incorrect maintenance or repair

Incorrect or negligent maintenance and repair can result in the device not functioning correctly or not functioning at all.

☑ Have the device maintained and checked for proper functioning every six months by CES or a CEStronics partner.
☑ Always have repairs performed by qualified personnel.
☑ Use only accessories and replacement parts recommended by CES.
☑ Isolate the device from the power supply before working on or in it.
☑ Do not use lubricants or oils for care and maintenance.

Unsuitable tools

The use of unsuitable tools for installation, maintenance or removal can damage the device, e.g. by applying excessive force. Under some circumstances, damaged devices do not function correctly or do not function at all.

☑ Do not use an electric drill or battery-powered screwdriver.
☑ Use only the tools specified in the ‘Installation’ section.

Incorrect wiring

Incorrect wiring can result in short circuits, malfunctions and other defects. Damaged or incorrectly wired devices do not function correctly or do not function at all.

☑ Ensure that wiring is exclusively carried out by skilled electricians or CEStronics partners trained by CES.
☑ Overvoltage protection devices should be fitted to prevent damage from overvoltages caused by lightning strikes, for example. Overvoltage protection devices should be fitted to prevent damage from overvoltages caused by lightning strikes, for example.

2.4 Notes on handling batteries

Risk of personal injury

☑ Never attempt to recharge the batteries. There is a risk of explosion!

☑ Remove leaking batteries from the device immediately and clean the contacts before inserting new batteries. There is a risk of chemical burns from the battery acid!

Preventing malfunctions

☑ Use only the batteries specified for the product (type: Energizer Ultimate Lithium 1.5 V AA). If other batteries are used, they may have to be replaced significantly more frequently than stated in the datasheet.

☑ Only ever insert new batteries. Never use a mixture of old and new 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.

Risk of material damage

☑ Do not short-circuit the batteries.

☑ If the devices are not going to be used for an extended period, remove the batteries. This also applies if the batteries are flat. There is a danger of the batteries leaking and damaging the device.

☑ Store batteries in a cool, dry place.

☑ Do not expose batteries to strong heat or heat sources and do not burn them.

Discharging batteries

☑ If batteries are installed in the locking devices, they may become discharged if the locking devices or locking media interact with one another.

☑ Maintain a distance of 10 cm between locking devices.

☑ Maintain a distance of 10 cm between locking devices and locking media.

☑ Remove the batteries if the locking devices are not in use.

☑ If possible, transport the locking devices in their original packaging.

Risk of environmental damage

☑ Observe the information on the disposal of batteries (see ‘8 Maintenance’ on page 47).

2.5 Emergency-Key for the fire brigade key depository (FSD)

The Emergency-Key is an emergency key that is used in the event of fire or other emergencies. The Emergency-Key is suitable for the fire brigade key depository (FSD).
The Emergency-Key opens any locking device, irrespective of its current programming. After the Emergency-Key has been presented, the locking device remains open permanently.

Prior to its first use, the Emergency-Key must be authorised for **every** locking device to be operated with it.

2.6 Emergency exit lock compliant with DIN EN 179

Installation instructions

All legal provisions concerning the use of the lock on fire-resistant and smoke-resistant doors remain valid.

☑ The use of electric door openers in combination with spring latchbolt locks is not permitted.
☑ Before fitting an emergency exit lock to a door, check the door to ensure that it is correctly hinged and is not visibly warped. The door manufacturer must specify the fixing components appropriate for the design of the emergency exit lock.
☑ Different fixing elements may be required for installing emergency exit locks on wooden, metal or all-glass doors. Bolt connections, reinforcements and rivets can be used to ensure the fitting is more reliable.
☑ It is not recommended, for example, to install emergency exit locks on hollow core doors unless they are specially designed for this door type by the manufacturer.
☑ Before an emergency exit lock is installed on a fire-resistant or smoke-resistant door, check the certification of the fire safety door on which the emergency exit lock has been tested to ensure that the emergency exit lock is suitable for the special door.
☑ On two-leaf doors with rebated centre joint on which both leaves are fitted with emergency exit locks, it is important to check that each leaf opens when its respective emergency exit lock is actuated and that both leaves open freely if both emergency exit locks are actuated simultaneously. For this application, the use of a pushing flap to move the moving leaf may be necessary.
☑ If emergency exit locks are manufactured in more than one size, it is important to select the correct size.
☑ Class 2 emergency exit locks (normal protrusion) should be used in situations where the width of the emergency exit is restricted or the doors on which the locks are to be installed cannot be opened by more than 90°.
☑ When emergency exit locks are designed for installation on glass doors, it is particularly important to ensure that the glass components are made of safety glass or laminated safety glass.
☑ Unless specifically designed for this purpose by the lock manufacturer, emergency exit locks are not suitable for use on swing doors.
☑ Carefully observe the fixing instructions when installing the lock. The installer should pass on these instructions and all maintenance instructions to the operator (see 'Maintenance instructions' section).

- ☑ The control element should normally be installed at a height of between 900 mm and 1100 mm above the finished floor surface when the door is closed. If it is known that the majority of the users of the building are small children, consider reducing the height of the control element.
- ☑ When installing emergency exit locks with lever actuation, particularly on doors with stepped surfaces, all possible safety risks (such as pinching of fingers or trapping of clothing) should be prevented as far as possible.
- ☑ Do not drill through the door leaf with the lock installed.
- ☑ Do not carry the door by the door knob or door lever handle.
- ☑ Do not force the lever pin through the follower.
- ☑ The distance between the cuff and locking plate/frame should be 3.5 mm ±1.5 mm.
- ☑ Firmly tighten the fixing screws on the door handle set. However, ensure that no pressure is applied to the lock to prevent the latchbolt or release mechanism from seizing.
- ☑ It should be possible for the deadbolt to lock freely in the locking plate/frame without friction, even when a load is applied to the door.
- ☑ If door seals (e.g. profile seals) are used, ensure that they do not interfere with the proper functioning of the emergency exit lock.
- ☑ Fit the locking elements and locking counterparts so that a secure engagement is obtained. Ensure that the protrusion of the locking elements in the retracted position does not interfere with the free movement of the door.
- ☑ Ensure that the movement of the main latch on spring latchbolt locks is not blocked, because a reliable locking function is obtained only when the latch is completely retracted.
- ☑ To keep the door shut in the closed position, do not install any other devices than the locks specified in this European standard. This does not exclude the installation of door closers.
- ☑ If a door closer is installed to return the door to the closed position, ensure that it does not impede the use of the door by children or by older and frail people.
- ☑ Install any locking counterparts or cladding provided to ensure compliance with this European standard.
- ☑ Provide a sign on the inside of the door, directly above the control element or on the control element itself (if this has a sufficiently large and flat surface area for the required lettering) with the wording ‘Press lever handle to open’ or a pictogram.

Maintenance instructions

Perform the following maintenance checks on a regular basis at intervals of no longer than one month:

☑ Inspection and actuation of the emergency exit lock to ensure that all of the components of the lock are in a satisfactory operating condition.
☑ Ensure that the latchbolt, deadbolt and locking counterparts are not blocked or obstructed.
☑ Check that no additional locking devices have been subsequently added to the door.
☑ Check that all of the components of the system still correspond to the list of approved components originally supplied with the system.
☑ Ensure that the door handle set is tightly bolted to the door leaf.
☑ Check that the actuation forces have not changed significantly from those that were measured at the time of initial installation using a force gauge.

3 About the narrow shield EB

The narrow shield EB is an electronic handle set designed for upgrading or converting both new and existing doors with mechanical door locks. The electronic handle set can be used in a variety of system environments. It is configured using either software, a browser-based web client or an app. Operation is by means of RFID media. When used in a CESentry system, smartphones can also be used as locking media.
The narrow shield EB can also be integrated into external systems via OSS-SO.

The narrow shield EB is available in a variety of versions:

Art. no.	Device version
EB1100	Access side narrow with reader
EB1110	Access side narrow with reader, reverse side narrow (mechanical)
EB1120	Access side narrow with reader, reverse side wide (mechanical)
EB1130	Access and reverse sides narrow with reader (dual version)
EB1150	Reverse side only, narrow (mechanical)
EB1160	Access and reverse sides narrow (mechanical)

Fig.: EB1100 access side narrow with reader

How it works
The reading side of the handle set is installed on the outside of the door and the non-reading side is installed on the inside. While the lever handle can be pressed down on the reading side in its normal state, it does not actuate the latchbolt since it is not coupled. Only when an authorised locking medium is held up to the device does the lever handle become coupled and the door can be opened.
On the non-reading side, the lever handle is permanently attached and the door can be opened at all times.

Door lever handle direction
The electronic handle set is designed in such a way that the direction of the handle set can be changed in just a few steps.

Mechanical emergency opening
The door can be opened mechanically in an emergency if a mechanical locking cylinder is used together with the handle set.

Available lever handle shapes

FSB1070
U-type lever handle
Suitable for DIN EN 179

FSB1053
Ulmer Klinke
Suitable for DIN EN 179

FSB1076
L-type lever handle

FSB1070G
U-type lever handle, elbowed
Suitable for DIN EN 179

FSB1053G
Ulmer Klinke, elbowed
Suitable for DIN EN 179

4 Installation

Target group
CEStronics partners
Locking and security technology specialists
Electricians

The handle set can be installed on doors with existing long-shield holes with no additional drilling. No cabling to the door is required since the locking devices are battery-powered.

Throughout this manual, there may be some differences between the illustrations and item supplied, depending on the device version and order specifications.

4.1 Scope of delivery

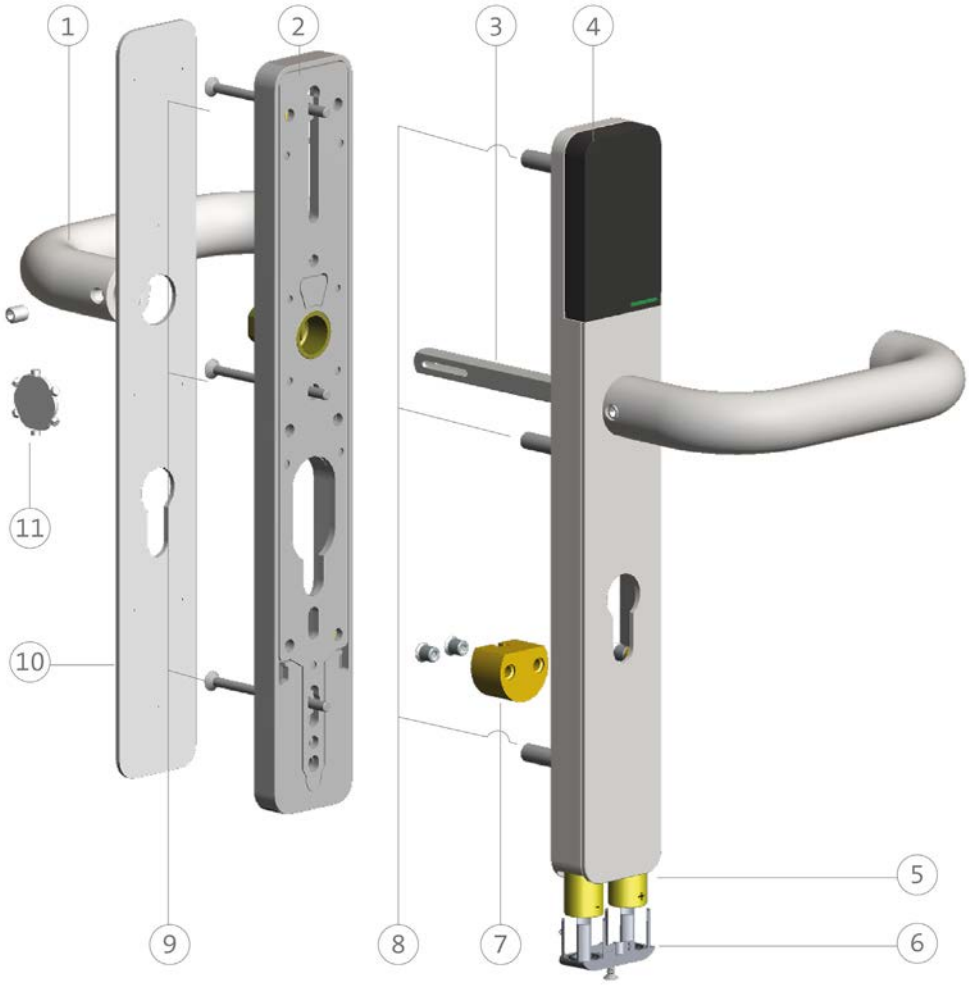


Fig.: EB1110 access side narrow with reader, reverse side narrow
The product version is determined by the order specification and may differ from the item illustrated.

Item	Designation	Device version					
		EB1100	EB1110	EB1120	EB1130	EB1150	EB1160
1	Door lever handle	1x	2x	2x	2x	1x	2x
2	Door handle set*, mechanical (reverse side)	–	1x	1x	–	1x	2x
	Door handle set* with reader (reverse side)	–	–	–	1x	–	–
3	Square spindle**	1x	1x	1x	1x	1x	1x
	Square spindle***	–	–	–	1x	–	–
4	Door handle set* with reader (access side)	1x	1x	1x	1x	–	–
5	Energizer Ultimate Lithium 1.5 V AA	2x	2x	2x	4x	–	–
6	Battery compartment	pre-mounted if included					
7	Adapter with 2 sleeve nuts****	1x	1x	1x	1x	–	1x
8	Sliding bolts M4	3x	3x	3x	3x	–	3x
	Sliding bolts M5	3x	–	–	–	–	–
	Sliding bolts M6	–	–	–	–	–	–
	Bolts M4	–	–	–	–	–	1x
	Cylinder head screws***** M6	–	–	–	–	–	–
9	Countersunk head screws***** M4	3x	–	–	–	–	–
	Countersunk head screws***** M5	3x	–	–	–	–	–
	Countersunk head screws***** M6	–	–	–	–	–	–
	Flat-head screw***** M4	–	3x	3x	3x	3x	3x
	Flat-head screw***** M6	–	–	–	–	–	–
10	Front plate	pre-mounted if included					
11	Door lever handle safety catch	1x	1x	1x	1x	1x	1x
Not illus-trat-ed	Washers for M4 countersunk head screws	3x	–	–	–	–	–
	Washers for M5 countersunk head screws	3x	–	–	–	–	–
	Washers for M6 countersunk head screws	–	–	–	–	–	–
	Washer for M4 flat-head screw	–	3x	3x	3x	3x	3x
	Adapter sleeve Ø 7 mm	–	–	–	–	–	1x
	Adapter plate, reverse side	–	–	–	1x	–	–
	Insert, reverse side	–	–	–	1x	–	–

* (with or without profile cylinder hole)

** (8 mm or 9 mm, length to suit door thickness)

*** (9 mm or 10 mm, length to suit door thickness)

**** (only for spacing 55 – 72 mm, without profile cylinder hole)

***** (length to suit door thickness)

4.2 Installation on the door leaf

The manual shows the installation of the EB1110 narrow shield. The handle set with reader is installed on the access side; the counter handle is installed on the reverse side.

4.2.1 Important installation instructions

⚠ CAUTION **Risk of lock-out during installation**

If the door closes during installation, it will not be possible to open the door without a lever handle or electronic cylinder.
This may result in you or others being locked in or out.
✓ Secure the door against accidentally shutting during installation.

⚠ CAUTION **Risk of malfunction if incorrect door and lock components are combined**

The handle set must function correctly with the other door components (lock, electronic cylinder and door leaf). Otherwise, malfunctions and dangerous situations may occur.
✓ Ensure that the door components are suitable for the handle set and are in a fault-free condition.
✓ Ensure that other locks or items fitted to the door, such as sealing strips, do not interfere with the function of the handle set.
✓ Before installing on a fire-resistant/smoke-resistant door, ensure the necessary compliance.
✓ Ensure that the handle set does not interfere with the free movement of the door.

NOTE **Potential damage to handle set**

If the handle set is not installed correctly, it may be damaged, e.g. if too much force is applied.
✓ Install the handle set without jamming or the use of force.
✓ Align the lock and handle set to each other such that no jamming or deformation of the handle set occurs during installation.

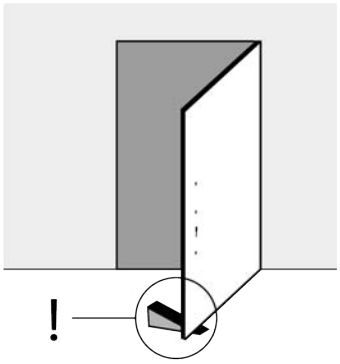
4.2.2 Tools required

Tool	Version	Use
	Cross-head screwdriver PH1/PH2	For fixing the countersunk head screws into threaded bolts M4/M5
	Allen key 3 mm	Stud bolt for door lever handle
	Hexolobular socket T10	Battery compartment

4.2.3 Preparation for installation on the door

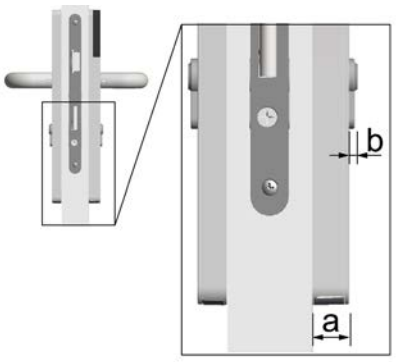
Check the requirements on the door. If no profile cylinder is present yet, it is recommended to fit this after installing the handle set.
If retrofitting the profile cylinder, allow for the handle set thickness of 17.5 mm when determining the cylinder length.

Installation



1. Secure the open door with a wedge to prevent inadvertent closure.

2. Remove any existing handle sets on the inner and outer sides of the door.
3. Check which screws were used for installing and select the appropriate bolts and countersunk head screws for the installation (M4 or M5).
4. Use the washers included in the scope of delivery if the existing handle set is to be retained on the reverse side and this is not suitable for countersunk head screws.



5. Before installation, check that the protrusion of the locking cylinder is at least as much as the handle set thickness a (a = 17.5 mm).

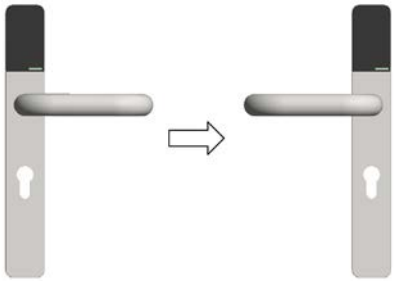
⚠ Information on burglar resistance:
Locking cylinders must not protrude more than 3 mm beyond the surface of the handle set (b = min. 3 mm).

Preparations for installation on the door are now complete and you can proceed with the installation preparations on the door handle set.

4.2.4 Preparations for installation on the door handle set

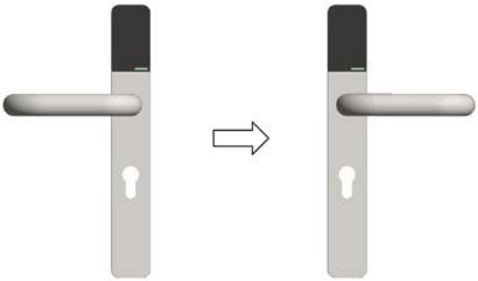
The door handle set is designed in such a way that the direction of the door lever handle can be changed in just a few steps. Ensure that the door lever handle direction of the supplied door handle set corresponds with the direction of the door swing. If you need to change the direction, follow the work steps described in the relevant section:

Door lever handle changeover **right to left**



‘4.2.4.1 Door lever handle changeover right > left’ on page 21

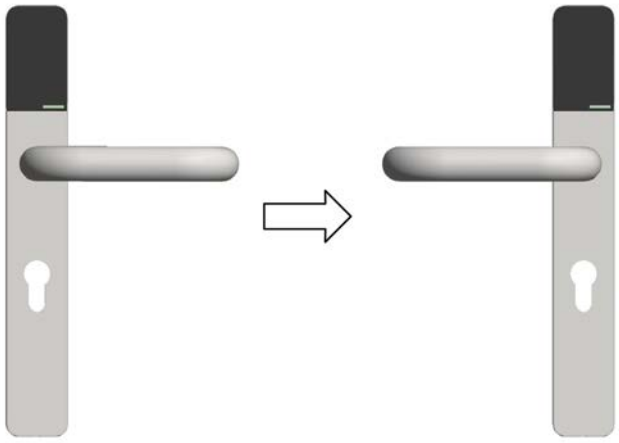
Door lever handle changeover **left to right**



‘4.2.4.2 Door lever handle changeover left > right’ on page 24

If the door lever handle direction already corresponds to the direction of door swing, continue with installation on the door leaf (‘4.2.5 Installation on the door leaf’ on page 27).

4.2.4.1 Door lever handle changeover right > left

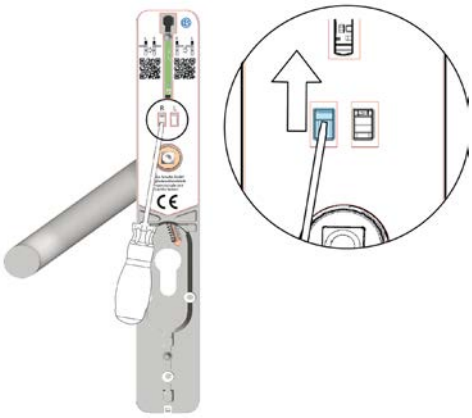


1. Turn the ELECTRONIC HANDLE SET round so you are looking at the rear.

⚠ Take care as the components are under spring pressure.

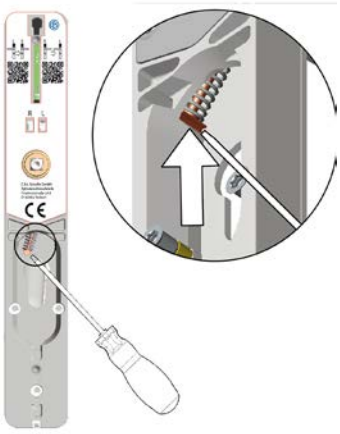
2. Lever the SPRING LEG out of the right-hand housing mount.

3. Press on the DOOR LEVER HANDLE until the limit is reached.



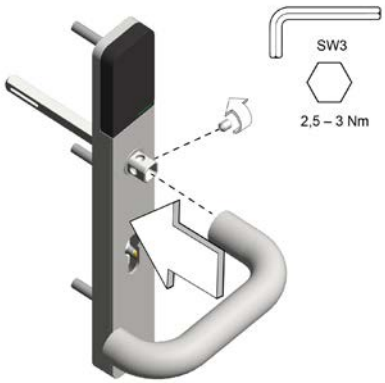
4. Push the SLIDING ELEMENT upwards within the window in the housing.

5. Press on the DOOR LEVER HANDLE downwards until the limit is reached.



6. Slide the SPRING LEG into the left-hand housing mount.

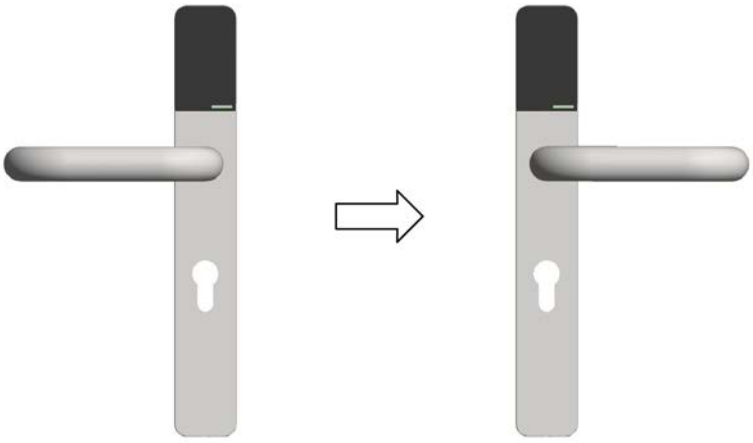
7. Remove the STUD BOLT and DOOR LEVER HANDLE.



8. Place the DOOR LEVER HANDLE in the new position and fix it in place with the STUD BOLT.

The electronic handle set is now ready for installation.

4.2.4.2 Door lever handle changeover left > right

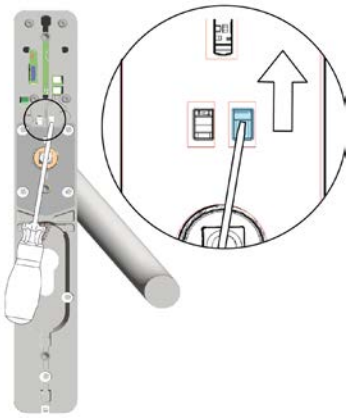


1. Turn the ELECTRONIC HANDLE SET round so you are looking at the rear.

⚠ Take care as the components are under spring pressure.

2. Lever the SPRING LEG out of the right-hand housing mount.

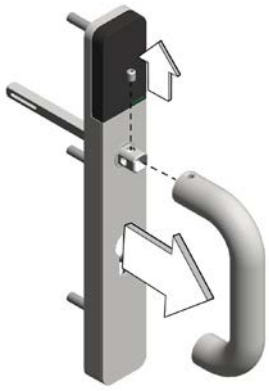
3. Press on the DOOR LEVER HANDLE until the limit is reached.



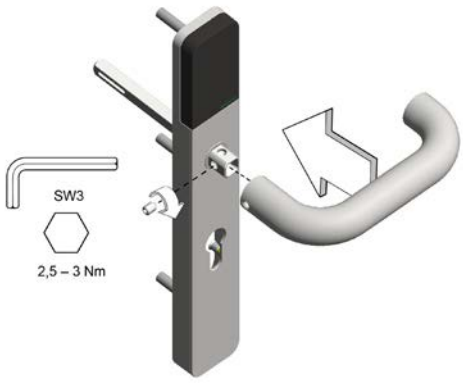
4. Push the SLIDING ELEMENT upwards within the window in the housing.

5. Press on the DOOR LEVER HANDLE downwards until the limit is reached.

6. Slide the SPRING LEG into the left-hand housing mount.



7. Remove the STUD BOLT and DOOR LEVER HANDLE.



8. Place the DOOR LEVER HANDLE in the new position and fix it in place with the STUD BOLT.

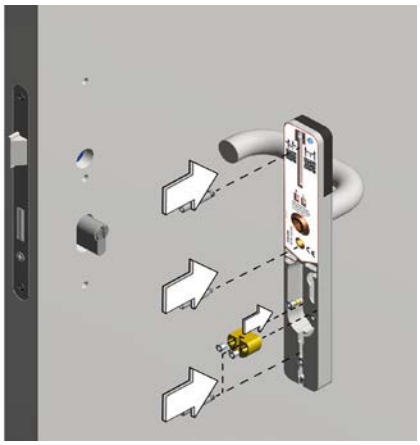
The electronic handle set is now ready for installation. Continue with installation on the door leaf (‘4.2.5 Installation on the door leaf’ on page 27).

4.2.5 Installation on the door leaf

Depending on the door situation, the hole pattern and the bolt or sliding bolt positions may vary from those shown.

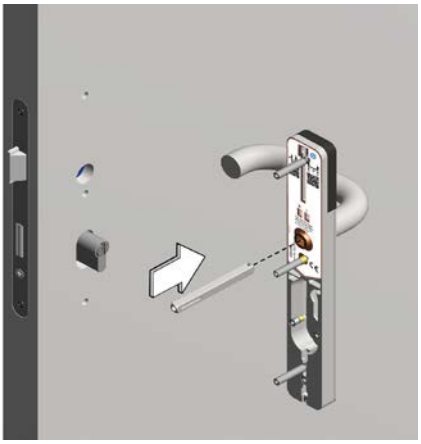
Installation steps for EB1100 | EB1110 | EB1120 | EB1150 | EB1160	Installation steps for EB1130
The manual shows the installation of the narrow shield EB1120 handle set. The electronic handle set with reader is installed on the access side; the mechanical counter handle is installed on the reverse side.	The manual shows the installation of the narrow shield EB1130 handle set. For installing the electronic handle set on the reverse side, an adapter plate is used.
	
Relevant section:	
Installation, access side 4.2.5.1 on page 28	4.2.5.3 on page 32
Installation, reverse side 4.2.5.2 on page 30	4.2.5.4 on page 33
Door lever handle safety catch 4.2.5.5 on page 36	4.2.5.5 on page 36
Testing 4.2.5.6 on page 37	4.2.5.6 on page 37

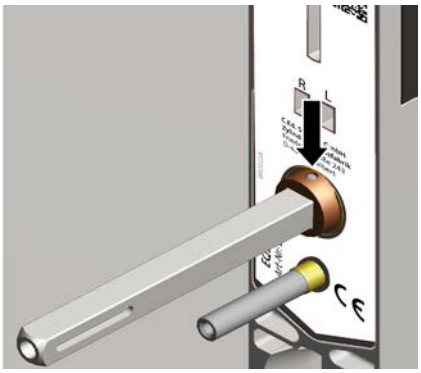
4.2.5.1 Installation on the access side (all product versions except dual handle set EB1130)



1. Position the SLIDING BOLTS (top and bottom) and the THREADED BOLT (middle).

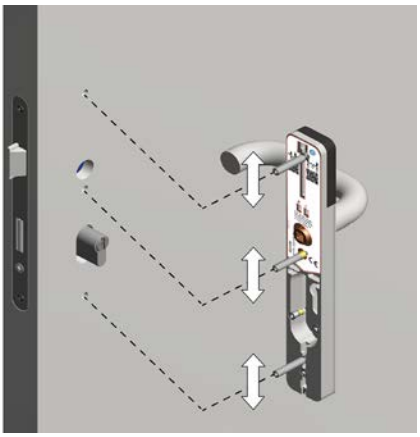
OPTION Short shield holes with profile cylinder spacing up to 72 mm:
For spacings of 55 – 72 mm, an ADAPTER can be used (art. no. 349104V with 2 sleeve nuts, art. no. 349082V).



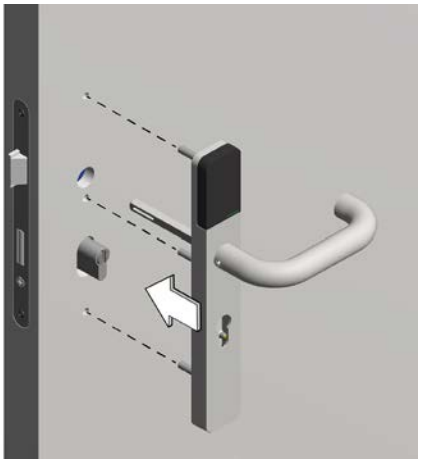


2. Insert the SQUARE SPINDLE into the coupling follower.

⚠ Ensure that the SQUARE SPINDLE clicks into the coupling follower.



3. Adapt the position of the SLIDING BOLTS to the hole pattern.

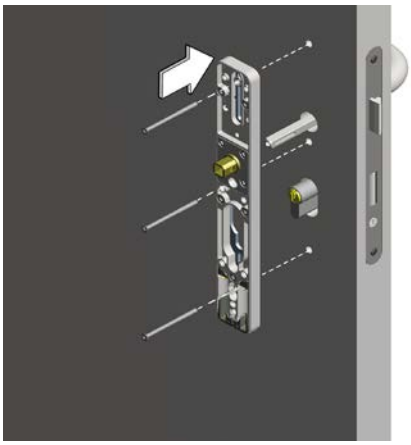


4. Position the ELECTRONIC HANDLE SET on the door leaf.

The electronic handle set is positioned. Continue with installation on the reverse side.

4.2.5.2 Installation on the reverse side (all product versions except dual handle set EB1130)

1. Move to the inner side of the door.



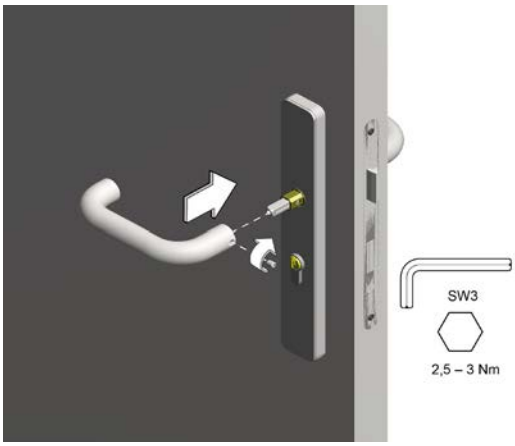
2. Position the COUNTER HANDLE.

⚠ Use the WASHERS supplied for the countersunk head screws if a counter handle that does not have countersunk holes is being installed.

3. Position the FRONT PLATE.

4. Press the FRONT PLATE down evenly.

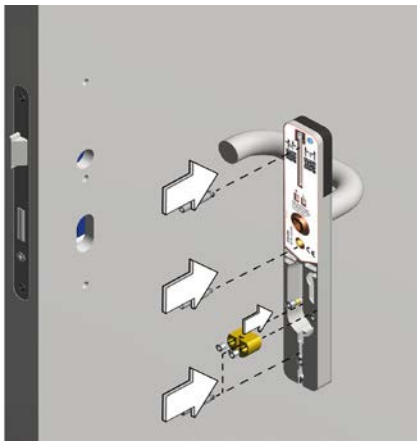
⚠ The FRONT PLATE must click into place.



5. Install the DOOR LEVER HANDLE.
6. Secure the DOOR LEVER HANDLE with the STUD BOLT.

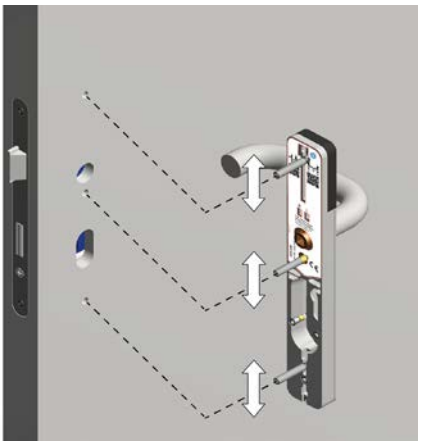
The counter handle is now installed. Continue with the final installation steps on the access side (‘4.2.5.6 Final installation steps and testing (all product versions)’ on page 37).

4.2.5.3 Installation on the access side (for dual handle set EB1130 only)

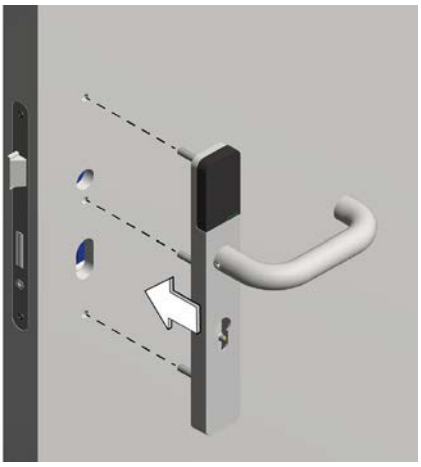


1. Position the SLIDING BOLTS (top and bottom) and the THREADED BOLT (middle).

OPTION Short shield holes with profile cylinder spacing up to 72 mm:
For spacings of 55 – 72 mm, an ADAPTER can be used (art. no. 349104V with 2 sleeve nuts, art. no. 349082V).



2. Adapt the position of the SLIDING BOLTS to the hole pattern.



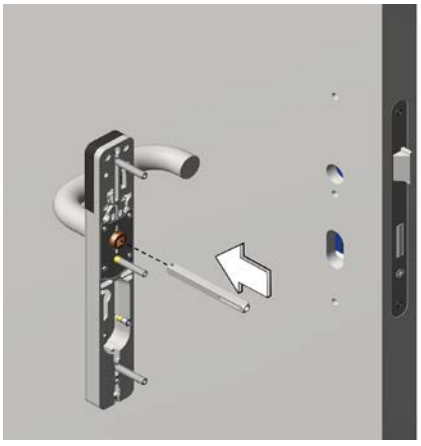
3. Position the ELECTRONIC HANDLE SET on the door leaf.

The electronic handle set is positioned. Continue with installation on the reverse side.

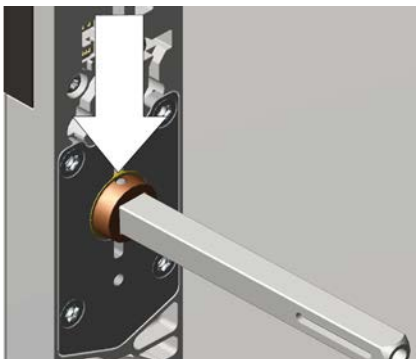
4.2.5.4 Installation on the reverse side (for dual handle set EB1130 only)

1. Move to the inner side of the door.
2. Fix the ADAPTER PLATE in place.

OPTION Short shield holes with profile cylinder spacing up to 72 mm:
For spacings of 105 – 112 mm, an additional INSERT (brass washer) can be used.

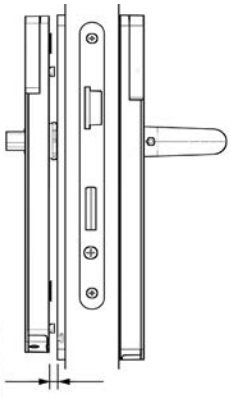


3. Insert the SQUARE SPINDLE into the coupling follower.

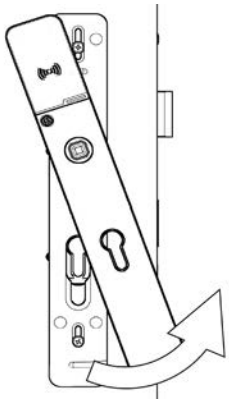


⚠ Ensure that the SQUARE SPINDLE clicks into the coupling follower.

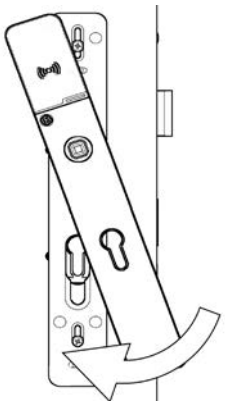
4. Insert the square spindle into the lock and guide the COUNTER HANDLE to the ADAPTER PLATE.

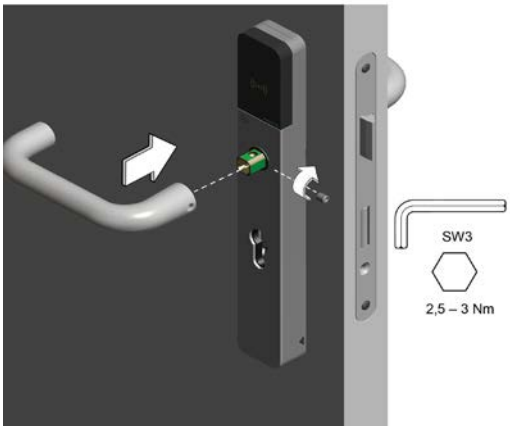


5. Twist the COUNTER HANDLE under light pressure on the ADAPTER PLATE until it engages in the bayonet lock.

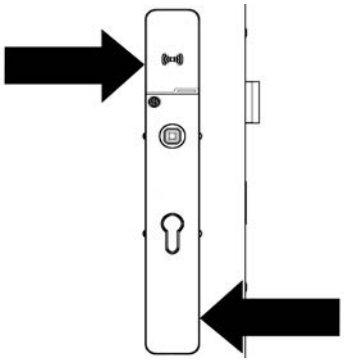


6. Twist the COUNTER HANDLE on the ADAPTER PLATE up to the limit stop.

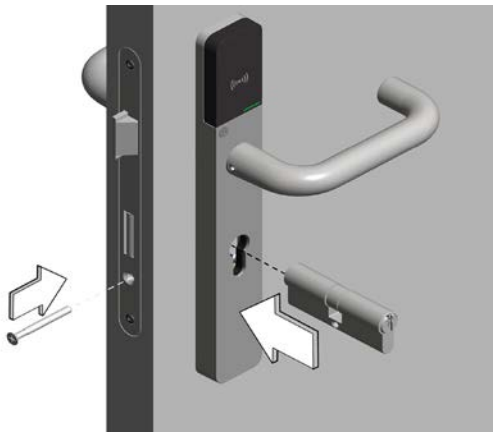




7. Check that the COUNTER HANDLE fits flush with the ADAPTER PLATE.



8. Install the DOOR LEVER HANDLE.



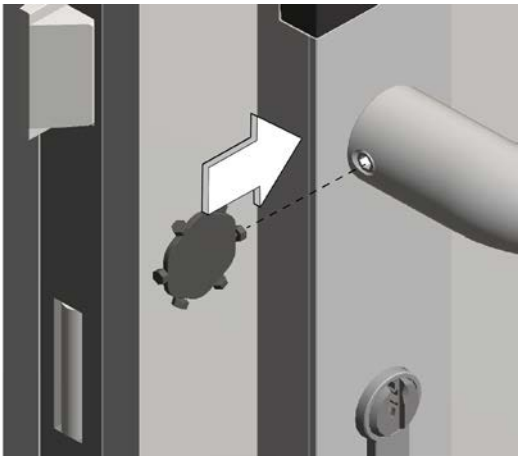
9. Move to the outer side of the door.
10. Install the PROFILE CYLINDER.

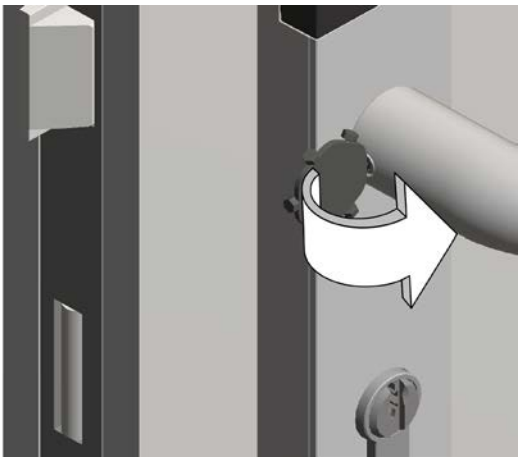
⚠ The profile cylinder prevents the ELECTRONIC HANDLE SET being twisted on the reverse side.

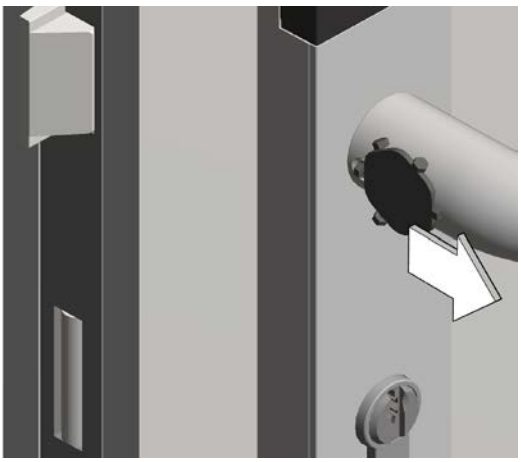
The handle set is now installed. Continue with the final installation steps on the access side (‘4.2.5.6 Final installation steps and testing (all product versions)’ on page 37).

4.2.5.5 Optional door lever handle safety catch (all product versions)

The door lever handle safety catch (art. no. 349185) offers six magazined locking elements and thus enables up to three door lever handles to be secured (two locking elements per door lever handle).





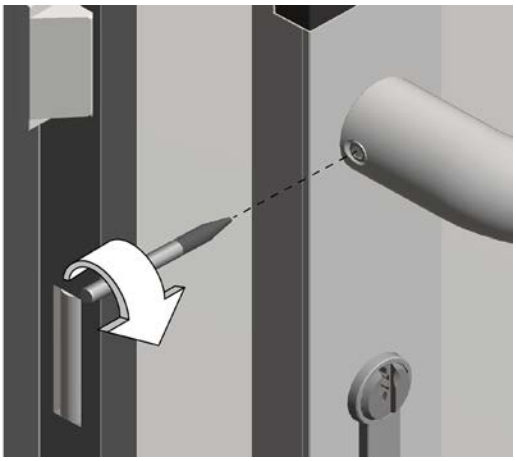


Installing the door lever handle safety catch

⚠ To ensure reliable protection, **two** locking elements must be positioned in the hexagonal socket.

1. Guide one of the locking elements into the hexagonal socket.
2. Bend the DOOR LEVER HANDLE SAFETY CATCH sideways until the locking element breaks off.
3. Repeat steps 1 and 2.

The door lever handle is now protected against quick unauthorised release.

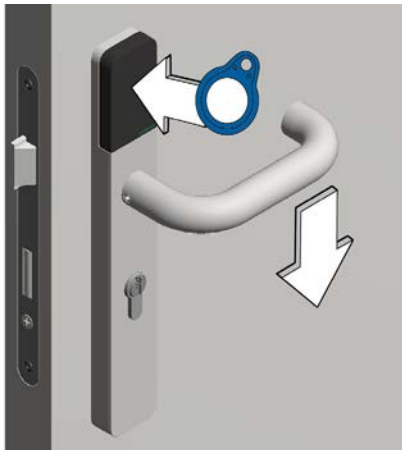


Removing the door lever handle safety catch

1. Drill out the locking element using the EXTRACTION TOOL (art. no. 349186).
2. Remove any residues from the hexagonal socket.

The socket head bolt can now be loosened.

4.2.5.6 Final installation steps and testing (all product versions)



1. Use an authorised locking medium to check that the electronic handle set can read media. The handle set is functioning correctly if the reader LED lights up green (locking medium) or blue (app) and if the latchbolt is pulled back when the door lever handle is actuated.

The electronic handle set is ready for operation.

5 Operation

Target group
End users

Hold your locking medium in front of the electronic handle set until it flashes green once.

You can then open the door.

If the door is locked, you must use a key to unlock it.

Troubleshooting

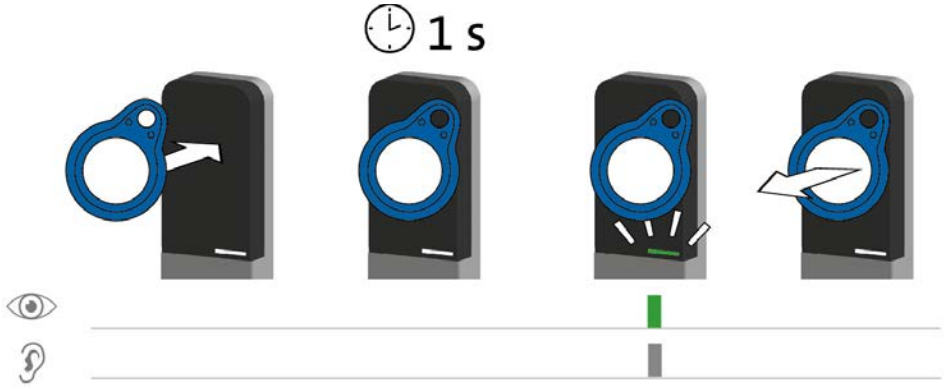
Signal	Cause	Solution
The locking medium is not read (no signal issued)	The locking medium was not held close enough to the reading field of the locking device.	Hold the locking medium closer to the reading field of the locking device.
	The reading field of the locking device was covered by a metallic object.	Remove the metallic materials from the reading field of the locking device.
	Another authorised locking medium has just been held in the reading field of the locking device and the opening duration of the locking device has not yet expired.	You can open the door without having to have your locking medium read.
	The battery is flat.	Replace the batteries.
	The locking medium is defective.	Contact the administrator of the master key system.

5.1 Office function

The office function can be used to set a locking device into the permanently open state for a limited period. Your locking medium must be authorised for this function. Contact your system administrator for further information.

5.2 Detailed information on opening doors

Procedure:



Steps	Signal
1. Hold an authorised locking medium in the reading field of the locking device for approx. 1 second (maximum distance approx. 10 mm). *Locking medium is read and accepted.*	1x short green
You can now open the door for a defined period. The length of the time period depends upon the set opening duration.	

Troubleshooting:

Signal	Cause	Solution
4x short red	The locking medium is not authorised.	Contact the administrator of the master key system.
	The locking medium is authorised but the block time or block mode is active.	If the block time or block mode is active, a locking device cannot be opened by an authorised locking medium.

5.3 Access in emergency situations (emergency mode)

5.3.1 Activating emergency mode

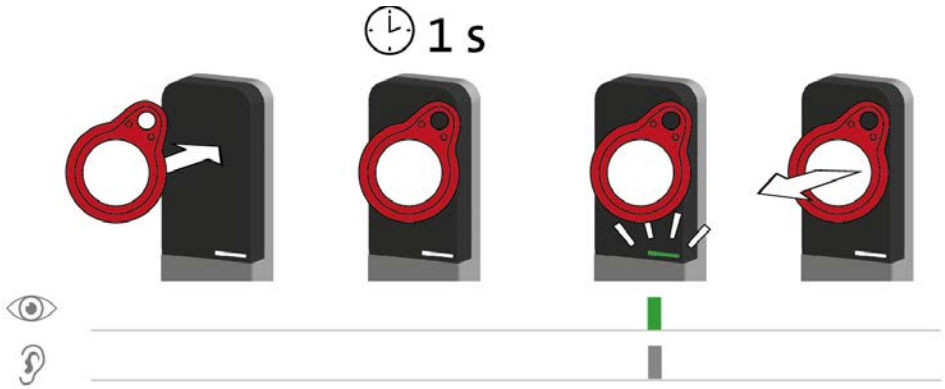
Emergency mode is similar to release mode: the locking device remains constantly coupled so that the door can be opened at any time without having to use a locking medium.

Emergency mode can only be activated and subsequently deactivated using an Emergency-Key.

Required:

- Emergency-Key (must be authorised for the locking device beforehand)

Procedure:



Steps	Signal
1. Hold the Emergency-Key in the reading field of the locking device for approx. 1 second. *The Emergency-Key is read and accepted.* 2. Remove the Emergency-Key from the reading field of the locking device.	1x short green
The locking device is now in emergency mode. Access is now permanently enabled without the locking media since the locking device remains permanently coupled. Emergency mode can only be deactivated again by an Emergency-Key.	

Troubleshooting:

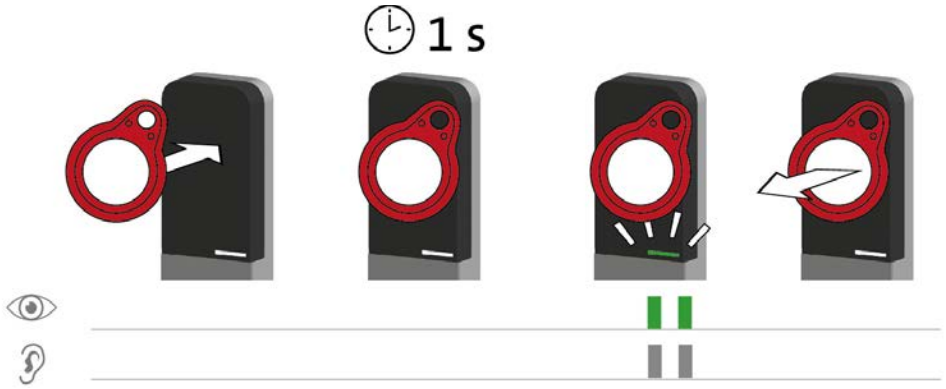
Signal	Cause	Solution
1x long red	The Emergency-Key could be read but is not authorised for this locking device.	Authorise the Emergency-Key.

5.3.2 Deactivating emergency mode

Required:

- Emergency-Key (must be authorised for the locking device beforehand)

Procedure:



Steps	Signal
1. Hold the Emergency-Key in the reading field of the locking device that is in emergency mode. *Emergency mode is deactivated.*	2x short green
2. Remove the Emergency-Key from the reading field of the locking device.	
Emergency mode is now deactivated.	

Troubleshooting:

Signal	Cause	Solution
1x long red	The Emergency-Key could be read but is not authorised for this locking device.	Authorise the Emergency-Key.

6 Administration of the electronic handle set

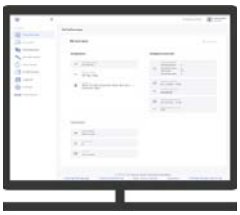
Target group
IT/administration specialists
System operators

Programming and/or copying the programming onto the device can be performed in various ways and with different devices. The administration devices and procedures are dependent on the system environment of the master key system.
The procedure is described in the administration manual of the relevant system.

CESentry system > BRO2410_EN_EB_Manual_Administration

Administration devices
A **CES**entry system is set up and managed either via an app provided by CES or by web access using an internet browser. Data can also be transferred to a locking device using a Desktop-Writer.

Desktop-Writer EB



Web client
(via web browser)

AdminApp
Smartphone

7 Battery management

7.1 Battery consumption

Battery consumption depends, amongst other things, on the following factors:

Ambient temperature	Battery consumption increases when the ambient temperature is low.
Beeper	Battery consumption increases when the beeper is switched on.
Actuation	Battery consumption increases the more the device is used.

7.2 Battery warning system

When the battery power becomes weak, the locking device displays additional signals after authorised or unauthorised locking media are held in the reading field of the locking device or if the locking device couples, e.g. after release mode or emergency mode has been activated. These additional signals are battery warnings.

Lock-out risk: the door can no longer be opened when the batteries are empty. Therefore, replace the battery immediately after the first warning.

Battery warnings

Warning level	Signal	Cause	Action required
1	1x long red 	Battery capacity is coming to an end ⚠ The device could fail.	Replace the battery immediately

7.3 Battery replacement

⚠ CAUTION **Damage from using incorrect batteries**

The use of incorrect batteries can cause irreparable damage to the locking device.

✓ Use only Energizer Ultimate Lithium 1.5 V AA batteries.

✓ Ensure correct polarity when inserting batteries into the locking device.

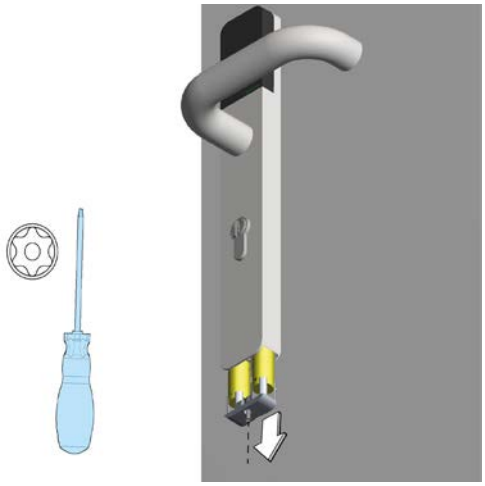
⚠ CAUTION **Damage caused by external objects when replacing the battery**

The battery, battery module housing or electronics may be damaged if an external object (such as a screwdriver) is used to remove the battery from the battery compartment.

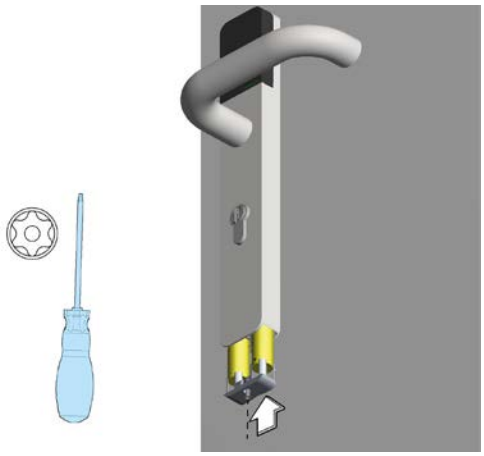
✓ Use only your hands to remove the battery. Never use any other objects.

After the battery is removed, the authorisations and other settings (opening duration, etc.) are retained in the memory of the locking device.

After removal of the battery, the date and time are maintained for approximately ten minutes. If the battery is removed for a longer period, the date and time must be set again. This will affect time-based authorisations. Using the handle set via the app will update the settings.



1. Loosen the screw with a suitable screwdriver (hexolobular socket T10).
2. Remove the cover cap.

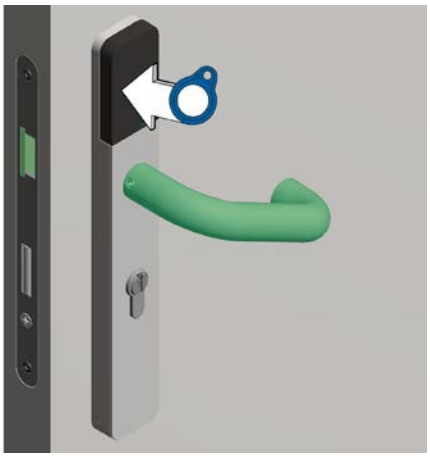


3. Position the new batteries in the cover cap and insert the cover cap into the handle set.

⚠ Ensure that the battery polarity is correct.

⚠ Use only the recommended batteries.

4. Secure the cover cap with the screw (max. 0.35 Nm).



5. Use an authorised locking medium to check that the electronic handle set can read media. The handle set is functioning correctly if the reader LED lights up green (operation by locking medium) or blue (operation by app) and if the latchbolt is pulled back when the door lever handle is actuated.

The electronic handle set is ready for operation.

7.4 Signalling after batteries are inserted

If a system error is present, it is displayed immediately after the start sequence.

Signal	Meaning	
	Start sequence for offline locking devices (no errors):	
	1x red	Bootloader is loading
	1x green	Firmware is loading
	1x blue	Firmware loaded successfully
	Error in start sequence:	
	flashes red	Firmware error
	Perform a firmware update. If the problem persists, contact your CEStronics partner.	

8 Maintenance

Target group
IT/administration specialists
System operators
Personnel with product training
End users

8.1 Routine maintenance work

⚠ WARNING! **The malfunction of handle sets in fire/smoke-resistant and emergency exit locks pose a danger to life**

Check all mechatronic handle sets regularly in accordance with the relevant legal specifications to ensure that the function is compliant.

- Read the relevant information provided by the door manufacturer.

Device

☑ Have the device maintained and checked for proper functioning every six months by CES or a CEStronics partner.

Batteries

☑ Replace the batteries in accordance with a predefined maintenance schedule.
☑ Check the batteries every six months and replace them if necessary. Depending on the use of the locking device and the climate, the maintenance interval could be shorter.
☑ Only use the battery types indicated.

8.2 Device care

Mechanical components and surfaces require cleaning and care. Observe the information regarding the use of cleaning and care products.

⚠ CAUTION **Damage to mechanical elements from incorrect care products**

- Do not use lubricants (such as graphite), oils or resinous products to care for the mechanical elements of locking devices.
- Only use CES care products for a CES locking cylinder.

⚠ CAUTION **Damage to surfaces from the use of incorrect care products**

Therefore, do not use any solvent-based cleaning agents.

- Clean the outer, accessible components with a soft, slightly damp cloth.

8.3 Service

For service assistance, please contact your CES partner.

9 Disposal

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 still contained. In addition, proper disposal enables recyclable materials to be recovered and recycled, which makes a significant contribution to the conservation of natural resources.

Harm to health and the environment
Electronic equipment must not be disposed of in household waste.

Disposing of old equipment
In accordance with the Waste Electrical and Electronic Equipment (WEEE) recycling regulations, every consumer has a duty to dispose of old electronic/electrical appliances safely and separately from household waste.
The disposal of electronic devices along with household waste is prohibited. Old equipment can be disposed of free of charge at the collection points provided by your local authority. Alternatively, you can send the equipment back to C.Ed. Schulte GmbH Zylinderschlossfabrik, Velbert, Germany. Please ensure that the correct carriage costs are paid for the return.

Correct disposal of batteries
The symbol of the crossed-out wheeled bin indicates that single-use or rechargeable batteries with this label cannot be disposed of with household waste. Any batteries that contain mercury, cadmium or lead above the legal limits are further marked with the corresponding chemical symbol (Hg, Cd or Pb) underneath the crossed-out wheeled bin symbol. As a consumer, you are obliged by the German Battery Act (BattG2) to dispose of all single-use or rechargeable batteries separately. Free disposal points are provided by commercial businesses and at collection points in your area. The addresses of suitable collection points are available from your local or municipal authority.

Correct disposal of packaging
Most of the component packaging is made from environmentally-friendly, reusable materials. Specifically, these are:
☑ Outer packaging and inlays made of cardboard
☑ Protective polythene (PE) films
Please dispose of the packaging in an environmentally-friendly way by separating the waste materials.

10 Technical data

Dimensions

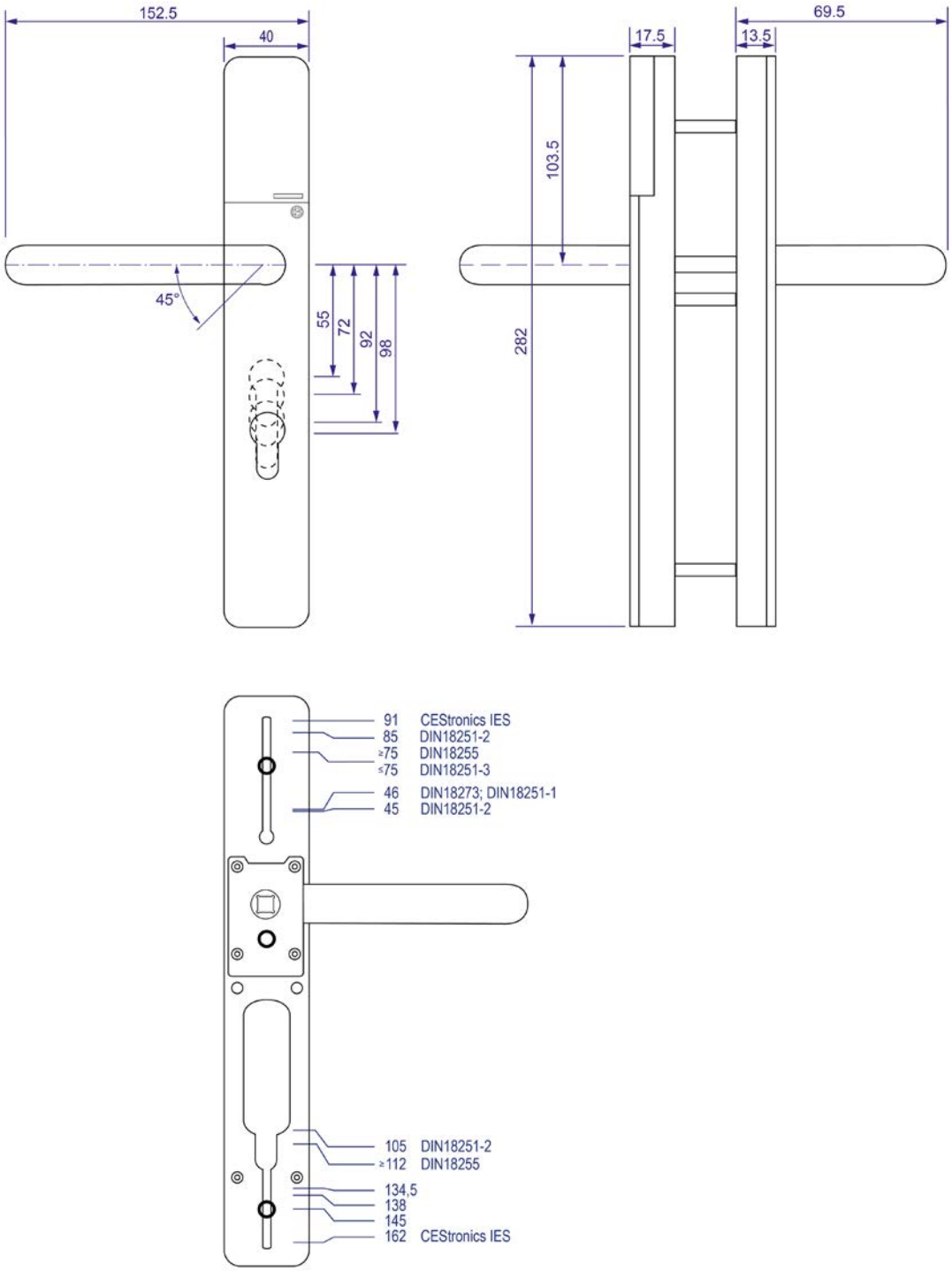


Fig.: EB1110 access side narrow with reader, reverse side narrow (mechanical)

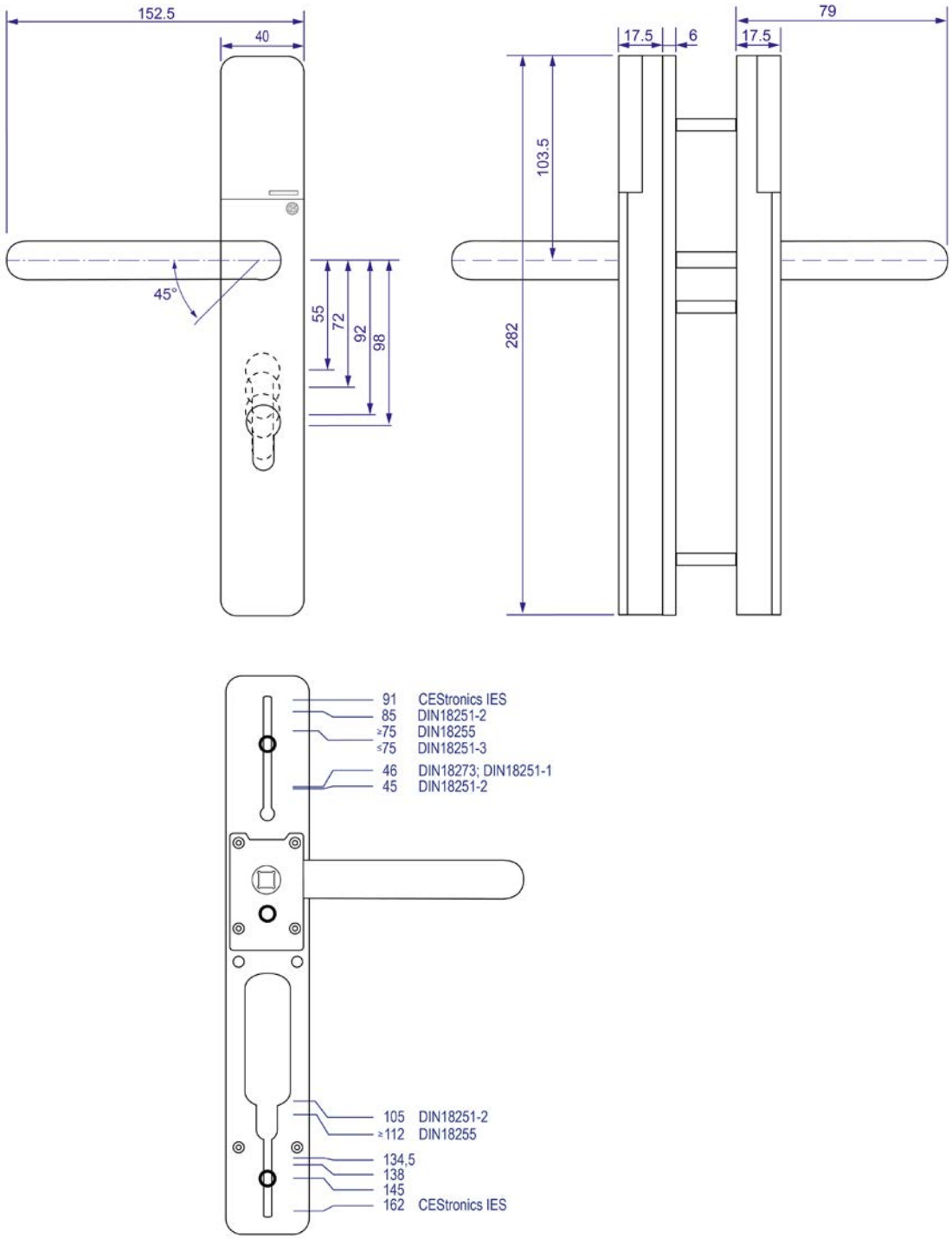


Fig.: EB1130 access and reverse sides narrow with reader (dual version)

11 Signals issued on the device

After inserting the batteries

Signal	Cause	Solution
1x short red 1x short green 1x short blue 	Start sequence for offline locking devices (no errors): 1x red 1x green 1x blue	 Bootloader is loading Firmware is loading Firmware loaded successfully
3x short red 	Error in start sequence: flashes red Perform a firmware update. If the problem persists, contact your CEStronics partner.	 Firmware error
1x long red 	Battery capacity is coming to an end ⚠ The device could fail.	Replace the battery immediately

System error

In the event of system errors, they are signalled after the following actions:

- after reading the authorised locking media
- after attempting to put the electronic cylinder into release mode or emergency mode
- after the start sequence (inserting/connecting the batteries)

Signal	Cause	Solution
3x short red + 1x long red + signal tone 	Unable to communicate with locking mechanism.	Check the contacts. If you cannot remedy the error yourself, contact your CEStronics partner.
3x short red + 2x long red + signal tone 	The actuator of the locking device is not working correctly.	Check if the actuator has jammed. If you cannot remedy the error yourself, contact your CEStronics partner.
3x short red + 3x long red + signal tone 	Communication was established but was not successful.	Check that the electronic knob and locking mechanism have the same UID and same system number. If you cannot remedy the error yourself, contact your CEStronics partner.

Battery warning

Additional signals after presentation of an authorised or unauthorised locking medium:

Signal	Cause	Solution
1x long red 	Battery capacity very low ⚠ The device could fail.	Replace the battery immediately

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