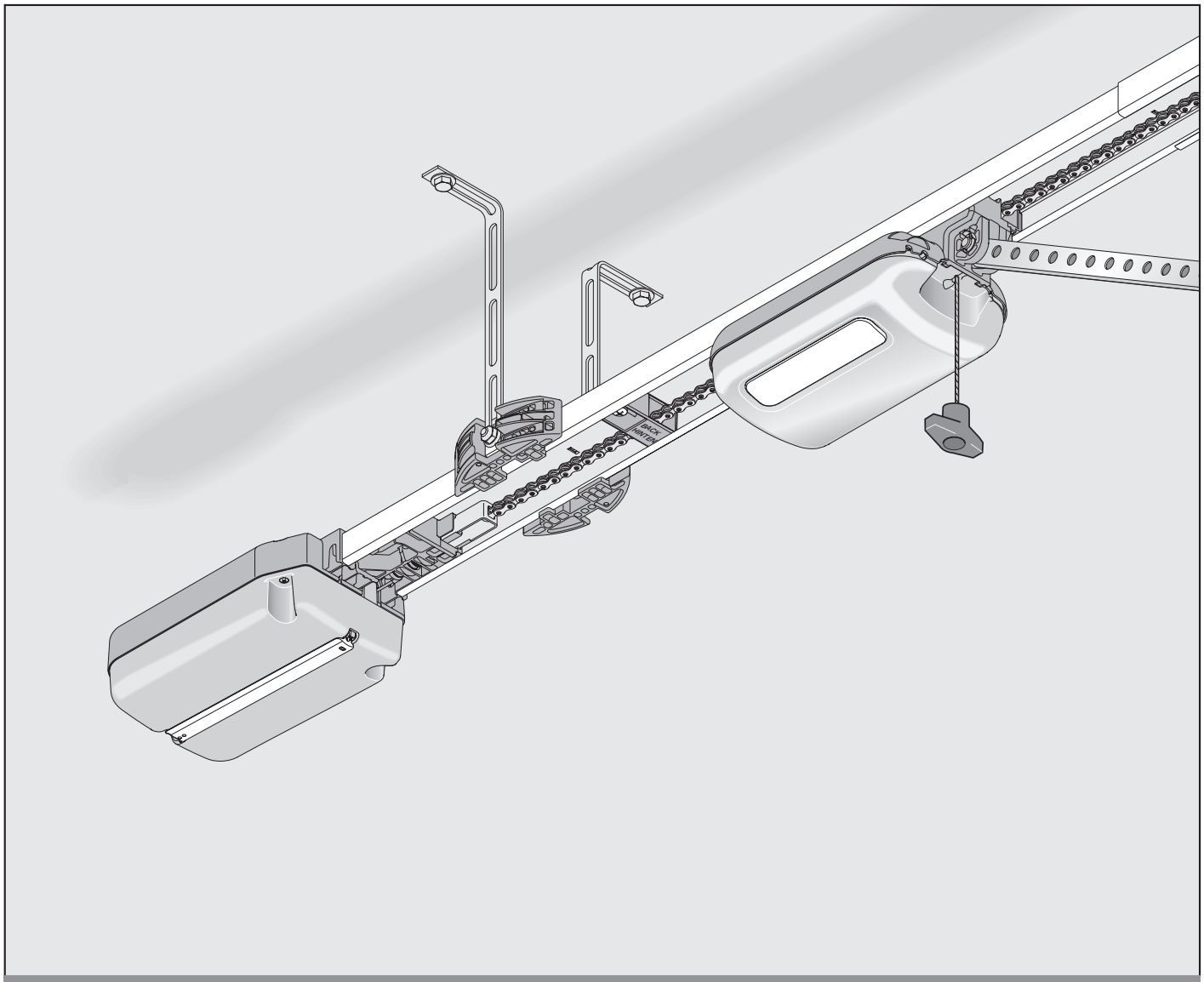
SOMMER



en ORIGINAL INSTALLATION AND OPERATING MANUAL

Garage door operator

S 9060 base+
S 9080 base+

TÜV NORD GS geprüfte Sicherheit

Space for
warranty label

46900V000-072015-0-OCE-Rev.A_01_EN

Dear customer,

congratulations on your purchase of a product of SOMMER Antriebs- und Funktechnik GMBH.

This product has been developed and manufactured under high standards of quality. Our passion for the product is just as important to us as the needs and requirements of our customers. We place particular emphasis on the safety and reliability of our products.

Read this installation operating manual carefully and follow all instructions. This will ensure that you can install and operate the product safely and optimally.

If you have any questions, please contact your specialist retailer, installer or contact.

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

Year of manufacture: from 03.2015

Information on the installation and operating manual
Version of the installation and operating manual:
46900V000-072015-0-OCE-Rev.A_01_DE

Warranty
The warranty complies with statutory requirements. The contact person for warranties is the qualified dealer.
The warranty is only valid in the country in which the operator was purchased.
Batteries, fuses and lights are excluded from the warranty.

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

SOMMER Antriebs- und Funktechnik GmbH
Hans-Böckler-Str. 21-27
D-73230 Kirchheim/Teck
www.sommer.eu
info@sommer.eu

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


+49 (0) 7021 /8001 - 403

doku@sommer.eu

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


+49 (0)900-1800150

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

http://www.sommer.eu/de/kundendienst.html

Table of contents

1. About this installation and operating manual

1.1. Storage and circulation of the installation and operating manual

Read this installation and operating manual carefully and completely before installation, commissioning and operation and also before removal. Follow all warnings and safety instructions.

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

If your installation and operating manual is damaged or lost, it can be downloaded from SOMMER Antriebs- und Funktechnik GmbH at:
www.sommer.eu

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

- this installation and operating manual
- Documents recording retrofitting and repairs
- Proof of regular care, maintenance and testing

1.2. 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.

1.3. 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
- Initial operation
- Setting
- Usage
- Care and maintenance
- Testing
- Troubleshooting
- Disassembly and disposal

1.4. Explanation of warning symbols and instructions in the installation and operating manual

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 and 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

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.

1. About this installation and operating manual

⚠ 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 gate may occur.

INFORMATION

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

Symbol refers to correct disposal of components with hazardous materials at a public recycling company. Components with hazardous materials must not be disposed of with normal waste.

Symbol refers to factory settings.

Symbol refers to SOMlink and smartphone.

1.5. Special warnings, hazard symbols and mandatory signs

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

⚠ DANGER

Danger due to electric current!

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

► Installation, testing and replacement of electrical components may only be carried out by an electrician.

⚠ DANGER

Danger of entrapment!

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

► A second entrance, a release lock or a Bowden cable for unlocking from the outside must be installed!

⚠ DANGER

Danger of falling!

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

► Use only a non-slip, stable ladder.

⚠ 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 opening and closing.

1. About this installation and operating manual

⚠ WARNING

Danger of entrapment!

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!

► Keep clear of moving doors.

⚠ WARNING

Danger of crushing and shearing!

If the door moves with 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 gate 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 unnecessary items away from the installation area.

⚠ 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.

► Do not look directly into a LED.

⚠ WARNING

Danger due to hot parts!

After frequent operation parts of the 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 before removing the cover.

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. About this installation and operating manual

1.6. 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 Item number in the figure refers to a text number in the text.

Important text items in directions for actions are emphasised in **bold**.

References to other chapters are in bold and set in "**quotation marks**".

1.7. 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:

- as specified in this installation and operating manual
- in good technical condition
- with attention to safety and hazards by trained users

1.8. Improper use of the operator

Any other use or additional use that has not been described in Chapter 1.7 constitutes improper use. The user bears the sole responsibility for any risk involved.

The manufacturer's warranty will be voided by:

- damage caused by other use and improper use
- use with defective parts
- unauthorised modifications to the 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

1.9. 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.
This is a requirement for both private and commercial installations. Including if the operator is retrofitted to a manually operated door.
This documentation and the Installation and Operating Manual must be retained by the owner.
See **www.sommer.eu** for:

- handover protocol for the operator

1. About this installation and operating manual

Qualified personnel for installation, commissioning and disassembly

The installation, commissioning and disassembly 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 expert who installs, uses or maintains the operator.

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

1.10. User

The user is responsible for:

- the intended use of the operator
- its good condition
- operation
- care and maintenance
- testing by a qualified specialist
- troubleshooting in case of faults by a qualified specialist
- instructing all user how to use the gate system and in the associated hazards

The user must keep this Installation and Operating Manual ready for consultation in the vicinity of the door system.

The operator must not be used by children or 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.

The user will observe the accident prevention regulations and the applicable standards in the country of use.
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 children or 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.

⚠ DANGER

Danger if not observed!

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

► All safety instructions must be observed to prevent serious injury or death.

⚠ DANGER

Danger due to electric current!

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

► Installation, testing and replacement of electrical components may only be carried out by an electrician.

► The operator must be disconnected from the power supply before working on the operator.

► If a battery pack is used, it must be disconnected.

► Then check that the operator is disconnected from the power supply.

⚠ DANGER

Danger of entrapment!

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

► The operation of the emergency release must be tested regularly from inside and if necessary also from outside.

► Faults must be repaired without delay.

⚠ WARNING

Danger due to projecting parts!

Parts projecting into roads or public footpaths may seriously injure or kill persons or animals.

► Parts must not project into roads or public footpaths.

⚠ 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 or 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.

2. General safety instructions

⚠ WARNING

Danger of crushing and shearing!

If the door moves with 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 in direct view of the door.
- ► Always keep the moving door in sight.
- ► Persons or animals must not be in the range of movement of the door.
- ► Never put your hand near the door or moving parts when it is moving. In particular, do not reach into the moving push arm.
- ► Do not reach into the ceiling mounting unit when the carriage runs along the track.
- ► Dot not drive through the door until it has been fully opened.
- ► Store the hand-held transmitter so that accidental operation, e.g., by children or animals, is impossible.

⚠ 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.

- ► Do not look directly into a LED.

NOTE

The 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 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

⚠ WARNING

Danger of crushing and shearing!

The gate can be actuated by radio.
If the door moves with persons or animals in the movement area, crushing and shearing injuries may be caused by the mechanism and safety edges of the door.

- ► The radio remote control may be used only if the gate's movement can be viewed directly.
- ► Persons or animals must not be in the range of movement of the door.
- ► Store the hand-held transmitter so that accidental operation, e.g., by children or animals, is impossible.

2. General safety instructions

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 radiolocation equipment.

For the Declaration of Conformity for the radio see:
www.sommer.eu

3. Description of function and product

3.1. The operator and its mode of operation

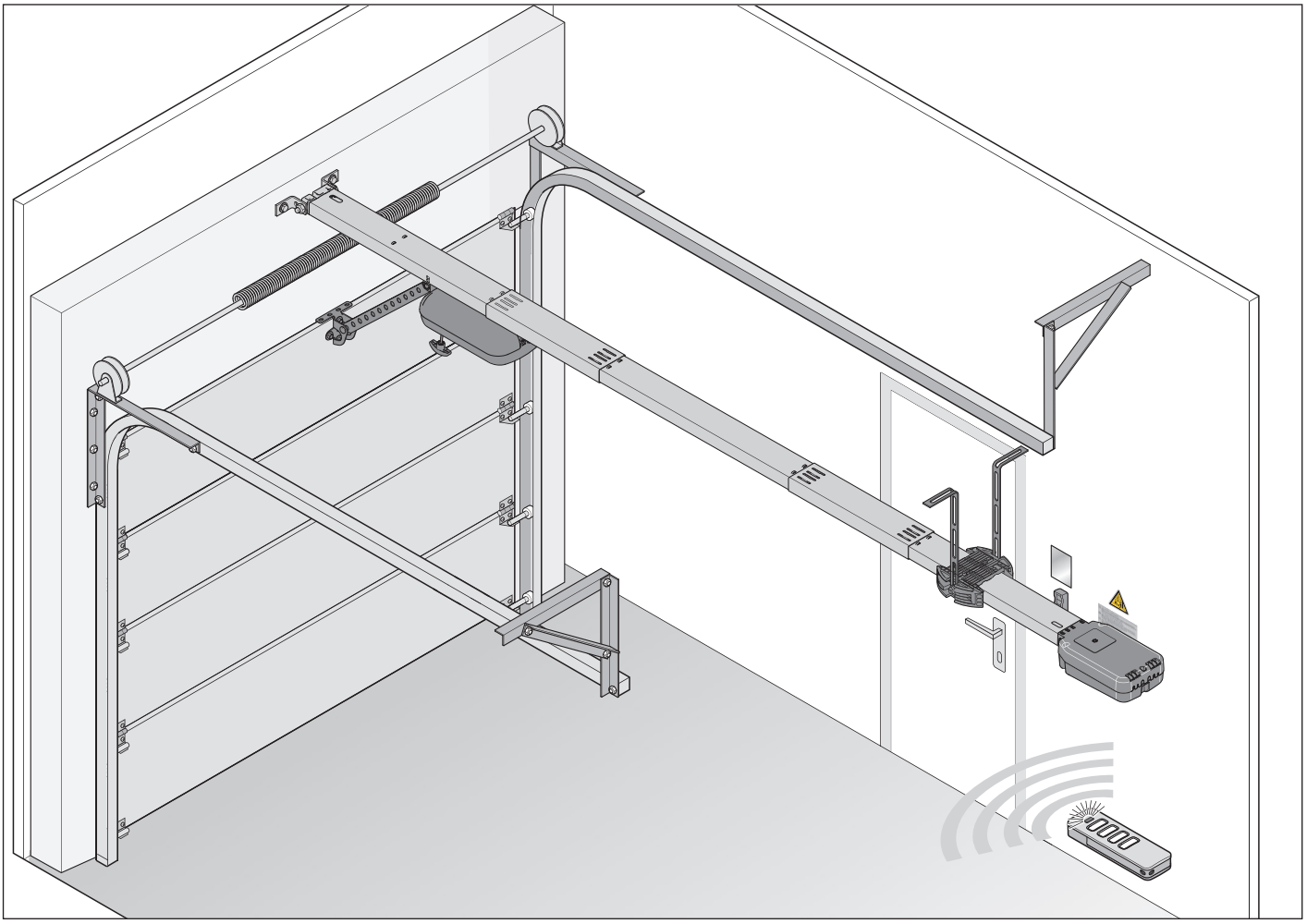


Fig. Door structure with operator

Sectional doors and other types of doors can be opened and closed with the electrically powered operator and its available accessories. The operator can be controlled with a handheld transmitter.

The track is mounted on the ceiling and the lintel above the garage door. The carriage is attached to the door by a push arm. The carriage moves along the track on a spring-mounted chain and opens or closes the door.
The hand-held remote control 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.

For more information on using the operator with different types of doors or accessories contact your specialist dealer.

3.2. Safety equipment

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

If the power fails, the door can be opened from the inside by an emergency release or from the outside with a Bowden wire or emergency release lock. For more information ask your specialist dealer.

3. Description of function and product

3.3. Product designation

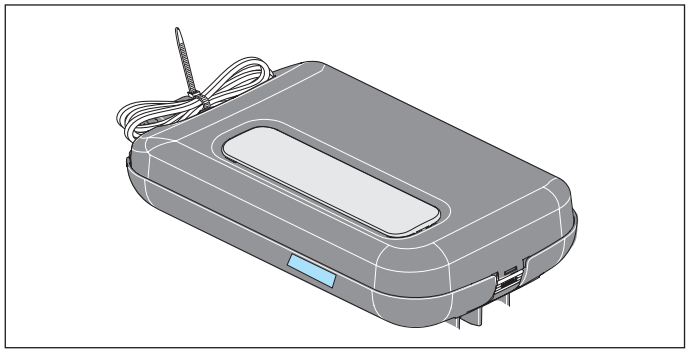


Fig. Carriage with type plate and device specifications

The type plate includes:

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

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

3.4. Explanation of symbols in the installation and operating manual

Tool symbols

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

Philips 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 locking noise or click

3. Description of function and product

3.5. Scope of supply

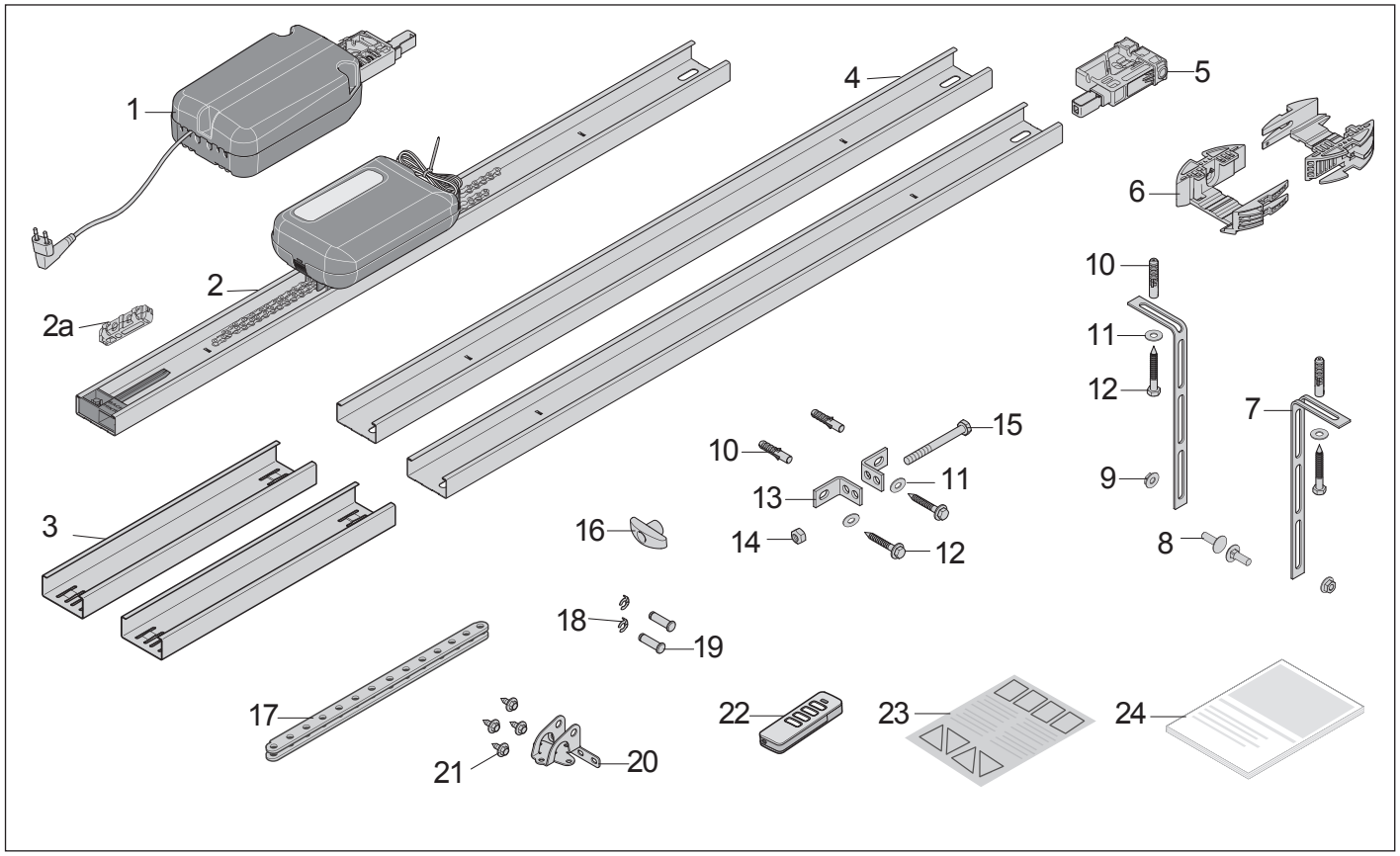


Fig. Scope of supply

1) Ceiling control unit
2) Track, pre-assembled with **1 x cut-out buffer**, chain and carriage
2a) Isolator, **pre-assembled on the chain**
3) Track joints, 2x
4) Track, 2x
5) Plug-in unit, **pre-assembled**
6) Ceiling holder, 2-part
7) Perforated strip, angled, 2x
8) Screw M8 x 20 mm, 2x
9) Hexagonal nut self-locking M8, 2x
10) S10 plugs, 4x
11) Washer, 4x
12) Screw 8 x 60 mm, 4x
13) Lintel bracket, 2x
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, 2x
19) Bolt 10 x 34.5 mm, 2x
20) Door bracket
21) Combination self-tapping screw, 4x
22) Handheld transmitter, **preprogrammed**
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 supply may vary depending on the type or customer specifications.

3. Description of function and product

3.6. Dimensions

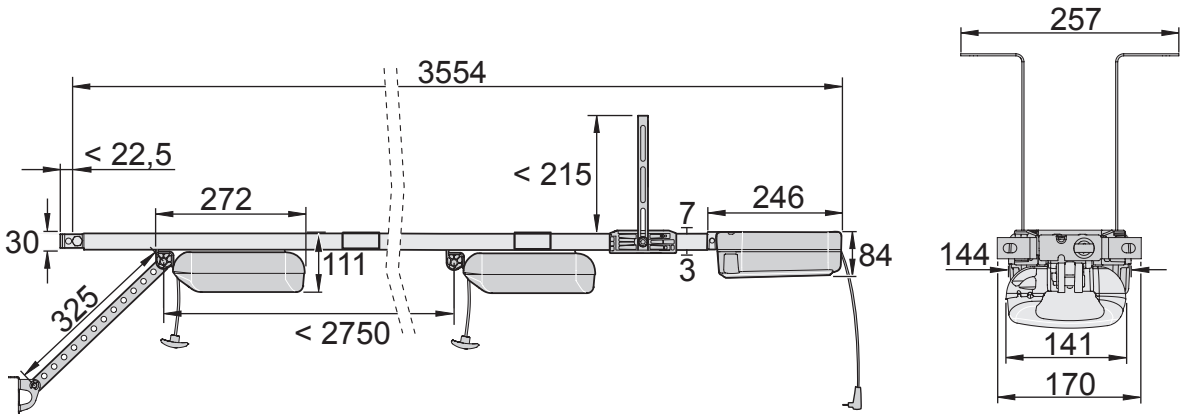


Fig. Dimensions (all dimensions are in mm)

3.7. Technical data

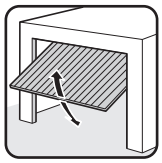
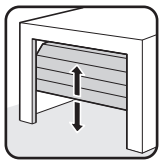
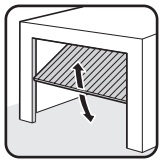
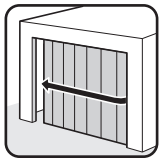
		S 9060 base+	S 9080 base+
Rated voltage		220 V - 240 V AC	
Rated frequency		50/60 Hz	
Memory locations in radio receiver		40	
Operator light		6 LEDs	
Travel length		< 2750 mm	
Travel length incl. extension max.		4942 mm (2x 1096 mm)	6038 mm (3x 1096 mm)
Operating time		S3 = 40 %	
Operating temperature		–25 ºC to +65 ºC	
Emission value according to operating environment		< 59 dBA – operator only	
IP protection class		IP 21	
IP-code		II	
Max. traction and pressure force		600 N	800 N
Rated traction force		180 N	240 N
Rated current consumption*		0.49 A	0.65 A
Rated power consumption*		95 W	130 W
Power consumption on power-saving mode		< 1 W	
Max. door weight**		approx. 120 kg	approx. 160 kg
Door dimensions	**Sectional, swing and up-and-over doors**	Height 2500 mm, width 4500 mm	Height 2500 mm, width 6000 mm
	Side-sectional, roller and side hinged doors	Height 2500 mm, width 2500 mm	Height 3000 mm, width 2500 mm
Speed**		240 mm/s	210 mm/s
Package size		1130 x 195 x 130 mm	
Weight		13 kg	

* Values apply without lighting

** Depending on door and the operating conditions

3. Description of function and product

3.8. Door types and accessories

Door type		Accessories
	Swinging door	No accessories required
	Sectional door with 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 *
	Hinged double door	Hinged double door fitting *
	Roller door, side-sectional door	Roller door/ side-sectional door fitting **

* Accessories not included in the scope of delivery

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

For more information on accessories such as track extensions, additional locking mechanism, custom 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

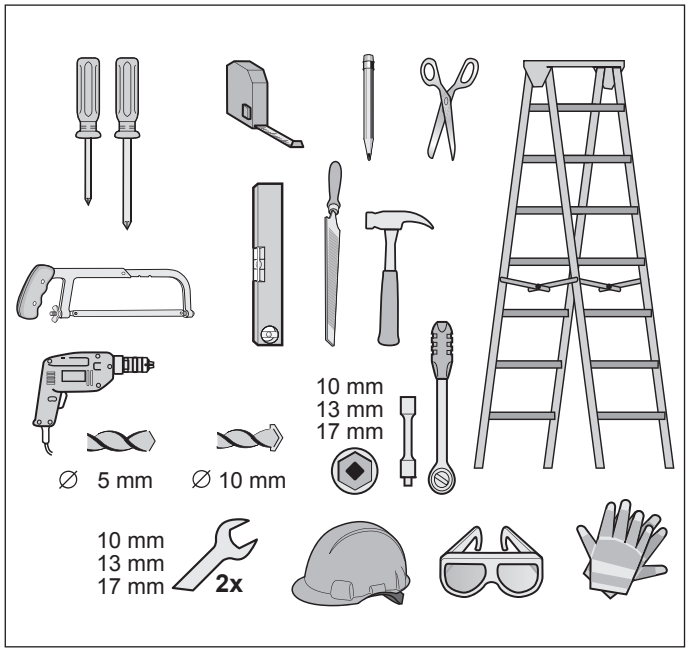


Fig. Recommended tools and personal protective equipment for installation

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.

► 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 for work such as deburring.

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, Appendix II, Section 1 B

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

hereby declares that the control units

S 9040 base; S 9060 base; S 9080 base; S 9110 base; S 9040 base+ S 9060 base+; S 9080 base+; S 9110 base+; S 9040 pro; S 9060 pro; S 9080 pro; S 9110 pro; S 9040 pro+; S 9060 pro+; S 9080 pro+; S 9110 pro+

have been developed, designed and manufactured in conformity with the

- Machinery Directive 2006/42/EC
- Low Voltage Directive 2006/95/EC
- Electromagnetic Compatibility Directive 2004/108/EC
- RoHS Directive 2001/65/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 60335-1/2, where applicable	Safety of electrical appliances / drives for gates
• EN 61000-6-3	Electromagnetic compatibility (EMC) - interference
• EN 61000-6-2	Electromagnetic compatibility (EMC) - interference resistance
• EN 60335-2-95	Safety of electrical appliances for household and similar uses - Part 2: Particular requirements for drives for vertically moving garage doors for residential use
• EN 60335-2-103	Safety of electrical appliances for household and similar uses - Part 2: Special requirements for drives 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 special technical documentation was prepared in accordance with Annex VII Part B and will be submitted to regulators electronically on request.
The incomplete machine is intended for installation in a gate system only to form a complete machine as defined by the Machinery Directive 2006/42/EC. The gate 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, 15-01-2015

CE

i.V.

Jochen Lude
Responsible for documents

6. Installation

6.1. Important information on installation

Please observe and comply with all instructions to ensure a 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 operator may only be installed 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 observed to prevent serious injury or death.

⚠ DANGER

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.

⚠ DANGER

Danger of entrapment!

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

► The operation of the emergency release must be tested regularly from inside and if necessary also from outside.

► A second entrance, a release lock or a Bowden cable for unlocking from the outside must be installed!

⚠ WARNING

Danger due to projecting parts!

Parts projecting into roads or public footpaths may seriously injure or kill persons or animals.

► Parts must not project into roads or public footpaths.

⚠ 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.

► The door must be stable.

► The door must not bend, rotate or twist when opening and closing.

► The door must move easily in its 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 fastening materials are used. Persons or animals may be struck by falling parts of the wall, ceiling or operator. Severe injuries or death may result.

► Walls and ceiling must be stable.

► Only use permissible fastening 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.

► Wear tight-fitting clothing.

► Wear a hairnet over long hair.

6. Installation

⚠ WARNING

Danger of crushing and shearing!

If the door moves with 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 in direct view of the door.
- ► Always keep the moving door in sight.
- ► Persons or animals must not be in the range of movement of the door.
- ► Never put your hand near the door or moving parts when it is moving. In particular, do not reach into the moving push arm.
- ► Do not reach into the ceiling mounting unit when the carriage runs along the track.
- ► Do not drive through the door until it has been fully opened.

⚠ WARNING

Danger of tripping and falling!

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

- ► Keep unnecessary items away from the installation area.
- ► Place all parts where no persons are likely to trip or fall over them.
- ► 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 glasses when deburring.

NOTE

If the ceiling and walls are not stable, parts of the ceiling and wall 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 fastening materials such as wall plugs or screws.
The fasteners 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

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:

- 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 to or damage 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.

Swing door

Depending on the design of the door, it may be possible to open it approx. 50 mm by hand. Spring catches can be installed to prevent this. Spring catches also lock the door to the operator.

The spring catches are connected to the operator by a lock set. When the gate is opened, the spring catches are unlocked first and then the operator opens the door.

Use the upgrade set depending on the type of installation. For more information on the upgrade set contact your specialist dealer or see:
www.sommer.eu

Checking mechanical and weight compensation

⚠ WARNING

Danger due to falling parts of doors!

Wire ropes, spring sets or other fittings may break suddenly.
Persons or animals may be struck by falling parts of the door. Severe injuries or death may result.

► Wire ropes, spring sets and other door fittings must be inspected by qualified persons before installation.

⚠ 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 carefully checked and if necessary adjusted by qualified specialists.

NOTE

If the weight compensation of 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 mechanism of the door, such as wire cables, spring sets and other fittings.

6. Installation

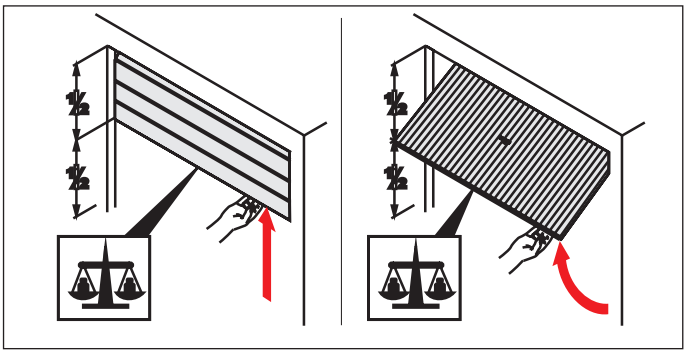


Fig. 2

2. Open 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 compensation of the door must be adjusted.

Emergency release

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

Adjusting the top roll of a sectional door

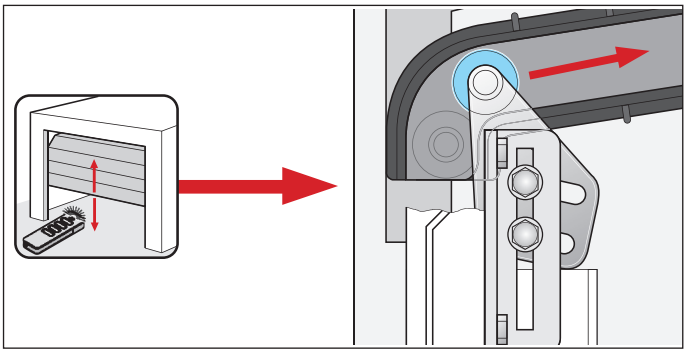


Fig. Top roll on sectional door

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 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 values are applicable for the entire life of the door. The door must also be maintained and inspected as specified by the door manufacturer.

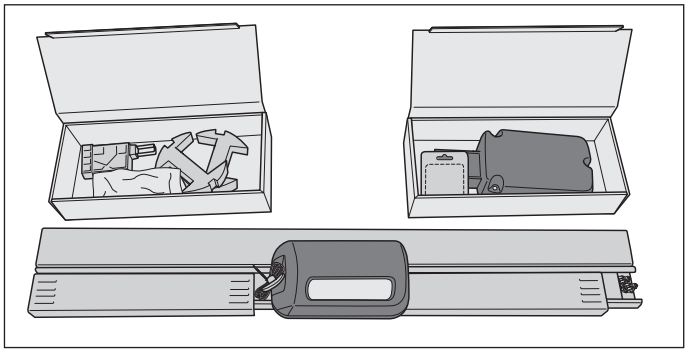


Fig. 1

⚠ CAUTION

Risk of injury to hands!

Rough metal parts may cause abrasions and cuts when picked up or touched.

► Wear safety gloves when working with unfinished metal parts.

1. Open the package.
Place the two cartons in the package beside the rails and open them.
Check the contents against the scope of delivery listed in this installation and operating manual.

6. Installation

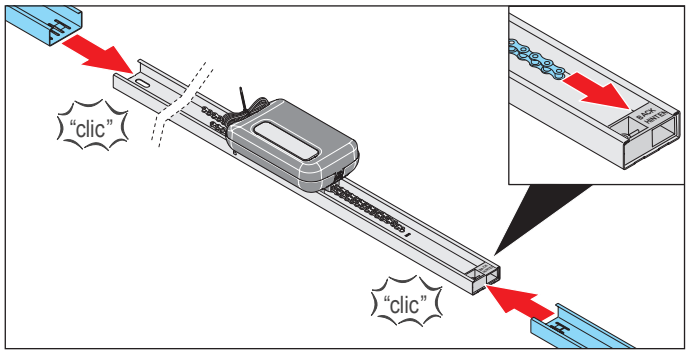


Fig. 2

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

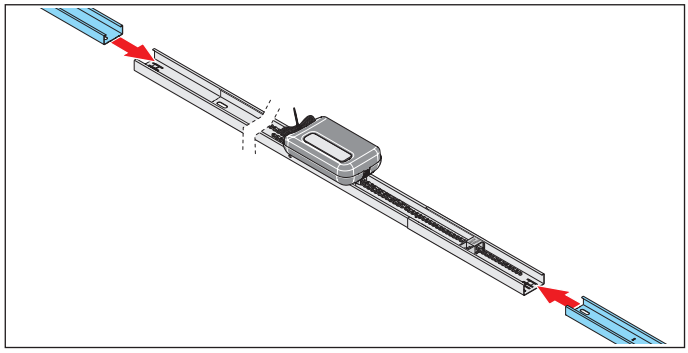


Fig. 3

3. Attach a rail to each of the connecting sleeves.

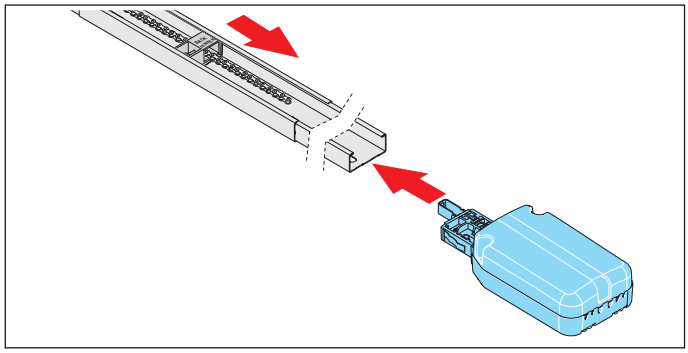


Fig. 4

4. Plug in the ceiling control unit to the rail behind the guide idler.
Guide the end of the chain through the guide idler.

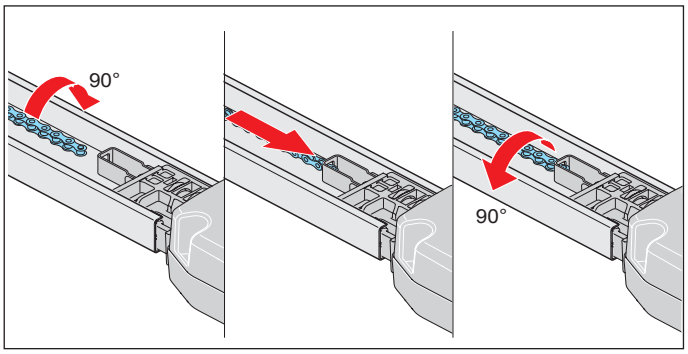


Fig. 5

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

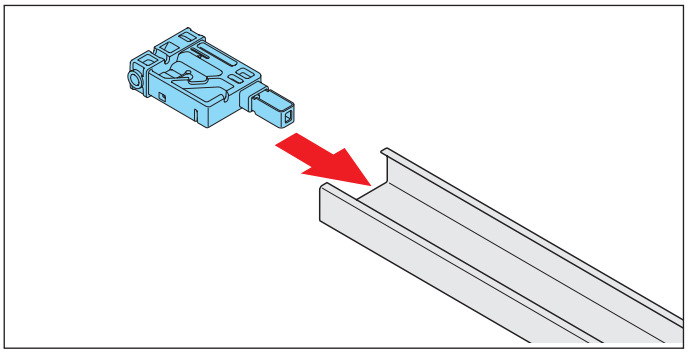


Fig. 6

6. Plug in the slide-in part on the opposite side of the rail.

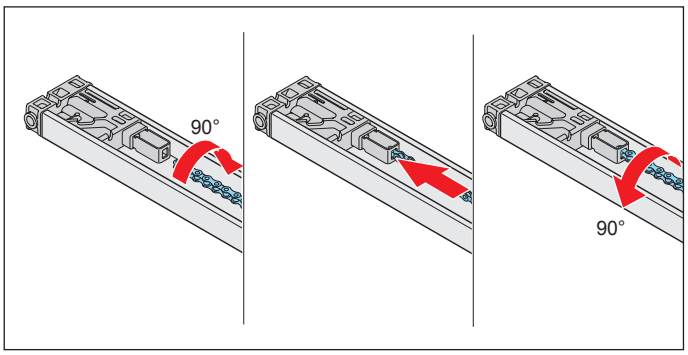


Fig. 7

NOTE

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

7. Rotate the chain 90° and insert it into the chain holder of the slide-in part.
Rotate the chain back 90°.

⇒ The entire chain is attached.

6. Installation

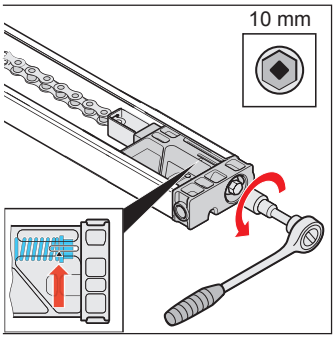


Fig. 8

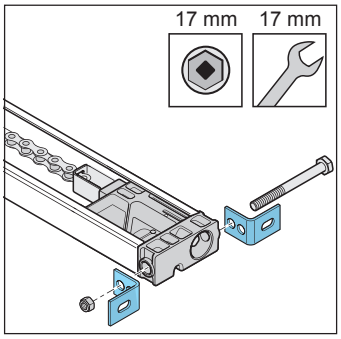


Fig. 9

8. Tension the chain to the mark on the slide-in part (see arrow in the detailed view).

9. Screw the two header brackets to the slide-in part with bolt and nut.

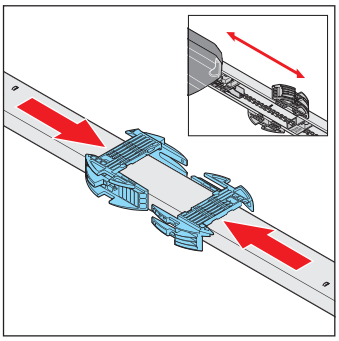


Fig. 10

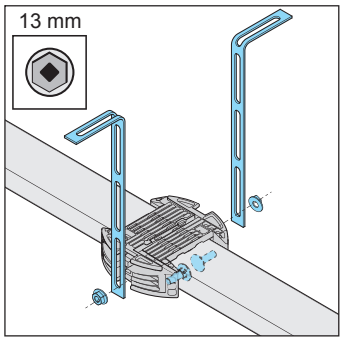


Fig. 11

10. Turn the rail to install the ceiling bracket.
The distance between the ceiling control unit and the ceiling holder should be 100 - 700 mm.
Push the ceiling holders together.

11. Screw on the perforated strips. Also observe the distances for installation to the ceiling or lintel.

⇒ The rail is prepared for the remainder of the installation.

6.4. Attachment to the door

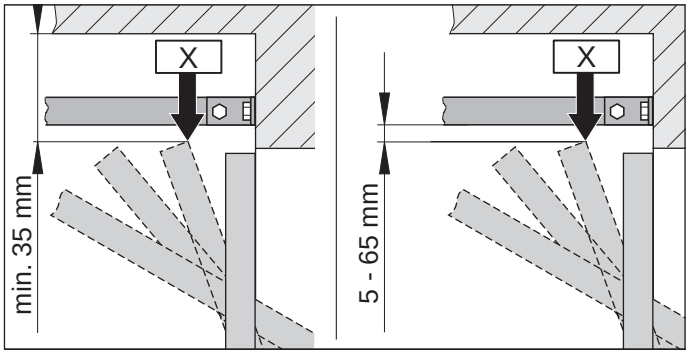


Fig. 1.1 Highest point for swing and up-and-over doors

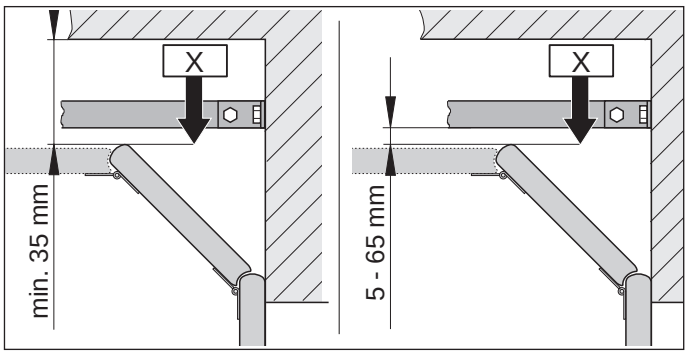


Fig. 1.2 Highest point for a sectional door

INFORMATION
If the distance between the ceiling and the bottom edge of the rail is greater than 245 mm, extend the ceiling suspension bracket with perforated strip.

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

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.

6. Installation

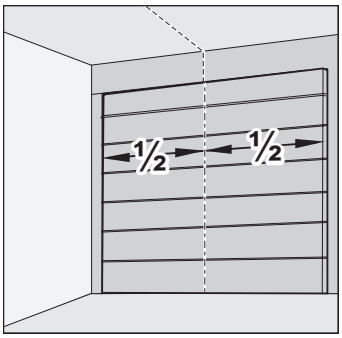


Fig. 2

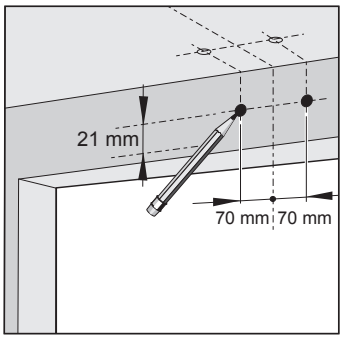


Fig. 3

2. Close the door.
Select the lintel or ceiling for installation. The space required for ceiling installation is more than 35 mm.
Measure the front of the centre of the door and mark the door and the lintel or ceiling.

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

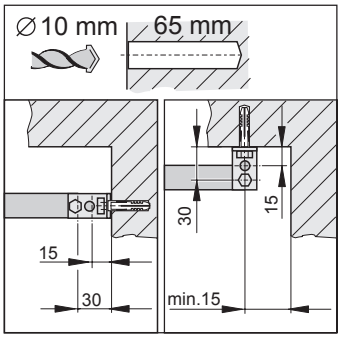


Fig. 4

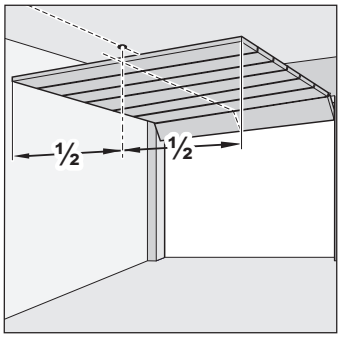


Fig. 5

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

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

5. Open the door.
Transfer the mark from the centre of the door to the ceiling.

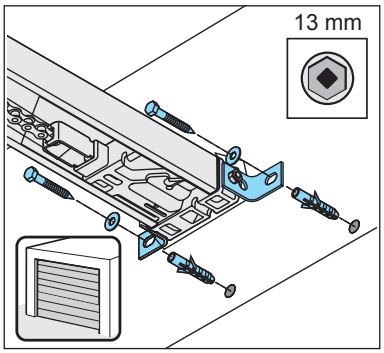


Fig. 6

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

6. Close the door.
The operator can be mounted on the lintel or the ceiling.
Lift the rail 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 rail is attached to the lintel or ceiling.

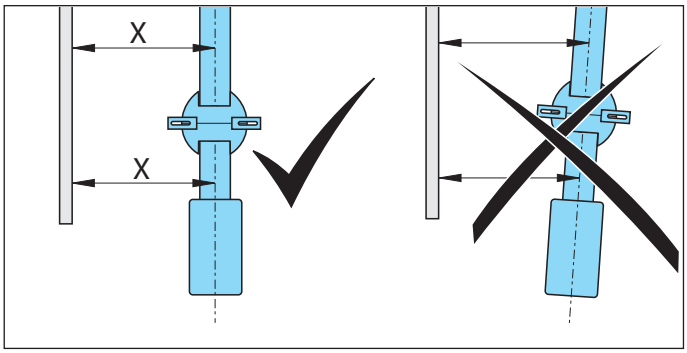


Fig. 7

NOTE
The operator must always be installed parallel to the rails or the door to prevent damage to the operator and the rails.

7. Align the operator parallel to the running rails of the door.

6. Installation

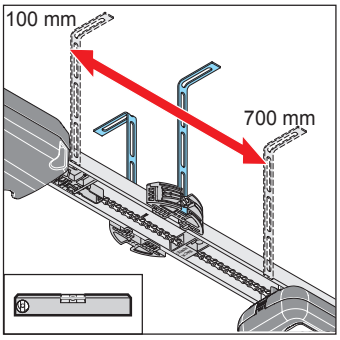


Fig. 8

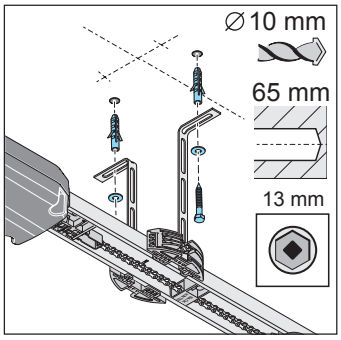


Fig. 9

8. Align the rail 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 between them.
Check the alignment of the rail with a spirit level if necessary.

9. Mark the holes on the ceiling for the ceiling holder.
Drill two holes (Ø 10 x 65 mm deep).
Insert the anchor fittings.
Insert two screws with washers and screw the perforate strip to the ceiling. Tighten the screws.

⇒ The rail is attached to the ceiling.

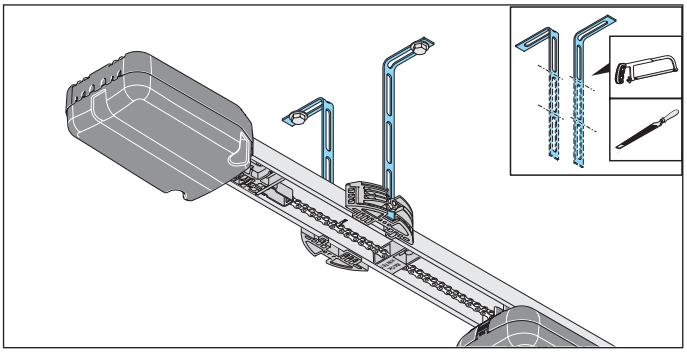


Fig. 10

⚠ CAUTION

Risk of injury to hands!

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

► Projecting perforated strips must be sawn off and smoothed to prevent injury.

► Wear safety gloves when deburring.

10. The projecting perforated strips must be shortened.

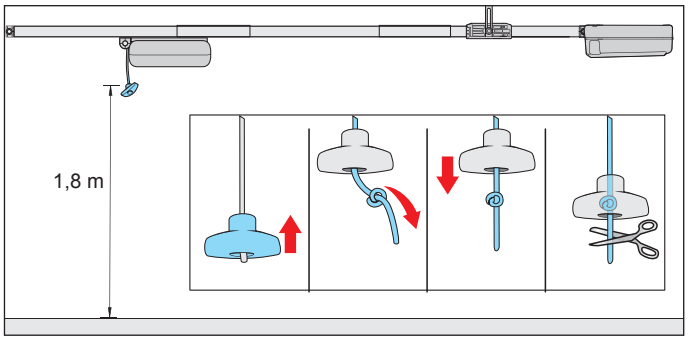


Fig. 11

⚠ WARNING

Danger of entrapment!

Persons or animals in the movement area of the door may be trapped in a loop of the emergency release cable and the door may be accidentally unlocked. Severe injuries or death may result.

► The included emergency release handle 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 able must be less then 1.8 m.
The emergency release handle must be at least 50 mm from moving and fixed parts throughout its complete path.

11. Attach the emergency release handle to the emergency release cable and shorten the cable if necessary.

6. Installation

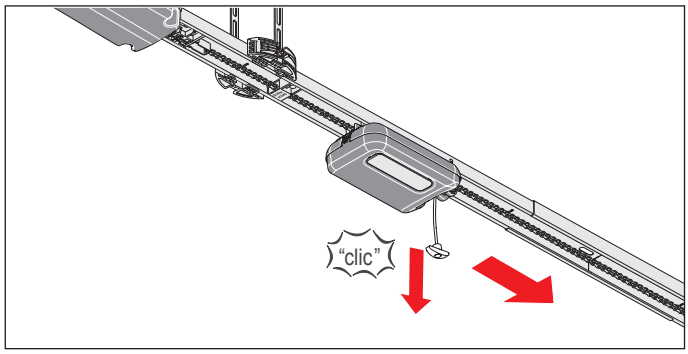


Fig. 12

12. Pull the emergency release cable once to unlock the carriage.
Slide the carriage forward to the door.

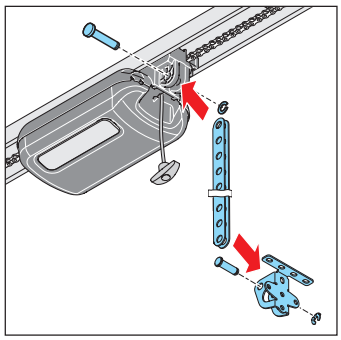


Fig. 13

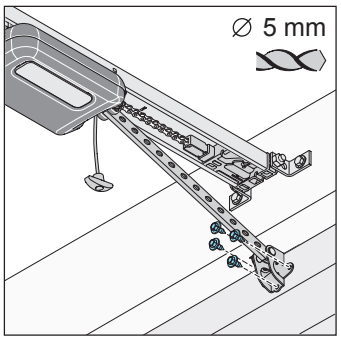


Fig. 14

⚠ WARNING

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

13. Plug the push arm into the door bracket. Insert the bolt and slide on the safety bolt.
Plug the push arm into the carriage at the front. Insert the bolt and slide on the safety bolt.

14. Align the door bracket to the centre of the door.
Mark the holes and drill them (Ø 5 mm).
Fix the door fitting to the door with the hexagon bolts.

⇒ The push arm is attached to the carriage and the door.

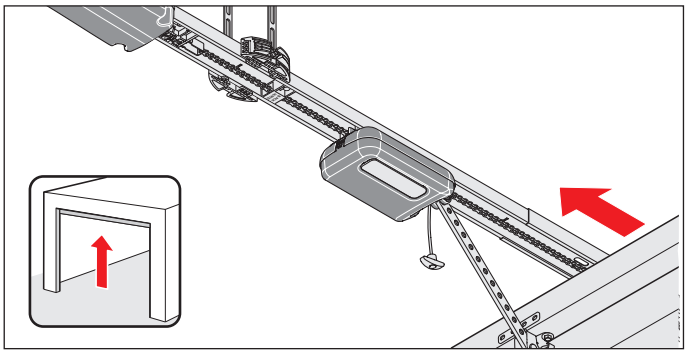


Fig. 15

15. Open the door completely by hand.

⇒ The guide idler automatically moves with the carriage.

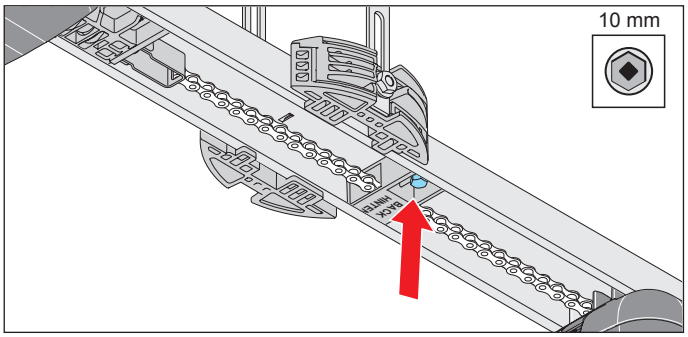


Fig. 16

NOTE

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

16. Tighten the screw on the guide idler with a ratchet spanner without changing its position.
Check the door OPEN end position:
Open the door fully for this. The carriage moves to the door OPEN position on the guide idler until a click noise is heard.

⇒ The door OPEN end position is set.

6. Installation

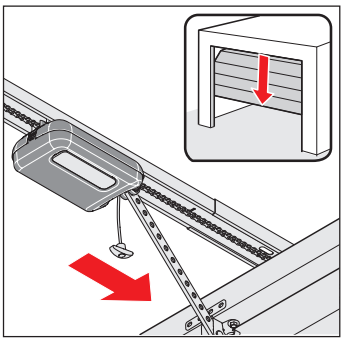


Fig. 17

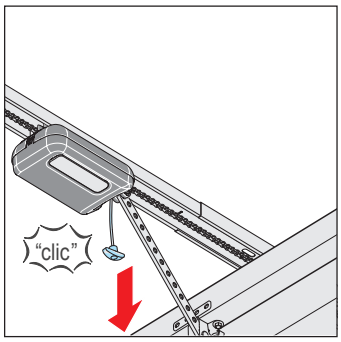


Fig. 18

NOTE

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

INFORMATION
It can be locked and released in any door position.

17. Move door to centre position.

⇒ The carriage moves with it.

18. Pull the emergency unlocking cable.

⇒ **Carriage is locked.**

⇒ The door can only be moved by the operator.

19. Check that no part of the door projects into roads or public footpaths.

⚠ WARNING

Danger due to projecting parts!
Parts projecting into roads or public footpaths may seriously injure or kill persons or animals.

► Parts must not project into roads or public footpaths.

7. Removing and fastening covers

7.1. Cover of carriage

Removing cover

⚠ 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.

► Do not look directly into a LED.

⚠ WARNING

Danger due to hot surfaces!

After frequent operation parts of the 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 before removing the cover.

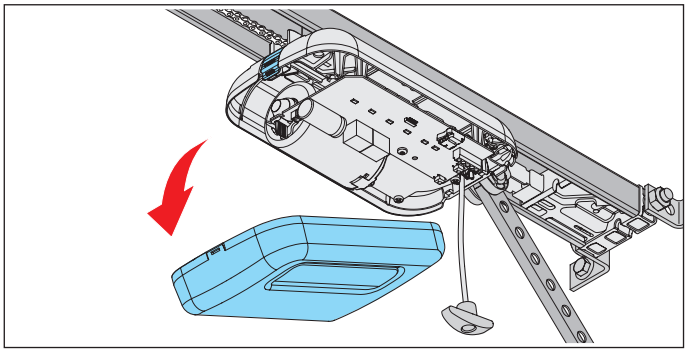


Fig. 1

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

Installing cover

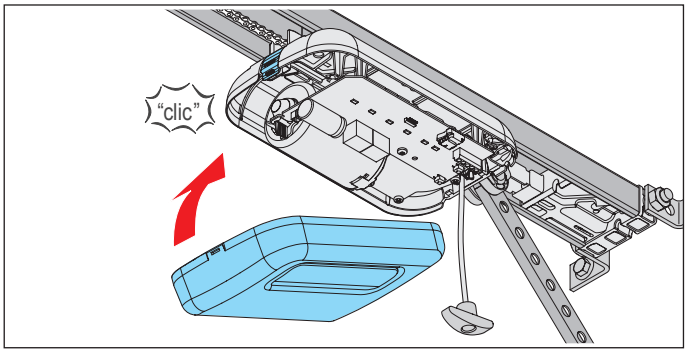


Fig. 2

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

7. Removing and fastening covers

7.2. Cover of the ceiling control unit

Unscrewing cover

⚠ 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 an electrician.
- ► The operator must be disconnected from the power supply before working on it.
- ► If a battery pack is used, it must be disconnected.
- ► Then check that the operator is disconnected from the power supply.

⚠ WARNING

Danger due to hot surfaces!

After frequent operation parts of the 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 before removing the cover.

NOTE

If there is a battery pack in the cover of ceiling control unit, remove the cover carefully. Disconnect the battery pack plug from the pcb.
The battery pack is disconnected in the cover.

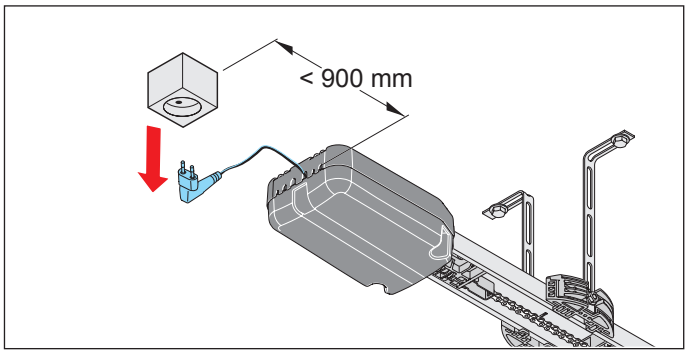


Fig. 1

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

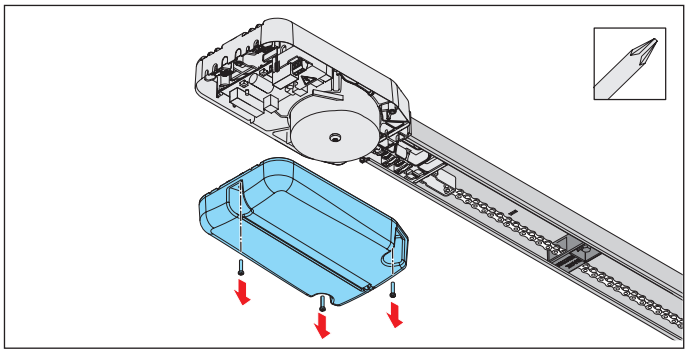


Fig. 2

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

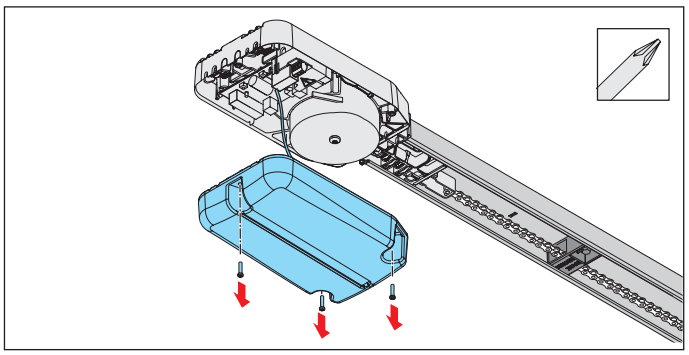


Fig. 3

3. If a battery pack is used, unscrew the cover carefully. Disconnect the battery pack plug from the pcb. Remove the cover with the disconnected battery pack.

Installing the cover

1. After working on the ceiling control unit replace the cover in reverse order.
2. Connect the operator to the mains power supply. Check that the power supply is connected.

8. Electrical connection

8.1. Connection to a socket

A socket is required for the electrical connection of the operator.

A socket must be installed by qualified electricians only. The socket must be protected by a fuse. Local and national regulations (e.g. VDE) must be observed.

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

⚠ DANGER

Danger due to electric current!

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

- ► All work on electrical components may only be carried out by an electrician.
- ► Before connecting in the mains power plug, ensure that the voltage of the power source corresponds with the voltage listed on the operator type plate. Do not plug in the mains plug until the operator is completely installed.
- ► Disconnect the mains plug before working on the operator. If a battery pack is connected, disconnect it from the ceiling control unit.
- ► Then check that the operator is disconnected from the power supply.

NOTE

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

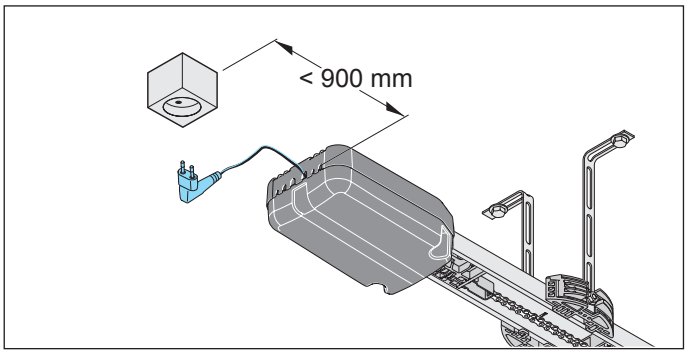


Fig. Distance of ceiling control unit to power socket

Note that the distance between the ceiling control unit and the power socket must not exceed 0.90 m.

INFORMATION

The 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 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 EC 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. Initial operation

9.1. Safety information for installation

⚠ WARNING

Danger of entrapment!

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.

- ► Keep clear of the moving door.
- ► Wear tight-fitting clothing.
- ► Wear a hairnet over long hair.

⚠ WARNING

Danger of crushing and shearing!

If the door moves with 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 in direct view of the door.
- ► Always keep the moving door in sight.
- ► Persons or animals must not be in the range of movement of the door.
- ► Never put your hand near the door or moving parts when it is moving. In particular, do not reach into the moving push arm.
- ► Do not reach into the ceiling mounting unit when the carriage runs along the track.
- ► Do not drive through the door until it has been fully opened.

⚠ 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.

- ► Do not look directly into a 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.

NOTE

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

INFORMATION

If a photo eye is used, it must not be actuated when starting the programming.
If a photo eye is used as a frame photo eye, move the gate to the centre position.

9. Initial operation

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 operator may only be operated if a non-hazardous force value has been set.
- ► The force setting is relevant to safety and must be carefully checked and if necessary adjusted by qualified specialists.
- ► The force setting must be low enough to ensure that the closing force poses no risk of injury.

NOTE

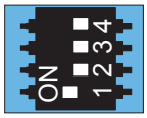
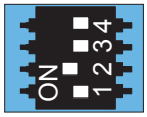
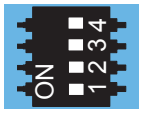
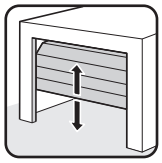
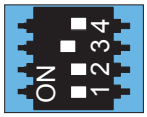
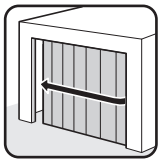
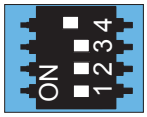
Do not use a metal object to set the DIP switches, because this may damage the DIP switches or the pcb.
Use a suitable tool to set the DIP switches, such as a flat plastic object.

INFORMATION

The force setting must be checked after installation of the operator. See also chapter 12.1. Testing obstacle detection.

For compliance with EN 13241-1 before initial operation the door type must be selected and set on the carriage with the DIP switch.

The factory setting of the DIP switches is OFF, which is applicable for sectional doors.

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

INFORMATION

Stay in the garage during initial operation, particularly when programming.

INFORMATION

The operating forces can be modified and adjusted with SOMlink and a smartphone.

9. Initial operation

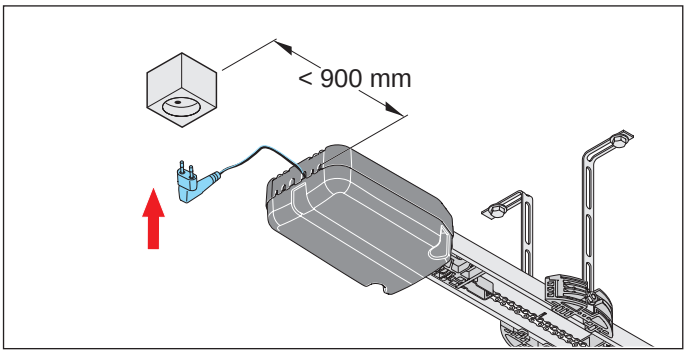


Fig. 1

1. Plug the ceiling control unit power plug into the power outlet.

⇒ The status LED of the carriage flashes green.

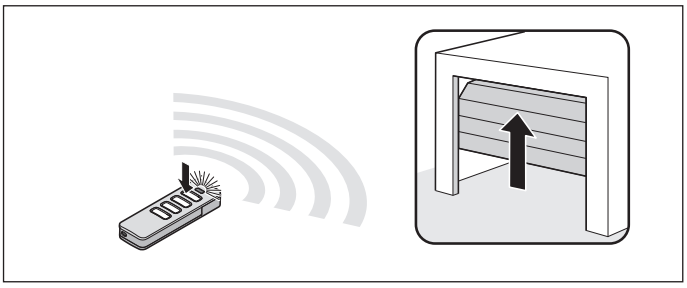


Fig. 2

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 installation and operating manual for the handheld transmitter.

⇒ The carriage moves slowly to the door OPEN end position and **automatically** switches off at the guide idler.

⇒ The operator LEDs flash.

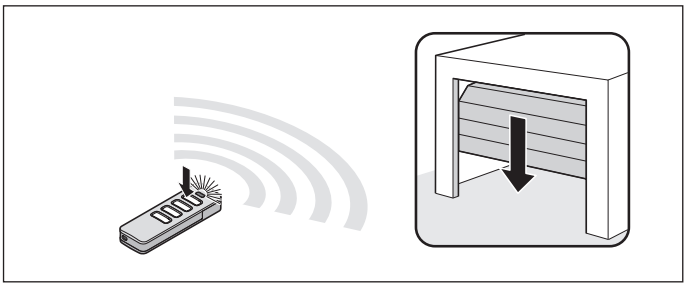


Fig. 3

3. Press button 1 on the handheld transmitter again **briefly**.

⇒ The carriage moves slowly in the door CLOSE direction.

⇒ The operator LEDs flash.
The carriage switches off **automatically** when it reaches the factory-set closing force at the door CLOSE end position.

⇒ The operator LEDs flash in a different sequence.

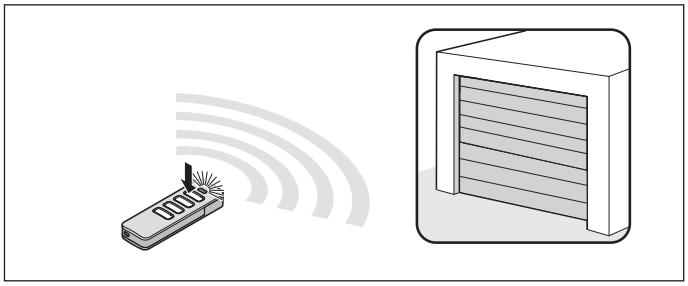


Fig. 4

4. Press button 1 on the handheld transmitter **briefly** (< 1 second) to save the end position.

⇒ The operator LEDs flash briefly in a fast sequence.

The operator automatically starts its programming process:

⇒ The carriage moves **automatically** to the door OPEN end position and programs the required operating force.

⇒ The carriage **automatically** moves to the door CLOSE end position.
If necessary, the carriage moves over the path several times for programming with a greater door weight.

⇒ The carriage **automatically** moves briefly in the door OPEN direction to programme the soft running.

⇒ The door **automatically** returns to the door CLOSE end position.

⇒ The carriage **automatically** moves to the door OPEN end position.

⇒ The operator LEDs remain **steady.**

⇒ **Operator is programmed and ready for use.**

INFORMATION
The carriage stops if the door is difficult to move. The door mechanism must be checked.

It may be necessary to adjust the end positions.
See chapter **9.4. Mechanical adjustment of the end positions**

9. Initial operation

9.3. Detecting obstacles during force programming

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

NOTE

Check the movement path, mechanism, spring tension and the weight compensation to prevent damage to the door system.

1. **Press and hold** button 1 on the handheld transmitter.
   ⇒ The 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 handheld transmitter until the 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 save the door CLOSE end position.
   ⇒ The carriage starts the **automatic** force programming run to the door OPEN end position.
   ⇒ The gate starts the **automatic** door CLOSE force programming run.

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

1. **Press and hold** button 1 on the handheld transmitter.
   ⇒ The carriage starts without jerking, because the end position of door is already saved.
   ⇒ The 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 movements.**
   ⇒ On completion of the force programming movements the carriage **automatically** moves to the door OPEN end position.
   ⇒ The operator LEDs 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 gate CLOSE

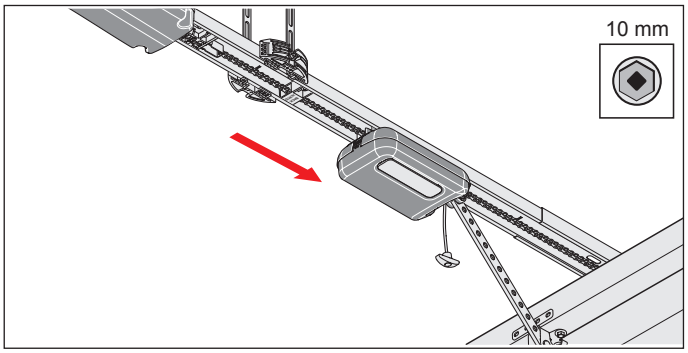


Fig. 1

1. Loosen the screw on the guide idler and move the guide idler a few millimetres towards gate CLOSE. Tighten the screw again.

Reducing the closing pressure of the end position for gate CLOSE

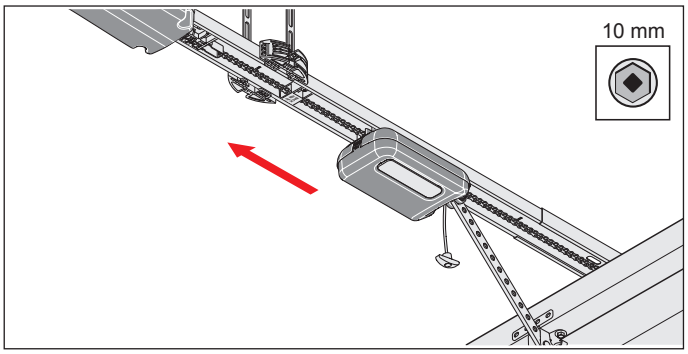


Fig. 1

1. Loosen the screw on the guide idler and move the guide idler a few millimetres towards gate OPEN. Tighten the screw again.

9. Initial operation

9.5. Attaching information sign and warning sign

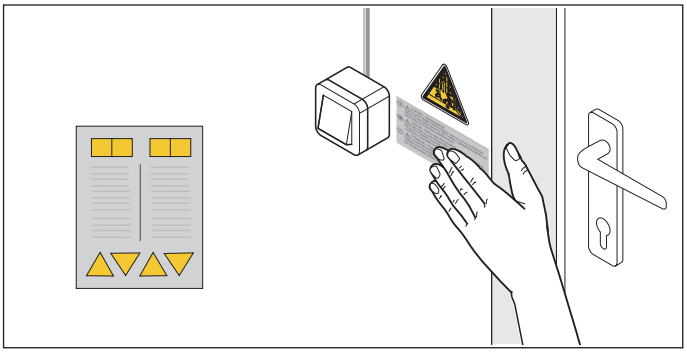


Fig. 1

1. Place the warning sign and the pictogram to the door at eye level in a clearly visible position and close to the fixed control or control unit.
2. Run obstacle detection (see chapter **12.1. Testing obstacle detection).**

   ⇒ **Initial operation is complete.**

10. Connections and special functions of the carriage

10.1. Carriage pcb

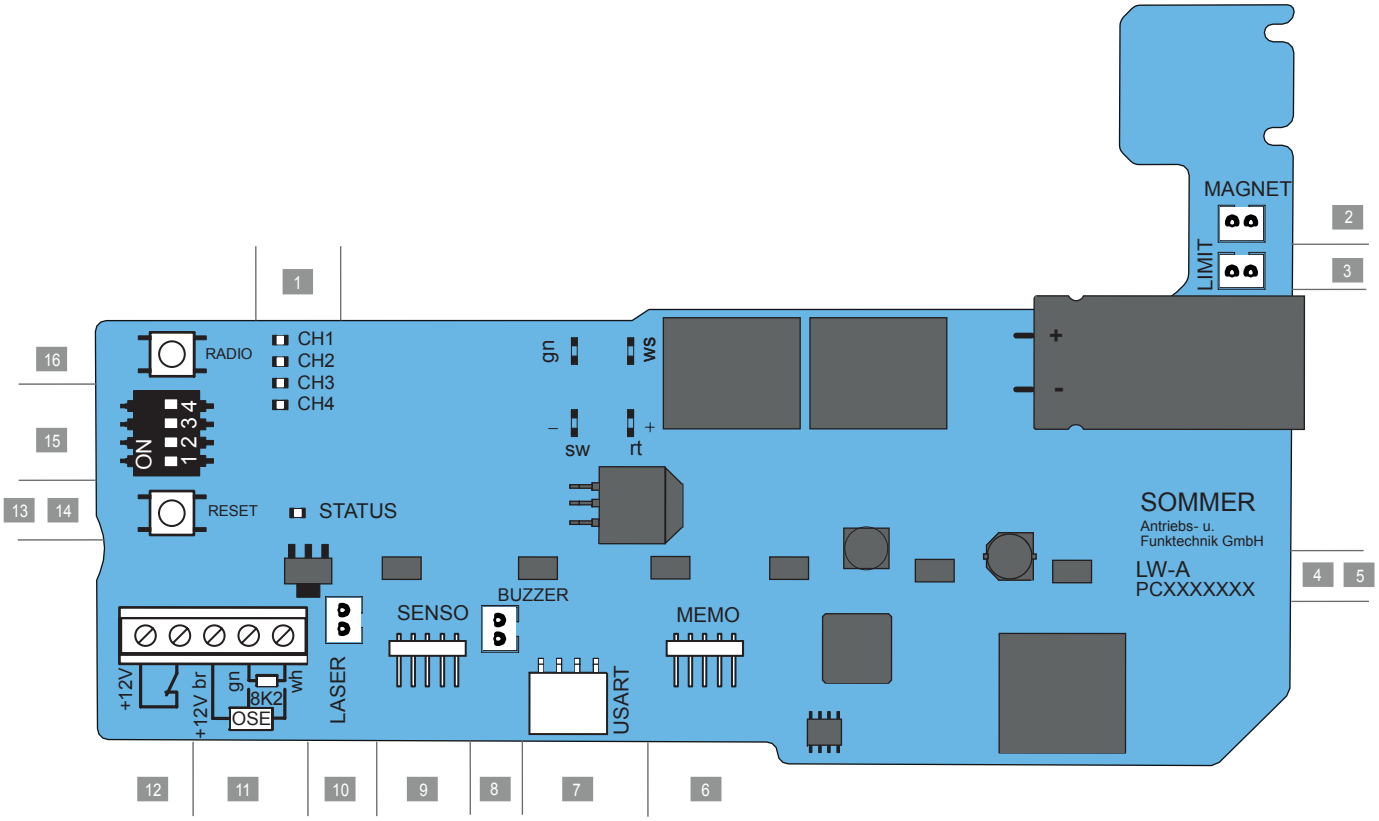


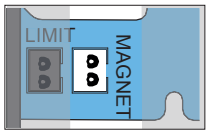
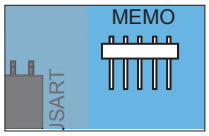
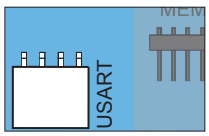
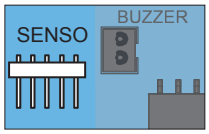
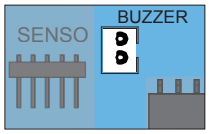
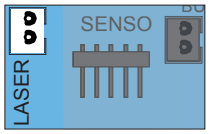
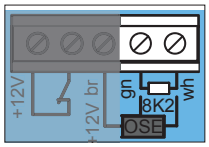
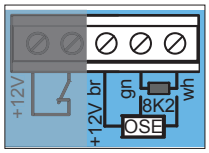
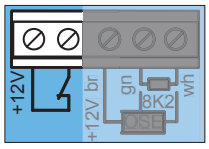
Fig. Carriage pcb

Connection options on the carriage

1. LED, CH 1 - CH 4, red Display for radio channel	9. SENSO slot Senso terminal
2. MAGNET slot, green Lock terminal	10. LASER slot, white Parking position laser terminal
3. Slot, blue end switch terminal (OPEN), limit	11. Terminal for safety contact strip 8k2 / OSE
4. pcb label	12. Terminal for slip door contact potential-free
5. LEDs, operator lighting	13. Status LED, green
6. MEMO slot Memo terminal	14. Reset button, green
7. USART slot interface	15. DIP switches
8. BUZZER slot, black Warning or alarm buzzer terminal	16. Radio button, red (radio)

10. Connections and special functions of the carriage

10.2. Connection options on the carriage

pcb 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. module Home automation
	SENSO slot Terminal for Senso Humidity sensor
	BUZZER slot, black Terminal for warning or alarm buzzer
	LASER slot, white Terminal for parking position sensor
	Safety contact strip 8k2 terminal
	OSE safety contact strip terminal + 12 V = br OSE = gn GND = ws
	Slip door fuse terminal (slip door switch, reed contact etc.) Contact command (12 V / 10 mA) normally closed contact, potential-free

For more information on the accessories contact your specialist dealer or see:
www.sommer.eu

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.
► Do not look directly into a LED.

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

10.4. Explanation of 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 CLOSED

10. Connections and special functions of the carriage

10.5. Programming the transmitter

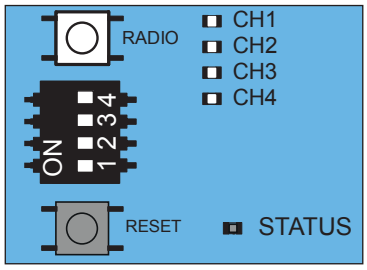


Fig. 1

INFORMATION
If a command is not sent within 10 seconds, the radio receiver switches to normal operation.

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

Press 1 x	LED for CH 1 lights
Press 2 x	LED for CH 2 lights
Press 3 x	LED for CH 3 lights
Press 4 x	LED for CH 4 lights

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.

Cancelling programming mode

1. Press the radio button until all LEDs are out or make no input for 10 seconds.
   ⇒ Programming mode is cancelled.

10.6. Deleting a transmitter button from the radio channel

1. Press the radio button repeatedly to select the required channel.
   Press and hold the radio button for 15 seconds.

Press 1 x	LED for CH 1 lights
Press 2 x	LED for CH 2 lights
Press 3 x	LED for CH 3 lights
Press 4 x	LED for CH 4 lights

   ⇒ 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 receiver.
   ⇒ The LED goes out.
   ⇒ The deletion procedure is ended.
4. Repeat for additional buttons as required.

10.7. Delete transmitter completely from the receiver

1. Press and hold the radio button for 20 seconds.
   ⇒ The LED flashes after 15 seconds.
2. After another 5 seconds the flash sequence changes to flashing.
3. Release the radio button.
   ⇒ The radio receiver is in deletion mode.
4. Press any button on the transmitter that is being deleted.
   ⇒ The LED goes out.
   ⇒ The deletion procedure is ended.
   ⇒ The transmitter is deleted from the radio receiver.

Repeat for additional transmitters as required.

10. Connections and special functions of the carriage

10.8. Deleting radio channel in the receiver

1. Press the radio button repeatedly to select the required channel.
   Press and hold the radio button for 25 seconds.

Press 1 x	LED for CH 1 lights
Press 2 x	LED for CH 2 lights
Press 3 x	LED for CH 3 lights
Press 4 x	LED for CH 4 lights

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

10.9. 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 channel is on.
   ⇒ After another 5 seconds all LEDs light.
2. Release the radio button.
   ⇒ All LEDs are off after 5 seconds.
   ⇒ All programmed transmitters are deleted from the receiver.
   ⇒ Factory settings are restored.

10.10. Resetting the control unit

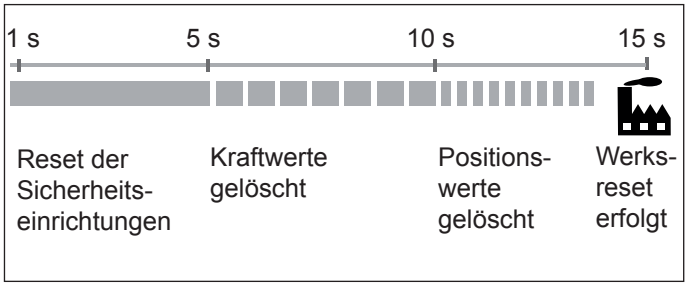


Fig. Overview of the time sequence of the carriage status LED during reset

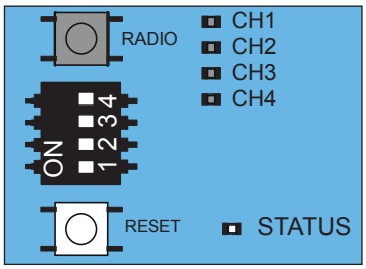


Fig. 1

INFORMATION
All operator parameters are reset to the factory settings by a factory reset. All settings by SOMlink and smartphone are also reset.
The DIP switches can only be manually reset.

10. Connections and special functions of the carriage

Reset of the safety equipment

1. Press the green reset button for 1 second.
   ⇒ Reset of the safety equipment.

Deleting the force values

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

Factory reset

1. Press the green reset button on the carriage for 15 seconds until the green status LED goes out.
   ⇒ Factory settings are restored.

10.11. Setting the DIP switches on the carriage

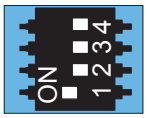
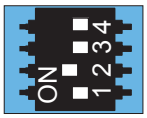
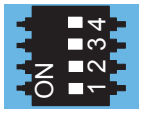
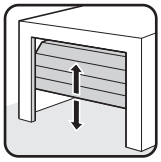
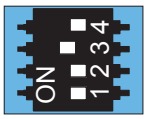
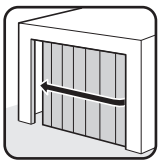
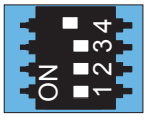
Special functions can be set up with the DIP switches on the carriage.

For compliance with EN 13241-1 before initial operation the door type must be selected and set on the carriage with the DIP switch.

The factory setting of the DIP switches is OFF, which is 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 pcb.
The DIP switches can be set with a narrow, flat plastic object.

DIP switches	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 		

10. Connections and special functions of the carriage

10.12. 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 open hold time.

⚠ WARNING

Risk of injury during automatic closing!

Automatically closing gates can injure people or animals in the movement area of the gate when the gate is closing. This may cause serious or fatal injury.

- ► Always keep the moving door in sight.
- ► Persons or animals must not be in the range of movement of the door.
- ► Never put your hand near the door or moving parts when it is moving. In particular, do not reach into the ceiling holder or the push arm.
- ► Do not drive through the door until it has been fully opened.

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

The automatic close function only starts with photo eyes connected. Jumpers cannot be used.
Operation with automatic closing must comply with EN 12453. This is a legal requirement. National regulations must be observed in non-European countries.

1. Close the door.
2. Set DIP switch 1 to ON.
3. The open holding time of the door is 30 seconds. Every new command within 30 seconds restarts the open holding time. The door opens by pressing button 1 on the transmitter.
   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 - reversal of direction.
5. The door starts the closing process again after 30 seconds.
   ⇒ Door is CLOSED.

INFORMATION

The factory setting is fully automatic closing with a preset open holding time of 30 seconds. The open holding time started at the door OPEN end position and from partial opening. This setting and the selection of a semi-automatic closing can be adjusted via SOMlink and with a smartphone.

INFORMATION

The pre-warning time can be activated and adjusted with SOMlink and a smartphone. The progress of the pre-warning time is displayed by the flashing operator lighting and the warning light.

10. Connections and special functions of the carriage

10.13. Adjusting the lighting function

The operator lights on the carriage can be switched on and off separately over radio channel CH 2. This function is available in the factory setting.

Programme the desired hand-held transmitter button on radio channel CH 2.
The factory setting of DIP switch 2 is OFF, which is applicable for the lighting function.

INFORMATION
The lighting function or partial opening can be operated.

1. Set DIP switch 2 on the 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 lights on the carriage can be switched on and off with the transmitter button.

INFORMATION
If the operator lights are not switched off manually, they switch off automatically after 60 minutes. This value cannot be changed.

Other lights and functions are available with the Lumi base+ and the relay accessories. They are similar to the carriage lighting functions. The relay offers additional lighting functions for inside and outside.

Lumi base+ and the relay are not included in the delivery.

Both accessories can be purchased from your specialist dealer or see:
www.sommer.eu

10.14. Setting partial opening

This function partially opens the door.

Example:
A side-opening sectional door can be opened to allow a person to pas through. The partial opening can only be used by radio.

INFORMATION
The lighting function or partial opening can be operated.

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 programme the function to the desired transmitter button.
3. Set DIP switch 2 on the carriage to ON.
4. Press the desired button on the transmitter for the partial opening function.

   ⇒ The door moves to in door OPEN direction.
5. Press the desired button on the transmitter again to stop it.

   ⇒ The door stops at the desired position.

   ⇒ The partial opening function is programmed.
6. Press the button on the transmitter again.
7. The door moves to the door CLOSE end position.

   ⇒ The partial opening function is programmed.

10.15. Deleting partial opening

1. Set DIP switch 2 on the carriage to OFF.
2. Open the door completely up to the door OPEN end position.

   ⇒ Partial opening is deleted.

To programme a new position see chapter **10.14. Setting partial opening.**

11. Connections and special functions of the ceiling control unit

11.1. Ceiling control unit pcb

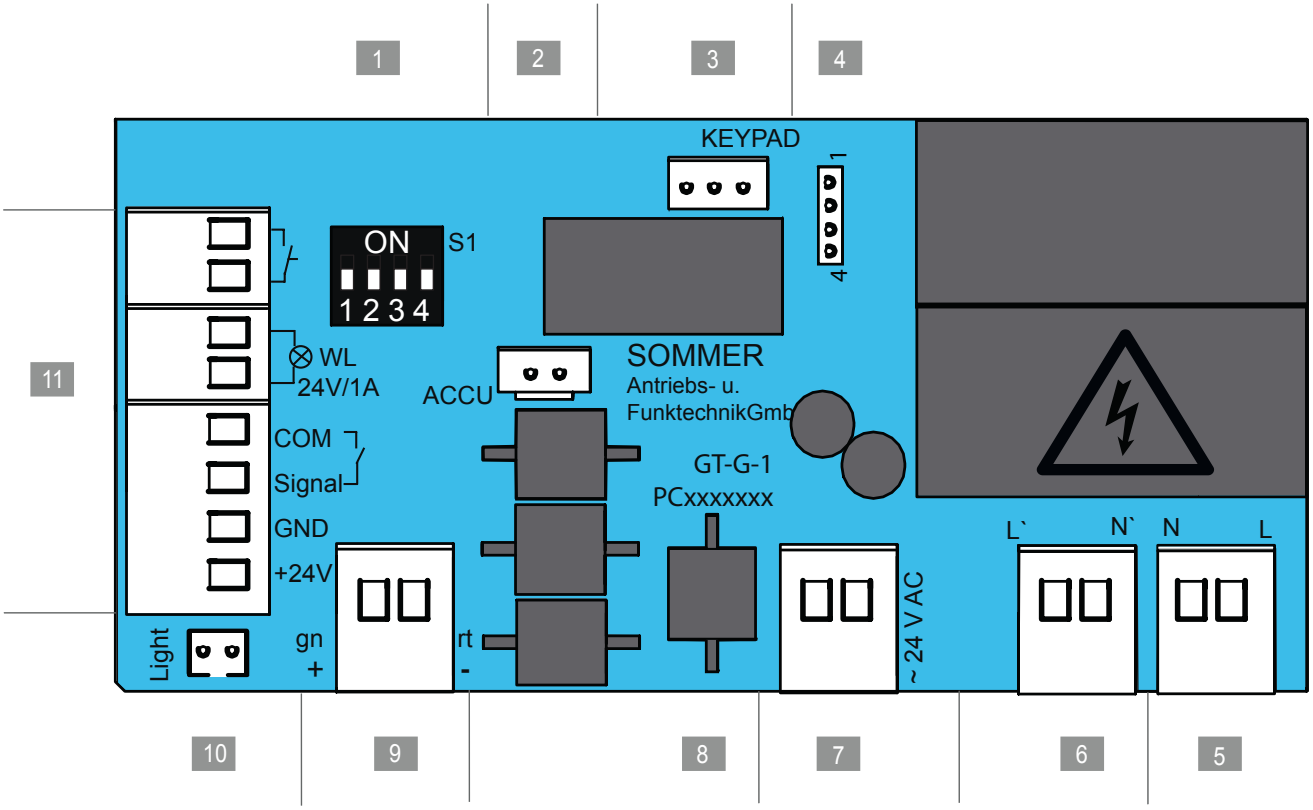


Fig. Ceiling control unit pcb

Connections options to the ceiling control unit

1.	DIP switches	7.	Terminal, 2-pin 24 V AC transformer secondary side
2.	ACCU slot Terminal for battery pack	8.	pcb label
3.	Slot, keypad Terminal for the button connector cable of the pro+ wall control unit	9.	Terminal, 2-pin chain and rail, 24 V AC
4.	Slot Terminal for relay	10.	Light slot, white terminal for Lumi base+ supplementary lighting
5.	Terminal, 2-pole power supply 220 – 240 V AC 50/60 Hz	11.	Terminal, 8-pin • Button, potential-free • Warning light (24 V DC, max. 25 W) • 2/4-wire photo eye (max. 100 mA regulated)
6.	Terminal, 2-pin transformer primary side 220 – 240 V AC 50/60 Hz		

11. Connections and special functions of the ceiling control unit

11.2. Connections options to the ceiling control unit

⚠ 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.

- ► Only install the switch in view of the door.
- ► Do not press the button unless the door is in view.
- ► Always keep the moving door in sight.
- ► Persons or animals must not be in the range of movement of the door.

⚠ WARNING

Danger due to hot surfaces!

After frequent operation parts of the 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 before removing the cover.

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.

NOTE

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

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.

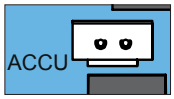
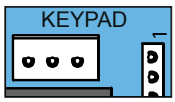
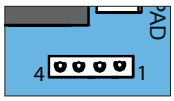
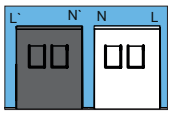
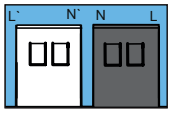
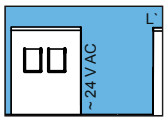
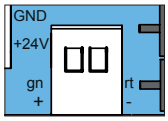
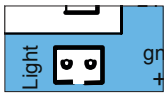
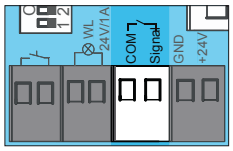
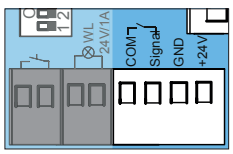
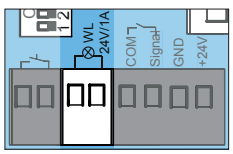
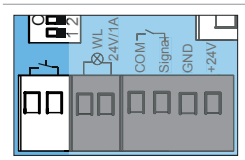
INFORMATION

The power cable is approx. 1 m long.

INFORMATION

The maximum cable length for connected accessories is 25 m.

11. Connections and special functions of the ceiling control unit

pcb section	Function/application example
	BATTERY slot Terminal for battery pack
	Slot, black Terminal for the button connector cable of the wall control unit
	Slot for relay switching capacity max: 5 A / 240 V AC max: 5 A / 24 V DC
	Terminal, 2-pin power supply 220 – 240 V AC 50/60 Hz
	Terminal, 2-pin transformer primary side 220 – 240 V AC 50/60 Hz
	Terminal, 2-pin 24 V AC transformer secondary side
	Terminal, 2-pin chain and rail, 24 V AC
	Light slot, white slot for Lumi base+ supplementary lighting
	Terminal for 2-wire photo eye, any polarity
	Terminal for 4-wire photo eye +24 V / DC 100 mA (regulated)
	Warning light terminal +24 V DC, max. 25 W
	Terminal, 2-pin for button, potential-free

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

11.3. Setting the DIP switches on the carriage

Special functions can be set up 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 pcb.
Use a suitable tool to set the DIP switches, such as a flat plastic object.

	DIP switches	ON	OFF
1.		Button 1 defined door OPEN Button 2 defined door CLOSE	T1 pulse sequence T2 partial opening
2		Door status display Warning light lights during door movement and if the door is not closed	Warning light flashes while door is moving.
3		Continuous power to the complete system active	Power-saving mode active
4		no function	no function

11. Connections and special functions of the ceiling control unit

11.4. Installing and removing battery pack

NOTE

Only a genuine battery pack from the company SOMMER Antriebs- und Funktechnik GmbH may be used.

INFORMATION

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

The battery pack can supply power during a mains power failure. The battery pack can be operated for approx. 10 cycles.

Only a qualified electrician is permitted to install, test and replace the battery pack.

Follow the instructions for the battery pack in the separate installation and operating manual.

See also chapter **7.2. Cover of the ceiling control unit.**

NOTE

When the battery pack is installed, the cover of the ceiling control unit must be removed with particular care.

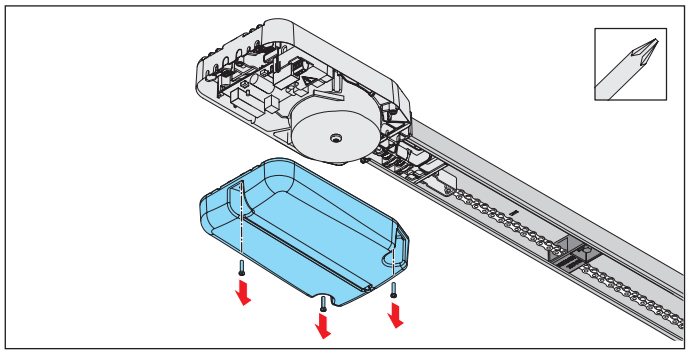


Fig. 1

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

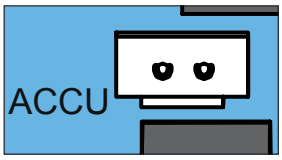


Fig. 2

2. Place the battery pack loosely in its position in the cover and plug the battery pack plug into the pcb at the BATTERY slot.

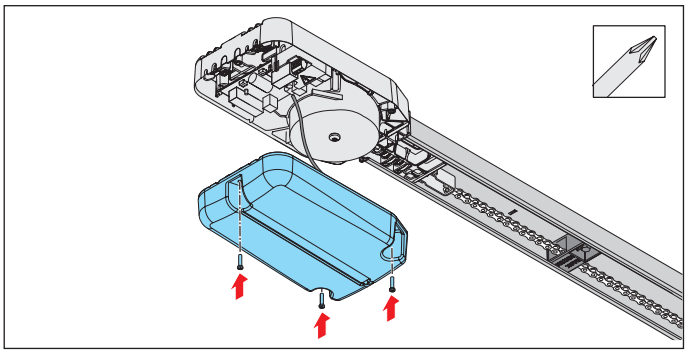


Fig. 3

3. Screw on cover.
4. Run a function test.
   ⇒ Pull the power plug out of the power outlet.
   ⇒ The operator is powered by the battery pack.
5. Press the button on the handheld transmitter.
   ⇒ Operator opens or closes the door at reduced speed.
6. Plug in the mains power plug.

12. Final test/function test

12.1. Testing obstacle detection

After programming force values, the obstacle detection and force setting must be tested.

⚠ 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 carefully checked and if necessary adjusted by a qualified specialist.

⚠ WARNING

Danger of crushing and shearing!

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

- ► The power cut-off does not operate below 50 mm.
- ► The obstacle detection must be tested once a month.
- ► Only use the operator in direct view of the door.
- ► Always keep the moving door in sight.
- ► Persons or animals must not be in the range of movement of the door.
- ► Never put your hand near the door or moving parts when it is moving. In particular, do not reach into the moving push arm.
- ► Do not reach into the ceiling mounting unit when the carriage runs along the track.
- ► Do not drive through the door until it has been fully opened.

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.

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 the installation and operating manual are retained by the owner.
This is applicable for both private and commercial installations. Including 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 smartphone. For more information ask your specialist dealer.

The door must reverse if it hits a 50-mm-high obstacle. The operator must stop and reverse if there is a suspended weight of 20 kg.

12. Final test/function test

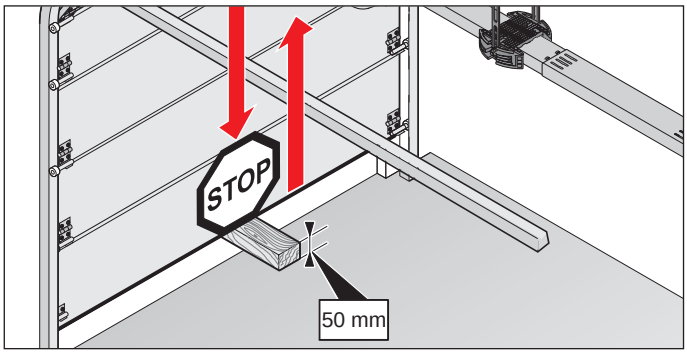


Fig. 1 Obstacle detection

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

⇒ If the door hits an obstacle, the operator must stop immediately and reverse.

⇒ The door opens completely at a pulse from the transmitter.

⇒ If the operator does not reverse, a position reset is required, see chapter **10.10. Reset the control unit.**
The positions and the forces must be reprogrammed.

13. Operation

13.1. Safety information on operation

Read the following chapter to ensure safe operation.

The operator must not be used by children or 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.

In particular, observe the following safety instructions and the safety instructions in chapter **14. Maintenance and care** and **15. Troubleshooting.**

⚠ DANGER

Danger if not observed!

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

► All safety instructions must be observed to prevent serious injury.

⚠ 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.

► Keep clear of the movement area of the door.

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

⚠ WARNING

Danger of entrapment!

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.

► Keep clear of the moving door.

⚠ WARNING

Danger of crushing and shearing!

If the door moves with 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 in direct view of the door.

► Always keep the moving door in sight.

► Persons or animals must not be in the range of movement of the door.

► Never put your hand near the door or moving parts when it is moving. In particular, do not reach into the moving push arm.

► Do not reach into the ceiling mounting unit when the carriage runs along the track.

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

⚠ 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.

► Do not look directly into a LED.

13. Operation

NOTE

If the weight compensation of 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.

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 at all times at the place of use.

13.2. Operating modes of gate movement

INFORMATION

All functions can be programmed for all buttons.

Button 1 (CH 1)

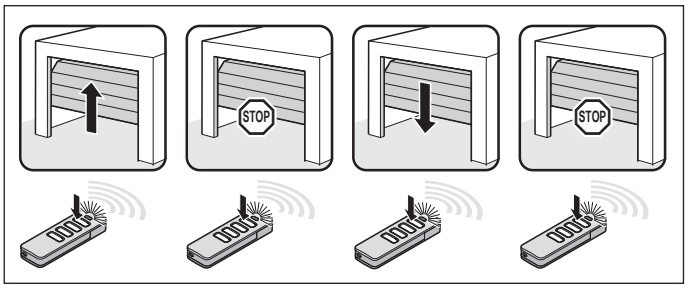


Fig. Pulse sequence door OPEN, door stop, door CLOSE, door stop

Button 2 (CH 2)

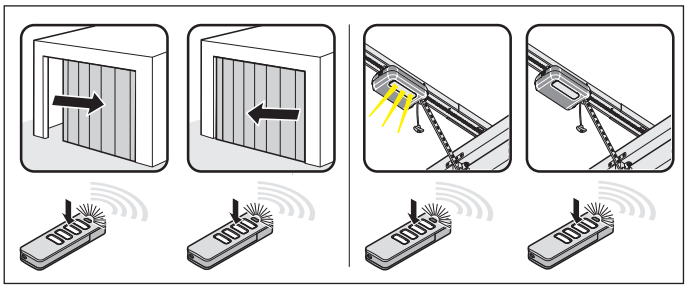


Fig. Pulse sequence for
partial opening: DIP switch 2 ON
Lighting function: DIP switch 2 OFF

Button 3 (CH 3)

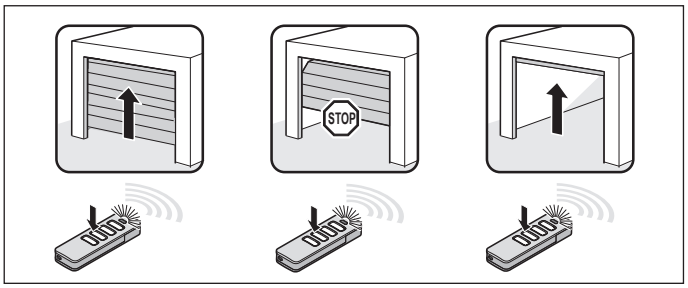


Fig. Pulse sequence for defined door OPEN

Button 4 (CH 4)

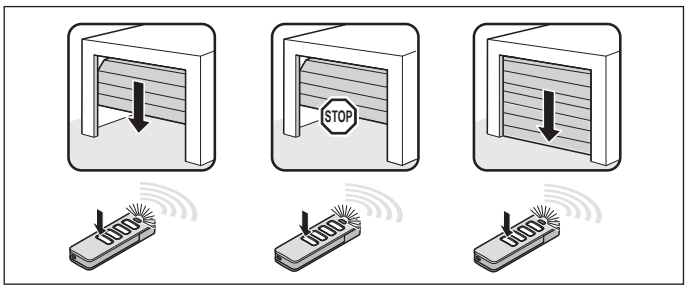


Fig. Pulse sequence for defined door CLOSE

13. Operation

13.3. Obstacle detection

⚠ WARNING

Danger of crushing and shearing!
The door can be actuated by a button 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.

- ► Buttons and other control devices must be installed and actuated within view of the door only.
- ► Buttons or other control devices may be used only if the movement of the door can be viewed directly.
- ► Persons or animals must not be in the range of movement of the door.

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.

INFORMATION
If the photo eye is interrupted, the door runs on for a short distance.

The following safety devices are installed to detect obstacles:

- Photo eye (object protection)
- Safety contact strips (personal protection)
- Force cut-off of operator (personal protection)

See also chapter **14. Maintenance and care.**

13.4. 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: photo eye, 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.

ON	OFF
Continuous power to the complete system active	Power-saving mode active

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

13.5. Operation during power failure

The programmed force values and end positions 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.

Also follow the instructions for emergency release in chapter **11.4. Battery pack** or **13.6. Function of the emergency release.**

13. Operation

13.6. Function of the emergency release

In the event of a power failure, the door can be opened from the inside using a mechanical emergency release.

⚠ DANGER

Danger of trapped persons!

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

- ► The operation of the emergency release must be tested regularly from inside and if necessary also from outside.
- ► Faults must be repaired 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 with the door closed.
- ► Use the emergency release with great caution if the door is open.
- ► Persons or animals must not be within the door's range of movement.

NOTE

The emergency release is only suitable for opening or closing the door in an emergency. For example, a power outage or operator fault.
The emergency release is not suitable for regularly opening or closing the door. This could cause damage to the operator or door.

NOTE

In 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.

INFORMATION

It can be locked and released in any door position.

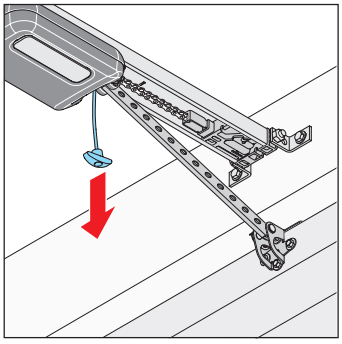


Fig. for 1

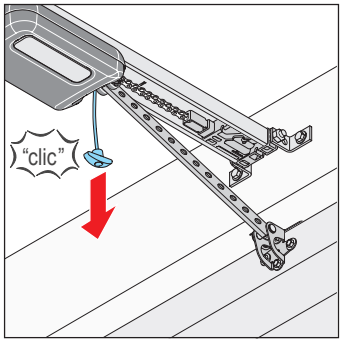


Fig. for 2

1. Pull once on the emergency release cord.
   ⇒ **The carriage is released.**
   ⇒ The door can now be moved by hand.
2. Pull the emergency release cord once more.
   ⇒ **The carriage is locked.**
   ⇒ The door can only be moved by the operator.

14. Maintenance and care

14.1. Safety instructions for maintenance and care

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 observed to prevent serious injury.

⚠ 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 an electrician.

► Disconnect the mains plug before working on the operator.

► If a battery pack is used, it must be disconnected.

► Then check that the operator is disconnected from the power supply.

⚠ DANGER

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 of trapped persons!

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

► The operation of the emergency release must be tested regularly from inside and if necessary also from outside.

► Faults must be repaired 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 with 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 in direct view of the door.

► Always keep the moving door in sight.

► Never put your hand near the door or moving parts when it is moving. In particular, do not reach into the moving push arm.

► Do not reach into the ceiling mounting unit when the carriage runs along the track.

► Persons or animals must not be in the range of movement of the door.

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

14. Maintenance and care

⚠ WARNING

Danger due to hot surfaces!

After frequent operation parts of the 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 before removing the cover.

NOTE

The 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 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.

14.2. Maintenance schedule

How often?	What?	How?
Once a month	Test the emergency release	See chapter **"13.6. Function of the emergency release"**
	Test the obstacle detection	See chapter **12.1. Testing obstacle detection**
	Test the photo eye	Interrupt the active photo eye while the door is closing. The door must stop and open slightly or completely if automatic closing is activated. if necessary clean the photo eye (see chapter **14.3.**) **Care**
Once a year	Test the door and all moving parts	As directed by the door manufacturer
	Check screws on door, ceiling or lintel	Check that screws are tight and tighten if necessary
As needed	Chain and rail	maintenance-free
	Rail	See chapter **14.3. Care**
	Clean ceiling control unit and carriage housing	See chapter **14.3. Care**

14. Maintenance and care

14.3. Care

Clean rail, carriage and ceiling control unit

1. Pull the power plug out of the power outlet.

   If a battery pack has been installed, remove the ceiling control unit cover and disconnect the battery pack from the ceiling control unit. See also chapter **11.4. Installing and removing battery pack.**
   Then check that the power is disconnected.

2. Remove loose dirt with a moist, lint-free cloth:
   - from the carriage and the ceiling control unit
   - from the rail and the inside of the rail

3. If applicable, install the battery pack in reverse order of removal.
   Plug the power plug into the power outlet.

4. **Clean photo eye**

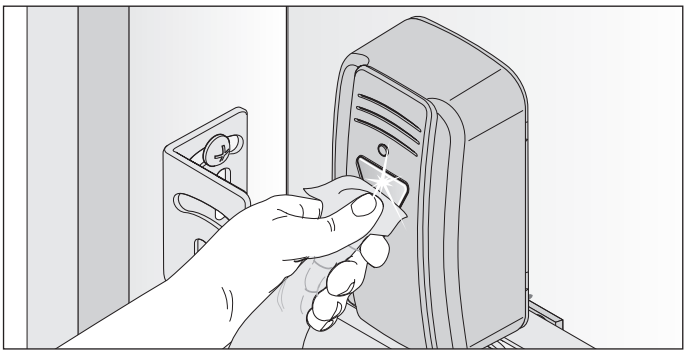


Fig. 1

NOTE

Do not change the position of the photo eye when cleaning it.

1. Clean the housing reflectors with a moist, lint-free cloth.

15. Troubleshooting

15.1. 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 observed to prevent serious injury.

⚠ 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 an electrician.
- ► Disconnect the mains plug before working on the operator.
- ► If a battery pack is used, it must be disconnected.
- ► Then check that the operator is disconnected from the power supply.

⚠ DANGER

Danger of entrapment!

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

- ► The operation of the emergency release must be tested regularly from inside and if necessary also from outside.
- ► Faults must be repaired without delay.

⚠ 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 due to falling parts!

Parts of the door may become detached and fall. Persons may be hit. This will cause 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.
- ► Do not drive through the door until it has been fully opened.

⚠ WARNING

Danger of entrapment!

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

- ► Keep clear of the moving door.
- ► Wear tight-fitting clothing.
- ► Wear a hairnet over long hair.

⚠ WARNING

Danger of crushing and shearing!

If the door moves with 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 in direct view of the door.
- ► Always keep the moving door in sight.
- ► Persons or animals must not be in the range of movement of the door.
- ► Never put your hand near the door or moving parts when it is moving. In particular, do not reach into the moving push arm.
- ► Do not reach into the ceiling mounting unit when the carriage runs along the track.
- ► Do not drive through the door until it has been fully opened.

15. Troubleshooting

⚠ 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.

► Do not look directly into a LED.

⚠ WARNING

Danger due to hot surfaces!

After frequent operation parts of the 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 before removing the cover.

NOTE

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

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.

15.2. 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 technician 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 outlet.

   If a battery pack has been installed, remove the ceiling control unit cover and disconnect the battery pack from the ceiling control unit. (see chapter **7.2.**) **Ceiling control unit cover** and chapter **11.4 Installing and removing battery pack**).

   Then check that the power is disconnected.

2. After working on the operator, if applicable replace the battery pack in reverse order.
   Plug the power plug into the power outlet.

15. Troubleshooting

15.3. Time sequences of operator lighting in normal operation and in case of faults

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

Flash sequences in normal operation

Flash sequences	Possible cause	Corrective action
Normal mode  Warning light for the operator in normal mode	• Program mode active • Pre-warning time active • Room time active • Reversing movement, soft reversing and stopped after a soft and reversing movement	• none, for information

Flash sequences with faults

Flash sequences	Possible causes	Corrective action
Requirement  Operator expects a command	• Waiting for a conformation during the position programming movement of door CLOSE position	• Confirmation of position programming movement
Alarm  A process has triggered a fault	• Photo eye or safety equipment not OK before movement	• Check photo eye, realign if necessary • If necessary, have parts replaced by a qualified specialist
	• Interruption of a safety device during the movement	• Remove obstacle
	• Dead man movement, safety equipment not OK	• Have it checked by a qualified specialist
	• Motor return from outside (e.g. due to attempted break-in)	• none, for information
Service  A process has triggered a fault	• Service (service days, cycles or after 180 days the basic data are not OK)	• Have the service performed by a qualified specialist
	• Calculated motor temperature is too high (overheating)	• Allow motor to cool
	• Programme 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)	• none, for information
Fault  Operator or parts of the operator faulty	• Self-test of electronics • Blockage detection (gear breakage, Hall sensor fault)	• Have it checked by a qualified specialist • If necessary, have parts replaced by a qualified specialist
	• End switch does not operate (e.g. wire break, end switch fault)	• Have wire connections checked by a qualified specialist • If necessary, have parts replaced by a qualified specialist
	• 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. 7500 mm
	• Error during plausibility test of memo	• Have it checked by a qualified specialist • If necessary, have parts replaced by a qualified specialist

15. Troubleshooting

15.4. Troubleshooting table

Problem	Possible causes	Test/check	Remedy
The operator opens the gate when the transmitter or control device is actuated but does not close it.	• Photo eye and safety device have been destroyed	• Check photo eye and safety devices	• Remove obstacle • The photo eye must be aligned. • Have it checked and replaced by a qualified specialist
	• Automatic closing activated	• Wait to see whether the operator starts automatically after 30 seconds	• Deactivate automatic closing • Have the cause corrected by a qualified specialist
Operator cannot be operated with the control device.	• No power	• Check power supply	• Check the power outlet with a different device, for example with a lamp
	• End switch in carriage defective	• Unlock operator and push carriage to the centre of the rail • Lock operator • Actuate transmitter • If the operator now still does not close and open, the end switch is defective.	• Have the end switch replaced by a specialist.
	• The operator was deactivated by the emergency release mechanism	• Check that the door can be moved manually	• Pull the emergency release to activate the operator
	• Control device incorrectly connected to the operator	• Check function of operator with a transmitter	• Check wiring, correct if necessary
	• Transmitter defective	• Operator cannot be started with the transmitter.	• Check transmitter power supply • If necessary, replace the battery of the transmitter • If necessary, replace the transmitter with a new one
	• Operator defective.	• Operator cannot be started with the transmitter or the connected control device.	• Have operator repaired or replaced by a qualified specialist
	• Electrical supply voltage outside the approved range.	• Have the mains voltage checked by a qualified specialist	• Have the cause corrected by a qualified specialist
When a button on the transmitter is pressed, the door does not open or close.	• Transmitter not programmed	• Radio LED does not light when the transmitter is operated	• Programme transmitter
	• Battery in the transmitter is flat		• Replace the battery of the transmitter
	• Transmitter defective	• LED on transmitter does not light	• Replace transmitter
Operator stops the door during closing and opens it partially or completely.	• Door detected an obstacle	• Check whether there are any objects in the movement range of the door	• Remove the object • if necessary, check and adjust the door mechanism
	• Photo eye was interrupted	• Check LEDs on photo eye	• Remove obstacle
	• Photo eye defective or misaligned		• Align photo eye • Check wiring • If necessary, replace photo eye

15. Troubleshooting

Problem	Possible causes	Test/check	Remedy
Operator stops while the door is opening	• Door 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 does not function	• Operator lighting defective		• Replace carriage • If necessary, install Lumi base+ supplementary lighting
Speed varies while opening and closing the door	• Rail dirty		• Clean with a moist lint-free cloth • See chapter **14.3. Care**
	• Chain tightened incorrectly.		• Tighten the chain (see chapter **6.3. Installation of the operator system**

16. Placing out of operation, storage and disposal

16.1. Placing 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 operator may only be disassembled by a qualified specialist.

This installation and operating manual must be read, understood and complied with by a 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 observed to prevent serious injury.

⚠ 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.

► Electrical components must be disassembled by an electrician only.

► Disconnect the operator from mains power.

► If a battery pack is used, it must be disconnected.

► Then check that the operator is disconnected from the power supply.

⚠ 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 unnecessary items away from the disassembly area.

► Place all parts where no persons are likely to trip or fall over them.

► 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.

► Do not look directly into a LED.

⚠ WARNING

Danger due to hot surfaces!

After frequent operation parts of the 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 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.

► Wear a safety helmet when disassembling suspended parts.

16. Placing 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 a battery pack in the control unit, it must be removed by a qualified electrician. See chapter "11.4 Battery pack"

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

1. Pull the power plug out of the power outlet.

   If a battery pack has been installed, remove the control unit cover and disconnect the battery pack from the control unit. See also chapter **11.4 Installing and removing battery pack** Then check that the power is disconnected.

2. Disassembly is in reverse order of installation.

16.2. Storage

NOTE

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

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

16.3. Disposal of waste

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

NOTE

Dispose of all parts 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.

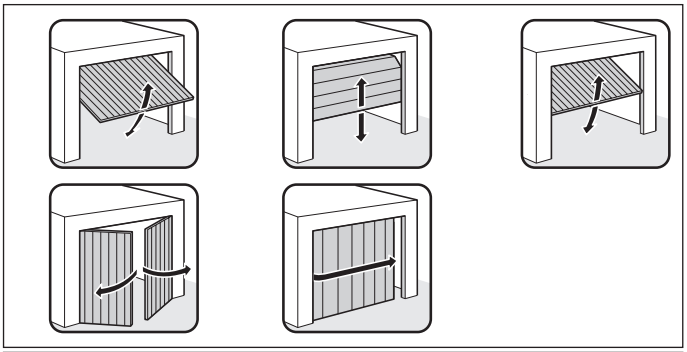
If batteries or a battery pack was used, disposed of them in accordance with national regulations.

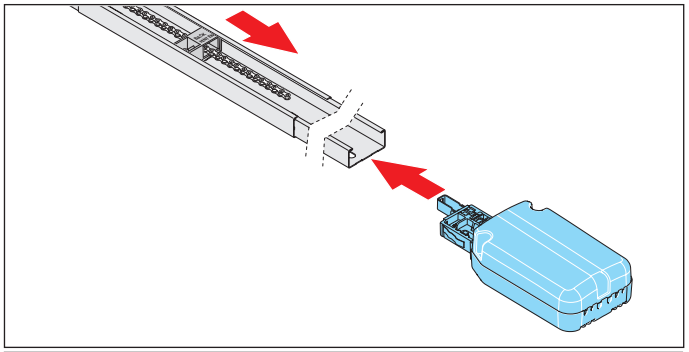
17. Short instructions for installation

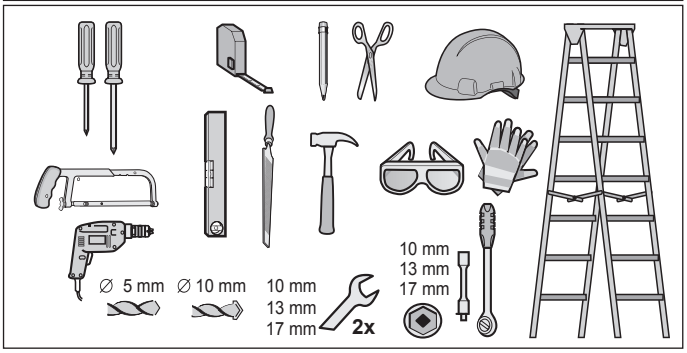
The short instructions does not replace the installation and operating manual.

Read this installation 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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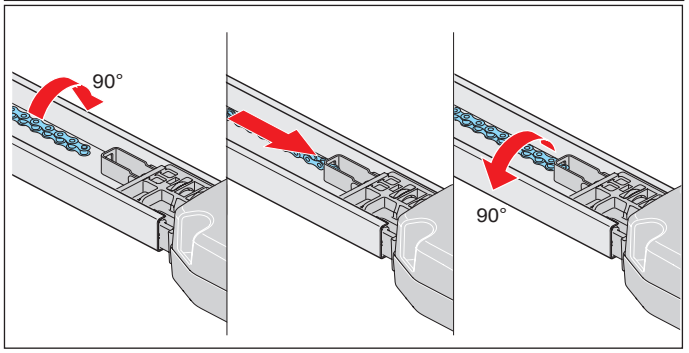
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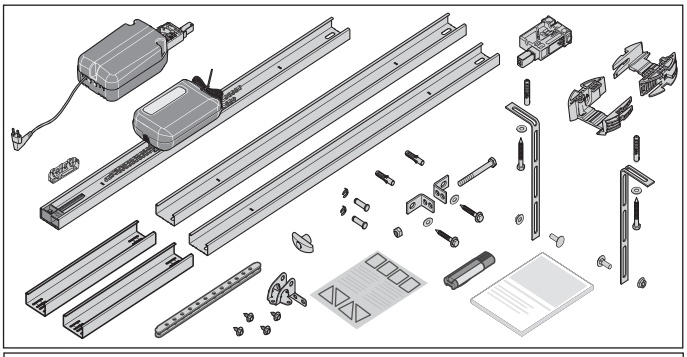

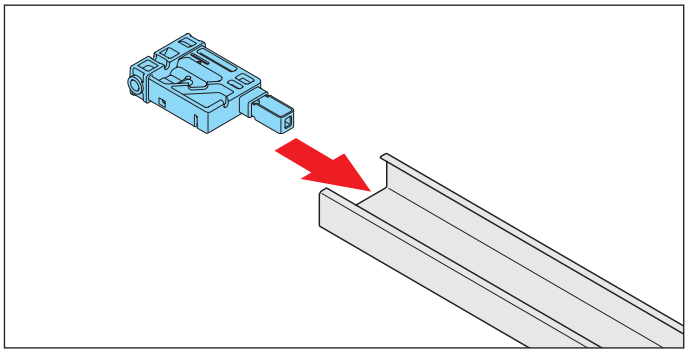

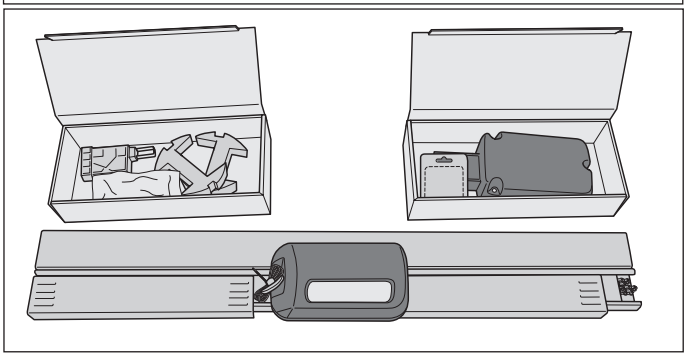

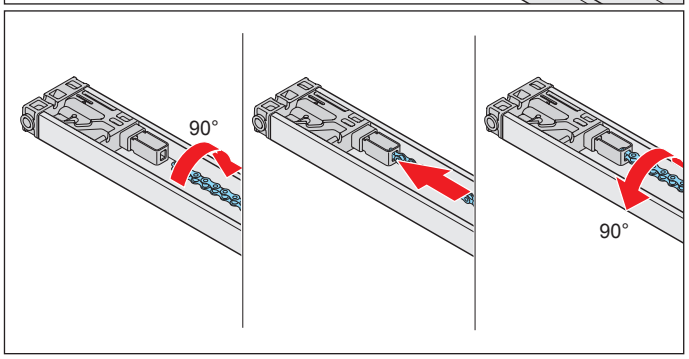
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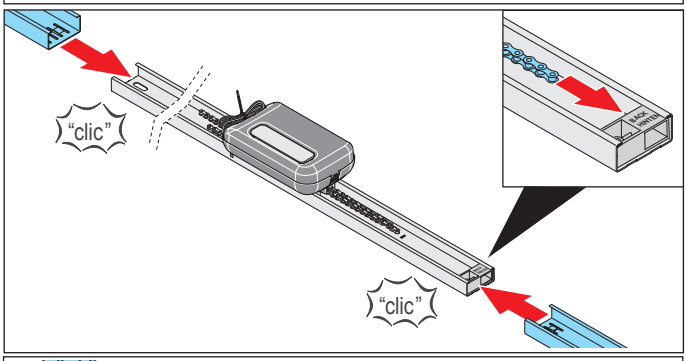
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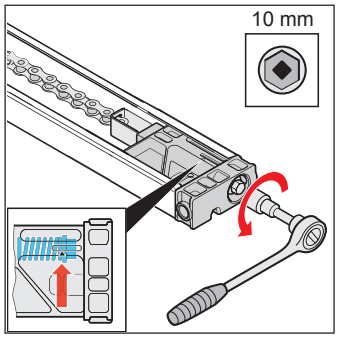
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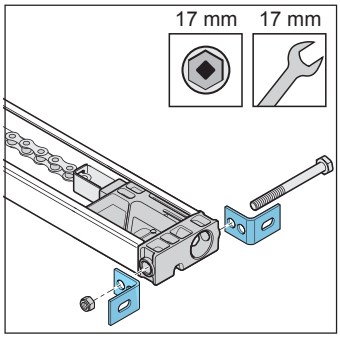
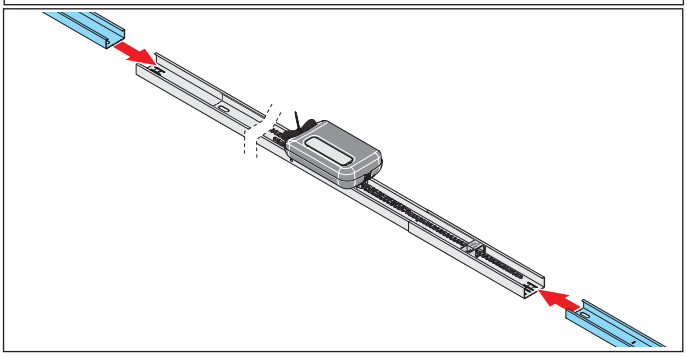
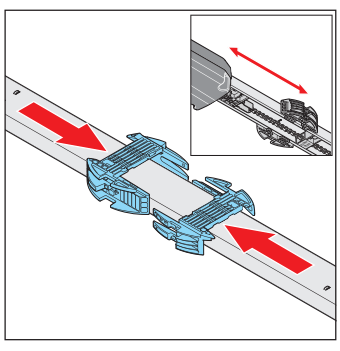
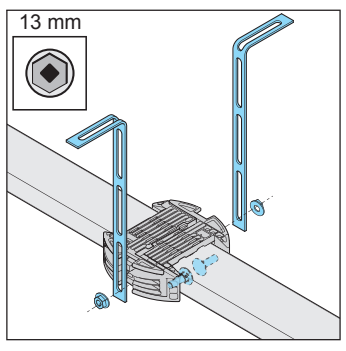
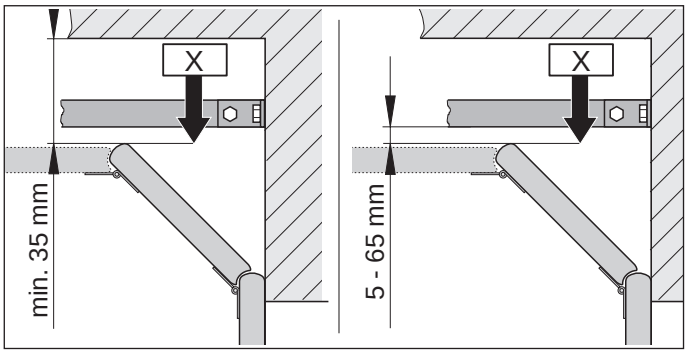
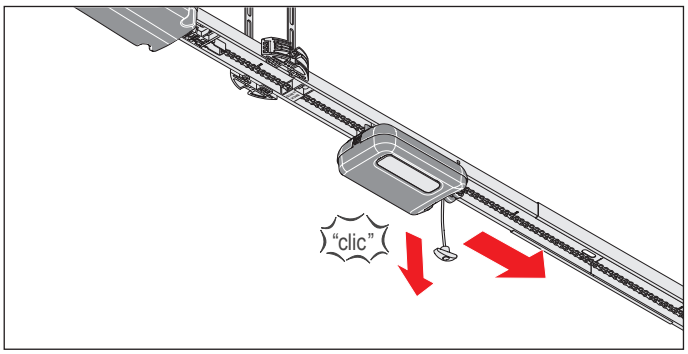

17 mm
17 mm






13 mm


X
X
min. 35 mm
5 - 65 mm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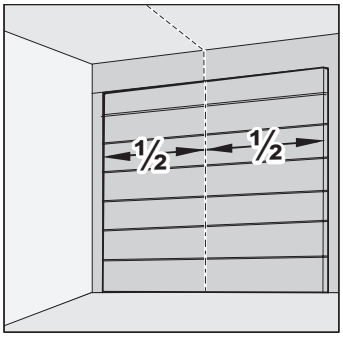
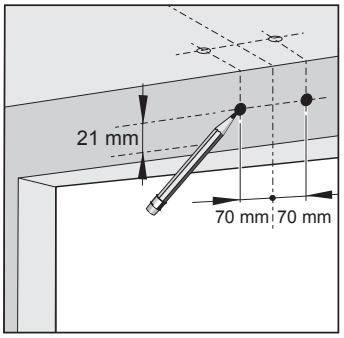
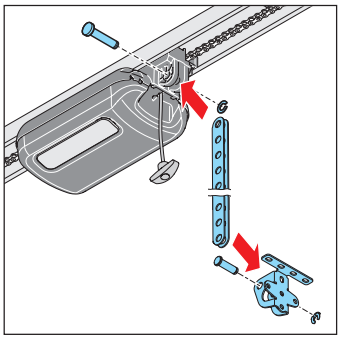
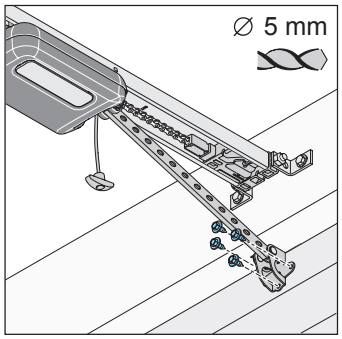
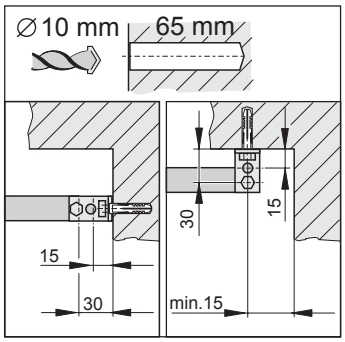
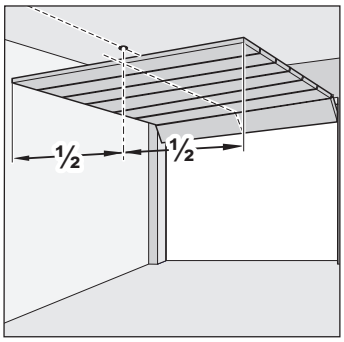

1/2
1/2

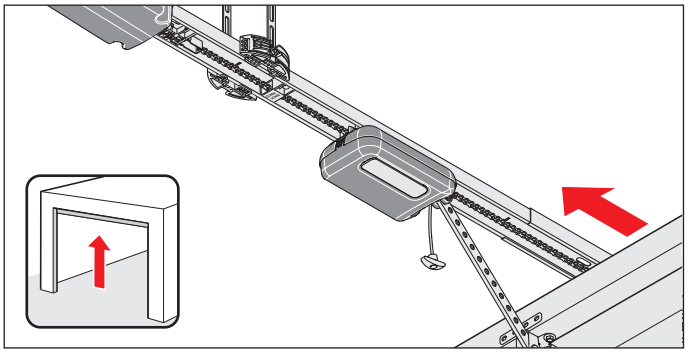

21 mm
70 mm
70 mm

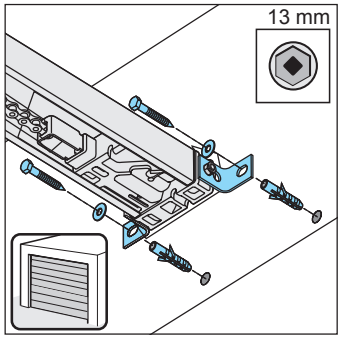


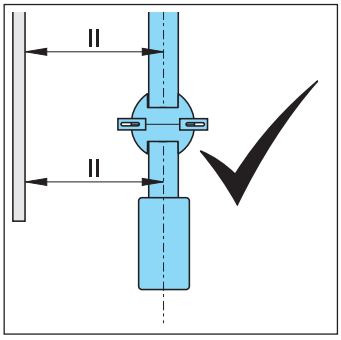

∅ 5 mm

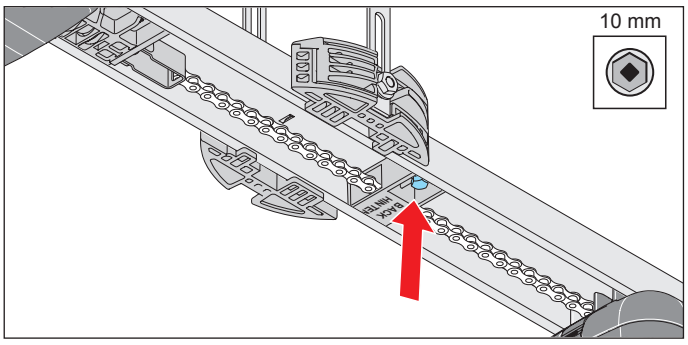

∅10 mm
65 mm
15
30
30
15
min.15

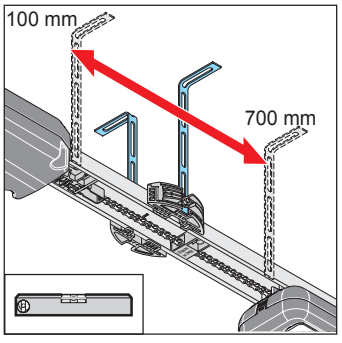

1/2
1/2

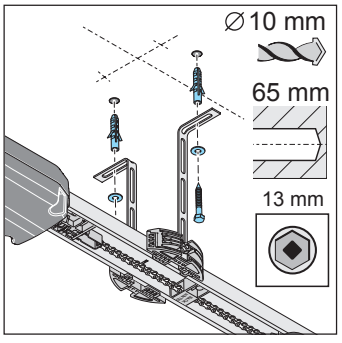


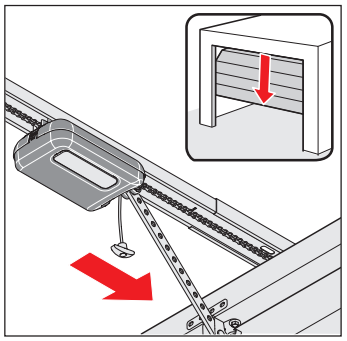

13 mm

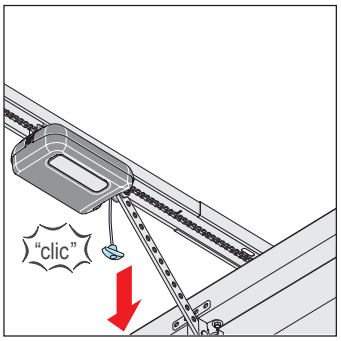

II
II


10 mm


100 mm
700 mm


∅10 mm
65 mm
13 mm

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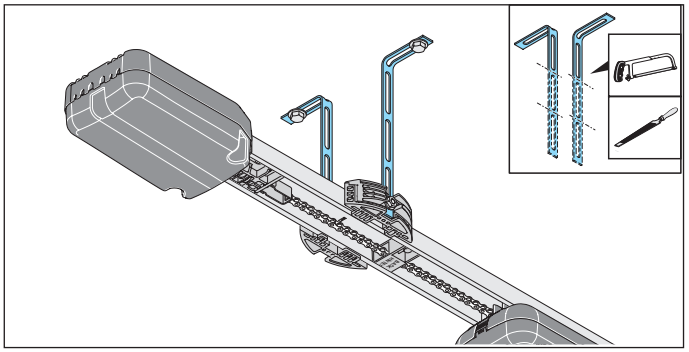

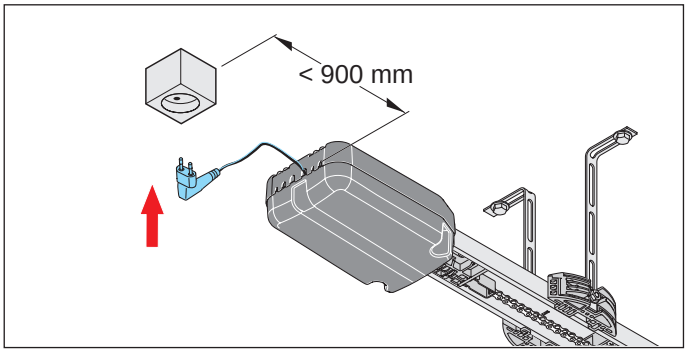
< 900 mm

SOMMER Germany

SOMMER Antriebs- und Funktechnik GmbH

Hans-Böckler-Strasse 21-27
73230 Kirchheim/Teck,
Germany

Telephone: +49 7021 8001-0
Fax: +49 7021 8001-100

info@sommer.eu
www.sommer.eu