



Roto Safe A | A700

Retrofitting the drive unit

Mechanical-automatic multipoint lockings for doors

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1 General information

1.1 Additional information to be noted

For other mandatory components (locking side, frame components, etc.) and information (target groups, safety, maintenance, transport, disposal), see the other applicable documents.



INFO

These instructions are incomplete.

The other applicable documents for these instructions are:

- IMO_505
- IMO_506

Failure to observe this documentation discharges the hardware manufacturer from their liability.



INFO

These instructions do not apply to escape doors according to EN 179. It is not permitted to retrofit the drive unit to these doors.

1.2 Instructions

Storing the instructions

These instructions are an important part of the product. The instructions must be stored so that they are always to hand.

Explanation of the markings

The manual uses the following markings for emphasis (e.g. in figures or instructions):

Marking	Meaning
	Optional / alternative components seated in the sash
	Sash / components seated in the sash
	Optional / alternative components seated in the frame
	Frame / components seated in the frame
	Drill holes, routing, screw positions
	Unaffected components / indirectly affected components
	Components, arrows or movements that have just been described
	Item number
[1]	Legend
[A]	Steps



INFO

Any dimensions without a unit in the instructions are given in millimetres (mm). Other units of measurement are clearly indicated by the presence of the differing unit.

1.3 Symbols

Symbol	Meaning
■	First-level list
□	Second-level list
→	(Cross) reference
▷	Result
►	Unnumbered step
1.	Numbered step
a.	Numbered second-level step
⇒	Requirement

1.4 Target groups

The information in this document is directed at the following target groups:

Door manufacturers

The “door manufacturers” target group includes all companies and individuals that purchase hardware from hardware manufacturers or hardware dealers and further process the hardware by integrating it in doors.

Qualified electrician

The device may only be assembled, installed, commissioned and maintained by suitably trained electricians with the appropriate qualifications.

The electrician must have read and understood this document, as well as the other applicable document, and must follow the instructions.

The qualified electrician must comply with the national regulations that apply in their country (e.g. DIN VDE 0105, EN 50110) with regard to installation, performance testing, repair and maintenance of electrical products and apply them correctly.

1.5 Copyright protection

The contents of this document are copyright-protected. This content can be used when working with the hardware. Any other use is not permitted without written permission of the manufacturer.

1.6 Limitation of liability

All information and instructions contained in this document have been compiled in consideration of the applicable standards and regulations, the latest developments in technology and many years of knowledge and experience.

The hardware manufacturer assumes no liability for damage caused by:

- Failure to comply with this document and all product-specific documents and other applicable directives (see the chapters entitled “Security” and “Stipulated use”).
- Improper use / misuse (see the chapters entitled “Security” and “Stipulated use”).
- Insufficient invitation to tender, non-compliance with installation specifications and non-compliance with the application diagrams (where available).
- Increased contamination.

Claims made by third parties against the hardware manufacturer on account of damage resulting from misuse or failure to comply with the obligation to give instructions on the part of hardware dealers, window, door and balcony door manufacturers and building element dealers or the builder are passed on accordingly.



The obligations agreed in the delivery contract, the general terms and conditions, the hardware manufacturer's terms and conditions of delivery and the legal provisions applicable when the contract was concluded shall apply.

The warranty only covers original Roto components.

We reserve the right to make technical changes as part of improvement to performance characteristics and further development.

2 Security

This manual contains instructions relating to safety. The principal safety information in this chapter includes information and instructions relevant to the safe use or maintaining the safe condition of the product. Warning instructions that relate to handling warn of residual risks and are located before steps that are relevant to safety.

- Follow all of the instructions in order to prevent personal injury and property and environmental damage.

2.1 Presentation and structure of warning instructions

The warning instructions relate to individual actions and are structured as follows with a warning symbol:



DANGER

Nature and source of the danger.

Explanation and description of the danger and the implications.

- Measures to take to avert the danger.

2.2 Security levels of warning instructions

The warning instructions that relate to handling are identified differently according to the severity of the associated danger. The signal words and the associated warning symbols used are clarified below.



DANGER

Immediate risk of death or serious injuries.

- Observe these warning instructions to avoid personal injuries.



WARNING

Potential risk of death or serious injuries.

- Observe these warning instructions to avoid personal injuries.



CAUTION

Risk of injuries

- Observe these warning instructions to avoid personal injuries.



ATTENTION

Reference to property or environmental damage.

- Observe these warning instructions to avoid property or environmental damage.

2.3 Stipulated use

The drive unit described in these instructions is designed for motorised locking and opening of doors. The drive unit can be fitted with an integrated radio receiver, which can be used to open the lock with the optional Roto radio remote control.

2.4 Misuse

Any use and processing of the products that goes beyond or differs from the stipulated use is considered misuse and can lead to hazardous situations.



WARNING

Misuse may pose a risk of death!

Misuse and incorrect installation of hardware can lead to serious injuries.

- ▶ Only use hardware combinations that have been approved by the hardware manufacturer.
- ▶ Only use original accessories or those that have been approved by the hardware manufacturer.
- ▶ Note the product-related documentation → *from page 5*.

3 Information on the product

3.1 Scope of delivery

- 1x drive unit
- 2x M4 x 12 Taptite thread-rolling screws
- 1x M4 x 10 threaded pin

3.2 Tool

- Hexalobular socket: T20
- Hex key: 2 mm
- Pin or tool (Ø 3 to 3.5 mm), e.g. hexalobular socket: T10
- Universal access key or profile cylinder
- Cordless screwdriver with bit set



INFO

Only use a cordless screwdriver for multipoint lock fixing screws.



4 Installation

4.1 Installing the drive unit



INFO

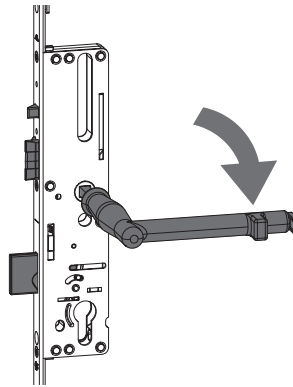
Day-time unlocking device not recommended when retrofitting the drive unit. Remove this if necessary.



INFO

Ensure that the transport retaining bolt has been removed.

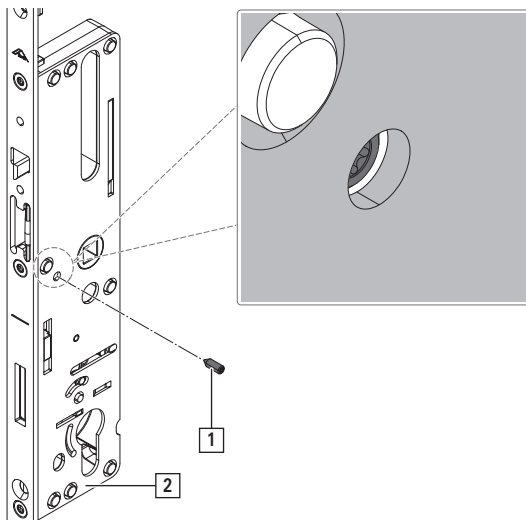
1. Push the lever handle down and hold it there.
▷ The deadbolt and latches must be retracted.



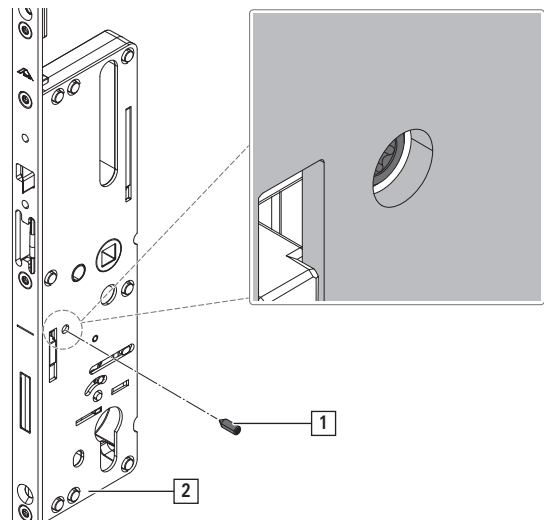
2. Screw the threaded pin [1] into the plate [2] as far as it will go.
▷ The threaded pin must go out of sight behind the plate.
The thread is cut into when it is screwed in for the first time. For technical reasons, resistance will be felt during this process.

Tool: 2 mm hex key

Backset 35, 40



Backset > 40

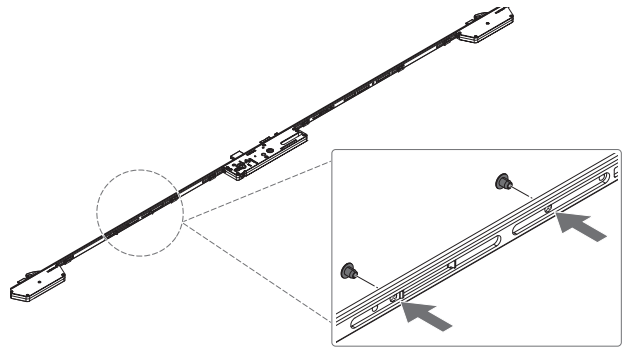


3. Release the lever handle.
▷ The lever handle must automatically return to the initial position and the latches must extend fully.
If the latches do not extend fully, screw the threaded pin in further.

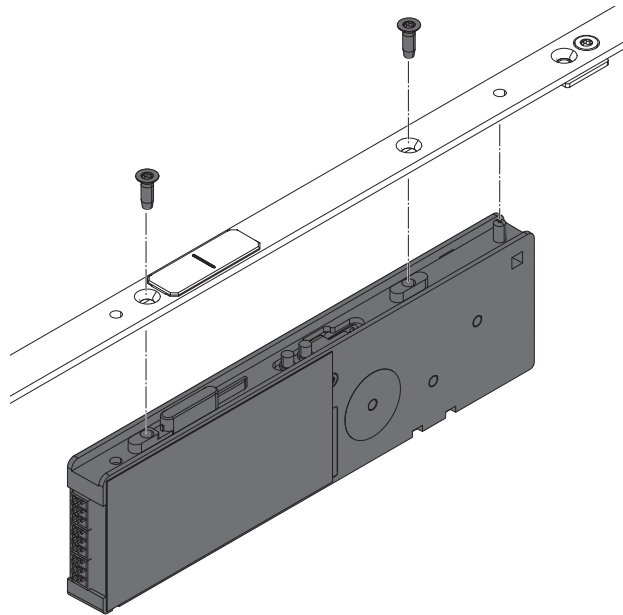
Installation

Installing the multipoint lock

4. Remove the cover caps from the screw positions for the drive unit.



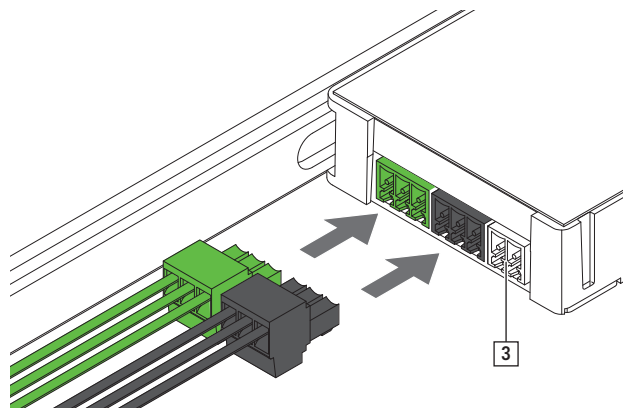
5. Insert the drive unit into the faceplate.
6. Fasten the drive unit with M4 x 12 Taptite thread-rolling screws.
Tool: T20 hexalobular socket
Torque 1.5 –2 Nm



7. Optionally adjust the travel and carry out a performance test on the drive unit before installing the multipoint lock → *from page 14*.

4.2 Installing the multipoint lock

1. Connect the drive unit to the power supply.
Leave the slot on the right [3] free.





2. Insert the multipoint lock [4] into the leaf groove and fasten with screws.



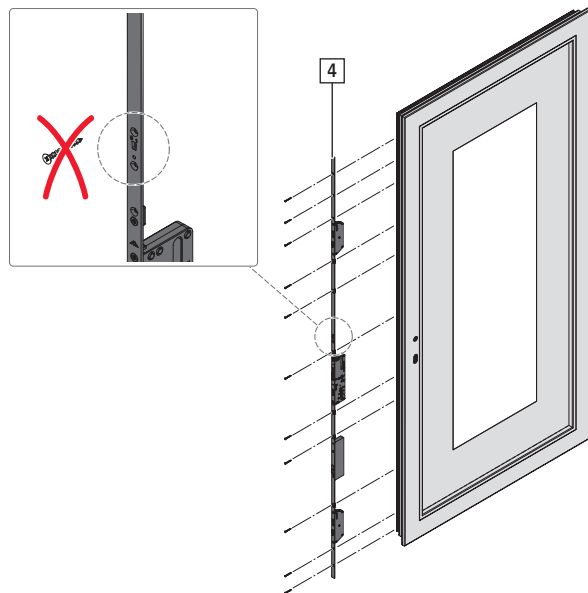
INFO

Do not occupy the screw positions for the day-time unlocking device.



INFO

Turn in screws straight.



3. Only adjust the travel and carry out the performance test when the element is installed.

→ *from page 17* (with Control Unit)

→ *from page 20* (with cable junction)

5 Commissioning



DANGER

Risk of death caused by electric shock!

Current can lead to fatal injuries.

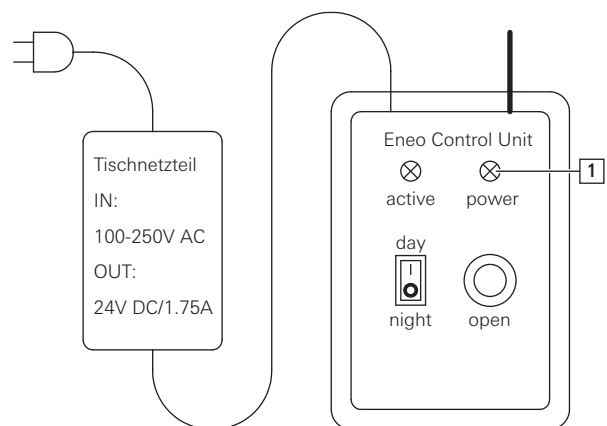
- ▶ Installation and maintenance work may only be carried out by qualified electricians.
- ▶ Observe and comply with the respective national regulations (in Germany VDE 0100 and others).
- ▶ When laying the network connection cable on-site, all-pole safety isolation must be established.
- ▶ Only carry out work when the power supply is disconnected.

Before connecting the drive unit to the supply voltage, check that it is working properly, as for a mechanical multipoint lock. The force required to actuate the lever handle and the cylinder key must not exceed normal manual force.

5.1 Multipoint lock not installed (Control Unit)

5.1.1 Connecting the Control Unit to the drive unit

1. Connect the Control Unit to the drive unit using the cable (mat no. 524935) via Plug&Play connections.
2. Connect the Control Unit to the power supply.
 - ▷ The power LED [1] lights up green.





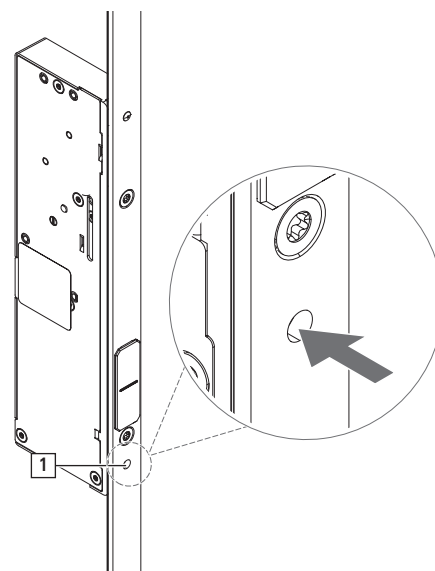
5.1.2 Adjusting the travel



INFO

Only perform the adjustment when the element is vertical.

1. Push the lever handle down and hold it there.
2. Insert the pin or tool ($\varnothing$ 3 to 3.5 mm) into the inspection opening.
Press and hold the radio-controlled teach button [1] for five seconds.
 - ▷ The drive unit provides confirmation with a sequence of sounds and is adjusted.



3. Keep the lever handle pushed down.
 - ▷ The drive moves down, up and then down again, with each movement being confirmed by 1x beep.
 - ▷ The drive unit exits the mode automatically.
4. Release the lever handle.
5. Disconnect the drive unit from the power supply and reconnect it for a restart.
6. Carry out a performance test.

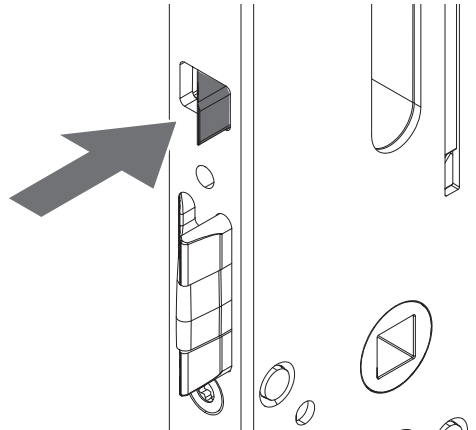


INFO

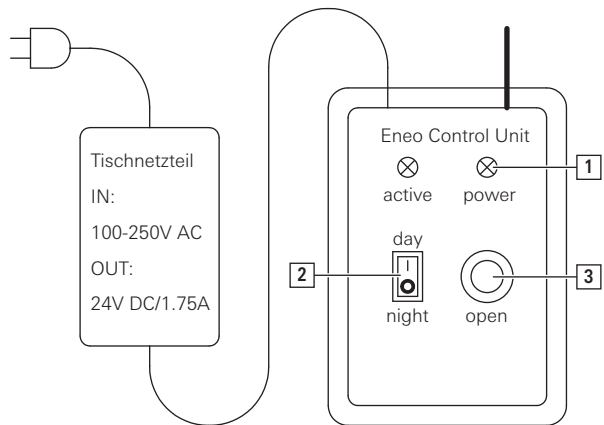
If there is an error, 7x two-tone beeps are heard .
Repeat the adjustment from step 2 onwards.

5.1.3 Drive unit performance test

1. Activate the trigger unit.



2. Ensure that the day / night changeover switch [2] on the Control Unit is set to 0 (night).



3. Press the open button [3].
 - ▷ The additional locks, main deadbolt and latches are retracted. Only the latches extend again.
 - ▷ Performance test passed.If the performance is not as expected, see fault assistance → *from page 25*.
4. Install the multipoint lock → *from page 12*.



5.2 Multipoint lock installed (Control Unit)

5.2.1 Connecting the Control Unit to the drive unit

1. Open the leaf.
2. Connect the Control Unit to the cable junction cable.

Connector / cable assignment

White: IN1 / input 1 (OPEN)

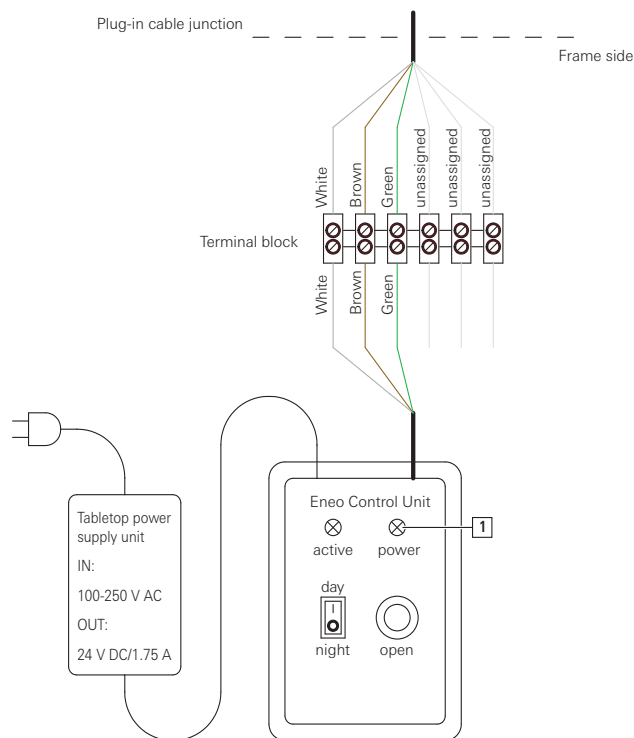
Brown: +24 V

Green: GND

Yellow: unassigned

Grey: unassigned

Pink: unassigned



3. Connect the Control Unit to the power supply.
 - ▷ The power LED [1] lights up green.

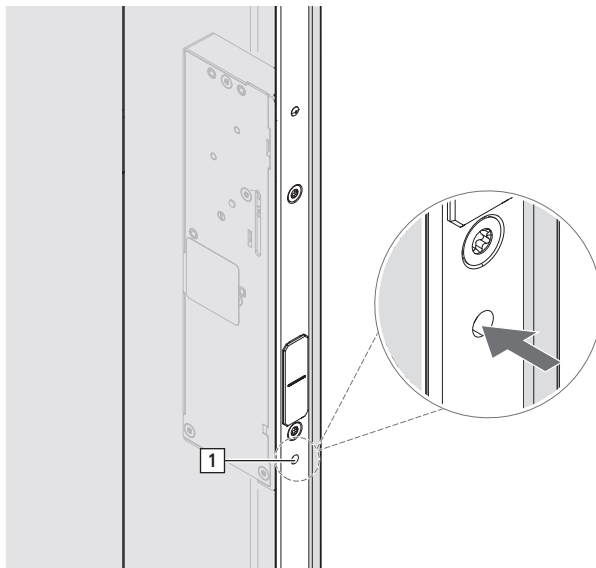
5.2.2 Adjusting the travel



INFO

Only perform the adjustment when the element is vertical.

1. Open the leaf.
2. Push the lever handle down and hold it there.
3. Insert the pin or tool ($\varnothing$ 3 to 3.5 mm) into the inspection opening.
Press and hold the radio-controlled teach button [1] for five seconds.
 - ▷ The drive unit provides confirmation with a sequence of sounds and is adjusted.



4. Keep the lever handle pushed down.
 - ▷ The drive moves down, up and then down again, with each movement being confirmed by 1x beep.
 - ▷ The drive unit exits the mode automatically.
5. Release the lever handle.
6. Disconnect the drive unit from the power supply and reconnect it for a restart.
7. Carry out a performance test.



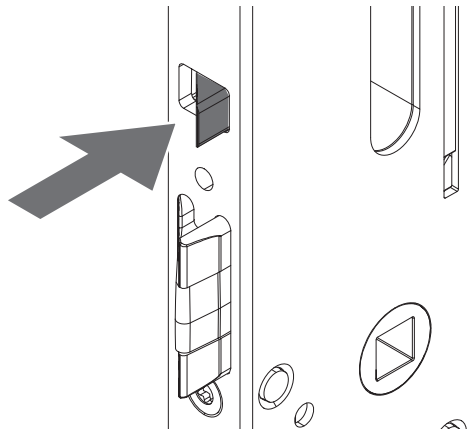
INFO

If there is an error, 7x two-tone beeps are heard .
Repeat the adjustment from step 2 onwards.

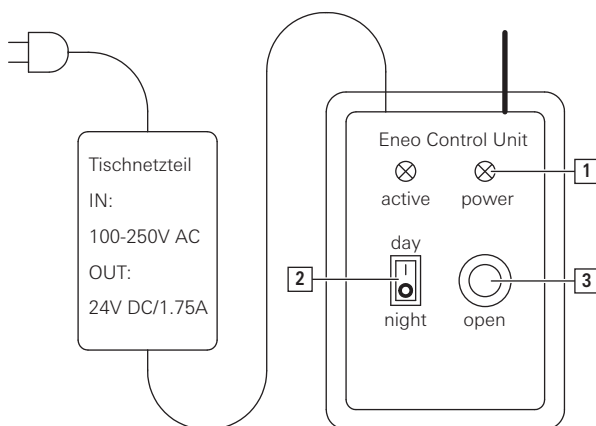


5.2.3 Performance test with Control Unit

1. Open the leaf.
2. Activate the trigger unit.



3. Ensure that the day / night changeover switch [2] on the Control Unit is set to 0 (night).



4. Press the open button [3].
 - ▷ The door is unlocked. The additional locks, main deadbolt and latches are retracted. Only the latches extend again.
 - ▷ Performance test passed.If the performance is not as expected, see fault assistance → *from page 25*.
5. If the performance test is passed, close the leaf and repeat point 4.

5.3 Multipoint lock installed (cable junction)

5.3.1 Connecting the cable junction with built-in power supply unit to the drive unit

1. Open the leaf.
2. Connect the mains cable to the 230 V power supply.



INFO

Only an electrician is permitted to establish the connection to the 230 V power supply.



ATTENTION

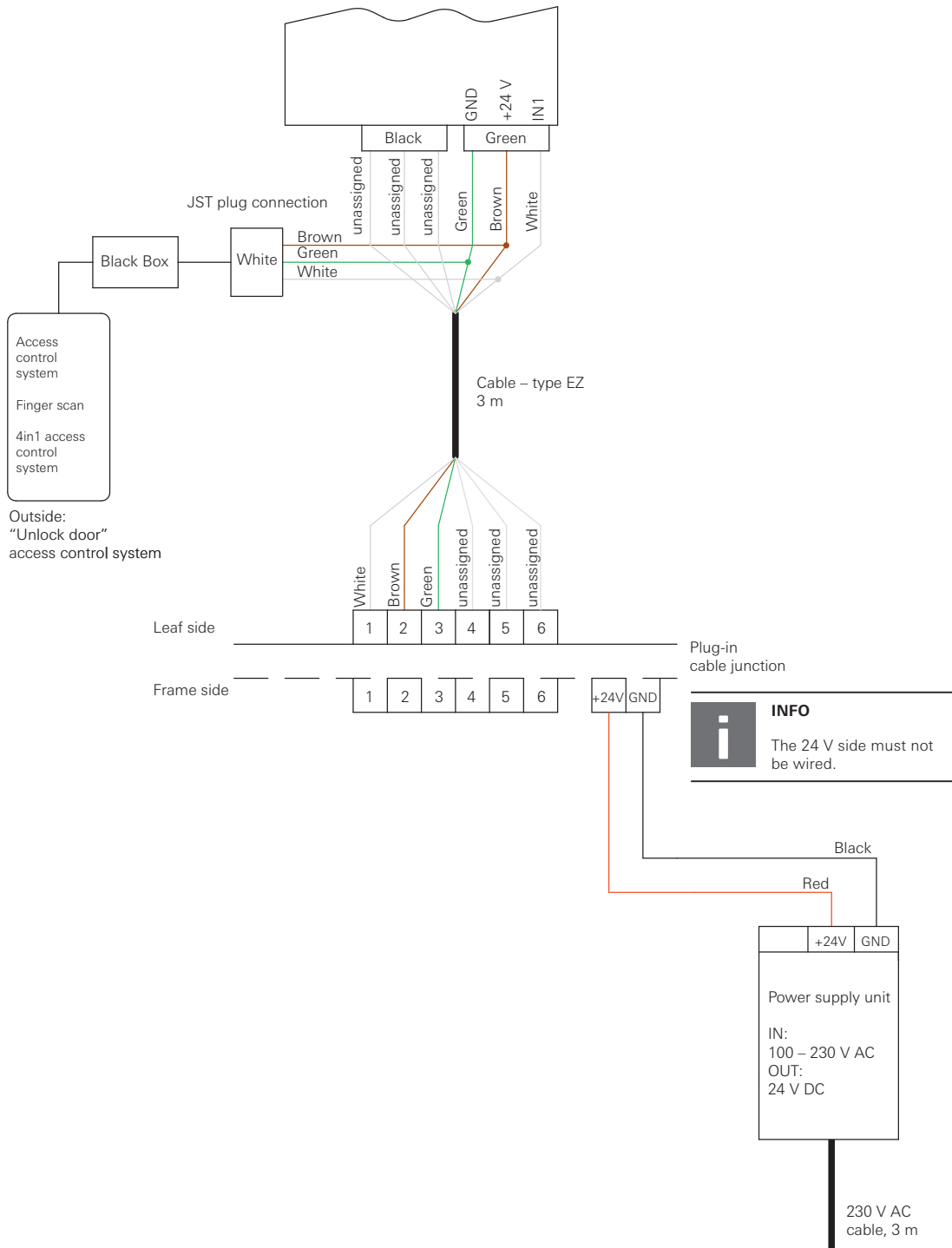
Property damage due to short-circuit.

If the power supply unit is connected to the 230 V power supply before the cable junction is connected, this may cause a short-circuit.

- ▶ On the leaf side, connect the EZ cable to the cable junction. For the cabling, see the connection diagram.
 - ▶ On the frame side, connect the cable for the cable junction, e.g. to the push-button, intercom, etc.
-

Multipoint lock installed (cable junction)

Connecting the cable junction with built-in power supply unit to the drive unit



Connector / cable assignment

White: IN1 / input 1 (OPEN)

Brown: +24 V

Green: GND

Yellow: unassigned

Grey: unassigned

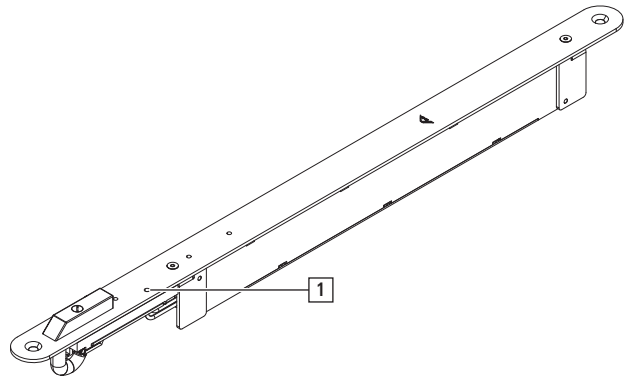
Pink: unassigned

Commissioning

Multipoint lock installed (cable junction)

Adjusting the travel

3. Check the power supply at the power supply unit.
 - ▷ The LED [1] is lit up green when there is voltage.



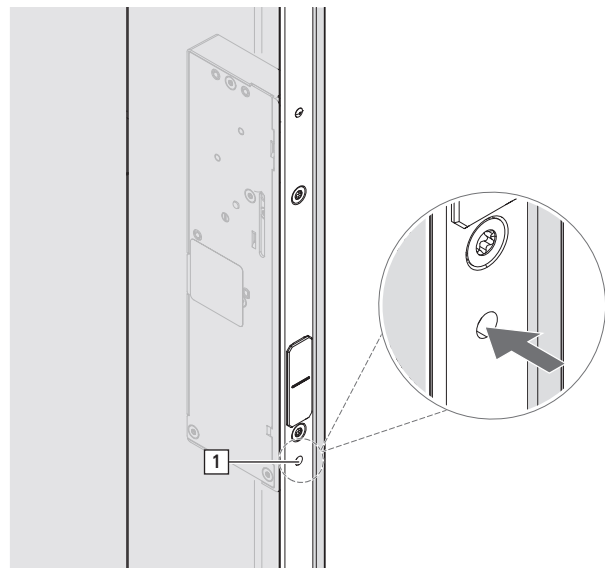
5.3.2 Adjusting the travel



INFO

Only perform the adjustment when the element is vertical.

1. Open the leaf.
2. Push the lever handle down and hold it there.
3. Insert the pin or tool ($\varnothing$ 3 to 3.5 mm) into the inspection opening.
Press and hold the radio-controlled teach button [1] for five seconds.
 - ▷ The drive unit provides confirmation with a sequence of sounds and is adjusted.



4. Keep the lever handle pushed down.
 - ▷ The drive moves down, up and then down again, with each movement being confirmed by 1x beep.



- ▷ The drive unit exits the mode automatically.
- 5. Release the lever handle.
- 6. Disconnect the drive unit from the power supply and reconnect it for a restart.
- 7. Carry out a performance test.

**INFO**

If there is an error, 7x two-tone beeps are heard .

Repeat the adjustment from step 2 onwards.

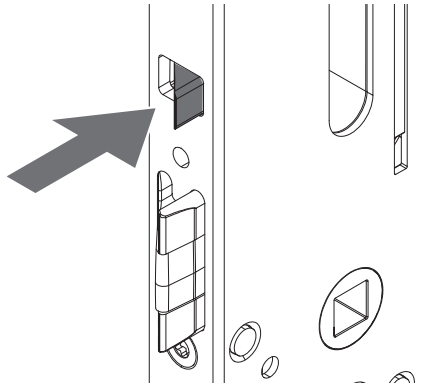
Commissioning

Multipoint lock installed (cable junction)

Performance test for cable junction with built-in power supply unit

5.3.3 Performance test for cable junction with built-in power supply unit

1. Open the leaf.
2. Activate the trigger unit.



3. Open via access control system (e.g. "4in1" access control system, finger scan).

- Open via "4in1" access control system .

Automatic testing mechanism for testing the cabling and connections with the motor lock.

Commissioning using the app is not necessary.

There is no limit on the number of tests.

⇒ Only possible in the delivery state.

- i. Enter code 123456 on the display.
- ii. Confirm by checking the box.

⇒ The door opens.



INFO

Once you set up a personal PIN, this will overwrite the initial PIN.

- Open via finger scan .

Automatic testing mechanism for testing the cabling and connections with the motor lock. It is not necessary to calibrate the master or user fingerprints.

⇒ Only possible in the delivery state.

Autotest function	LED
Finger scan is ready for operation.	● ●
Remote control: press the 0 button.	○ ●
Confirm with OK .	● ○
Autotest is started automatically	
The cabling, pairing, encryption and connections are tested	
Autotest successful (after approx. 10 seconds).	● ○



INFO

The autotest is limited to a total of ten cycles, with one cycle already having been performed in the production plant.

▷ The door is unlocked. The additional locks, main deadbolt and latches are retracted. Only the latches extend again.

▷ Performance test passed.

If the performance is not as expected, see fault assistance → *from page 25*.

4. If the performance test is passed, close the leaf and repeat point 3.



5.4 Fault assistance

5.4.1 A700

Check the tolerances and height offset on the element.

Fault	Cause	Corrective action	To be carried out by
The lock does not lock automatically.	Screws are too tight.	Loosen the screws.	■
	Screws are too long.	Use the recommended screw length.	■
	Screws scrape against the connecting rod.	Turn in screws straight or use screws with a partial thread (without a thread behind the screw head).	■
	Projection of the trigger unit not large enough.	Adjust the trigger unit .	■
	Connecting-rod guides at an angle.	Straighten the connecting-rod guides.	■
	Screw positions for the day-time unlocking device occupied.	Do not occupy the screw positions for the day-time unlocking device .	■
The lever handle is not in the zero position (hanging).	Escutcheon fitted incorrectly (escutcheon not at the correct angle).	Remove the escutcheon and attach with drilling jig.	■
	Spindle-receiver holding spring worn / broken.	Replace the lock casing.	■
	Friction between lever handle and long plate too high.	Lubricate.	□
The lever handle is not in the zero position (too high).	Square spindle bent.	Replace the entire square spindle or the entire lever handle set.	■
The locking lug of the profile cylinder scrapes in the main lock casing.	Long plate / escutcheon and lever handle / lever handle not positioned correctly in relation to one another (axes and interaction on the inside and outside).	Remove the escutcheons and long plate and secure with drilling jig (drill new holes if required).	■
Lock rattles in the door.	Screws are too loose.	Tighten the screws according to the specifications.	■
The lock casing deadbolt scrapes in the striker plate.	Frame and frame components twisted in the vertical axis.	Free up space for the deadbolt by mechanically machining the striker plate.	■
The door does not stay closed.	The latches do not run in.	Adapt the frame component position.	■
	The door has dropped / warped.	Adjust the door hinges and frame components, provide new spacer blocking for the door element if required (see Glazing Guide FLY_11). Adjust the electrical openers.	■
The door cannot be closed.	The latch is not running into the lock casing.	Lubricate the latch with Roto adhesive grease.	□
	Contamination in the threshold area.	Clean the threshold area.	□
	Profile cylinder has twisted, e.g. due to excessive weight on the bunch of keys.	Straighten the profile cylinder again.	□

□ = May be carried out by a specialist company or the end user

■ = **Must** be carried out by a specialist company

5.4.2 A700 with retrofitted drive unit

Fault	Cause	Corrective action	To be carried out by
System not functioning. Drive unit not responding, no beeps.	There is no 230 V voltage on the primary side of the power supply unit.	Check the power supply. Supply a 230 V voltage on the primary side of the power supply unit.	■
	There is no 24 V voltage at the drive unit.	Check the 24 V terminal contacts on the power supply unit. Check the supply line between the power supply unit and the drive unit, and replace if necessary.	■
	There is 24 V voltage at the drive unit but the polarity is the wrong way round.	Swap round the power supply on the secondary side of the power supply unit.	■
	No signal at the signal transmitter output or no signal at the drive unit input. or The drive is in a final position and does not receive a signal to implement a movement.	Check whether voltage is being supplied. Check the cabling . Check whether the hand-held transmitter is calibrated . Check whether the access control system is connected and set correctly .	■
	Still not working?	Disconnect the voltage, wait for 10 seconds and restart it. Test using the Control Unit . Contact qualified personnel.	■
Door cannot be opened although the motor can be heard.	Threaded pin not inserted.	Insert the threaded pin → <i>from page 11</i> .	■
The latch and locks remain retracted.	Day function activated (there is a 24 V voltage at the yellow conductor).	Set the day / night changeover switch on the Control Unit to night (0) or check and adapt the cabling.	■
The locks are not retained after unlocking and fall out.	Drive unit travel too short.	Start adjusting the travel → <i>from page 18</i> .	■
 3x two-tone beeps Drive unit does not unlock fully. It has detected excess current and stopped the movement.	Drive unit travel too long.	Start adjusting the travel → <i>from page 18</i> .	■
	Connecting rod or drive unit is blocked, e.g. by being previously locked using the key.	Unlock the door using the key.	□
	Door gasket compression is too high.	Adjust the door .	■
	Additional lock or main lock blocks the drive. Foreign object blocks the connecting rod.	Remove the foreign object.	■
	Load placed on the door during the unlocking process.	Open the door again and wait until the drive unit has fully unlocked the door.	□
 4x two-tone beeps Drive unit does not unlock fully.	Drive unit does not reach its final position in one of the two travel directions.	Replace the drive unit	■

□ = May be carried out by a specialist company or the end user

■ = **Must** be carried out by a specialist company



6 Technical data

6.1 Drive unit

Technical data	
Power supply	24 V DC ($\pm 5\%$), 2.5 A, SELV output voltage according to EN 62368-1, EN 60335-1
Continuous current consumption	25 mA
Current consumption	1.5 A (peak 2.0 A)
Relative air humidity	$\leq 93\%$
Temperature range	During operation: -25 to +60 °C
	During transport: -25 to +70 °C
Output relay load	Max. 40 mA,
	free-wheeling diode for inductive load present internally
Standards	EN 60335-1, EN 60335-2-103
	Low Voltage Directive complied with
	CE conformity



**From a single source.
Optimum hardware systems to meet all challenges.**

Window

Hardware systems for windows and balcony doors

Sliding

Hardware systems for large sliding windows and doors

Door

Matching hardware technology everything about doors

Equipment

Additional technology for windows and doors



Contact

