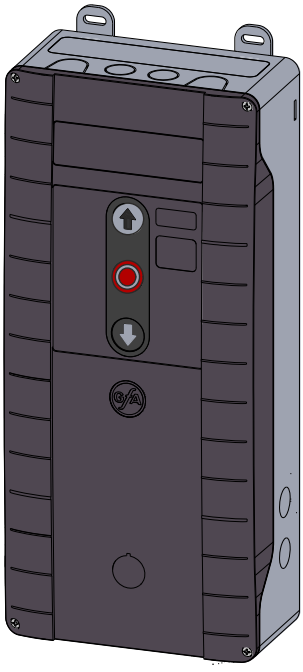
Installation instructions

Door control

TS 96.25



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1 Chapter on safety

Explanation of symbols

The following symbols are used in these installation instructions:

⚠ DANGER

Safety note:
Non-compliance will result in death or severe injury.

⚠ WARNING

Safety note:
Non-compliance can result in death or severe injury.

⚠ CAUTION

Safety note:
Non-compliance can result in injury.

NOTICE

Note:
Non-compliance can result in material damage and impairment of product functionality.

ℹ NOTE

Note: Points out useful additional information.

Specified use

The door control unit is designed for a power-operated door with operator with GfA limit switch system.

When using the WLAN function, the door control must be installed in a secure network environment.

The product must be protected against moisture and aggressive environmental conditions (such as corrosive substances). The products are only suitable for indoor use. Appropriate protective measures must be taken for outdoor installation. The product is not intended for hazardous areas. The values specified in the technical data of the product must not be exceeded. The safe operation can only be ensured if used as specified.

Target audience of the installation instructions

As a user or operator / owner, please contact the company that constructed your door. These installation instructions are intended for competent personnel trained in handling doors. Competent personnel qualify by specialist knowledge, skills and practical experience. Such personnel can safely carry out installation, maintenance and modernisation as instructed.

The electrical fixed connection must be carried out by trained electrical craftsmen. Trained electrical craftsmen meet the following requirements:

- They are familiar with the applicable safety and accident prevention regulations.
- They identify danger zones associated with electricity and the door and take safety measures.

Safe operation

The safe operation of the product can only be ensured if it is used as specified. Follow the installation instructions. Observe all specifications, especially warnings, when installing the product in the overall system. GfA is not liable for damage resulting from non-observance of the installation instructions. The resulting overall system must be reassessed for its safety in accordance with applicable standards and directives (e.g. CE marking). These installation instructions refer only to a part of the overall system. They are not sufficient as the sole instructions for the overall system. The installer of the equipment must prepare the instructions for the overall system. We recommend entering the danger area of the equipment only when the drive unit is at a stop.

General safety information

⚠ WARNING

Failure to follow these installation instructions may result in severe injury or death!

- Please read these instructions before using the product.
- Keep these instructions handy.
- Include these instructions when passing on the product to third parties.

⚠ WARNING

Danger from improper use of the product!

- Do not let children operate the product unsupervised or use it as a toy.

⚠ WARNING

Danger to life from incorrect installation!

Work carried out improperly may result in death or severe injury from electrical current or falling parts.

- Allow only competent people to carry out the work.
- Disconnect all cables from the power supply.
- Observe valid regulations and standards.
- Use suitable tools.

⚠ CAUTION

Safety note:

If the WLAN function is used, the operator of the network must ensure the security and protection of the data.

Cybersecurity

Principle

The door control has digital interfaces (e.g. WLAN, Bluetooth, radio, app and web services). These represent potential areas of vulnerability and should be considered security-relevant.

Responsibilities

1. The manufacturer provides security-relevant functions and firmware updates.
2. The installer properly integrates the door control into the overall system.
3. The operator is responsible for the cybersecurity of the network environment at the installation site and for the protection of the data transmitted over networks.

⚠ WARNING

Danger due to corruption of the door control
The operators of the WLAN network at the installation site are responsible for the security and protection of the data transmitted over the network If the door control is installed in an inadequately secured network environment, there is a risk that unauthorised persons may tamper with the door control. This results in risks such as unauthorised access, manipulation of parameters, impairment of the door's function and unauthorised entry.

- Take action to ensure the cybersecurity of the network. The following section provides recommendations for improving cybersecurity.

Network security

When using WLAN or network functions, the door control must only be operated in a secure network environment.
Minimum requirements:

- Changing factory default access data
- Use of strong passwords
- Activation of current encryption standards (recommended: WPA3)
- No integration into public or freely accessible networks
- Separation of control network and guest or office network

Access protection

- Access to the door control must be restricted to authorised persons.
- Access codes and app logins are to be treated confidentially.
- Access rights that are no longer required must be removed immediately.

Access protection serves to meet the requirements for protection against unauthorised access in accordance with DIN EN ISO 13849-1.

Updates and maintenance

- Firmware updates must be checked regularly and installed promptly.
- Updates may only be carried out via the intended interfaces.
- Network devices and mobile end devices must also be kept up to date.

NOTICE

Danger due to outdated firmware
Outdated firmware means that the full range of functions of the door control cannot be used. New functions and fault corrections are not included in the outdated firmware. Firmware updates are also important for keeping cybersecurity up to date and thus preventing security breaches.

- Use the "evodo-Sync" app to check for new updates when installing or maintaining the door control.

Radio communication

- Radio connections have different levels of security depending on the technology used.
- Restrictions on the cybersecurity of individual radio frequencies must be observed.
- Operators and users must be informed about possible residual risks.

Security incidents

Create an incident response plan for dealing with security incidents. This should include steps to contain, investigate, and resolve security vulnerabilities.
If a security incident is suspected:

- Disconnect door control from the network
- Check firmware and access data
- Check security-relevant settings
- Only resume operation after successful testing.

Residual risks

Despite the implementation of appropriate measures, residual risks cannot be completely ruled out. The cybersecurity of the entire system depends significantly on the network environment and operator behaviour.

2 Storage

Store the product in the original packaging.

Ensure the following environmental conditions for storage:

- Closed, dry, dark and vibration-free rooms
- Temperatures between 0 °C and +50 °C
- Relative humidity less than 93 %, non-condensing
- Dust protected
- Protected against corrosion (e.g. protection against saltwater)
- Protected against chemicals

3 Transport

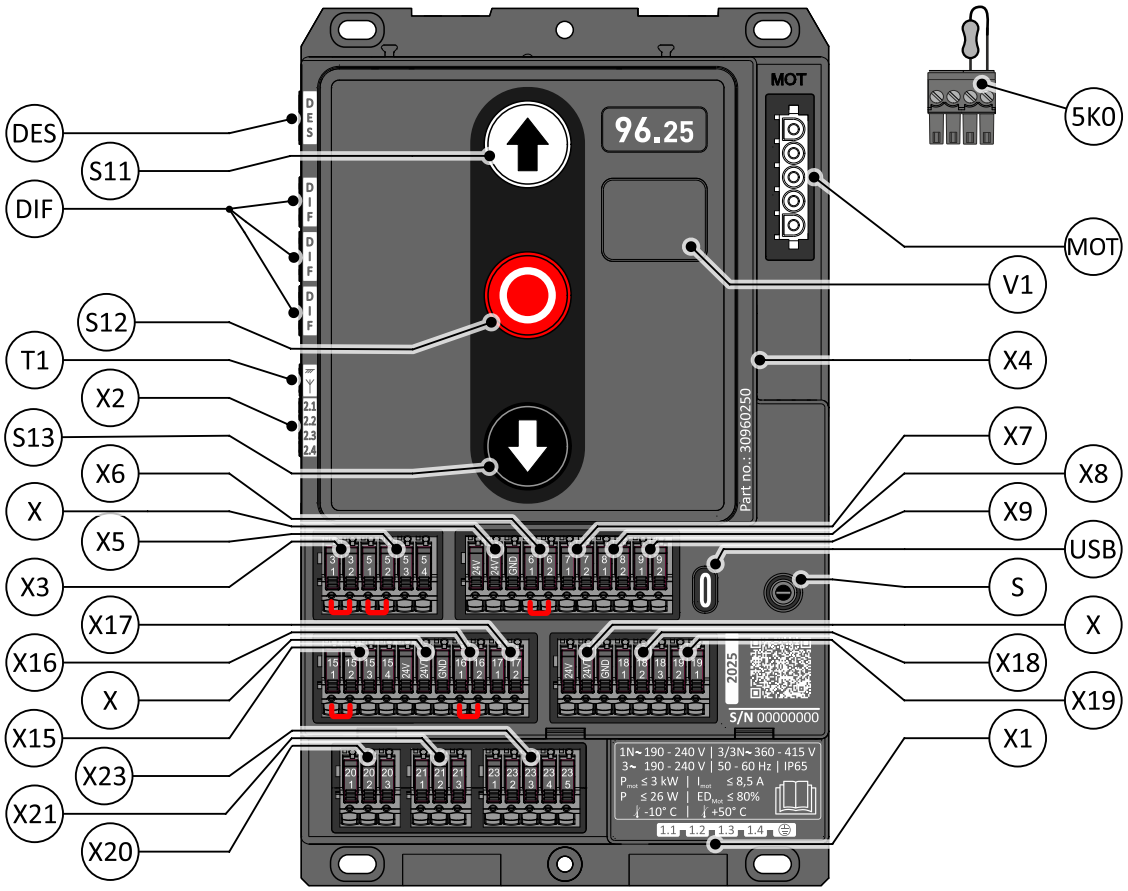
Avoid bumps, impacts and vibrations during transport. Do not throw the product.

4 Product overview

Technical data

Designation		Specification
Dimensions (W x H x D)		175 mm x 390 mm x 90 mm
Weight		2 kg
Operating frequency		50 Hz / 60 Hz
Supply voltage		1 N~190-240 V, PE 3 N~190-240 V, PE 3/3N~360-415 V, PE
Temperature range	Operation Storage	-10 °C to +50 °C 0 °C to +50 °C
Humidity, non-condensing		≤ 93
Electronic mains fuse, internal		1000 mA (< 40 °C ambient temperature) 950 mA (40 °C - 50 °C ambient temperature)
Power consumption of door control		26 W
Degree of protection	Housing	IP65
Mains fuse per phase, on-site		10 A - 16 A
External supply voltage		24 V DC / 1000 mA
Overvoltage category		II
Connection power for drive unit		≤ 3 kW
Motor current drive unit		≤ 8.5 A
Duty cycle drive unit		≤ 80 %
Relay contacts		2 potential-free changeover contacts 4 potential-free NO contacts (traffic light)
Loading of relay contacts	ohmic inductive	230 V AC, 1 A 24 V DC, 0.4 A
Control inputs		24 V DC, typical 10 mA
Compatible GfA limit switch		Digital limit switch (DES) Mechanical limit switch (NES) with adapter
Radio systems	Bluetooth - 2.4 GHz	✓
	WLAN - 2.4 GHz	✓
	LTE NB modem - 800 MHz / 900 MHz	-
	WSD door module - 2.4 GHz	✓
	Radio control devices - 433 MHz / 868 MHz	✓

Overview

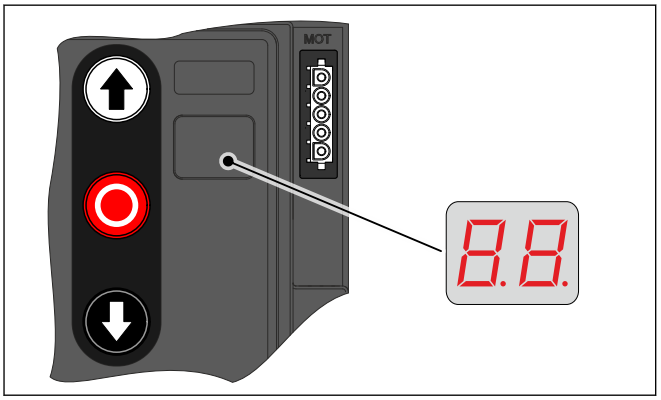


DES/ NES	DES limit switch socket *(NES only with adapter)*
MOT	Motor socket
S	Selector switch
S11	OPEN push button
S12	STOP push button
S13	CLOSE push button
V1	Status display
DIF	Digital interface
T1	Internal aerial
USB	Memory stick socket
X	24 V mains supply, external devices
X1	Mains supply
X2	Door safety switch and safety devices

X3	Emergency STOP control device
X4	Membrane push button control device
X5/X15	Control device, external three push button
X6/X16	Photocell
X7/X17	Pull switch, external radio receiver
X8	Intermediate stop On/Off
X9/X19	Parameterisable input
X18	Pull-in protection
X20	Potential-free relay contact 1 (K20)
X21	Potential-free relay contact 2 (K21)
X23	Potential-free relay contacts (K23) for traffic light control (4 contacts | 2x red, 2x green)
5k0	Substitute resistor 5k0 for doors without spiral cable / WSD door module

Status display of the door control

The display of the door control is a 2-digit 7-segment display. The display shows symbols, letters or numbers. The figure shows the display when all segments are illuminated.



i NOTE

An "E." alternating with a digit indicates a movement command.
An "F.c" alternating with a digit signifies a fault indication. See section: Fault correction.

Status display during initial operation

These symbols only appear while you are setting the final limit positions. For these symbols, refer to the section: Setting final limit positions.

Display	Description
' '.' '	Changing the output rotating direction active.
' '.' '	Changing the output rotating direction complete.
' ' ' '	Flashing: Teach-in of the final limit position OPEN.
' '.' '	Flashing: Teach-in of the final limit position CLOSE.

Status display during operation

Display	Description
.	Standby. If there is no movement command or fault, the door control switches to standby. A movement command or pressing a push button ends the standby mode.
C.5	Preset value for maintenance cycle counter reached.
	Display is not lit. Indication of a short circuit or overload of the 24 V DC supply voltage.
⌜.⌝	Flashing: Door will OPEN.
L.J	Flashing: Door will CLOSE.
⊢.⊣	Door between the final limit positions.
⌜.⌝	Door at final limit position OPEN.
L.J	Door in programmed intermediate opening position.
L.J	Door at final limit position CLOSE.
C.1 - C.2	Two-part access code for parameterisation

Display	Description
C.3	Teaching in or deleting of the WSD door-module or handheld transmitter is confirmed. Confirmed that parameterisation is locked. Flashing display: Parameterisation unlock active.
C.o	Bluetooth enabled.
F 3	Symbol for activated SHE function

Movement command display

The movement commands appear in the display when the door control receives an OPEN, CLOSE or STOP command or a safety device is actuated.

Display	Description
E.	Display alternates between "E." and a digit:
1.0	OPEN command received.
2.0	STOP command received.
3.0	CLOSE command received.

5 Mechanical installation

NOTICE

Damage to components due to extreme environmental conditions!
Extreme environmental conditions (humidity, chemical substances) at the installation site may damage the product.

- The mounting surface must be free of vibration.
- Install the product indoors only. Installed outdoors, the product must be enclosed to provide the same conditions as in an indoor environment. Ensure that the installed connection cables are protected.
- Protect the product from moisture.
- Maintain the temperature range and the maximum humidity during operation.

⚠ DANGER

Danger of shearing, crushing or being drawn in!
In operating mode hold-to-run, people or objects in the path are not detected. The operation of the door without a line of sight leads to dangerous situations for other people.

- Mount the door control in a position with a clear view of the door.
- Operate the door in operating mode hold-to-run with a clear view of the door.

NOTICE

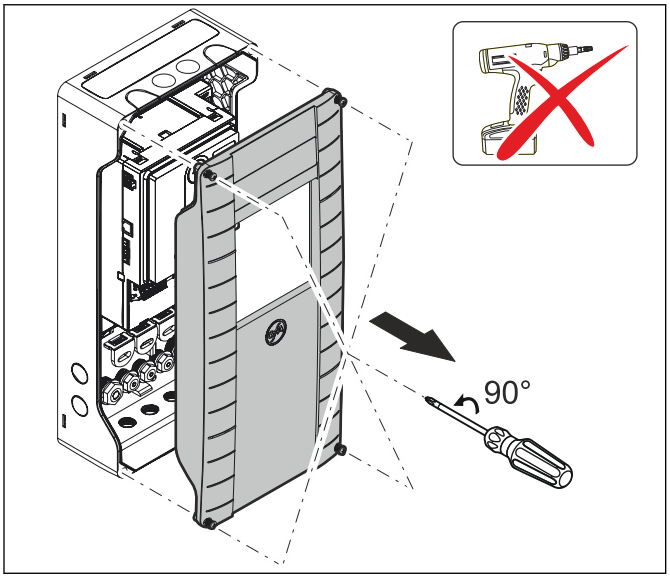
Damage to the product due to work carried out improperly!

- Use proper tools to prevent damage.

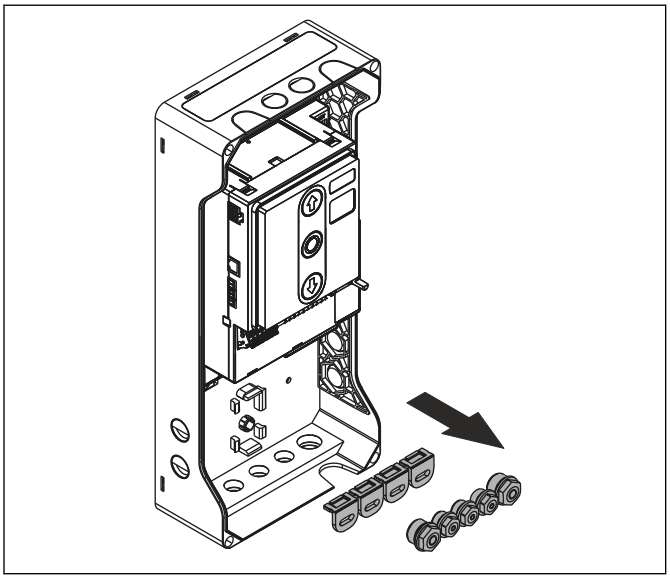
Mounting

The permissible loads on walls, mountings, connection and transmission elements must not be exceeded.

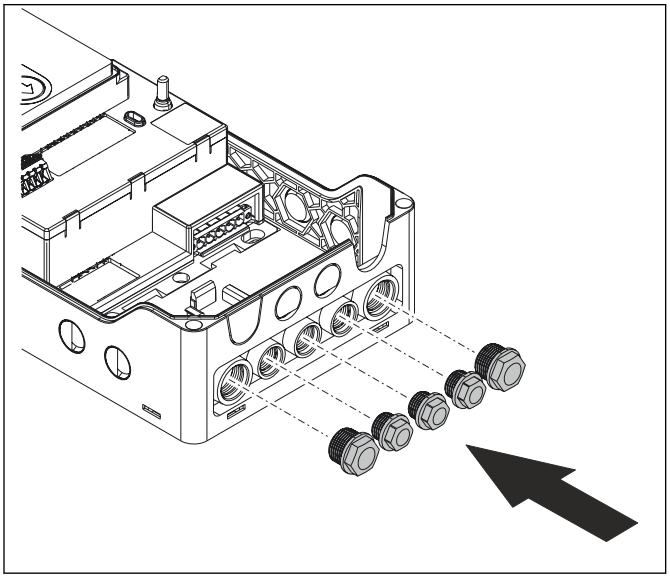
1. Open the door control housing:
   - The door control has quick-release screws with which you can open the housing with a Phillips screwdriver.
   - Open by pressing and simultaneously turning the screw 90° to the left.
   - Store the housing cover in a safe place where it is protected from damage.



2. Remove and disconnect accessories:
   - Remove the mounting brackets and cable entries from the bottom section of the housing.
   - Disconnect the mounting brackets and cable entries from each other.

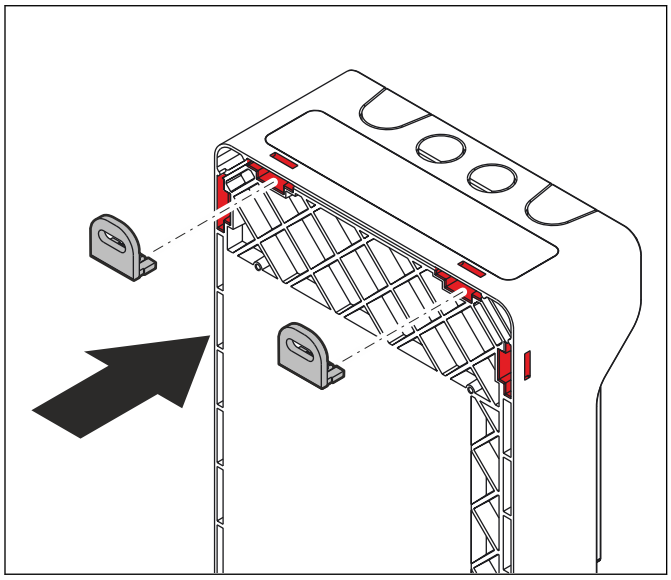


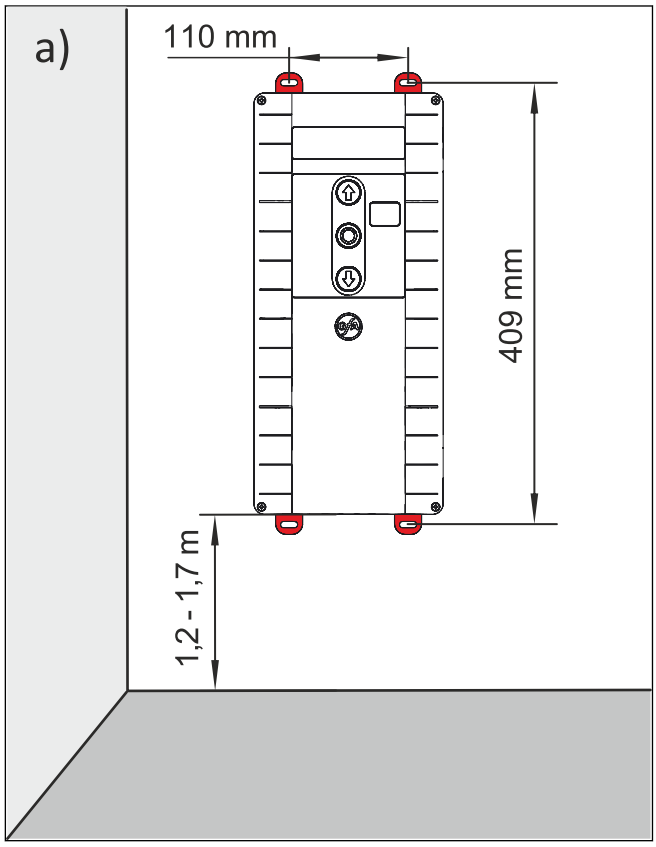
3. Installation of plastic gaskets:
   - Mount the plastic gaskets for cables in the places where the opening is not closed by cable glands.

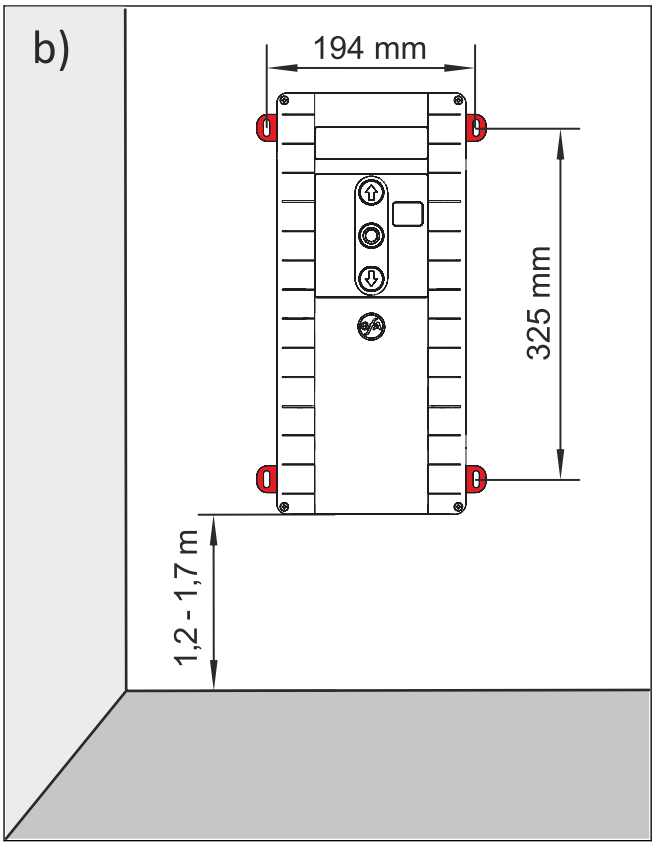


4. Mounting options for mounting brackets:

- Insert the mounting brackets into the bottom section of the housing until they engage.
- You have the option of mounting the mounting brackets at the top and bottom or on the side of the bottom section.
- Only use fixing elements that are suitable for the respective mounting surface.
- The permissible loads on mountings, walls, connection elements and transmission elements must not be exceeded.







6 Electrical installation

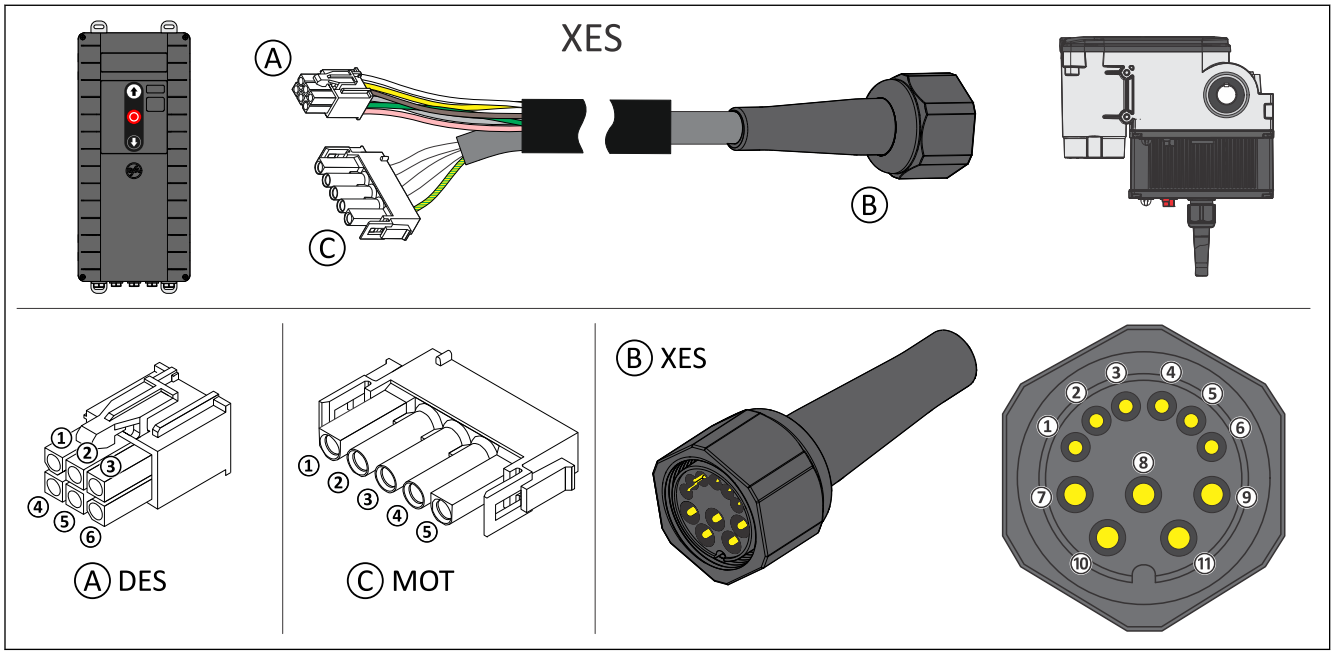
⚠ WARNING

Danger to life from electric shock!
Improper wiring may result in severe or fatal injury from electrical current.
- Allow only qualified electricians to carry out the work.
- Disconnect all cables from the power supply.
- Secure the mains disconnector against plugging in or switching on again.
- Observe valid regulations and standards.
- Use suitable tools.

⚠ WARNING

Mortal danger due to inadequate fuse!
Without the correct on-site backup fuse and mains disconnector, there is a risk of fatal or severe injury from electrical current.
- Carry out the connection to the indoor installation using an all-pole disconnector unit of ≥ 10 A as per EN 12453 / IEC 13849 (e.g. CEE plug connection, mains switch).
- Use a Type B earth leakage circuit breaker for a drive unit with a three-phase frequency inverter or FX module.

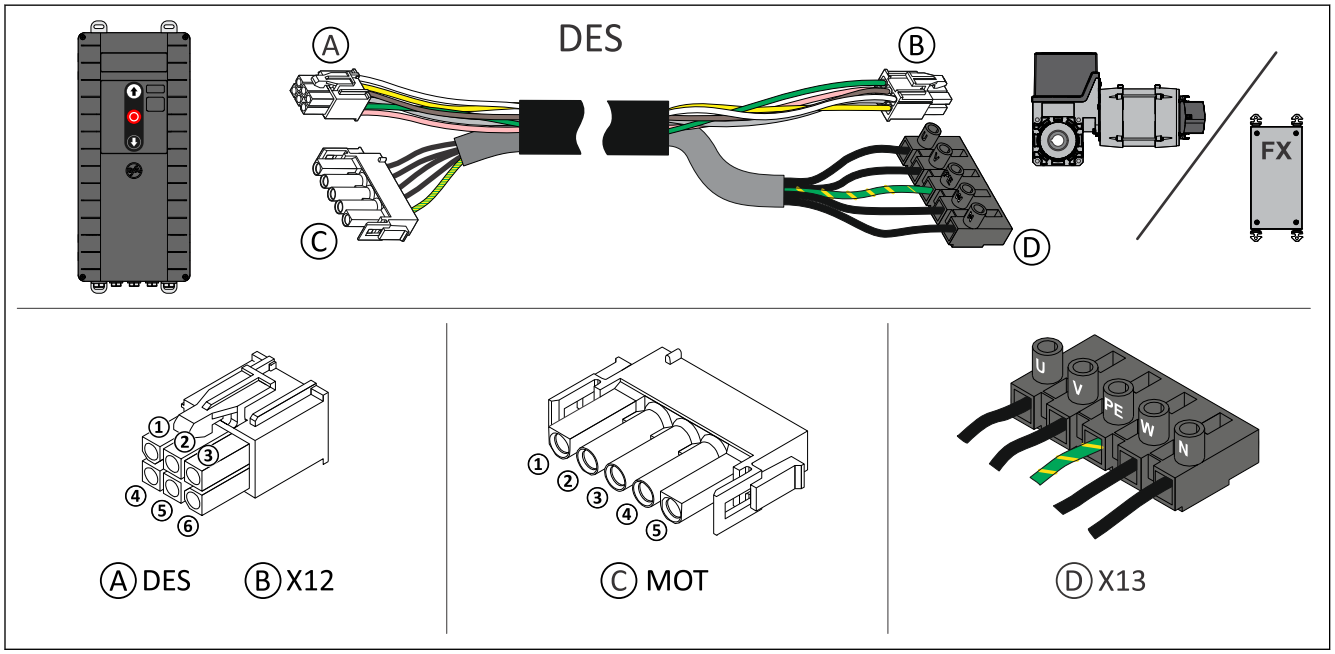
Connection overview of XES connection cable



A DES ↔ B XES			
Pin	**Core**	**Pin**	**Description**
1	5/wh	1	+24 V safety circuit
2	6/bn	2	Channel B (RS485)
3	7/gn	3	Ground
4	8/ye	4	Channel A (RS485)
5	9/gy	5	Safety circuit
6	10/pk	6	8 V DC supply voltage

C MOT ↔ XES X13			
Pin	**Core**	**Term.**	**Description**
7	3	W	Phase W
8	2	V	Phase V
9	1	U	Phase U
10	4	N	Neutral (N)
11	PE	PE	Protective conductor

Connection overview of DES connection cable



Ⓐ DES ↔ Ⓑ X12			
Pin	**Core**	**Pin**	**Description**
①	5/wh	①	+24 V safety circuit
②	6/bn	②	Channel B (RS485)
③	7/gn	③	Ground
④	8/ye	④	Channel A (RS485)
⑤	9/gy	⑤	Safety circuit
⑥	10/pk	⑥	8 V DC supply voltage

Ⓒ MOT ↔ Ⓓ X13			
Pin	**Core**	**Term.**	**Description**
①	3	W	Phase W
②	2	V	Phase V
③	1	U	Phase U
④	4	N	Neutral (N)
⑤	PE	PE	Protective conductor

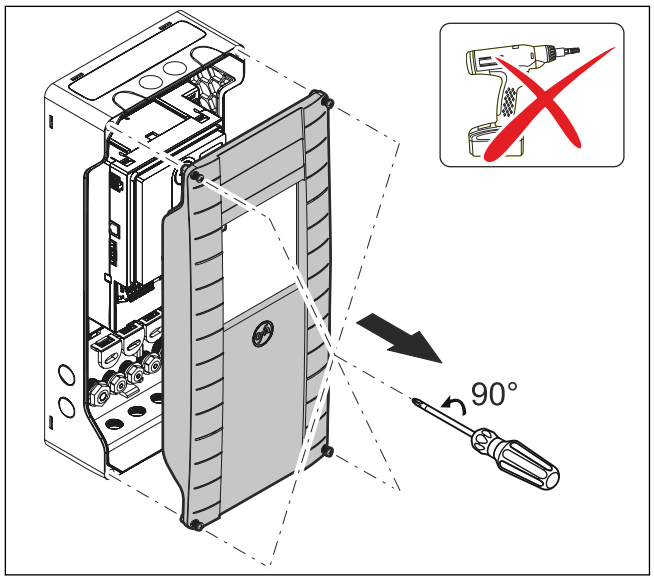
Connecting door control and drive unit

NOTICE

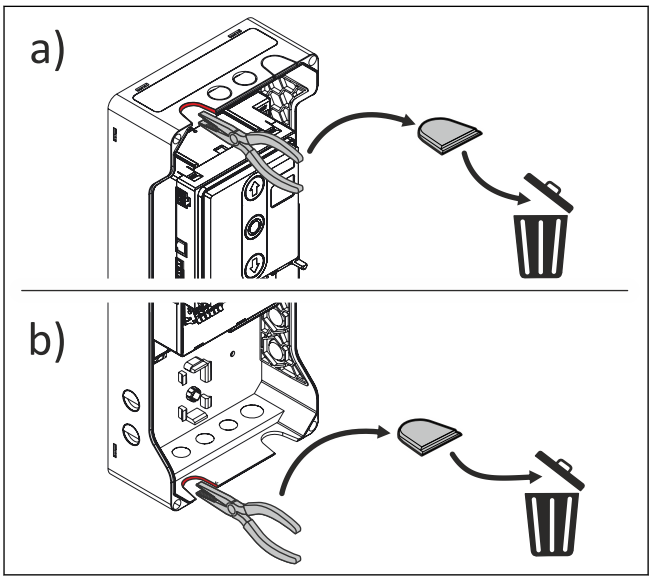
Damage to the product due to work carried out improperly

- Use proper tools to prevent damage and leakage.
- We recommend wiring the door control from below.

- Remove the cover.

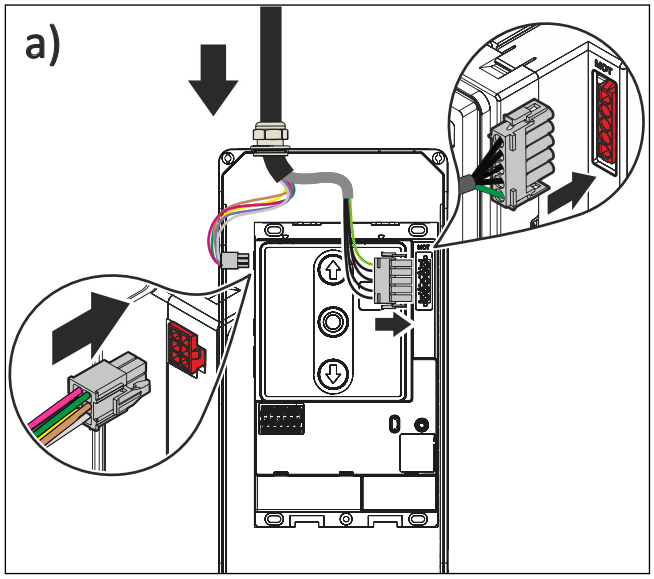


- Open the cable entries at the top or bottom.



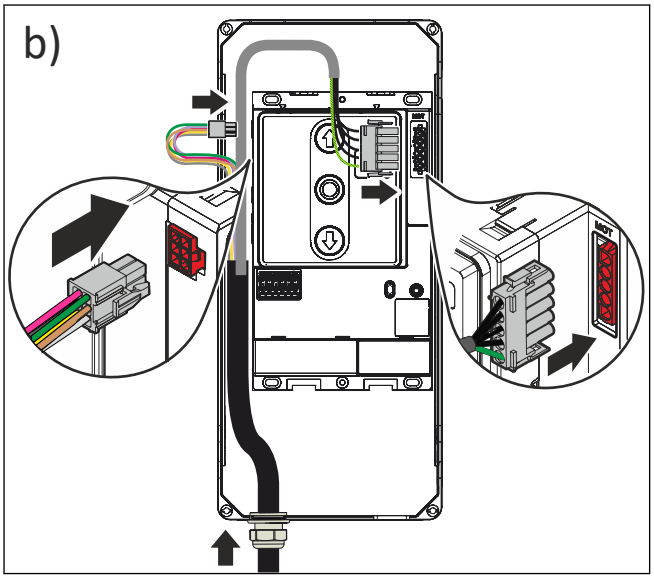
a) Connection cable at the top:

- Run the connection cable through the housing and insert the plugs.



b) Connection cable at the bottom:

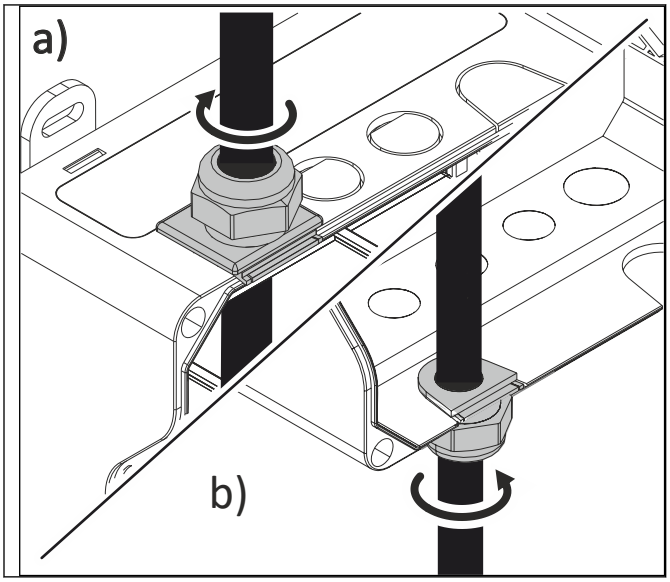
- Run the connection cable through the housing and insert the plugs.



i NOTE

When changing from an older door control (TS-A / TS-B) to a TS-C, insulate the connecting cable by about 30 mm further.

- Tighten the cable gland.



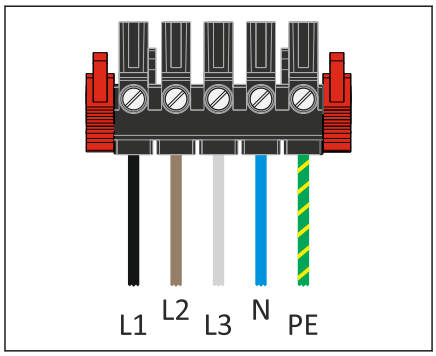
NOTICE

Damage due to moisture or penetrating foreign bodies

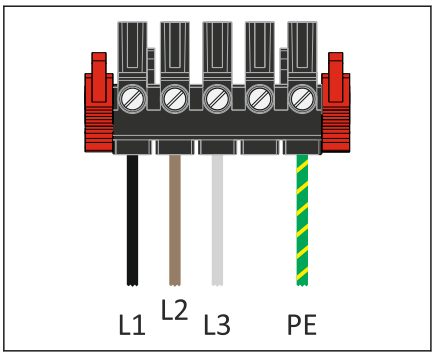
- Check that all cable glands are tight.
- Seal open and unused cable entries with blanking plugs. This will prevent moisture or foreign bodies such as insects from penetrating.

Mains supply via connection cable with CEE-plug

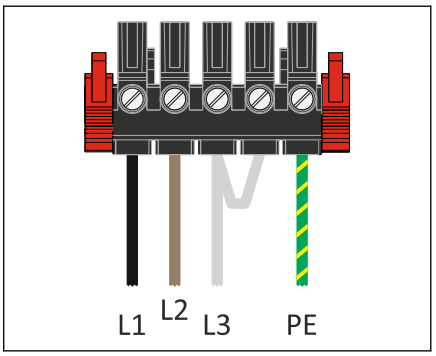
Before connecting, check whether a clockwise rotating field is present at the installation site. If not, create a clockwise rotating field.



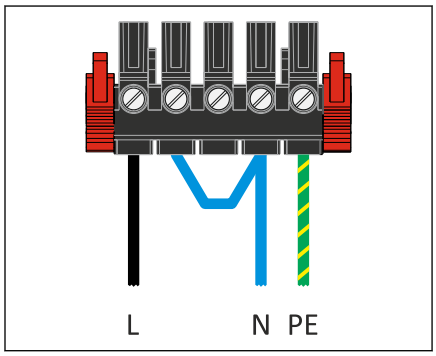
3-phase with neutral
3~, N, PE
360 - 415 V / 50 - 60 Hz



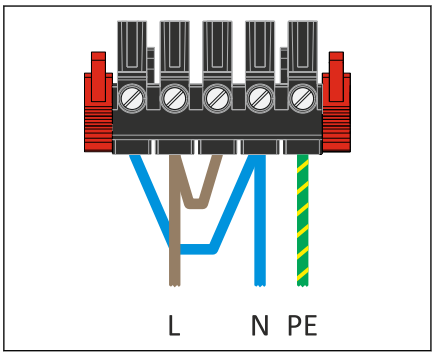
3-phase without neutral
3~, PE
360 - 415 V / 50 - 60 Hz



3-phase without neutral
3~, PE
190 - 240 V / 50 - 60 Hz

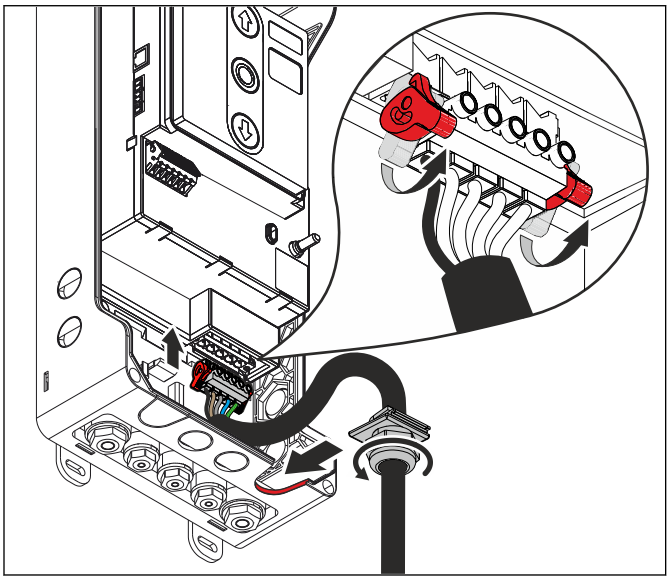


1-phase symmetrical
1~, N, PE, sym.
190 - 240 V / 50 - 60 Hz



1-phase asymmetrical
1~, N, PE, asymmetrical
190 - 240 V / 50 - 60 Hz
(SI 25.15 WS, SI 45.7 WS)

- Run the connection cable through the housing and insert the plugs.
- Tighten the cable gland.



⚠ CAUTION

Damage due to moisture or penetrating foreign bodies

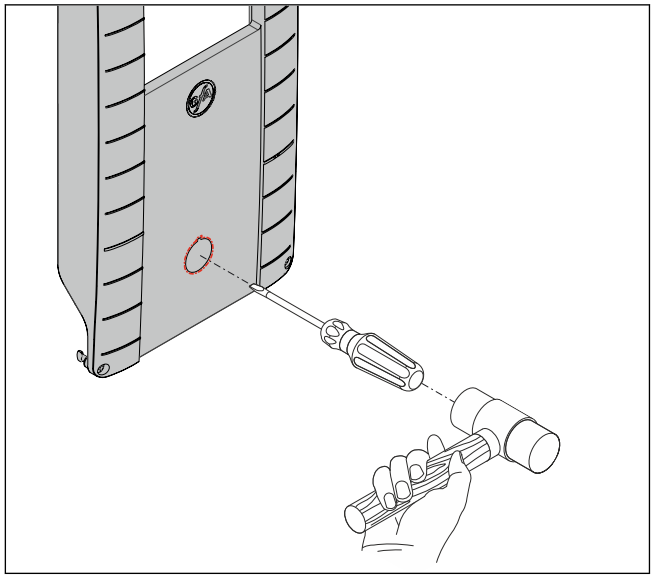
- Check that all cable glands are tight.
- Seal open and unused cable entries with blanking plugs. This will prevent moisture or foreign bodies such as insects from penetrating.

Mains supply via mains switch

Installation of mains switch

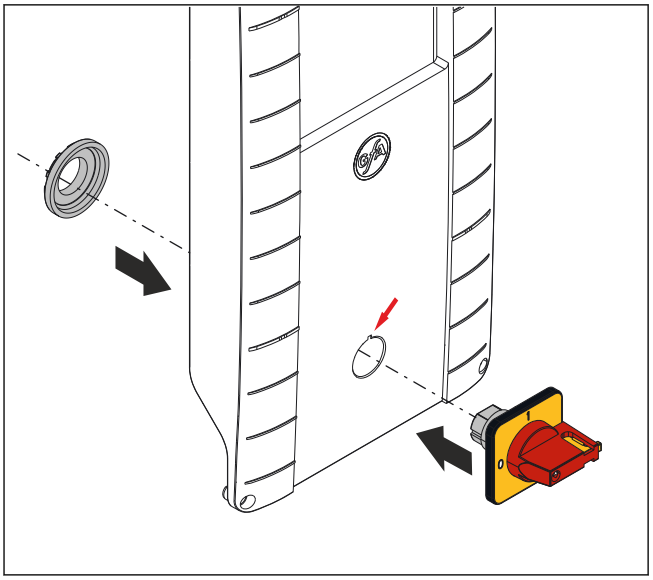
1. Knock out the breakout

- The control housing cover has a central breakout for installing the mains switch.
- Knock the breakout out of the housing cover.



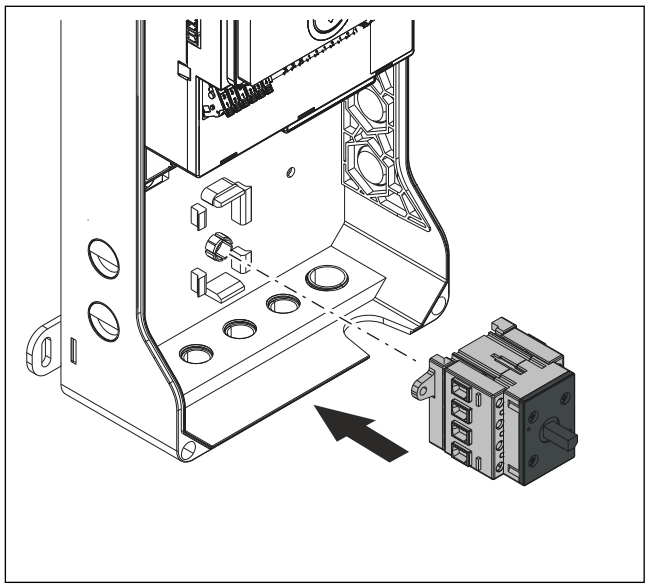
2. Installation of the switching knob

- Install the switching knob in the cover.
- Fasten the switching knob with the counter nut.



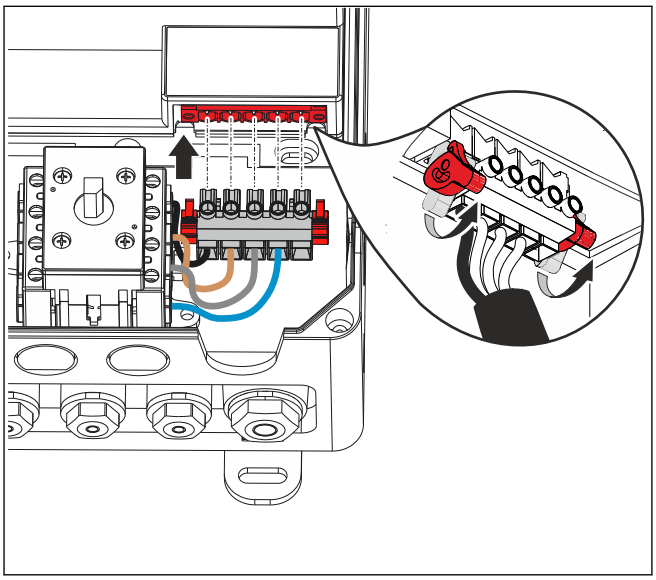
3. Installation of the switching insert

- Mount the switching insert in the housing by clipping it into the bracket.



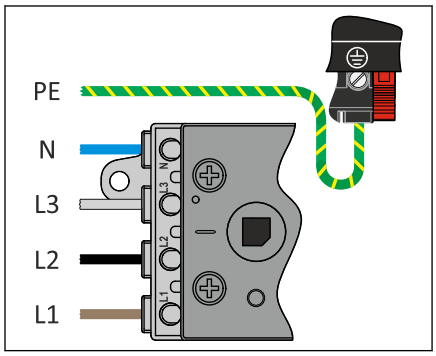
4. Electrical connection of the mains switch

- Connect the supply cables.
- Connect the protective conductor to the terminal and plug it in.

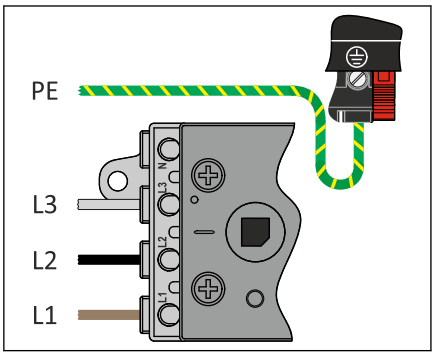


Mains supply via the mains switch

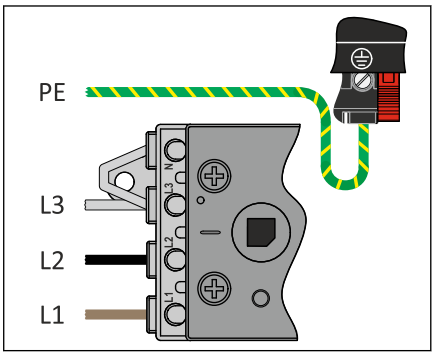
Before connecting, check whether a clockwise rotating field is present at the installation site. If not, create a clockwise rotating field.



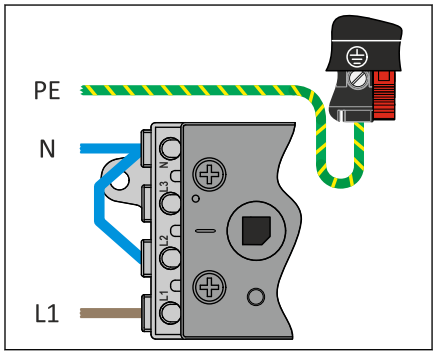
3-phase with neutral
3~, N, PE
360 - 415 V / 50 - 60 Hz



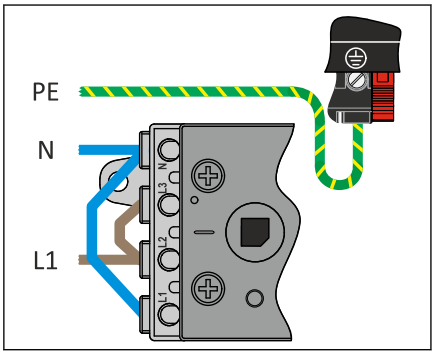
3-phase without neutral
3~, PE
360 - 415 V / 50 - 60 Hz



3-phase without neutral
3~, PE
190 - 240 V / 50 - 60 Hz
(SI 25.15 WS, SI 45.7 WS)



1-phase symmetrical
1~, N, PE, sym.
190 - 240 V / 50 - 60 Hz



1-phase asymmetrical
1~, N, PE, asymmetrical
190 - 240 V / 50 - 60 Hz

7 Connecting external devices

⚠ WARNING

Danger to life from electric shock!
Improper wiring may result in severe or fatal injury from electrical current.
- Allow only qualified electricians to carry out the work.
- Disconnect all cables from the power supply.
- Secure the mains disconnector against plugging in or switching on again.
- Observe valid regulations and standards.
- Use suitable tools.
- Check the insulation of cables and make sure that cables outdoors are protected.

i NOTE

Connect only sensors to the door control that are suitable for Performance Level c according to IEC 13849.
The inputs of the following safety devices of the door control are rated Performance Level c (PLc):
- Slack-rope switch
- Pass-door switch
- Safety edge
- Limit switch system
- Safety circuit of the drive unit
- Emergency stop control device

X1 - Mains supply / supply of external devices

Note the chapter "Electrical installation / mains supply".

i NOTE

The voltage supply of external devices with a 230 V~ mains voltage is only permitted via an adapter. This adapter is plugged into the mains supply terminal and secured with a screw. The 230 V~ can be tapped from this adapter, protected by a 1.6 A fuse.

Connect external devices that require 24 V, such as photocells, radio receivers and relays, to the X 24 V / GND terminals.

i NOTE

The energy-saving function of the weekly timer (parameters P 11.1 - 11.9) allows you to switch off the external voltage supply at specific times.

NOTICE

Damage to components!
Total current consumption of external devices:
- 1000 mA (< 40 °C ambient temperature)
- 950 mA (40 °C - 50 °C ambient temperature)

X2 - Safety devices

You can connect a safety edge or a light curtain to terminals X2.1 to X2.4.

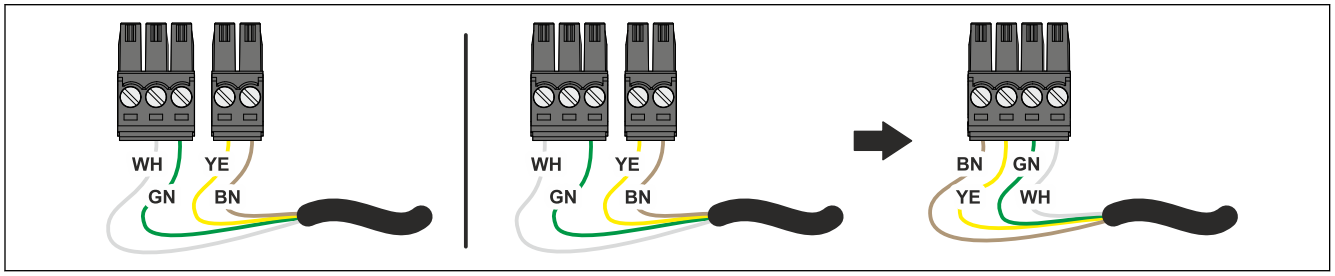
- Mount the product according to the manufacturer's instructions.
- Connect the safety devices to the door control using a spiral cable or a WSD door module. When using spiral cables, we recommend routing the cable through the side of the door control housing.
- Follow the assembly instructions for the products.

i NOTE

If neither a spiral cable nor a WSD door module is provided for the door system, insert the enclosed substitute resistor 5 kΩ at the terminals X2. This closes the door safety circuit. Otherwise, the fault indication "F.c 1.1" appears.

Rewiring of older spiral cable versions

If the TS-C is used as a replacement for a door control of a TS-A (TS 981) or TS-B (TS 959, TS 970, TS 971), existing spiral cables (figures A and B) can be rewired (figure C).

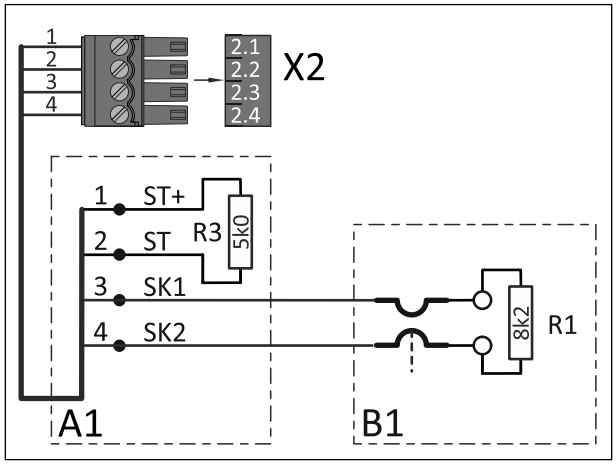


i NOTE

In the event of a defect or continuous activation of a safety device, emergency operation is activated automatically. In emergency operation, the door behaves as in the hold-to-run operating mode. In addition, the door movements are delayed by 3 seconds. This makes the user aware of the display of the corresponding fault indication on the door control display.

Electrical safety edge

The input is intended for an electrical safety edge (NO) with a terminal resistance of 8k2 (+/-5 % and 0.25 W).



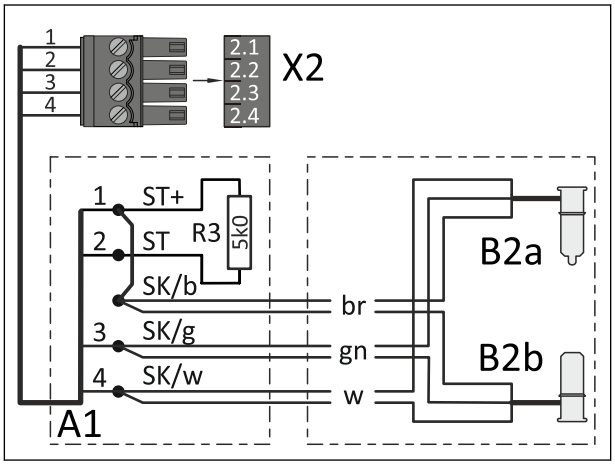
A1	Junction box
ST+	Voltage supply (24 V)
ST	Input for door safety switch
R3	End of line resistor 5k0
SK1 / SK2	Input for electrical safety edge
B1	Electrical safety edge
R1	End of line resistor (8k2)
X2	Door control socket

i NOTE

In the event of a short circuit in the electrical safety edge, fault indication **F.c 2.4** appears. If the current circuit is interrupted, fault indication **F.c 2.5** appears.

Optical safety edge

The input is intended for an infrared safety photocell with transmitter and receiver in a rubber profile. Pressing the rubber profile interrupts the light beam.



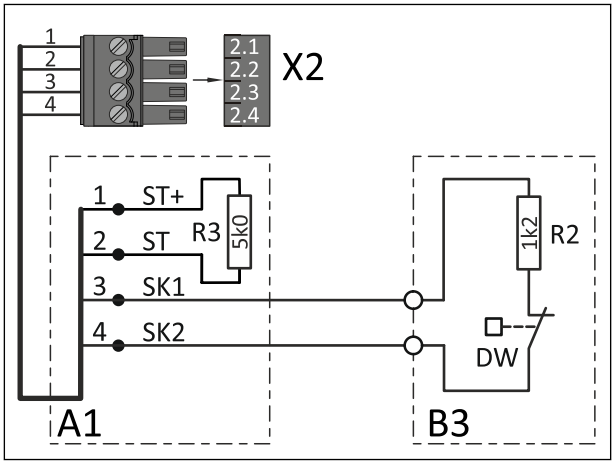
A1	Junction box
ST+	Voltage supply (24 V)
ST	Input for door safety switch
R3	End of line resistor 5k0
SK/b	Mains supply (brown)
SK/g	Output (green)
SK/w	Ground (white)
B2	Optical sensor
B3	Optical receiver
X2	Door control socket

i NOTE

When the optical safety edge is activated or damaged, fault indication **F.c 2.9** appears.

Pneumatic safety edge

The input is intended for a pressure-wave switch system (NC) with a terminal resistance of 1k2 (+/-5 % and 0.25 W). The pressure-wave switch system must be tested in final limit position CLOSE. The test phase is initiated by the pre-limit switch. If no switching signal is generated at the pressure-wave switch within 2 seconds, the test is negative and fault indication **F.c 2.8** appears.



A1	Junction box
ST+	Voltage supply (24 V)
ST	Input for door safety switch
R3	End of line resistor 5k0
SK1 / SK2	Input for pneumatic safety edge
DW	Pressure-wave switch
R2	End of line resistor 1k2
X2	Door control socket

i NOTE

When the pneumatic safety edge is actuated or the current circuit is permanently interrupted, fault indication **F.c 2.6** appears. In the event of a short circuit, fault indication **F.c 2.7** appears.

Light curtain

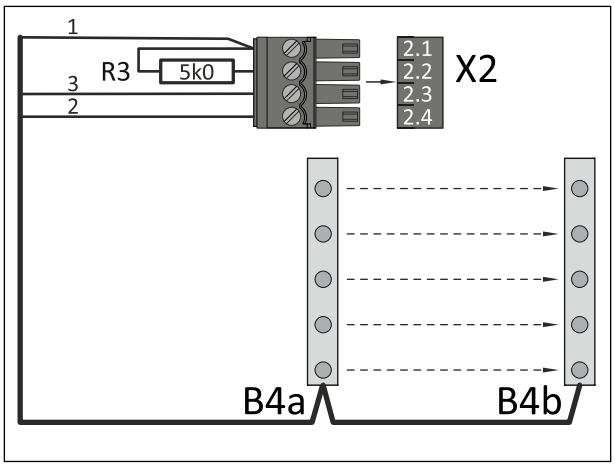
The input is intended for a light curtain with an OSE interface. The light curtain detects people and obstacles without contact.

⚠ WARNING

Danger due to contact with the door leaf!
If the level of protection is insufficient, the door control does not reliably detect faults in the safety devices. This may result in injuries to persons in the path due to crushing, shearing or cutting.

- Only light curtains that have Performance Level c and are self-testing may be connected.

Light curtain without blanking function



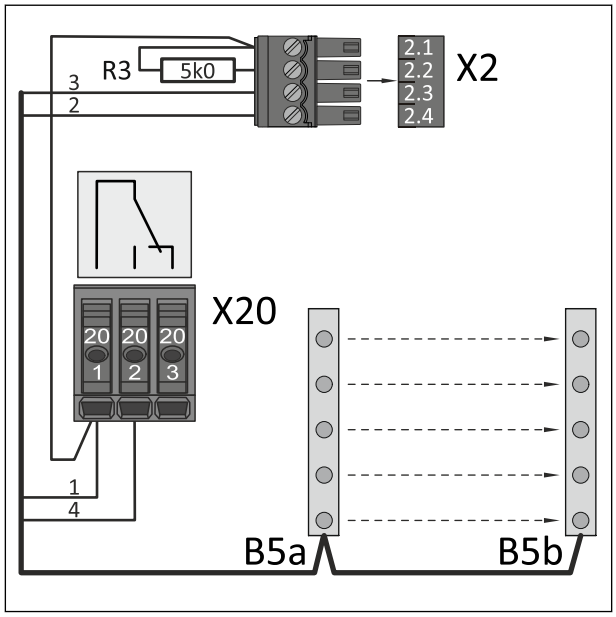
1	Mains supply + 24 V
2	Ground (GND)
3	Signal output light curtain
R3	End of line resistor 5k0
B4a	Light curtain transmitter
B4b	Light curtain receiver
X2	Door control socket

i NOTE

When the beam of the light curtain is interrupted, fault indication F.c 2.9 appears.

Light curtain with blanking function

The blanking function allows the light curtain to be installed in the door leaf plane. When the blanking function is activated, the relay contact enables the closing of the door leaf by the light curtain field. The door control independently determines the door position at which the blanking function is activated via P 3.6.



1	Mains supply + 24 V
2	Ground (GND)
3	Signal output light curtain
4	Blanking signal
R3	End of line resistor 5k0
B4a	Light curtain transmitter
B4b	Light curtain receiver
X2	Door control socket
X20	Relay contact

Door safety switch

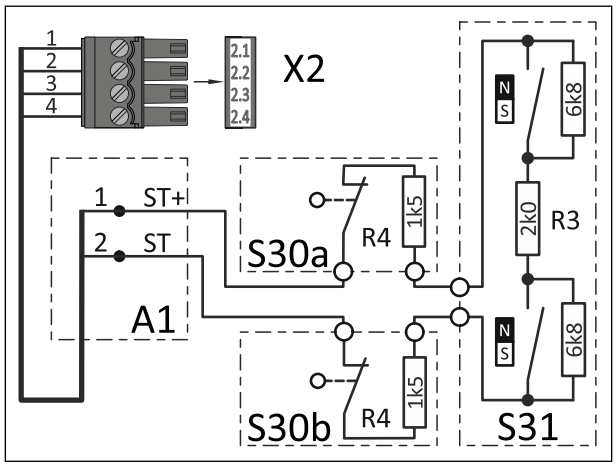
You can connect a door safety switch for a pass-door or slack-rope switch to terminals X2.1 - 2.4. The door safety switches are connected to a safety circuit with Performance Level c (PLc) according to ISO 13849-1. The safety circuit requires an overall terminal resistance of 5k0 for line cross-circuit monitoring. Examples of door safety switches are shown below. Connect your product accordingly. Mount the product according to the manufacturer's instructions.

i NOTE

- When activated while the door is moving, the door stops and fault indication **F.c 1.2** appears.
- When the switch fails, fault indication **F.c 1.7** is displayed.
- In the case of a line cross-circuit, fault indication **F.c 1.8** is displayed.

Slack-rope switch / electronic pass-door switch

The evaluation of the door control provides for the connection of two slack-rope switches.
Resistance for line cross-circuit monitoring when using slack-rope switches: 1k5
Resistance for line cross-circuit monitoring when using electronic pass-door switches: 2k0



A1	Junction box
ST+	Voltage supply (24 V)
ST	Input for door safety switch
R3	Terminal resistance 2k0
S30a/b	Slack-rope switch (NC contact)
R4	End of line resistor 1k5
S31	Electronic pass-door switch
X2	Door control socket

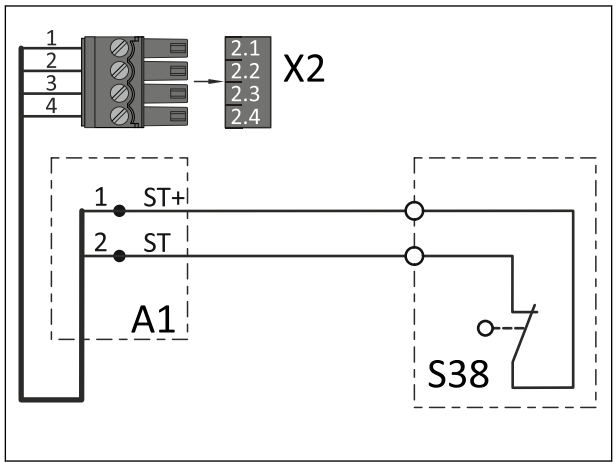
Crash switch as NC or NO contact

When the door section is outside the mechanical guidance, the crash switch triggers. Fault indication **F.c 1.5** appears. The operating mode is switched to hold-to-run. The door can be moved only using the built-in push button of the door control. **F.c 1.5** only disappears when the switching contact is closed again.
Resetting **F.c 1.5** is only possible in the final limit position OPEN by pressing the STOP push button on the door control for
3 seconds or by switching the mains voltage off and on.

i NOTE

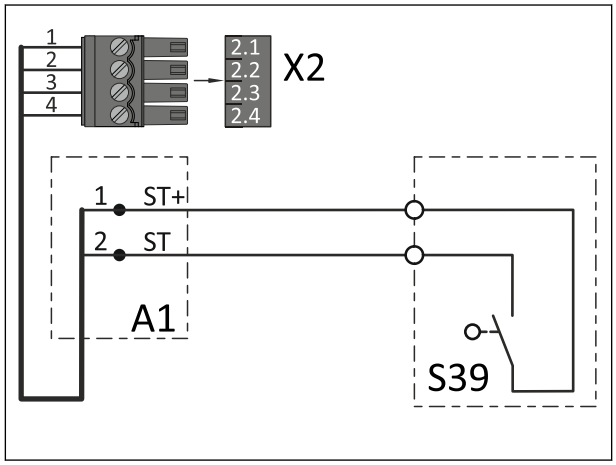
An automatic reset to the final limit position OPEN is possible by using P 3.4 (.4 / .5) "Reversing". Resetting takes place as soon as the switching contact is closed.

Crash switch as NC contact



A1	Junction box
ST+	Voltage supply (24 V)
ST	Input for door safety switch
S38	Crash switch (NC contact)
X2	Door control socket

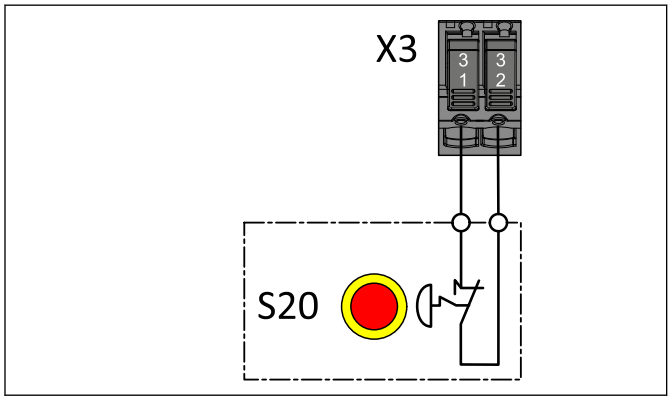
Crash switch NO contact



A1	Junction box
ST+	Voltage supply (24 V)
ST	Input for door safety switch
S39	Crash switch (NO contact)
X2	Door control socket

X3 - Emergency stop switch

- The emergency stop control device is connected to a safety circuit with Performance Level c (Plc) according to ISO 13849-1. Alternatively, an emergency stop control device according to EN 13850 or an evaluation unit for a pull-in protection device can be connected.
- Mount the product according to the manufacturer's instructions.



i NOTE

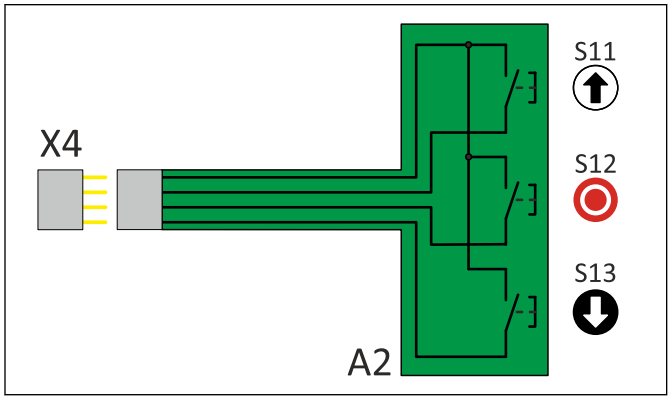
For a door drive unit with a frequency inverter, the door control can only be operated again 30 seconds after the gear release of the emergency stop switch. During this time, the display of the door control flashes.

i NOTE

When the emergency stop switch is actuated, fault indication F.c 1.4 appears.

X4 - Membrane push button

- You can connect a membrane push button as an internal three-push-button control device to terminal X4. All actuators are designed as NO contacts and have the same functionality as the housing push buttons.



X5 / X15 - External control devices

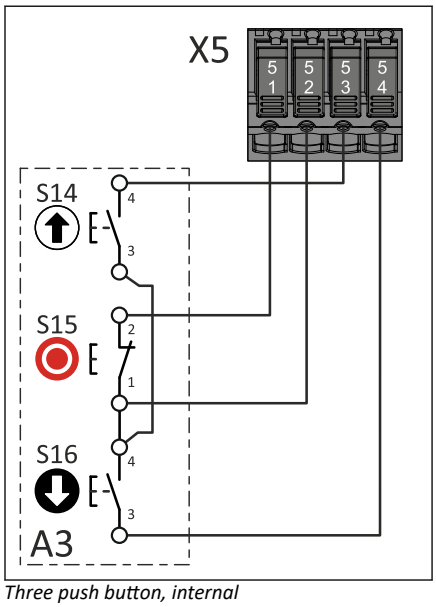
An external control device can be connected to terminals X5.1 - X5.4 and X15.1 - X15.4. Control devices do not operate when the safety edge, light curtain or photocell is triggered or when faults occur.

- Mount the product according to the manufacturer's instructions. Several examples of control devices are shown.

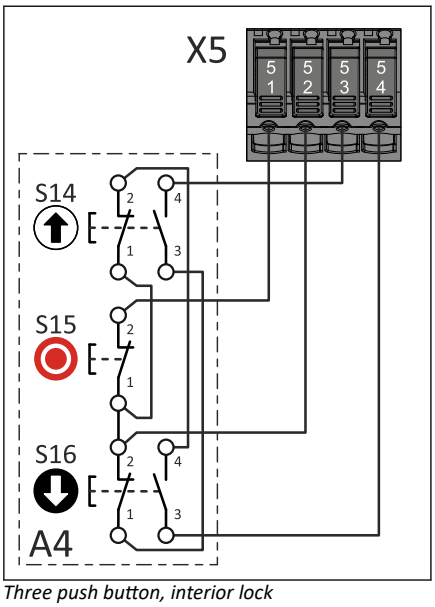
⚠ WARNING

Danger due to unattended door movement!
In the hold-to-run operating mode, the safety devices are deactivated. People or objects in the path are not detected.

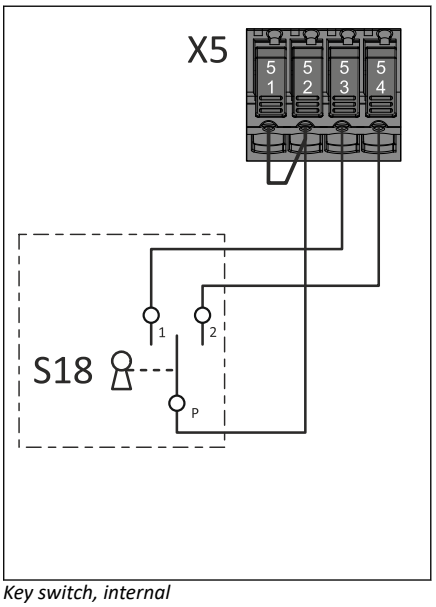
- Mount and operate the control device only with a clear view of the door.



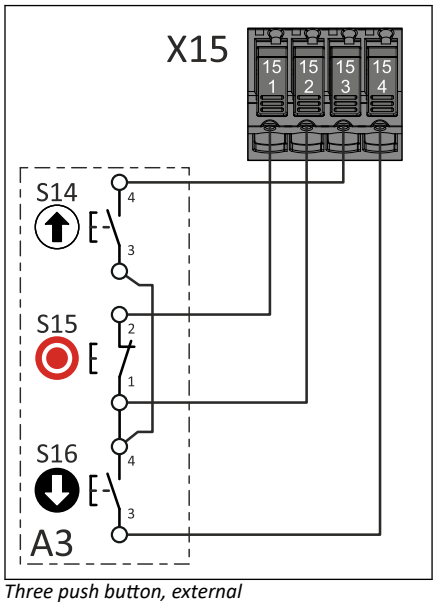
Three push button, internal



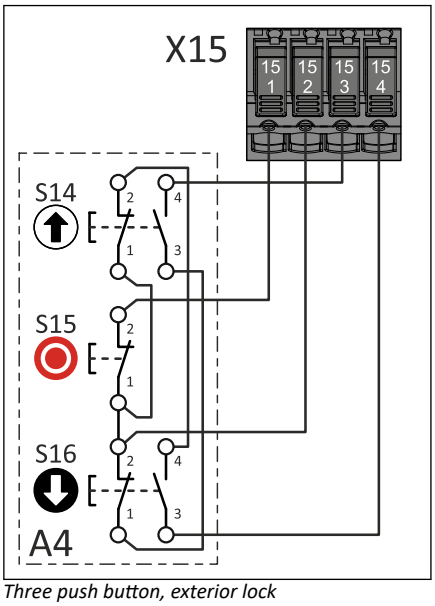
Three push button, interior lock



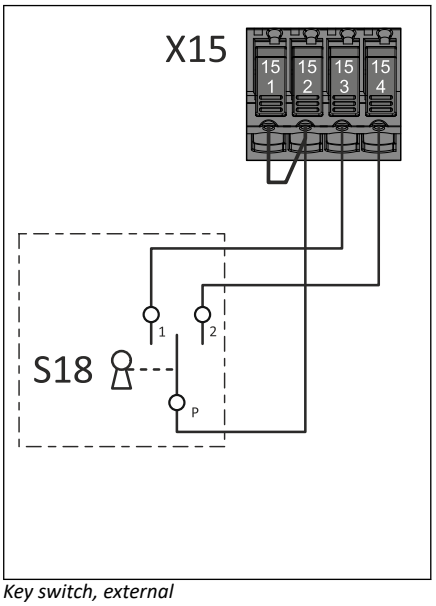
Key switch, internal



Three push button, external



Three push button, exterior lock



Key switch, external

i NOTE

For a control device without a STOP push button, insert a wire link between terminals X5.1 and X5.2 or X15.1 / X15.2.

X6 / X16 - Photo cells

You can connect reflective or through photocells to terminals X6.1 / X6.2 and X16.1 / X16.2 as well as 24 V, 24 T and GND.

- Mount the product according to the manufacturer's instructions.
- Various examples of photocells and light curtains are shown. Connect your product accordingly.
- You can select other functions of the photocell under P 2.4.

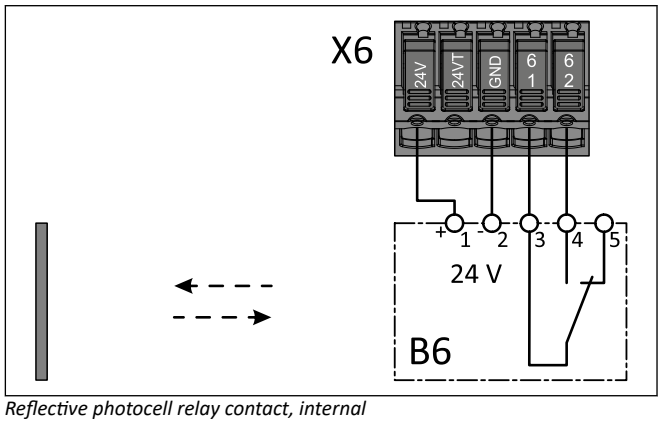
⚠ CAUTION

Injuries caused by uncontrolled movement or damage to property.
The door control does not detect defects on photocells or light curtains in blanking mode. Failure of the photocell or light curtain may result in injuries due to crushing, shearing or bumping.

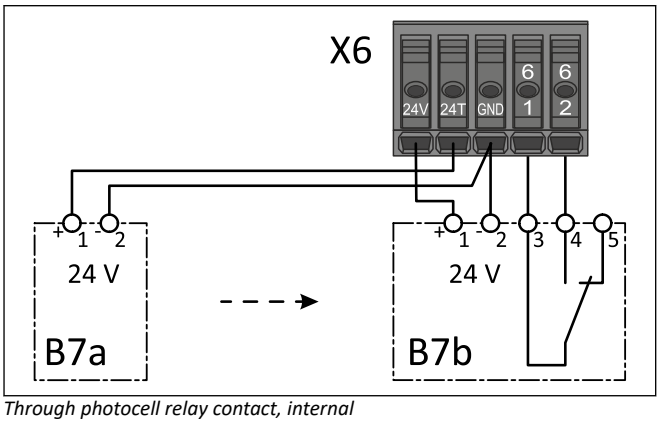
- Use photocells and light curtains only in unblanking mode.

Photocells

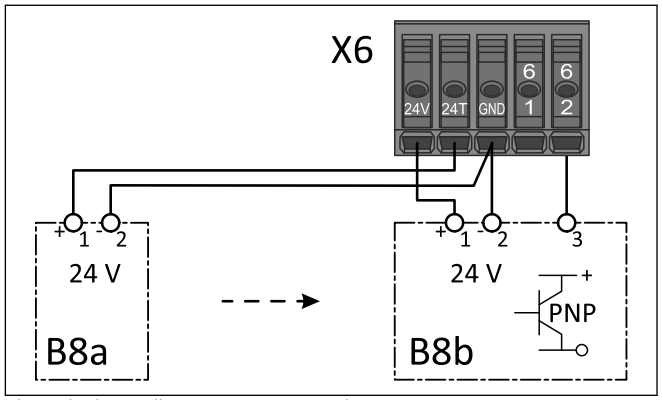
A photocell is used for presence detection and activated with operating modes 0.3 / 0.4. It only switches in the final limit position OPEN and during CLOSE operation.



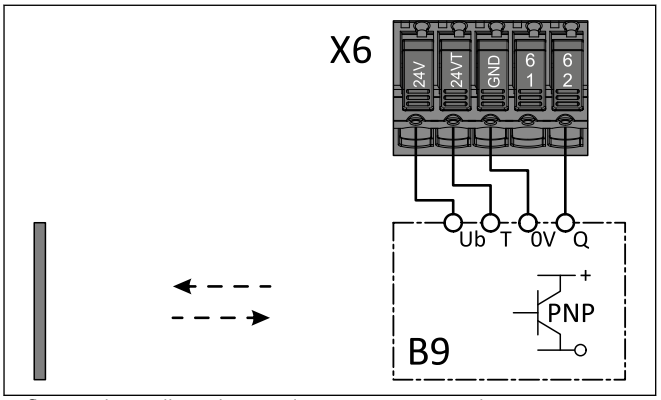
Reflective photocell relay contact, internal



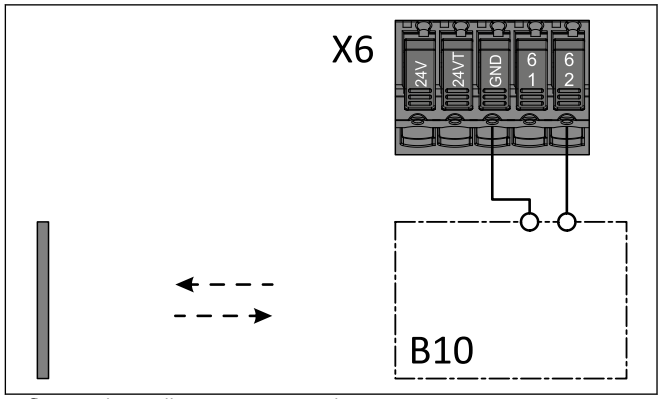
Through photocell relay contact, internal



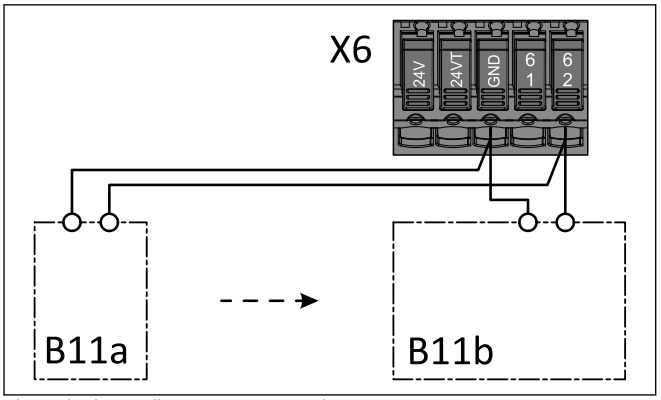
Through photocell, PNP output, internal



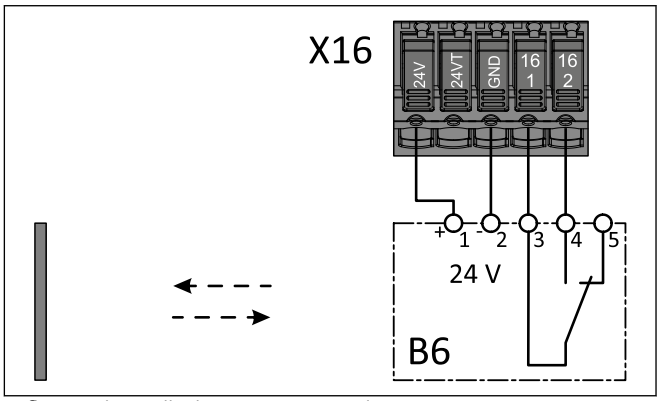
Reflective photocell, can be tested, PNP output, internal



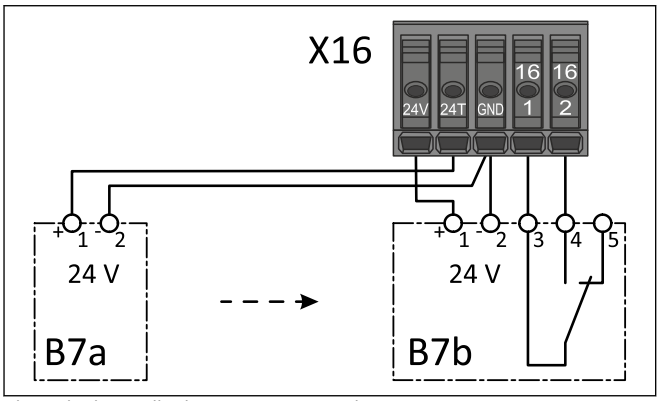
Reflective photocell, two-wire, internal



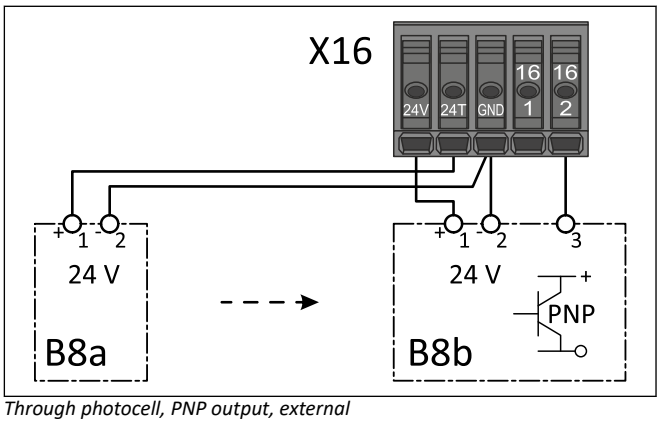
Through photocell, two-wire, internal



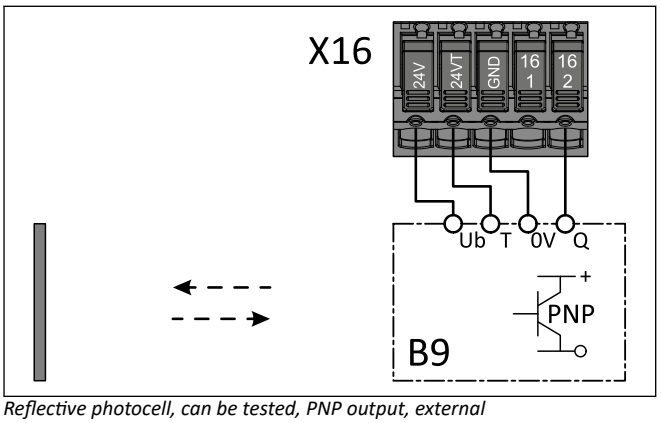
Reflective photocell relay contact, external



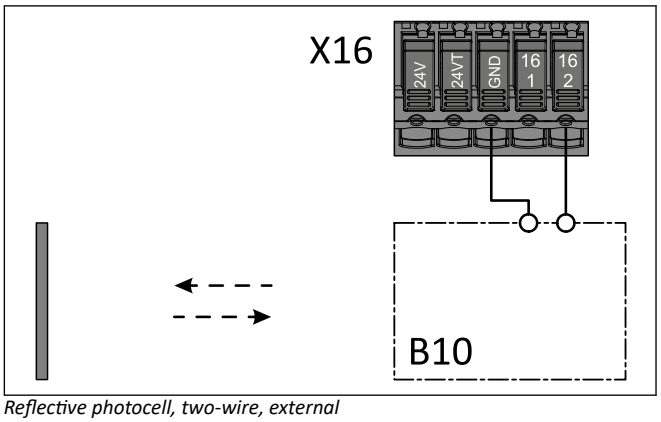
Through photocell relay contact, external



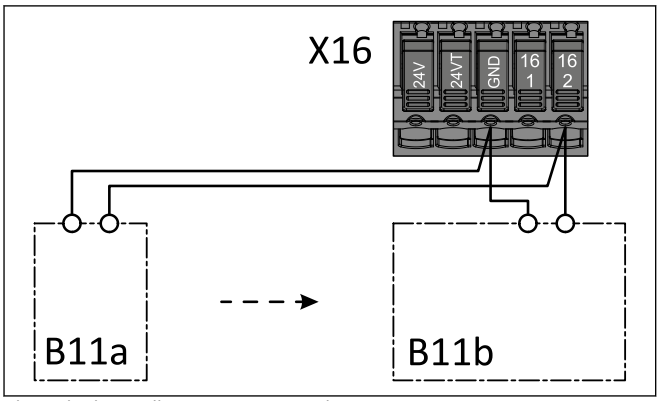
Through photocell, PNP output, external



Reflective photocell, can be tested, PNP output, external



Reflective photocell, two-wire, external



Through photocell, two-wire, external

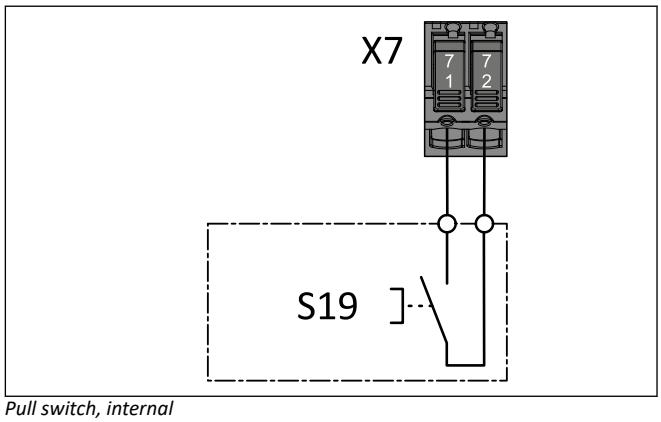
i NOTE

When the photocell is activated during the CLOSE operation, fault indication F.c 2.1 appears. In case of permanent activation or a fault, fault indication F.c 2.2 appears when a CLOSE command is given.

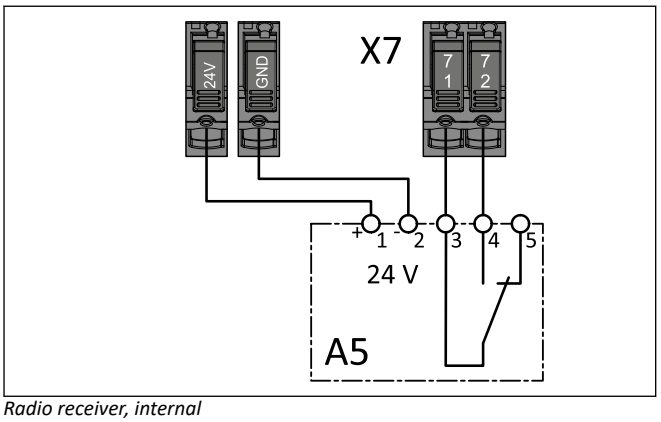
X7 / X17 - Pull switch / radio receiver

You can connect a pull switch or a radio receiver to terminals X7.1 / X7.2 and X17.1 / X17.2. The switching contact must be potential-free for this.

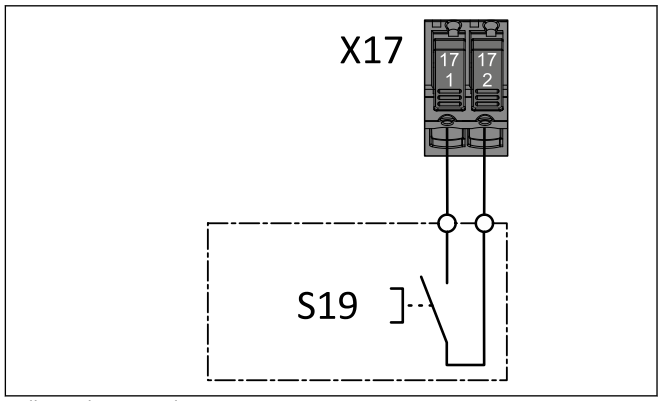
- Mount the product according to the manufacturer's instructions.
- After completing the electrical installation, activate the product using P 2.8.



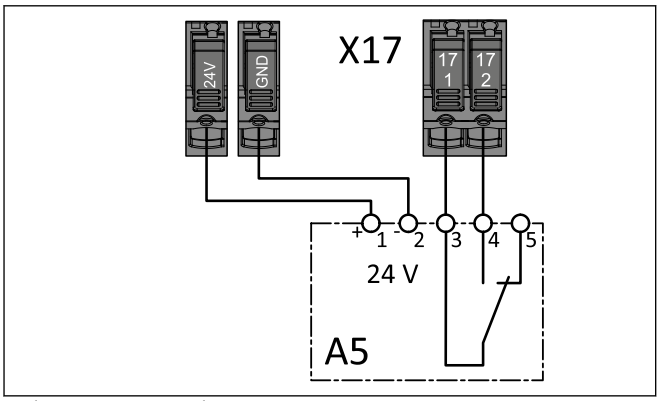
Pull switch, internal



Radio receiver, internal



Pull switch, external

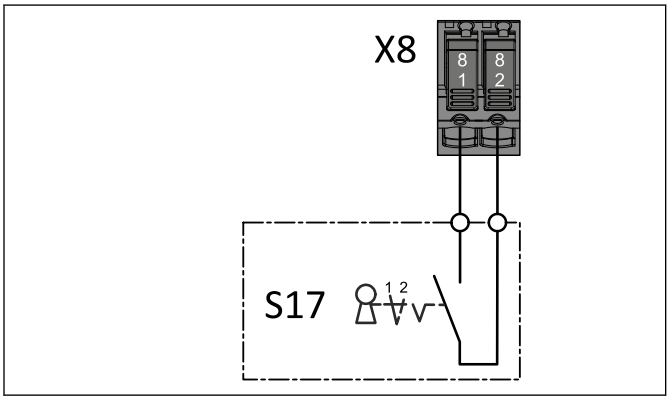


Radio receiver, external

X8 - Switch for intermediate open

You can connect a switch for intermediate open of the door to terminals X8.1/X8.2. The switch activates this function. With an OPEN command, the door moves to the saved door position. Only when you deactivate this function with the switch, the door will return to the final limit position OPEN.

- Mount the product according to the manufacturer's instructions
- After completing the electrical installation, activate the switch using P 1.6.

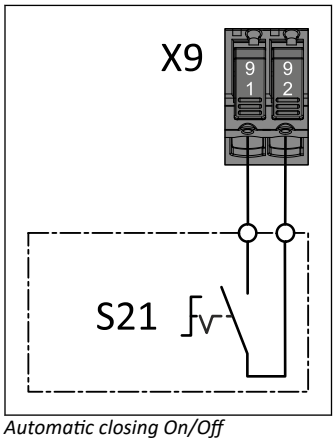


i NOTE

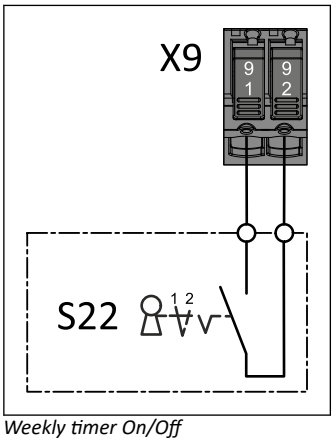
Use P 2.9 to specify the devices for approaching intermediate open.

X9 / X19 - Parameterisable input

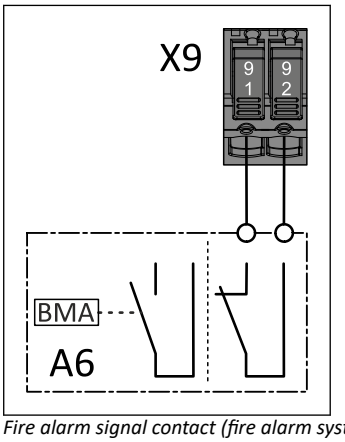
You can connect the automatic closing switch to terminals X9.1/9.2 and X19.1/19.2. Use P 2.4 to select a time between 1 and 360 seconds after which the door closes automatically. The switch activates and deactivates this function. The set time remains saved.



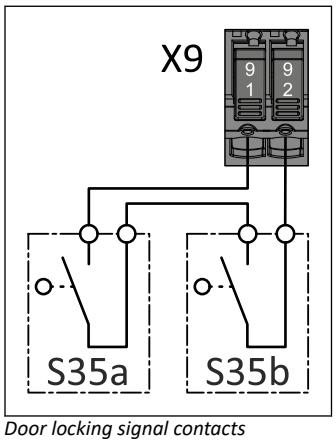
Automatic closing On/Off



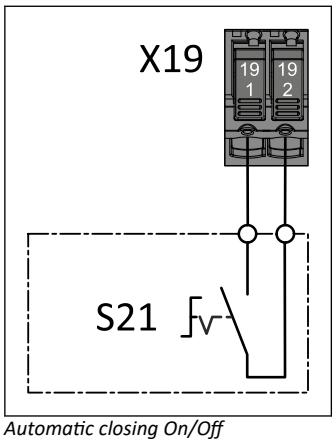
Weekly timer On/Off



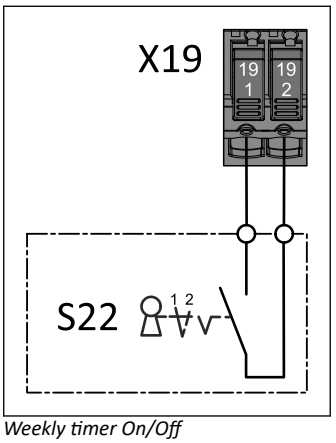
Fire alarm signal contact (fire alarm system), NO contact or NC contact



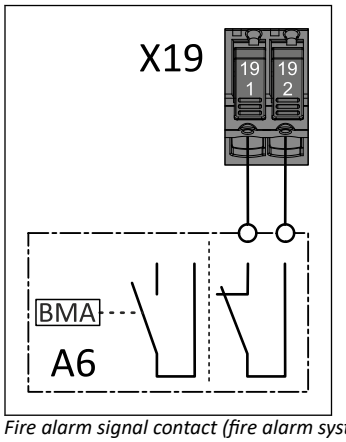
Door locking signal contacts



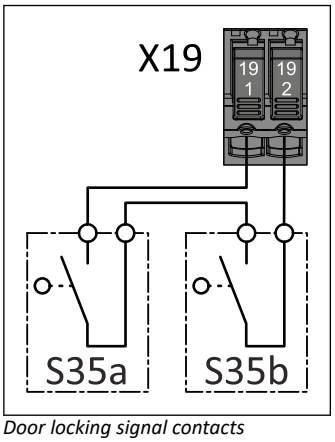
Automatic closing On/Off



Weekly timer On/Off



Fire alarm signal contact (fire alarm system), NO contact or NC contact



Door locking signal contacts

X18 - Pull-in protection

The door control has an evaluation function for pull-in protection according to IEC 13849 with three channels. Three different types of pull-in protection can be connected. The door control has an automatic detection feature that identifies which pull-in protection is connected. P 0.5 shows which pull-in protection was detected. Activation of the pull-in protection always results in the OPEN movement being stopped.

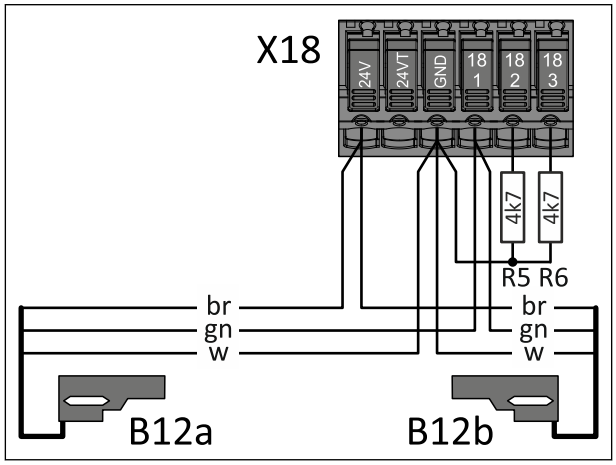
- Mount the product according to the manufacturer's instructions.
- Several examples of pull-in protection are shown.

i NOTE

Always use the same type of pull-in protection on all three channels. If several types of pull-in protection are used, ensure that the transmitters are not mounted on the same side or that they are mounted at a sufficient distance from each other.

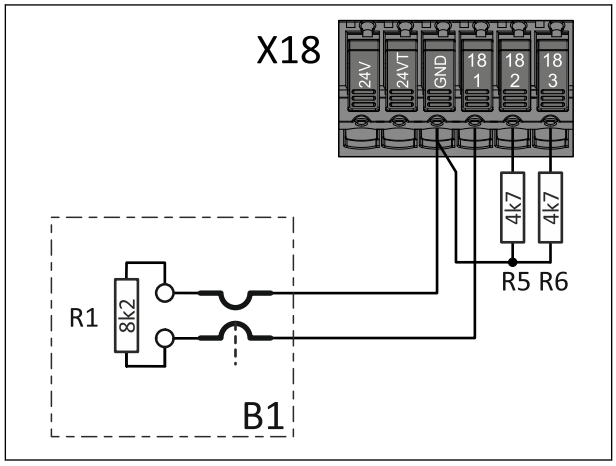
The door control detects an inactive channel by means of a connected end of line resistor of 4.7 kΩ (4k7).

Optical pull-in protection with impulse output



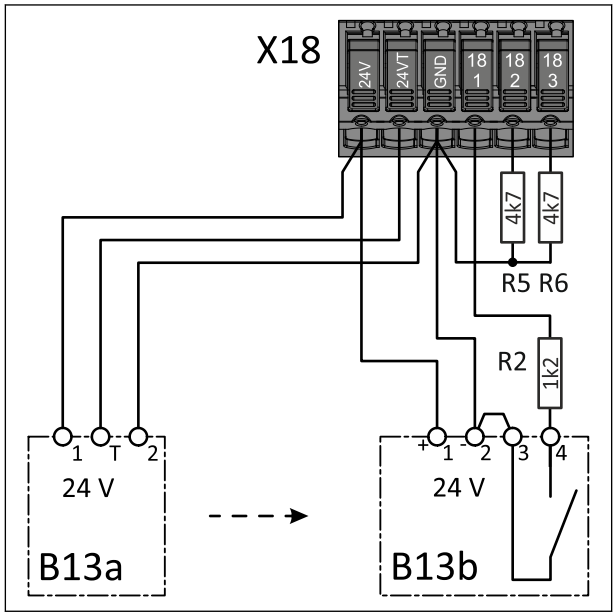
B12a	Transmitter for pull-in protection
B12b	Receiver for pull-in protection
R5	Channel deactivation resistor 4k7
R6	Channel deactivation resistor 4k7
X18	Terminal strip for door control
B12	Type RAYTECTOR RAY-S or comparable type

Electrical safety edge as pull-in protection



B1	Electrical safety edge
R1	End of line resistor (8k2)
R5	Channel deactivation resistor 4k7
R6	Channel deactivation resistor 4k7
X18	Terminal strip for door control

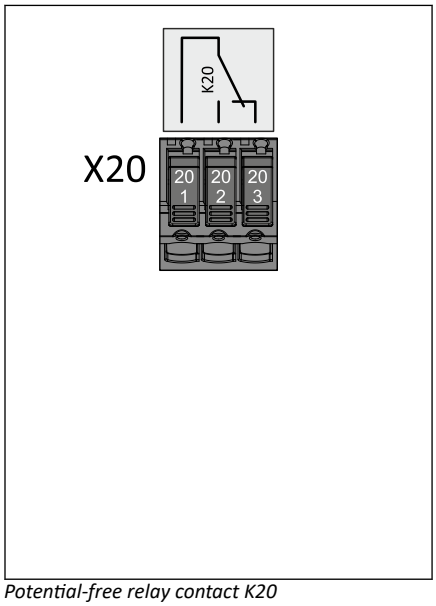
Safety photocell



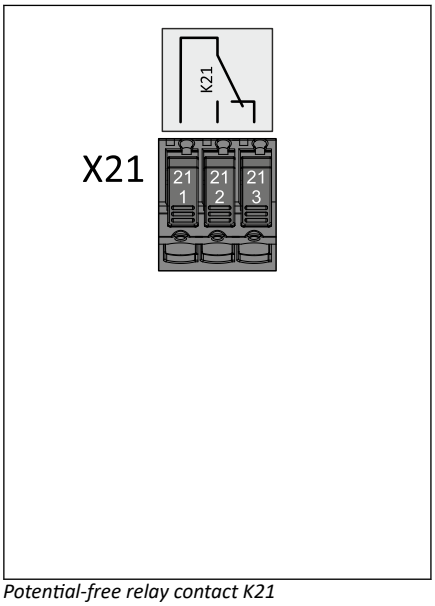
B13a	Transmitter for safety photocell
B13b	Receiver for safety photocell
R2	Monitoring resistor 1k2
R5	Channel deactivation resistor 4k7
R6	Channel deactivation resistor 4k7
X18	Terminal strip for door control

K20 / K21 / K23 - Relay contacts

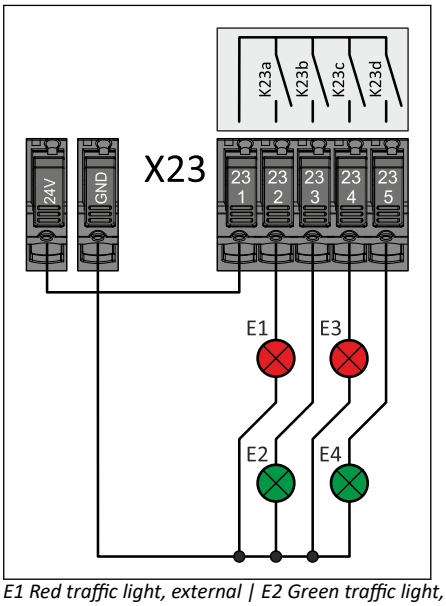
The relay contacts K20 and K21 (terminals X20, X21) can be used to control external devices or to generate messages. Parameters P 5.6 and P 5.7 allow you to set the desired function. The relay K23 (terminal X23) is intended for traffic light control. Use parameters P 6.1 to P 6.5 to adjust the traffic control to local conditions.



Potential-free relay contact K20



Potential-free relay contact K21



E1 Red traffic light, external | E2 Green traffic light, external |
E3 Red traffic light, internal | E4 Green traffic light, internal |

Internal radio receiver - handheld transmitter

The door control can be operated with handheld transmitters. A maximum of 64 single-channel handheld transmitters or 32 dual-channel handheld transmitters are programmable on two carrier frequencies, 433 MHz or 868 MHz.

Number of channels	Possible movement commands
1	Pull switch function
2	OPEN / CLOSE command
2	OPEN command, internal / external with active oncoming traffic
2	OPEN command = Full opening / intermediate opening when P 2.9 is activated

Carrier frequency 434 MHz

⚠ WARNING

Danger due to corruption of the door control
The carrier frequency 433 MHz does not provide effective cybersecurity according to (EU) 2024/2847

- Only use the carrier frequency for handheld transmitters that were placed on the European market before December 2027.
- Inform the user of the handheld transmitter about the lack of effective cybersecurity

Requirements for handheld transmitters:

- Amplitude-modulated (AM), not frequency-modulated (FM)
- With fixed or rolling code

Carrier frequency 868 MHz

Requirements for handheld transmitters:

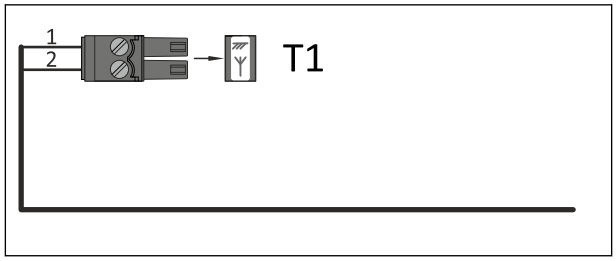
- Still in development (as of 10/2025)

i NOTE

Handheld transmitters can be taught-in or deleted using parameters 7.5 to 7.8.

External aerial

A separate 433 MHz or 868 MHz aerial can be connected via the aerial connector to extend the reception range.



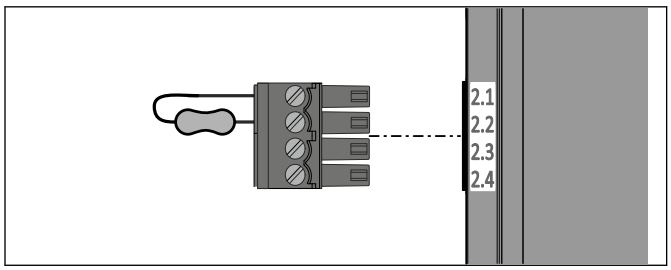
1	Mass of the aerial
2	Aerial

8 Set final limit positions and select access code

If you have already connected a safety edge, the pre-limit switch is automatically set with the final limit positions.

1. Close the door safety circuit:

- The door safety circuit must be closed before proceeding.
- Connect a spiral cable / WSD door module to X2 or insert the enclosed substitute resistor.

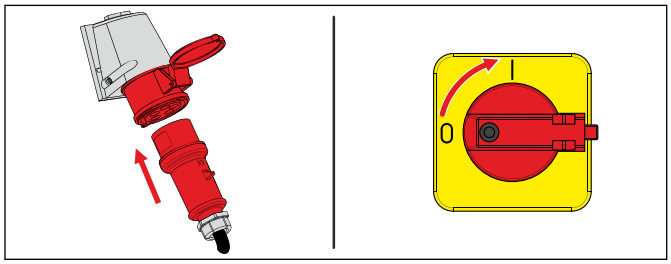


i NOTE

If the door safety circuit is not closed, fault indication F.c 1.1 is displayed.

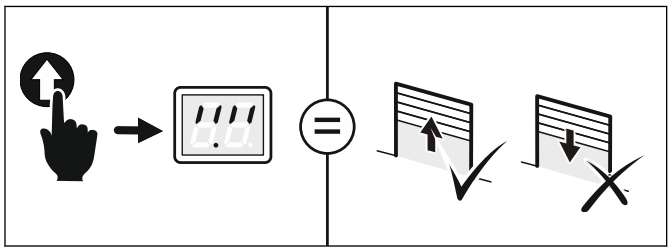
2. Switch on the power:

- Turn on the door control for the following steps by plugging the CEE-plug into the socket or by pressing the mains switch.



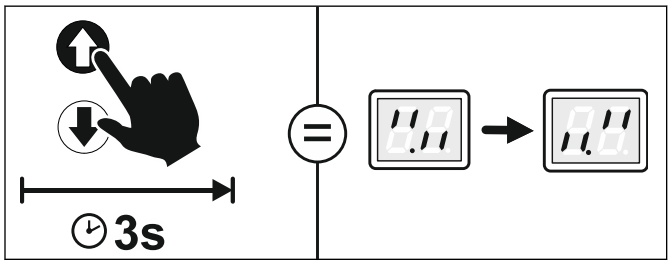
3. Check output rotating direction:

- Press the OPEN push button.
- If the door moves upwards, the output rotating direction is correct. Proceed with step 5.
- If the door moves downwards, change the output rotating direction. Proceed with step 4.



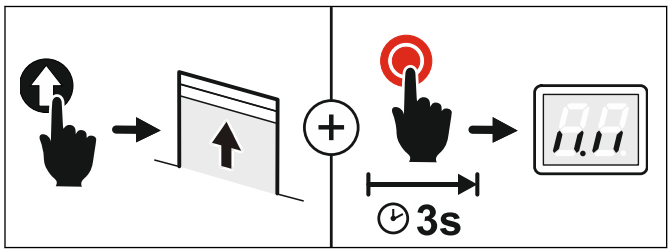
4. Change output rotating direction:

- Carry out this step only if the door moves downwards after step 1.
- Press the OPEN and CLOSE push buttons simultaneously for 3 seconds.
- The display changes as shown in the figure.



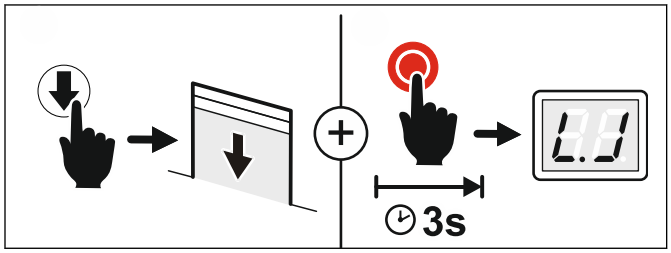
5. Set final limit position to OPEN:

- Press the OPEN push button until the door has reached the desired position. Press the push button for at least one second.
- Save the final limit position OPEN by pressing the STOP push button for 3 seconds. The display changes as shown in the figure.



6. Set final limit position to CLOSE:

- Press the CLOSE push button until the door has reached the desired position. Press the push button for at least one second.
- Save the final limit position CLOSE by pressing the STOP push button for 3 seconds. The display changes as shown in the figure.

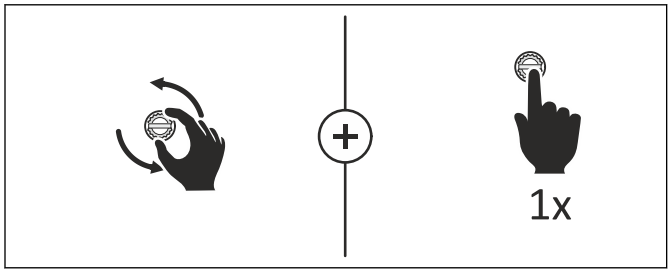


i NOTE

The final limit positions can be corrected later using P 1.1 - 1.4. The pre-limit area can be changed later using
P 1.5.

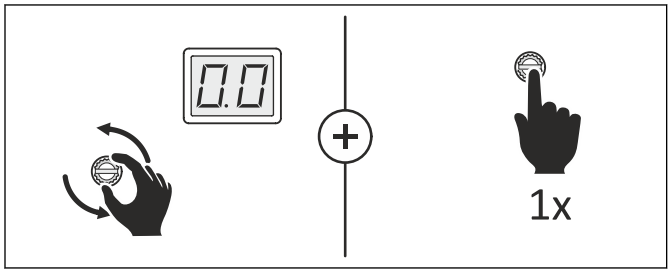
6. Set access code c1:

- For code c1, set the selector switch to any number between 01 and 99. Save this by pressing the selector switch.



7. Set access code c2:

- Repeat the setting for code c2
- Pressing the selector switch completes the final limit adjustment and the display changes, see figure.



You can use the door in the preset hold-to-run OPEN/CLOSE operating mode. All further settings are carried out under the Parameterisation menu item.

i NOTE

- The access code c1 / c2 is required to meet the requirements of DIN EN ISO 13849-1:2023 "Protection against unauthorised access'".
- Once you have entered the code, you have a time window of 6 hours during which you will not be asked for the access code.
- Make a note of the code for future reference. The code is required to access the door control without an app.

9 Firmware update

The firmware of the door control can be updated. With the "evodo-Sync" app, updates can be installed via a Bluetooth connection. To install updates on door controls, you need an evodo account. You can create one by registering as a service company on our website https://evodo.eu.

NOTICE

Danger due to outdated firmware

Outdated firmware prevents the full range of functions of the door control from being utilised. New functions and fault corrections are not included in the outdated firmware. Firmware updates are also important for keeping cybersecurity up to date and thus preventing security breaches.

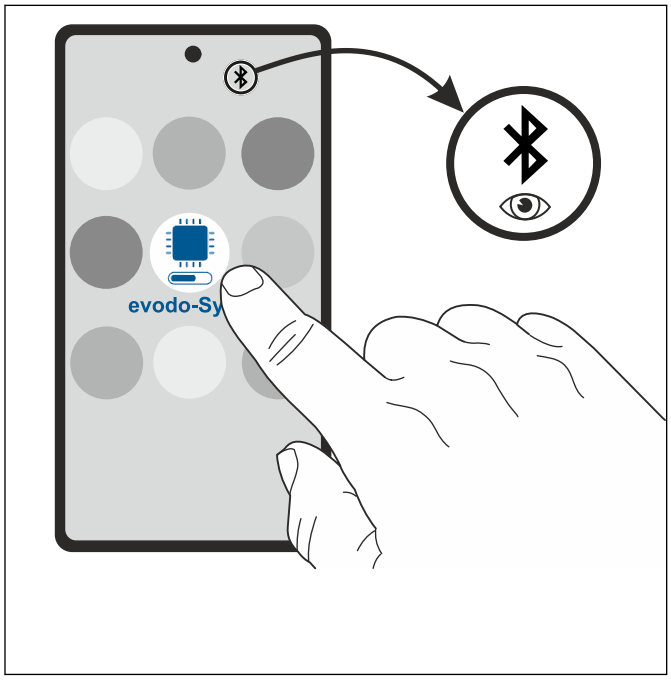
- Use the "evodo-Sync" app to check if new updates are available when installing or maintaining the door control.

View current status / firmware history

Scan the QR code on the door control and follow the link. The current status can be viewed in the "Firmware" tab.

Install updates

1. Download the "evodo-Sync" app.
2. Launch the app and log in with your evodo account.
3. Press the selector switch of the door control once. "c o" appears on the display.
4. Scan the QR code on the door control to establish the Bluetooth connection. Alternatively, enter the serial number manually. "c o" now lights up permanently on the display.
5. Check whether there are updates for your door control. If there are no updates, continue with the parameterisation.
6. If an update is available, launch it via the app. Ensure that the Bluetooth connection between the door control and your mobile device remains constant during the update. Do not switch off the door control. The display turning off during the update is part of the process.
7. The update will take about 5 minutes.



NOTICE

Damage to items due to incomplete update

Interrupting the update during the process will result in defective software. The display of the door control may go out during the update. This is part of the process and does not mean that the update has been interrupted or that the door control has been switched off.

- Do not switch off the door control during the update.
- Do not interrupt the Bluetooth connection to the mobile device during the update.

⚠ CAUTION

Danger from pedestrian and vehicle traffic
The door control cannot be used during the update. Safety devices and doors are not functioning.
- Lock the door for pedestrians and vehicles.

i NOTE

No internet connection is required at the door for the update. Make sure that the current version of the "evodo-Sync" app is installed on your mobile device. This contains the latest update. Only a Bluetooth connection is required on site.

10 Parametrisation

Parameterisation with the evodo Toolkit app

NOTICE

Danger due to outdated firmware
Outdated firmware prevents the full range of functions of the door control from being utilised. New functions and fault corrections are not included in the outdated firmware. Firmware updates are also important for keeping cybersecurity up to date.

- Use the "evodo-Sync" app to check if new updates are available before you start parameterisation.

Set the final limit positions and the access code first. Without these settings, the parameterisation does not work. The door control has a Bluetooth interface that allows you to configure the settings using the evodo Toolkit app. Install the app on a mobile device with Bluetooth capability. The app is available in the Google Play Store / Apple App Store or via the following QR code:

Please note that some parameters cannot be set via the selector switch of the door control. The corresponding parameters are marked in the description.

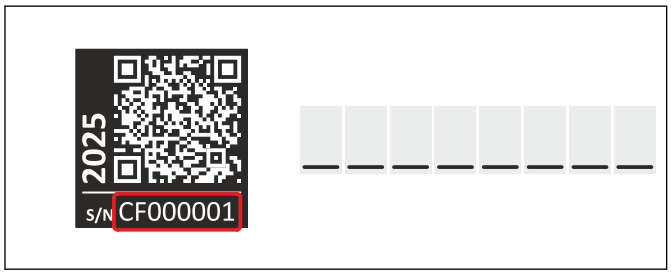
i NOTE

To set security-related parameters via the Toolkit app, you need an evodo account. You can create one by registering as a service company on our website https://evodo.eu.

Parameterising the door control

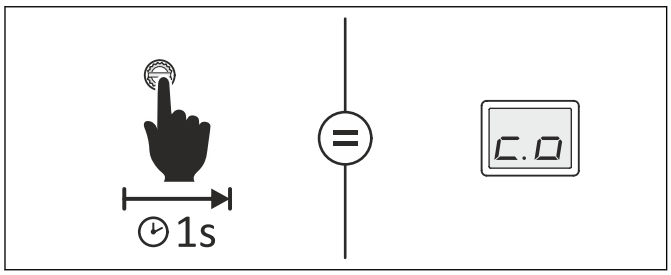
1. Input device number

- Scan the QR code or enter the serial number in the app and start searching for the door control.



2. Start Bluetooth connection:

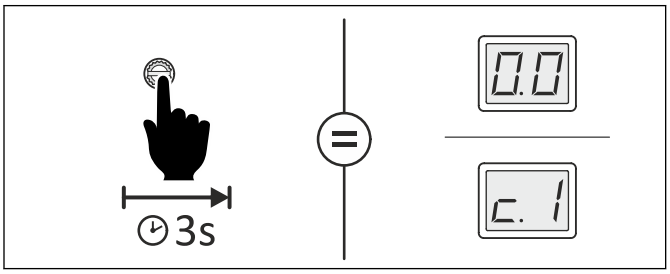
- Press the selector switch for 1 second. The display flashes as shown in the figure. Once the connection has been successfully established, the flashing will stop. Then configure the parameters for the door control.



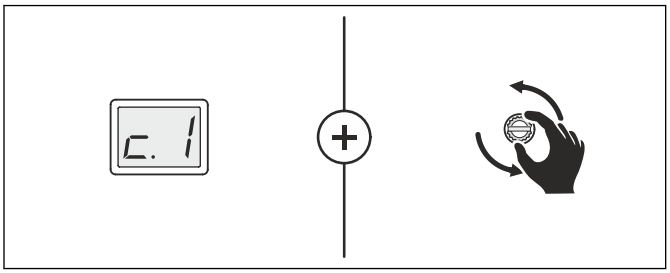
Parameterisation with the selector switch

Please note that some parameters cannot be set using the selector switch on the door control. The corresponding parameters are marked in the description. The parameters can also not be viewed via the selection with the selector switch.
Set the final limit positions and the access code first, otherwise the parameterisation will not work.

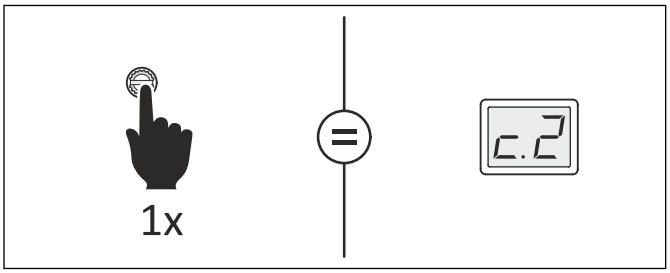
1. Start parameterisation:
- Press the selector switch for 3 seconds. The display changes as shown in the figure.
- If "0.0" is displayed, continue with 6.



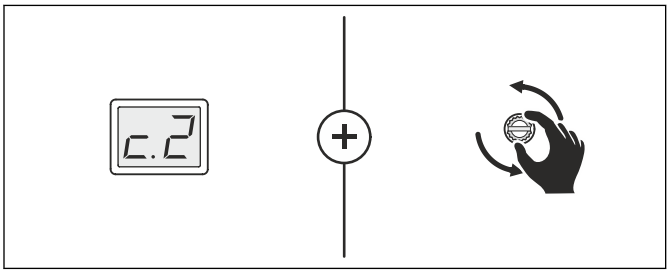
2. Input of code 1:
- Turn the selector switch and set the code to 1.



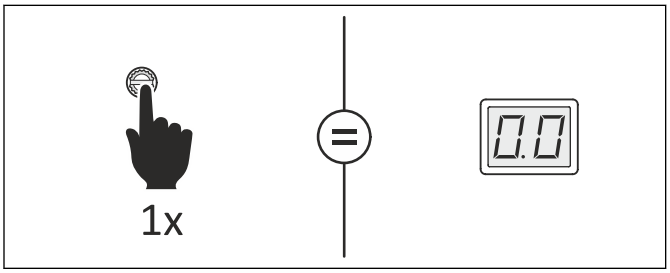
3. Confirmation of code 1:
- Press the selector switch once to confirm the selection.



4. Input of code 2:
- Turn the selector switch and set the code to 2.



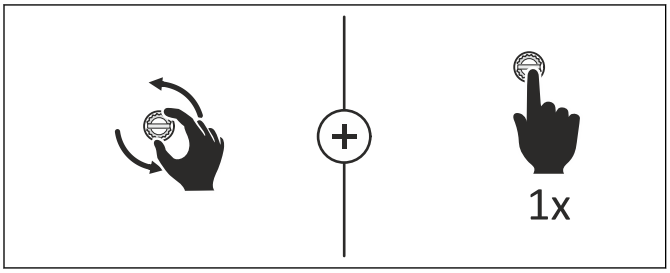
5. Confirmation of code 2:
- Press the selector switch once to confirm the selection.



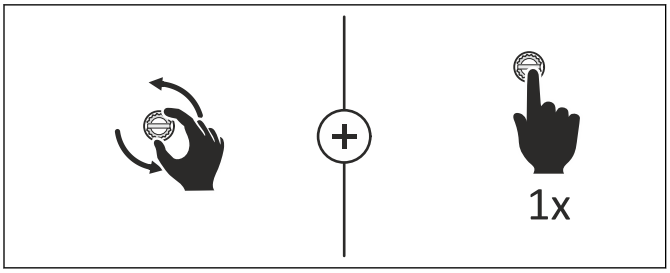
i NOTE

- Once you have entered the access code, you have a time window of 6 hours during which you will not be asked for the access code.

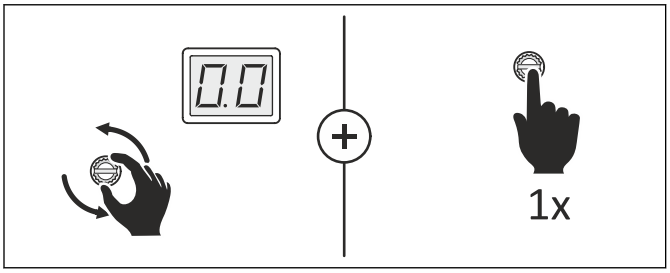
6. Select parameters:
- Turn the selector switch to the desired parameter.
- Press the selector switch once to confirm the selection. This will take you to the options.



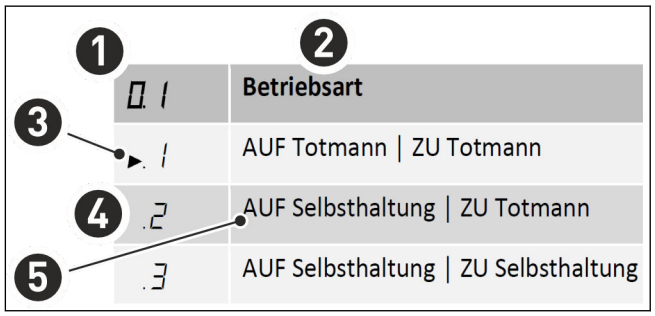
7. Select option:
- Turn the selector switch to the desired option.
- Press the selector switch once to save the selection. This will also exit the options.



8. Terminate the parameterisation:
- Turn the selector switch to "0.0".
- Press the selector switch once to exit the parameterisation.



Explanation of the parameter tables



1	Number of the parameter
2	Name of the parameter
3	Symbol for the factory setting
4	Number for the possible options
5	Name / description of the option

Parameter list:

P 0.1 - Operating mode

With this parameter, you select the operating mode with which you move the door in OPEN operation and CLOSE operation. When selecting the option, please note the following points:

- The user group of the door and the accessible area of the door.
- Number of safety devices and safety edges on the door.
- Control device at terminals X5 (optional)

⚠ WARNING

Danger due to unattended door movement!
When emergency operation is activated, safety devices are occupied or defective. People or objects in the path are not detected.

- Operate the door only with a clear view of the door.
- Only trained persons may operate the door.

i NOTE

During emergency operation, the door behaves as in the hold-to-run operating mode, except that the control devices delay the start of door movement by 3 seconds. This makes the user aware of the display of the corresponding fault indication.

0.1	Operating mode
►.1	OPEN hold-to-run | CLOSE hold-to-run
.2	OPEN self-hold | CLOSE hold-to-run
.3	OPEN self-hold | CLOSE self-hold - Clearance for emergency operation via internal control push button
.4	OPEN self-hold | CLOSE self-hold - Clearance for emergency operation via internal / external control push buttons.
.5	OPEN self-hold | CLOSE self-hold - Clearance for emergency operation not possible
.6	Self-hold OPEN and hold-to-run CLOSE - Reverse to self-hold OPEN if the final limit position CLOSE is not reached.
.7	OPEN hold-to-run| CLOSE hold-to-run - Additional safety device is active with a stop function during the CLOSE operation.

P 0.2 - Output rotating direction

This parameter changes the output rotating direction of mains-powered door drive units. The function is only used if the rotating field on a door has changed, but the final limit positions should be retained.

0.2	**Output rotating direction**
	Select the options with the OPEN or CLOSE push button.
.0	Maintain output rotating direction Exit parameters by pressing the selector switch
.1	Change output rotating direction Save the parameters by pressing the STOP push button for 3 seconds and exit

⚠ WARNING

Danger from uncontrolled movements or falling objects!
If the output rotating direction is changed without changing the rotating field, the door will move in the wrong direction and may exceed its final limit positions.
- Change the output rotating direction only when the rotating field has changed.

P 0.5 - Safety devices

The door control automatically detects existing safety devices during initial operation. A manual change is not possible. Detection is retained even after a reset.
A change of the safety devices can only be carried out via option 0.7 "Start detection of safety devices".
In order to delete the WSD safety devices, P 2.0 must be set to option ".0" and the safety edge detection must be started in P 0.5.

0.5	**Safety devices**
►.1	Display type of safety device 1
.3	Display type of WSD safety devices
.4	Display type of pull-in protection channel 1
.5	Display type of pull-in protection channel 2
.6	Display type of pull-in protection channel 3
.7	Start detection of safety devices

i NOTE

Type of safety devices detected:
- - . - = No safety edge detected
- 0.1 = Pneumatic safety edge (1k2) - NC contact with testing
- 0.2 = Electrical safety edge (8k2) - NO contact
- 0.3 = OSE impulse safety device or light curtain
- 0.4 = Input for safety devices deactivated with 4k7

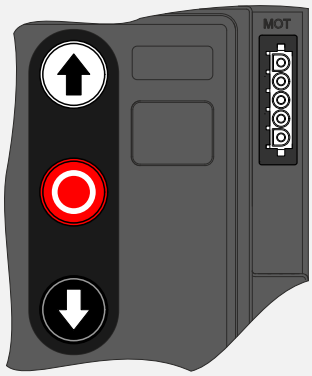
P 0.7 - Manual activation of emergency operation

If you select P 0.7, you activate emergency operation until you exit the parameterisation. Please note the section "Emergency operation".

⚠ WARNING

Danger from uncontrolled movements or falling parts!
In emergency operation, the slack-rope / pass-door circuit is bridged. People in the closing area may be injured.

- Check the door for damage beforehand.
- Block the door to pedestrians and vehicles.
- Ensure a clear view of the door from the operator's location.
- Only competent personnel may operate the door.

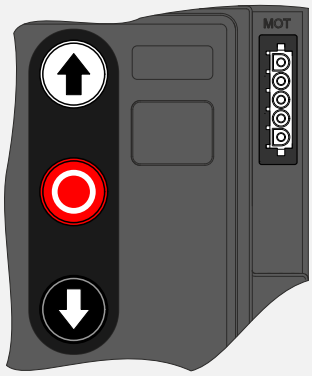
0.7	**Manual activation of emergency operation**
	• Move to the desired door position using the integrated OPEN or CLOSE push button. • Save the door position by pressing the STOP push button once.

P 1.1 - Coarse correction of the final limit position OPEN

Use these parameters to change the final limit positions that have already been set.

⚠ WARNING

Danger due to uncontrolled movements
During the setting, the safety devices on the door are without function.
- Lock the door for pedestrians and vehicles.

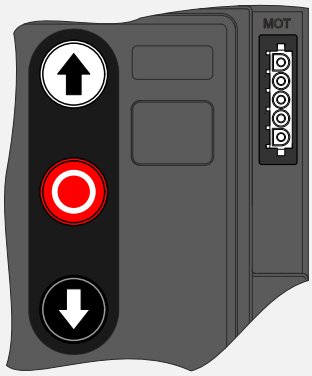
1.1	**OPEN final limit position, coarse correction**
	• Move to the desired door position using the integrated OPEN or CLOSE push button. • Save the door position by pressing the STOP push button once.

P 1.2 - Coarse correction of the final limit position CLOSE

Use these parameters to change the final limit positions that have already been set.

⚠ WARNING

Danger due to uncontrolled movements
During the setting, the safety devices on the door are without function.
- Lock the door for pedestrians and vehicles.

12	**CLOSE final limit position, coarse correction**
	• Move to the desired door position using the integrated OPEN or CLOSE push button. • Save the door position by pressing the STOP push button once.

P 1.3 - Fine correction final limit position OPEN

Here you can change the final limit positions that have already been set. No door movement takes place during fine correction. Proceed step by step.

i NOTE

The range shifts towards the final limit position OPEN by entering a "+" or towards the final limit position CLOSE by entering a "–". When you exit the parameter, the moved area is saved. It is recommended to check the door position after each movement.

13	**Fine correction final limit position OPEN**
-9	Correction towards final limit position OPEN -9 correction steps
► 0	No correction
+9	Correction towards final limit position CLOSE +9 correction steps

P 1.4 - Fine correction final limit position CLOSE

Here you can change the final limit positions that have already been set. No door movement takes place during fine correction. Proceed step by step.

i NOTE

The range shifts towards the final limit position OPEN by entering a "+" or towards the final limit position CLOSE by entering a "–". When you exit the parameter, the moved area is saved. It is recommended to check the door position after each movement.

1.4	**Fine Correction final limit position CLOSE**
-9	Correction towards final limit position OPEN -9 correction steps
► 0	No correction
+9	Correction towards final limit position CLOSE +9 correction steps

P 1.5 - Fine correction of the pre-limit area

Use this parameter to change the pre-limit area. No door movement takes place during fine correction.

i NOTE

The range shifts towards the final limit position OPEN by entering a "+" or towards the final limit position CLOSE by entering a "–". When you exit the parameter, the moved area is saved. It is recommended to check the door position after each movement.

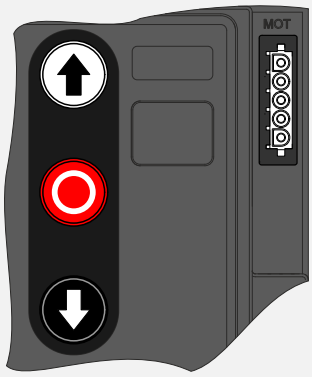
1.5	**Fine correction of the pre-limit area**
-9	Correction towards final limit position OPEN -9 correction steps
►0	No correction
+9	Correction towards final limit position CLOSE +9 correction steps

P 1.6 - Set the door positions for intermediate open

Intermediate open is a door position between final limit positions OPEN and CLOSE. This requires the installation of an external switch on terminals X8. Use this switch to activate and deactivate the movement to intermediate open. Use P 2.9 to specify the control devices for approaching the position.

⚠ WARNING

Danger due to uncontrolled movements
During the setting, the safety devices on the door are without function.
- Lock the door for pedestrians and vehicles.

16	**Setting the door positions for intermediate open**
	• Move to the desired door position using the OPEN or CLOSE button. • Save the door position by pressing the STOP button once.

P 1.7 - Set the door positions for a SHE opening

A smoke and heat extraction (SHE) opening is a door position between the final limit position OPEN and the final limit position CLOSE that the door approaches in the event of an alarm.

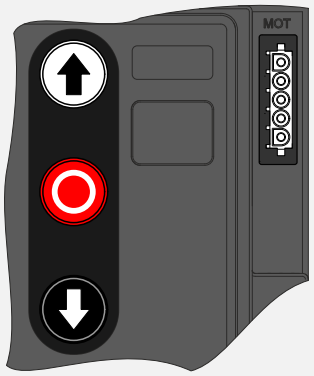
⚠ WARNING

Danger due to movement of the door with deactivated protective devices!
The opening height for the smoke and heat door position must be at least 2.5 m and can only be used when the door position has been set.

⚠ WARNING

Danger due to uncontrolled movements!
During the setting, the safety devices on the door are without function.

- Lock the door for pedestrians and vehicles.

17	**Set door position for SHE opening**
	• Move to the desired door position using the OPEN or CLOSE button. • Save the door position by pressing the STOP button once.

P 2.0 - Select safety devices

With this function, you assign a radio channel to the WSD door module (Wireless Safety Device). If you are using a spiral cable, stick with option ".0". Also refer to section "External devices X2: Safety devices".

2.0	Safety device
►.0	Spiral cable
.2-40	Radio channels 2 to 40 can be selected in the WSD.

Setting up the WSD door module

Follow the assembly instructions for the WSD door module.

Wi-Fi radio channel	Unusable WSD radio channels
1	2 - 8; 22 - 27
2	4 - 9; 23 - 28
3	5 - 10; 24 - 30
4	6 - 11; 26 - 31
5	7 - 13; 27 - 32
6	9 - 14; 28 - 33
7	10 - 15; 29 - 35
8	11 - 16; 31 - 36
9	12 - 18; 32 - 37
10	14 - 19; 33 - 39
11	15 - 20; 34 - 40
12	16 - 21; 36 - 40
13	17 - 21; 37 - 40

P 2.1 - Safety edge in the pre-limit area

Use this function to activate and deactivate the safety edge in the pre-limit area.

2.1	**Function of the safety edge system in the pre-limit area**
►.1	Safety edge active
.2	Safety edge is inactive (e.g. with a non-contact photocell)
.3	Ground adjustment (DES)
.4	Reversing in overrun area (DES)

Ground adjustment

With the ground adjustment, the final limit position CLOSE can be adjusted automatically in the range of 2 - 5 cm to compensate for rope stretches or changes of ground. The safety edge is activated when it contacts the ground. The final limit position CLOSE will be corrected with the next close.

- Only with digital limit switch (DES).
- Do not use with overrun correction.
- Do not use with pressure-wave switch or light curtain.

Reversing in the overrun area

Function for maintaining the operating forces in the pre-limit area

- At high speeds.
- Only with digital limit switch (DES).
- The function is not necessary for frequency inverter drive units.

P 2.2 - Overrun correction

Automatic limit switch correction to achieve a constant CLOSE position. This function is only available in combination with an ELEKTROMATEN with a digital limit switch.

2.2	**Overrun correction**
►.0	Off
.1	On (do not use with P 2.1 ground adjustment)

P 2.3 - Automatic closing On/Off

Use this function to activate and deactivate automatic closing. Use P 2.4 to select a time between 1 and 360 seconds after which the door closes automatically.
You can connect a switch via terminals X9 and X19 that activates and deactivates this function. The function of the switch must be set via P 7.3 / P 7.4. The selected time remains saved.

⚠ WARNING

Danger due to contact with the door leaf!
When automatic closing is activated without sufficient safety devices, the probability of contact between a person or an obstacle and the moving door increases. This poses a risk of injury due to crushing, shearing or cutting.

- The automatic closing may only be activated if at least one additional device, such as a photocell, is installed.

NOTICE

The automatic closing can be interrupted manually:
Press the STOP push button when the door is in the final limit position OPEN. The door remains open. Press the OPEN push button to reactivate the automatic closing. With P 2.5, you can set whether the automatic closing is interrupted by activating a photocell.

2.3	**Automatic closing**
►.0	Off
.1	On

P 2.4 - Automatic closing - Time period setting

With this function, you can select a time after which the door closes automatically.
Activate the automatic closing first using P 2.3. With P 2.3, the automatic closing can also be deactivated again. You can connect a switch via terminals X9 and X19 that activates and deactivates the automatic closing. The function of the switch must be set via P 7.3 / P 7.4. The programmed time remains saved.

i NOTE

The parameterisation of P 2.4 is only possible when automatic closing P 2.3 is active.

The display flashes three times over 99 seconds to show the three-digit numbers in full:
1.- and 0.0 = 100 seconds to 1.- and 9.9 = 199 seconds
2.- and 0.0 = 200 seconds to 2.- and 9.9 = 299 seconds
3.- and 0.0 = 300 seconds to 3.- and 6.0 = 360 seconds

2.4	**Automatic closing - Setting the time**
►.0	Off
1 - 3-60	1 second to 360 seconds

P 2.5 - Reaction of automatic closing to the photocell

This function allows you to select the reaction during automatic closing when the photocell or the safety device is activated. To do this, P 2.3 must be activated and a time must be set with P 2.4.

2.5	**Reaction of automatic closing to the photocell / safety device**
►.0	Off
.1	When the photocell / safety device is activated, the time of the automatic closing P 2.4 stops. After clearance, the door closes after 3 seconds.
.2	Vessel recognition: As soon as the photocell is activated for more than 1.5 s, automatic closing is aborted. This is followed by the CLOSE operation.

i NOTE

If the light beam is interrupted, fault indication "F.c 2.1" appears.

P 2.6 - Limiting reversals

Only change this function if automatic closing P 2.3 is activated. When automatic closing is activated, the door moves to the final limit position CLOSE after the set time. The door reverses if it encounters an obstacle while moving. This means that when a safety device is activated, the door reverses operating direction and moves to the final limit position OPEN. Due to automatic closing, the door will attempt to close again after the set time has elapsed. This will continue until the obstacle is removed. This function allows you to set how many times the door attempts to close before stopping in the final limit position OPEN.

i NOTE

When the door exceeds the set number of reversals, fault indication "F.c 4.6" appears. To reset the fault, use the CLOSE push button on the door control to move the door to the final limit position CLOSE.

2.6	**Limiting reversals**
.0	Off
.1- 1.0	Adjustable from 1 to 10. .1 = 1 reversal 1.0 = 10 reversals Factory setting: ►.2 reversals

P 2.8 - Pull switch / external radio receiver function

Use this function to determine how the door responds to a command from a pull switch or an external radio receiver function.

i NOTE

If you activate the option ".3" and automatic closing P 2.3, the door closes after the time set in P 2.4 when the push button is pressed.

2.8	**Pull switch or external radio receiver function**
►.1	X7 / X17 type of impulse 1: door in final limit position OPEN = CLOSE command | door not in final limit position OPEN = OPEN command
.2	X7 / X17 type of impulse 2: command order: OPEN - STOP - CLOSE - STOP - OPEN
.3	X7 / X17 type of impulse 3: OPEN command only
.4	X7 type of impulse 1 / X17 type of impulse 2
.5	X7 type of impulse 2 / X17 type of impulse 1

P 2.9 - Specifying control devices for intermediate open

Use this function to specify the control devices for approaching intermediate open. You must first set a position for intermediate open with P 1.6. To switch intermediate open on and off, a switch must be installed on X8. You can connect further control devices for intermediate open to X5 or X7. When an OPEN command is issued using the activated control devices, the door moves into intermediate open.

i NOTE

The parameterisation of P 2.9 is only possible with inactive traffic control P 6.1.
For options ".2" and ".3", an OPEN command has priority over an intermediate open command, regardless of the order in which the commands were executed.

2.9	**Specifying control devices for intermediate open**
►.0	Off
.1	Intermediate open is possible with all control devices
.2	Intermediate open using a control device on X7 / X17 Full opening via three push button X5 / X15
.3	Intermediate open using a control device on X5 / X15 Full opening via three push button X7 / X17
.4	Close in intermediate open via impulse input X7 / X17 and three push button X5 / X15

P 3.1 - Force monitoring for sectional doors

Only activate this function if you are operating a sectional door with full counter-balancing and a digital limit switch (DES). Force monitoring is active from an opening gap of approx. 0.05 m to 2 m. Slowly progressing changes, such as the decrease in spring tension, are automatically compensated for. During force monitoring, the door control measures the speed of the door movement. If the current door movement is slower than the previous one by more than the set percentage, the force monitoring is triggered and the door stops. Subsequently, the hold-to-run operating mode is active and the fault indication F.c 4.1 appears. Significant temperature changes or high wind loads can cause force monitoring to be triggered unintentionally.

⚠ WARNING

Danger to life and risk of serious injury from being drawn in.
Force monitoring does not replace safety measures against being pulled into the door.
- Install pull-in protection.

3.1	**Force monitoring for sectional doors**
►.0	Off
.2- 10	Adjustable for an overload of 2 % to 10 %

Teach-in of the function

After exiting parameterisation, you must move the door once in the self-hold position to the final limit position OPEN and the final limit position CLOSE.

i NOTE

The force monitoring does not work in the hold-to-run operating mode.

P 3.2 - Photocell - Teach-in of the blanking function

The function is only available for drive units with digital limit switch (DES) for the photocell at terminals X6. Components on the door (e.g., spiral cables) may cause the photocell to be interrupted at the same position every time. A fault indication appears. Use P 3.2 to teach in this position. The photocell is deactivated at this point during the CLOSE operation. There is no longer a fault indication for this position. As soon as you store option ".1" and exit parameterisation, the teach-in mode is activated.

3.2	**Interrupt photocell**
►.0	Off
.1	Teach-in of the ON / switching position

NOTICE

Danger of material damage
There is no presence detection during the teach-in of the function.
- Teach in the switching position before proceeding.

Teach-in of the function	
1. Move the door to the final limit position CLOSE	
2. After exiting parameterisation, the teach-in mode is activated. The display changes.	2.4
3. Open and close the door until the light beam has been interrupted twice in the same door position. If it has been successfully interrupted, the display will change.	1.4
4. After 2 consecutive interruptions of the photocell, the switching position is stored. The display changes.	L.J

P 3.4 - Door safety switch

The door safety switch is connected to input X2.2.

3.4	**Door safety switch**
►.1	Slack-rope switch / pass-door switch
.2	Crash switch as NC contact. After activation: "Hold-to-run" door operating mode
.3	Crash switch as NO contact. After activation: "Hold-to-run" door operating mode
.4	Crash switch as NC contact. After activation: Reversing in final limit position OPEN. Reset after contact reset; otherwise, "hold-to-run" door operating mode
.5	Crash switch as NO contact. After activation: Reversing in final limit position OPEN. Reset after contact reset; otherwise, "hold-to-run" door operating mode

i NOTE

If you are using a WSD door module, only options ".1", ".2" and ".4" are possible.

P 3.5 - Photocell type

Use this function to specify which type of photocell is connected to X6 / X16. Only use photocells of the same type. When option ".2" is selected, the test signal can be used from terminal 24 T. During the test phase, the 24 V voltage is interrupted for one second in the upper final limit position. This interruption is detected by the photocell input X6.2. If the interruption is not detected, the fault indication "F.c 2.2" appears and the door can no longer be closed in self-hold mode.

⚠ WARNING

Danger due to contact with the door leaf!
In the case of photocells without testing, the door control does not reliably detect faults that occur. This may result in injuries to persons in the path due to crushing, shearing or cutting.

- If photocells are used without testing, regular tests must be carried out by the user at least every six months. The tests must be described in the maintenance instructions of the door.

3.5	**Photocell type**
►.1	Photocell without testing
.2	Photocell on X6 with testing
.3	Photocell on X6 and X16 with testing

P 3.6 - Light curtain - Teach-in of the blanking function

If you install light curtains in the movement area of the door leaf, they must have a blanking function. When the door leaf is closed, the blanking function triggers the light beams of the light curtain from above one after the other. If a light beam is triggered below the door leaf or if the blanking function is deactivated, the door leaf movement is reversed. To ensure that the blanking function is activated shortly before the first light beam is reached, the door control automatically determines and stores this door position. From this door position, the door control informs the light curtain with options ".1" or ".2" that the blanking function should be activated.
As soon as you store option ".1" or ".2" and exit parameterisation, teach-in mode is activated.

NOTICE

Danger of material damage
There is limited presence detection during the teach-in of the function.
- Teach in the blanking position before proceeding.

Teach-in of the function	
1. Move the door to the final limit position OPEN	
2. After exiting parameterisation, the teach-in mode is activated. The display changes.	2.4
3. Close the door until the light curtain is interrupted. If it has been successfully interrupted, the display will change. Open and close the door again.	1.4
4. After 2 consecutive interruptions of the photocell at the same door position, the switching position is stored. The display changes.	L.J

3.6	**Light curtain - Teach-in of the blanking function**
►.0	Off
.1	Relay contact
.2	Interface (impulse evaluation potential shift)

P 3.7 - Automatic opening

The closed door opens after the set number of minutes. This function is required for doors in deep-freeze areas to prevent the door from freezing shut.

3.7	**Automatic opening**
►.0	Off
.1-99	.1 = 1 minute to 9.9 = 99 minutes.

P 3.8 - Extend reversing time

Use this function to extend the reversing time. The reversing time is the time it takes for the door to change from CLOSE operation to OPEN operation. A longer reversing time protects the door mechanism.

3.8	**Extend reversing time**
►.0	Off
.1 - .5	0.1 s to 0.5 s

P 4.1 - Freqency Inverter Functions - Output Speed OPEN

You can only use the following functions if the door drive unit has a GfA frequency inverter or direct inverter (FI, FX or DU).

Increase / decrease output speed

You can change the output speed of a frequency inverter door drive unit. With P 4.3, you can further increase the output speed from a height of 2.5 m (96"). To do this, you must first set the switching position for the increased speed CLOSE with P 4.4.
When a safety device is triggered, the door moves at a reduced speed.

i NOTE

The adjustable values for P 4.1 to P 4.3 depend on the door drive unit. The values can be found in the section "Technical data" of the installation instructions for the door drive unit. The value is given in rpm of the output shaft.

4.1	**Increase / decrease output speed OPEN**
	The possible values depend on the door drive unit.

P 4.2 - Freqency Inverter Functions - Output Speed CLOSE

You can only use the following functions if the door drive unit has a GfA frequency inverter or direct inverter (FI, FX or DU).

Increase / decrease output speed

You can change the output speed of a frequency inverter door drive unit. With P 4.3, you can further increase the output speed from a height of 2.5 m (96"). To do this, you must first set the switching position for the increased speed CLOSE with P 4.4.
When a safety device is triggered, the door moves at a reduced speed.

i NOTE

The adjustable values for P 4.1 to P 4.3 depend on the door drive unit. The values can be found in the section "Technical data" of the installation instructions for the door drive unit. The value is given in rpm of the output shaft.

4.2	**Increase / decrease output speed CLOSE**
	The possible values depend on the door drive unit.

P 4.3 - Freqency Inverter Functions - Increased Output Speed CLOSE > 2.5 m

You can only use the following functions if the door drive unit has a GfA frequency inverter or direct inverter (FI, FX or DU).

Increase / decrease output speed

You can change the output speed of a frequency inverter door drive unit. With P 4.3, you can further increase the output speed from a height of 2.5 m (96"). To do this, you must first set the switching position for the increased speed CLOSE with P 4.4.
When a safety device is triggered, the door moves at a reduced speed.

i NOTE

The adjustable values for P 4.1 to P 4.3 depend on the door drive unit. The values can be found in the section "Technical data" of the installation instructions for the door drive unit. The value is given in rpm of the output shaft.

4.3	**Increase/decrease the output speed CLOSE > 2.5 m (96")**
	The possible values depend on the door drive unit.

P 4.4 - Freqency Inverter Functions - Changeover Position for Increased Output Speed CLOSE > 2.5 m

You can only use the following functions if the door drive unit has a GfA frequency inverter or direct inverter (FI, FX or DU).

⚠ WARNING

Danger due to uncontrolled movements
During the setting, the safety devices on the door are without function.
- Lock the door for pedestrians and vehicles.

i NOTE

Move to the desired door position using the internal OPEN or CLOSE push button of the door control. Save the door position by pressing the STOP push button once.

4.4	**Changeover position for increased output speed CLOSE**
►.0.	Off
. 1	Changeover position active

P 4.5 - Freqency Inverter Functions - Acceleration OPEN

You can only use the following functions if the door drive unit has a GfA frequency inverter or direct inverter (FI, FX or DU).

With P 4.5 and P 4.6, you increase / decrease the time required for the door drive unit to accelerate to the set output speed (P 4.1 - P 4.3).

4.5	**Increase/decrease acceleration OPEN**
0.5-3.0	0.5 = Highest acceleration. 3.0 = Lowest acceleration (time in seconds).
►. 1.5	Factory setting: 1.5 seconds

P 4.6 - Freqency Inverter Functions - Acceleration CLOSE

You can only use the following functions if the door drive unit has a GfA frequency inverter or direct inverter (FI, FX or DU).

With P 4.5 and P 4.6, you increase / decrease the time required for the door drive unit to accelerate to the set output speed (P 4.1 - P 4.3).

4.6	**Increase/decrease acceleration CLOSE**
0.5-3.0	0.5 = Maximum acceleration. 3.0 = Lowest acceleration (time in seconds).
►. 1.5	Factory setting: 1.5 seconds

P 4.7 - Freqency Inverter Functions - Braking Deceleration OPEN

You can only use the following functions if the door drive unit has a GfA frequency inverter or direct inverter (FI, FX or DU).

With P 4.7 and P 4.8, you increase / decrease the time required for the door drive unit to brake to the set crawling speed (P 4.9).

4.7	**Increase / Decrease Braking Deceleration OPEN**
0.5 - 3.0	0.5 = Highest braking deceleration. 3.0 = Lowest braking deceleration (time in seconds).
► 1.5	Factory setting: 1.5 seconds

P 4.8 - Freqency Inverter Functions - Braking Deceleration CLOSE

You can only use the following functions if the door drive unit has a GfA frequency inverter or direct inverter (FI, FX or DU).

With P 4.7 and P 4.8, you increase / decrease the time required for the door drive unit to brake to the set crawling speed (P 4.9).

4.8	**Increase / Decrease Braking Deceleration CLOSE**
0.5 - 3.0	0.5 = Highest braking deceleration. 3.0 = Lowest braking deceleration (time in seconds).
► 1.5	Factory setting: 1.5 seconds

P 4.9 - Frequency Inverter Functions - Crawling Speed CLOSE

You can only use the following functions if the door drive unit has a GfA frequency inverter or direct inverter (FI, FX or DU).

With P 4.9, you increase / decrease the crawling speed step by step. The door drive unit travels at crawling speed shortly before reaching the final limit position in order to accurately approach the shut-off point of the final limit position.

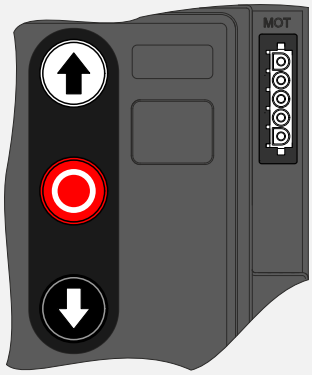
4.9	**Increase / decrease crawling speed CLOSE**
	The possible values depend on the door drive unit.

P 5.1 - Set switching position for relay K20

These parameters are used to set the door position at which relay K20 switches. To use a desired function, you must also set parameter P 5.6.

⚠ WARNING

Danger due to uncontrolled movements!
During the setting, the safety devices on the door are without function.
- Lock the door for pedestrians and vehicles.

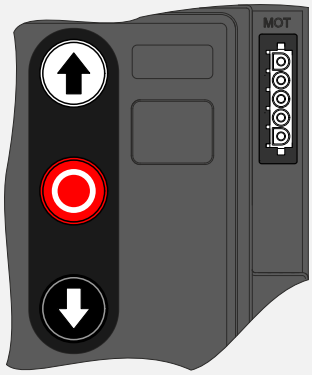
5. 1	**Set switching position for relay K20**
	• Move to the desired door position using the OPEN or CLOSE button. • Save the door position by pressing the STOP button once.

P 5.2 - Set switching position for relay K21

These parameters are used to set the door position at which relay K21 switches. To use a desired function, you must also set parameter P 5.7.

⚠ WARNING

Danger due to uncontrolled movements!
During the setting, the safety devices on the door are without function.
- Lock the door for pedestrians and vehicles.

5.2	**Set switching position for relay K21**
	• Move to the desired door position using the OPEN or CLOSE button. • Save the door position by pressing the STOP button once.

P 5.6 - Set switching function for relay K20

With P 5.6, you can set the switching function for relay K20.
The relay K20 has potential-free changeover contacts with a separate COM connection.

5.6	**Set switching functions of relay X20**
►.0	OFF
.1	Impulse for OPEN operation at the switching position for 1 second | Switching position requires teach-in with P 5.1.
.2	Permanent contact from switching position | Switching position requires teach-in with P 5.1.
.3	Red light: During door movement: Permanent contact | In final limit position OPEN / CLOSE: Flashes for 3 seconds
.4	Red light: During door movement: Permanent contact | In final limit position OPEN: Flashes for 3 seconds; In final limit position CLOSE: Off
.5	Flashing light: During door movement: Permanent contact | In final limit position OPEN / CLOSE: Lights up for 3 seconds
.6	Flashing light: During door movement: Permanent contact | In final limit position OPEN: Lights up 3 seconds; In final limit position CLOSE: Off
.7	Green light: Only in final limit position OPEN: Permanent contact (also used for dock leveller clearance)
.8	In final limit position CLOSE: permanent contact
.9	Light curtain blanking
10	Impulse of 1 second with OPEN command

5.6	Set switching functions of relay X20
1.1	Impulse when switching position is exceeded | Permanent contact when stopping in the switching position. Switching position requires teach-in with P 5.1
1.2	Brake control: Active during operation | Inactive at stop
1.3	Door position for smoke and heat extraction (SHE) | Signal contact must be connected.
1.4	Test light curtain | Test in upper final limit position before each CLOSE operation
1.5	Operating status display with a delay of 20 seconds
1.6	Operating status display
1.7	Activate charge management function. One wall-mounted charger can be connected per relay contact.
1.8	Door locking
1.9	Maintenance cycle counter message

Operating status display

If you set options 1.5 or 1.6, the relay contact switches in the case of a fault, power failure or continuous OPEN / STOP / CLOSE command. With these options, the relay contacts are permanently energised and de-energised when faults or power failures occur. An external device displays a status indication.

- Option 1.5: the status message is delayed by 20 seconds. When the fault disappears before the time has elapsed, the relay does not switch. There is no delay for faults 3.6, 5.6 and 5.7 or in the case of a power failure.
- Option 1.6: the relay switches without delay.

P 5.7 - Set switching function for relay K21

With P 5.7, you can set the switching function for relay K21.
The relay K21 has potential-free changeover contacts with a separate COM connection.

5.7	Set switching functions of relay X21
►.0	OFF
.1	Impulse for OPEN operation at the switching position for 1 second | Switching position requires teach-in with P 5.2.
.2	Permanent contact from switching position | Switching position requires teach-in with P 5.2.
.3	Red light: During door movement: Permanent contact | In final limit position OPEN / CLOSE: Flashes for 3 seconds
.4	Red light: During door movement: Permanent contact | In final limit position OPEN: Flashes for 3 seconds; In final limit position CLOSE: Off
.5	Flashing light: During door movement: Permanent contact | In final limit position OPEN / CLOSE: Lights up for 3 seconds
.6	Flashing light: During door movement: Permanent contact | In final limit position OPEN: Lights up 3 seconds; In final limit position CLOSE: Off
.7	Green light: Only in final limit position OPEN: Permanent contact (also used for dock leveller clearance)
.8	In final limit position CLOSE: permanent contact

5.7	**Set switching functions of relay X21**
.9	Light curtain blanking
10	Impulse of 1 second with OPEN command
11	Impulse when switching position is exceeded | Permanent contact when stopping in the switching position. Switching position requires teach-in with P 5.2
12	Brake control: Active during operation | Inactive at stop
13	Door position for smoke and heat extraction (SHE) | Signal contact must be connected.
14	Test light curtain | Test in upper final limit position before each CLOSE operation
15	Operating status display with a delay of 20 seconds
16	Operating status display
17	Activate charge management function. One wall-mounted charger can be connected per relay contact.
18	Door locking
19	Maintenance cycle counter message

P 6.1 - Select the traffic control

The traffic control modes enable the implementation of various traffic control requirements by means of traffic light control.

Dual-lane traffic

The dual-lane option is used when the door passage is wide enough for two vehicles to pass through the door at the same time. The traffic light indicates when the door is fully open. The traffic lights also indicate an imminent door movement in the CLOSE direction.

Single-lane traffic (with oncoming traffic)

The option "single lane traffic (with oncoming traffic)" is used when the door passage is only wide enough for one vehicle and it is necessary to regulate which side has right of way.

6.1	**Selecting the traffic control**
►.0	Off - the traffic lights are switched off
.1	Dual-lane traffic
.2	Single-lane traffic - Oncoming traffic without right of way
.3	Single-lane traffic - Oncoming traffic with right of way indoors
.4	Single-lane traffic - Oncoming traffic with right of way outdoors

i NOTE

Options ".1" to ".4" cannot be used with parameter 2.9, options ".2" and ".3" (control devices for intermediate open).

P 6.2 - Green phase extension

You can set a green phase extension between 3 and 90 seconds. The green phase extension can only be started when the door is open and the green lights are on. The time begins to run down when a CLOSE command is given or when a request from the opposite side is pending and the oncoming traffic control is set. During this time, the green lights remain on. The green phase extension is also used to activate the green light without automatic closing.

6.2	**Green phase extension**
►.0	Off
3 - 90	Extension of 3 to 90 seconds.

P 6.3 - Pre-warning time

The pre-warning time can be used to generate an additional warning effect before an impending closing movement. In this case, only the red lights flash at a frequency of 1 Hz. The adjustable pre-warning time is a maximum of 10 seconds and starts when the green phase ends.

6.3	**Pre-warning time**
►.0	Off
.1- 10	Pre-warning time from 1 to 10 seconds.

P 6.4 - Clearing time

The clearing time offers the possibility of blocking the door area for passage. The clearing time may be necessary for large door areas (e.g., ramp in front of the door). This allows vehicles to leave the door area before a new vehicle enters the area. The time starts when the green phase has expired or after the pre-warning time that has been set. During this time, the red lights remain on.

6.4	**Clearing time**
►.0	Off
.1- 10	Clearing time from 1 to 10 seconds.

P 6.5 - Traffic light properties in final limit position CLOSE

With the traffic light function activated, you can choose - depending on the requirements - whether the red lights are on when the door is closed.

6.5	**Traffic light properties in final limit position CLOSE**
►.0	Off
.1	Red lights inside are on.
.2	Red lights outside are on.
.3	Red lights inside and outside are on.

P 7.1 - Interlock function

With the interlock function, two doors communicate with each other to ensure that only one door is open at any given time during interlock operation.

To activate the interlock function, you must perform the following actions:

- Connect both doors to an interlock server.
- Activate the Modbus client on both doors using P 8.1.
- Teach in the interlock server on both doors using P 8.2.
- The interlock function option must be activated on both doors.

7.1	**Interlock function**
►.0	Off
.1	On

P 7.2 - Time period setting for automatic interlock

This function allows you to select a time between 1 and 10 seconds; once this time has elapsed after the door has closed, an OPEN command is sent to the second interlock door.

7.2	**Time period setting for automatic interlock**
►.0	Off
.1-10	1 to 10 seconds.

P 7.3 - Function input X9

With P 7.3, you can assign various functions to function input X9.

⚠ WARNING

SHE function: Danger due to movement of the door with deactivated protective devices!
When the SHE function is activated, all protective devices and control devices are deactivated. The door moves to the preset SHE door position regardless of its current position.

- The opening height for the SHE door position must be at least 2.5 m.
- Only use the door once the opening height has been set.

Smoke and heat extraction (SHE)

The door with this special input serves as a smoke and heat extraction (SHE) unit in accordance with the industrial building directive for facilities with an area of up to 1600 m². The opening height that is approached in case of an alarm is set using parameter P 1.7. Using parameters P 5.6 and P 5.7, the achieved door position for smoke and heat extraction can be signalled via a relay contact with option 1.3. If the signal contact of a fire alarm system is activated in the event of an alarm, the door moves to the SHE position regardless of the current position. The contact must remain active. Normal door operation is only possible again after it has been deactivated.

Door locking function

The option activates the door locking function when the lower final limit position is reached. Before this, the door locking mechanism option must be set to option "1.8" using P 5.6 - P 5.9. If option ".5" is selected, the contact signals the status back to the door control when the door leaf is locked. An OPEN command with the door locked first deactivates the lock. The door only opens after confirmation of gear release via the function input.

Deactivate the weekly timer

Use this option if a weekly timer is parameterised. The weekly timer can be deactivated using a key switch on the function input in order to interrupt the continuous OPEN command.

Deactivate automatic closing

You can deactivate the automatic closing parameterised under P 2.3 using a switch. The set time under P 2.4 remains unchanged.

7.3	**Parametrisation function input X9**
►.0	Off
.1	Deactivate automatic closing
.2	Deactivate the weekly timer
.3	SHE signal input for NO contact
.4	SHE signal input for NC contact
.5	Door locking function

P 7.4 - Function input X19

With P 7.4, you can assign various functions to function input X19.

⚠ WARNING

SHE function: Danger due to movement of the door with deactivated protective devices!
When the SHE function is activated, all protective devices and control devices are deactivated. The door moves to the preset SHE door position regardless of its current position.

- The opening height for the SHE door position must be at least 2.5 m.
- Only use the door once the opening height has been set.

Smoke and heat extraction (SHE)

The door with this special input serves as a smoke and heat extraction (SHE) unit in accordance with the industrial building directive for facilities with an area of up to 1600 m². The opening height that is approached in case of an alarm is set using parameter P 1.7. Using parameters P 5.6 and P 5.7, the achieved door position for smoke and heat extraction can be signalled via a relay contact with option "1.3". If the signal contact of a fire alarm system is activated in the event of an alarm, the door moves to the SHE position regardless of the current position. The contact must remain active. Normal door operation is only possible again after it has been deactivated.

Door locking function

The option activates the door locking function when the lower final limit position is reached. Before this, the door locking mechanism option must be set to option "1.8" using P 5.6 - P 5.9. If option ".5" is selected, the contact signals the status back to the door control when the door leaf is locked. An OPEN command with the door locked first deactivates the lock. The door only opens after confirmation of gear release via the function input.

Deactivate the weekly timer

Use this option if a weekly timer is parameterised. The weekly timer can be deactivated using a key switch on the function input in order to interrupt the continuous OPEN command.

Deactivate automatic closing

You can deactivate the automatic closing parameterised under P 2.3 using a switch. The set time under P 2.4 remains unchanged.

7.4	**Parametrisation of function input X19**
►.0	Off
.1	Deactivate automatic closing
.2	Deactivate the weekly timer
.3	SHE signal input for NO contact
.4	SHE signal input for NC contact
.5	Door locking function

P 7.5 - Select radio carrier frequency

This parameter allows you to select the carrier frequency of the radio receiver. This means that only handheld transmitters that use the same carrier frequency can be used.

⚠ WARNING

Danger due to corruption of the door control
The carrier frequency 433 MHz does not provide effective cybersecurity according to (EU) 2024/2847.

- Only use the carrier frequency for handheld transmitters that were placed on the European market before December 2027.
- Inform the user of the handheld transmitter about the lack of effective cybersecurity.

7.5	**Selection of the radio carrier frequency**
.1	868 MHz
►.2	433 MHz

P 7.6 - Select the manufacturer of radio transmitters

The integrated radio receiver is set to a manufacturer of radio transmitters via P 7.6.

i NOTE

- A combination of manufacturers of radio transmitters is possible.
- A maximum of 64 radio channels can be taught in.

⚠ WARNING

Danger due to insufficient minimum level of protection!
A manufacturer of radio transmitters is only activated if additional devices are installed that reduce the likelihood of people or obstacles coming into contact with the moving door.

7.6	**Selecting the manufacturer of radio transmitters**
►.0	Off
.1	868 MHz: (cybersecurity radio) GfA, Teleco
.2	-
.3	-
.4	433 MHz: (fixcode) GfA, Tedsen
.5	433 MHz: Teleco "COD1"
.6	433 MHz: GfA UK, JCM, Dickert, RDA (rolling code of various providers)

P 7.7 - Teach-in of handheld transmitters

The integrated radio receiver is set to a manufacturer of radio transmitters via P 7.6. You can teach in handheld transmitters using P 7.7 and delete them using P 7.8.

Teach-in of handheld transmitters

- After selecting the option, actuate the handheld transmitter to be taught in once within 10 seconds. If it is not activated, the parameter is automatically exited.
- After activating the handheld transmitter, the door control displays the handheld transmitter ID with which the handheld transmitter is stored.
- Make a note of the handheld transmitter ID along with the serial number of the handheld transmitter. This allows you to delete a specific handheld transmitter using parameter P 7.8 without deleting all handheld transmitters at the same time.
- The ID remains visible until the handheld transmitter has been activated twice. The parameter is then automatically exited.

7.7	**Teach-in of handheld transmitters**
►.0	Off
.1	Teach-in of a single-channel handheld transmitter.
.2	Teach-in of a dual-channel handheld transmitter.

P 7.8 - Delete handheld transmitters

Handheld transmitters that were taught in with P 7.7 can be deleted again using P 7.8.

NOTE

Option ".1" allows you to delete individual handheld transmitters. To do this, set the ID of the handheld transmitter using the selector switch. This allows you to delete handheld transmitters that you do not have access to.

7.8	**Delete handheld transmitters**
►.0	Off
.1	Deleting a taught-in handheld transmitter by entering the ID
.2	Deleting a taught-in handheld transmitter by actuating the handheld transmitter
.3	Deleting all taught-in handheld transmitters

P 8.1 - Activate the DIF interface (digital interface)

Use this function to activate or deactivate the DIF interface. Various modules can be connected to the DIF interface to extend the range of functions of the door control.

8.1	**Activate the DIF interface**
►.0	Off
.1	On

P 8.2 - Teach-in module

This parameter allows you to teach in different modules. To do this, the DIF interface must be activated (P 8.1). When the DIF interface is active, press the module's teach-in push button to carry out the teach-in.

8.2	**Teach-in module**
►.0	Off
.1	Teach-in activated

P 8.3 - Display module

This function allows you to display the taught-in modules. To do this, select an address and operate the selector switch. The taught-in server type is displayed flashing for 3 seconds. After that, the parameter is automatically exited.

8.3	**Display module**
. 1-32	Select the address you want to query. Confirm your choice by pressing the selector switch. The taught-in server type is displayed flashing for 3 seconds.

Door control display	**Server type**
► - . -	No sever taught in
0. 1	I/O server
0.2	Interlock server
0.3	Inductive loop server
0.4	Three push button command server
0.5	Key push button command server

P 8.4 - Delete module

This parameter allows you to delete individual modules or all modules. With P 8.3, you can display the address at which a module is stored.

8.4	**Delete module**
►.0	Off
. 1 - 32	Delete individual modules with addresses 1 to 32.
9.5	Delete all taught-in modules.

P 8.6 - Set the maintenance cycle counter

Use this parameter to set a reminder for the maintenance of the door. The maintenance cycle can be set between 1000 and 99000 cycles. The counter is always reduced by 1 when the door reaches the final limit position OPEN. When the counter reaches the value 0, the setting from P 8.8 is activated.

8.6	**Set the maintenance cycle counter**
►.0	Off.
.1-9.9	On. Countdown from .1 = 1000 cycles to 9.9 = 99000 cycles

P 8.7 - Read/reset maintenance cycle counter

You can read or reset the maintenance cycle counter.

8.7	**Read/reset the maintenance cycle counter**						
	After selecting the parameter, the display changes 7 times to show 7 digits. The left side of the display shows a symbol for the currently displayed position of the activation counter. The right side shows the value at this point. The example below shows 1234 cycles.						
	'.0	⌜.0	⌝.0	⁹.1	P.2	E.3	8.4
	0	0	0	1	2	3	4

P 8.8 - Reaction after the maintenance cycle counter has elapsed

This parameter allows you to set the reaction when the maintenance cycle counter reaches zero.

8.8	**Reaction after the maintenance cycle counter has elapsed**
►.1	The display shows C.S alternating with the set value of P 8.6.
.2	Operating mode changes to hold-to-run mode. The display C.S. appears alternating with the set value of P 8.6.
.3	Operating mode changes to hold-to-run mode. The display C.S. appears alternating with the set value of P 8.6. Option: Press the STOP push button for 3 seconds to ignore the message for 500 cycles.
.4	The display shows "CS" and a value, relay contacts K20, K21 and K23 switch by means of option "1.9".

P 9.1 - Read out cycle counter

You can read out the cycle counter of the door control. The counter always increases by 1 when the door reaches the final limit position OPEN. The status of the cycle counter cannot be reset.

9.1	**Read out cycle counter**						
	After selecting the parameter, the display changes 7 times to show 7 digits. The left side of the display shows a symbol for the currently displayed position of the activation counter. The right side shows the value at this point. The example below shows 1234 cycles.						
	1.0	0.0	0.0	0.1	0.2	0.3	0.4
	0	0	0	1	2	3	4

P 9.2 - Read out fault indications

Use P 9.2 to read out the last 6 fault indications of the door control. The display changes and displays the last 6 fault indications. "F.c" is displayed first, followed by the fault indication number. The first fault indication displayed is the most recent.

9.2	**Read out fault indications**
	Displays the last 6 faults.

i NOTE

A fault that occurs several times in succession is only stored once, unless another fault occurs in the meantime.

P 9.3 - Read out cycle counter since last parameter change

This parameter shows you the number of cycles that the door has completed since the last parameter change. The counter always increases by 1 when the door reaches the final limit position OPEN. After you have selected the parameter, the display changes 7 times.

9.3	**Read out cycle counter since last parameter change**						
	After selecting the parameter, the display changes 7 times to show 7 digits. The left side of the display shows a symbol for the currently displayed position of the activation counter. The right side shows the value at this point. The example below shows 959000 cycles.						
	1.0	0.9	0.5	0.9	0.0	0.0	0.0
	0	9	5	9	0	0	0

P 9.4 - Read out software version

This function shows you the software version of all microcontrollers of the door control. Additionally, the software version of the motor is displayed for drive units with frequency inverters.

9.4	**Read out software version**
	The display changes and displays the index and the iteration status of the software version.
►.1	Communications controller
.2	Control unit
.3	Load controller
.4	Radio controller (if available)
.5	WSD controller (if available)
.6	LTE / NB modem controller (if available)
.7	Frequency inverter controller (if available)

P 9.5 - Delete parameters / reset to factory setting

Option ".1" clears all set parameters and resets the door control to the factory setting.

9.5	**Delete parameters / reset to factory setting**
.0	Off
.1	Press the OPEN push button to switch between the options. Reset all parameters to the factory setting. Safety edges, pull-in protection, light curtain and door positions are not reset. Cycle counters are not reset. Confirm your choice by pressing the STOP push-button for 3 seconds.
.2	Press the OPEN push button to switch between the options. Reset everything to the factory setting. Cycle counters are not reset. Confirm your choice by pressing the STOP push-button for 3 seconds.

P 9.6 - WSD door module information

This function is only active with a taught-in WSD door module.

NOTE

The status of information is displayed as 0.0 = inactive and 0.1 = active. If certain information is unavailable, -.-. is displayed

9.6	**WSD door-module data**
.1	Display of the master radio module version status
.2	Type of safety edge: • 0.0 = none • 0.1 = pneumatic safety edge • 0.2 = electrical safety edge • 0.3 = optical safety edge • 0.4 = light curtain with OSE interface
.3	Door safety switch: • 0.0 = inactive • 0.1 = active
.4	Battery voltage [V]
.5	Assigned / selected communication channel
.6	Signal quality ranging from 0.0 % - 9.9 %

P 9.7 - Activation counter for safety devices

This function shows you the number of times the safety devices have been activated during the entire service life of the door control. After you have selected an option, the display changes 7 times.

9.7	**Activation counter for safety devices**						
	After selecting the parameter, the display changes 7 times to show 7 digits. The left side of the display shows a symbol for the currently displayed position of the activation counter. The right side shows the value at this point. The example below shows 1234 cycles.						
	1.0	10.0	100.0	1000.1	1000.2	1000.3	1000.4
	0	0	0	1	2	3	4
►.1	Slack-rope, pass-door or crash switch						
.2	Photocell						
.3	Safety edge						
.4	Pull-in protection						

P 9.9 - Display / change access code

This parameter can only be set via the evodo Toolkit app.

9.9	**Access code**			
	The display alternates between four elements: first the symbol c.1 for the first two digits of the access code, followed by the corresponding value. Then the symbol c.2 for the last two digits of the access code, followed by the corresponding value. The example below shows the access code 1234.			
	c. 1	12	c.2	34
►. 1	Access code display			
.2	Changing the access code			

P 10.1 - Display UTC system time

This parameter can only be set via the evodo Toolkit app.

This function allows you to display the UTC system time (Universal Time Coordinated).

i NOTE

The UTC system time is changed by adopting the UTC system time of the mobile device.

P 10.2 - Update UTC system time

This parameter can only be set via the evodo Toolkit app.

This function allows you to update the UTC system time (Universal Time Coordinated) of the door control. If you had to replace the battery of the door control, you can set the current time using this parameter. Information on replacement is included with the replacement battery.

i NOTE

When changing the UTC system time, the UTC system time of the mobile device is adopted.

P 10.3 - Set time zones

This parameter can only be set via the evodo Toolkit app.

This function adjusts the UTC system time (Universal Time Coordinated) of the door control to the corresponding time zone.

P 10.4 - Set summer time - standard time changeover

This parameter can only be set via the evodo Toolkit app.

This function allows you to automatically adjust the time display of the door control using the summer time - standard time changeover function.

P 11.1 - 11.9 - Weekly timer

This parameter can only be set via the evodo Toolkit app.

This function provides you with a weekly timer. A day starts at 00:00 and ends at 23:59. The open position is maintained by continuous OPEN commands, which take precedence if a two-way traffic light system is also installed. During a continuous OPEN command, it is not possible to close the door. Therefore, a key switch must be connected to the terminals X9 / X19 and the option .2 "Disable weekly timer" of the parameter P 7.3 or P 7.4 must be parameterised in order to be able to close the door if necessary. The energy-saving function reduces energy consumption to a minimum by switching off all internal and external loads. Only the internal control device remains active, which allows you to open the door during energy-saving mode if necessary.

P 11.1 - Weekly timer - Schedule for Monday

P 11.2 - Weekly timer - Schedule for Tuesday

P 11.3 - Weekly timer - Schedule for Wednesday

P 11.4 - Weekly timer - Schedule for Thursday

P 11.5 - Weekly timer - Schedule for Friday

P 11.6 - Weekly timer - Schedule for Saturday

P 11.7 - Weekly timer - Schedule for Sunday

P 11.8 - Weekly timer - Schedule for Monday to Friday

P 11.1 - 11.9 Monday to Sunday weekly timer

P 12.1 - Operations calendar

This parameter can only be set via the evodo Toolkit app.

This function allows you to maintain an operations calendar that includes holidays or public holidays on which the business is closed. The operations calendar allows the weekly timer to be deactivated while the energy-saving function remains active.

P 21.1 - WLAN

This parameter can only be set via the evodo Toolkit app.

This function allows you to activate and deactivate the Wi-Fi functionality of the door control.

HTTP server

Activating the WLAN also activates the HTTP server of the door control. This provides an information website for a browser that can be accessed on a mobile device or PC. All door control data is available on this information website. The required IP address can be found in the DHCP server. Use the DHCP IP reservation to assign a static IP address to the door control so that it retains the same address after a restart.
Example IP address: 192.168.0.0
Visit the website: https://192.168.0.0/Info

P 21.2 - WLAN SSID

This parameter can only be set via the evodo Toolkit app.

This function allows you to set the WLAN SSID (Service Set Identifier) for the door control.

⚠ WARNING

Danger due to corruption of the door control
The operators of the WLAN network at the installation site are responsible for the security and protection of the data transmitted via the network. If the door control is installed in an inadequately secured network environment, there is a risk that unauthorised persons could manipulate the door control. Settings can be changed. Unauthorised persons may, for example, gain access to the building.

- Take measures to ensure the cybersecurity of the network. In the section Security / Cybersecurity, you will find advice on improving cybersecurity.

P 21.3 - WLAN password

This parameter can only be set via the evodo Toolkit app.

This function allows you to save the WLAN password with up to 30 characters.

P 21.4 - Select web service

This parameter can only be set via the evodo Toolkit app.

This function allows you to select the web service of the web server.

evodo Hub web service

The web service automatically logs the door's status indications. The messages are sent to the evodo Hub server. Logging requires a valid evodo account linked to the door control and, where applicable, a corresponding communication permission in the firewall. For more information, see www.evodo.eu.

P 21.5 - Web server name

This parameter can only be set via the evodo Toolkit app.

This function allows you to assign a freely selectable name of up to 30 characters to the web server.

i NOTE

If no name is assigned, the IP address is used as the name.

11 Maintenance

⚠ WARNING

Danger to life from electric shock!
Improper maintenance may result in fatal injury from electrical current.
- Disconnect all cables from the power supply.
- Only allow competent personnel or electricians to carry out the maintenance.
- Secure the mains disconnector against being switched on or plugged in again.

The electronic components of the door control are maintenance-free. Carry out the following maintenance operations at least once a year:

Component	Procedure
Housing	Use a dry cloth to remove dust and light dirt.
Connecting cables	Check the connecting cables for firm seating and possible damage (e.g. to the insulation). Replace damaged cables.
Fasteners	Check the fasteners for firm seating and damage. Replace damaged parts.
Gaskets	Replace any porous gaskets.
Cable glands	Check the cable glands for firm seating and leak-tightness. Replace damaged cable glands.

12 Emergency operation

⚠ WARNING

Danger from uncontrolled movements or falling parts!
When emergency operation is activated automatically, safety devices are occupied or defective. People or objects in the path are not detected.
- Block the door to pedestrians and vehicles.
- Ensure a clear view of the door from the operator's location.
- Only competent personnel may operate the door.

In the event of a defect or continuous activation of a safety device, emergency operation is activated automatically. In emergency operation, the door behaves as in the hold-to-run operating mode. In addition, the door movements are delayed by 3 seconds. This makes the user aware of the display of the corresponding fault indication on the door control display.

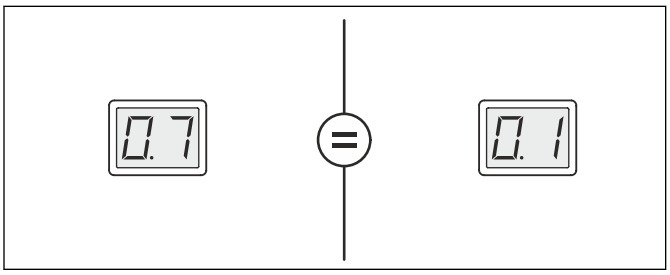
Activate emergency operation manually

Emergency operation can be activated manually via P 0.7. It enables the slack-rope / pass-door circuit to be bypassed when faults occur. This allows the door to be moved to a position required for repair.

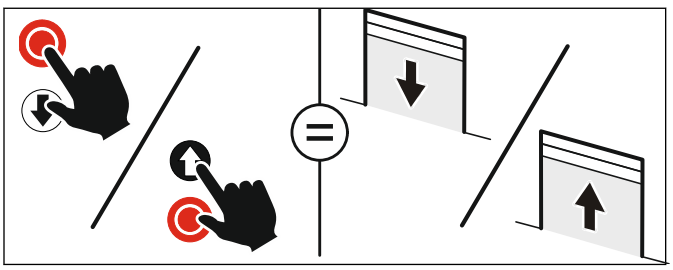
⚠ WARNING

Danger from uncontrolled movements or falling parts!
In emergency operation, the slack-rope / pass-door circuit is bridged. People in the closing area may be injured.
- Check the door for damage beforehand.
- Block the door to pedestrians and vehicles.
- Ensure a clear view of the door from the operator's location.
- Only trained persons may operate the door.

- For parameter "0.7", select option "0.1".
- Emergency operation is then active until the parameter is exited.



Move door:
- Press the OPEN or CLOSE button in addition to the STOP button.
- The door can now be moved in hold-to-run mode.



13 Fault correction

Door control is off / display is dark

	Possible causes	Fault correction
Display is dark / door control is without function	No input function	• Measure the input voltage.
	Overload	• Check whether too many electrical loads are connected to the control circuit (24 V).
	Short circuit	• Check whether a faulty device is connected to the control circuit (24 V).
	Water damage	• Check if water has entered the control box.
	A different defect	• Disconnect all lines (delivery status). • Replace the door control if the display stays dark.
	Update in progress	• Wait until the update is complete. Do not disconnect the door control from the power supply. Do not interrupt the Bluetooth connection.

Fault in the safety circuit

	Cause of the fault	Fault correction
F.c	Display alternates between "F.c" and a digit	
1.1	Slack-rope switch is open. Door safety circuit not closed.	• Check the connecting cables for breaks. • Check that the spiral cable or WSD door module is connected correctly. If neither is present, insert the enclosed substitute resistor. • Check that the ropes are taut. • Check the DIP switch position in the door section box. • Measure the slack-rope switch.
1.2	pass-door contact is open.	• Check whether the pass door is closed. • Check the connecting cables for breaks. • Check that the spiral cable or WSD door module is connected correctly. • Check the DIP switch position in the door section box. • Measure the pass door contact.
1.3	Safety circuit is open. Emergency manual operation is activated. Thermal protection of the motor has tripped. The restart protection has tripped.	• Check the door drive unit for overload or stalling WARNING! Danger of the door dropping! Do not release stalling when using a door drive unit with a safety brake! Stalling may indicate a catch incident. Replace the door drive unit. • Allow the door drive unit to cool. • Check manual emergency operation. • Check plugs and terminals for firm seating. • Doors with separate safety brake: check the safety brakes.
1.4	The emergency stop button is pressed.	• Check Emergency stop switch. • Check connection cable for disconnection.

	Cause of the fault	Fault correction
15	The crash switch was activated, is defective or not programmed	• Check the door section for impact damage. • Check the crash switch. • Check the setting of menu item 3.4. • To reset the fault, press the STOP push button and hold for 3 seconds.
16	WSD - No signal from the safety device WSD is active: safety edge / pass door switch activated or defective.	• Observe the following fault indications: safety edge / pass door switch activated or defective. • Radio channel assigned twice: Use P 9.6 to read out the radio channel. Use P 2.0 to manually assign the radio channels. • Moisture in WSD door module: Replace WSD door module and use a splash guard (accessory). • Obstacle between WSD door module and door control: Adapt the fitting configuration or use a spiral cable. • Battery voltage is too low: Read out the voltage using P 9.6 and replace the battery if it is less than 3.2 V. • Red LED in WSD door module: Press P1 push button. Flashing: Faulty radio connection Lit: Radio connection OK • Follow the instructions for the WSD door module
17	Slack-rope / or pass-door contact is faulty.	• Open and close the pass door. Check the pass door installation. • Set the switching distance to <4 mm. • Check the DIP switch position in the door section box. • Check the resistance and wiring of the spiral cable. • Check the control voltage for overload.
18	Line cross-circuit in the slack-rope / pass-door circuit	• Check the DIP switch position in the door section box. • Check whether the 5K0 resistor is installed in the door leaf box. • Check whether the 5K0 resistor in the door section box is connected in series. • Check the wiring of the spiral cable.

Faults of safety devices

	Cause of the fault	Fault correction
F.c	Display alternates between "F.c" and a digit	
2.0	No safety edge detected.	• Check the wiring and condition of the safety edge. • Check the DIP switch position in the door section box. • Check the condition of the safety edge visually and electrically.
2. 1	Photocell activated.	• Status indication: The photocell has been interrupted. No further action required.
2.2	Photocell is permanently activated or defective	• Check the condition and alignment of the photocell. • Remove obstacles from door area. • Clean the photocell and the reflector. • Check the connection cable for breaks. • Replace photocell if necessary.
2.3	Reversal of the door movement by touching the safety edge or light curtain	• Status indication: Activation of safety edge / light curtain. No further action required.
2.4	Safety edge 8k2 is activated.	• Check the safety edge and door leaf boxes for water damage. • Check the safety edge visually and electrically.
2.5	Safety edge 8k2 is faulty.	• Measure the spiral cable and the safety edge electrically. • Check all connection points and pin-and-socket connectors for firm seating.
2.6	Safety edge 1k2 is activated.	• Check the pressure-wave switch. • Check the sensitivity setting of the pressure-wave switch. • Check the spiral cable for mechanical damage and measure it electrically. • Check all connection points and pin-and-socket connectors for firm seating.
2.7	Safety edge 1k2 is defective.	• Measure the spiral cable electrically. • Check the safety edge and door leaf boxes for water damage.
2.8	Safety edge 1k2 - testing is negative.	• Check the setting of the pre-limit. • Check the pressure-wave switch. • Check the safety edge for damage. • Check whether the safety edge is compressed in final limit position CLOSE.
2.9	The optical safety edge is actuated or faulty.	• Check whether the rubber profile is squashed. • Check the transmitter and receiver by replacing them. • Check alignment and mechanics. • Check the safety edge and door leaf boxes for water damage.

Fault at limit switch

	Cause of the fault	Fault correction
F.c	Display alternates between "F.c" and a digit	
3.0	Light curtain is permanently activated	• Remove obstacles from door area. • Correct the alignment of the light curtain. • Clean the optics of the light curtain.
3. 1	Testing of the light curtain failed. The light curtain is incorrectly wired, incompatible or defective	• Check the wiring of the light curtain. • Check function of light curtain.
3.3	The emergency limit switch range OPEN has been reached.	• Check whether the drive unit was moved into the emergency limit switch range with the emergency manual operation. • Check whether the overrun of the drive unit is too long.
3.4	The emergency limit switch range CLOSE has been reached.	• Check whether the drive unit was moved into the emergency limit switch range with the emergency manual operation. • Check whether the overrun of the drive unit is too long.
3.5	No limit switch detected. (Note: active at initial operation)	• Check the connection cable visually and electrically. • Check all plugs for firm seating.

Internal faults of the TS /force monitoring /pull-in protection

	Cause of the fault	Fault correction
F.c	Display alternates between "F.c" and a digit	
3.7	Internal plausibility error.	• Turn the door control off and on. • Contact the service department if the fault occurs repeatedly.
3.8	The temperature in the door control is too high.	• Measure the ambient temperature and compare it with the permitted temperature range of the door control. • Cool the door control by shutting it down.
4.1	Force monitoring triggered.	• Check the door mechanism for damage. • Check whether a wind load acts on the door. • Check the spring tension.
4.2	Pull-in protection channel 1 activated or defective	• Check the pull-in protection visually and electrically. • Check all connection points and pin-and-socket connectors for firm seating.
4.3	Pull-in protection channel 2 activated or defective	• Check the pull-in protection visually and electrically. • Check all connection points and pin-and-socket connectors for firm seating.
4.4	Pull-in protection channel 3 activated or defective	• Check the pull-in protection visually and electrically. • Check all connection points and pin-and-socket connectors for firm seating.
4.6	Maximum reversing number reached by activation of the safety edge.	• Remove obstacles from door area. • Correct the alignment of the light curtain. • Clean the optics of the light curtain.
4.7	The voltage of the batteries in the WSD door module is too low The battery voltage is below 3.2 V.	• Replace the batteries of the WSD door module. • Check if the battery is passivated. Depassivate the battery. Follow the assembly instructions for the WSD door module.
5.0	Parameterisation fault - no setting for SHE position	• Check P 1.7; P 5.6 / P 5.7 and P 7.3 / P 7.4
5.1	Processor fault	• Switch the door control off and on. • Replace the door control if necessary.
5.2	Overload 24 V	• Check whether too many electrical loads are connected to the control circuit (24 V). • Check whether a faulty device is connected to the control circuit (24 V).
5.3	ESP communication fault	• Switch the door control off and on. • Replace the door control if necessary.
5.4	Internal fault. Fault 3.7 was detected five times in a row.	• See fault 3.7. • Switch the door control off and on. • Replace the door control if necessary.

Fault of door movement

	Cause of the fault	Fault correction
F.c	Display alternates between "F.c" and a digit	
5. 5	Fault of digital limit switch (DES).	• Check the limit switch plug for firm seating. • Check the connection cable visually for damage. • Check the limit switch by replacing it with a properly functioning DES.
5. 6	Fault in door movement. The door mechanism is stiff or blocked.	• Check door drive unit for stalling. **WARNING! Danger of the door dropping! Do not release stalling when using a door drive unit with a safety brake! Stalling may indicate a case of catching. Replace the door drive unit.** • Check the door mechanism for damage.
	The final limit position OPEN/CLOSE is not reached.	• Check final limit position OPEN/CLOSE. When the door hits a cushion, then correct the final limit position.
	A supply phase is missing.	• Check the mains supply of the door control. Establish the correct power supply.
	Brake does not release.	• Check the brake and rectifier.
	The limit switch is not driven.	• Check the limit switch turn while the door is moving.
	Only for FI drive: frequency inverter is not detected.	• Check and correct the voltage supply of the door control. • For single-phase FI drives: Check neutral on the mains supply. Check the transformer bridge at the mains supply of the door control.
5. 7	The rotating field of the supply network has changed.	• Establish a clockwise rotating field at the mains supply.
5. 8	Incorrect door movement from idle state.	• Drive units with brake release: Check whether the brake release lever has been activated. **Warning! Danger of the door dropping! Only skilled personnel may operate the brake release. Follow the instructions for the drive unit.** • Drive units with gear release: Check whether the gearbox is released and the door has been moved by hand. Engage the gearbox and switch the door control off and on. • Drive units with magnetic brake: brake without function. Check whether the brake is supplied with voltage.
5. 9	The door drive unit does not follow the given travel direction.	• The brake does not hold the door: check the brake and rectifier for defects, wear or moisture damage. • Measure the voltage at the motor plug and check its firm seating. Check the screws on the motor connection.

Fault on the frequency converter

These fault indications appear only for door drive units with a GfA frequency inverter and a direct inverter (FI, FX, DU).

	Cause of the fault	Fault correction
F.c	Display alternates between "F.c" and a digit	
6.1	The closing speed is too high.	• Check the door mechanism for stiffness. • Only for doors with counter-balancing: check for spring fracture. • Replace door drive unit if necessary.
6.2	Internal communication fault of frequency inverter.	• Replace door drive unit if necessary. • Check connection cable to limit switch. • Check the connection cable and the plug for firm seating. • Replace door drive unit if necessary.
6.3	Low voltage in the DC link.	• Measure the voltage during door movement. • Check mains supply. • Change ramp times / speeds (P 4.1 - P 4.9).
6.4	Excess voltage in DC voltage link.	• Measure the voltage during door movement. • Check mains supply. • Change ramp times / speeds (P 4.1 - P 4.9).
6.5	Temperature limit exceeded.	• Door drive unit overloaded. • Check for excessive ambient temperature. • Allow door drive unit to cool and reduce number of cycles.
6.6	Permanent current overload.	• Door drive unit overloaded. • Check the door mechanism for stiffness.
6.7	Fault of brake / frequency inverter	• Check the brake. • Replace door drive unit if necessary.
6.9	Collective indication for frequency inverter	• Switch the door control off and on. • Replace door drive unit if necessary.

Fault with control push buttons

	Cause of the fault	Fault correction
F.c	Display alternates between "F.c" and a digit	
7.1	Defective OPEN push button	• Check all connected control devices and the integrated OPEN push button for stalling (e.g. by jamming) or short circuit.
7.2	Defective CLOSE push button	• Check all connected control devices and the integrated CLOSE push button for stalling (e.g. by jamming) or short circuit.
7.3	Defective stop push button	• Check all connected control devices and the integrated STOP push button for stalling (e.g. by jamming) or short circuit.

Faults when setting the final limit positions

	Cause of the fault	Fault correction
F.c	Display alternates between "F.c" and a digit	
8.1	When setting the final limit positions, the travel distance was smaller than the smallest possible.	• When resetting the final limit positions, move the door for at least one second before storing the position. • Reset door control to factory setting (P 9.5). Notice! All settings will be lost!
8.2	Final limit position approached from the wrong direction	• During setup, the OPEN final limit position was approached from the operating direction CLOSE.

14 Disposal

Dispose of packaging

Dispose of the packaging material properly according to the local legal regulations or recycle it.

Dispose of old devices

Dispose of old devices properly according to local legal regulations. Return old devices to the return and collection systems available. You can also return GfA products free of charge. Please apply enough postage to the package and mark it as "old devices".

i NOTE

Old devices marked with the adjacent symbol must not be disposed of with unsorted municipal waste.

15 Disassembly - replacement of the door control

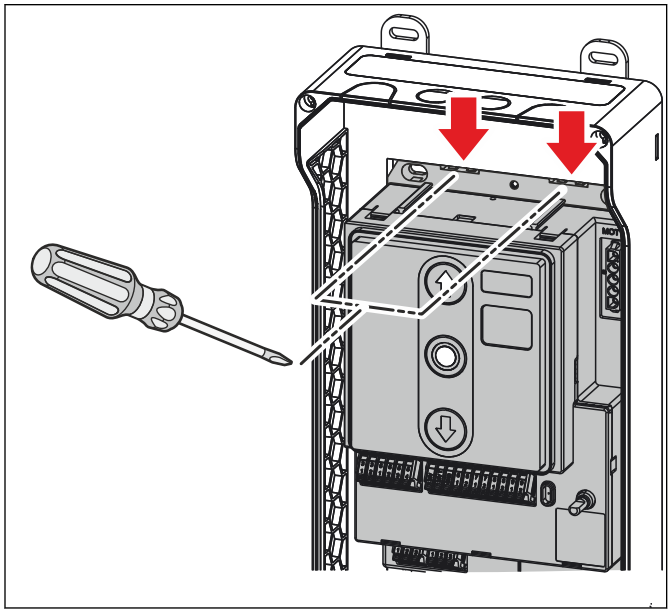
The control unit of the TS-C can be replaced without dismantling the housing. Repairs to the control unit may only be carried out by GfA ELEKTROMATEN GmbH. Contact our service department to request a repair at gfa-service@gfa-elektromaten.de.

⚠ WARNING

Danger to life from electric shock!
Improper wiring may result in severe or fatal injury from electrical current.
- Allow only qualified electricians to carry out the work.
- Disconnect all cables from the power supply.
- Secure the mains disconnector against plugging in or switching on again.
- Observe valid regulations and standards.
- Use suitable tools.

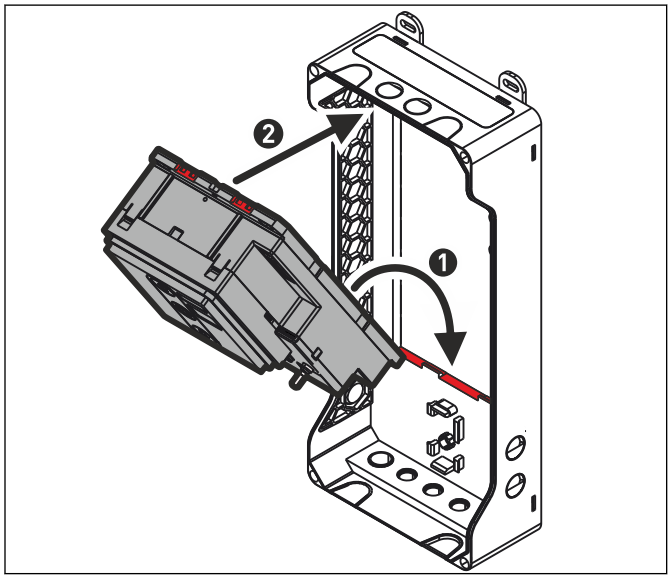
Remove control unit

- Open the housing cover of the door control.
- There are two openings above the control unit. Insert a screwdriver into these openings and carefully lever downwards to release the control unit.



Reinsert control unit

1. Hook the control unit into the housing with the underside.
2. Tilt the control unit upwards until it engages.



16 Declarations of conformity

Declaration of Incorporation
pursuant to Machinery Directive 2006/42/EC
for partly completed machinery, Appendix II Part B

Declaration of Conformity
pursuant to EMC Directive 2014/30/EU
in terms of the RoHS Directive 2011/65 / EU
pursuant to RED Directive (2022/30/EC)

GfA ELEKTROMATEN GmbH & Co. KG
Wiesenstraße 81 · 40549 Düsseldorf
Germany

We,
GfA ELEKTROMATEN GmbH & Co. KG
declare under our sole responsibility that the following product complies with the above directives and is only intended for installation in a door.

Door control
TS-C

We undertake to provide the supervisory authorities with specific documentation relating to partly completed machinery upon justified request.

This product must only be put into operation when it has been determined that the complete machine/system in which it has been installed complies with the provisions of the above-mentioned directives.

The signatory is the authorised representative for compiling technical documents.

Düsseldorf, 12/01/2025

Stephan Kleine
Managing Director

Signature

The following requirements from Appendix I of the Machinery Directive 2006/42/EC are met:
1.1.2, 1.1.3, 1.1.5, 1.2.2, 1.2.3, 1.2.6, 1.3.2, 1.3.3,1.3.9, 1.5.1, 1.5.2, 1.5.4, 1.5.6, 1.5.7, 1.5.8, 1.5.9, 1.5.10, 1.5.11,1.5.13, 1.6.1, 1.6.2, 1.6.4, 1.7.2, 1.7.3, 1.7.4.3.

Applied standards:

- EN 300328-2:2017
- EN 12453:2017+A1:2021
- EN 12978:2003+A1:2009
- EN 60335-2-103:2015
- EN 61000-6-2:2005
- EN 61000-6-3:2007

Declaration of incorporation
within the meaning of Supply of Machinery (Safety) Regulations 2008
for partly completed machinery, Appendix II Part B

Declaration of conformity
within the meaning of Electromagnetic Compatibility Regulations 2016
within the meaning of Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012
within the meaning of Radio Equipment Regulations 2017

We,
GfA ELEKTROMATEN GmbH & Co. KG
declare under our sole responsibility that the following product complies with the above directives and is only intended for installation in a door system.

Door control
TS-C

We undertake to transmit in response to a reasoned request by the appropriate regulatory authorities the special documents on the partly completed machinery.

This product must only be put into operation when it has been determined that the complete machine / system in which it has been installed complies with the provisions of the above-mentioned directives.

Authorised representative:
Andrew Collett
GfA ELEKTROMATEN UK Ltd
Tournament Fields Business Park,
Agincourt Rd,
Warwick CV34 6XZ

Düsseldorf, 12/01/2025

Stephan Kleine
CEO

Signature

The following requirements from Appendix I of the Supply Machinery (Safety) Regulations 2008 are met:
1.1.2, 1.1.3, 1.1.5, 1.2.2, 1.2.3,1.2.6, 1.3.2, 1.3.3, 1.3.9, 1.5.1, 1.5.2, 1.5.4, 1.5.6, 1.5.7, 1.5.8, 1.5.9,1.5.10, 1.5.11, 1.5.13, 1.6.1, 1.6.2, 1.6.4, 1.7.2, 1.7.3, 1.7.4.3.

Applied Standards:

- BS EN 12453:2022
- BS EN 12978:2025
- BS EN 60335-2-103:2015
- BS EN 61000-6-2:2005
- BS EN 61000-6-3:2007
- BS EN 300328-2:2017