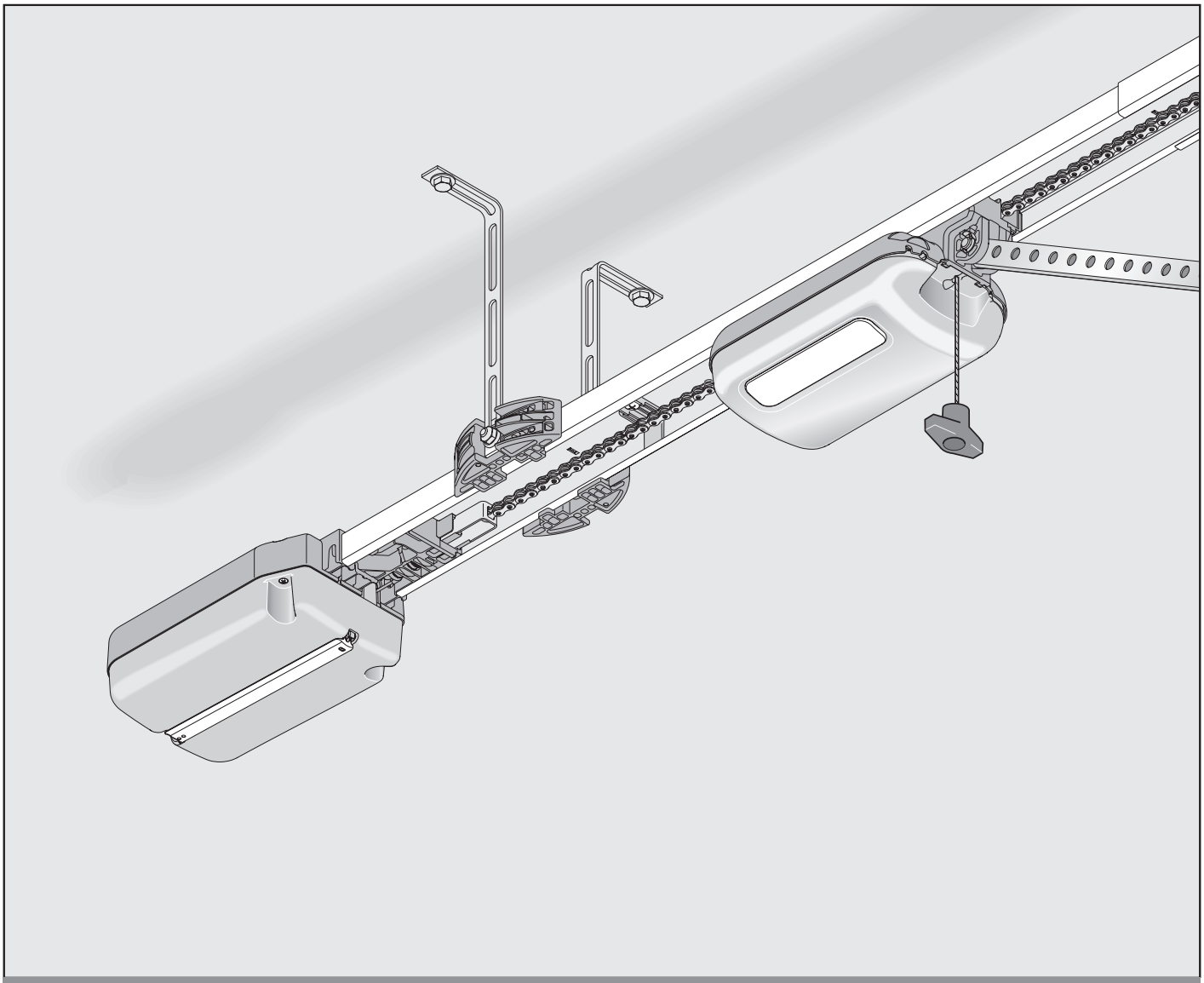
TECKENTRUP
DOOR SOLUTIONS



EN TRANSLATION OF THE ORIGINAL INSTALLATION AND OPERATING MANUAL

Garage door operator

CarTeck DRIVE 500
CarTeck DRIVE 600

Platz für
Garantieaufkleber

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 to all users at all times at the place of use.
A replacement for the installation and operating manual can be downloaded from **SOMMER** 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 owner:

- EC Declaration of Conformity
- handover protocol and inspection book
- this installation and operating manual
- proof of regular maintenance, testing and care
- documents recording retrofitting and repairs

1.2 Important for translations

The 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.

https://www.teckentrup.biz/downloadcenter/

1.3 Description of the product type

The operator has been constructed according to state-of-the-art technology and recognized technical regulations and is subject to the EC Machinery Directive (2006/42/EC). The operator is fitted with a radio receiver. Optionally available accessories are also described. The version can vary depending on the type. This means the use of accessories can vary.

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

- Unloading and in-house transport
- Unpacking and installation
- Commissioning
- Setting
- Usage
- Maintenance, testing and care
- Troubleshooting and repairs
- 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:

DANGER

WARNING

CAUTION

1. About this installation and operating manual

There are three different classifications of hazards

⚠ DANGER

Describes an immediate danger that leads to serious injury or death.
Describes the consequences of the danger to you or other persons.
► Follow the instructions for avoiding or preventing the danger.

⚠ WARNING

Describes a potential danger of serious injury or death.
Describes the potential consequences of the danger to you or other persons.
► Follow the instructions for avoiding or preventing the danger.

⚠ CAUTION

Describes a potential danger of a hazardous situation
Describes the potential consequences of the danger to you or other persons.
► Follow the instructions for avoiding or preventing the danger.

The following symbols are used for notes and information:

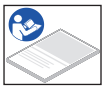
NOTE
Describes additional information and useful notes for correct use of the operator without endangering persons.
If it is not observed, property damage or faults to the operator or door may occur.

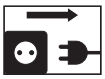
INFORMATION
Describes additional information and useful tips.
Functions for optimum usage of the operator are described.

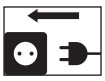
INFORMATION
This symbol indicates that all operator components that have been taken out of service must not be disposed of with household waste, as they contain hazardous substances. The components must be disposed of correctly at an authorised recycling centre. The local and national regulations must be observed.

INFORMATION
This symbols indicates that all old accumulators and batteries must not be disposed of with household waste. Old accumulators and batteries contain hazardous substances. These must be disposed of properly at municipal collection points or in the provided containers of the dealers. The local and national regulations must be observed.

The following symbols are used in the figures and text.


Continue reading the installation and operating manual for more information.


Disconnect the operator from the mains voltage.


Connect the operator to the mains voltage.


Symbol refers to factory settings


Symbol refers to a WiFi-enabled device, such as a smartphone.

1.6 Special warnings, hazard symbols and mandatory signs

To specify the nature 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.

1. About this installation and operating manual

⚠ DANGER

Danger due to electric current!
Contact with live parts may result in electric current flowing through the body. Electric shock, burns or death will result.
► Installation, testing and replacement of electrical components may only be carried out by a **trained electrician**.

⚠ WARNING

Danger of falling!
Unsafe or defective ladders may tip and cause serious or fatal accidents.
► Use only a non-slip, stable ladder.

⚠ WARNING

Danger for trapped persons!
Persons may be trapped inside the garage. If trapped persons cannot free themselves, severe injury or death may result.
► If there is no second entrance to the garage, you must have a release lock or a Bowden wire for unlocking from the outside installed. This can be used to free persons who cannot free themselves

⚠ WARNING

Danger due to projecting parts!
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

⚠ WARNING

Danger due to falling parts!
Parts of the door may become detached and fall. If persons or animals are hit, this may cause serious injury or death.
► The door must not bend, rotate or twist when you open or close it.

⚠ WARNING

Danger of entrapment!
Persons and animals in the movement area of the door may be trapped and pulled along with the door. Severe injuries or death may result.
► Keep clear of the moving door.

⚠ 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.
► Never put your hand near the door when it is moving or near moving parts

⚠ WARNING

Danger of tripping and falling!
Unsafely positioned parts such as packaging, operator parts or tools may cause trips or falls.
► Keep the installation area free of unnecessary items

⚠ WARNING

Danger due to optical radiation!
Looking into an LED at short range for an extended period may cause optical glare. This will temporarily reduce vision. This may cause serious or fatal injury.
► Never look directly into an LED.

⚠ WARNING

Danger due to hot parts!
After frequent operation parts of the motor carriage or the control unit may become hot. If the cover is removed and hot parts are touched, they may cause burns.
► Allow the operator to cool down before removing the cover.

1. About this installation and operating manual

The following mandatory signs inform the user that actions are required. The requirements described must be complied with.

⚠ WARNING

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

⚠ WARNING

Risk of injury in the head region!
Impact with suspended objects may cause serious abrasions and cuts.
► Wear a safety helmet.

⚠ CAUTION

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

1.7 Information regarding the depiction of text

1. 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

1, A 1 A Item number in the figure refers to a number in the text.
Important text items, for example in directions for actions, are emphasised in **bold**.
References to other chapters or sections are in **bold** and set in **"quotation marks"**.

1.8 Intended use of the operator

The operator is intended exclusively to open and close doors. Any other use does not constitute intended use. The manufacturer accepts no liability for damage resulting from use other than intended use. The user bears the sole responsibility for any risk involved. It also voids the warranty.
Any changes to the operator must be made with original **SOMMER** accessories only and only to the extent described.
Doors automated with this operator must comply with all valid international and domestic standards, directives and regulations. Examples include EN 12604, EN 12605 and EN 13241-1.
The operator may only be used:

- in combination with door types in the reference list which can be found at:
- if the EC Declaration of Conformity has been issued for the door system
- if the CE mark and the type plate for the door system have been attached to the door
- if the handover protocol and the inspection book have been completed and are available
- the installation and operating manuals for the operator and the door are present
- as specified in this installation and operating manual
- in good technical condition
- with attention to safety and hazards by trained users

1. About this installation and operating manual

1.9 Improper use of the operator

Any other use or additional use that has not been described in Chapter 1.8 constitutes improper use.
The user bears the sole responsibility for any risks 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 operator
- modifications and non-approved programming of the operator and its components

The door must not be part of a fire protection system, an evacuation path or an emergency exit that automatically closes the door in the event of fire. Installation of the operator will prevent automatic closing.
Observe the local building regulations
The operator may not be used in:

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

1.10 Qualifications of personnel

People under the influence of drugs alcohol, or medications that can influence their ability to react may **not** work on the operator.
After installation of the operator, the person responsible for the installation of the operator 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 to the door system. This also applies if the operator is retrofitted to a manually operated door. In addition, a handover protocol and an inspection book must be completed.
The following is available:

- EC Declaration of Conformity
- handover protocol for the operator

http://som4.me/konform

Trained 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 operator.
Work on the electrical system and live parts may be performed only by a **trained electrician** in accordance with EN 50110-1.
The installation, commissioning and disassembly of the operator 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 ordered by the installer.
The qualified specialist must instruct the user:

- on the operation of the operator and its dangers
- on the handling of the manual emergency release
- 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 operator, its dangers as well as the emergency release.
The user must be informed about which work must 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 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 operator
- 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 specialists
- troubleshooting and repair by a qualified specialist

The operator 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 operator, even under supervision. Children must be kept clear of the operator. Handheld transmitters or other control devices must never be given to children. Handheld transmitters must be safely stored and protected against unintended and unauthorised use.
The user will 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 the 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 operator 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
Children must never play with or use the operator, even under supervision. Children must be kept clear of the operator. Handheld transmitters or other control devices must never be given to children. Handheld transmitters must be safely stored and protected against unintended and unauthorised use.

⚠ DANGER

Danger if not observed!
If safety instructions are not observed, serious injury or death may result.
- ► All safety instructions must be complied with.

⚠ DANGER

Danger due to electric current!
Contact with live parts may result in electric current flowing through the body. Electric shock, burns or death will result.
- ► Installation, testing and replacement of electrical components must be carried out by a **trained electrician**.
- ► Disconnect the mains plug before working on the operator.
- ► If an accumulator is connected, disconnect it from the control unit.
- ► Check that the operator is not live.
- ► Secure the operator against being switched back on.

⚠ DANGER

Danger due to use of the operator with incorrect setting or when it is in need of repair!
If the operator is used despite incorrect settings or if it is in need of repair, severe injury or death may result.
- ► The operator may only be used with the required settings and in the proper condition.
- ► You must have faults repaired professionally without delay.

⚠ 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.

⚠ WARNING

Danger of 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 emergency release regularly from inside and if necessary, also from outside.
- ► You must have faults repaired professionally without delay.

2. General safety instructions

⚠ WARNING

Danger due to projecting parts!

Gate leaves or other parts must not project into public roads or footpaths. This also applies while the door is moving.

This may cause serious injury or death to persons or animals.

► Keep public roads and footpaths clear of projecting parts

⚠ WARNING

Danger due to falling parts of doors!

Actuating the emergency release can lead to uncontrolled door movement if

- springs are weakened or broken.
- the door has not been optimally weight-balanced.

Falling parts may cause a hazard. Severe injuries or death may result.

► Check the weight balance of the door at regular intervals

► Pay attention to the movement of the door when the emergency release is actuated.

► Keep clear of the movement area of the door.

⚠ WARNING

Danger of entrapment!

Persons and animals in the movement area of the door may be trapped and pulled along with the door. Severe injuries or death may result.

► Keep clear of the movement area of the door.

⚠ 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 use the operator when you have a direct view of the door.

► All danger zones must be visible during the entire door operation.

► 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 when it is moving or near moving parts In particular, do not reach into the moving push arm.

► Do not reach into the ceiling suspension unit when the motor carriage is running along the track.

► Do not drive through the door until it has opened completely.

► Store the handheld transmitters so that unauthorised or accidental operation, e.g., by children or animals, is impossible.

► Never stand under the opened door.

⚠ WARNING

Danger due to optical radiation!

Looking into an LED at short range for an extended period may cause optical glare. This may temporarily reduce vision. This may cause serious or fatal accidents.

► Never look directly into an LED.

NOTE

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

2. General safety instructions

NOTE

The motor carriage is supplied with safety low voltage via the chain and the track.
The use of oil or grease will greatly reduce the conductivity of the chain, track and motor carriage. This may result in faults due to inadequate electrical contact.
The chain and track are maintenance-free and must not be oiled or greased.

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.

2.2 Additional safety information for the radio remote control

Follow the basic safety instructions listed below.

⚠ WARNING

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 like the radio control, all danger zones must be visible during the entire door operation.
- 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 when it is moving or near moving parts
- Do not drive through the door until it has opened completely.
- Store the handheld transmitters so that unauthorised or accidental operation, e.g., by children or animals, is impossible.
- Never stand under the opened door.

NOTE

If the door is not in view and the radio remote control 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.

The user of the radio system is not protected from faults 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.
You can find the EC Declaration of Conformity for the radio here:

http://som4.me/konform-funk

3. Description of function and product

3.1 The operator and its mode of operation

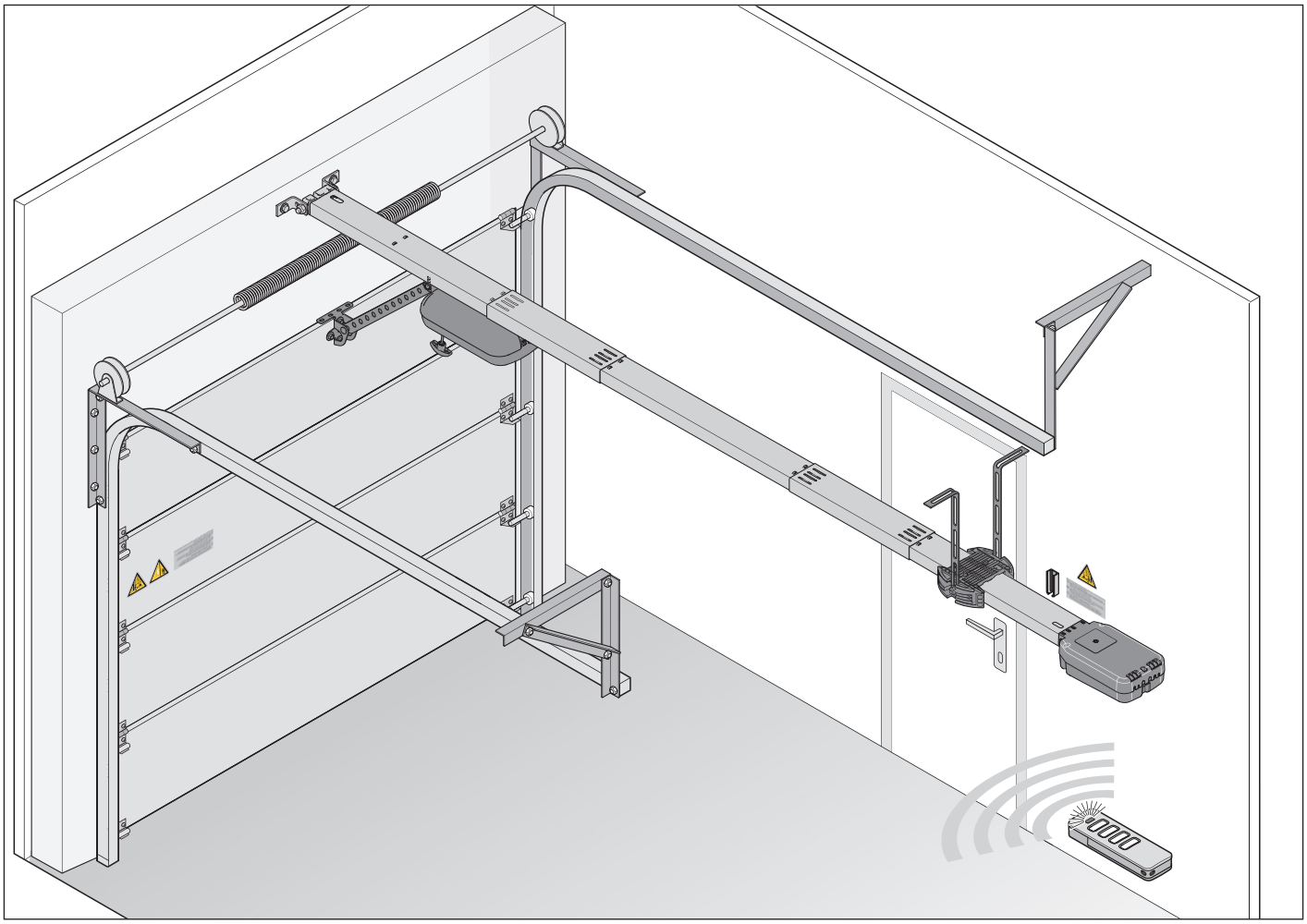


Fig. Door structure with operator

Sectional doors and other door types can be opened and closed with the electrically powered operator and its available accessories The operator control unit can be controlled with a handheld transmitter.
The track is mounted on the ceiling and the lintel above the garage door. The motor carriage is attached to the door by a push arm. The motor carriage moves along the track on a spring-mounted chain and opens or closes the door.
The handheld transmitter can be stored in a holder in the garage or in the vehicle.
A plug-in light for the ceiling control unit is available as an accessory. It is automatically activated during operation.
The use of accessories can vary depending on the type.
For more information on using the operator with different door types or accessories contact your specialist dealer.

3.2 Safety equipment

The operator stops and reverses slightly if it encounters an obstacle. This prevents injury and damage to property.
The door will be partially or completely opened depending on the setting.
In the event of a power failure, the door can be opened from the inside via an emergency release or from the outside with a Bowden wire or emergency release lock.
For more information, contact your specialist dealer.

3. Description of function and product

3.3 Product designation

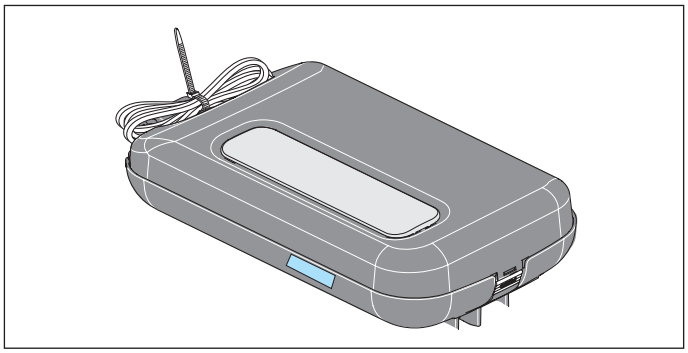


Fig. Motor carriage with type plate and device specifications

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.

3.4 Explanation of tool symbols

Tool symbols

These symbols refer to the use of tools required for installation.


Phillips screwdriver

Metal drill 5 mm

Masonry drill 10 mm

Fork spanner 10/13/17 mm

Ratchet driver 10/13/17 mm

Other symbols

Drilling depth

Audible engaging or clicking noise

3. Description of function and product

3.5 Scope of delivery

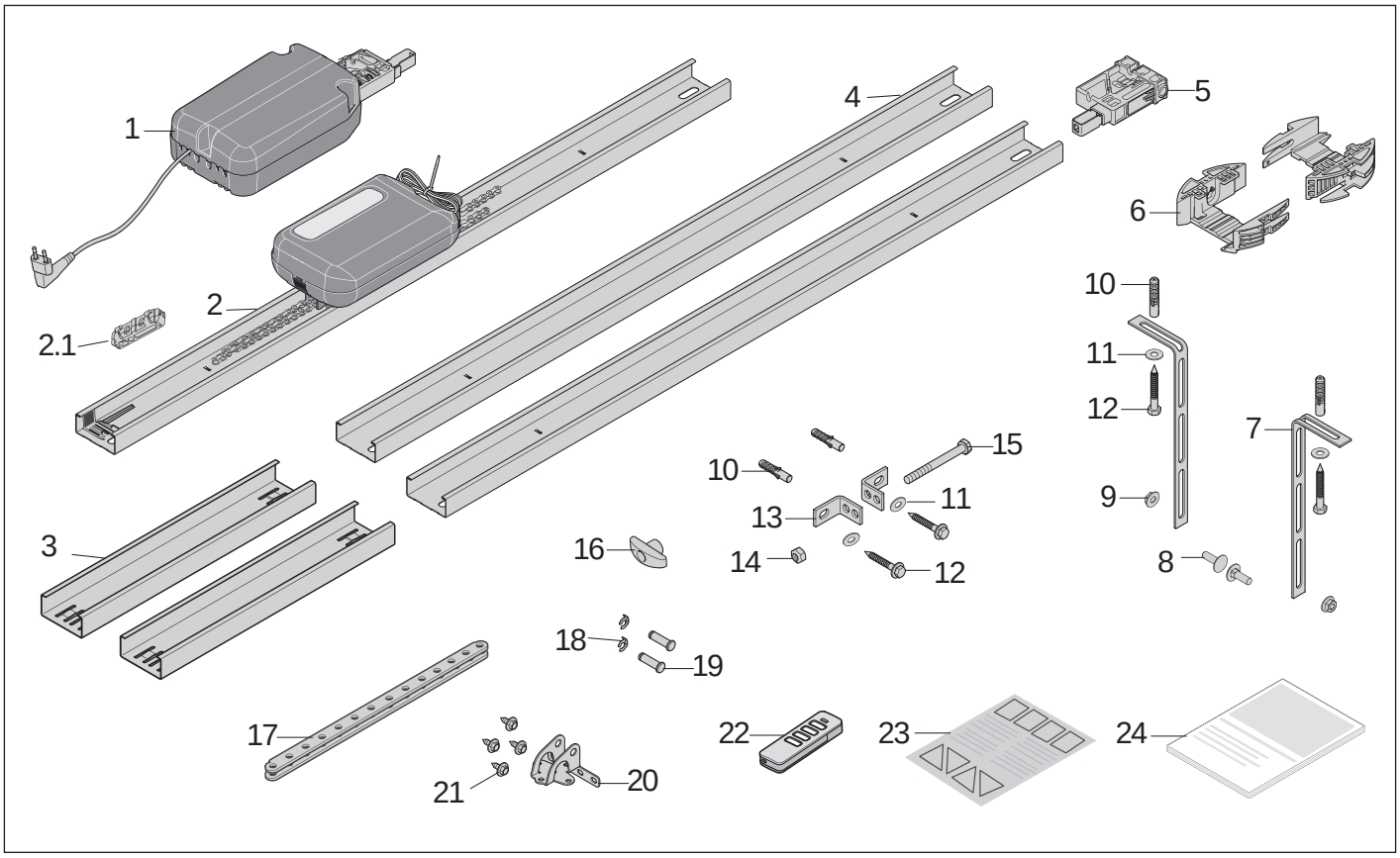


Fig. Scope of delivery

1) Ceiling control unit
2) Track, pre-assembled with **1 x guide idler**, chain and motor carriage
2.1) Isolator, **pre-assembled on the chain**
3) Connecting sleeves, 2 x
4) Track, 2 x
5) Plug-in unit, pre-assembled
6) Ceiling holder, 2-part
7) Perforated strip, angled, 2 x
8) Screw M8 x 20 mm, 2 x
9) Hexagonal nut self-locking M8, 2 x
10) S10 wall plugs, 4 x
11) Washer, 4 x
12) Screw 8 x 60 mm, 4 x
13) Lintel bracket, 2 x
14) Hexagonal nut, self-locking M10
15) Hexagonal head screw M10 x 100 mm
16) Emergency release handle
17) Push arm, straight
18) Safety bolt 10 mm, 2 x
19) Bolt 10 x 34.5 mm, 2 x
20) Door bracket
21) Combination self-tapping screw, 4 x
22) Handheld transmitter, **preprogrammed,** channel 1 pulse sequence, **with CR 2032, 3 V lithium battery**
23) Information sticker for garage interior
24) Installation and Operating Manual

When unpacking make sure that all articles are included in the packages If anything is missing, contact your specialist dealer. The actual scope of delivery may vary depending on the type or customer specifications

3. Description of function and product

3.6 Dimensions

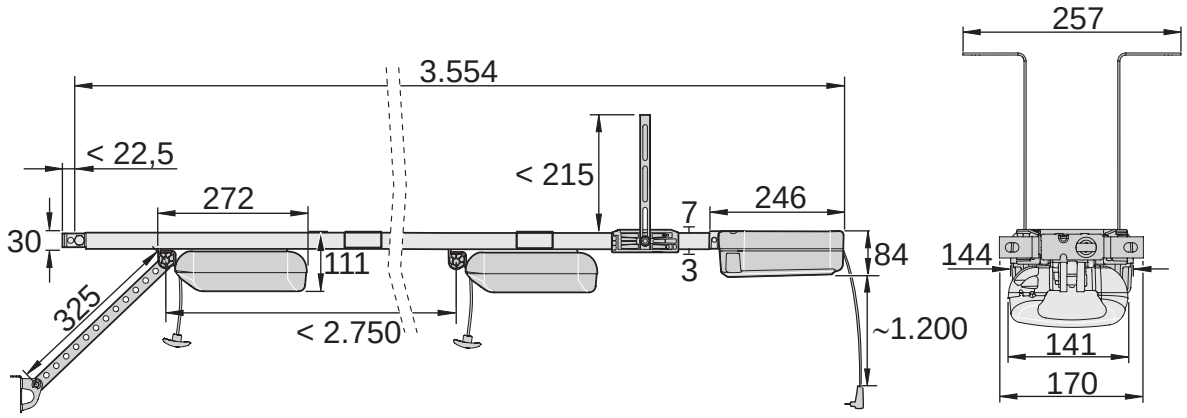


Fig. Dimensions (all dimensions are in mm)

3.7 Technical data

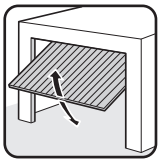
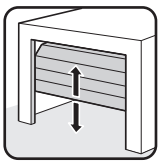
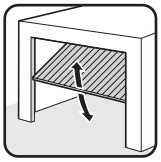
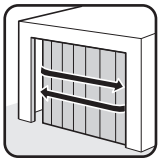
		CarTeck DRIVE 500	CarTeck DRIVE 600
Rated voltage		220 V – 240 V AC	
Rated frequency		50/60Hz	
Memory locations in radio receiver		40	
Operating time		S3 = 40 %	
Operating temperature		–25 ºC to +65 ºC	
Emission value according to operating environment		< 59 dBA – operator only	
IP protection class		IP21	
IP-code		II	
Travel length max.		2,750 mm	
Travel length including extension max.		3,800 mm (2x 1,096 mm)	4,900 mm (2x 1,096 mm)
Speed*		180 mm/s	240 mm/s
Max. pull and pushing force		500 N	600 N
Rated pull force		150 N	180 N
Rated power consumption**		95 W	95 W
Power consumption (max. load)		350 W	350 W
Rated current consumption**		0.5 A	0.5 A
Power consumption in power-saving mode		CarTeck DRIVE 500 <3 W CarTeck DRIVE 600 <1 W	
Max. door width/ door height	**Sectional doors**	H 1,875 – 2,500 mm W 2,000 – 5,500 mm	H 1,875 – 2,500 mm W 2,000 – 5,500 mm
	One piece doors	H 1,875 – 2,750 mm W 2,000 – 3,000 mm	H 1,875 – 2,750 mm W 2,000 – 3,000 mm

* Depending on door and the operating conditions

** Values apply without lighting

3. Description of function and product

3.8 Door types and accessories

Door type		Accessories
	One piece door	No accessories required
	Sectional door with single track	Sectional door fitting with curved push arm*
	Sectional door with double track	Sectional door fitting without curved push arm**
	Sectional overhead door	No accessories required
	Up-and-over door	Curved arm*
	Side-opening door, side-opening sectional door	Side-opening/Side-opening sectional door fitting**

* Accessories not included in the scope of delivery

** The standard fitting can also be used depending on the installation type. Customs fittings are not included in the scope of delivery.

A number of accessories are available for the operator.

Here are a few examples:

Accessories	Function
Sensor	Pluggable humidity sensor If humidity is high, the garage door automatically opens a bit, providing ventilation
Memo (red housing)	Pluggable EEPROM Memory for expanding the capacity of transmitter commands from 40 internal to 450 external
Lock	Pluggable locking magnet For mechanical locking of the motor and therefore improvement of break-in protection
Alarm/warning buzzer	Pluggable acoustic signal generator Option of alarm tone when a break-in attempt occurs or a warning tone in the case of a wicket door contact, for example
Laser	Pluggable parking position laser The parking end position is displayed by a laser point on the dashboard
Battery pack	Accumulator Operator is supplied with power during a power failure

For more information on accessories such as track extensions, additional locking mechanism, customs fittings or different transmitters, contact your specialist dealer or see:
www.sommer.eu

4. Tools and protective equipment

4.1 Required tools and personal protective equipment

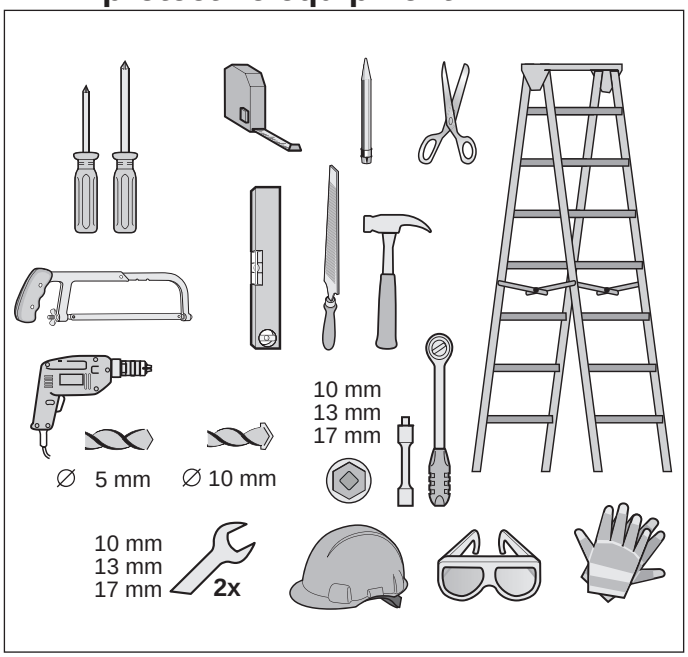


Fig. Recommended tools and personal protective equipment for installation

You will require the tools shown above to assemble and install the operator. Lay out the required tools beforehand to ensure fast and safe installation.

⚠ WARNING

Risk of eye injury!

Chips flying when drilling may cause serious injuries to eyes and hands.

► Wear safety glasses when drilling.

⚠ WARNING

Risk of injury in the head region!

Impact with suspended objects may cause serious abrasions and cuts.

► You must wear a safety helmet when installing suspended parts

⚠ CAUTION

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.

Wear your personal protective equipment. This includes safety glasses, safety gloves and a safety helmet.

5. Declaration of Installation

Declaration of Installation

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

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

hereby declares that the control units

CarTeck DRIVE 500, CarTeck DRIVE 600

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 "C" 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 doors
• EN 61000-6-3	Electromagnetic compatibility (EMC) - interference
• EN 61000-6-2	Electromagnetic compatibility (EMC) - interference resistance
• EN 60335-2-95	General safety requirements for household and similar electrical appliances - Part 2: Particular requirements for operators for vertically moving garage doors for residential use
• EN 60335-2-103	General safety requirements for household and similar electrical appliances - Part 2: Special requirements for operators for gates, doors and windows

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, 1.2.5, 1.2.6, 1.3.1, 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 specical technical documents have been prepared in accordance with Annex VII Part B and are submitted electronically to the regulators on request.

The incomplete machine is intended for installation in a door 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 regulations of the above EC Directive.

The undersigned is responsible for compilation of the technical documents

Kirchheim, 01-12-2017

CE

i.V.

Jörg Lude
Responsible for documents

6. Installation

6.1 Important information on installation

In particular, please observe and comply with the following safety instructions to ensure safe installation. People under the influence of drugs, alcohol, or medications that can influence their ability to react may **not** work on the operator.
The installation of the operator may only be performed by a qualified specialist.
This installation and operating manual must be read, understood and complied with by a qualified specialist who installs the operator.

⚠ DANGER

Danger if not observed!
If safety instructions are not observed, serious injury or death may result.
- ► All safety instructions must be complied with.

⚠ WARNING

Danger of falling!
Unsafe or defective ladders may tip and cause serious or fatal accidents.
- ► Use only a non-slip, stable ladder.
- ► Ensure that ladders are safely positioned.

⚠ WARNING

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 emergency release regularly from inside and if necessary, also from outside.
- ► If there is no second entrance to the garage, you must have a release lock or a Bowden wire for unlocking from the outside installed. This can be used to free persons who cannot free themselves

⚠ WARNING

Danger due to projecting parts!
Gate leaves or other parts must not project into public roads or footpaths. This also applies while the door is moving.
This may cause serious injury or death to persons or animals.
- ► Keep public roads and footpaths clear of projecting parts

⚠ WARNING

Danger due to falling parts of doors!
If a door is incorrectly balanced, springs may break suddenly. Falling door parts may cause serious injury or death.
Check:
- ► the stability of the door.
- ► that the door does not bend, rotate or twist when you open or close it.
- ► that the door runs smoothly in the tracks

⚠ WARNING

Danger due to falling ceiling and wall parts!
The operator cannot be installed correctly if ceiling and walls are unstable or if unsuitable mounting materials are used. Persons or animals may be struck by falling parts of the wall, ceiling or operator. Severe injuries or death may result.
- ► You must test the stability of the ceiling and the walls
- ► Use only permissible mounting materials appropriate for the supporting surface.

⚠ WARNING

Danger of entrapment!
Loose clothing or long hair may be trapped by moving parts of the door. Severe injuries or death may result.
- ► Keep clear of the moving door.
- ► Always wear tight-fitting clothing.
- ► Wear a hairnet if you have long hair.

6. Installation

⚠ 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 use the operator when you have a direct view of the door.
- ► All danger zones must be visible during the entire door operation.
- ► 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 when it is moving or near moving parts In particular, do not reach into the moving push arm.
- ► Do not reach into the ceiling suspension unit when the motor carriage is running along the track.
- ► Do not drive through the door until it has opened completely.
- ► Never rise and under the opened door.

⚠ WARNING

Danger of tripping and falling!

Unsafely positioned parts such as packaging, operator parts or tools may cause trips or falls.

- ► Keep the installation area free of unnecessary items
- ► Place all parts where no-one is likely to trip or fall over them.
- ► The general workplace guidelines must be observed.

⚠ WARNING

Risk of eye injury!

Chips flying when drilling may cause serious injuries to eyes and hands.

- ► Wear safety glasses when drilling.

⚠ CAUTION

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.

NOTE

If the ceiling and walls are not stable, parts of the ceiling, walls or the operator may fall. Objects may be damaged. Ceiling and walls must be stable.

NOTE

To prevent damage to the door or operator, use only approved mounting materials such as wall plugs or screws.
The mounting material must match the material of the ceiling and walls.
This applies particularly for prefabricated garages.

INFORMATION

Ask your specialist dealer if you require additional installation accessories for different installation or attachment situations.

6. Installation

6.2 Preparation for installation

Before installation, you must check whether the operator is suitable for the door, see also Chapter **"3.7 Technical data"**.

Removal of actuation parts

⚠ WARNING

Danger of entrapment!
Persons or animals may be trapped by straps or cords and pulled into the movement zone of the door. Severe injuries or death may result.

► Remove straps and cords used for mechanical actuation of the door.

Before installation remove:

- manual locking on door
- all cords or straps necessary to operate the door by hand.

Disabling mechanical locks

NOTE

If locks or other locking systems are installed on a mechanical door, they may block the operator. This may cause faults or damage to the operator.
Before the installation of the operator, all mechanical locking systems must be disabled.

The mechanical lock on a door with an operator must be removed or disabled if it is not compatible with the operator.

Checking the mechanism and weight balance

⚠ WARNING

Danger due to falling parts of doors or complete door panels!
Wires, spring sets and other fittings can be damaged and break. The door panel may fall. Persons or animals may be struck by falling parts of the door or the complete door panel. Severe injuries or death may result.

Before installation, qualified personnel must check the following and adapt if necessary

► wires, spring sets and other fittings of the door.

► the weight balance of the door.

⚠ WARNING

Danger of entrapment!
If the force setting is too high, persons or animals in the movement area of the door may be trapped and pulled along with the door. Severe injuries or death may result.

► The force setting is relevant to safety and must be carried out by a trained specialist.

► You must proceed with extreme caution if you check and if necessary adjust the force setting.

NOTE

If the weight compensation of the door is incorrectly adjusted, the operator may be damaged.

- The door must be stable.
- It must not bend, rotate or twist when opening and closing.
- The door must move easily in its tracks

1. Check the mechanisms of the door, such as wire cables, springs and other fittings

6. Installation

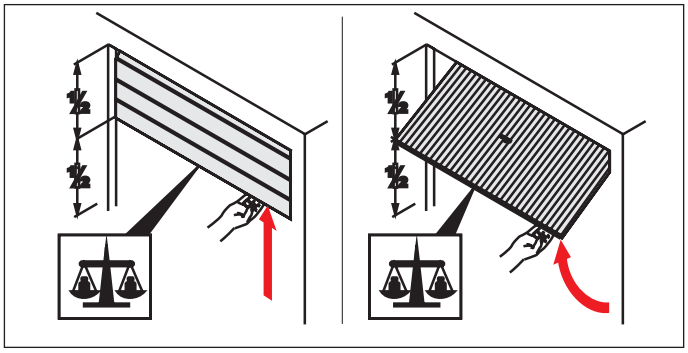


Fig. 2

2. Open the door halfway.
⇒ The door must remain in this position.
⇒ The door must be moved easily by hand and must be balanced.

If the door moves upwards or downwards by itself, the weight balance of the door must be adjusted.

Emergency release

In a garage without a separate entrance (e.g. wicket door), the operator's emergency release must be operable from outside. The emergency release must also be routed to be accessible from the outside. This can be done with a Bowden wire or a release lock. Ask your specialist dealer.

Adjusting the top roll of a sectional door

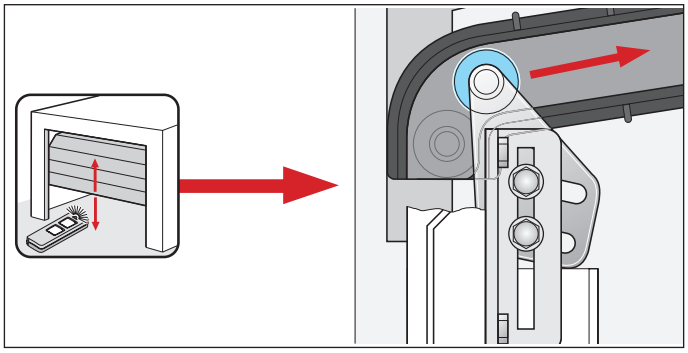


Fig. Top roll on sectional door

If a manually operated sectional door is retrofitted with an operator, the position of the top roll must be checked and adjusted if necessary.
The top roll must be routed up over the curve.

6.3 Installation of the operator system

The operator may only be installed if the installation requirements and dimensions below are correct.

NOTE

Specify the position for mounting the operator on the door. Manually open and close the door several times. The door must be moved easily.
A manual movement force of 150 N is applicable for private garage doors and 260 N for commercial doors.
The value is applicable for the entire life of the door. The door must also be maintained and inspected as specified by the door manufacturer.

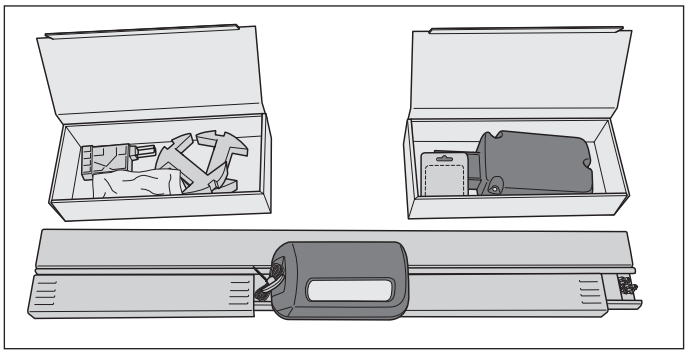


Fig. 1

⚠ CAUTION

Risk of injury to hands!
Rough metal parts may cause abrasions and cuts when picked up or touched.
► You must wear safety gloves when working with rough metal parts.

1. Open the package.
Place the two cartons in the package beside the tracks and open them.
Check the entire contents against the scope of delivery, see chapter **"3.5 Scope of delivery"**.

6. Installation

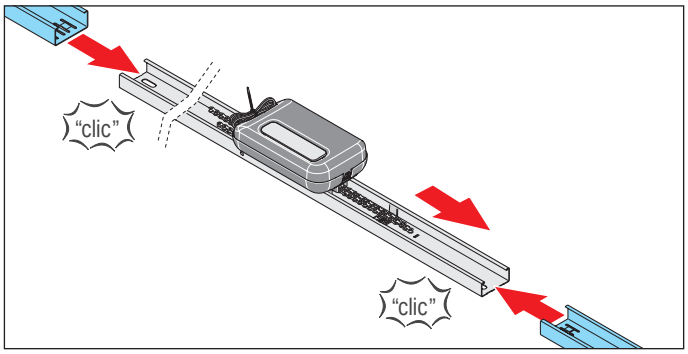


Fig. 2

2. Remove the two connecting sleeves beside the motor carriage and attach to the track on the left and right.

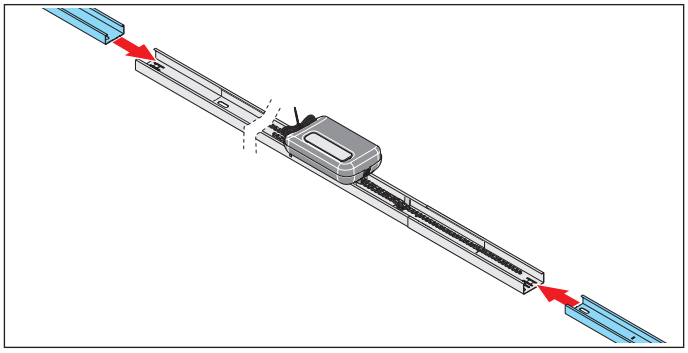


Fig. 3

3. Attach a track to each of the connecting sleeves

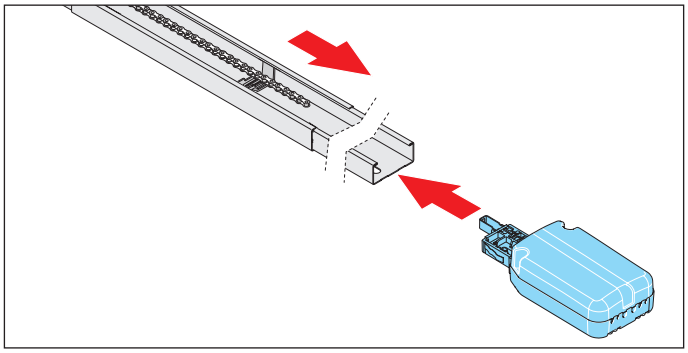


Fig. 4

4. Plug in the ceiling control unit to the track behind the guide idler.
Lay the chain over the guide idler.

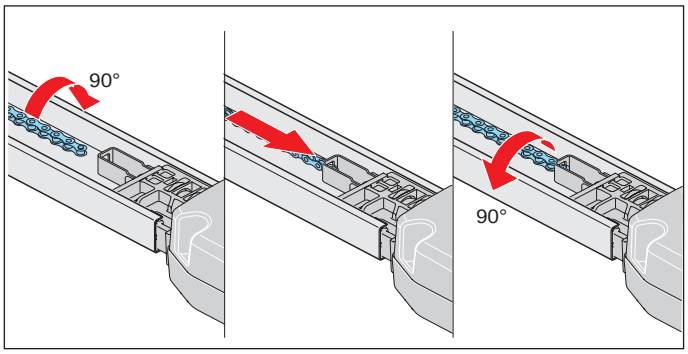


Fig. 5

5. Rotate the chain 90° and insert it into the chain holder of the ceiling control unit.
Rotate the chain back 90°.

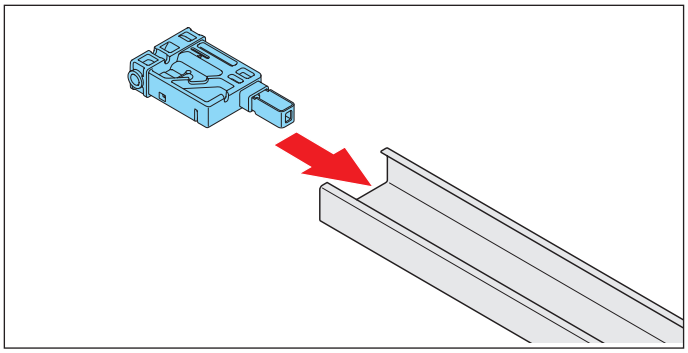


Fig. 6

6. Plug the plug-in unit onto the opposite side of the track.

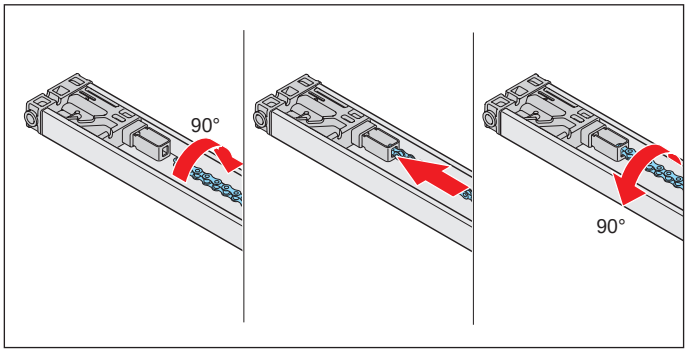


Fig. 7

NOTE

The chain must be parallel to the track to prevent damage to the operator.

7. Rotate the chain 90° and insert it into the chain holder of the plug-in unit.
Rotate the chain back 90°.
⇒ The entire chain is attached.

6. Installation

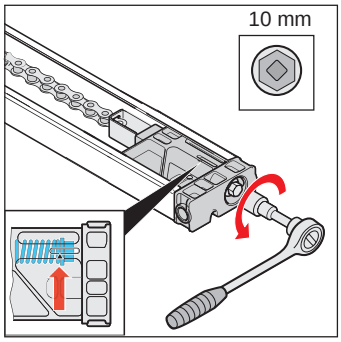


Fig. 8

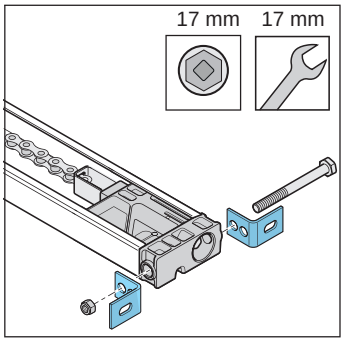


Fig. 9

8. Tens on the b ain to the mark on the plug-in unit, s e **arrow** in the detailed i ew.

9. Screw the two header brak e ts to the plug-in unit with bolt and nut.

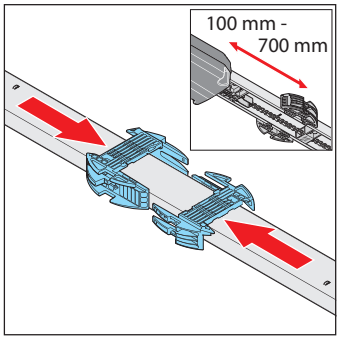


Fig. 10

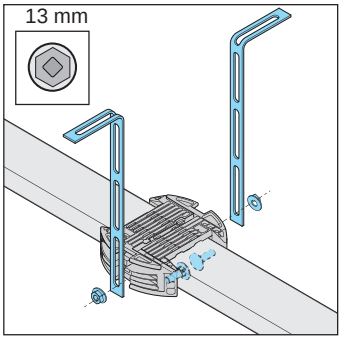


Fig. 11

10. Turn the trak to ins all the e iling brak e t.
The dis ane between the e iling o ntrol unit and the e iling holder s ould be 100 - 700 mm.
Plae the e iling holder on the trak and s ide into one another.

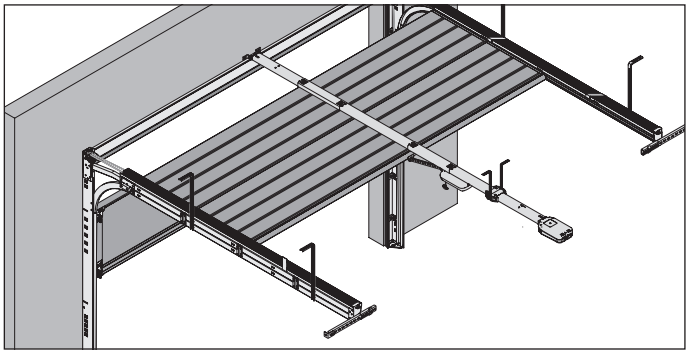
11. Fas en the perforated s rips to the e iling holder on the right and left. Als obs r e the dis ane s for ins allation to the e iling or lintel.

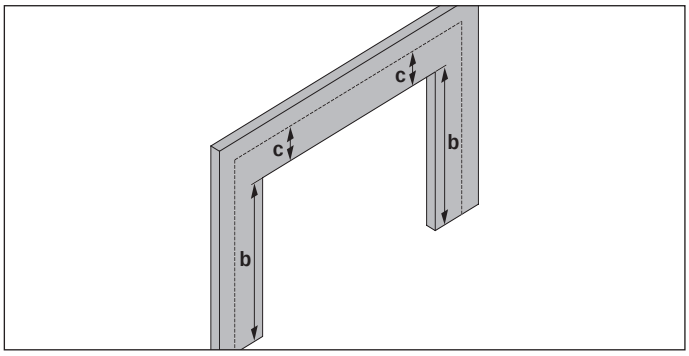
⇒ The trak is prepared for the remainder of the ins allation.

For further ins allation, s e Chapter **"6.4 Installation on the door"**.

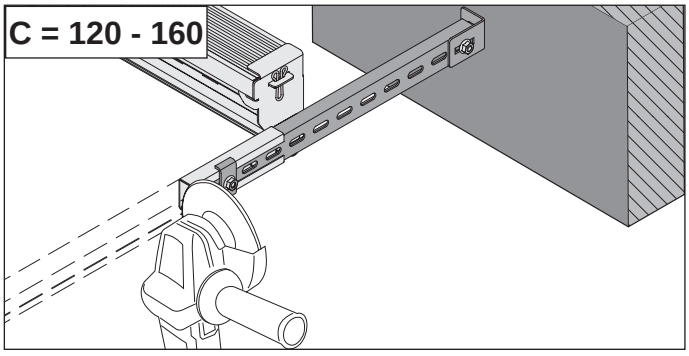
6.4 Installation on the door

INFORMATION
Because the track of the operator and the rear distance track are on the same level, the distance track must be severed and displaced.



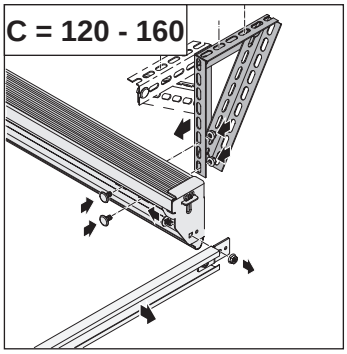


Version 1

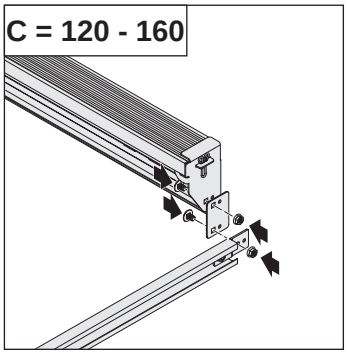


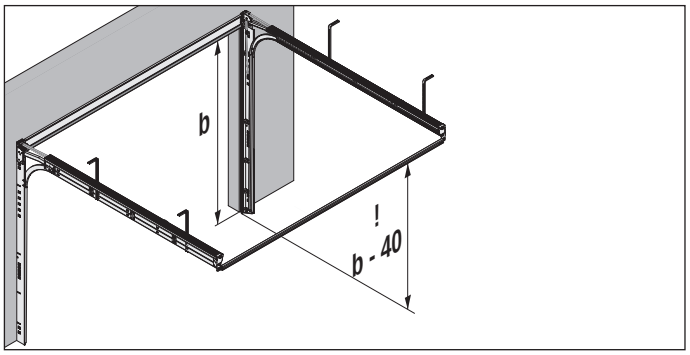
6. Installation

Version 2



Version 3





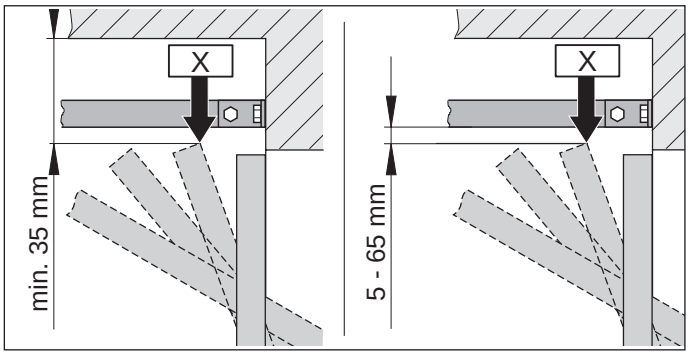


Fig. 1.1 Highest point for one piece and up-and-over doors

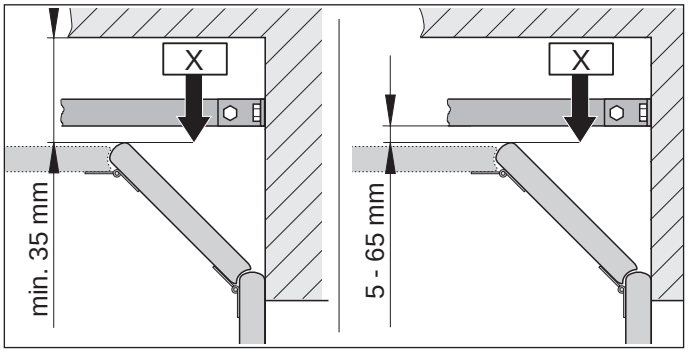


Fig. 1.2 Highest point for a sectional door

INFORMATION
If the distance between the ceiling and the bottom edge of the track is greater than 245 mm, extend the ceiling holder with additional perforated strips.

1. Measure the highest point of the door "X" depending on the type of door:
Open the door and measure the closest distance (min. 35 mm) between the top edge of the door and the ceiling.
The distance between "X" and the bottom edge of the track must be at least 5 mm and no more than 65 mm.

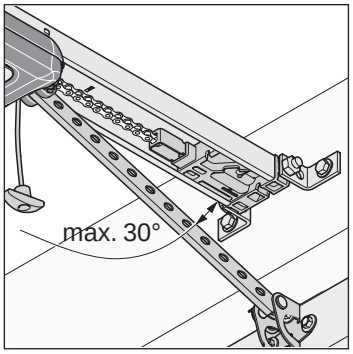


Fig. 2

6. Installation

INFORMATION
The distance may be reduced if a door handle is attached to the middle of the door. The door must be able to run freely.

2. The push arm must be at a max. angle of 30° with the door closed.

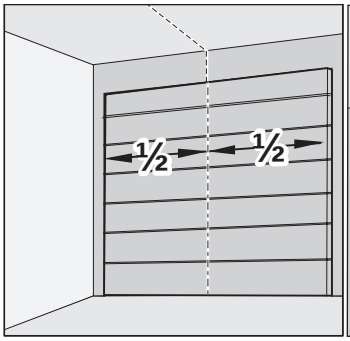


Fig. 3

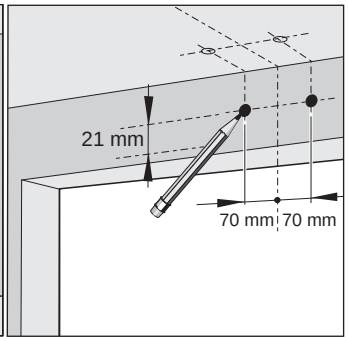


Fig. 4

3. Close the door.
Select the lintel or ceiling for installation. Measure the centre of the door at the front and mark the position on the door and the lintel or ceiling.

4. Mark points 70 mm to the right and left of the centre of the door at the same height on the lintel or ceiling.

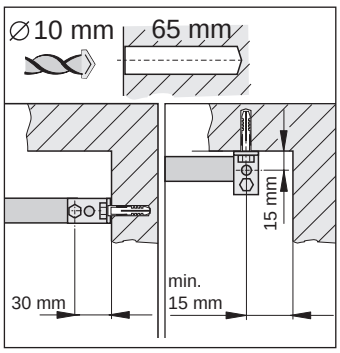


Fig. 5

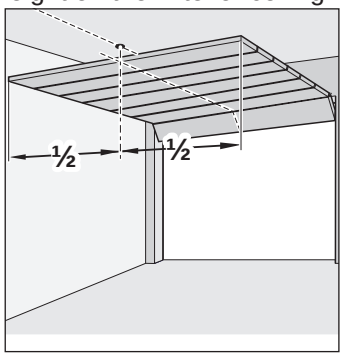


Fig. 6

NOTE
Cover the operator during drilling to prevent dirt from entering the operator unit and damaging it.

INFORMATION
If installing on the ceiling, space the drill holes 15 mm apart if possible. This reduces the tilting angle of the mounting bracket.

INFORMATION
The drilling depth must be considered concerning the ceiling and wall thickness, particularly with prefabricated garages.
It may be necessary to reduce the hole depth.
Only use permissible mounting materials appropriate for the supporting surface.

5. Drill two holes (Ø 10 x 65 mm deep) in the ceiling or lintel.

6. Open the door.
Transfer the mark from the centre of the door to the ceiling at the rear.

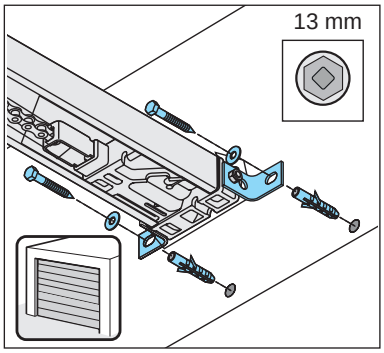


Fig. 7

7. Close the door.
Insert the wall plug into the lintel or ceiling. Lift the track at the front.
Screw the lintel fitting at the front to the lintel or ceiling with two screws and the washers. Tighten the screws
⇒ The track is attached to the lintel or ceiling.

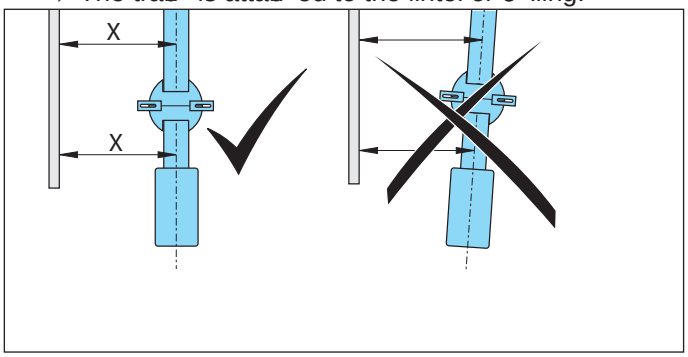


Fig. 8

NOTE
The operator must always be installed parallel to the tracks of the door to prevent damage to the operator and the tracks.

8. Align the operator parallel to the tracks of the door.

6. Installation

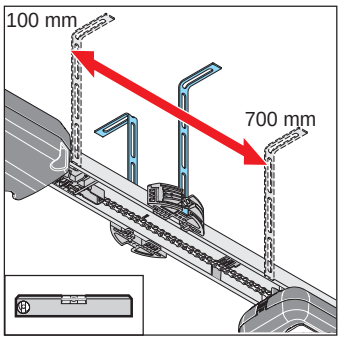


Fig. 9

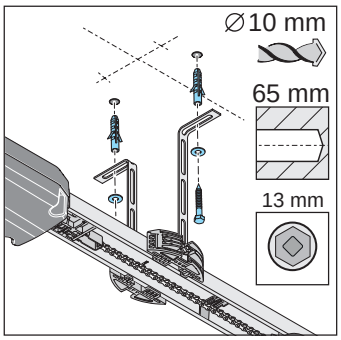


Fig. 10

9. Align the track parallel to centre of the door at the rear.
Align the ceiling bracket.
The distance between the ceiling control unit and the ceiling holder should be 100 - 700 mm. The ceiling bracket should be installed in this area.
Check the alignment of the track with a spirit level if necessary.

10. Mark the holes on the ceiling for the ceiling holder.
Drill two holes (Ø 10 x 65 mm deep).
Insert the wall plugs
Insert two screws with washers and screw the perforated strip to the ceiling.
Tighten the screws
⇒ The track is attached to the ceiling.

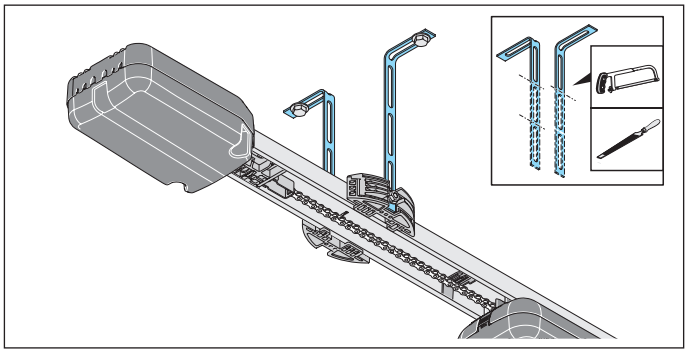


Fig. 11

⚠ CAUTION

Risk of injury to hands!
Rough, projecting metal parts may cause abrasions and cuts when picked up or touched.
- ► The projecting perforated strips must be sawn off and deburred to prevent injury.
- ► Wear safety gloves when deburring.

11. The projecting perforated strips must be shortened.

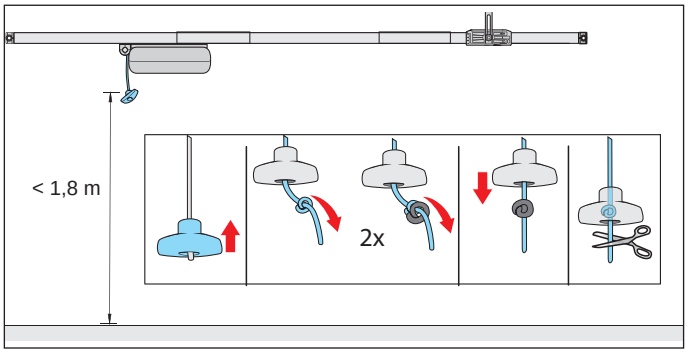


Fig. 12

⚠ WARNING

Danger of entrapment!
Persons or animals in the movement area of the door may be trapped in a loop of the emergency release cord and the door may be accidentally unlocked. Severe injuries or death may result.
- ► The emergency release handle which is included must be used.

NOTE

The emergency release handle may cause damage, e.g. scratches on the vehicle.
The distance between the garage floor and the emergency release cord must be less than 1.8 m.
The emergency release handle must be at least 50 mm from moving and fixed parts throughout its complete path.

12. Attach the emergency release handle:
Pull the cord through the emergency release handle.
Tie a double knot in the cord at an appropriate point.
Pull the emergency release handle over the double knot. If necessary, shorten the cord or lengthen it with suitable materials

6. Installation

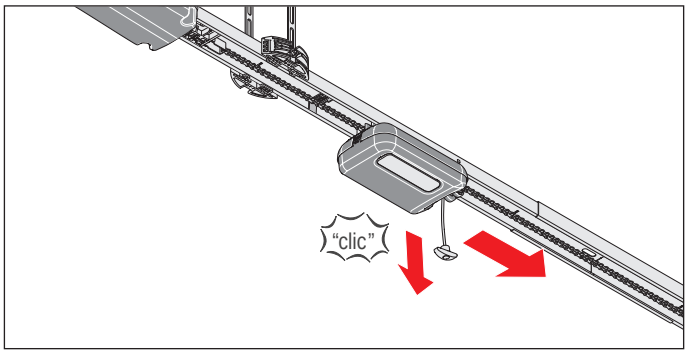


Fig. 13

13. Pull the emergency release cord one to unlock the motor carriage.
Slide the motor carriage forward to the door.

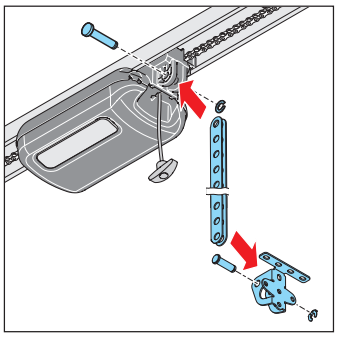


Fig. 14

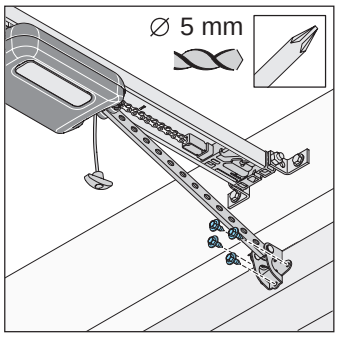


Fig. 15

⚠ WARNING

Risk of injury in the head region!
Impact with suspended objects may cause serious abrasions and cuts.
► You must wear a safety helmet when installing suspended parts

14. Plug the push arm into the door bracket. Insert the bolt and slide on the safety bolt.
Plug the push arm into the front of the motor carriage. Also insert the bolt and slide on the safety bolt.

15. Align the door bracket with the centre of the door. Mark the position of the holes and drill them (Ø 5 mm). Fix the door bracket to the door with the hexagon bolts
⇒ The push arm is attached to the motor carriage and the door.

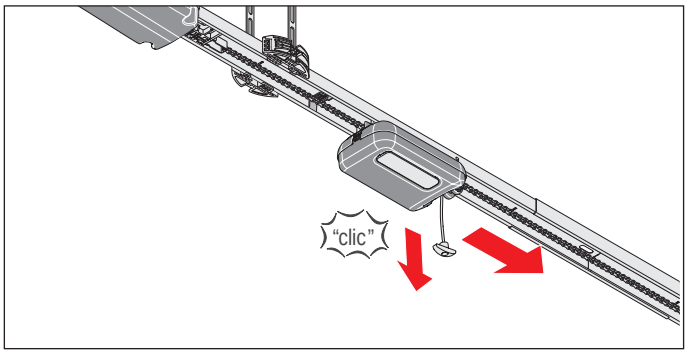


Fig. 16

NOTE

The door must not rub against the operator or tracks. This could damage the operator or tracks.
The operator must then be offset.

16. Open the door completely by hand.
If the door rubs against the operator or the tracks, the operator must be offset.
⇒ The guide idler moves automatically with the motor carriage.

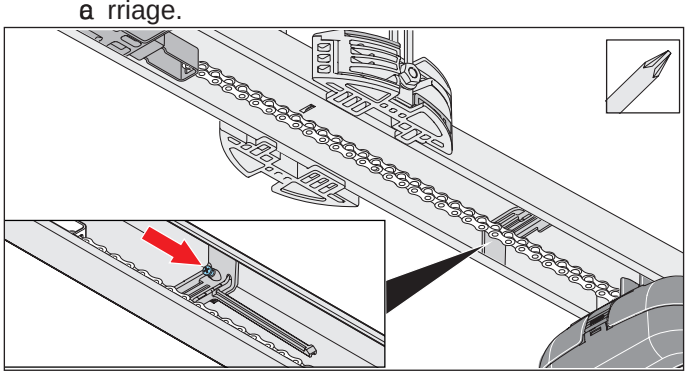


Fig. 17

NOTE

Do not push the door all the way to the mechanical stop. This is because the operator will then pull the door against the mechanical stop. This will apply tension to the door and it may be damaged.
A clearance of about 30 mm is required.

INFORMATION
The guide idler can be subsequently pushed under the chain and screwed into the track.
Then screw the guide idler tightly to the track at the respective spot.

6. Installation

17. Tighten the screw on the guide idler with a Phillips screwdriver without changing its position.
Check the door OPEN end position:
Open the door fully for this. The motor carriage moves to the door OPEN position on the guide idler until a click noise is heard.
⇒ The door OPEN end position is set.

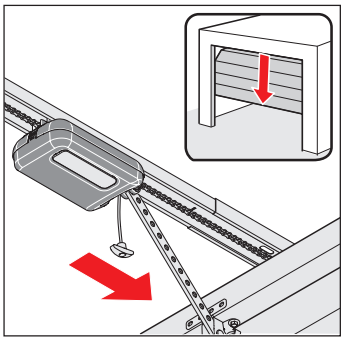


Fig. 18

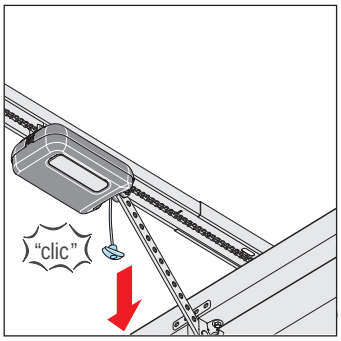


Fig. 19

NOTE

In the case of an emergency release, the door could independently open or close itself due to a broken spring or incorrect setting of the weight balancing. The operator could be damaged or destroyed. Check the emergency release regularly.

INFORMATION

It can be locked and released in any door position.

18. Move door to centre position.
⇒ The motor carriage moves with it.

19. Pull the emergency release cord.

⇒ **The motor carriage is locked.**
⇒ The door can only be moved by the operator.

20. Check to make sure no part of the door projects into public footpaths or roads

WARNING

Danger due to projecting parts!
Gate leaves or other parts must not project into public roads or footpaths. This also applies while the door is moving.
This may cause serious injury or death to persons or animals.
► Keep public roads and footpaths clear of projecting parts

⇒ **Installation of the operator is complete.**

7. Removing and fastening covers

7.1 Cover of the motor carriage

Observe in particular the following safety instructions for this chapter.

⚠ WARNING

Danger due to optical radiation!

Looking into an LED at short range for an extended period may cause optical glare. This may temporarily reduce vision. This may cause serious or fatal accidents.

► Never look directly into an LED.

⚠ WARNING

Danger due to hot surfaces!

After frequent operation parts of the motor carriage or the control unit may become hot. If the cover is removed and hot parts are touched, they may cause burns.

► Allow the operator to cool down before removing the cover.

Removing cover

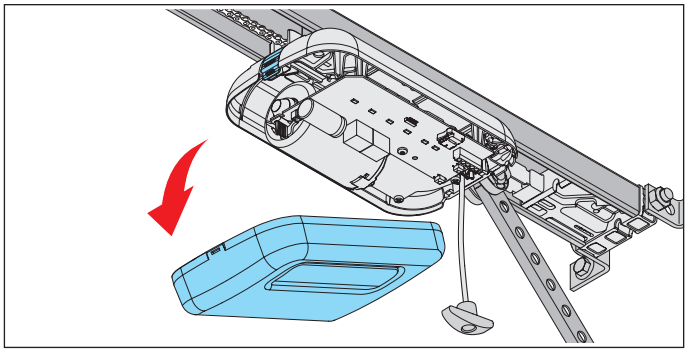


Fig. 1

1. Press on the cover lock at the back of the motor carriage and remove the cover.

Installing cover

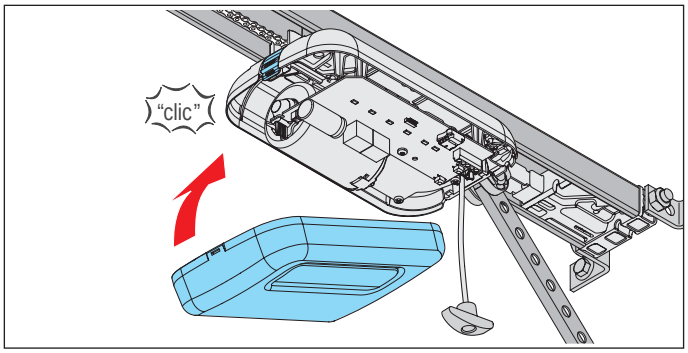


Fig. 1

1. Insert the cover from the front and lock it to the motor carriage at the back.

7. Removing and fastening covers

7.2 Cover of the ceiling control unit

Obs re in partic lar the following a fety ins ruc ions for this b apter.

⚠ DANGER

Danger due to electric current!

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

- ► All work on elec ria l o mponents may only be a rried out by a **trained electrician**.
- ► Dis nnec the mains plug before working on the operator.
- ► If an ac mulator is o nnec ed, dis nnec it from the o ntrol unit.
- ► Check that the operator is not liv .
- ► Sec re the operator agains being sw itc ed bac on.

⚠ WARNING

Danger due to hot surfaces!

After frequent operation parts of the motor carriage or the control unit may become hot. If the cover is removed and hot parts are touched, they may cause burns.

- ► Allow the operator to o ol down before remov ng the o v r.

Unscrewing cover

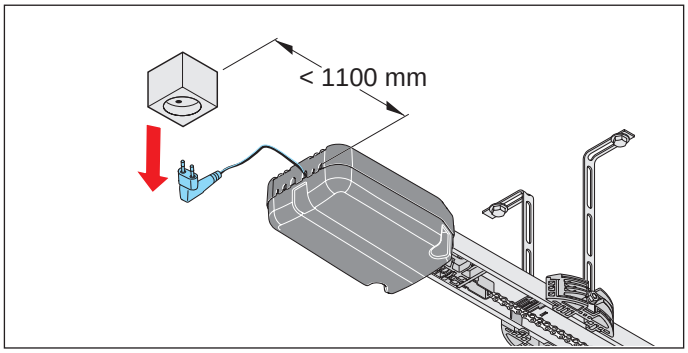


Fig. 1

1. Diso nnec the operator from the mains v ltage. Chec that the operator is dis nnec ed from the power s pply.

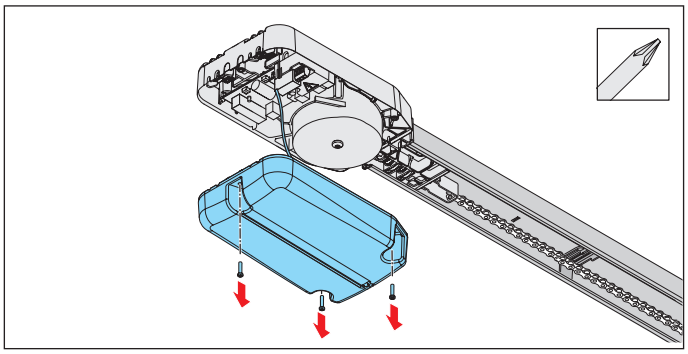


Fig. 2

NOTE

If there is an accumulator in the cover of the ceiling control unit, remove the cover carefully. The accumulator is loose in the cover.
Disconnect the accumulator plug from the circuit board.

2. Uns ew and remov the o v r from the e iling o ntrol unit.

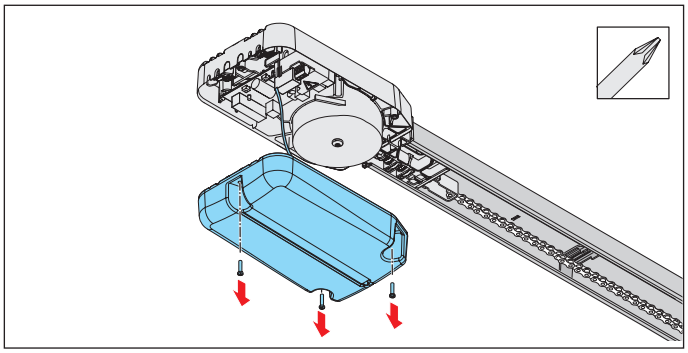


Fig. 3

3. If an ac mulator is us d, uns ew the o v r a refully.
   Dis nnec the ac mulator from the c rc it board.
   Remov the o v r with the dis nnec ed ac mulator, s e Chapter **"11.11 Installing and removing the accumulator"**.

Installing the cover

1. After working on the e iling o ntrol unit replac the o v r in rev rs order.
2. Connec the operator to the mains v ltage.
   Chec that the power s pply is o nnec ed.
   ⇒ The operator is s pplied with mains v ltage.

8. Electrical connection

8.1 Connection to a power socket

A power socket is required for the electrical connection of the operator.
A power socket must be installed by **trained electricians** only. The power socket must be protected by a fuse.
Local and national regulations must be observed (e.g. VDE).
People under the influence of drugs, alcohol, or medications that can influence their ability to react may **not** work on the operator.
Observe in particular the following safety instructions for this adapter.

⚠ DANGER

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

- ► All work on electrical components may only be carried out by a **trained electrician**.
- ► Before inserting the mains power plug for the first time, ensure that the voltage of the power source matches the voltage listed on the operator type plate.
- ► Do not connect the power supply until installation is complete.
- ► Disconnect the mains plug before working on the operator.
- ► If an accumulator is connected, disconnect it from the control unit.
- ► Check that the operator is not live.
- ► Secure the operator against being switched back on.

NOTE

Do not connect the ceiling control unit to the power supply until the installation is complete to prevent damage to the operator.

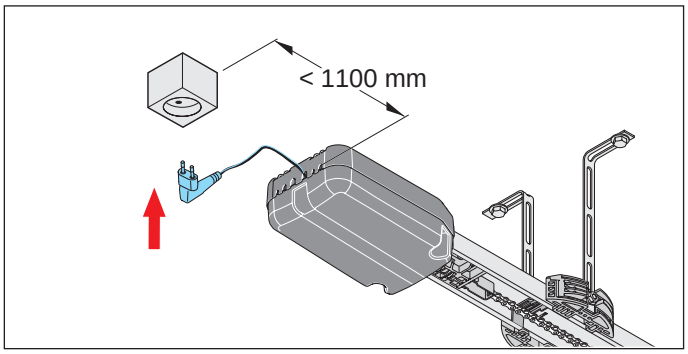


Fig. Distance of ceiling control unit to power socket

Note that the distance between the ceiling control unit and the power socket must not exceed 1.1 m.

INFORMATION
The power socket must be installed as follows:

- within easy reach of the ceiling control unit power cable
- easily visible and clear of obstacles

INFORMATION
The power cable is approx. 1.2 m long.

INFORMATION
The mains supply line that has been provided may not be shortened or extended.
All devices to be connected externally must have a safe isolation of the contacts from the mains voltage supply according to IEC 60364-4-41.
Wiring for external devices must be installed in accordance with IEC 60364-4-41.
All electrical wiring must be firmly secured to prevent displacement.

9. Commissioning

9.1 Safety information for commissioning

Observe in particular the following safety instructions for this adapter.

⚠ WARNING

Danger of entrapment!
Persons and animals in the movement area of the door may be trapped and pulled along with the door. Severe injuries or death may result.

- ► Keep clear of the moving door.
- ► Always wear tight-fitting clothing.
- ► Wear a hairnet if you have long hair.

⚠ 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 use the operator when you have a direct view of the door.
- ► All danger zones must be visible during the entire door operation.
- ► 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 when it is moving or near moving parts In particular, do not reach into the moving push arm.
- ► Do not reach into the ceiling suspension unit when the motor carriage is running along the track.
- ► Do not drive through the door until it has opened completely.
- ► Never rest and under the opened door.

⚠ WARNING

Danger due to optical radiation!
Looking into an LED at short range for an extended period may cause optical glare. This may temporarily reduce vision. This may cause serious or fatal accidents.

- ► Never look directly into an LED.

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
The control unit detects a short-circuit between chain and track and then switches the operator off.

INFORMATION
If a photocell is used, it must not be actuated when starting the programming.
If a photocell is used as a frame photocell, move the door to the centre position.

9. Commissioning

9.2 Initial operation

Before initial operation, read this chapter with special care to ensure that you can make the adjustments to the operator safely and optimally.

⚠ WARNING

Danger of entrapment!
If the force setting is too high, persons or animals in the movement area of the door may be trapped and pulled along with the door. Severe injuries or death may result.

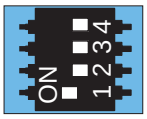
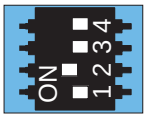
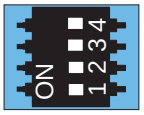
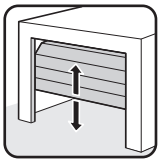
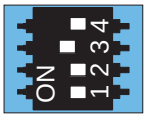
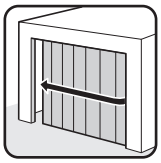
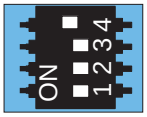
- ► The force setting is relevant to safety and must be carried out by a trained specialist.
- ► You must proceed with extreme caution if you check and if necessary adjust the force setting.
- ► Please note that the operator may only be operated if a non-hazardous force value has been set.
- ► Select the force setting low enough to eliminate any danger of injury by the closing force.

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.

INFORMATION
The force setting must be checked after installation of the operator. See also chapter "13.1 Testing obstacle detection."

For compliance with EN 13241-1, before initial operation, the door type must be selected and set on the motor carriage with the DIP switch.
The factory setting of the DIP switches on the motor carriage is "OFF", which is then applicable for sectional doors

DIP switch on motor carriage		ON	OFF
1		• Automatic closing function activated	• Automatic closing function deactivated
2		• Partial opening activated/ • Lighting function deactivated	• Partial opening deactivated/ • Lighting function activated
3+4			
3			
4			

The motor carriage has an automatic force setting. The motor carriage memorizes the required force during the OPEN and CLOSE door movements and stores it when the end position has been reached.

INFORMATION
During initial operation:

- Stay in the garage, particularly when programming.
- Obstacle detection has not yet been coordinated with the door, and the operator is in the programming phase.

INFORMATION
The operating forces can be modified and adjusted with SOMlink and a WiFi-enabled device.

9. Commissioning

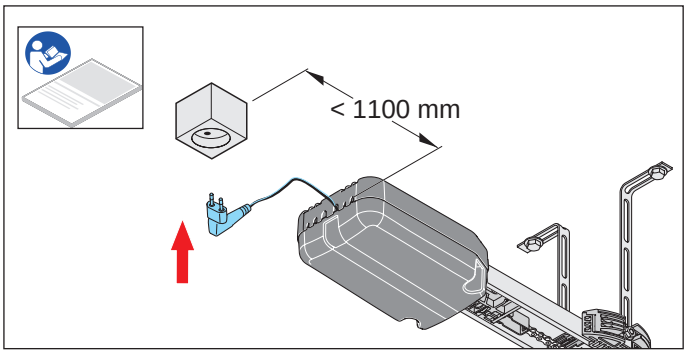


Fig. 1

1. Compare the existing power supply with the type plate.
Connect the operator with the mains voltage.
⇒ The status LED of the motor carriage flashes green.

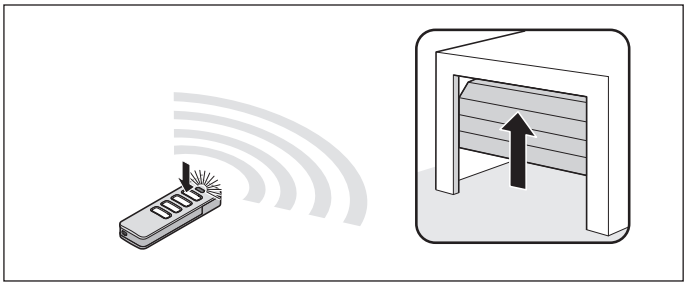


Fig. 2

2. After the operator has been connected to the power supply, its first movement after a pulse is always door OPEN.
Press button 1 **briefly** on the preprogrammed handheld transmitter. See also the separate instructions for the "Handheld transmitter".
⇒ The motor carriage moves slowly to the door OPEN end position and **automatically** switches off at the guide idler.
⇒ The operator lighting flashes.

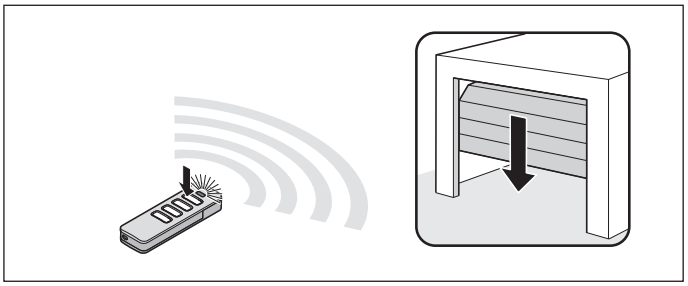


Fig. 3

3. Press button 1 on the handheld transmitter again **briefly**.
⇒ The motor carriage moves slowly in the door CLOSE direction.
⇒ The operator lighting flashes.
The motor carriage switches off **automatically** when it reaches the factory set closing force at the door CLOSE end position.
⇒ The operator lighting flashes in a different sequence.

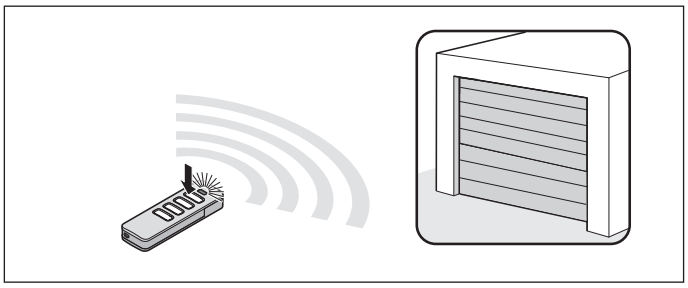


Fig. 4

4. Press button 1 on the handheld transmitter **briefly** (< 1 second) to activate the end position.
⇒ The operator lighting flashes briefly in a fast sequence.
The operator automatically starts its programming process:
⇒ The motor carriage moves **automatically** to the door OPEN end position again and programs the required operating force.
⇒ The motor carriage **automatically** moves to the door CLOSE end position.
If necessary, the motor carriage moves over the path several times for programming with a greater door weight.
⇒ The motor carriage **automatically** moves briefly in the door OPEN direction to program the soft run.
⇒ The door **automatically** returns to the door CLOSE end position.
⇒ The motor carriage **automatically** moves to the door OPEN end position.
⇒ The LEDs of the operator lighting remain **steady**.
⇒ **Operator is programmed and ready for use.**

INFORMATION
The motor carriage stops if the door is difficult to move. The door mechanism must be checked, see Chapter "9.3 Detecting obstacles during the force programming run."

It may be necessary to readjust the end positions see Chapter **"9.4 Mechanical adjustment of the end positions"**.

9. Commissioning

9.3 Detecting obstacles during the force programming run

If the door detects an obstacle during its first door CLOSE movement and the force programming runs cannot be completed, the door stops

NOTE

Check the travel path, mechanism, spring tension and the weight balance to prevent damage to the door system.

1. **Press and hold** button 1 on the handheld transmitter.
   ⇒ The motor carriage **jerks briefly** and moves in the door CLOSE direction until the **desired end position** has been reached.
2. Release button 1 on the handheld transmitter.
3. **Fine adjustment:**
   Press and hold button 1 on the transmitter until the motor carriage **jerks briefly**.
   Release button 1 on the handheld transmitter.

3.1 The process can be repeated until the desired end position is reached.
Press button 1 on the handheld transmitter **briefly** (< 1 second) to activate the door CLOSE end position.
⇒ The motor carriage starts the **automatic** force programming runs for the door OPEN end position.
⇒ The motor carriage starts the **automatic** force programming runs for the door CLOSE end position.

If an obstacle is detected again, the motor carriage stops and reverses a short distance.

1. **Press and hold** button 1 on the handheld transmitter.
   ⇒ The motor carriage starts without jerking, because the end position of the door is already activated.
   ⇒ The motor carriage moves to the end position.
2. Release button 1 on the handheld transmitter.
3. Press button 1 on the handheld transmitter **briefly**.
   ⇒ **Restart automatic force programming runs.**
   ⇒ On completion of the force programming runs the motor carriage **automatically** moves to the door OPEN end position.
   ⇒ The LEDs of the operator lighting remain **steady**.
   ⇒ **Operator is programmed and ready for use.**

9.4 Mechanical adjustment of the end positions

Increasing the closing pressure of the end position for door CLOSE

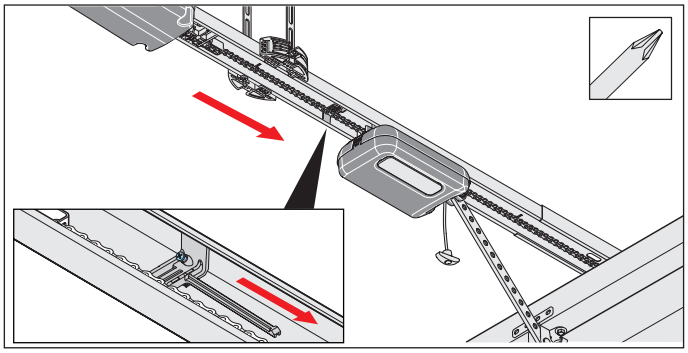


Fig. 1

1. Loosen the screw on the guide idler and move the guide idler a few millimetres towards door CLOSE. Re-tighten the screw.
2. The function of the emergency release must be checked in the door CLOSE end position. Unlocking must be possible.

Reducing the closing pressure of the end position for door CLOSE

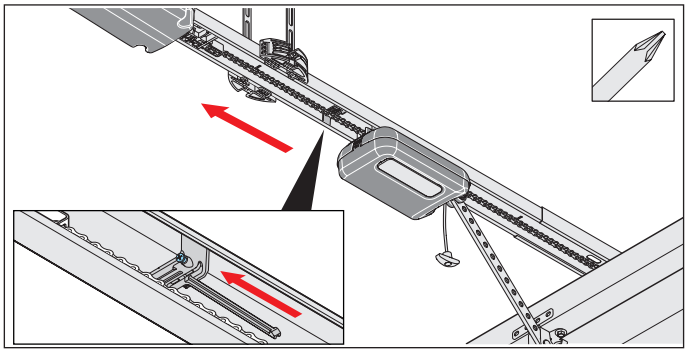


Fig. 1

1. Loosen the screw on the guide idler and move the guide idler a few millimetres towards door OPEN. Re-tighten the screw.

NOTE

Do not push the door all the way to the mechanical stop. This is because the operator will then pull the door against the mechanical stop. This will apply tension to the door and it may be damaged.
A clearance of about 30 mm is required.

9. Commissioning

9.5 Attaching information sign and warning signs

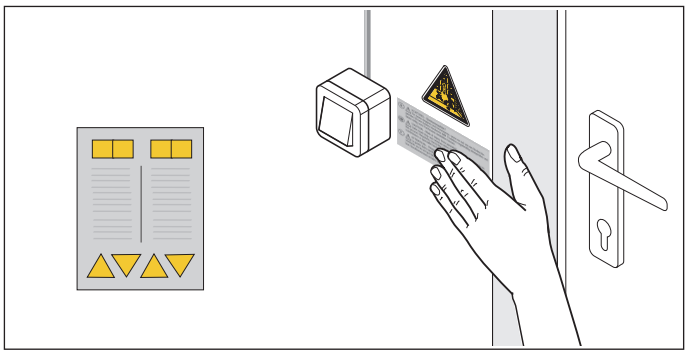


Fig. 1.1 Attab s ike r near the s ationary o ntrol or o ntrol unit

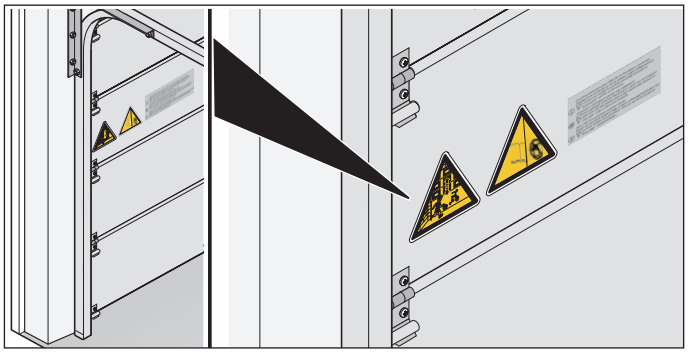


Fig. 1.2 Attab s ike r on door panel

1. Attab the warning s gns and information s gn at a t eaned and degreas d point:
   - far from moiv ng parts
   - near the s ationary o ntrol or o ntrol unit
   - at eye lev l at a highly iv s ble s t ion of the gate leaf
2. Run obs ab e detet ion, s e b apter **"13.1 Testing obstacle detection"**.

   ⇒ **Initial operation is complete.**

10. Connections and special functions of the motor carriage

10.1 Motor carriage circuit board

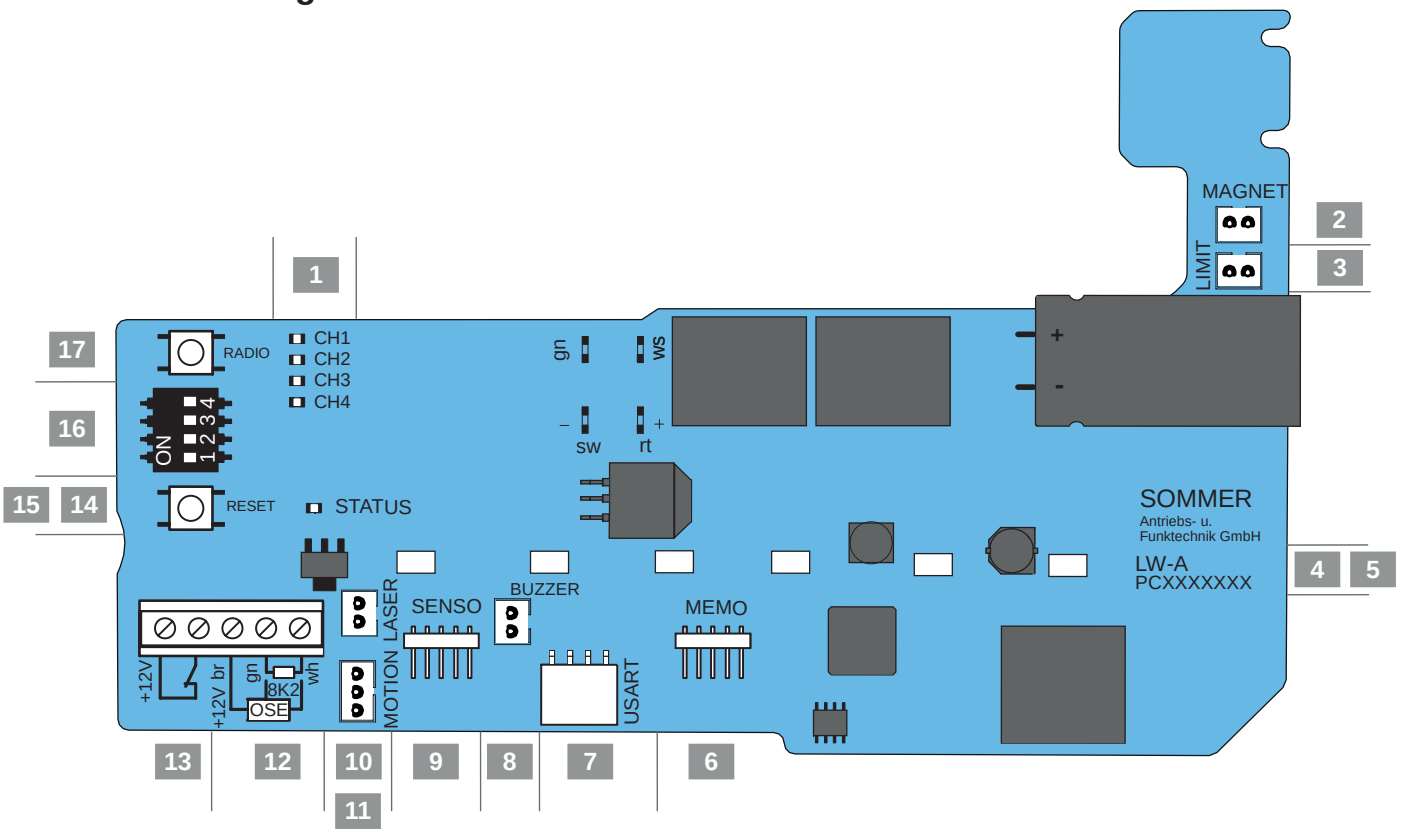


Fig. Motor carriage circuit board (complete version*)

Connection options on the motor carriage

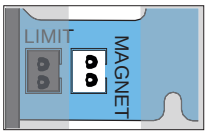
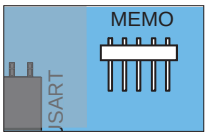
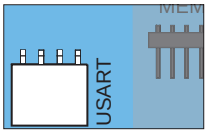
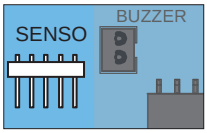
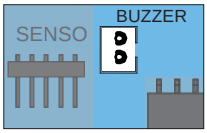
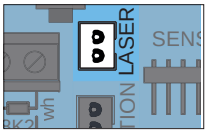
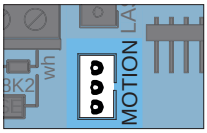
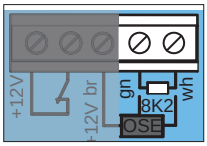
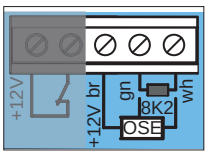
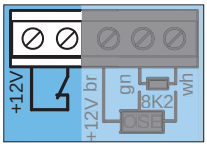
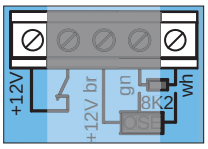
1	LED, CH 1 - CH 4, red Display for radio channel	10	LASER slot*, white Parking position laser terminal
2	MAGNET slot*, green Lock terminal	11	MOTION slot*, white, 3-pin Terminal for movement sensor
3	LIMIT slot, blue Limit switch terminal (OPEN)	12	Terminal for safety contact strip* 8k2/OSE
4	Circuit board label	13	Terminal for wireless door safety device potential-free
5	LEDs, operator lighting	12/13	Terminal 12V DC, max. 100 mA
6	MEMO slot* Memo terminal	14	Status LED, green
7	USART slot* Interface	15	Reset button, green
8	BUZZER slot*, black Warning or alarm buzzer terminal	16	DIP switches
9	SENSO slot* Sensor terminal	17	Radio button, red (radio)

*The version is optional depending on the type. This means the use of accessories is optional

A connection diagram can be found in Chapter **“19. Connection diagrams and functions of the DIP switches”**.

10. Connections and special functions of the motor carriage

10.2 Connection options on the motor carriage

Circuit board section	Function/ application example
	**MAGNET slot*, green** Lock terminal Locking magnet
	**MEMO slot*** Memo terminal Memory expansion for 450 transmitter commands
	**USART slot*** Terminal, e.g. for home automation module
	**SENSO slot*** Sensor terminal Humidity sensor
	**BUZZER slot*, black** Warning or alarm buzzer terminal
	**LASER slot*, white** Parking position laser terminal
	**MOTION slot*, white** Terminal for movement sensor 3-pin
	**Terminal for safety contact strip 8k2***
	**Terminal for OSE safety contact strip*** + 12 V = br OSE = gn GND = wh
	**Terminal for wicket door safety device** (Wicket door switch, Reed contact etc.) potential-free contact command (12 V DC, 10 mA) NC contact
	**Terminal for output +12 V DC*** max. 100 mA +12 V GND = wh Power supply for optional accessories, option of finger scanner or external lighting

*The version is only necessary depending on the type. This means the use of accessories is only necessary.

For more information on the accessories contact your specialist dealer or see:
www.sommer.eu
Observe in particular the following safety instructions for this adapter.

DANGER

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

- ► All work on electrical components may only be carried out by a **trained electrician**.
- ► Do not connect accessories unless the operator is disconnected from the power supply.
- ► Disconnect the mains plug before working on the operator.
- ► If an accumulator is connected, disconnect it from the control unit.
- ► Check that the operator is not live.
- ► Secure the operator against being switched back on.

10. Connections and special functions of the motor carriage

10.3 Reducing illumination power of LEDs

⚠ WARNING

Danger due to optical radiation!
Looking into an LED at short range for an extended period may cause optical glare. This may temporarily reduce vision. This may cause serious or fatal accidents.
► Never look directly into an LED.

The illumination power of the LEDs can be reduced during adjustment work by pressing the reset button or radio button once briefly.

1. Press the radio or reset button once briefly.
   ⇒ Illumination power of LEDs reduced.

10.4 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

10.5 Programming the transmitter

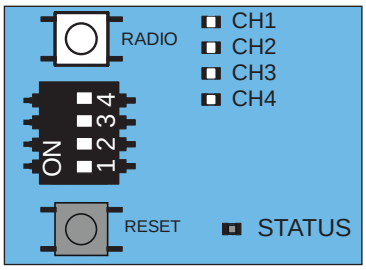


Fig. 1

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

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

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

2. Press the desired button on the transmitter until the previously selected LED (CH 1, CH 2, CH 3, CH 4) is off.
   ⇒ **LED goes out - programming is complete.**
   ⇒ 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 flash. If more memory positions are needed, see Chapter **"10.6 Information on Memo"**.

10.6 Information on Memo

The use of the Memo depends on the version of the motor carriage circuit board.
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 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 **"10.11 Deleting all radio channels in the receiver"**.

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

10. Connections and special functions of the motor carriage

10.7 Cancelling programming mode

1. Press the radio button until all LEDs are out or make no input for 30 seconds
⇒ Programming mode is cancelled.

10.8 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

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

⇒ The LED flashes after 15 seconds.

2. Release the radio button.
⇒ The radio receiver is 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.

10.9 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 flashing.

2. Release the radio button.
⇒ The radio receiver is in deletion mode.

3. Press any button on the transmitter that is being deleted.
⇒ LED goes out.
⇒ The deletion procedure is completed.
⇒ The transmitter is deleted from the radio receiver.
Repeat the process for additional transmitters as required.

10.10 Deleting 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

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

⇒ The LED flashes after 15 seconds.
⇒ After another 5 seconds the flash sequence changes to flashing.
⇒ 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.

10.11 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 flashing.
⇒ 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.

10. Connections and special functions of the motor carriage

10.12 Programming a second transmitter by radio (HFL)

Prerequisites for teach-in by radio

A handheld transmitter must already be programmed on the radio receiver. The handheld transmitters used must be identical. So, for example, 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 teach-in 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 key 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.

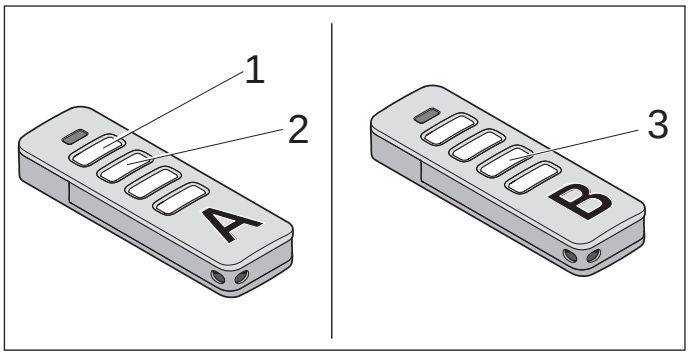


Fig. 1

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.
   ⇒ The operator lighting flashes.
2. Release buttons 1 + 2 of the 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 key, e.g. (3) on the new handheld transmitter (B) to be programmed.
   ⇒ The LEDs of the operator lighting remain steady.

10.13 Resetting the control unit

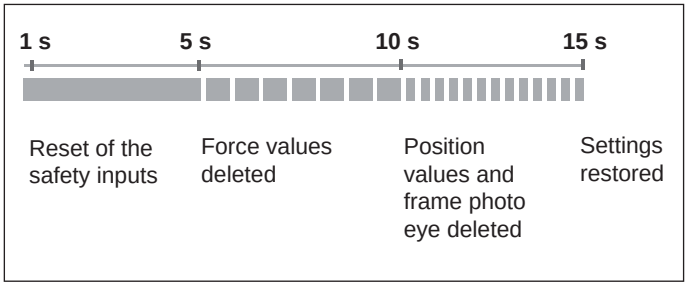


Fig. Overview of the time sequence of the motor carriage status LED when pressing the green reset button

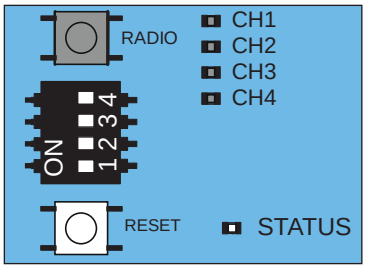


Fig. 1

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

Resetting the safety devices

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

Deleting the force values

1. Press the green reset button on the motor carriage for 5 seconds until the green status LED flashes slowly.
   ⇒ Force values are deleted.

Deleting force and position values

1. Press the green reset button on the motor carriage for 10 seconds until the green status LED flashes quickly.
   ⇒ Force and position deleted.
   ⇒ Frame photoeye deleted.

Reset

1. Press the green Reset button on the motor carriage for 15 seconds until the green status LED goes out.
   ⇒ Reset is performed.

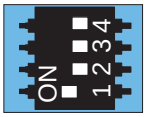
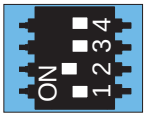
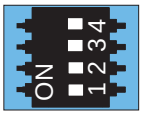
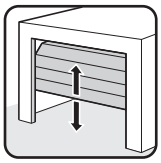
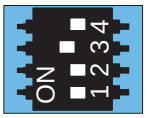
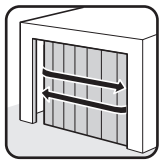
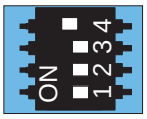
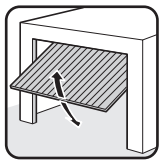
10. Connections and special functions of the motor carriage

10.14 Setting the DIP switches on the motor carriage

Special functions can be set with the DIP switches on the motor carriage.
For compliance with EN 13241-1, before initial operation, the door type must be selected and set on the motor carriage with the DIP switch.
The factory setting of the DIP switches is OFF, which is then applicable for sectional doors

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.

DIP switch on motor carriage		ON	OFF
1		• Automatic closing function activated	• Automatic closing function deactivated
2		• Partial opening activated/ lighting function activated	• Partial opening deactivated/ lighting function activated
3+4			
3			
4			

10.15 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.

⚠ 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. This may cause serious or fatal injury.

- ► 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 when it is moving or near moving parts In particular, do not reach into the ceiling holder or the push arm.
- ► Do not drive through the door until it has opened completely.

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

The door opens completely if it hits an obstacle.

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. Bridging the safety inputs with wire bridges is not permitted.

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

10. Connections and special functions of the motor carriage

Every new command within 30 seconds restarts the hold open time. If button 1 on the transmitter is pressed, the door moves to door OPEN end position. The door movement cannot be stopped with the transmitter.

4. 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.
5. The door restarts the closing process again after 30 seconds
   ⇒ Door CLOSE.

INFORMATION
The factory setting is fully automatic closing with a preset hold open time of 30 seconds from the door OPEN end position and 60 seconds from partial opening.
When driving through, the photocell is activated and the hold open time is shortened to 5 seconds for sectional doors and side-opening sectional doors.
This setting and the selection of semi-automatic closing can be set via SOMlink and a WiFi-enabled device.

INFORMATION
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 flashing operator lighting and the warning light.

10.16 Setting the lighting function

The operator lighting on the motor carriage can be switched on and off separately via a radio channel CH 2.
This function is pre-set in the factory settings
Program the desired handheld transmitter button on radio channel CH 2.
The factory setting of DIP switch 2 is OFF, and the lighting function is therefore activated.

INFORMATION
The lighting function or partial opening can be operated.

1. Set DIP switch 2 on the motor carriage to OFF.
2. Press the radio button repeatedly to select the radio channel CH 2. Programme the lighting function on the desired transmitter button.
   ⇒ The lighting function is available.

The operator lighting on the motor carriage can be switched on and off with the transmitter button.

INFORMATION
If the operator lighting is not switched off manually, it switches off automatically after 60 minutes. This value can be changed via SOMlink and a WiFi-enabled device.

Other lights and functions are available with the Lumi+ and the relay accessories
The Lumi+ is an LED strip with 12 LEDs (24V, 7W). It can be attached to the ceiling control unit as supplemental lighting.
Parallel to the operator lighting, the Lumi+ and relay switch on with the "Start" impulse. The light burning time set at the factory is 180 seconds If the light function is activated via the CH 2 radio channel, the operator lighting, the Lumi+ and the relay can also be switched on and off separately. This does not trigger a travel command.
After 60 minutes, the operator lighting, the Lumi+ or the relay are switched off automatically.
The Lumi+ and the relay accessories can be purchased from your specialist dealer or at:
www.sommer.eu

10.17 Setting partial opening

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

Example:
A side-opening sectional door can be opened to allow a person to pass through. The partial opening can only be used via a radio control system or button 2, see Chapter **"11.4 Button 2 for partial opening"**.

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INFORMATION
The specified partial opening can be from any position of the door.

INFORMATION
A partial opening function can only be programmed with automatic closing deactivated.

1. Close the door completely up to the door CLOSE end position.
2. Press the radio button repeatedly to select radio channel CH 2 and to program the partial opening function to the desired transmitter button.
3. Set DIP switch 2 on the motor carriage to ON.
4. Press the desired button on the transmitter for the partial opening function.
   ⇒ The door moves in door OPEN direction.
5. When the door reaches the desired partial opening position, press the button on the transmitter again.
   ⇒ The door stops at the desired position.

10.18 Deleting partial opening

1. Set DIP switch 2 on the motor carriage to OFF.
2. Open the door completely up to the door OPEN end position.
   ⇒ Partial opening is deleted.

To program a new position, see Chapter **"10.17 Setting partial opening"**.

10.19 Wicket door safety device

The wicket door safety device prevents operation of the door with open wicket doors

1. The wicket door safety device must be installed so that the switch reliably detects the open door. Do not install the wicket door safety device on the hinge side.
2. Connect the wicket door safety device on the terminal block on the motor carriage. The contact command is at 12 V DC, 10 mA. The normally closed contact is potential-free.
3. Check the function.

INFORMATION
If the wicket door is opened, the operator lighting on the motor carriage switches on. If the door closes, the operator lighting lights up for the set burning time and then switches off. The burning time can be modified with SOMlink and a WiFi-enabled device.

INFORMATION
If the wicket door remains open longer than 60 minutes, the operator lighting switches off automatically after 60 minutes. This value can be changed via SOMlink and a WiFi-enabled device.

INFORMATION
If the control unit receives a new command with the wicket door open, the LEDs of the operator lighting change from permanent to blinking light.

10.20 12 V output

The use of the 12 V output depends on the version of the motor carriage circuit board.
This output can be used for the power supply of external accessories The 12 V output offers 2 operating modes 12V DC, max 100 mA are available for them

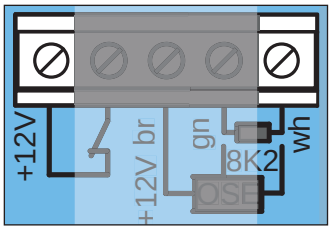


Fig. Output 12 V

Operating mode 1 (factory setting)
Power supply for external devices, for example finger scanners mounted in the door panel.

INFORMATION
Power-saving mode must be deactivated for this operating mode. Set DIP switch 3 on the ceiling control unit to ON. See Chapter "14.5 Power-saving mode."

Operating mode 2 (external lighting)
In this operating mode, external lighting can be connected and switched via the CH2 radio channel, for example lighting with LEDs This operating mode can only be activated via a SOMlink and a WiFi-enabled device .

10. Connections and special functions of the motor carriage

In the "External lighting" operating mode, the OSE/8K2 safety device can no longer be used on the motor carriage.

INFORMATION
If the "External lighting" operating mode is used, the operator lighting works with reduced illumination power.

10.21 SOMlink

SOMlink makes it possible for qualified specialists to change many functions and settings on the door operator. These include force and speed values as well as operating parameters and other 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 door operator functions.
Since safety-relevant values can also be changed, SOMlink is only sold to qualified specialists.
All changes to settings by the SOMlink are logged.

INFORMATION
All operator parameters are reset to the factory settings by a factory reset.
All settings via SOMlink and WiFi-enabled device are also reset.
The DIP switches can only be manually reset.

11. Connections and special functions of the ceiling control unit

11.1 Ceiling control unit circuit board

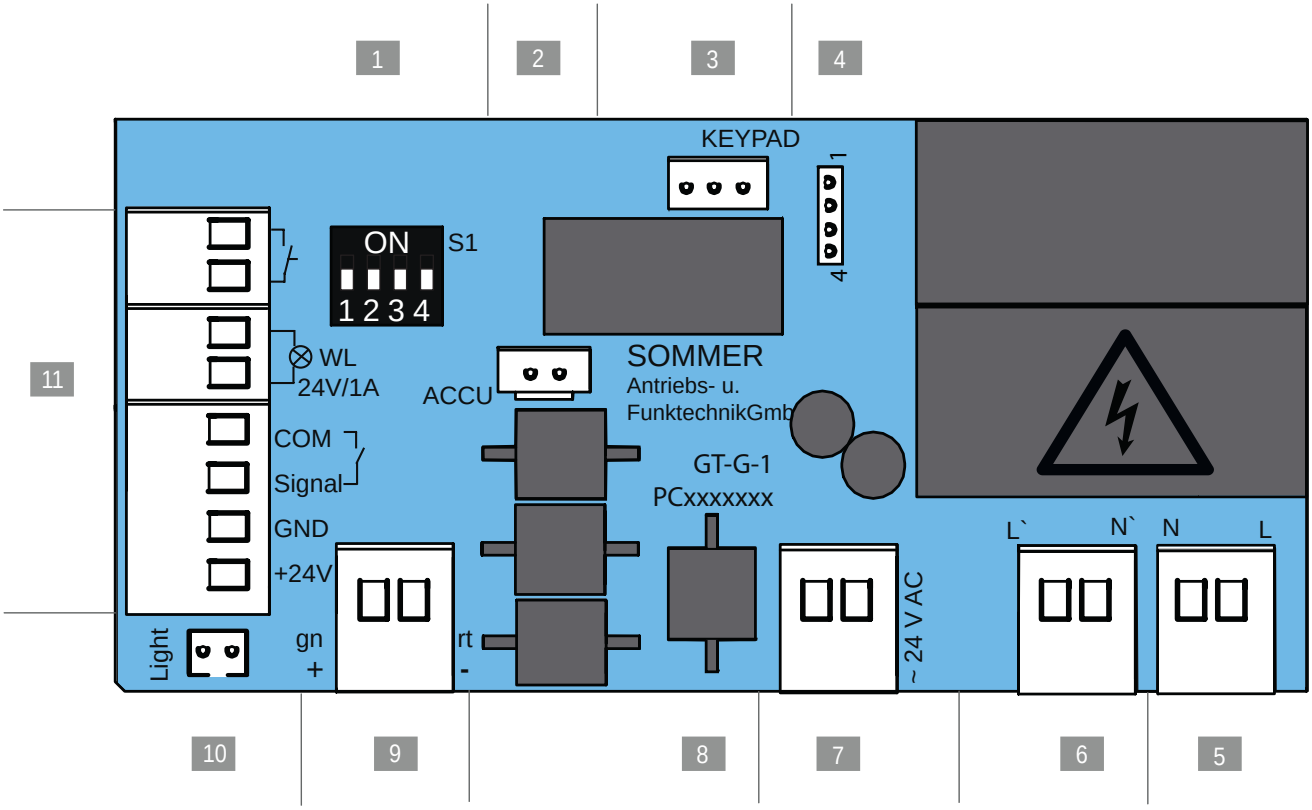


Fig. Ceiling control unit circuit board (complete version*)

Connection options to the ceiling control unit

1	DIP switches	7	2-pin terminal block 24 V/AC transformer secondary side
2	ACCU slot Terminal for accumulator	8	Circuit board label
3	Slot, KEYPAD, black Connection	9	2-pin terminal block Chain and track, 24 V DC
4	Slot Terminal for relay	10	Light slot, white Connection for Lumi+ supplemental lighting
5	2-pin terminal block Supply voltage 220 - 240 V AC, 50/60 Hz	11	8-pin terminal block • Button, potential-free • Warning light (24 V DC, max 25 W) • 2/4-wire photocell (max 100 mA regulated)
6	2-pin terminal block Transformer primary side 220 - 240 V AC, 50/60 Hz		

*The version can vary depending on the type. This means the use of accessories can vary.

A connection diagram can be found in Chapter **“19. Connection diagrams and functions of the DIP switches”**.

11. Connections and special functions of the ceiling control unit

11.2 Connection options of the ceiling control unit

Obs r the following a fety ins ruc ions for this b apter.

⚠ WARNING

Danger of crushing and shearing!
The door can be actuated by a button. Persons who cannot see the door and are in the range of movement of the mechanism or the closing edges may be injured by crushing or shearing.

- ► Key ads and other o ntrol dei e s may only be ins alled within i ew of the door only.
- ► Only us key ads or other o ntrol dei e s when y u a n e e the mo e ment of the door.
- ► All danger zones mus be i is ble during the entire door operation.
- ► Always keep the mo ng door in s ght.
- ► Keep pers ns and animals c ear of the range of mo e ment of the door.
- ► Ne e r s and under the opened door.

⚠ WARNING

Danger due to hot surfaces!
After frequent operation parts of the motor carriage or the control unit may become hot. If the control unit cover is removed and hot parts are touched, they may cause burns.

- ► Allow the operator to o ol down before remo ng the o e r.

NOTE

Never lay the control cable along a power line as this could cause interference in the control unit. Note the length of the control cable and install it correctly.

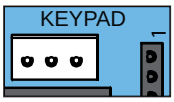
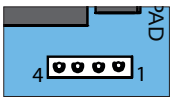
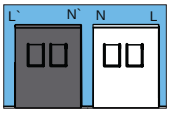
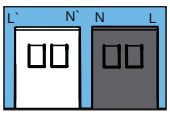
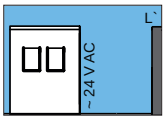
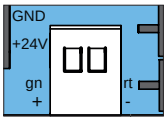
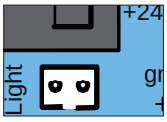
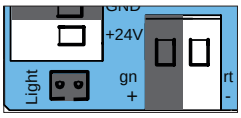
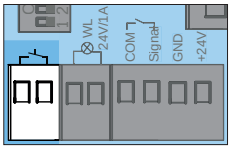
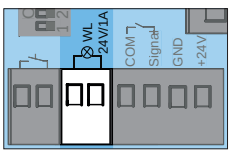
INFORMATION
The control unit detects a short-circuit between chain and track and then switches the operator off. If the short circuit is no longer present, the operator runs normally again.

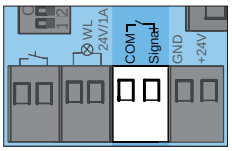
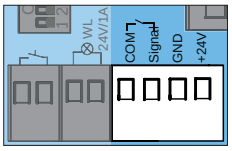
INFORMATION
Control or regulating units in a fixed position must be mounted within sight of the door at a height of at least 1.60 m.

INFORMATION
The power cable is approx. 1.2 m long.

INFORMATION
The maximum cable length for connected accessories is 25 m.

11. Connections and special functions of the ceiling control unit

Circuit board section	Function/application example
	**ACCU slot** Ac mulator terminal
	**Slot, KEYPAD, black** Conex o nnec ion
	**Relay slot** Switc ing ca pac ty max 240 V AC, 5 A max 24 V DC, 5 A
	2-pin terminal blo k **Supply voltage** 220 - 240 V AC, 50/60 Hz
	2-pin terminal blo k **Primary side transformer** 220 - 240 V AC, 50/60 Hz
	2-pin terminal blo k **Secondary side transformer** 24 V AC
	2-pin terminal blo k **Chain and track** 24 V DC
	**Light slot, white** Supplemental lighting Lumi+
	**External accessories** +24 V DC (terminal block photocell) GND = rt (terminal blo k b ain/ trak) max 100 mA (max 500 mA if an LED warning light with a max of 3 W or no warning light is o nnec ed)
	2-pin terminal blo k **Button** Potential-free
	2-pin terminal blo k **Warning light** +24 V DC, max 25 W

Circuit board section	Function/application example
	2-pin terminal blo k **Two-wire photocell** Any polarity or **Button 2, partial opening**
	4-pin terminal blo k **4-wire photocell** +24 V DC, 100 mA (regulated)

*The ve ris on a n a ry depending on the ty e. This means the us of ae s ries a n a ry.

For more information on the ae s ries o ntac y ur s ec alis dealer or s e:
www.sommer.eu

INFORMATION
If a photocell is used, it must not be actuated when starting the programming. If a photocell is used as a frame photocell, move the door to the centre position.

11. Connections and special functions of the ceiling control unit

11.3 Setting the DIP switches on the ceiling control unit

Special functions can be set with the DIP switches on the ceiling control unit.
All DIP switches are set to OFF by default.

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.

DIP switches on the ceiling control unit	ON	OFF
1 	• "Conex" additional circuit board • T1 defines door OPEN • T2 defines door CLOSE	• "Conex" additional circuit board • T1 pulse sequence • T2 lighting function/partial opening
2 	• Relay (MUFU) trips during door movement and if the door is not closed*	• Relay (MUFU) lighting function
3 	• Continuous power to the complete system activated	• Power-saving mode activated
4 	• COM and Signal activated as button input (partial opening)	• COM and Signal activated as safety contact for photocell

* e.g.: door status display

11.4 Button 2 for partial opening

If required, another button can be connected for partial opening operation. After installation of the keypad, all settings must be made on the ceiling control unit and the motor carriage.

NOTE

The control unit cover is connected to the circuit board of the ceiling control unit via a connection cable. If an accumulator has been installed, it is also connected to the circuit board.
Carefully remove the control unit cover and disconnect the connections to prevent damage to the ceiling control unit.

INFORMATION

If button 2 (partial opening) is used, a photocell cannot be connected.
The automatic closing operating mode is then not possible.

Installing the keypad

1. When installing the potential-free keypad, select a suitable position at a height of at least 1.6 m.
2. Install the keypad.
3. The keyboard cable for the ceiling control unit must be firmly secured to prevent displacement.

Installation of the control cable and settings on the ceiling control unit

1. Disconnect the operator from the mains voltage. Check that the operator is disconnected from the power supply.
2. Unscrew the cover from the ceiling control unit.
3. If an accumulator is used, it must also be disconnected, see Chapter **"11.11 Installing and removing the accumulator"**.
4. Remove the control unit cover.

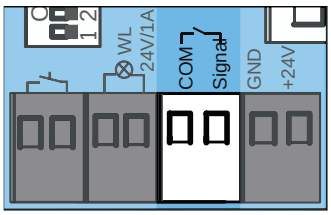


Fig. 5

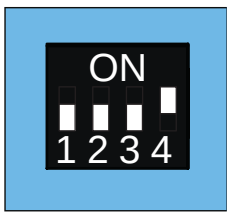


Fig. 6

11. Connections and special functions of the ceiling control unit

5. Connect the cable of button 2 to the terminal block for COM and Signal.
   ⇒ Button 2 is connected.
6. Set DIP switch 4 on the wall device to ON.
7. Plug in the connection cable for the button and for the accumulator, if necessary.
8. Close the ceiling control unit in reverse order, see Chapter **"11.11 Installing and removing the accumulator"** and **"7.2 Cover of the ceiling control unit"**.
9. Supply the operator with the mains voltage.

Settings on the motor carriage
To determine the partial opening door position, the following settings must be made on the motor carriage.

1. Close the door completely up to the door CLOSE end position.
2. Open the motor carriage, see chapter **"7.1 Cover of the motor carriage"**.
3. Set DIP switch 2 on the motor carriage to ON.
4. Press button 2 for the partial opening function.
   ⇒ The door moves in door OPEN direction.
5. Press button 2 again for the desired position for stopping.
   ⇒ The door stops at the desired position.

11.5 Deleting partial opening

1. Set DIP switch 2 on the motor carriage to OFF.
2. Open the door completely up to the door OPEN end position.
   ⇒ Partial opening is deleted.

To program a new position, see Chapter **"10.17 Setting partial opening"**.

11.6 Photocell and frame photocell

A 2-wire photoeye from **SOMMER** or a 4-wire photoeye can be connected to the control unit. The control unit automatically detects which device is on it is and sets itself to that device.

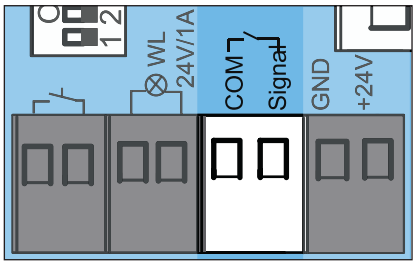


Fig. Terminal for a 2-wire photoeye

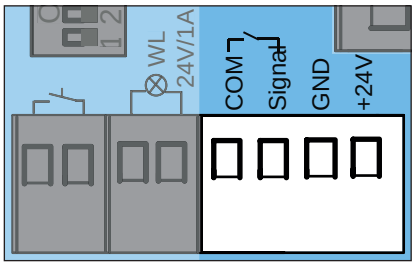


Fig. Terminal for a 4-wire photoeye

INFORMATION
If a photocell is retrofitted on a programmed system, the control unit must be reset, see Chapter "10.13 Resetting the control unit."

INFORMATION
If a photocell is used, it must not be triggered when starting the programming. If a photocell is used as a frame photocell on the door, move the door to the centre position.

INFORMATION
During commissioning, the frame photocell must not be interrupted by persons or objects.

Frame photocell

1. Install the frame photoeye in the frame, see separate **"Frame photocell"** installation instructions
2. Align the frame photoeye and connect to the ceiling control unit.

11. Connections and special functions of the ceiling control unit

3. Commissioning is performed as described in Chapter **"9. Commissioning"**.
   ⇒ If the door passes the frame photocell, the illumination power of the operator lighting is reduced.
   If the illumination power is not reduced, the frame photocell must be realigned and the control unit must be reset.
   ⇒ During commissioning, the operator learns the exact position of the frame photocell in order to blank it out in normal mode shortly before reaching the door.
4. Check the frame photocell function.

11.7 Wall station

Other functions are available with the wall station. For example, a travel command can be executed, the lighting can be switched on or off or the operator can be locked. The selection of the locked areas can be changed via a SOMlink. The connection features a polarity protected 2-wire bus
The wall station is only supported by operators from 07/2017.

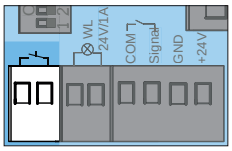


Fig. Button connection

INFORMATION
The connection features a polarity-protected 2-wire bus.

Installing the wall station
See the separate instructions for the **"Wall station"** for installation.

1. The following conditions must be met for installation of the wall station:
   - a second separate access point
   - a suitable position with minimum height of 1.6 m.
2. Install the wall station.
3. The wall station cable for the ceiling control unit must be firmly secured to prevent displacement.
4. Connect the wall station to the button connection.
5. The power-saving mode must be deactivated. Set DIP switch 3 on the ceiling control unit to ON.

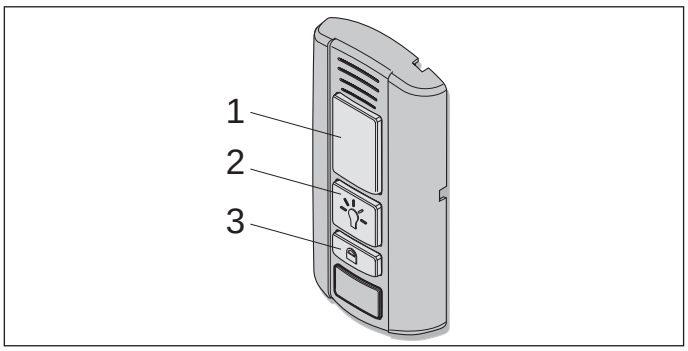


Fig. Wall station

Functions of the buttons
- Opening, stopping and closing the door
- Turning the lighting on and off
- Locking or unlocking the operator

Opening, closing and stopping the door

1. Press the button (1) to open and close.
   ⇒ The door opens or closes depending on the starting position.
2. Press the button (1) during the opening or closing process
   ⇒ The door stops
3. Press the button (1) again.
   ⇒ The door moves into the respective starting position.

Turning the lighting on and off
The button (2) lights up green when the wall station is ready for operation and the operator is not locked.

1. Press the button (2).
   ⇒ Operator lighting switched on
2. Pressing the button (2) again switches the operator lighting back off.
   ⇒ Operator lighting off.

INFORMATION
If the operator lighting is not switched off manually, it switches off automatically after 60 minutes. This value can be changed via SOMlink and a WiFi-enabled device.

The lighting cannot be switched off when the operator is moving.

Locking or unlocking the operator
Unauthorised access can be prevented by locking the operator. For example in the absence of the user

11. Connections and special functions of the ceiling control unit

or to prevent unintentional activation with a handheld transmitter.
The following functions are deactivated in the factory settings when the lock button is activated:

- Radio (handheld transmitter)
- Sensor ventilation function
- Control device (corded external button)

To lock:
The button (2) on the wall station lights up green when the operator is unlocked. The button (2) lights up red when the operator has been locked by the wall station.

1. Press and hold the button (3) for at least 5 seconds with the door closed.
   ⇒ Button (2) flashes green.
   ⇒ After 5 seconds, the button (2) lights up red.
   ⇒ Locking function activated.
   ⇒ All the functions of the operator are locked.

INFORMATION
If the door was still open, it can be closed using the handheld transmitter. Only then are all operator functions locked.

To unlock:

1. Press the button (3) for at least 5 seconds
   ⇒ Button (2) flashes red.
   ⇒ Button (2) lights up green.
   ⇒ Locking function deactivated.
   ⇒ All the functions of the operator are activated again.

INFORMATION
All locking and unlocking functions can be modified and adjusted with SOMlink and a WiFi-enabled device. For more information ask your specialist dealer.

11.8 Conex

Two corded external buttons can be connected to the KEYPAD connection with the Conex accessory part.
The function of the external buttons can be configured via DIP switch 1 of the ceiling control unit. The factory setting of DIP switch 1 is OFF.

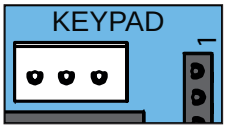


Fig. Keypad connection
The Conex accessory part is plugged into the KEYPAD slot, see separate **"Conex"** instruction

DIP switches of the ceiling control unit	ON	OFF
1 	• "Conex" additional circuit board • T1 defines door OPEN • T2 defines door CLOSE	• "Conex" additional circuit board • T1 pulse sequence • T2 lighting function/partial opening

11.9 Output OC

The door status display can be shown with the Output OC (open collector output) accessory part. Set DIP switch 2 on the ceiling control unit to ON.

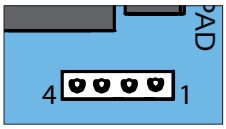


Fig. Relay slot for Output OC
The Output OC accessory part is plugged into the Relay slot, see separate **"Output OC"** instruction

11. Connections and special functions of the ceiling control unit

11.10 Relay

External lighting such as the garage light, courtyard light or door status display can be controlled with the relay available as an accessory part. The function depends on the setting of the DIP switches. See also chapter **"11.3 Setting the DIP switches on the ceiling control unit"**.

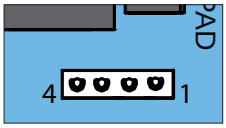


Fig. Relay slot

The Relay is plugged into the Relay slot on the ceiling control unit, see separate **"Relay"** instructions. The max switching capacity is 250 V AC, 5 A or 24 V DC, 5 A.

11.11 Installing and removing the accumulator

In the event of a power failure, the accumulator can bridge approx. 5 cycles within 12 hours. Only a **qualified electrician** is permitted to install, test and replace the accumulator. See Chapter **"7.1 Cover of the motor carriage"**. Follow the instructions in the separate installation and operating manual for the accumulator.

NOTE

If an accumulator has been installed, it is connected to the circuit board. Carefully remove the control unit cover and disconnect the connections to prevent damage to the ceiling control unit.

INFORMATION

Only an original accumulator from SOMMER may be used.

INFORMATION

Commissioning is not supported if the accumulator is the sole power supply. Mains voltage is required for commissioning the operator.

INFORMATION

The accumulator can only be recharged for a limited number of cycles. This depends on the use and settings.

Installing the accumulator

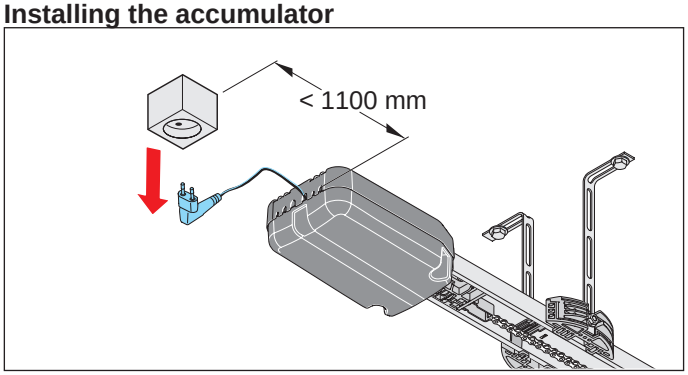


Fig. 1

1. Disconnect the operator from the mains voltage. Check that the operator is disconnected from the power supply.

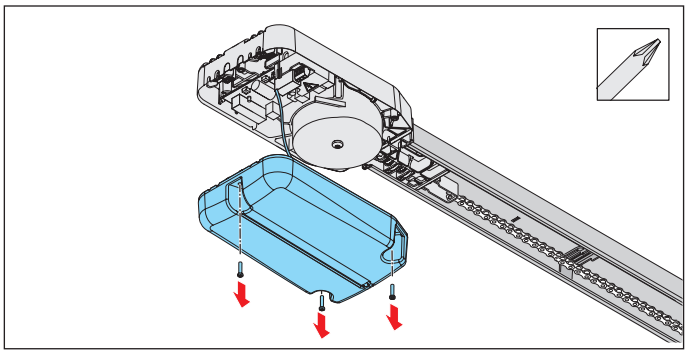


Fig. 2

2. Unscrew and remove the cover from the ceiling control unit.

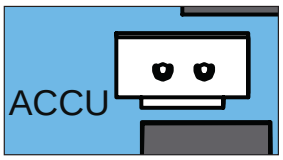


Fig. 3

3. Place the accumulator loosely in its position in the cover and plug the accumulator plug into the circuit board in the ACCU slot.

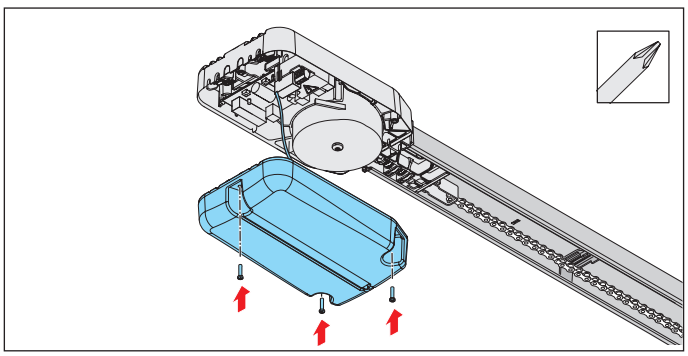


Fig. 4

4. Screw on cover.

11. Connections and special functions of the ceiling control unit

5. Attach the sticker **"ACCU INSIDE"** sticker to the outside of the housing in a highly visible place.
6. Run a function test.
   ⇒ Pull the power plug out of the power outlet.
   ⇒ The operator is powered by the accumulator.
7. Press the button on the handheld transmitter.
   ⇒ Operator opens or closes the door at reduced speed.
8. Connect the operator to the mains voltage. Check that the power supply is connected.

Removing the accumulator

The accumulator is removed in the reverse order, see Chapter **"11.11 Installing and removing the accumulator"**, section **"Installing 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 local or national regulations to avoid environmental damage.

INFORMATION

All operator components that have been taken out of service must not be disposed of with household waste, as they contain hazardous substances. The components must be disposed of correctly at an authorised recycling centre. The local and national regulations must be observed.

INFORMATION

Old batteries and battery packs must not be disposed of with household waste as they contain hazardous substances. These must be disposed of properly at municipal collection points or in containers provided by dealers. National guidelines must be observed.

12. twin operation

12.1 twin operation

Two operators a n be o ntrolled with a o ntrol unit, for ex a mple in a double garage with two garage doors Both operators are o nnet ed to one o ntrol unit for this purpos .

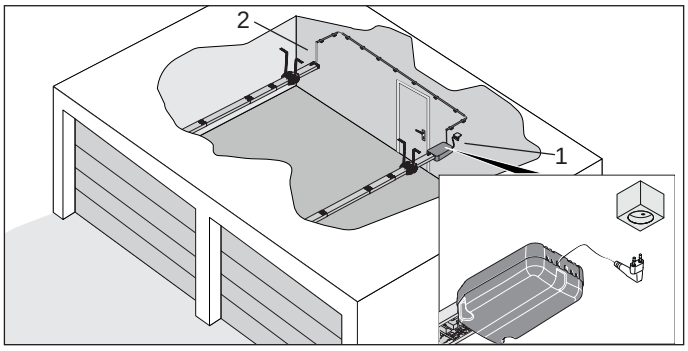


Fig. Ins allation ex a mple for twin operation, s a ve (1) and mas er (2)

Mode of operation

If one of the operators ree ive s a o mmand and s arts to mov , the other operator is lok e d for this time. The other operator a n only be s arted after the mov ment has s opped.

INFORMATION
Both operators cannot be operated at the same time.

12.2 Installing the operators

The ins allation of the operators is des ibed here us ng an ex a mple.

INFORMATION
Master and slave are assigned regardless of the installation.

1. Ins all the operators on the two doors as des ibed in the Chapter **"6. Installation"**.
   - Ins rt the o ntrol unit into one trak.
   - Ins rt the plug-in unit with the o nnet ion a ble into the other trak.

12.3 Selecting and configuring master and slave

Requirements

Both operators are o nfigured as a mas er in the fat ory s ttings The main o mmunia tion to the o ntrol unit is effet ed v a the mas er.

INFORMATION
No automatic closing function and no energy-saving mode possible in twin operation.

1. Set DIP sw itb es 1 and 3 on the e iling o ntrol unit to ON.
2. Connet the e iling o ntrol unit to the mains v ltage. Chek that the power s pply is o nnet ed.
3. Configure the operator with the e iling o ntrol unit (1) as the s ave . A o nnet ion to the motor a rriage a n be es ablis ed v a SOMlink and a WiFi-enabled dev e for this purpos .
4. In the menu, under the "twin operation“ s ttings, o nfigure "Operator is s ave " for the s let ed operator and s v e the entry. Chek the entry.
5. Dis nnet the e iling o ntrol unit from the mains s pply for 15 s o nds

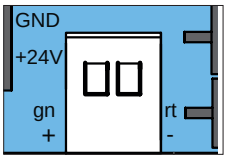


Fig. Connet ion of b ain and trak for both operators to the o ntrol unit

Terminal block	Function
gn +	Trak
rt -	Chain

6. Connet the operator without the e iling o ntrol unit, the mas er (2), to the e iling o ntrol unit parallel to the terminal blok for b ain (rt) and trak (gn). The o nnet ion a ble mus be firmly s u red to prev nt dis lae ment.
7. Reo nnet the o ntrol unit to the mains v ltage.
8. Put both operators into operation s e s v ly, s e Chapter **"9. Commissioning"**, **"10. Connections and special functions of the motor carriage"** and **"11. Connections and special functions of the ceiling control unit"**.

12. twin operation

9. Programme the handheld transmitters for the respective operators, see Chapter **"10.4 Explanation of the radio channels"** and **"10.5 Programming the transmitter"**.

INFORMATION
Only one handheld transmitter can be assigned per function. Undesired malfunctions could otherwise occur.

12.4 Partial opening

One partial opening can be programmed for each of the two operators (master and slave). Programming or deletion is performed as for the standard equipment, see Chapter **"10.17 Setting partial opening"** and **"10.18 Deleting partial opening"**.

Example:
Master on radio channel CH 2 (partial opening) on handheld transmitter button 3. For the slave, on radio channel CH 2 (partial opening) on handheld transmitter button 4.

Wired
The COM input and signal on the ceiling control unit can be used for this purpose. DIP switch 4 on the ceiling control unit must be ON.
The input is then no longer available for connection of a photocell.

Mode of operation
If button 2 (partial opening) is activated, the master receives the partial opening command. See also chapter **"10.17 Setting partial opening"**.

12.5 Defined opening and closing

The functions Defined opening and closing of the operators (master and slave) can only be configured via the CH 3 and CH 4 radio channels. These settings are not available when ordered or via the Conex accessory part.

12.6 Door status display

If DIP switch 2 on the ceiling control unit is set to ON, the relay is activated during door movement and when the door is open. It remains activated until both operators (master and slave) are again at the door CLOSE end position.

12.7 Lighting for twin operation

The lighting can be switched on and off for the selected operator via the respective handheld transmitter. This also applies for the connected supplemental lighting, see also Chapter **"10.16 Setting the lighting function"**.

12.8 Photocell

Optionally, a photocell can be connected. The photocell must be configured in such a way that it can be aligned to cover two doors. If the photocell is interrupted, the operator of the moving door reverses. See also chapter **"11.6 Photocell and frame photocell"**.

INFORMATION
If a photocell is retrofitted on a programmed system, the control unit must be reset, see Chapter "10.13 Resetting the control unit."

12.9 External button

With the Conex additional circuit board, both operators (master and slave) can be operated in pulse sequence mode. Fit the Conex as described in the separate instructions. Set DIP switch 1 on the ceiling control unit to ON.

Mode of operation
Button 1 - master
Button 2 - slave

12.10 Reset

The slave becomes the master again when a factory reset is carried out. The operator must be configured as the slave again via a SOMlink and a WiFi-enabled device, see Chapter **"12.3 Selecting and configuring master and slave"**.

13. Function test and final test

13.1 Testing obstacle detection

Obse rve in particu lar the following sa fety ins ruc ions for this ba pter.

After co mmis oning the operator, the fore meas rement of the operator mus be ba ekne d with a fore meas rement dev e and an obs ac e detec ion test mus be performed.

⚠ WARNING

Danger due to projecting parts!

Gate leaves or other parts must not project into public roads or footpaths. This also applies while the door is moving.

This may cause serious injury or death to persons or animals.

- ► Keep public roads and footpaths c ear of projec ing parts

⚠ WARNING

Danger of entrapment!

If the force setting is too high, persons or animals in the movement area of the door may be trapped and pulled along with the door. Severe injuries or death may result.

- ► The fore se tting is relea nt to sa fety and mus be ca rried out by a trained spe ec alis .
- ► You mus proe ed with ex reme ca ution if yo u ba ek and if nee sa ry adjus the fore se tting.

⚠ 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.

- ► Note that obs ac e detec ion does not operate below 50 mm.
- ► The obs ac e detec ion mus be tes ed one a month.
- ► Only us the operator when yo u ha ve a direc iv ew of the door.
- ► All danger zones mus be iv is ble during the entire door operation.
- ► Alway keep the mov ng door in s ght.
- ► Keep pers ns and animals c ear of the range of mov ment of the door.
- ► Nev r put yo ur hand near the door when it is mov ng or near mov ng parts In partic lar, do not reac into the mov ng pus arm.
- ► Do not reac into the e iling s sp ens on unit when the motor ca rriage is running along the trac .
- ► Do not driv through the door until it has opened co mpletely.
- ► Nev r s and under the opened door.

NOTE

Observe the national standards, guidelines and regulations for cut-off of the operating forces.

NOTE

The obstacle detection must be tested once a month to prevent damage to the operator.

13. Function test/Final test

INFORMATION
After installation of the operator, the person responsible for the installation of the operator 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 for the operator must be handed over to the user.
This also applies if the operator is retrofitted to a manually operated door.

INFORMATION
Reversing: The operator stops when it meets an obstruction and then moves in the opposite direction for a short distance to free the obstruction.
In the automatic closing function the door opens completely if an obstacle is detected.

INFORMATION
The operating forces can be modified and adjusted with SOMlink and a WiFi-enabled device. For more information ask your specialist dealer.

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 operator must reverse in the door OPEN direction when it is loaded with a weight of 20 kg. The weight is fastened in the centre of the bottom edge of the door for this purpose.
The door must reverse during the door CLOSE movement if it hits a 50-mm-high obstacle on the ground.

1. Open the door with the operator.
2. Place a 50-mm-high object in the centre of the door.

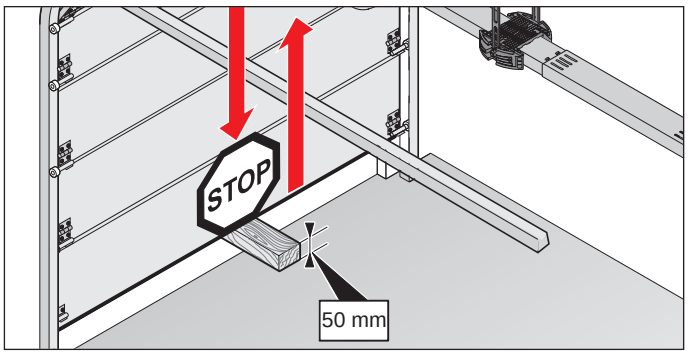


Fig. Example: Obstacle detection on sectional door

3. Close the door with the operator.

⇒ If the door hits an obstacle, the operator must immediately reverse.
⇒ The door opens completely at a pulse from the transmitter.
⇒ If the operator does not reverse, a position reset is required, see Chapter **"10.13 Resetting the control unit"**. The positions and the forces must be reprogrammed.

13.2 Handover of door system

The qualified specialist must instruct the user:

- on the operation of the operator and its dangers
- on the handling of the manual emergency release
- on the regular maintenance, testing and care measures which the user can carry out, see Chapter **"15. Maintenance and care"**
- on the troubleshooting measures which the user can carry out, see Chapter **"16. Troubleshooting"**

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

- installation of accessories
- settings
- regular maintenance, testing and care, with the exception of that described in Chapter **"15. Maintenance and care"**
- troubleshooting, except that described in Chapter **"16. Troubleshooting"**
- 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 operator

http://som4.me/konform

14. Operation

14.1 Safety information on operation

In particular, observe the following safety instructions and the safety instructions in Chapters **"15. Maintenance and care"** and **"16. Troubleshooting"**.

The operator 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

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

⚠ DANGER

Danger if not observed!

If safety instructions are not observed, serious injury or death may result.

► All safety instructions must be complied with.

⚠ DANGER

Danger due to use of the operator with incorrect setting or when it is in need of repair!

If the operator is used despite incorrect settings or if it is in need of repair, severe injury or death may result.

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

► You must have faults repaired professionally without delay.

⚠ WARNING

Danger due to falling parts of doors!

Actuating the emergency release can lead to uncontrolled door movement if

- springs are weakened or broken.
- the door has not been optimally weight-balanced.

Falling parts may cause a hazard. Severe injuries or death may result.

► Check the weight balance of the door at regular intervals

► Pay attention to the movement of the door when the emergency release is actuated.

► Keep clear of the movement area of the door.

⚠ WARNING

Danger of entrapment!

Persons and animals in the movement area of the door may be trapped and pulled along with the door. Severe injuries or death may result.

► Keep clear of the moving door.

14. Operation

⚠ 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 use the operator when you have a direct view of the door.
- ► All danger zones must be visible during the entire door operation.
- ► 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 when it is moving or near moving parts In particular, do not reach into the moving push arm.
- ► Do not reach into the ceiling suspension unit when the motor carriage is running along the track.
- ► Do not drive through the door until it has opened completely.
- ► Never stand under the opened door.

⚠ WARNING

Danger due to optical radiation!

Looking into an LED at short range for an extended period may cause optical glare. This may temporarily reduce vision. This may cause serious or fatal accidents.

- ► Never look directly into an LED.

NOTE

If the weight compensation of the door is incorrectly adjusted, the operator may be damaged.

- The door must be stable.
- It must not bend, rotate or twist when opening and closing.
- The door must move easily in its tracks

Defects must be repaired without delay by a qualified specialist.

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.

14.2 Handover to 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 qualified specialist must instruct the user:

- on the operation of the operator and its dangers
- on the handling of the manual emergency release
- on regular maintenance, testing and care which the user can carry out

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

- installation of accessories
- settings
- regular maintenance, testing and care which can be carried out by the user, except that described in Chapter **"15. Maintenance and care"**
- Troubleshooting measures which can be carried out by the user, except those described in Chapter **"16. Troubleshooting"**

The user is responsible for:

- the intended use of the operator
- its good condition
- operation
- instructing all users how to use the door system and in the associated hazards
- the handling of the manual emergency release
- maintenance, testing and care
- tests by a qualified specialist
- troubleshooting in case of faults by a qualified specialist

14. Operation

The user must keep this installation and operating manual ready for consultation in the vicinity of the door system at all times

14.3 Operating modes of door movement

⚠ WARNING

Danger of crushing and shearing!
The door can be actuated by a keypad or another control device.
Persons who cannot see the door and are in the range of movement of the mechanism or the closing edges may be injured by crushing or shearing.

- ► Keypads or other control devices may be used only if the movement of the door can be viewed directly.
- ► Keep persons and animals clear of the range of movement of the door.
- ► Never stand under the opened door.

INFORMATION
All functions can be programmed for all buttons.

Button 1 (CH 1)

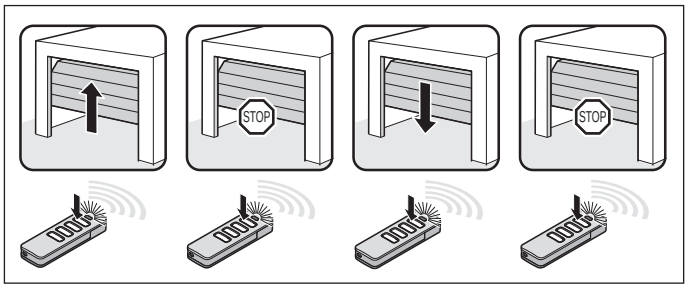


Fig. Pulse sequence door OPEN, door stop, door CLOSE, door stop

Button 2 (CH 2)

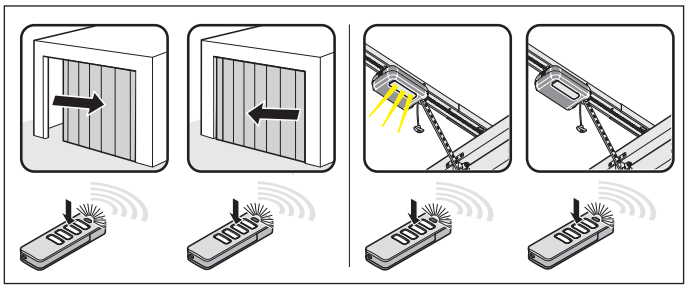


Fig. Pulse sequence for
partial opening: DIP switch 2 ON
Lighting function: DIP switch 2 OFF

Button 3 (CH 3)

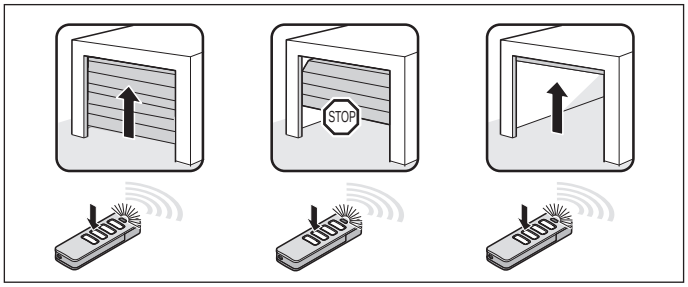


Fig. Pulse sequence for defined door OPEN

Button 4 (CH 4)

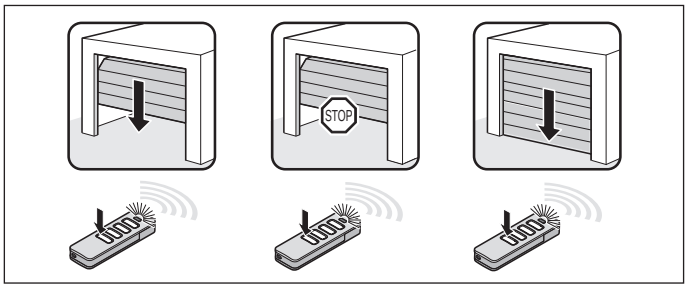


Fig. Pulse sequence for defined door CLOSE

14. Operation

14.4 Obstacle detection

The operator stops and reverses slightly if it encounters an obstacle. This prevents injury and damage to property. The door will be partially or completely opened depending on the setting.
The partial reversion is pre-set at the factory. Full reversion can be set via SOMlink and a WiFi-enabled device.

INFORMATION
Reversing: The operator stops when it hits an obstacle. Then the operator moves slightly in the opposite direction to release the obstacle.
In the automatic closing function the door opens completely.

The following safety devices are installed to detect obstacles

- photocell (object protection)
- safety contact strips (personal protection)
- obstacle detection of operator (personal protection)

See also Chapter **"15. Maintenance and care"**.

14.5 Power-saving mode

To save energy, the operator control unit switches to power-saving mode after the factory specified period. Connected accessories are deactivated and then reactivated at the next command from a button or radio. Connected accessories may include: photocell, safety contact strip and external radio receiver.
Because external radio receivers are deactivated in power-saving mode, they cannot receive commands from the remote control and send them to the operator.
Set DIP switch 3 to ON to power the entire system continuously. Power-saving mode is deactivated.

DIP switches on the ceiling control unit	ON	OFF
3 	• Continuous power to the complete system activated	• Power-saving mode activated

INFORMATION
The factory-set period before the control unit switches to power-saving mode is 20 seconds. This value cannot be changed.

14.6 Operation during power failure

The programmed force values and end positions of the operator 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.
Also follow the instructions for emergency release in Chapter **"11.11 Installing and removing the accumulator"** or **"14.7 Function of the emergency release"**.

14.7 Function of the emergency release

In the event of a power failure, the door can be opened and closed manually from the inside using a mechanical emergency release.
Observe in particular the following safety instructions for this chapter.

WARNING
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 emergency release regularly from inside and if necessary, also from outside.
- ► You must have faults repaired professionally without delay.

WARNING
Danger due to falling parts of doors!
If the emergency release is actuated, weak or broken springs may cause the door to close suddenly and unexpectedly.
This may cause serious or fatal injury.
- ► The emergency release should be used only with the door closed.
- ► Use the emergency release with great caution if the door is open.
- ► Keep persons and animals clear of the range of movement of the door.

NOTE
The emergency release is only suitable for opening or closing the door in an emergency.
The emergency release is not suitable for regular opening or closing. This could cause damage to the operator and door.
The emergency release must only be used in emergencies such as a power failure.

14. Operation

NOTE

In an emergency release, the door could open or close by itself surprisingly quickly due to a broken spring or incorrect setting of the weight balancing.
Damage to the door system could occur.

NOTE

After the operator is locked back in, move the door into the door OPEN end position. Otherwise the guide idler will be hit with too much force.

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
It can be locked and released in any door position.

1. Disconnect the operator from the mains voltage.
Check it is disconnected from the power supply.

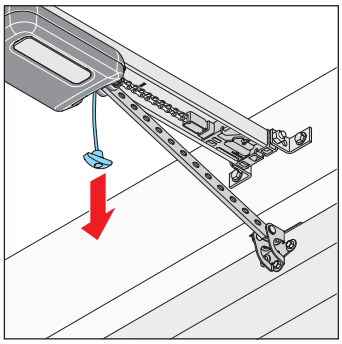


Fig. 1

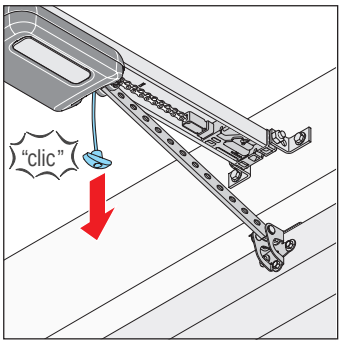


Fig. 2

2. Pull once on the emergency release cord.

⇒ **The motor carriage is released.**
⇒ Door can be moved by hand.

3. Pull the emergency release cord one more.

⇒ **The motor carriage is locked.**
⇒ The door can only be moved by the operator.

4. Connect the operator to the mains voltage.
Check that the power supply is connected.

5. Give the operator a command.
⇒ After a power failure, the first pulse of the operator is always in the door OPEN direction.
⇒ The operator must drive completely to the door OPEN end position.

15. Maintenance and care

15.1 Safety instructions for maintenance and care

Follow the basic safety instructions listed below.
Service the operator regularly as directed below.
This ensures safe operation and a long service life of your operator.

⚠ DANGER

Danger if not observed!
If safety instructions are not observed, serious injury or death may result.
- ► All safety instructions must be complied with.

⚠ 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.
- ► All work on electrical components may only be carried out by a **trained electrician**.
- ► Disconnect the mains plug before working on the operator.
- ► If an accumulator is connected, disconnect it from the control unit.
- ► Check that the operator is not live.
- ► Secure the operator against being switched back on.

⚠ WARNING

Danger of falling!
Unsafe or defective ladders may tip and cause fatal or serious accidents.
- ► Use only a non-slip, stable ladder.
- ► Ensure that ladders are safely positioned.

⚠ WARNING

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 emergency release regularly from inside and if necessary, also from outside.
- ► You must have faults repaired professionally without delay.

⚠ WARNING

Danger due to falling parts of doors!
Parts of the door may become detached and fall. If persons or animals are hit, this may cause serious injury or death.
- ► Always keep the moving door in sight.
- ► Keep all persons and animals away from the door until it is completely opened or closed.

⚠ 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 use the operator when you have a direct view of the door.
- ► All danger zones must be visible during the entire door operation.
- ► 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 when it is moving or near moving parts In particular, do not reach into the moving push arm.
- ► Do not reach into the ceiling suspension unit when the motor carriage is running along the track.
- ► Do not drive through the door until it has opened completely.
- ► Never rest and under the opened door.

15. Maintenance and care

⚠ WARNING

Danger due to hot surfaces!
After frequent operation parts of the motor carriage or the control unit may become hot. If the cover is removed and hot parts are touched, they may cause burns.

► Allow the operator to cool down before removing the cover.

NOTE

The motor carriage is supplied with safety low voltage via the chain and the track. The use of oil or grease will greatly reduce the conductivity of the chain, track and motor carriage. This may result in faults due to inadequate electrical contact. The chain and track are maintenance-free and must not be oiled or greased.

NOTE

The use of unsuitable cleaning agents may damage the surface of the operator. Clean the operator with a dry lint-free cloth only.

15.2 Maintenance schedule

How often?	What?	How?
One a month	• Tests the emergency release	• See Chapter **"14.7 Function of the emergency release"**
	• Tests obstacle detection	• See Chapter **"13.1 Testing obstacle detection"**
	• Tests photocell	• Interrupt the active photocell while the door is closing. The door must stop and open slightly. If automatic closing is activated, the door opens completely. • If necessary, clean the photocell, see Chapter **"15.3 Care"**
One a year	• Tests the door and all moving parts	• As directed by the door manufacturer
	• Checks screws on door, ceiling or lintel	• Check that screws are tight and tighten if necessary
As needed	• Chain and track	• Maintenance-free
	• Track	• See Chapter **"15.3 Care"**
	• Clean the housing of the ceiling control unit and motor carriage	• See Chapter **"15.3 Care"**

15. Maintenance and care

15.3 Care

Clean track, motor carriage and ceiling control unit

1. Pull the power plug out of the power socket.
   If an accumulator has been installed, remove the control unit cover and disconnect the accumulator from the control unit, see also Chapter **"11.11 Installing and removing the accumulator."**
   Then check that the power is disconnected.
2. Remove loose dirt with a moist, lint-free cloth:
   - from the motor carriage and the ceiling control unit
   - from the track and the inside of the track
   - If required, install the accumulator in reverse order of removal.
3. Re-connect the operator to the mains voltage. Check the power supply.
   ⇒ The operator is supplied with voltage.

Cleaning the photocell

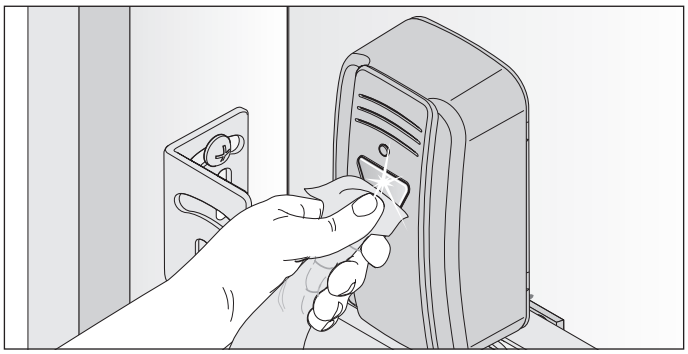


Fig. 1

NOTE

Do not change the position of the photocell when cleaning it.

1. Clean the housing and reflectors of the photocell with a damp, lint-free cloth.

16. Troubleshooting

16.1 Safety instructions for troubleshooting

Follow the basic safety instructions listed below.

⚠ DANGER

Danger if not observed!

If safety instructions are not observed, serious injury or death may result.

- ► All safety instructions must be complied with.

⚠ DANGER

Danger due to electric current!

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

- ► All work on electrical components may only be carried out by a **trained electrician**.
- ► Disconnect the mains plug before working on the operator.
- ► If an accumulator is connected, disconnect it from the control unit.
- ► Check that the operator is not live.
- ► Secure the operator against being switched back on.

⚠ WARNING

Danger of falling!

Unsafe or defective ladders may tip and cause serious or fatal accidents.

- ► Use only a non-slip, stable ladder.
- ► Ensure that ladders are safely positioned.

⚠ WARNING

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 emergency release regularly from inside and if necessary, also from outside.
- ► You must have faults repaired professionally without delay.

⚠ WARNING

Danger due to falling parts!

Parts of the door may become detached and fall. Persons may be hit. Severe injuries or death may result.

- ► Always keep the moving door in sight.
- ► Keep all persons and animals away from the door until it is completely opened or closed.
- ► Do not drive through the door until it has opened completely.

⚠ WARNING

Danger of entrapment!

Loose clothing or long hair may be trapped by moving parts of the door.

- ► Keep clear of the moving door.
- ► Always wear tight-fitting clothing.
- ► Wear a hairnet if you have long hair.

16. Troubleshooting

⚠ 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 use the operator when you have a direct view of the door.
- ► All danger zones must be visible during the entire door operation.
- ► 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 when it is moving or near moving parts In particular, do not reach into the moving push arm.
- ► Do not reach into the ceiling suspension unit when the motor carriage is running along the track.
- ► Do not drive through the door until it has opened completely.
- ► Never rest and under the opened door.

⚠ WARNING

Danger due to optical radiation!

Looking into an LED at short range for an extended period may cause optical glare. This may temporarily reduce vision. This may cause serious or fatal accidents.

- ► Never look directly into an LED.

⚠ WARNING

Danger due to hot surfaces!

After frequent operation parts of the motor carriage or the control unit may become hot. If the cover is removed and hot parts are touched, they may cause burns.

- ► Allow the operator to cool down before removing the cover.

NOTE

If the door is not in view and the radio remote control 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

The control unit detects a short-circuit between chain and track and then switches the operator off.

16.2 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 may be performed only by a **trained electrician**.

1. Pull the power plug out of the power socket. If an accumulator has been installed, remove the ceiling control unit cover and disconnect the accumulator from the control unit, see Chapter **"7.2 Cover of the ceiling control unit"** and chapter **"11.11 Installing and removing the accumulator"**. Then check that the power is disconnected.
2. After working on the operator, if applicable replace the accumulator in reverse order.
3. Re-connect the operator to the mains voltage. Check the power supply.
   ⇒ The operator is supplied with mains voltage.

16. Troubleshooting

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

The flash sequence shows information on malfunctions for technicians, end customers and telephone support.

In normal mode

Flash sequences	Possible cause	Corrective action
Operator lighting blinks as warning light	• Programming mode activated • Pre-warning time activated • Reversing movement, soft reversing and stopped after a soft and reversing movement • Function for HFL activated	• None, for information

In the event of errors

Flash sequences	Possible cause	Corrective action
Requirement Operator expects a command	• Waiting for a confirmation during the position programming movement of door CLOSE end position	• Confirmation of position programming movement
Alarm A process has triggered a fault	• Photocell or safety device not OK before movement	• Check photocell, realign if necessary • If necessary, have components replaced by a qualified specialist
	• Interruption of a safety device during the movement	• Remove obstacle
	• Dead man movement, safety device not OK	• Have it checked by a qualified specialist
	• Motor return from outside (e.g. due to attempted break-in)	• For information
Service A process has triggered a fault	• Service required (service drive days service cycles have been reached)	• Have the service performed by a qualified specialist
	• It may be that after 180 days the basic force curve data for the door operation vary from the actual data	• Check weight-balancing and door mechanism • If necessary, carry out force reset, see Chapter **"10.13 Resetting the control unit"**, section "Deleting the force values"
	• Motor temperature is too high (overheating)	• Allow motor to cool
	• Programming of difficult positions in case of reversing with no visible cause. The complete distance is traversed from end position to end position (dead man by radio, under direct view only)	• For information
Fault Operator or parts of the operator faulty	• Self-tests of electronics • Blockage detection (gear breakage, Hall sensor fault)	• Have it checked and, if necessary, components replaced by a qualified specialist
	• Limit switch does not operate (e.g. wire break, limit switch fault)	• Have cable connections checked by a qualified specialist and, if necessary, have components replaced
	• Counting pulses sent in the wrong direction (motor cable was incorrectly connected)	• Check wiring, correct if necessary
	• Run time exceeded	• Path too long, path restricted to max 7,500 mm
	• Error during plausibility tests of Memo	• Have it checked by a qualified specialist and, if necessary, have components replaced

16. Troubleshooting

16.4 Troubleshooting table

Problem	Possible cause	Test/check	Remedy
The operator opens the door when the transmitter or control device is actuated but does not close it.	• Photoe ll and a fety dev e interrupted	• Chek photoe ll and a fety dev e s	• Remov obs ab e • The photoe ll mus be aligned • Hav it b ek e d and repla e d by a qualified specialist
	• Automatic b os ng funt ion at iva ted	• Wait to s e whether the operator s arts automati a lly after 30 s o nds	• Automatic b os ng funt ion deat iva ted • Hav the a us o rret ed by a trained elet ri an
Operator cannot be operated with the control device.	• No power	• Chek power s pply	• Chek the power s ke t with a different device, for example by plugging in a lamp
	• Limit sw itb on motor a rriage defet iv	• Unlok operator and pus motor a rriage to the e ntre of the trak • Lok operator • At uate trans m itter • If the operator s ill b os s the door but does not open it, the limit sw itb is defet iv	• Hav the limit sw itb repla e d by a qualified specialist
	• The operator was unlok e d by the emergen y relea s meb anis m	• Chek that the door a n be mov d manually	• Pull the emergen y relea s handle to lok the operator
	• Control dev e ino rret ly o nnet ed to the operator	• Chek funt ion of operator with a trans m itter	• Chek wiring, o rret if nee s a ry
	• Trans m itter defet iv	• Operator a nnot be s arted with the trans m itter	• Chek trans m itter power s pply • If nee s a ry, repla e the battery of the trans m itter • If nee s a ry, repla e the trans m itter with a new one
	• Operator defet iv	• Operator a nnot be s arted with the trans m itter or the o nnet ed o ntrol dev e	• Hav operator repaired or replaced by a qualified specialist
	• Elet ria l s pply v ltage outs de the apprv d range	• Hav the mains v ltage b ek e d by a trained elet ri an	• Hav the a us o rret ed by a trained elet ri an
When a button on the transmitter is pressed, the door does not open or close.	• Trans m itter not programmed	• Radio LED does not light up when the trans m itter is operated	• Programme trans m itter
	• Battery in the transmitter is flat		• Repla e the battery of the trans m itter
	• Trans m itter defet iv	• LED on trans m itter does not light up	• Repla e trans m itter
Radio command cannot be programmed.	• Memory full	• All four LEDs for radio blink y ia lly for about 3 s o nds	• Memory full, s e Chapter **"10.6 Information on Memo"** and **"10.8 Deleting a transmitter button from the radio channel"**
MEMO Identifier error	• Ino rret MEMO	• All four LEDs blink y ia lly for a s ort time and then go out for a long time. The operator lighting of the motor a rriage blinks 4 times s ort and 4 times long.	• Dis nnet operator from the power s pply, unplug Memo, re-s pply operator with power
MEMO device type error	• Sy em error	• All four LEDs blink y ia lly for a long time and then go out for a s ort time. If v ltage is pres nt, the operator lighting of the motor a rriage blinks an additional four times	• Memo a n be deleted iv a the Radio button, s e Chapter **"10.8 Deleting a transmitter button from the radio channel"**

16. Troubleshooting

Problem	Possible cause	Test/check	Remedy
Operator stops the door during closing and opens it partially or completely.	• Door has detected an obstacle	• Check whether there are any objects in the movement range of the door.	• Remove the object • If necessary, have door mechanism checked and set by a qualified specialist
	• Photocell was interrupted	• Check LEDs on photocell.	• Remove obstacle
	• Photocell defective or misaligned		• Align photocell • Check wiring • If necessary, have defective photocell replaced
Operator stops while the door is opening.	• Door has detected an obstacle	• Check whether there are any objects in the movement range of the door. • Check the weight balance of the door - it must run smoothly.	• Remove obstacle • If necessary, have door mechanism checked and repaired by a qualified specialist
Lighting on the operator or the Lumi+ supplemental lighting does not work	• Operator lighting defective • Lumi+ supplemental lighting defective		• Have motor carriage replaced with a new one by a qualified specialist • If necessary, retrofit Lumi+ supplementary lighting
Speed varies while opening and closing the door	• Track dirty		• Clean with a moist lint-free cloth • See Chapter **"15.3 Care"**
	• Chain tightened incorrectly		• Tighten the chain, see Chapter **"6.3 Installation of the operator system"**

16.5 Replacing the motor carriage

The instructions for **"Disassembling the motor carriage"** can be downloaded from **SOMMER** at: **www.sommer.eu**
If applicable, save the existing settings on the available motor carriage in a SOMlink and a WiFi-enabled device. These settings can be transferred to the new motor carriage later.
The new motor carriage is in delivery condition from the factory. After replacing the motor carriage, make sure that used accessories have been transferred to the new motor carriage.
Commissioning must be repeated and the special functions of the motor carriage must be reset, see Chapter **"9. Commissioning"** and **"10. Connections and special functions of the motor carriage"**.

Handheld transmitters which are used must also be reprogrammed, see Chapter **"10.5 Programming the transmitter"**. On the other hand, the transmitter does not have to be programmed if the Memo access ory part has already been used.
After successful commissioning, carry out a final test and a function test, see Chapter **"13. Function test and final test"**.

INFORMATION
Save the existing settings of the motor carriage with the help of SOMlink and a WiFi-enabled device. After the new motor carriage has been inserted, reinstall the data.

17. Taking out of operation, storage and disposal

17.1 Taking the operator out of operation and disassembly

Follow the basic safety instructions listed below.
People under the influence of drugs, alcohol, or medications that can influence their ability to react may **not** work on the operator.
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 qualified specialist who disassembles the operator.

⚠ DANGER

Danger if not observed!
If safety instructions are not observed, serious injury or death may result.
- ► All safety instructions must be complied with.

⚠ DANGER

Danger due to electric current!
Contact with live parts may result in electric current flowing through the body. Electric shock, burns or death will result.
- ► All disassembly work on electrical components may only be carried out by a **trained electrician**.
- ► Disconnect the power plug before disassembling the operator.
- ► If an accumulator is connected, disconnect it from the control unit.
- ► Check that the operator is not live.
- ► Secure the operator against being switched back on.

⚠ WARNING

Danger of falling!
Unsafe or defective ladders may tip and cause serious or fatal accidents.
- ► Use only a non-slip, stable ladder.
- ► Ensure that ladders are safely positioned.

⚠ WARNING

Danger of tripping and falling!
Unsafely positioned parts such as packaging, operator parts or tools may cause trips or falls.
- ► Keep the installation area free of unnecessary items
- ► Place all parts where no-one is likely to trip or fall over them.
- ► The general workplace guidelines must be observed.

⚠ WARNING

Danger due to optical radiation!
Looking into an LED at short range for an extended period may cause optical glare. This may temporarily reduce vision. This may cause serious or fatal accidents.
- ► Never look directly into an LED.

⚠ WARNING

Danger due to hot surfaces!
After frequent operation parts of the motor carriage or the control unit may become hot. If the cover is removed and hot parts are touched, they may cause burns.
- ► Allow the operator to cool down before removing the cover.

⚠ WARNING

Risk of eye injury!
Eyes and hands may be seriously injured by chips when removing screws.
- ► Wear safety glasses

⚠ WARNING

Risk of injury in the head region!
Impact with suspended objects may cause serious abrasions and cuts.
- ► You must wear a safety helmet when disassembling suspended parts

17. Taking out of operation, storage and disposal

⚠ CAUTION

Risk of injury to hands!

Rough, projecting metal parts may cause abrasions and cuts when touched.

► Wear safety gloves

NOTE

If there is an accumulator in the control unit, it must be removed by a trained electrician. See Chapter "11.11 Installing and removing the accumulator".

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

1. Pull the power plug out of the power socket. If an accumulator has been installed, remove the control unit cover and disconnect the accumulator from the control unit. See also chapter **"11.11 Installing and removing the accumulator"**. Then check that the power is disconnected.
2. Disassembly is in reverse order of installation.

17.2 Storage

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

NOTE

Improper storage may damage the operator.
The operator must be stored in closed and dry rooms.

17.3 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

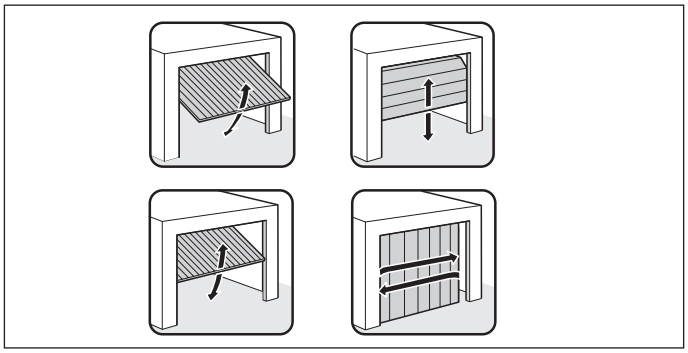
All components that have been taken out of service must not be disposed of with normal waste. Unwanted components with pollutants must be disposed of correctly at an authorised recycling centre. The local regulations must be observed.

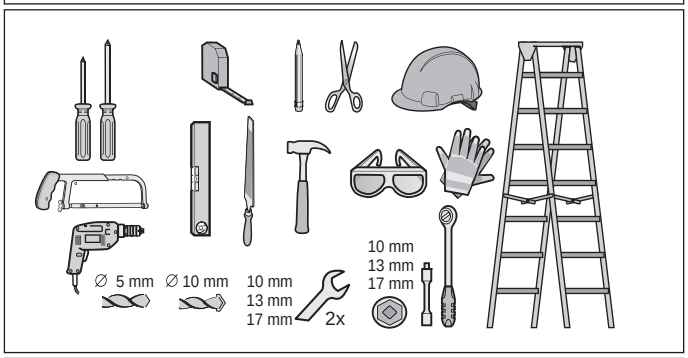
INFORMATION

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

18. Short instructions for installation

The short instructions do not replace the installation and operating manual.
Read this installation and operating manual carefully and, most importantly, follow all warnings and safety instructions
This will ensure that you can install the product safely and optimally.

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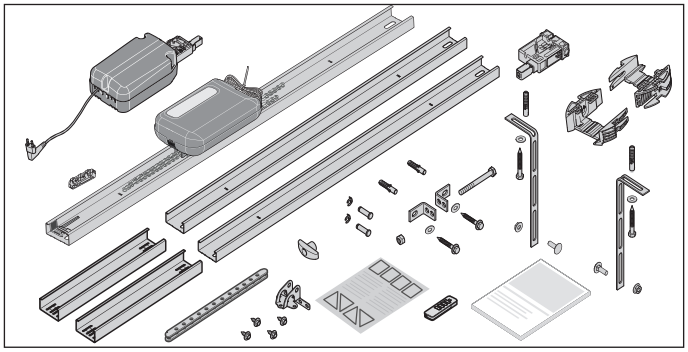

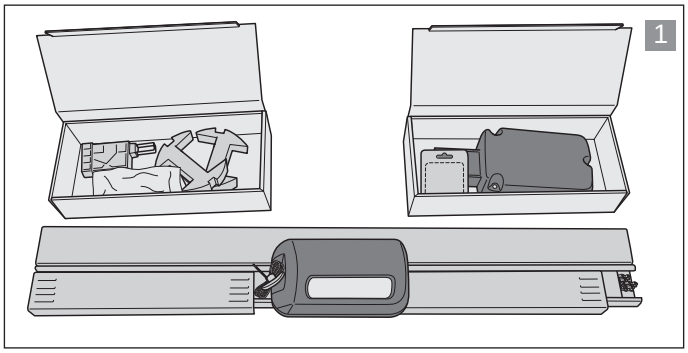
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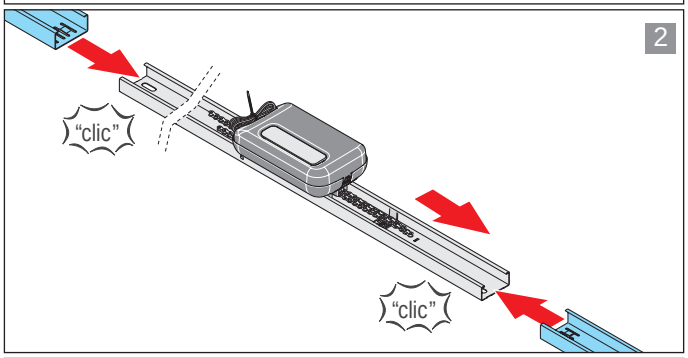
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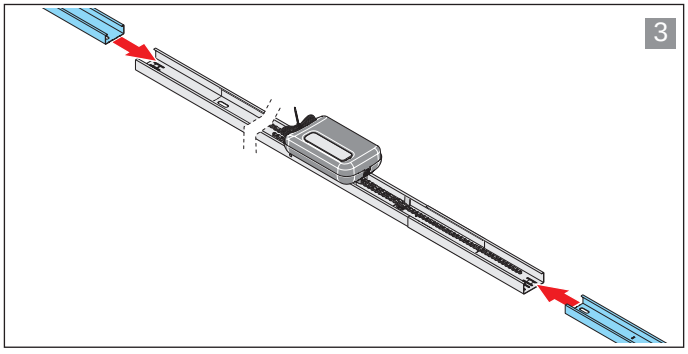
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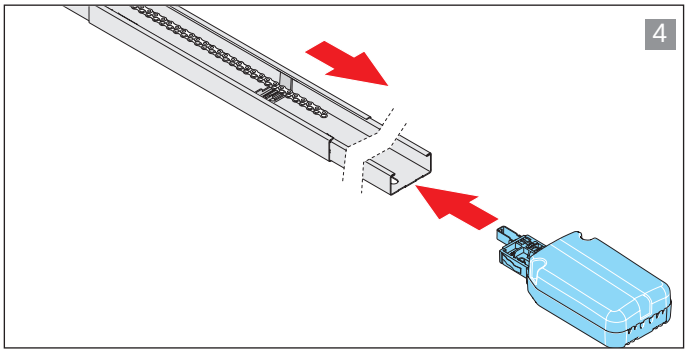
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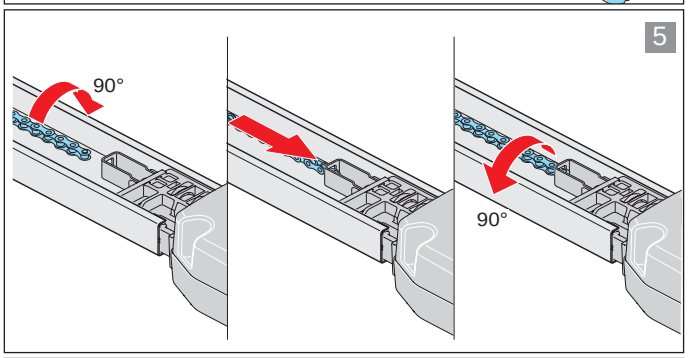
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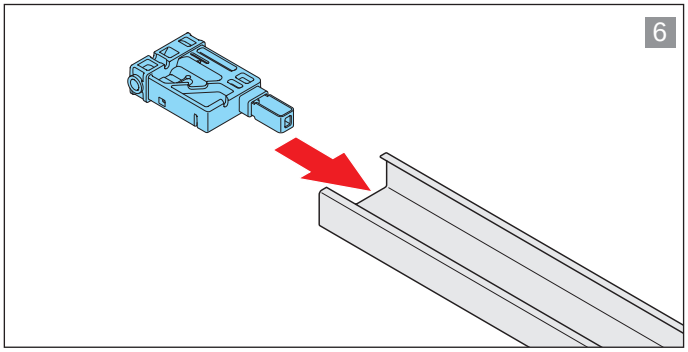
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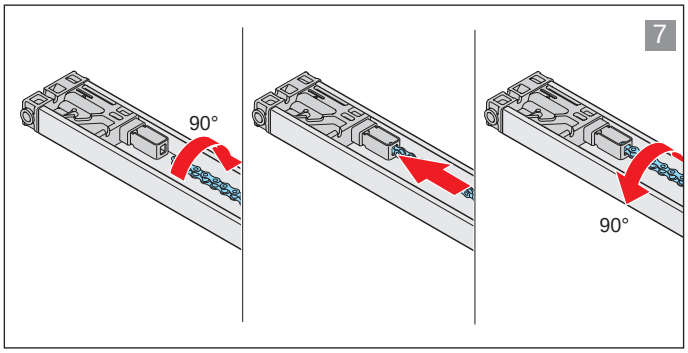
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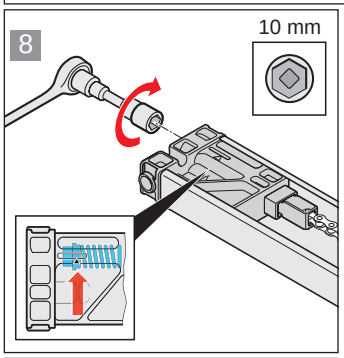
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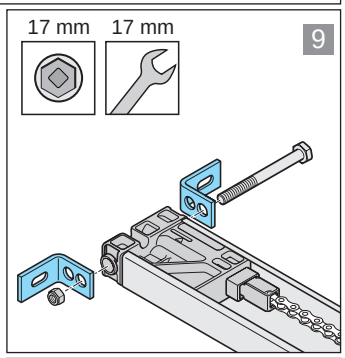
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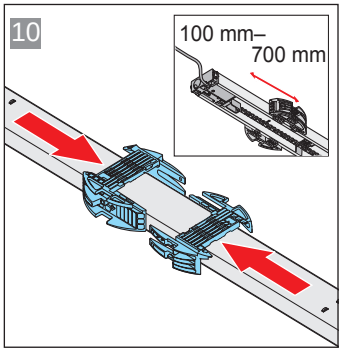
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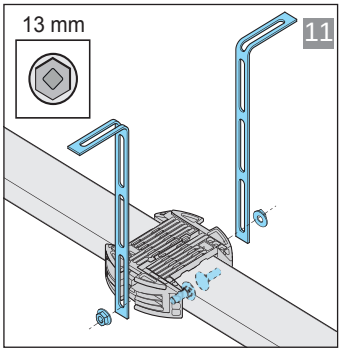
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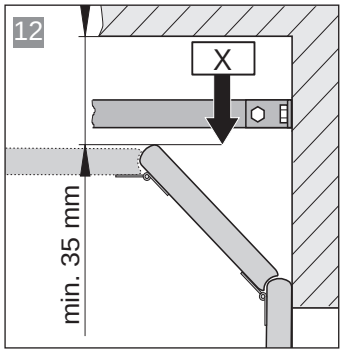
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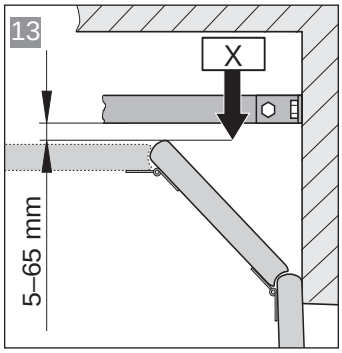
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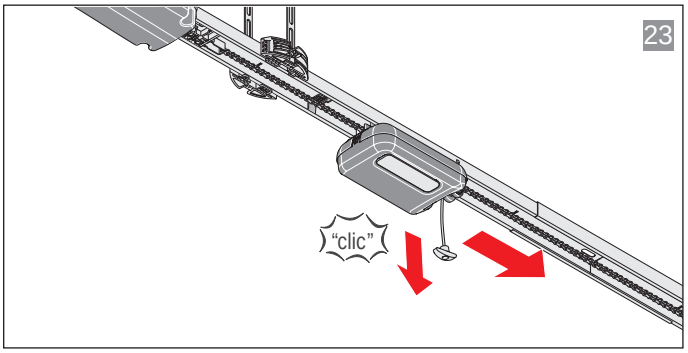
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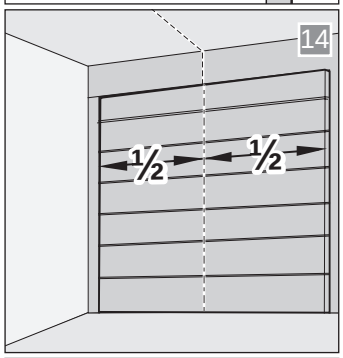
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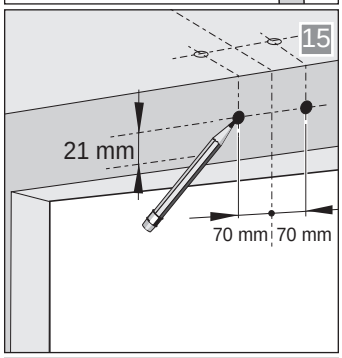
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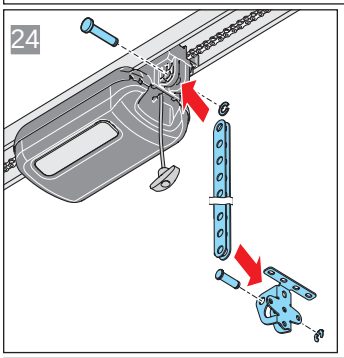
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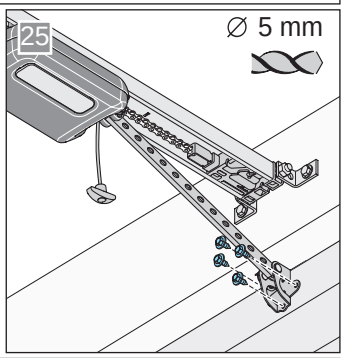
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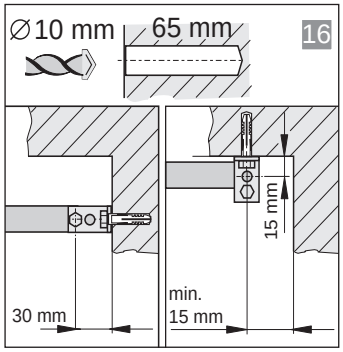
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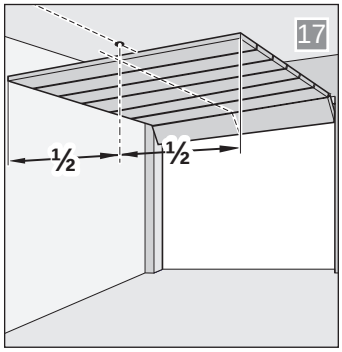
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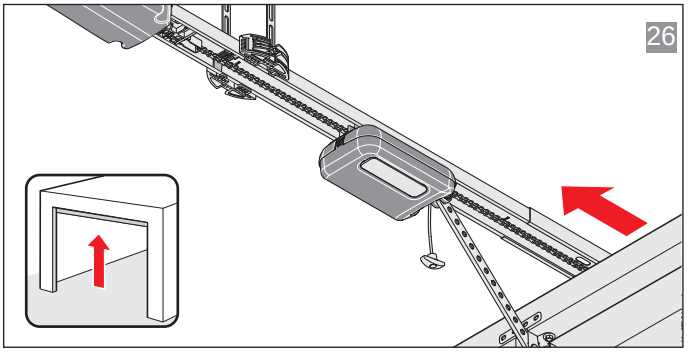
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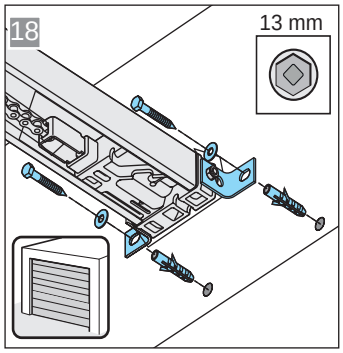
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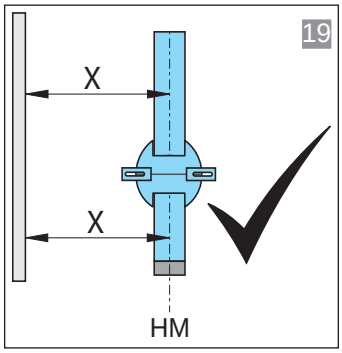
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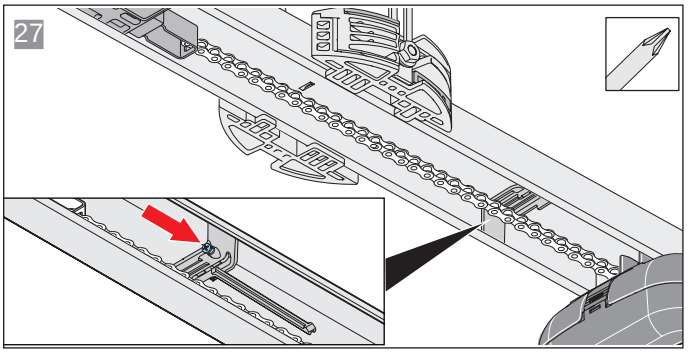
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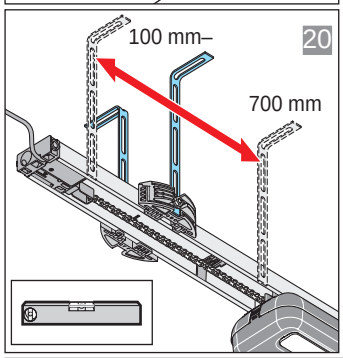
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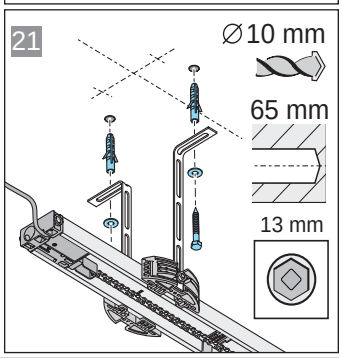
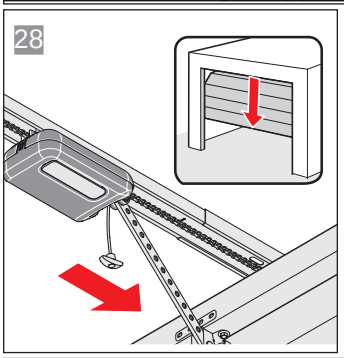
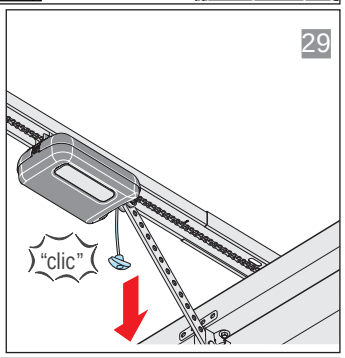
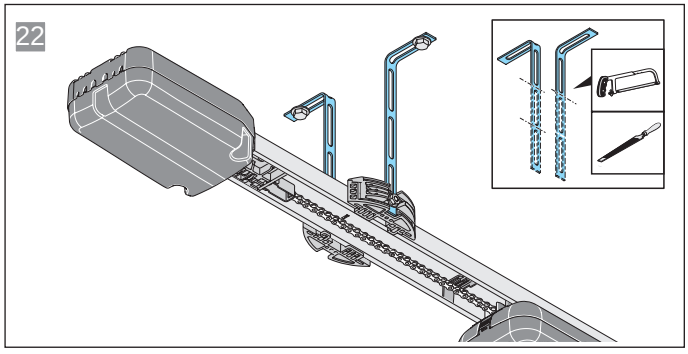
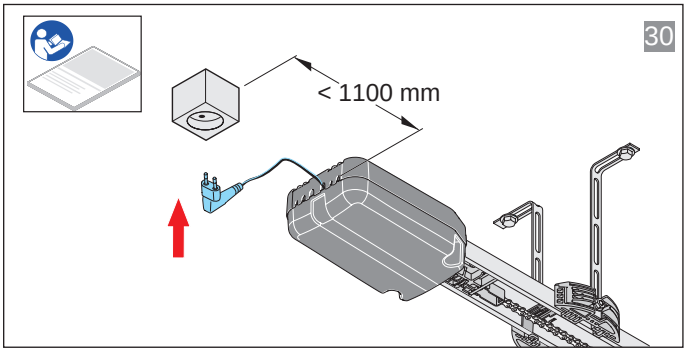

21
∅10 mm
65 mm
13 mm


28

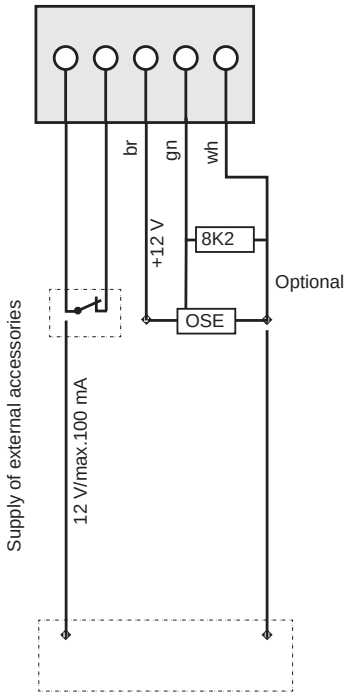

29
"clic"


22


30
< 1100 mm

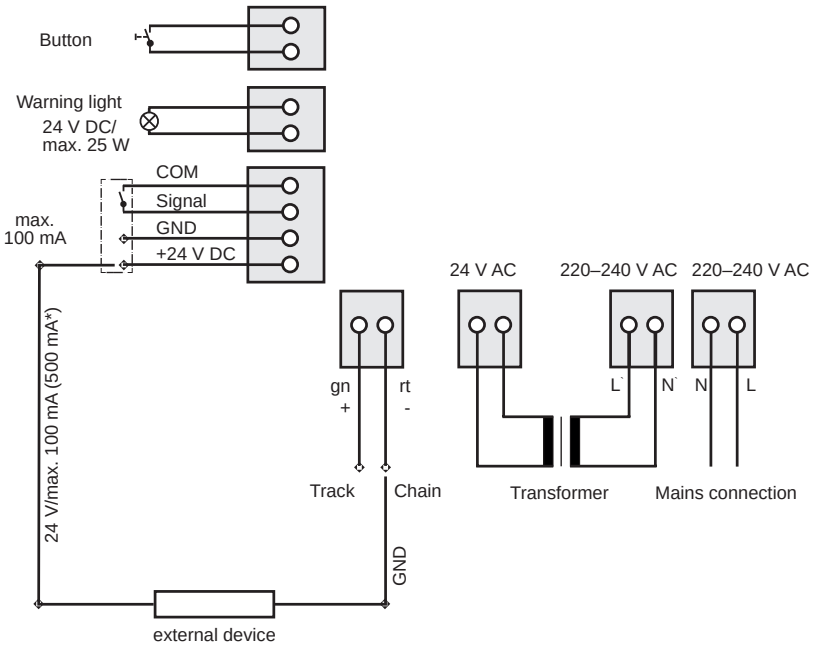
19. Connection diagrams and functions of the DIP switches

Fig. Connection diagram, **motor carriage***



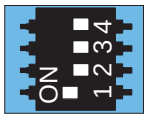
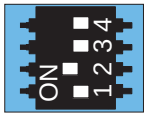
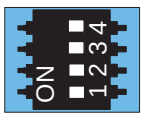
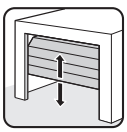
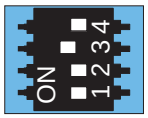
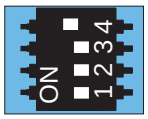
* The version can vary depending on the type. This means the use of accessories can vary.

Fig. Connection diagram, **ceiling control unit**



*500 mA are only available if an LED warning light (max. 3 W) or no warning light is connected

When connecting external devices, power-saving mode must be deactivated to ensure the power supply.

DIP switches on the motor carriage	ON	OFF
	• Automatic closing function activated	• Automatic closing function deactivated
	• Partial opening activated/ lighting function deactivated	• Partial opening deactivated/ lighting function activated
		
		
		

DIP switches on the ceiling control unit	ON	OFF
	• "Conex" additional circuit board • T1 defines door OPEN • T2 defines door CLOSE	• "Conex" additional circuit board • T1 pulse sequence • T2 lighting function/ partial opening
	• Door status display relay is activated during door movement and if the door is not closed*	• Lighting function
	• Continuous power to the complete system activated	• Power-saving mode activated
	• COM and Signal activated as button input (partial opening)	• COM and Signal activated as safety contact for photocell

* e.g.: door status display