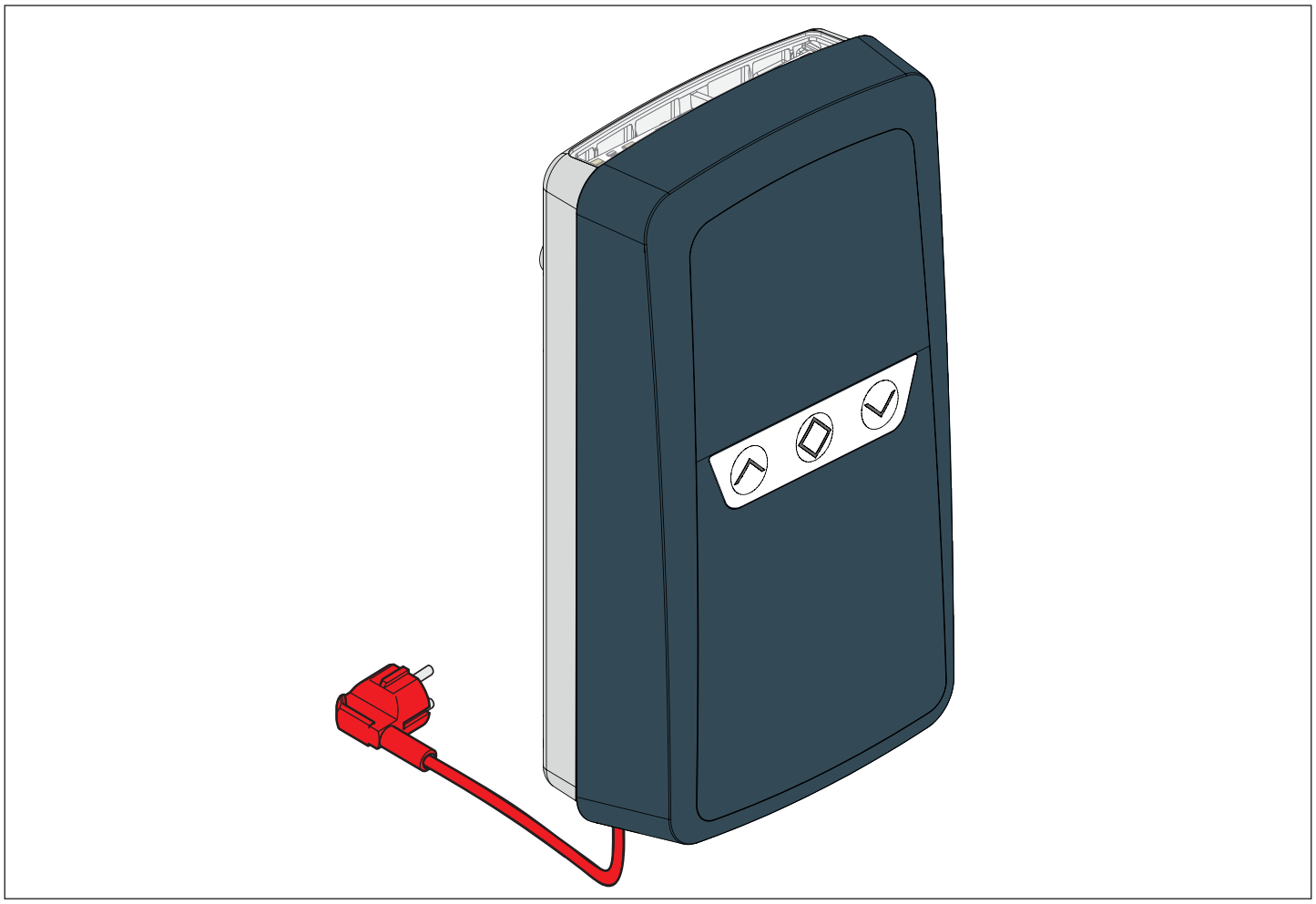
SOMMER



EN TRANSLATION OF THE ORIGINAL INSTALLATION AND OPERATING MANUAL

Roller door control unit

RDC Vision+

Download the current manual:

TÜV NORD CERT GmbH Baumuster geprüft

S11707-00001_232019_0-DRE_Rev-A_EN

Information on the product:
Serial No.: See the title page of the installation and operating manual (if applicable warranty label).

Year of manufacture: from 03.2019

Information on the Installation and Operating Manual
Version of the installation and operating manual:
S11707-00001_232019_0-DRE_Rev-A_EN

Warranty
The warranty complies with statutory requirements. The contact person for warranties is the qualified dealer. The warranty is only valid in the country in which the operator was purchased. There is no warranty for consumables such as batteries, accumulators and safety products or light bulbs. This also applies for wear parts.

Contact data
If you require after-sales service, spare parts or accessories, please contact your specialist retailer, your installer or contact:

SOMMER Antriebs- und Funktechnik GmbH
Hans-Böckler-Str. 21–27
D-73230 Kirchheim/Teck

www.sommer.eu
info@sommer.eu

Feedback on this Installation and Operating Manual
We have tried to make the Installation and Operating Manual as easy as possible to follow. If you have any suggestions as to how we could improve it or if you think more information is needed, please send your suggestions to us:


+49 (0) 7021 8001-403


doku@sommer.eu

Service
If you require service, please contact us on our service hotline (fee required) or see our web site:


+49 (0) 900 1800-150

(0.14 euros/minute from land line telephones in Germany, mobile prices may vary)

www.sommer.eu/de/kundendienst.html

Table of contents

1. About this Installation and Operating Manual

1.1 Storage and circulation of the Installation and Operating Manual

Read this Installation and Operating Manual carefully and completely before installation, commissioning and operation and also before removal. Follow all warnings and safety instructions.

Keep this Installation and Operating Manual accessible at all times at the place of use.

A replacement for the installation and operating manual can be downloaded from **SOMMER Antriebs- und Funktechnik GmbH** at:
www.sommer.eu

During the transfer or resale of the operator to third parties, the following documents must be passed on to the new user:

- this installation and operating manual
- documents recording retrofitting and repairs
- proof of regular care, maintenance and testing
- Declaration of Conformity and Handover Report

1.2 Important for translations

This original Installation and Operating Manual was written in German. The other available languages are translations of the German version. You can get the original Installation and Operating Manual by scanning the QR code:

http://som4.me/orig-rdcvision-plus-reva

For other language versions, see:

www.sommer.eu

1.3 Description of the product type

This product is a control unit for motor-operated roller doors. It has been constructed according to state-of-the-art technology and recognised technical regulations.

1.4 Target groups of the Installation and Operating Manual

The installation and operating manual must be read and observed by everyone assigned with one of the following tasks or using the device:

- Installation
- Initial operation
- Settings
- Usage
- Care and maintenance
- Testing
- Troubleshooting
- Disassembly and disposal

1.5 Explanation of warning symbols and notes

The warnings in this installation and operating manual are structured as follows.

Hazard symbol

⚠ Signal word

Type and source of hazard
Consequences of the hazard
► Preventing/avoiding the hazard

The hazard symbol indicates the hazard. The signal word is linked to a hazard symbol. The hazard is classified into three classes depending on its danger level:

DANGER

WARNING

CAUTION

There are three different classifications of hazards.

⚠ DANGER

Describes an immediate danger that may lead to serious injury or death
Describes the consequences of the danger to you or other persons.
► Preventing/avoiding the hazard

1. About this Installation and Operating Manual

⚠ WARNING

Describes a potential danger that may lead to serious injury or death
Describes the consequences of the danger to you or other persons.
► Preventing/avoiding the hazard

⚠ CAUTION

Describes a potentially dangerous situation
Describes the possible consequences of the danger to you or other persons.
► Preventing/avoiding the hazard

The following symbols are used for notes and information:

NOTE
Describes additional information and useful notes for correct use of the product without endangering persons.
Failure to observe this information may lead to property damage or faults in the product or components connected to the product.

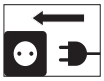
INFORMATION
Describes additional information and useful notes for optimum use of the product.

The following symbols are used in the figures and text.


Continue reading the installation and operating manual for more information.


Symbol refers to factory settings.


Disconnect the mains power


Connect the mains power


Configuration via SOMlink possible


Components must be disposed of properly


Old accumulators and batteries must be disposed of properly

1.6 Special warning symbols and mandatory signs

To specify the source of danger more precisely, the following symbols are used together with the above-mentioned hazard symbols and signal words. Follow the instructions to prevent a potential hazard.


Danger due to electric current!


Danger of falling!


Danger due to falling parts


Danger of entrapment!


Danger of crushing and shearing!


Danger of tripping and falling!


Danger due to optical radiation!

The following mandatory signs are used for the respective actions. The requirements described must be complied with.


Wear safety glasses!


Wear a safety helmet!


Wear safety gloves!

1.7 Information regarding the depiction of text

Stands for directions for an action

⇒ Stands for the results of the action

Lists are shown as a list of actions:

- List 1
- List 2

Important text items, for example in directions for actions, are emphasised in **bold** type.
References to other chapters or sections are in **bold** type and set in **“quotation marks.”**

1. About this Installation and Operating Manual

1.8 Intended use

The roller door control unit RDC Vision+ may only be used:

- to control motors in roller doors (max.: 1,000 W).
- if the system is in perfect technical condition.
- in accordance with the safety instructions and warnings provided in this Installation and Operating Manual.

1.9 Improper use

The roller door control unit RDC Vision+ may not be used in conjunction with motors in roller grille doors.

Any use above and beyond that described in Chapter **“Intended use” on page 6** constitutes improper use. The user bears the sole responsibility for any risk involved.

The manufacturer's warranty will be voided by:

- damage caused by other use and improper use
- use with defective parts
- unauthorised modifications to the product
- modifications and non-approved programming of the product and its components

The product must not be used in:

- areas with explosion hazard
- very salty air
- aggressive atmosphere, including chlorine

1.10 Qualifications of personnel

Qualified specialist for installation, commissioning and disassembly

This Installation and Operating Manual must be read, understood and complied with by a qualified specialist who installs or performs maintenance on the control unit.

Work on the electrical system and live parts may be performed only by a **trained electrician** in accordance with EN 50110-1.

The installation, initial operation and disassembly of the control unit may only be performed by a qualified specialist.

The qualified specialist must be familiar with the following standards:

- EN 13241-1 Doors and gates – Product standard
- EN 12604 Doors and gates – Mechanical aspects – Requirements
- EN 12605 Doors and gates – Mechanical aspects – Test methods
- EN 12445 and EN 12453 – Safety in use of power-operated doors

A qualified specialist is a person commissioned by the installer. The qualified specialist must instruct the user:

- on the operation of the control unit and its dangers
- on the handling of the manual emergency release (if installed)
- on regular maintenance, testing and care which the user can carry out

The user must be informed that other users must be instructed on the operation of the control unit and its dangers.

The user must be informed about which work may only be performed by a qualified specialist:

- Installation of accessories
- Settings
- Regular maintenance, testing and care
- Troubleshooting and repairs
- The following documents for the door system must be handed over to the user:
- EC Declaration of Conformity
- handover protocol and inspection book
- the installation and operating manuals for the operator and the door

1. About this Installation and Operating Manual

1.11 Information for the user

The user must ensure that the CE mark and the type plate have been attached to the door system.

The following documents for the door system must be handed over to the user:

- The installation and operating manuals for the operator and the door
- Inspection book
- EC Declaration of Conformity
- Handover protocol

The user must always keep this Installation and Operating Manual at the place of use, ready for consultation and accessible to all users.

The user is responsible for:

- the intended use of the control unit
- its good condition
- instructing all users how to use the door system and in the associated hazards
- operation
- maintenance, inspection and care by a qualified specialist
- troubleshooting and repair by a qualified specialist

The product must not be used by persons with restricted physical, sensory or mental capacity or who lack experience and knowledge. All users must be specially instructed and have read and understood the Installation and Operating Manual.

Children must never play with or use the door system, even under supervision. Children must be kept clear of the door system. Handheld transmitters or other command devices must never be given to children. Handheld transmitters must be safely stored and protected against unintended and unauthorised use.

The user must observe the accident prevention regulations and the applicable standards in Germany. In other countries, the user must comply with the applicable national regulations.

The guideline “Technical regulations for workplaces ASR A1.7” of the German committee for workplaces (ASTA) is applicable for commercial use. The guidelines described must be observed and complied with. This applies for use in Germany. In other countries, the user must comply with the applicable national regulations.

2. General safety instructions

2.1 Basic safety instructions for operation

Follow the basic safety instructions listed below. The control unit must not be used by persons with restricted physical, sensory or mental capacity or who lack experience and knowledge. All users must be specially instructed and have read and understood the installation and operating instructions. Persons under the influence of drugs, alcohol, or medications that can influence their ability to react may **not** work on the control unit. Children must never play with or use the control unit, even under supervision. Children must be kept clear of the control unit. Handheld transmitters or other command devices must never be given to children. Handheld transmitters must be safely stored and protected against unintended and unauthorised use.

Danger if not observed!
Serious injury or death may result if safety instructions are not observed.

► It is imperative to comply with all safety instructions!

Danger due to electric current!
Contact with live parts may result in electric current flowing through the body. Electric shock, burns, or death may result.

► All work on electrical components must be carried out by qualified personnel!

► Disconnect the mains plug before working on the device!

► If an accumulator is used, disconnect it from the control unit!

► Check that the device is disconnected from the voltage supply!

► Secure it against being switched back on!

► Before commissioning, it is essential to ensure that the specifications on the type plates of the operator and the control unit match.

► All electrical wires must be fitted tightly and secured against shifting.

► In case of a three-phase current connection, make sure that the direction of rotation is clockwise.

► Installations with a fixed mains connection require an all-phase mains circuit breaker with appropriate fuses.

► Regularly check power cables and wires for insulation defects or cracks. If a fault is detected, take the system out of operation immediately and repair the damage.

► Before switching on for the first time, make sure that all plug-in terminals are in their correct positions.

Danger due to use of the control unit with incorrect settings or when it is in need of repair!
If the control unit is used despite incorrect settings or if it is in need of repair, severe injury or death may result.

► The control unit may only be used with the required settings and in the proper condition.

► Have faults repaired professionally without delay.

Danger caused by hazardous substances!
Improper storage, use or disposal of accumulators, batteries and components of the control unit are dangerous for the health of humans and animals.

► Store accumulators and batteries out of the reach of children and animals.

► Keep batteries and accumulators away from chemical and thermal influences.

► Do not recharge batteries and defective accumulators.

► All components of the control unit, including old accumulators and batteries, must be disposed of correctly and not with household waste.

Danger for trapped persons!
Persons may be trapped inside the garage. If trapped persons cannot free themselves, severe injury or death may result.

► Test the operation of the manual emergency release (if installed) regularly from inside and if necessary, also from outside.

Danger caused by components projecting into publicly accessible areas!
Parts must not project into public roads or footpaths. This also applies while the door is moving. Persons and animals may be seriously injured.

► Keep public roads and footpaths clear of projecting parts.

Danger due to being pulled in!
Persons or animals in the movement area of the door may be trapped and pulled along with the door. Severe or fatal injuries may result.

► Keep clear of the movement area of the door.

Danger of crushing and shearing!
If the door moves and there are persons or animals in the movement area, crushing and shearing injuries may be caused by the mechanism and safety edges of the door.

► Only operate the door when you have a direct view of the movement area.

► The danger zone must be visible during the entire door operation.

► Never enter the range of movement of the door.

► Keep persons and animals away from the danger zone.

► Never reach into moving mechanical components while the door is moving.

2. General safety instructions

- ► Always keep the moving door in sight.
- ► Do not pass through the door until it has been fully opened.
- ► Store the handheld transmitter so that unauthorised or unintended operation is impossible.
- ► Never stand under the opened door.
- ► The installation of a photocell is mandatory for operation with automatic closing.

Danger caused by the door falling!
The door can drop in an uncontrolled manner if a support or brake fails. Severe or fatal injuries may result.

- ► A suitable device (external safety catch, locking mechanism etc.) must be installed on-site.

Danger due to optical radiation!
Looking into the beam of a bright LED for prolonged periods can cause temporary irritation of the eyes. Serious or fatal accidents can occur as a result.

- ► Never look directly into an LED.

Risk of eye injury!
Chips flying when drilling may cause serious injuries to eyes and hands.

- ► Wear safety glasses when drilling.

Risk of hand injury!
Rough metal parts may cause abrasions and cuts when picked up or touched.

- ► Wear safety gloves when working on sharp-edged objects or rough surfaces.

Risk of injury in the head region!
Impact with suspended objects may cause serious abrasions and cuts.

- ► Wear a safety helmet when installing suspended parts.

2.2 Additional safety information for the radio remote control

Follow the basic safety instructions listed below.

Danger of crushing and shearing!
If the door is not visible and the radio control is operated, crushing and shearing injuries to persons or animals may be caused by the mechanism and safety edges of the door.

- ► In particular when operating control elements such as the radio remote control, all danger zones must be visible during the entire door operation.
- ► Always keep the moving door in sight.
- ► Keep persons and animals away from the danger zone.
- ► Never reach into moving parts.
- ► Do not drive through the door until it has been fully opened.
- ► Store the handheld transmitter so that unauthorised or unintended operation is impossible.
- ► Keep handheld transmitters out of the reach of children, persons with mental disabilities and animals.
- ► Never stand under the opened door.

2.3 Information on operation and remote control

The user of the radio system is not protected against interference due to other telecommunications equipment or devices. This includes radio-controlled systems that are licensed to operate in the same frequency range. If significant interference occurs, please contact your appropriate telecommunications office which has radio interference measuring equipment or radio location equipment.

NOTE

- ► Dispose of all components in accordance with local or national regulations.
- ► Objects must not be in the range of movement of the door.

2.4 Simplified Declaration of Conformity

SOMMER Antriebs- und Funktechnik GmbH hereby declares that the radio system (RDC Vision^{+}) complies with Directive 2014/53/EU. The full text of the EU Declaration of Conformity for the radio system can be found at:

som4.me/mrl

3. Description of function and product

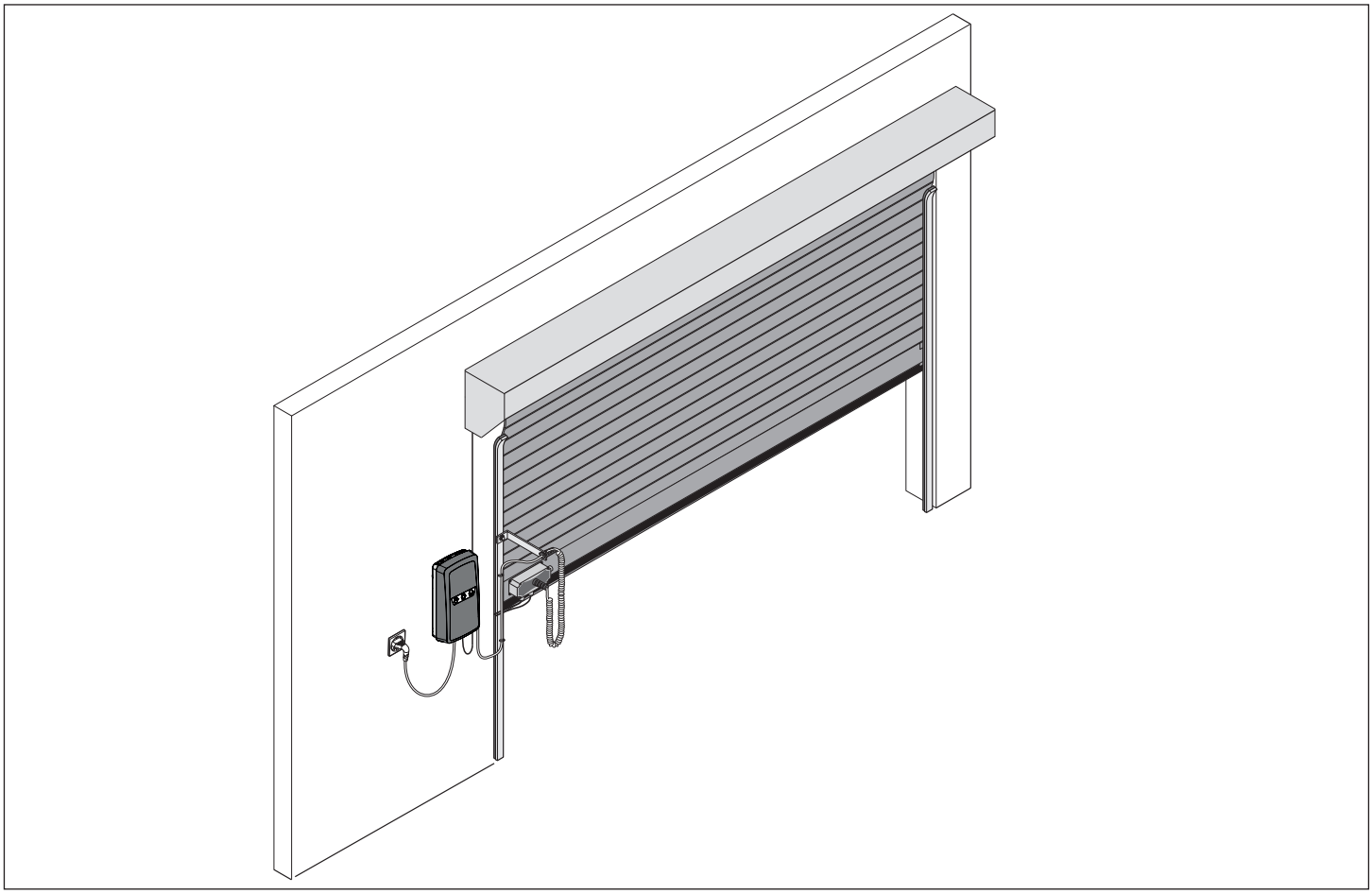


Fig. Door structure with control unit

Roller doors which are to be operated with a tubular motor can be automated with this control unit. The control unit can be operated, for example, using a handheld transmitter.

3.1 Safety equipment

NOTE

A safety contact strip is mandatory for regular operation. The safety contact strip should always be checked to ensure that it is functioning correctly after being put into operation.

The operator stops and reverses if it encounters an obstacle. This prevents injury and damage to property. The door will be partially or completely opened, depending on the setting.

3.2 Product designation

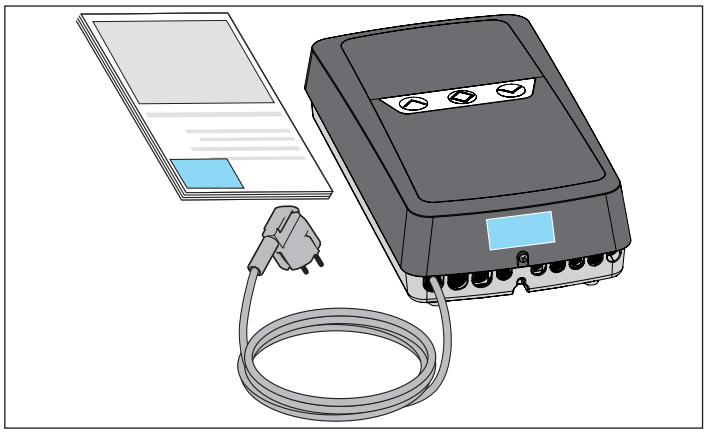


Fig. Product designation

The type plate includes:

- type designation
- item number
- date of manufacture with month and year
- serial number

In case of questions or service, please supply the type designation, the date of manufacture and the serial number.

3. Description of function and product

3.3 Scope of delivery

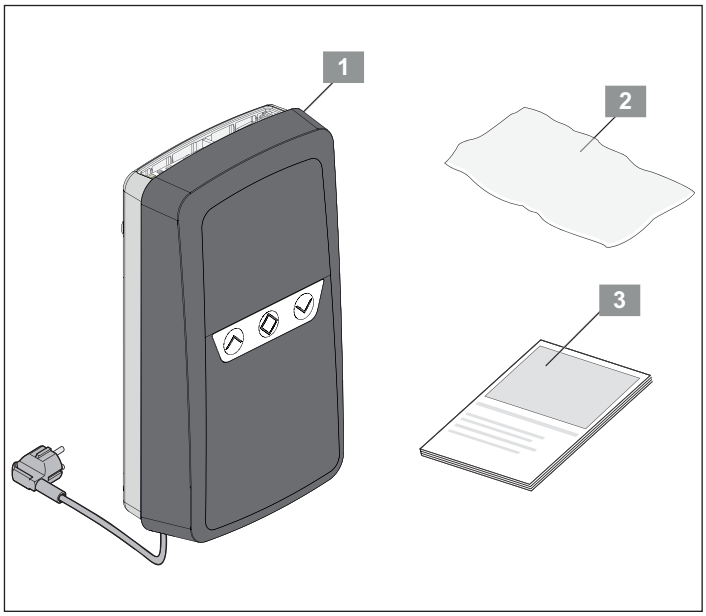


Fig. Scope of delivery

1	RDC Vision+ control unit
2	Installation bag for small parts
3	Installation and Operating Manual

3.4 Dimensions

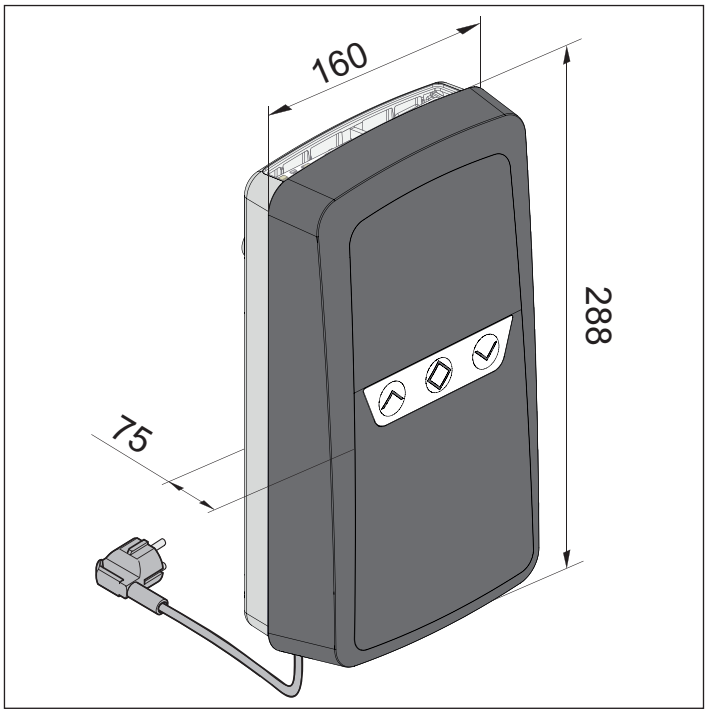


Fig. Product dimensions

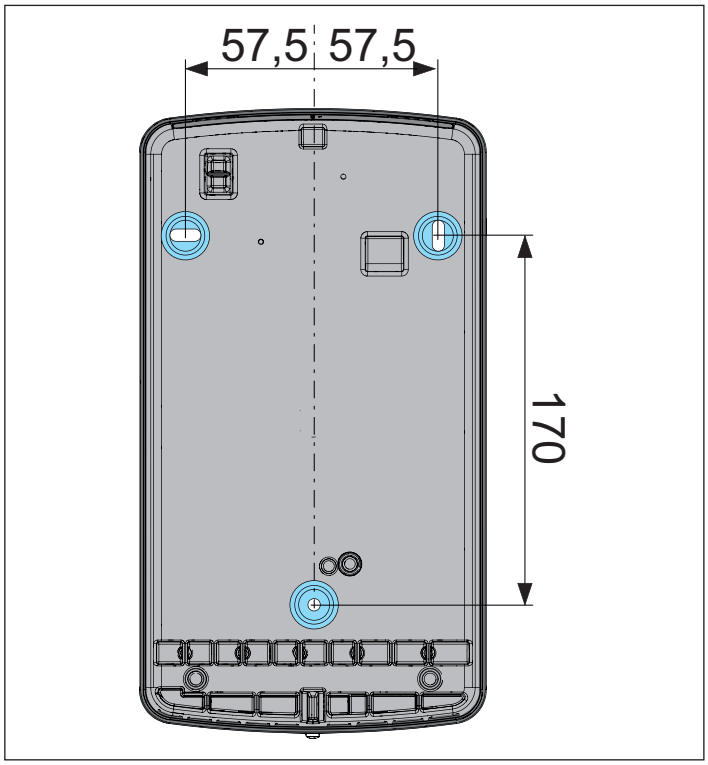


Fig. Bore holes on the rear of the housing

3. Description of function and product

3.5 Technical data

RDC Vision+	
Rated voltage	AC 220 V–240 V
Rated frequency	50–60 Hz
Operating temperature	–25 ºC to +65 ºC
IP protection class	IP21
IP-code	II
Motor output max.	1,000 W
Power consumption Standby	3 W
Ambient lighting, internal (LED)	4 W
Warning light, external	AC 230 V/max. 40 W
Memory positions, radio receiver	40*
Dimensions	288 x 160 x 75 mm
Weight	0.8 kg

* Expandable with Memo

3. Description of function and product

3.6 Overview of connection options

Only SOMMER accessories may be used. Observe the corresponding installation instructions.

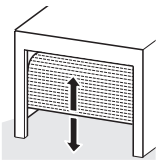
Accessories may only be installed and adjusted by qualified specialists.

Accessories	Compatible
LED	–
Lock	–
Memo	●
USART interface	●
Senso	●
Buzzer	●
Laser	●
Motion	–
for OSE/8k2	●
Wicket door contact	–
Output 12 V, 100 mA	–
DIP switches	**4**
Accumulator	–
Keypad (Conex connection)	–
Relay/Output OC	●
Lumi+	–
Pulse button	●
Button 2 (partial opening)	●
Warning light 230 V, 40 W	●
Photocell (2- / 4-wire)	●
Output DC 24 V	–
Wallstation	–
Locking mechanism	●
Pre-end position switch (VES)	●
External command device 2-way / 3-way button	●
STOP button	●

The **SOMlink** is also available as an accessory.
For more information on accessories, see:

https://downloads.sommer.eu/

3.7 Door types

	Roller door*

* With 230 V drive motors with integrated limit switches up to 1,000 W

4. Tools and protective equipment

4.1 Required tools

NOTE

- ► The tools shown are only the recommended minimum equipment for the installation of an RDC Vision+.
- ► The actual tools needed may vary depending on the device model and the mounting surface.

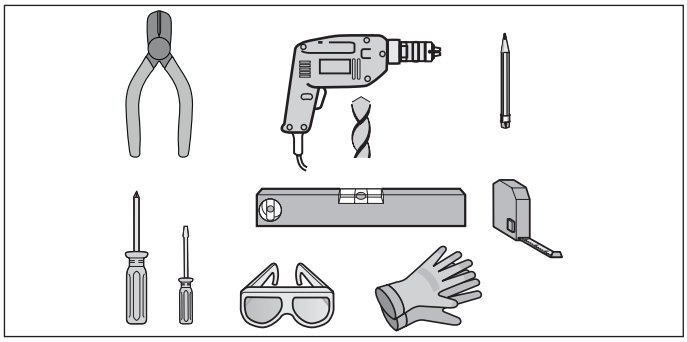


Fig. Recommended tools

4.2 Personal protective equipment

⚠ WARNING

Risk of eye injury!
Chips flying when drilling may cause serious injuries to eyes and hands.

- ► Wear safety glasses when drilling.

Risk of injury to hands!
Rough metal parts may cause abrasions and cuts when picked up or touched.

- ► Wear safety gloves when deburring or performing similar work.

5. Declaration of Conformity

Declaration of Conformity

for installation of an incomplete machine in accordance
with the Machinery Directive 2006/42/EC, Annex II, Part 1 A

SOMMER Antriebs- und Funktechnik GmbH
Hans-Böckler-Straße 21–27
D-73230 Kirchheim/Teck
Germany

hereby declares that the roller door control unit

RDC Vision+

have been developed, designed and manufactured in conformity with the

- Machinery Directive 2006/42/EC
- Low Voltage Directive 2014/35/EU
- Electromagnetic Compatibility Directive 2014/30/EU
- RoHS Directive 2011/65/EU

The following standards were applied:

• EN ISO 13849-1, PL “D” Cat. 2	Safety of machines – safety-related parts of controls – Part 1: General design guidelines
• EN 60335-1, where applicable	Safety of electrical appliances / operators for gates
• EN 61000-6-3	Electromagnetic compatibility (EMC) – interference
• EN 61000-6-2	Electromagnetic compatibility (EMC) – interference resistance

The following requirements of Annex 1 of the Machinery Directive 2006/42/EC are met:
1.1.2, 1.1.3, 1.1.5, 1.2.1, 1.2.2, 1.2.3, 1.2.4, 1.2.6, 1.3.2, 1.3.4, 1.3.7, 1.5.1, 1.5.4, 1.5.6, 1.5.14, 1.6.1, 1.6.2, 1.6.3, 1.7.1, 1.7.3, 1.7.4
The special technical documents have been prepared in accordance with Annex VII Part B and will be submitted electronically to the regulators on request.

The incomplete machine is intended for installation in a gate system only to form a complete machine as defined by the Machinery Directive 2006/42/EC. The door system may only be put into operation after it has been established that the complete system complies with the EC Directives listed above.

The undersigned is responsible for compilation of the technical documents.

Kirchheim, 7 August 2018

CE

i.V.

Jochen Lude
Responsible for documents

6. Installation

6.1 Important information on installation

DANGER

Danger caused by young children operating the door

If the door system is operated by young children, there is a danger of them or other persons being trapped under the door. Severe or fatal injuries may result.

► Command devices in a fixed position, including the control unit itself, must be mounted at a height of at least 1.5 m.

Unsafe or defective ladders

Unsafe or defective ladders may cause serious or fatal injuries!

► Only use stable and non-slip ladders.

► Ensure that ladders are safely positioned.

6.2 Installing the control unit

NOTE

► Only use permissible mounting materials appropriate for the supporting surface.

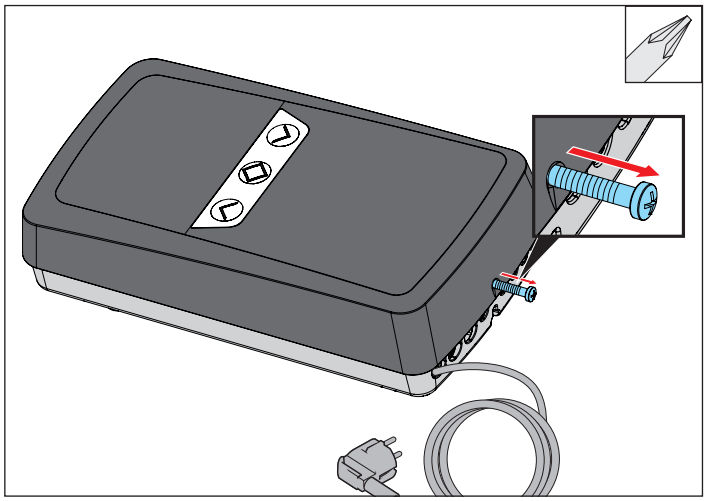


Fig.1

1. If necessary, unscrew the screw on the underside of the housing.

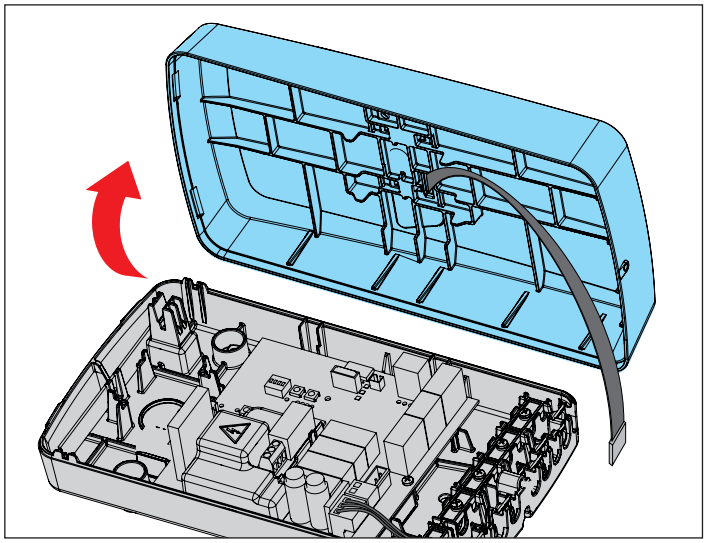


Fig. 2

2. Carefully lift the cover.

6. Installation

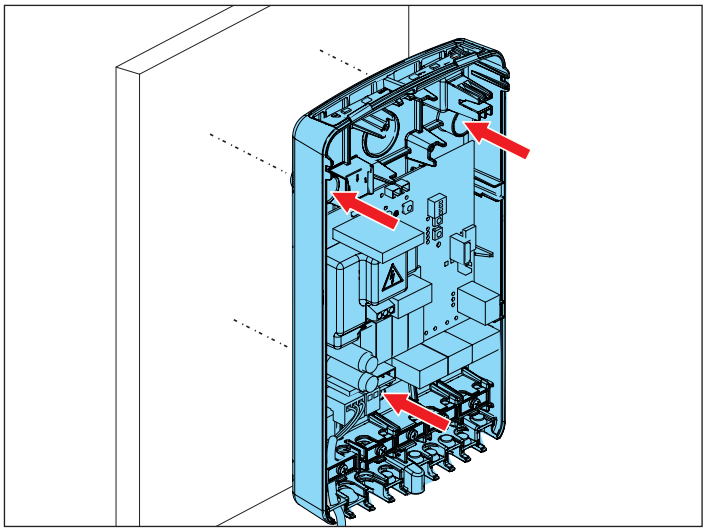


Fig.3

3. Install the control unit in the desired position.

   ⇒ **Minimum height 1.5 m**

   ⇒ Use mounting materials appropriate for the supporting surface

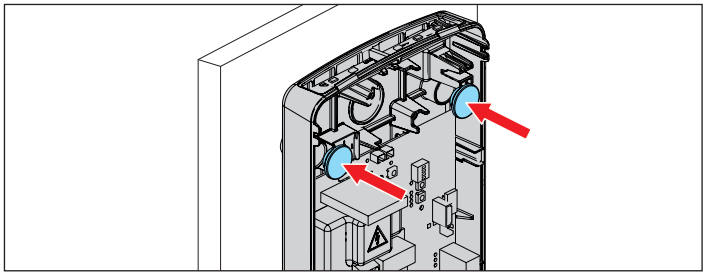


Fig. 4

4. Close off the two upper screw holes with the sealing plugs provided.

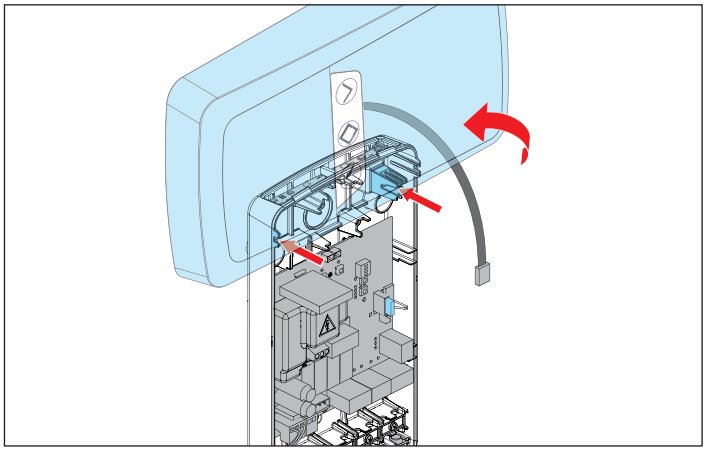


Fig. 5

5. Hook the cover into the housing as shown or place it to one side.

7. Electrical connection

7.1 Important information on electrical connection

A power outlet is required for the electrical connection of the control unit.

A power outlet must be installed by a trained electrician. The power outlet must be protected by a fuse in accordance with regulations. Local and national regulations must be observed (e.g. VDE).

Observe in particular the following warnings for this chapter.

⚠ DANGER

Danger due to electric current!
Contact with live parts may result in electric current flowing through the body. Electric shock, burns, or death may result.

- ► Installation, testing and replacement of electrical components must be carried out by a **trained electrician**.
- ► Disconnect the mains plug before working on electrical components.
- ► Then check that the equipment is disconnected from the power supply and secure it against being switched on again.

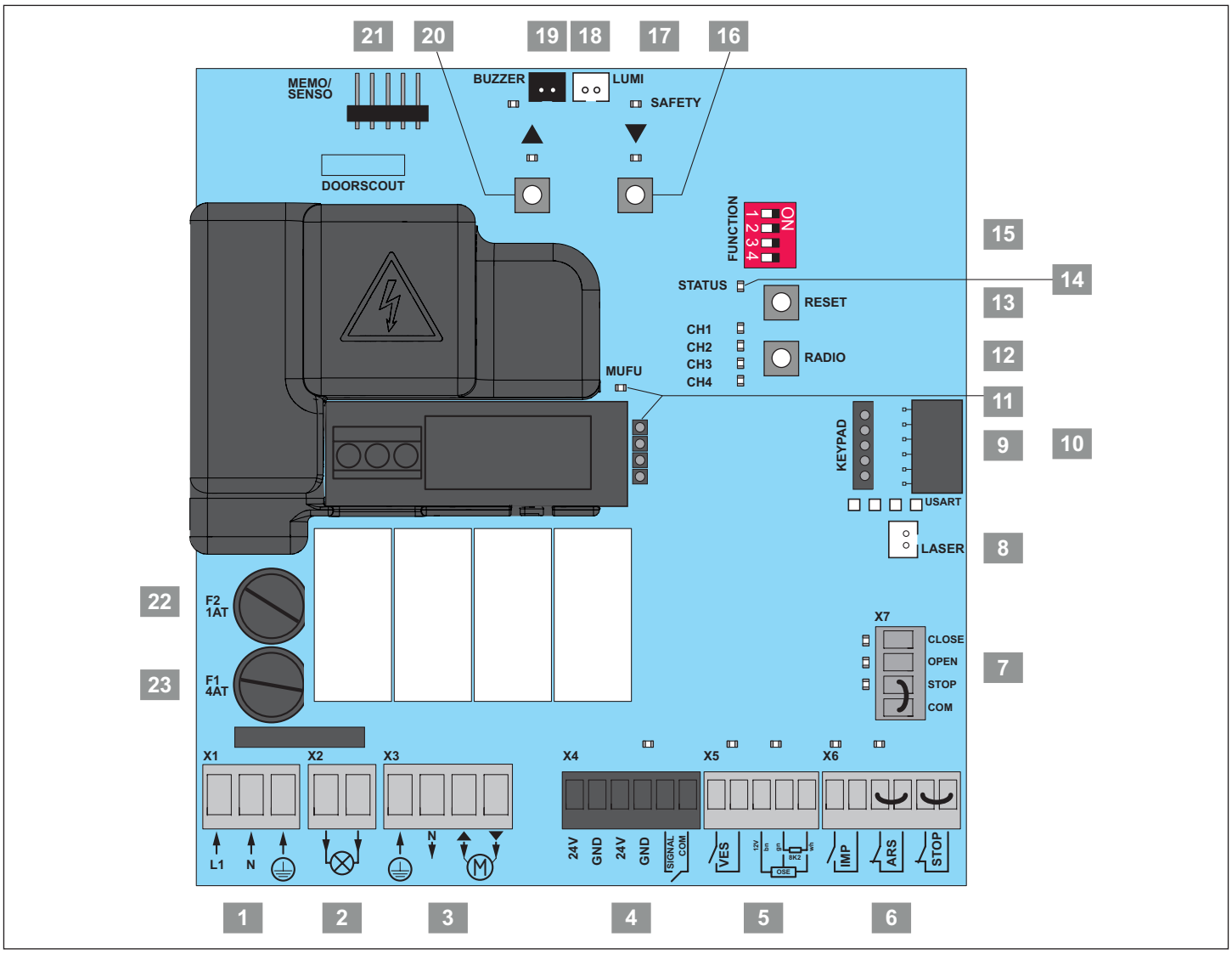


Fig. Overview of board

7. Electrical connection

7.2 Connection options

1 3-pin terminal block (X1)

Mains connection

230 V
Permissible cable cross-sections: 1.5 mm²–4 mm²

2 2-pin terminal block (X2)

Warning light connection

230 V, max. 40 W, no protective earthing conductor

Optional accessories

 Blinks while door is moving
 Programmable via SOMlink

DIP switch configuration possible

Permissible cable cross-sections: 1.5 mm²–4 mm²

3 4-pin terminal block (X3)

Motor connection

230 V, 50 Hz, max. 1,000 W

Permissible cable cross-sections: 1.5 mm²–4 mm²

4 4-pin terminal block (X4)

Photocell, 2-wire or 4-wire

2-wire/frame photocell:
DC 24 V
Any polarity
Signal
COM
with status LED, orange

4-wire:
DC 24 V, max.
DC +24 V
GND
Signal
COM
With status LED

Max. installation height: 300 mm

Optional accessories

 Door opens fully when safety input trips
 Programmable via SOMlink

Permissible cable cross-sections: max. 1.5 mm

5 5-pin terminal block (X5)

Pre-end position switch

For the differences between 2-wire pre-end position switch and 4-wire spiral cable, see **“Connection overview and DIP switches” on page 47**.

Optical safety contact strip
8k2 safety contact strip

With status LEDs

Optional accessories

 Door opens fully when safety input trips
 Programmable via SOMlink

DIP switch configuration possible

Permissible cable cross-sections: max. 1.5 mm²

6 6-pin terminal block (X6)

Pulse button

 Pulse sequence: OPEN–STOP–CLOSE–STOP

Locking mechanism

With status LEDs

 Jumper if locking mechanism is not connected

Stop button

 Jumper if button is not connected

Optional accessories

Potential-free

 Programmable via SOMlink

Permissible cable cross-sections: max. 1.5 mm²

7 4-pin terminal block (X7)

External command device (3-function pad)

With status LEDs

 Jumper between STOP and COM terminals if button is not connected

Optional accessories

Potential-free

Permissible cable cross-sections: max. 1.5 mm²

7. Electrical connection

7.3 Slots for accessories/fuses

8 LASER slot

Parking position laser

Optional accessories

9 KEYPAD slot

Operating buttons on housing

10 USART slot

Connection, e.g. for home automation module (HomeLink)

Optional accessories

11 MUFU connection

Relay / Output OC

With MUFU: Pulse (1 second) at motor start

Allowable contact load:
Relay: Max. 5 A, AC 250 V/max. 5 A, DC 24 V

Output OC
24V*

Optional accessories

Programmable via SOMlink

18 LUMI slot

Supplemental lighting

Connected at the factory

Programmable via SOMlink

19 BUZZER slot

Terminal for warning or alarm buzzer

Optional accessories

Programmable via SOMlink

21 MEMO/SENSO slot

Memory extension or humidity sensor

Optional accessories

Programmable via SOMlink

22 fuse F2 (power supply)

1 A T

23 fuse F1 (motor)

4 A T

Operating, adjustment and display elements

12 LED CH 1–CH 4

Display, radio channel

Radio button (RADIO)

Selection of radio channel

13 RESET key

Reset

14 STATUS LED

Status display

15 DIP switches 1–4

Selection switches for operating modes/special functions

“8.6 Interruptores DIP” on page <ÜS>

16 ▼ key

Door CLOSE

With status LED

17 SAFETY LED

Display “Safety input triggered”

With status LED

20 ▲ key

Door UP

With status LED

*The control unit provides a total of max. 300 mA / 7 W for all 24 V consumers

7. Electrical connection

7.4 Additional information on connections and accessories

Connection overview: see “Connection overview and DIP switches” on page 47.
Additional configuration options are available for many accessories via DIP switches and SOMlink.
“DIP switches” on page 24

7.5 SOMlink

SOMlink makes it possible for qualified specialists to change many functions and settings of the control unit. These include operating parameters and convenient functions.

If you would like to make changes, contact your specialist dealer.

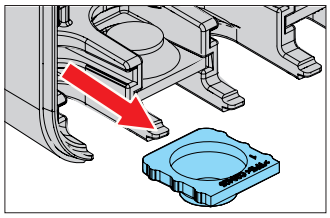
INFORMATION
SOMlink is a combination of an additional device and a web-based application for changing control unit functions.
A WiFi-enabled device is required.
Since safety-relevant values can also be changed, SOMlink is only sold to qualified specialists.
All changes to settings via the SOMlink are logged.

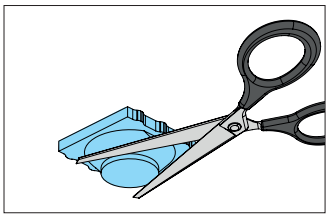
7.6 Mains connection

INFORMATION

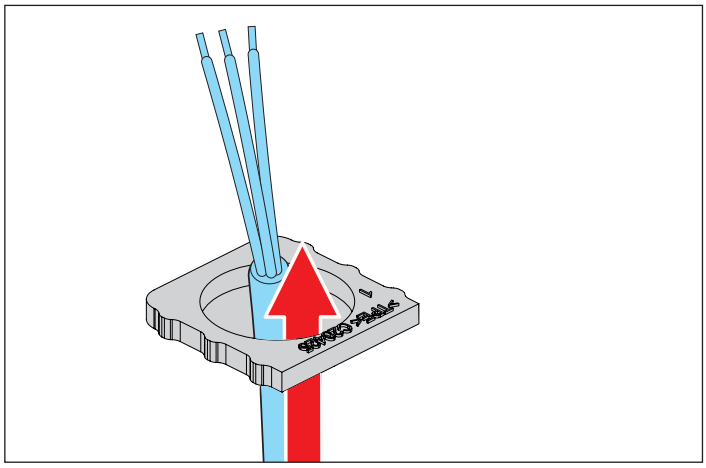
► The work steps described here are not required in the case of initial installation/ initial operation, as they have already been carried out at the factory.

► Approved wire cross sections for the mains connection: 1.5 mm²–4 mm².

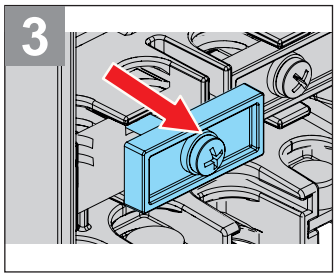


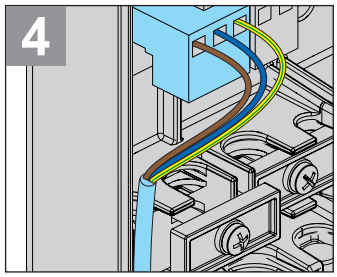


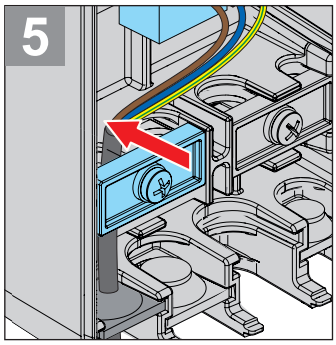
1. Pull out the grommet and create an opening for the cable.



2. Route the cable through the grommet.

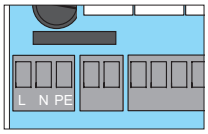






3. Loosen the strain relief.
4. Connect strands to terminals (see connection table).
5. Fasten power cord with strain relief.

Connection table

Circuit board section	Terminals for mains power	Cable colour
	L	Black
	N	Blue
	PE	Green/yellow

7.7 Information on connecting accessories

Connect accessories with the help of the table **“Connection options” on page 19** and the connection overview: see **“Connection overview and DIP switches” on page 47**.

8. Initial operation

DANGER

Danger due to electric current!

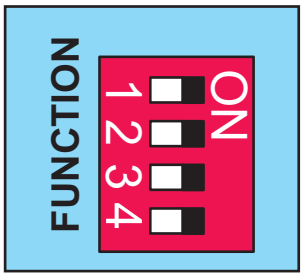
Contact with live parts may result in electric current flowing through the body. Electric shock, burns, or death may result.

- ► Before commissioning, it is essential to ensure that the specifications on the type plates of the operator and the control unit match.
- ► Read and observe the safety information and warnings on **page 8**.

NOTE

Document initial operation!

8.1 DIP switch initial position

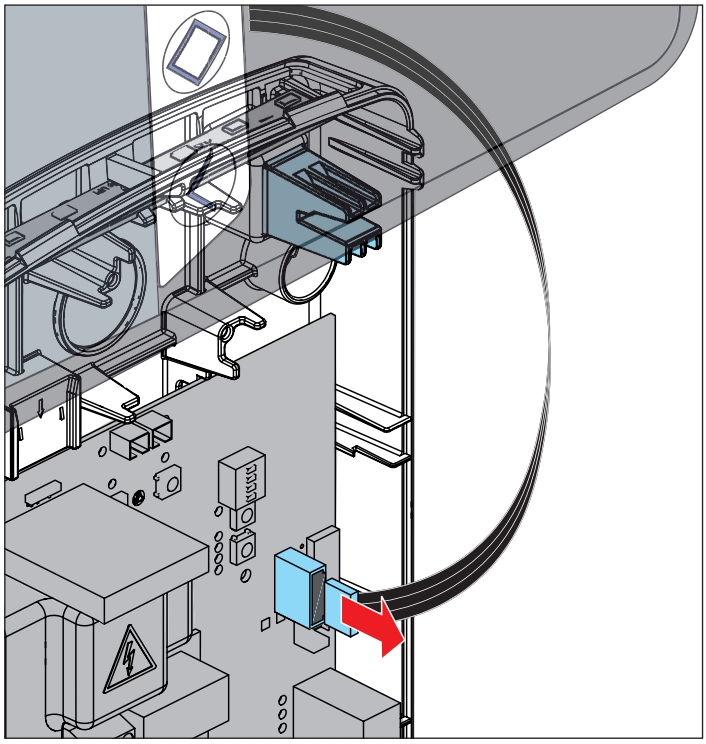


- Before starting initial operation, check that all DIP switches are set to “OFF” (factory setting).

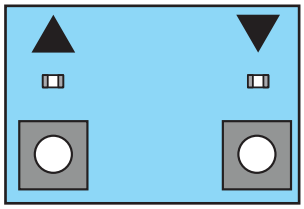
8.2 Checking the direction of running

NOTE

Only dead man mode is possible with the door OPEN and door CLOSE buttons!



1. Move door to centre position.
2. Pull the ribbon cable of the integrated 3-function pad off the control unit circuit board.



3. Press the door OPEN or door CLOSE button on the circuit board.

   ⇒ The door moves in the desired direction:

   ⇒ Motor is correctly connected

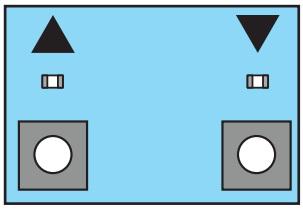
   ⇒ The door moves in the opposite direction:

1. Turn off the control unit voltage supply.
2. Switch the connecting lines of the motor. See **“Connection overview and DIP switches” on page 47**.
3. If necessary, correct the end position setting in accordance with the installation instructions for the motor.

8. Initial operation

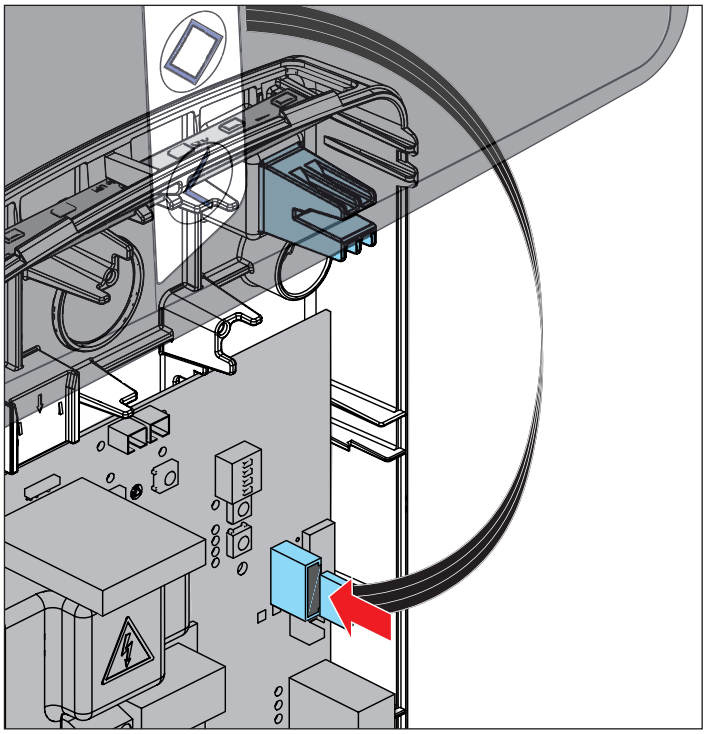
8.3 Setting the motor limit switches

INFORMATION
For more information on limit switches, please refer to the manufacturer's installation instructions.

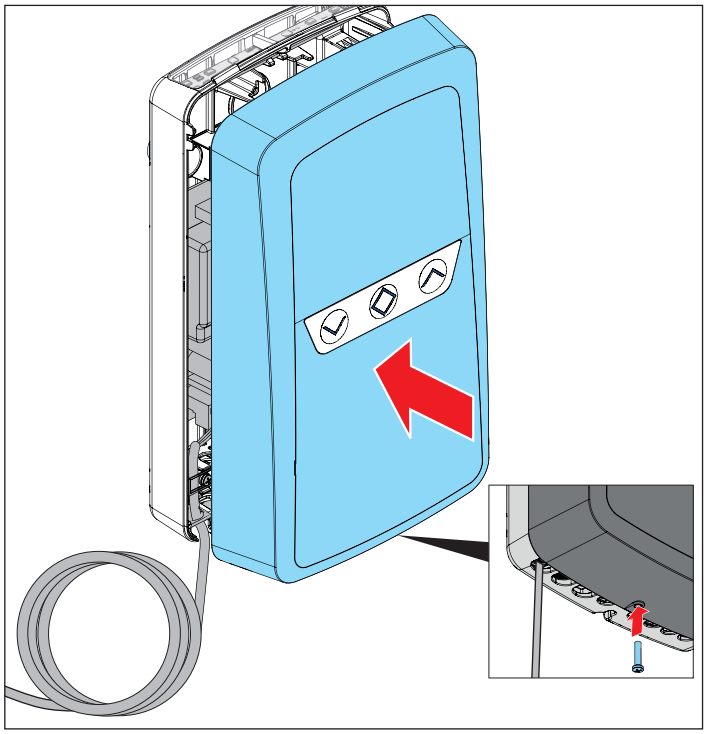


1. Press and hold the door OPEN or door CLOSE button on the circuit board after reaching the desired end position.
2. If necessary, set the limit switch on the motor.
3. Repeat steps 1 and 2 for the other direction.

8.4 Closing the housing cover



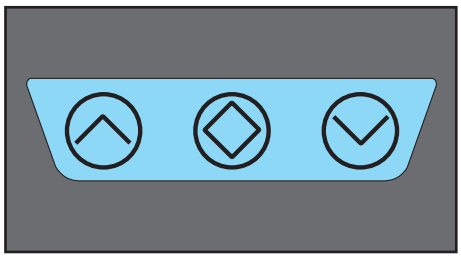
1. Connect ribbon cable to the control unit circuit board.



2. Close housing cover and fasten it with the screw on the underside.

8.5 Setting the run time (run time monitoring)

NOTE
The limit switches must be set before setting the run times.
For more information on limit switches, please refer to the manufacturer's installation instructions..



1. Press the door OPEN or door CLOSE button on the housing cover to start the automatic learning process.
   ⇒ The door opens and closes without an interim stop until the run times have been programmed.
   The position of an optionally fitted frame photocell is programmed at the same time.
   ⇒ The door remains in one of the two end positions.
   ⇒ The lighting lights up continuously.

2. Press the button for the opposite direction until the corresponding end position is reached (end position must be approached without interim stop).
   ⇒ Internal lighting goes out when the end position is reached.
   ⇒ The run times for both directions are programmed.

INFORMATION
To reduce the number of movements required, the automatic learning process can be started from one of the end positions.

For example:
► Door is in the upper end position.
► Press the door OPEN button to start.
⇒ Control unit detects which end position the door is in.
⇒ Learning process starts in the door CLOSE direction.
⇒ The first movement to the end position is not necessary.

NOTE
Resetting run times: see **“Resetting the control unit” on page 28**.

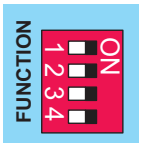
Obstacle detection during setting of end positions

NOTE
If the door runs into an obstacle during programming of the end positions, the learning process is terminated.
The process must then be repeated from step 1 of the section “8.5 Setting the run time (run time monitoring)” on page 23.

8.6 DIP switches

Special functions can be set with the DIP switches.

NOTE
Do not use a metal object to set the DIP switches, because this may damage the DIP switches or the circuit board.
Use a suitable tool to set the DIP switches, such as a flat, thin plastic object.

		ON	OFF
1	Automatic closing function	Activated	Deactivated
2	Pre-warning time	Warning light blinks 4 seconds before and during door movement	Blinks during door movement
3	Partial opening/ lighting function	Partial opening activated/ lighting function deactivated	Partial opening deactivated/ lighting function activated
4	Safety edge	Safety contact strip activated = STOP, door reverses	Safety contact strip activated = STOP, door opens completely

DIP switch 1: Setting automatic closing function – defining basic values

When automatic closing is activated, the door is opened by a pulse.

The door moves to the door OPEN end position. The door closes automatically after the hold open time. With the factory settings, the door also closes automatically from the partial opening position when the automatic closing function is activated.

8. Initial operation

⚠ WARNING

Risk of injury during automatic closing!

Automatically closing doors can injure people and animals in the movement area of the door when the door is closing. Serious injury or death may result.

- ► Always keep the moving door in sight.
- ► Keep persons and animals clear of the range of movement of the door.
- ► Never put your hand near the door or near moving parts when the door is moving.
- ► Do not drive through the door until it has opened completely.
- ► The safety inputs must not be bridged.

NOTE

If the door is not in view and the operator is actuated, objects in the movement area of the door may be jammed and damaged. Objects must not be in the range of movement of the door.

INFORMATION

Operation with automatic closing must comply with EN 12453. This is a legal requirement. National regulations must be observed in non-European countries. A photocell must be connected.

1. Close the door.
2. Set DIP switch 1 to ON.
3. The pre-set hold open time of the door is 30 seconds.

⇒ Every new command within these 30 seconds restarts the hold open time. When the Pulse button on the transmitter is pressed, the door moves into the door OPEN position.

The door movement cannot be stopped with the transmitter.

⇒ The door closes automatically after 30 seconds. The closing movement can be stopped by a command with the transmitter.

⇒ Door opens completely – after reversal of direction.

⇒ The door starts the closing process again after 30 seconds.

⇒ Door CLOSE.

INFORMATION

- ► The factory setting is fully automatic closing with a pre-set hold open time of 30 seconds from the door OPEN end position and from partial opening. When driving through, the photocell is activated and the hold open time is shortened to 5 seconds. This setting and the selection of semi-automatic closing can be adjusted via SOMlink and a WiFi-enabled device.
- ► The pre-warning time can be activated and adjusted via SOMlink and a WiFi-enabled device.
- ► The progress of the pre-warning time is displayed by the blinking internal lighting and warning light.

DIP switch 2: Setting the pre-warning time

With this function, the internal lighting and the warning light begin to blink 4 seconds before the door starts to move.

- Set DIP switch 2 to “ON.”

⇒ The lighting blinks 4 seconds before the door starts to move.

DIP switch 3: Setting partial opening

This function allows you to set a partial opening. The door then does not open completely, but only to the set door position (partial opening width).

INFORMATION

The lighting function or partial opening can be operated.

The partial opening function can be used via radio control system or an optionally connectible external button.

Partial opening by radio

Before the partial opening width can be set, a handheld transmitter button must be programmed to radio channel 2: see **“Programming the transmitter” on page 26**.

Partial opening via external button

Can only be activated via SOMlink

- Connect external button for partial opening:

See **“Connection options” on page 19**

See **“Connection overview and DIP switches” on page 47**

8. Initial operation

Activating partial opening and setting the partial opening width

1. Move the door to door CLOSE end position.
2. Set DIP switch 3 to “ON”.
3. Press the handheld transmitter button programmed to radio channel 2.
   ⇒ The door moves in OPEN direction.
4. Press the handheld transmitter button again when the desired partial opening has been reached.
   ⇒ The door stops at the desired position.
   ⇒ The partial opening position is programmed.

Deleting partial opening

- Set DIP switch 2 to “OFF”.
  ⇒ Partial opening position is deleted.
  ⇒ Partial opening function has been deactivated.

DIP switch 3: Setting the lighting function

The lighting on the control unit can be switched on and off separately via radio channel 2. This function is pre-set in the factory settings.

INFORMATION
The lighting function <u>or</u> partial opening can be operated.

Program the desired handheld transmitter button to radio channel 2.

The factory setting of DIP switch 3 is OFF, and the lighting function is therefore activated.

1. Set DIP switch 3 to “OFF”.
2. Press the Radio button repeatedly to select radio channel 2. Programme the lighting function on the desired transmitter button.

Programme the handheld transmitter button to radio channel 2: see **“Programming the transmitter” on page 26**

⇒ The lighting function is available.
⇒ The lighting can now be switched on and off with the corresponding transmitter button.

INFORMATION
If the lighting is not switched off manually, it switches off automatically after 180 seconds. This value can be changed via SOMlink.

DIP switch 4: Setting the safety edge

INFORMATION
The safety device must be reset when changing from an optical safety contact strip to an 8k2 safety contact strip or vice versa. See “Resetting the control unit” on page 28

This function allows you to set the behaviour of the door when the safety contact strip is triggered.

See **“DIP switches” on page 24**

8.7 Explanation of the radio channels

LED	Radio channel	Setting/function
1	CH 1	Pulse mode
2	CH 2	Partial opening or lighting function
3	CH 3	Defined OPEN
4	CH 4	Defined CLOSE

8.8 Selection of the radio channels

LED	1 x	2 x	3 x	4 x
CH 1	■	□	□	□
CH 2	□	■	□	□
CH 3	□	□	■	□
CH 4	□	□	□	■

- Press the Radio button repeatedly to select the desired radio channel.

8.9 Programming the transmitter

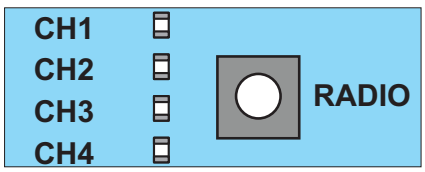


Fig. 1

INFORMATION
If no transmission command is received within 30 seconds after pressing the Radio button, the radio receiver switches to normal operation.

8. Initial operation

1. Press the Radio button repeatedly to select the required radio channel.
2. Press the desired button on the transmitter until the LED for the radio channel goes out.

   ⇒ **LED goes out – programming has been completed**

   ⇒ The transmitter has transferred the radio code to the radio receiver
3. Repeat the above steps to program additional transmitters.

INFORMATION
Further transmitters cannot be programmed if all memory positions of the handheld transmitter are occupied.

If the memory capacity has been reached:
A total of 40 handheld transmitter commands are available for all channels. If an attempt is made to program additional transmitters, the red LEDs of radio channels CH 1–CH 4 blink. If more memory positions are needed, see Chapter **"10.6 Information on Memo"**.

8.10 Information on Memo

The memory capacity can be extended to 450 handheld transmitter commands using the optional Memo accessory part. When plugging in the Memo, all available transmitters are transferred from the internal memory to the Memo and stored there. The Memo must remain plugged in on the control unit.

No more transmitters are then stored in the internal memory. Stored transmitters cannot be transferred from the Memo back to the internal memory.

All radio channels, including the memory of the Memo, can be deleted; see Chapter **"Deleting all radio channels in the receiver" on page 28**.

INFORMATION
Delete the Memo on a new operator. Otherwise, all stored transmitters of an operator are deleted and must be reprogrammed.

8.11 Cancelling programming mode

- Press the Radio button until all LEDs are off or make no input for 30 seconds.

  ⇒ Programming mode is cancelled.

8.12 Deleting a transmitter button from the radio channel

1. Press the Radio button repeatedly to select the required radio channel.

   Press and hold the Radio button for 15 seconds.

   ⇒ The LED flashes after 15 seconds.
2. Release the Radio button.

   ⇒ The radio receiver is now in deletion mode.
3. Press the transmitter button for which the command is to be deleted in the radio channel.

   ⇒ LED goes out.

   ⇒ The deletion procedure is ended.

Repeat the process for additional buttons as required.

8.13 Deleting transmitter completely from the receiver

1. Press and hold the Radio button for 20 seconds.

   ⇒ The LED flashes after 15 seconds.

   ⇒ After another 5 seconds, the flash sequence changes to blinking.
2. Release the Radio button.

   ⇒ The radio receiver is now in deletion mode
3. Press any button on the transmitter that is to be deleted.

   ⇒ The radio receiver is now in deletion mode.

   ⇒ LED goes out.

   ⇒ The deletion procedure has been completed.

   ⇒ The transmitter is deleted from the radio receiver.

Repeat the process for additional transmitters as required.

8.14 Deleting a radio channel in the receiver

1. Press the Radio button repeatedly to select the required radio channel.

   Press and hold the Radio button for 25 seconds.

   ⇒ The LED flashes after 15 seconds.

   ⇒ After another 5 seconds, the flash sequence changes to blinking.

   ⇒ After another 5 seconds, the LED of the selected radio channel remains steady.
2. Release the Radio button.

   ⇒ The deletion procedure is ended.

   ⇒ All programmed transmitters on the selected radio channel are deleted from the radio receiver.

8. Initial operation

8.15 Deleting all radio channels in the receiver

1. Press and hold the Radio button for 30 seconds.
   ⇒ The LED flashes after 15 seconds.
   ⇒ After another 5 seconds, the flash sequence changes to blinking.
   ⇒ After another 5 seconds, the LED of the selected radio channel remains steady.
   ⇒ After another 5 seconds all LEDs light up.
2. Release the Radio button.
   ⇒ All LEDs are off after 5 seconds.
   ⇒ **All programmed transmitters are deleted from the receiver.**
   ⇒ Receiver is completely deleted; this also applies if the Memo is plugged in.

8.16 Programming a second transmitter by radio (HFL)

Prerequisites for programming by radio

A handheld transmitter must already be programmed on the radio receiver. The handheld transmitters used must be identical. This means, for example, that a Pearl can only be programmed on a Pearl and a Pearl Vibe on a Pearl Vibe.

The key assignment of handheld transmitter (A) that put the radio receiver into programming mode by radio is used for the new handheld transmitter (B) that is to be programmed.
The already-programmed transmitter and the new transmitter to be programmed must be situated in the range of the radio receiver.

Example:

1. Button 1 on radio channel 1 and button 2 on radio channel 2 have been programmed by handheld transmitter (A).
   ⇒ The newly-programmed transmitter (B) adopts the button assignment of transmitter (A): Button 1 on radio channel 1, button 2 on radio channel 2.

Restriction

The following setting is **not** possible:

- The targeted teach-in of a selected handheld transmitter button on a radio channel.

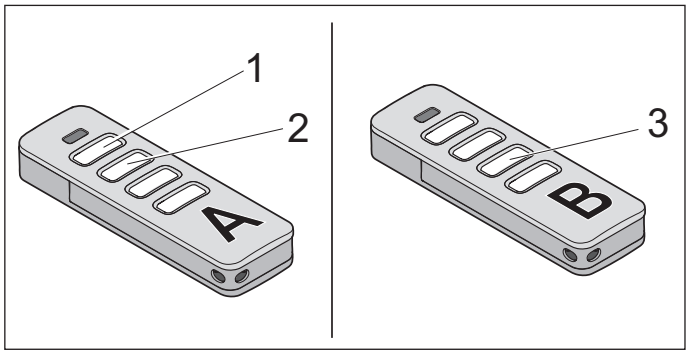


Fig. 1

1. Press buttons 1 + 2 of a programmed handheld transmitter (A) for 3–5 seconds until the LED briefly lights up on the handheld transmitter.
   ⇒ LEDs of the internal lighting blink.
2. Release buttons 1 and 2 of handheld transmitter (A).
   ⇒ If a radio command is **not** transmitted within another 30 seconds, the radio receiver switches over to normal mode.
3. Press any button, e.g. (3) on the new handheld transmitter (B) to be programmed.
   ⇒ The LEDs of the internal lighting remain steady.

8.17 Resetting the control unit

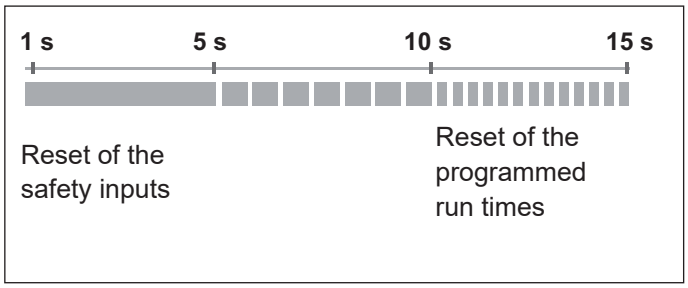


Fig. Overview of the time sequence of the status LED when pressing the green Reset button

INFORMATION
A SOMlink and a WiFi-enabled device are required to reset all parameters to the factory settings.

NOTE
If a frame photocell is used, the run times must be deleted each time a reset is performed. Resetting the safety devices is not sufficient.

8. Initial operation

Resetting the safety devices

- Press the green Reset button for 1 second.
  ⇒ Reset of the connected safety devices.
  ⇒ Subsequently attached safety devices are detected.

Resetting the programmed run times

1. Pull the ribbon cable of the integrated 3-function pad off the control unit circuit board.
2. Press the Reset button for 10 seconds until the green status LED blinks quickly.
   ⇒ Run times deleted.

- Press the Reset button for 10 seconds until the green status LED blinks quickly.
  ⇒ Force and position values deleted.
  ⇒ Frame photocell deleted.

Restoring the factory settings

1. Pull the ribbon cable of the integrated 3-function pad off the control unit circuit board.
2. Press the Reset button for 15 seconds until the green LED goes out.
   ⇒ Reset is performed.

9. Final test/handover

9.1 Testing obstacle detection

INFORMATION
After installation of the operator, the person responsible for installation must complete an EC Declaration of Conformity for the door system in accordance with Machinery Directive 2006/42/EC and apply the CE mark and a type plate. This documentation and this installation and operating manual must be handed over to the user.
This also applies if the control unit is retrofitted to a manually operated door.

After successful testing of the force settings, the obstacle detection and the functions, the qualified specialist must issue the EC Declaration of Conformity and attach the CE mark and type plate to the door system.

The door must reverse during the door CLOSE movement if it hits a 40-mm-high obstacle on the ground.

1. Open the door with the operator.
2. Place a 40-mm-high object in the centre of the door.
3. Close the door with the operator.
   ⇒ If the door hits an obstacle, the operator must immediately reverse.
   ⇒ The operator opens the door completely at a pulse from the transmitter.

9.2 Handover of the door system

The qualified specialist must instruct the user:

- on the operation of the control unit and its dangers
- on the handling of the emergency release (if installed)
- on regular maintenance, testing and care which the user can carry out, see **“Maintenance and care” on page 34**
- on the troubleshooting measures which the user can carry out, see **“Troubleshooting” on page 36**

The user must be informed about which work may only be performed by a qualified specialist:

- Installation of accessories
- Settings
- Regular maintenance, testing and care, except that described in Chapter **“Maintenance and care” on page 34**
- Troubleshooting, except that described in Chapter **“Troubleshooting” on page 36**
- Repairs

The following documents for the door system must be handed over to the user:

- The installation and operating manuals for the operator and the door
- Inspection book
- EC Declaration of Conformity
- Handover protocol for the control unit/operator

http://som4.me/konform

10. Operation

10.1 Safety information on operation

DANGER

Danger due to electric current!

Contact with live parts may result in electric current flowing through the body. Electric shock, burns, or death may result.

- ► Before commissioning, it is essential to ensure that the specifications on the type plates of the operator and the control unit match.
- ► Read and observe the safety information and warnings on **page 8**.

WARNING

Danger caused by young children operating the door!

If the door system is operated by young children, there is a danger of them or other persons being trapped under the door. Severe or fatal injuries may result.

- ► Command devices in a fixed position, including the control unit itself, must be mounted at a height of at least 1.5 m.

Danger of crushing and shearing!

If the door moves and there are persons or animals in the movement area, crushing and shearing injuries may be caused by the mechanism and safety edges of the door.

- ► Only operate the door when you have a direct view of the movement area.
- ► The danger zone must be visible during the entire door operation.
- ► Always keep the moving door in sight.
- ► Keep persons and animals away from the danger zone.
- ► Never stand under the opened door.
- ► The installation of a photocell is mandatory for operation with automatic closing.

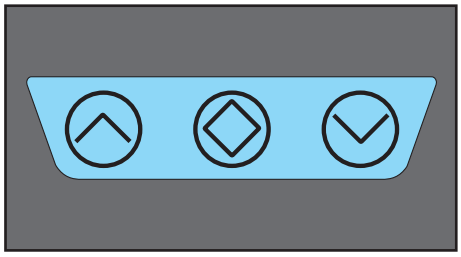
NOTE

Objects in the movement area of the door may be jammed and damaged. Objects must not be in the range of movement of the door.

INFORMATION

Keep this installation and operating manual accessible to all users at the place of use.

10.2 Operation using the button pad in the housing cover



	OPEN button
	Stop button
	CLOSE button

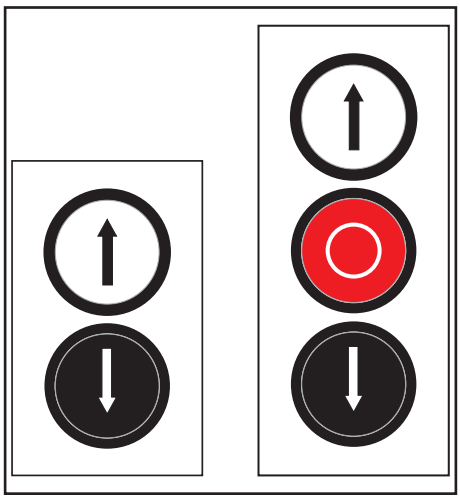
NOTE

The door is stopped immediately if any button is pressed during door movement (panic function)*

*** Does not apply to automatic closing**

10. Operation

10.3 Operation with external button (2-way/3-way)



	OPEN button
	Stop button
	CLOSE button

NOTE

The door is stopped immediately if any button is pressed during door movement (panic function)*

*** Does not apply to automatic closing**

10.4 Operation using handheld transmitter

INFORMATION

All functions can be programmed for all buttons, see “Programming the transmitter” on page 26.

Button 1 (CH 1)

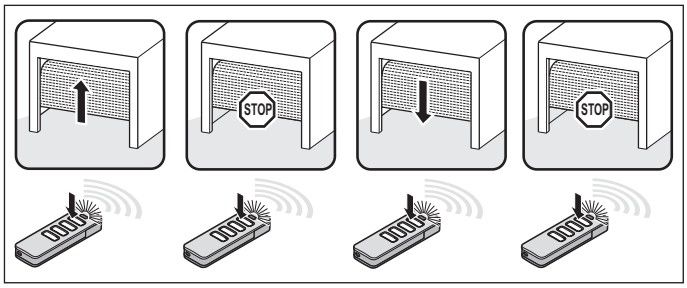


Fig. Pulse sequence for pulse mode

Button 2 (CH 2)

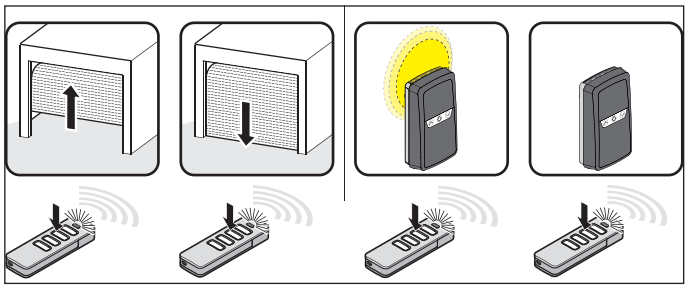


Fig. Pulse sequence for partial opening or lighting

Partial opening: DIP switch 2 ON

Lighting function: DIP switch 2 OFF

Button 3 (CH 3)

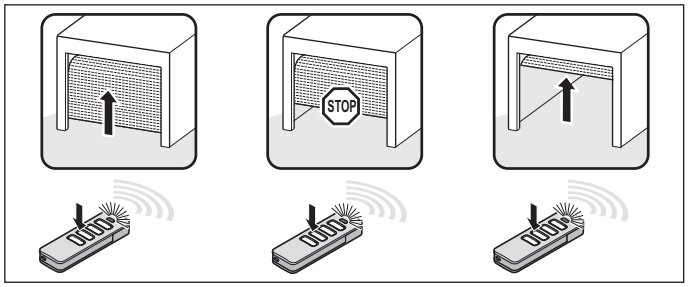


Fig. Defined OPEN

Button 4 (CH 4)

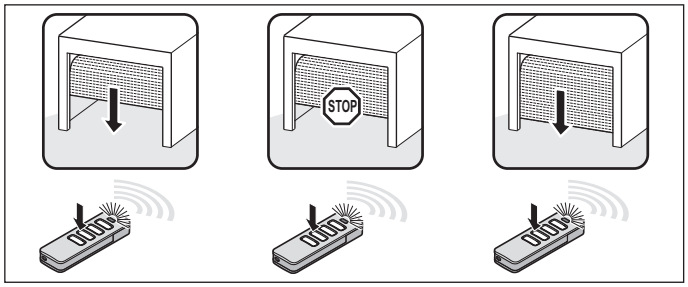


Fig. Defined CLOSE

10. Operation

10.5 Obstacle detection

If the photocell or safety contact strip detects an obstacle in the door CLOSE direction, the door reverses for two seconds (partial reversion). This prevents injury and damage to property.

Partial reversion is pre-set at the factory. Full reversion can be set via SOMlink or DIP switch, see **page 24**.

The following safety devices are installed to detect obstacles:

- photocell (object protection)
- safety contact strips (personal protection)

See **“Troubleshooting” on page 36**.

10.6 Operation after a power failure

The programmed run times and all other values remain saved in the event of a power failure. After the power supply has been restored, the first movement of the operator after a pulse is always door OPEN. The door moves the entire way into the door OPEN end position.

10.7 Dead man mode/hold to run mode

These operating modes are only possible during programming of the run times or in the event of faults in the safety devices.

In dead man mode, door movement is only possible as long as the command button is pressed. Dead man mode is not possible via radio.

In hold to run mode, the operator can be operated with a persistent command via the radio transmitter. In dead man mode, door movement is only possible as long as the handheld transmitter button is pressed.

To activate hold to run mode:

1. Press and hold the handheld transmitter button for 10 seconds within sight of the control unit.
   ⇒ Hold to run mode is activated
   ⇒ The button must remain pressed
2. Press the handheld transmitter button for as long as the door is to be moved.

11. Maintenance and care

11.1 Safety instructions for maintenance and care

⚠ DANGER

Danger due to electric current!

Contact with live parts may result in electric current flowing through the body. Electric shock, burns, or death may result.

- ► Before commissioning, it is essential to ensure that the specifications on the type plates of the operator and the control unit match.
- ► Read and observe the safety information and warnings on **page 8**.

⚠ WARNING

Danger of crushing and shearing!

If the door moves and there are persons or animals in the movement area, crushing and shearing injuries may be caused by the mechanism and safety edges of the door.

- ► Only operate the door when you have a direct view of the movement area.
- ► The danger zone must be visible during the entire door operation.
- ► Always keep the moving door in sight.
- ► Keep persons and animals away from the danger zone.
- ► Never stand under the opened door.
- ► The installation of a photocell is mandatory for operation with automatic closing.

NOTE

Objects in the movement area of the door may be jammed and damaged.
Objects must not be in the range of movement of the door.

NOTE

The use of unsuitable cleaning agents may damage the surface of the control unit.
Clean the control unit with a damp, lint-free cloth only.

INFORMATION

Keep this installation and operating manual accessible to all users at the place of use.

11. Maintenance and care

11.2 Reading out the number of cycles via LEDs

The number of cycles the control unit has already completed can be read out via the LEDs of the radio channels CH 1–CH 4 and the “Status” LED.

Start display:

1. Turn off the control unit voltage supply.
2. Open the housing of the control unit.
3. Pull the ribbon cable of the integrated 3-function pad off the control unit circuit board.
4. Press and hold the ▲ or ▼ key.
5. With the ▲ or ▼ key pressed, insert the mains plug of the control unit.

   ⇒ Display starts

Status LED	10,000 position
CH 1	1,000 position
CH 2	100 position
CH 3	10 position
CH 4	1 position

Example:

Status LED	Blinks 3x	**3**
CH 1	Blinks 7x	**7**
CH 2	Blinks 4x	**4**
CH 3	Blinks 6x	**6**
CH 4	Blinks 3x	**3**

The operator has run 37,463 cycles.

To exit the display and return to normal mode:

1. Connect the ribbon cable of the integrated 3-function pad to the control unit again.
2. Close the housing of the control unit again.
3. Restore the power supply.

   ⇒ The control unit is in normal operating mode again.

11.3 Reading out the number of cycles via SOMlink

INFORMATION
The number of cycles can be read out via SOMlink.

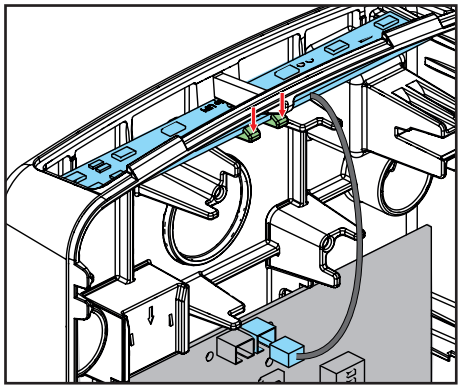
For further information on SOMlink, see “SOMlink” on page 21

11.4 Changing light bulbs

See Lumi pro+ manual

www.som4.me/man

1. Turn off the control unit voltage supply.
2. Open the housing of the control unit.
3. Pull the ribbon cable of the integrated 3-function pad off the control unit circuit board.



4. Disconnect the Lumi plug from the control unit.
5. Remove the Lumi.
6. Install new Lumi.
7. Connect the Lumi plug to the control unit.
8. Close the housing of the control unit again.
9. Restore the power supply.

12. Troubleshooting

12.1 Safety instructions for troubleshooting

⚠ DANGER

Danger due to electric current!

Contact with live parts may result in electric current flowing through the body. Electric shock, burns, or death may result.

- ► Before commissioning, it is essential to ensure that the specifications on the type plates of the operator and the control unit match.
- ► Read and observe the safety information and warnings on **page 8**.

12.2 Troubleshooting

The following guide to troubleshooting lists potential problems and their causes and information on correcting them. In some cases, other chapters and sections with a more detailed description are referenced. You will be prompted to call a qualified specialist if this is required.

Work on the electrical system and live parts must be performed by a **trained electrician**.

12. Troubleshooting

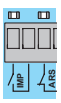
12.3 Time sequences of operator lighting in normal mode and in case of faults

The flash sequences show information on malfunctions for technicians, end customers and telephone support.

Integrated lighting as error display

Flash sequences	Possible cause	Corrective action
■■■■■■■■■■■■■■■■■■■■	• Photocell interrupted/defective	• Remove obstacle • Repair/replace photocell
■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■	• Door moves in CLOSE/OPEN direction	• No action required
■■ ■■ ■■ ■■ ■■ ■■	• Safety contact strip triggered/ defective	• Remove obstacle • Repair/replace safety contact strip
■■■ ■■■ ■■■ ■■■	• Programmed motor run time exceeded	• Check that the roller door runs smoothly: repair/replace if necessary • Check limit switch of tubular motor: repair/replace if necessary • Check tubular motor: repair/replace if necessary
■■■■ ■■■■ ■■■■	• Locking mechanism triggered	• Repair/replace locking mechanism
■■■■■ ■■■■■ ■■■■■	• Hardware error on circuit board	• Replace control unit

LEDs on board

LED	Colour	Flash/illumination sequences	Possible cause	Corrective action
	Orange	□ Off	• No photocell detected	• Connect a photocell if necessary
		■ On	• Photocell detected	• No action required
		■ ■ ■ ■ ■ ■	• Photocell triggered/fault	• Remove obstacle • Repair/replace photocell
	Yellow	□ Off	• Pre-end position switch not detected	• Connect pre-end position switch
		■ On	• Safety contact strip detected	• No action required
		■ ■ ■ ■ ■ ■	• Pre-end position switch triggered • Safety contact strip triggered/ defective	• Repair/replace safety contact strip
	Yellow	□ Off	• No external command pending • Locking mechanism OK	• Activate external command device • No action required
		■ On	• External command pending/button defective • Locking mechanism triggered/ defective	• Enable/replace external command device • Replace locking mechanism

12. Troubleshooting

LED	Colour	Flash/illumination sequences	Possible cause	Corrective action
	CLOSE= yellow OPEN= yellow STOP= green	Off	• External command device not activated/defective	• Activate/replace external command device
		On	• External command device not activated/defective	• Enable/replace external command device
MUFU	Yellow	Off	• Multi-function relay not activated	• Check settings in SOMlink menu
		On	• Multi-function relay activated	
CH1 CH2 CH3 CH4	Red	Off	• No radio command pending	• If necessary, press a transmitter button
		On	• Radio command pending	• Release transmitter button
		■■■■■ ■ ■ ■	• “Delete command” mode active	• Radio command can be deleted: see **page 27**
		■ ■ ■ ■ ■	• All memory locations for radio commands occupied	• Delete memory locations or extend with MEMO: see **page 27**
STATUS	Green	On	• Normal mode	• No action required
		■ ■ ■ ■ ■	• Run times are being programmed	• No action required
		■■■■■■■■■■■■	• Run times not programmed	• Program run times: see **page 23**
▲	Yellow	Off	• Door at a standstill or in the door OPEN end position	• Press button to open the door
		■ ■ ■ ■ ■	• Door moves in door OPEN direction	• Press button to stop the door
▼	Yellow	Off	• Door at a standstill or in the door CLOSE end position	• Press button to close the door
		■ ■ ■ ■ ■	• Door moves in door CLOSE direction	• Press button to stop the door

12. Troubleshooting

LED	Colour	Flash/illumination sequences	Possible cause	Corrective action
SAFETY	Red	■ ■ ■ ■ ■ ■	• Photocell interrupted/defective	• Remove obstacle • Repair/replace photocell
		■■ ■■ ■■	• Safety contact strip triggered/ defective	• Remove obstacle • Remove obstacle • Repair/replace safety contact strip
		■■■ ■■■	• Programmed motor run time exceeded	• Check that the roller door runs smoothly: repair/replace if necessary • Check limit switch of tubular motor: repair/replace if necessary • Check tubular motor: repair/ replace if necessary
		■■■■ ■■■■	• Locking mechanism triggered	• Repair/replace locking mechanism
		■■■■■ ■■■■	• Hardware error on circuit board	• Replace control unit
BUZZER	Red	■ On	• Buzzer not active/defective	• Connect/replace Buzzer if necessary
		□ Off	• Buzzer active	• If necessary, check settings in SOMlink

12. Troubleshooting

Troubleshooting table

Problem	Possible cause	Remedy
Operator/control unit is not working	• No mains power supply. • Status LED does not light up.	• Switch on main switch. • Check fuse of mains power supply. • Control unit defective, replace it.
Door cannot be opened or closed with handheld transmitter or button, or only dead man mode is possible	• Control unit executing self-test, Status LED: OFF	• Wait for self-test to finish, duration approx. 4 seconds
	• Photocell interrupted, defective or not correctly recognised. LED on terminal of the photocell blinks once intermittently.	• Remove obstacle. • Check photocell, e.g., voltage supply.
	• Electrical safety contact strip activated, defective or not correctly recognised. LED on the terminal of the safety contact strip blinks once intermittently. The safety device must be reset when changing from an optical safety contact strip to an 8k2 safety contact strip or vice versa. See “Resetting the safety devices” on page 29	• Remove obstacle. • Check electrical safety contact strip. * For test purposes, replace the safety device with an 8k2 resistor. Then perform a power on reset or drive to an end position (self-test)
	• Optical safety contact strip activated, defective or not correctly recognised. LED on the terminal of the safety contact strip blinks once intermittently.	• Remove obstacle. • Check optical safety contact strip. * For test purposes, replace the safety device with an 8k2 resistor. Then perform a power on reset or drive to an end position (self-test)
	• Permanent signal applied at a pulse input, LED on the terminal of the pulse input lights up continuously	• Connect button correctly or replace it
	• Emergency STOP active. LED on the terminal of the STOP button lights up continuously	Release emergency STOP
	• Timer on pulse input	No error
Door cannot be opened or closed with handheld transmitter	• Transmitter not programmed	• Programme handheld transmitter
	• Battery in the transmitter is flat	• Replace battery, see operating instructions for the handheld transmitter
	• Transmitter defective	• Replace transmitter
	• Button not connected correctly or defective, causing permanent signal	• Connect button correctly or replace it: see **page 19**
Door can only be opened or closed as long as: **• a button is pressed (dead man mode).** **• a button of the radio transmitter is pressed**	• Safety device triggered, e.g., photocell interrupted. LED on the terminal of the safety contact strip blinks once intermittently.	• Check the photocell, e.g. voltage supply. • Remove obstacle.
	• Safety contact strip activated, defective or not correctly recognised. LED on the terminal of the safety contact strip blinks once intermittently.	• Remove obstacle • Check safety contact strip
Connected warning light does not light up	• Defective fuse	• Replace the fuse
	• LED lighting defective	• Replace warning light
Internal lighting does not light up	• Defective fuse	• Replace the fuse
	• LED lighting defective	• Replace lighting

12. Troubleshooting

Problem	Possible cause	Remedy
Automatic closing function is not working	• Persistent door OPEN command. LED on the ▲ button on the connection for external buttons lights up continuously (external button may be defective)	• External timer connected - This is not a fault! See **"DIP switch 1: Setting automatic closing function – defining basic values" on page 24.** • Replacing an external button
	• Photo eye interrupted. LED on terminal of the photocell blinks once intermittently	• Remove obstacle. • Check wiring and function of photocell.

13. Taking out of operation, storage and disposal

13.1 Taking the control unit out of operation and disassembly

Follow the basic safety instructions listed below.

Persons under the influence of drugs, alcohol, or medications that can influence their ability to react may **not** work on the control unit.

The disassembly and disposal of the operator may only be performed by a qualified specialist.

This installation and operating manual must be read, understood and complied with by the specialist who disassembles the operator.

⚠ DANGER

Danger due to electric current!

Contact with live parts may result in electric current flowing through the body. Electric shock, burns, or death may result.

- ► Before commissioning, it is essential to ensure that the specifications on the type plates of the operator and the control unit match.
- ► Read and observe the safety information and warnings on **page 8**.

The operator and its accessories must be disconnected from electrical power when taking them out of operation or during disassembly.

1. Turn off the control unit voltage supply.

   Then check that the power is disconnected.
2. Disassembly is carried out in reverse order of installation.

13.2 Storage

NOTE

Improper storage may damage the operator.

Store the packaging units as follows:

- in enclosed, dry rooms so that they are protected from moisture
- at a storage temperature from –25 °C to +65 °C
- secure to prevent falling
- leave room for unhindered passage

13.3 Disposal of waste

Observe the instructions for disposal of packaging, components, batteries and, if applicable, the accumulator.

⚠ DANGER

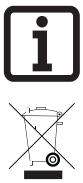
Danger of hazardous substances!

Improper storage, use or disposal of accumulators, batteries and operator components are dangerous for the health of humans and animals. Serious injury or death may result.

- ► Accumulators and batteries must be stored out of the reach of children and animals.
- ► Keep accumulators and batteries away from chemical, mechanical and thermal influences.
- ► Do not recharge old accumulators and batteries.
- ► Components of the operator as well as old accumulators and batteries must not be disposed of with household waste. They must be disposed of properly.

NOTE

Dispose of all components in accordance with national regulations to avoid environmental damage.



INFORMATION

All components that have been taken out of service must not be disposed of with normal waste. Components which have been taken out of service and contain pollutants must be disposed of correctly at an authorised recycling centre. The local regulations must be observed.

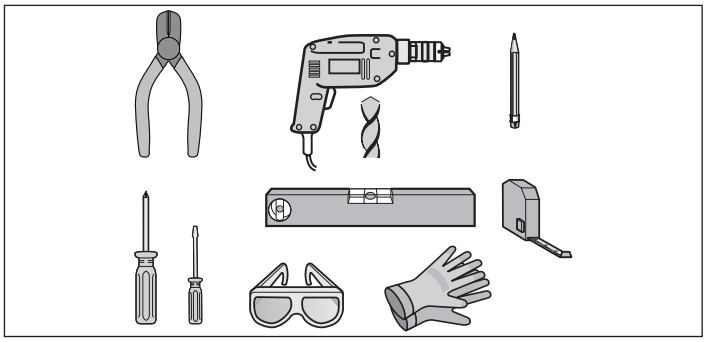
INFORMATION

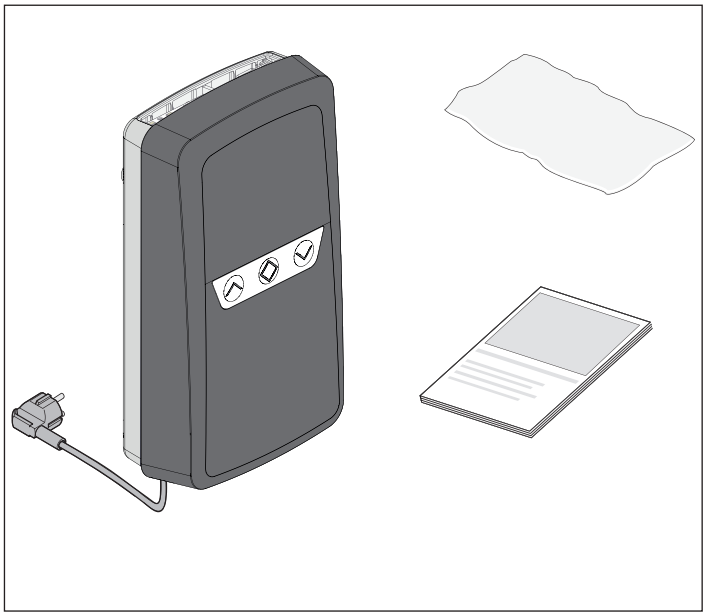
Old accumulators and batteries must not be disposed of with household waste, as they contain hazardous substances. They must be disposed of properly at municipal collection points or in the containers provided by dealers. The local and national regulations must be observed.

14. Brief instructions

- ► The short instructions do not replace the installation and operating manual.
- ► Read this Installation and Operating Manual carefully and, most importantly, observe all safety instructions and warnings.
- ► Work on the electrical system and live parts may be performed only by a **trained electrician** in accordance with EN 50110-1.
- ► The installation, initial operation and disassembly of the control unit may only be performed by a qualified specialist.
- ► Comply with all valid directives and standards.

14.1 Preparations

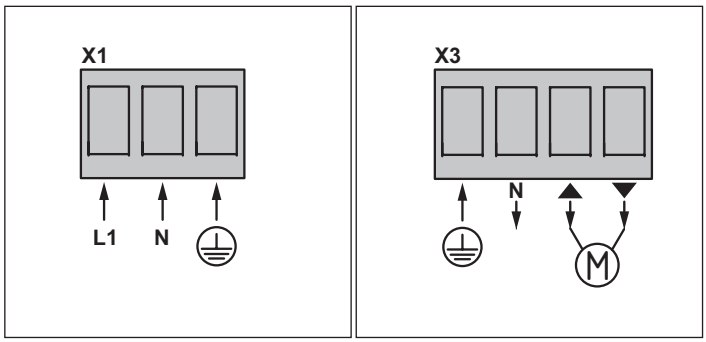




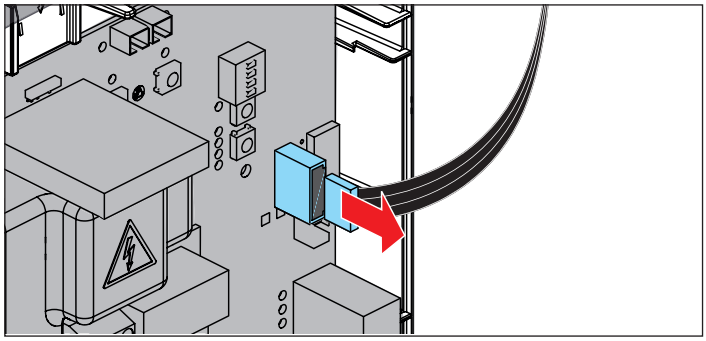
- Check that the scope of delivery is complete

14.2 Electrical connection

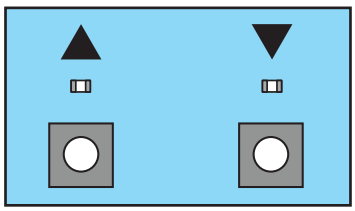
1. Turn off the control unit voltage supply.



2. Wire.



3. Pull the ribbon cable of the integrated 3-function pad off the control unit circuit board.



1. Press the door OPEN or door CLOSE button on the circuit board.

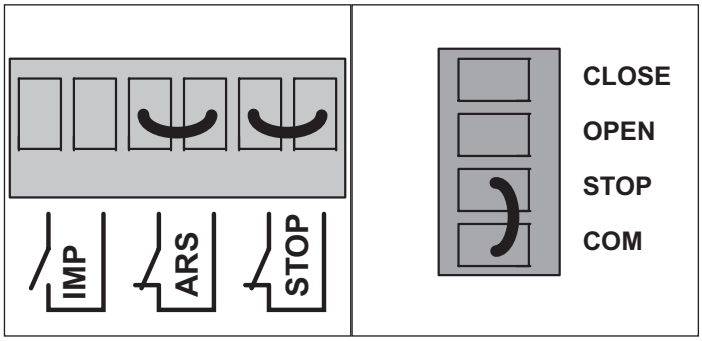
   ⇒ If the door runs in the opposite direction: Disconnect the control unit from the mains and switch the lines at X3 for door OPEN and door CLOSE.

2. If necessary, correct the end position setting in accordance with the instructions from the motor manufacturer **“8.3 Setting the motor limit switches” on page 23.**

For further information, see **“14.2 Electrical connection” on page 43** and **“8.2 Checking the direction of running” on page 22.**

14. Brief instructions

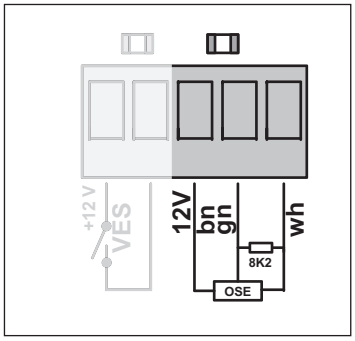
14.3 Checking the wiring of any unused inputs

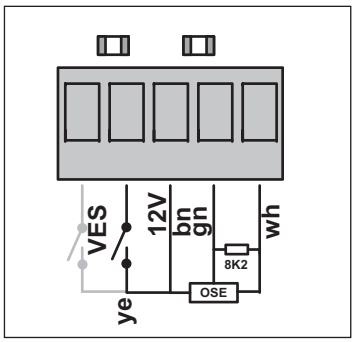


The following terminal pairs must be connected to each other with wire jumpers or normally closed (NC) contacts:

- Locking mechanism
- STOP button
- STOP button of the external command device

14.4 Connecting a safety contact strip (8K2 or OSE)





Connection of OSE or 8k2 with pre-end position switch at 4-wire spiral cable

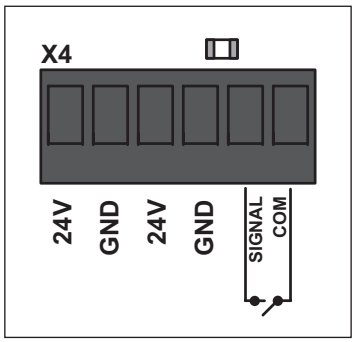
► No settings need to be made on the control unit. The control unit tests and recognises which safety contact strip variant is connected during each self-test (when the mains voltage is switched on or an end position has been reached).

► For test purposes, the 8.2 kΩ resistor included in the scope of delivery can be connected to the terminals of terminal strip X5. See **"8.5 Setting the run time (run time monitoring)" on page 23** . If the LED on the safety input still blinks, consult the table below:

Flash sequences	Possible cause
■■■■■■■■■■■■■■	• Photocell interrupted/ defective
■ ■ ■ ■ ■ ■ ■ ■	• Door moves in CLOSE/ OPEN direction
■■ ■■ ■■ ■■	• Safety contact strip triggered/defective
■■■ ■■■ ■■■	• Programmed motor run time exceeded
■■■■ ■■■■ ■■	• Locking mechanism triggered
■■■■■ ■■■■■	• Hardware error on circuit board

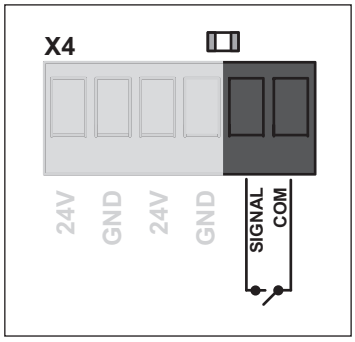
Integrated lighting

14.5 Connection of one-way photocell with potential-free relay contact (NC)



*The control unit provides a total of max. 300 mA / 7 W for all 24 V consumers

14.6 Connection of 2-wire frame photocell

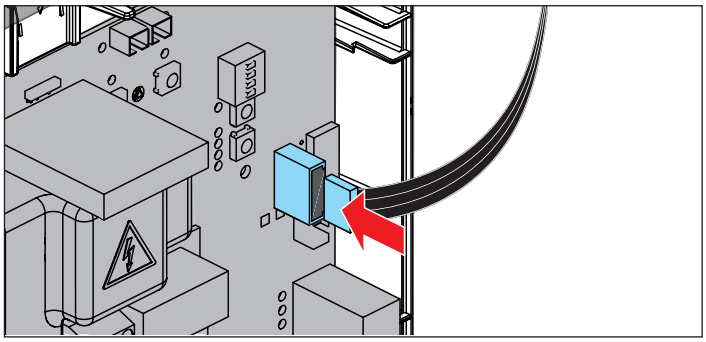


14. Brief instructions

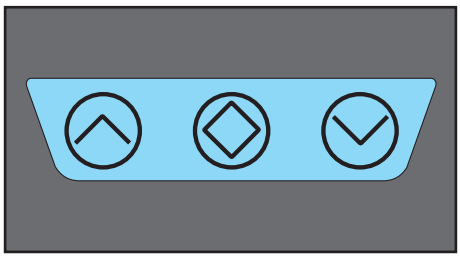
14.7 Setting the run time (run time monitoring)

NOTE

The limit switches must be set before setting the run times, see “8.3 Setting the motor limit switches” on page 23.



1. Connect ribbon cable to the control unit circuit board.
2. Close housing cover and fasten it with the screw on the underside.

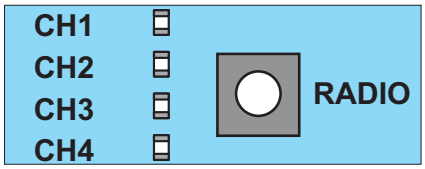


3. Press the door OPEN or door CLOSE button on the housing cover to start the automatic learning process.
   ⇒ The door remains in one of the two end positions.
   ⇒ The lighting lights up continuously.
4. Press the button for the opposite direction until the corresponding end position is reached (end position must be approached without interim stop).
   ⇒ Internal lighting goes out when the end position is reached.
   ⇒ The run times for both directions are programmed.

NOTE

- ► Resetting run times: see **“Resetting the control unit” on page 28**.
- ► Only dead man mode is possible if the run times have not been programmed.
- ► If faults occur, observe the internal lighting: **“Integrated lighting as error display” on page 37**.

14.8 Programming the transmitter



See **“8.7 Explanation of the radio channels” on page 26**.

1. Press the radio button repeatedly to select the required radio channel.
2. Press the desired button on the transmitter until the LED for the radio channel goes out.
   ⇒ **LED goes out – programming has been completed**
   ⇒ The transmitter has transferred the radio code to the radio receiver
3. Repeat the above steps to program additional transmitters.

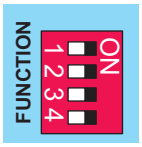
14.9 Function test/Final test

The door must reverse during the door CLOSE movement if it hits a 40-mm-high obstacle on the ground.

1. Open the door with the operator.
2. Place a 40-mm-high object in the centre of the door.
3. Close the door with the operator.
   ⇒ If the door hits an obstacle, the operator must immediately reverse.
   ⇒ The operator opens the door completely at a pulse from the transmitter.

14. Brief instructions

14.10 DIP switches

		ON	OFF
1	Automatic closing function	Activated	Deactivated
2	Pre-warning time	Warning light blinks 4 seconds before and during door movement	Blinks during door movement
3	Partial opening/ lighting function	Partial opening activated/ lighting function deactivated	Partial opening deactivated/ lighting function activated
4	Safety edge	Safety contact strip activated = STOP, door reverses	Safety contact strip activated = STOP, door opens completely

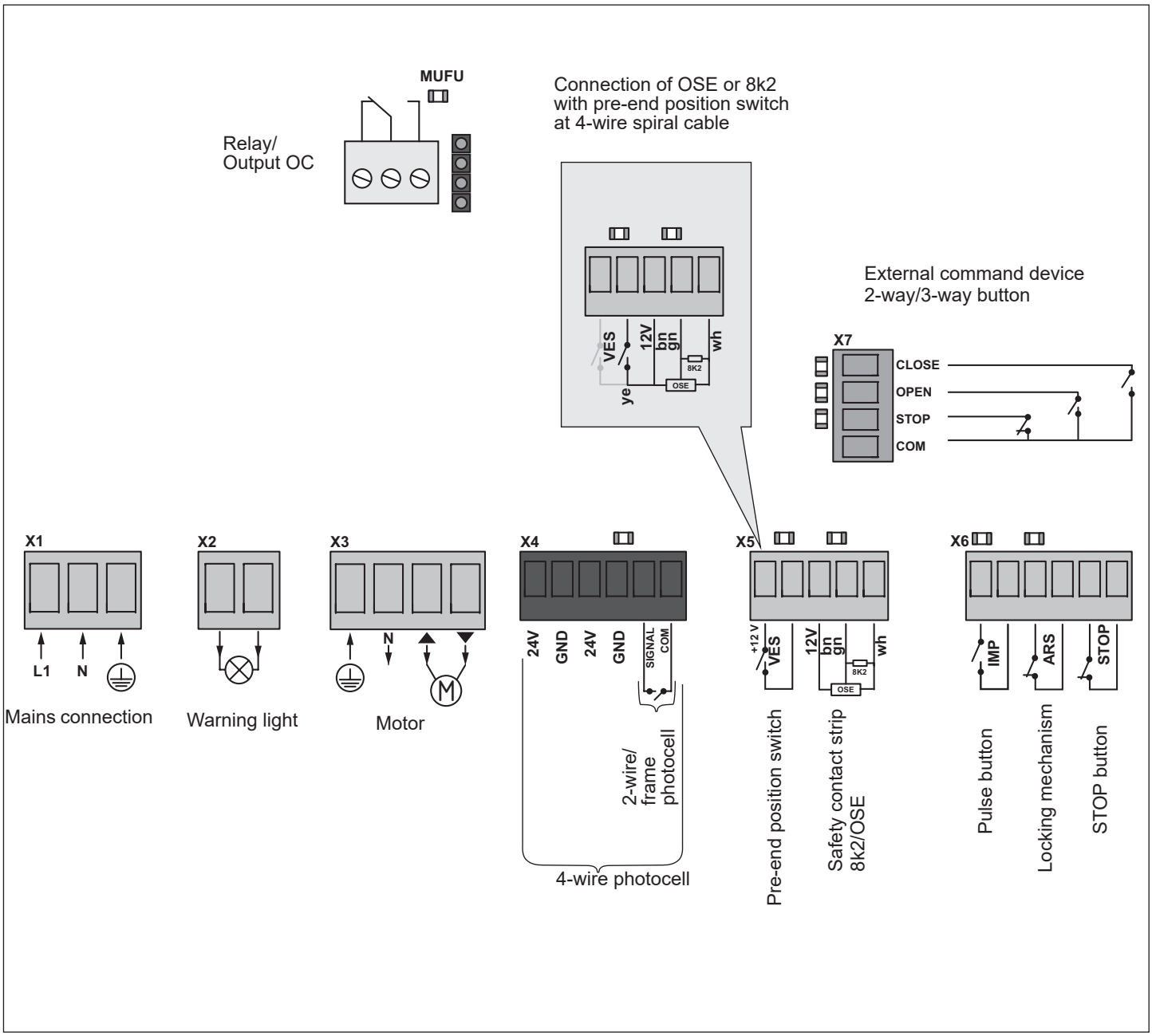
14.11 Resetting the control unit

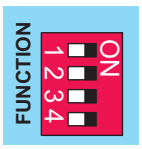
Reset of the safety inputs

Reset of the programmed run times

See **“14.11 Resetting the control unit” on page 46.**

15. Connection overview and DIP switches





		ON	OFF
1	Automatic closing function	Activated	Deactivated
2	Pre-warning time	Warning light blinks 4 seconds before and during door movement	Blinks during door movement
3	Partial opening/ lighting function	Partial opening activated/ lighting function deactivated	Partial opening deactivated/ lighting function activated
4	Safety edge	Safety contact strip activated = STOP, door reverses	Safety contact strip activated = STOP, door opens completely

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