duo rapido 650⁺

GB	Installation and Operating Instructions	1 - 31

⚠️ **CAUTION!**
A new control unit is integrated into this door drive.
Its function, commissioning and operation are very different
from similar door drives like the duo vision 500, 650, 800.
Even if you are already familiar with door drives from
SOMMER Antriebs und Funktechnik GmbH, please observe
this manual for all phases of the service life of this product.

Table of contents

General Information

Symbols

⚠ **ATTENTION SYMBOL:**
Important safety instructions!
Attention - to ensure personal safety, it is important to observe all instructions. Save these instructions!

🛈 **NOTE SYMBOL:**
Information, useful advice!

**1** **(1)** **Refers to a respective picture in the introduction or main text.**

Safety instructions

General

➢ These installation and operating instructions must be read, understood and complied with by persons who install, use or perform maintenance on the drive.

➢ Installation, connection and initial commissioning of the drive may only be carried out by technically knowledgeable persons.

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

➢ Only install the drive on correctly aligned and weight-balanced doors. An improperly aligned door can cause serious injuries or damage the drive.

➢ The manufacturer assumes no liability for injuries, damage or breakdowns that occur due to non-compliance with the installation and operating instructions.

➢ Ensure that these installation and operating instructions are kept in an easily accessible location within the garage.

➢ Always ensure compliance with accident prevention regulations and current standards in each respective country.

➢ Follow and comply with the "ASR A1.7 Technical Regulations for Workplaces" of the committee for workplaces (ASTA). (Applies to operators in Germany)

➢ Always disconnect the mains plug before working on the drive.

➢ Only use OEM (Original Equipment Manufacturer) spare parts, accessories and mounting material.

Storage

➢ The drive must be stored indoors in an enclosed, dry area at a room temperature of –20 – +50 °C.

➢ The drive should be stored horizontally.
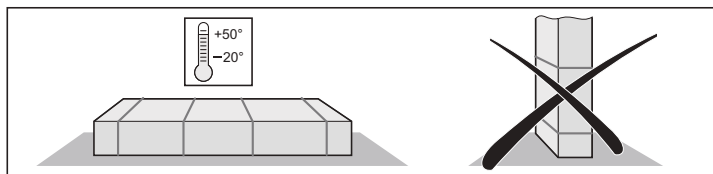
Operation

➢ The drive may only be operated if a non-hazardous force value has been set. This force value must be set low enough to ensure that the closing force poses no risk of injury.

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

➢ Continuously monitor the door while it is in motion and keep all persons away from it until the door is completely opened or closed.

➢ Only pass through the door only once it is completely open.

➢ Actuating the emergency release can lead to uncontrolled door movements if springs are weakened or broken, or if the door has not been optimally weight-balanced.

➢ There is a risk of persons being crushed or cut by the mechanism or sharp edges of the door.

➢ If the garage does not have a separate entrance or the garage door does not have a built-in slip door, you must install an emergency release (release lock or Bowden cable) that can be operated from outside.

Radio remote control

➢ The remote control must only be used for devices and systems in which radio interference will not endanger people, animals or objects, or the risk is reduced by other safety devices.

➢ The user must be made aware that systems that pose an accident risk should only be operated – if at all – by remote control if the user can actually see the door.

➢ The radio remote control may only be used if the door's movement can be watched and no persons or objects are within the range of movement.

➢ Store the hand-held transmitter so that unintended operation, e.g., by children or animals, is impossible.

➢ The operator of the radio system is not protected from faults due to other telecommunications equipment or devices (e.g. radio-controlled systems that are licensed to operate in the same frequency range). If substantial interference occurs, please contact your appropriate telecommunications office which has radio interference measuring equipment (radiolocation).

➢ Do not operate the hand-held transmitter in areas with sensitive radio communications or systems (e.g. airports, hospitals).

Type plate

➢ The type plate is located on the control unit housing.

➢ The type plate shows the exact type designation and the date of manufacture (month/year) of the drive.

Intended use

⚠ **CAUTION! RISK OF IRREPARABLE DAMAGE TO THE DRIVE!**
Do not open or close doors with the drive unless the counterbalance is properly adjusted (springs tensioned). Otherwise, you will damage or destroy the motor (transmission).

⚠ **CAUTION! RISK OF DEATH!**
Remove all cords or straps necessary to operate the door by hand.

➢ **Do not replace the duo rapido 650⁺ door drive control unit with a control unit from a different door drive. Replace a faulty control unit with an original duo rapido 650⁺ control unit from SOMMER Antriebs und Funktechnik GmbH.**

➢ The drive is intended exclusively to open and close doors. Any other use does not constitute intended use. The manufacturer accepts no liability resulting from use other than intended use. The user bears the sole responsibility for any risk involved. It also voids the warranty.

➢ Doors automated with a drive must comply with all valid standards and directives: e.g. EN 12604, EN 12605.

➢ The drive may only be used if it is in perfect working order and is used as intended, in conscious observation of safety and hazards and in accordance with the installation and operating instructions.

➢ Repair faults without delay.

➢ The door must be stable and rigid, meaning that it may not bend or twist when being opened or closed.

➢ The drive cannot compensate for defects in the door or incorrect assembly or installation.

➢ Only use the drive in a dry, non-hazardous area.

➢ Do not install the drive in areas with a corrosive atmosphere (e.g. salty air).

General Information

Max. permissible door dimensions *

	duo rapido 650⁺	Unit
Max. width		
Sectional door	5000	mm
Side-sectional or roller door		
• Rails 2600	2350	mm
• Rails 3000	2750	mm
• Rails 3400	3150	mm
Approx. height		
Sectional door		
• Rails 2600	2350	mm
• Rails 3000	2750	mm
• Rails 3400	3150	mm
Side-sectional or roller door	3000	mm
Operating time	15	%

*   Door in accordance with EN 12604, EN 12605

Technical data

	duo rapido 650⁺	Unit
Rated voltage	230	V/AC
Rated frequency	50 / 60	Hz
Lighting	Max. 32 V, max. 18 W, BA 15 s	
Operating temperature range	–20 - +50	°C
Protection type	IP 20	
Working environmental emissions value	< 75 dBA – drive only	
Max. tension and compress. force	650	N
Rated tension force	195	N
Rated current consumption	0.7	A
Rated wattage	150	W
Max. speed	240	mm/s
Power consumption, stand-by	~ 2	W
Weight:		
Rails 2600	16.0	kg
Rails 3000	17.4	kg
Rails 3400	18.4	kg
Package (L x W x H):		
Drive	790 x 160 x 160	mm
Rails 2600	1665 x 160 x 50	mm
Rails 3000	1860 x 160 x 50	mm
Rails 3400	2060 x 160 x 50	mm

The force limitation, safety input 1 and 2 correspond to performance level C, category 2.

duo rapido 650⁺
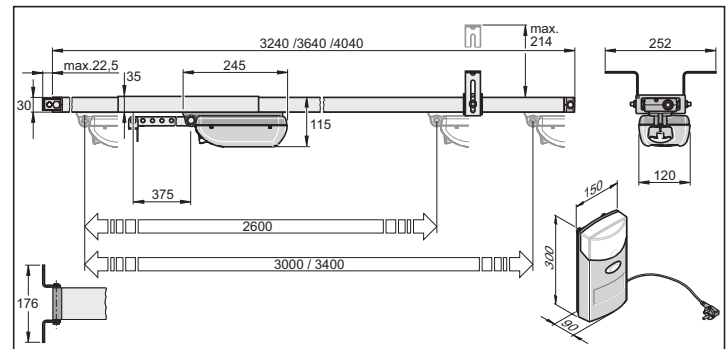
EU Declaration of Conformity

SOMMER Antriebs- und Funktechnik GmbH hereby declares that the duo rapido 650⁺ door drive and the SOMMER Antriebs- und Funktechnik GmbH hand-held transmitter conform to the basic requirements and the other applicable regulations of Directive 1999/5/EC.

The Declaration of Conformity is available at the following web site: www.sommer.eu/mrl

Scope of supply

The actual scope of supply may vary depending on the design of the drive.

Package 1
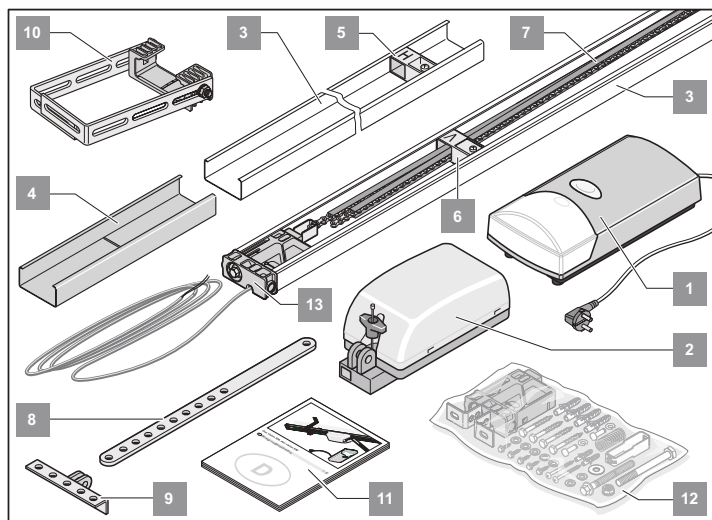
Item	Name	Quantity
1.	Control unit housing (button, power cable, lighting)	1
2.	Carriage (chain guide)	1
3.	C-track (uncoated)	2
4.	Connecting sleeve (uncoated)	1
5.	Guide idler "H"	1
6.	Guide idler "V"	1
7.	Chain with chain guide	1
8.	Push rod	1
9.	Door bracket	1
10.	Ceiling suspension bracket	1
11.	Installation and Operating Instructions	1
12.	Installation bag	1
13.	Slide-in part with control cable (length 5,000 mm)	1

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 unit

duo rapido 650$^+$

as of the identification duo rapido 650$^+$ complies with the Machinery Directive 2006/42/EC and is specified for installation in a door system.

- The following fundamental safety requirements have been applied and observed in accordance with Appendix I:

- General principles No. 1

- 1.2   Safety and reliability of control units
        Safety input I terminals 7 + 8: Cat 2 / PL C
        Internal force limitation Cat 2 / PL C
        Safety categories in accordance with EN 13849 - 1:2008

- Compliant with the regulations of the EC Building Products Guideline 89/106/EC.
  For the operating forces part, the respective initial testing has been carried out in consultation with recognized inspecting authorities. In doing so, the harmonized standards EN 13241-1, EN 12453 and EN 12445 have been applied. For the tested combinations, refer to the "Reference list" table in the Internet under www.sommer.eu.
- Compliant with the Low Voltage Directive 2006/95/EC.
- Compliant with the Directive on Electromagnetic Compatibility 2004/1 08/EC.

- The technical documentation was drawn up in accordance with Appendix VII B.

The product may only be put into operation after it has been established that the door system complies with the regulations of the Machinery Directive.

$C\mathepsilon$

Kirchheim, 27-06-2012

Jochen Lude
Responsible for documents

Installation preparations

Safety instructions

⚠️ **ATTENTION**
Important instructions for safe installation. Observe all installation instructions – improper installation can lead to serious injuries!

➢ The mains supply line that has been provided may not be shortened or extended.

➢ The voltage of the power source must correspond with the voltage listed on the drive type plate.

➢ All devices to be connected externally must have a safe isolation of the contacts from the mains voltage supply, in accordance with IEC 60364-4-41.

➢ Live parts of the drive (voltage-carrying parts, e.g. C-rail) may not be connected to the ground or with live parts or grounding conductors of other electrical circuits.

➢ Wiring for external devices must be installed in accordance with IEC 60364-4-41.

⚠️ **ATTENTION! RISK OF DEATH!**
Remove all cords or straps necessary to operate the door by hand.
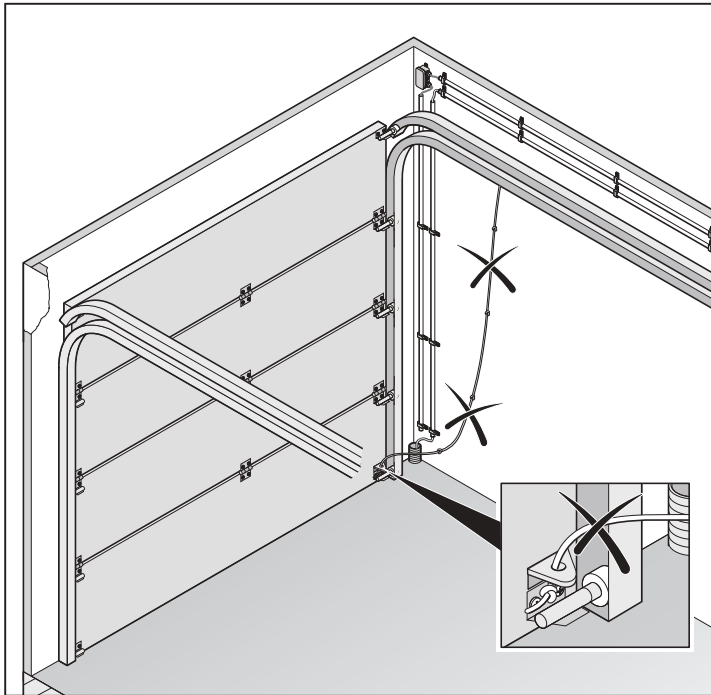
Tools required
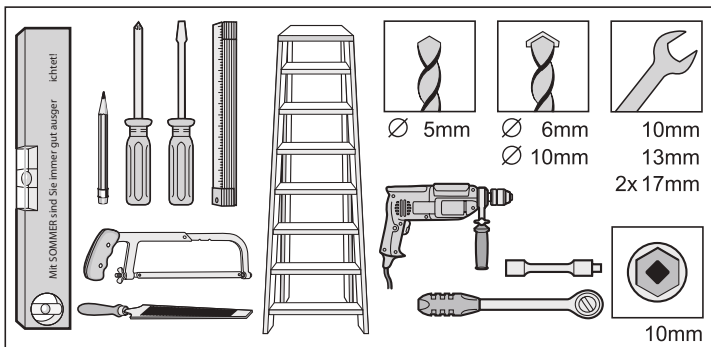
Personal safety equipment
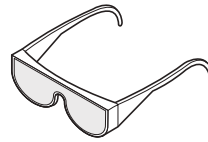
➢ Safety glasses (for drilling).

➢ Protective gloves (e.g. when handling cut-off pieces of perforated strip steel)

Install slip door safeguard or emergency release lock

• There is a slip door installed in the door, but no slip door safeguard.

  ⇒ Install slip door safeguard (see accessories instructions).

• There is no slip door in the door and no second entrance to the garage.

  ⇒ Install an emergency release lock or Bowden cable to enable unlocking from outside (see accessories instructions).

Safety instructions

⚠️ **ATTENTION**
Important instructions for safe installation. Observe all installation instructions – improper installation can lead to serious injuries!

⚠️ **NOTE!**
After installation, it is imperative that you check the drive to ensure that it has been correctly adjusted and that it reverses upon contacting a 50 mm high object on the floor.

➢ The drive may only be installed, connected and commissioned by qualified technicians.

➢ Do not move the door if there are people, animals or objects in the area of movement.

➢ Keep children, disabled persons and animals away from the door.

➢ Wear safety glasses when drilling the fastening holes.

➢ Cover the drive during drilling to prevent penetration of dirt.

⚠️ **ATTENTION**
Walls and ceiling must be solid and stable. Only install the drive on a correctly aligned door. An incorrectly aligned door could cause serious injury.

➢ Doors must be stable in themselves, since high traction and compression forces are encountered. Reinforce lighter doors made of plastic or aluminium if necessary before installation. Ask a specialist retailer for advice.

➢ Remove or disable door locks.

➢ Use only approved fasteners (e.g. anchor fittings, bolts). The fasteners must be suitable to the material of the ceilings and walls.

➢ Check that the door runs smoothly.

➢ The door must be counterbalanced.

ℹ️ **TEST:**
Half-open the door by hand. The door must remain in this position. If the door moves up or down, re-adjust the door mechanically. Ask a specialist retailer for advice.

Check the distance between the door's highest point (THP, see Figure 11) and the ceiling. The distance between the THP and the lower edge C must be between 5 mm and 65 mm; the angle of the door arm must be max. 30° (see graphic 11). If the distance is less than this, the drive must be moved back and a longer push rod must be installed. Ask a specialist retailer for advice.

Door types and accessories*

* Accessories not included in the scope of delivery
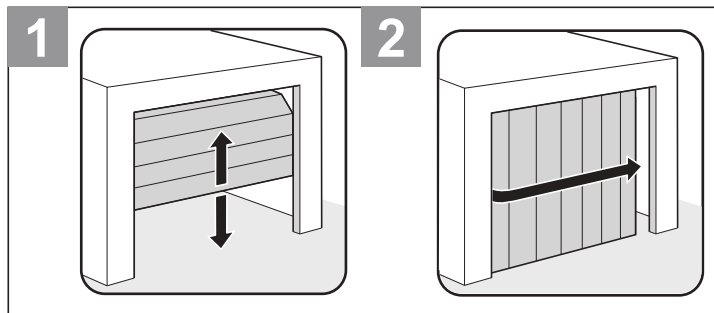
No.	Door type	Accessories
1	Sectional door with single running rail	Sectional door fitting with boomerang *
1	Sectional door with double running rail	Sectional door bracket without boomerang
2	Side sectional door	Consult your specialist dealer

Tips for installation

• Check the delivery scope components before beginning installation; this way you save time and unnecessary effort if a part is missing.

• With two persons, installation can be carried out quickly and safely.

• Ensure that the door does not become twisted or jammed in the running rails.

ℹ️ **CHECK:**
Open and close the door by hand several times at the location where the drive is to be installed. If the door can be operated easily at this location (without exceeding the specified forces), then the drive can be installed.

Emergency release

In a garage without a separate entrance (e.g. slip doors), the drive's emergency release must be operable from outside. Thus, position the emergency release so that it externally accessible; this can be done with a Bowden cable or an emergency release lock. For this purpose, Backjump (DIP switch 6 ON) should always be switched on. Refer to the chapter "Functions and connections - Backjump (DIP 6)".

ℹ️ **Additional pulse transmitters are: hand-held transmitters, Telecody, wireless indoor switches and key switches. In the case of the hand-held transmitter, Telecody or the wireless indoor switches, a connecting line to the drive is not required; consult your dealer.**

Adjusting the top roll of a sectional door
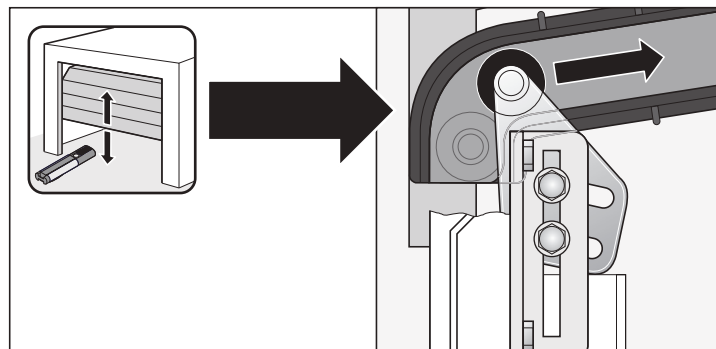
Installation

Selection of installation variants

NOTE!
Select the variant you wish to install.
Convert the power feed for variant (A/C)!

⚠ **NOTE!**
The chain cover is not packaging. Do not remove it!
Make sure that the chain is always completely clipped into the chain cover and all parts of the chain cover have been pushed together so they are flush.

A | **B** | **C**

ok ✓

Preinstallation of installation variant A/C

ℹ **NOTE!**
Dispose of the packaging according to locally applicable regulations.

Open the package and inspect the delivery scope.

⚠ **NOTE!**
Make sure that all components are not lying directly on a hard surface. To protect the components, place cardboard, covers or other soft surfaces underneath.

Remove the drive from the packaging.

1

1 Loosen the guide idler (1) and push it in the direction of the arrow; fold out the chain guide (2).

2

2 Slide the carriage (1) onto the chain (2) with chain guide (4). The chain (2) engages in the chain wheel (3). If the chain wheel (3) does not rotate, pull once on the emergency release cord (N). The chain wheel (3) is then unlocked.

3 | **4**

3 Insert the carriage with the chain (1) into the C-rail with the guide idler "V" (2). The tip of the guide idler "V" must point toward the carriage.

4 Push the two rails (1) over the connecting sleeve (2) up to the stop position. You now have a single continuous rail. When pushing the rails together, ensure that the chain is guided through the guide idler "H". The tip of the guide idler "H" must point toward the carriage (1).

5

5 a) Hook the tensioner (1) into the chain (2).
b) Rotate tensioner 90°.
c) Push the slide-in part (6) in the rail and insert the tensioner. Put the washer (5) and spring (4) on the tensioning screw (3) and screw the tensioning screw (3) into the tensioning element.

6 Don't tighten here; pretensioned at the factory.

7 Tighten the chain as far as the mark (arrow).
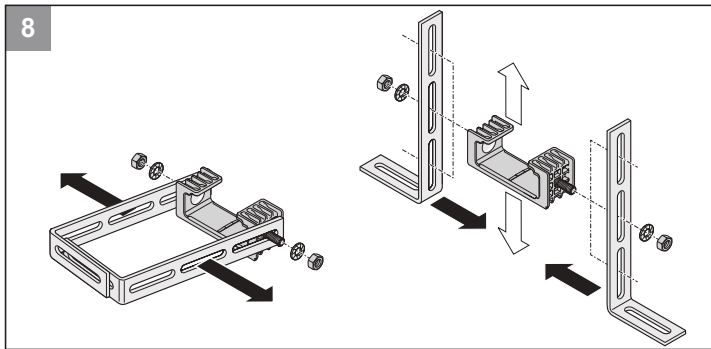
8 Disassemble the two steel brackets (1) with washers (4) and toothed lock washers (3) from the ceiling suspension bracket (2).
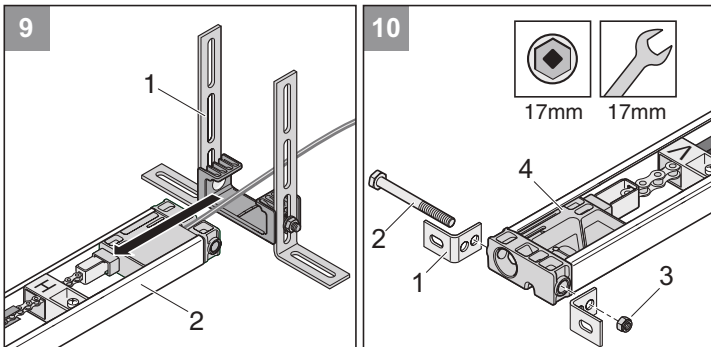
9 Push the ceiling suspension bracket (1) onto the C-rail (2).

10 Fasten the two headers (2) with bolt (1) and washers (3) on the slide-in part (4), but do not completely tighten yet.

Preinstallation of installation variant B

NOTE!
Dispose of the packaging according to locally applicable regulations.

Open the package and inspect the delivery scope.

NOTE!
Make sure that all components are not lying directly on a hard surface. To protect the components, place cardboard, covers or other soft surfaces underneath.

Remove the drive from the packaging.
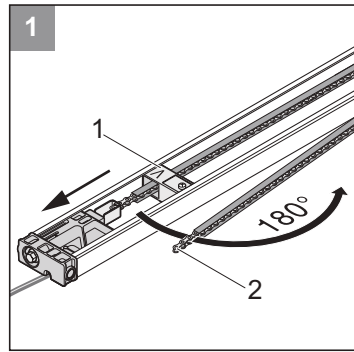
1 Loosen the guide idler (1) and push it in the direction of the arrow; fold out the chain guide (2).
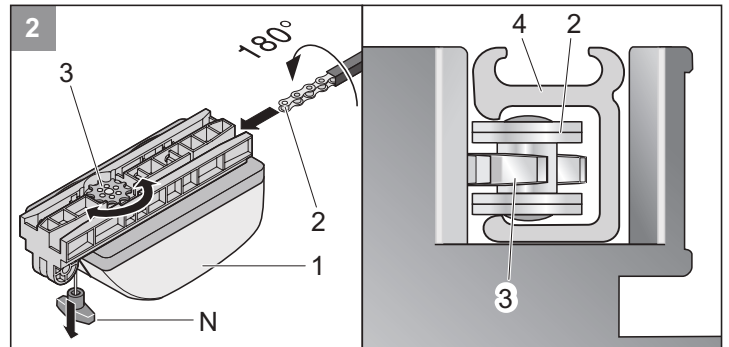
2 Slide the carriage (1) onto the chain (2) with chain guide (4). The chain (2) engages in the chain wheel (3). If the chain wheel (3) does not rotate, pull once on the emergency release cord (N). The chain wheel (3) is then unlocked.

3 Insert the carriage with the chain (1) into the C-rail with the guide idler "V" (2). The tip of the guide idler "V" must point toward the carriage.

4 Push the two rails (1) over the connecting sleeve (2) up to the stop position. You now have a single continuous rail. When pushing the rails together, ensure that the chain is guided through the guide idler "H". The tip of the guide idler "H" must point toward the carriage (1).

Installation
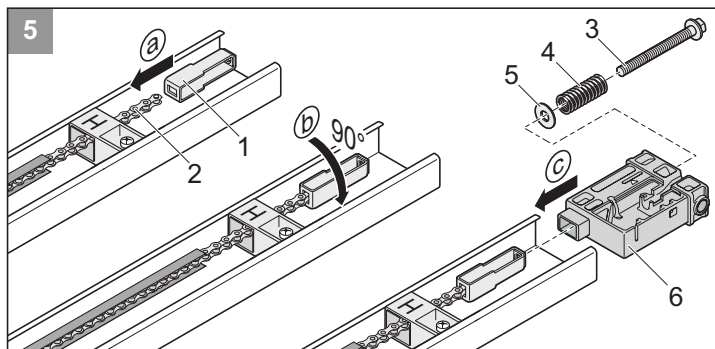
5

5 a) Hook the tensioner (1) into the chain (2).
b) Rotate tensioner 90°.
c) Push the slide-in part (6) in the rail and insert the tensioner. Put the washer (5) and spring (4) on the tensioning screw (3) and screw the tensioning screw (3) into the tensioning element.

6 | **7**
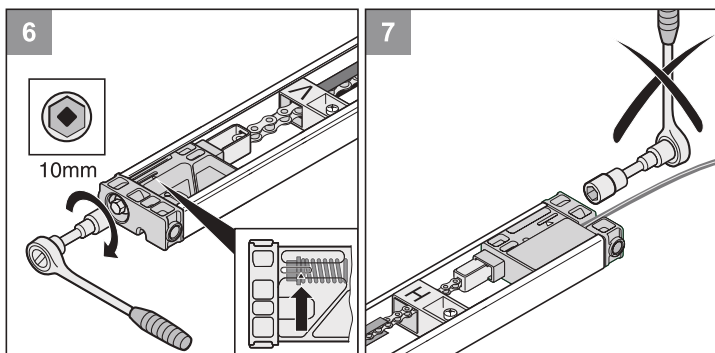
6 Tighten the chain as far as the mark (arrow).

7 Don't tighten here; pretensioned at the factory.

8

8 Disassemble the two steel brackets (1) with washers (4) and toothed lock washers (3) from the ceiling suspension bracket (2).

9 | **10**
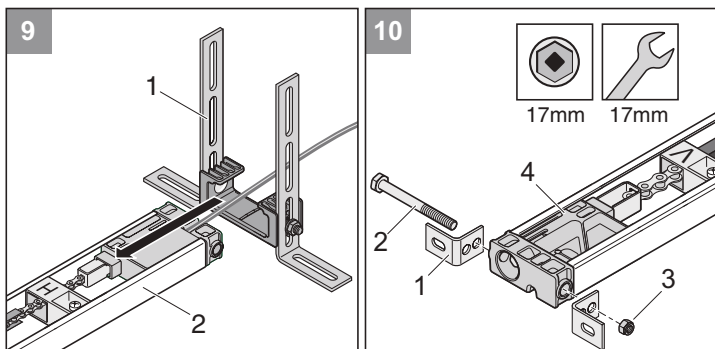
9 Push the ceiling suspension bracket (1) onto the C-rail (2).

10 Fasten the two headers (2) with bolt (1) and washers (3) on the slide-in part (4), but do not completely tighten yet.

Installation (example: installation variant B)

> ⚠ **NOTE!**
> **Use a non-slip, stable ladder.**

11

11

11
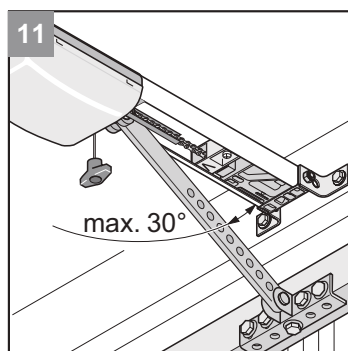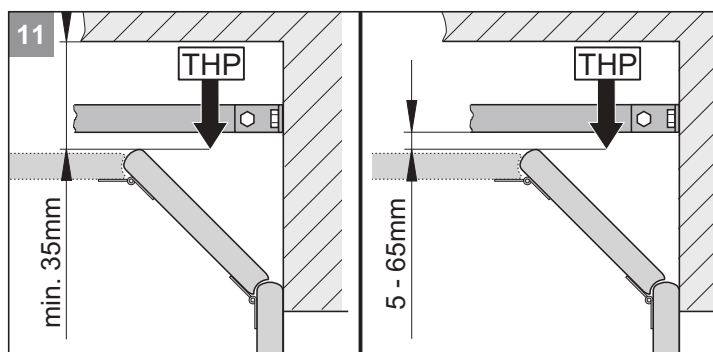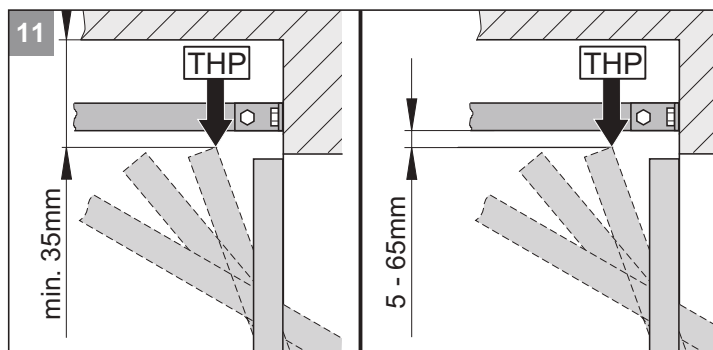
> ℹ **NOTE**
> **If the distance between the ceiling and the bottom edge of the C-rail is greater than 245 mm, extend the ceiling suspension bracket with perforated strip steel.**

> ℹ **NOTE**
> **Please observe that the distance may possibly be reduced if a door handle is attached to the middle of the door. The door must be able to run freely.**

11 Find the highest point of the door (THP):
Open the door and measure the closest distance (min. 35 mm) between the top edge of the door and the ceiling. The distance between the THP and the bottom edge of the C-rail must be between 5 mm and 65 mm; the angle of the door arm must be max. 30°.

12

S   D
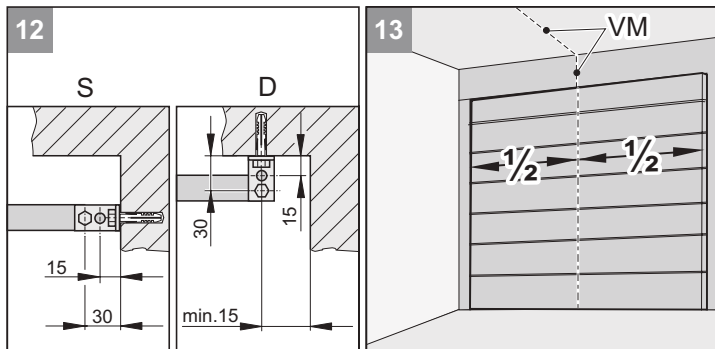
NOTE!
If installing on the ceiling (D), space the drill holes 15 mm apart if possible. Reduced tilting angle of the mounting bracket.

12 The drive can be mounted on the header (S) or on the ceiling (D).

13 Measure the front of the centre of the door (VM) and mark on the door and header or ceiling.

14

THP

74mm 74mm
VM

∅ 10mm   65mm

15

HM

½   ½
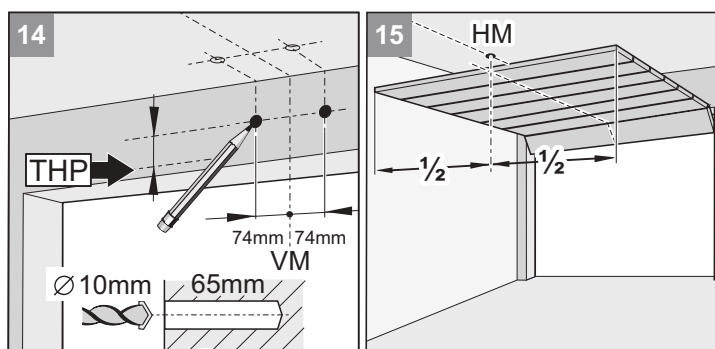
14 Make a mark 74 mm to the right and left of the centre of the door (VM) and fasten at the same height on the header or ceiling (as per picture 9). Drill two holes (∅ 10 x 65 mm deep).

NOTE!
Wear safety glasses when drilling.
Take the thickness of the ceiling into consideration, especially with regard to prefab concrete garages.

15 Open the door. Project the mark from the centre of the door to the ceiling (HM).
Close the door.

NOTE
Protect the control unit housing against damage.

16

2

4   5   3   1

A / C

4   5   3   1

B

S10
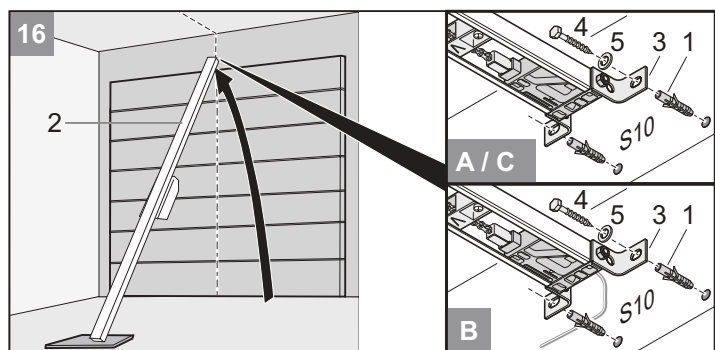
16 Insert anchor fittings (1). Lift the drive (2) at the front. Tightly fasten header fitting (3) at the front with two bolts (4) and U-washers (5).

NOTE!
Always ensure that the drive is installed parallel to the running rails of the door.

HM

17

0   1
B
600

18

HM   1
3
2
5
4
B
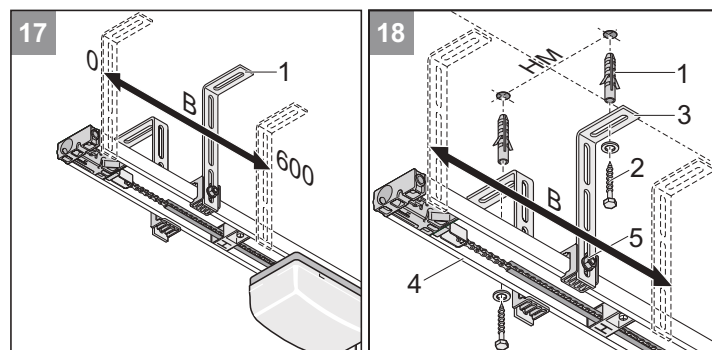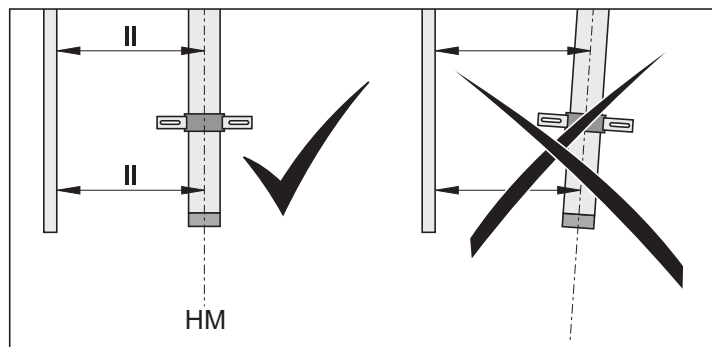
17 Lift up the drive.
Align the ceiling attachment (1). The position should be in the range of (W=0…600 mm).

18 Align the drive horizontally to the rear of the centre of the door (HM). Mark the drill holes. Drill two holes (∅ 10 x 65 mm deep).

NOTE!
Wear safety glasses when drilling. Take the thickness of the ceiling into consideration, especially with regard to prefab concrete garages.

Insert anchor fittings (1). Place U-washers (3) under the two bolts (2). Tighten bolts (2).
Vertically align C-rails (4) (e.g. with a spirit level). If required by this, reposition the bolts (5). Tighten the bolts (5).

Installation
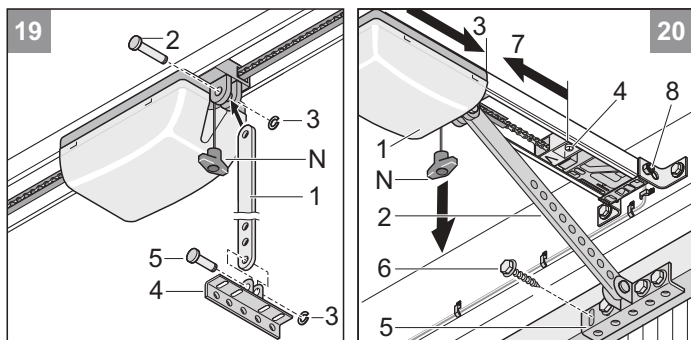
NOTE
Use bolts suitable for the material of the door.
Wear safety glasses when drilling.

19 Install push rod (1):
Insert long bolt (2) and slide on the clamp (3).
Fasten door bracket fitting (4) to the push rod (1) with short bolts (5) and slide on the clamp (3).

20 Pull once on the emergency unlocking cord (N). The carriage (1) is unlocked. Tighten screw (8) on header fitting.
Slide the carriage (1) all the way to the front (3) with the push rod (2).
If necessary, loosen guide idler (4).
Align door bracket fitting (5) with the centre of the door (VM) and mark 5 drill holes. Drill 5 holes (Ø 5 mm).

Insert 5 hex bolts (6) and tighten.
Loosen the guide idler (4) push it right up to the carriage (7).
Tighten the guide idler (4) screw.
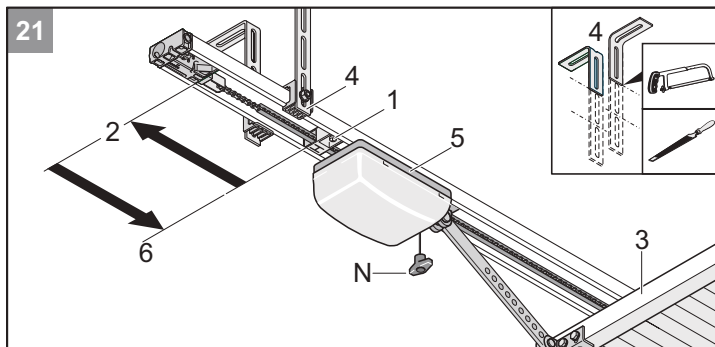
NOTE
Shorten the protruding ceiling suspension bracket (4), e.g. by cutting off and deburring.

21 Loosen the guide idler (1) and push it completely back to the stop position (2). Open the door (3) by hand.
Push guide idler (1) right up to the carriage (5). Tighten the screw on the guide idler (1).

Mount the control unit housing and connect

Selection of the installation variant

NOTE!
Control or regulating units in a fixed position must be mounted within sight of the door. They may not, however, be mounted close to moving parts and must be at least 1.5 m above the ground.

NOTE!
Cables should always be permanently installed. Install cables in such a manner that it is possible to extend the power supply lines for variant A (e.g. install with a slack loop if the cable is to be installed at a right angle to the C-rail).
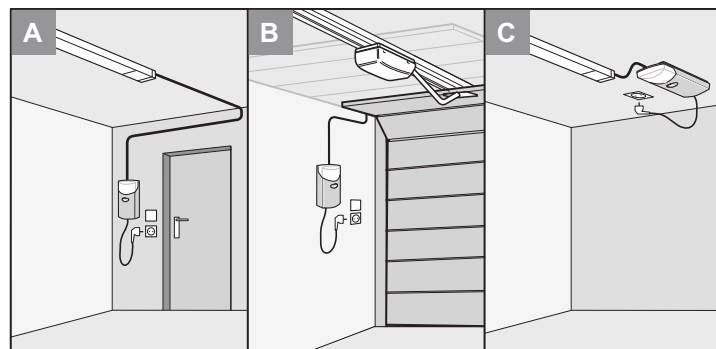
NOTE!
Danger due to electric current!
Touch the control unit (4) at the outside edge only!
Do not touch the electronic components!
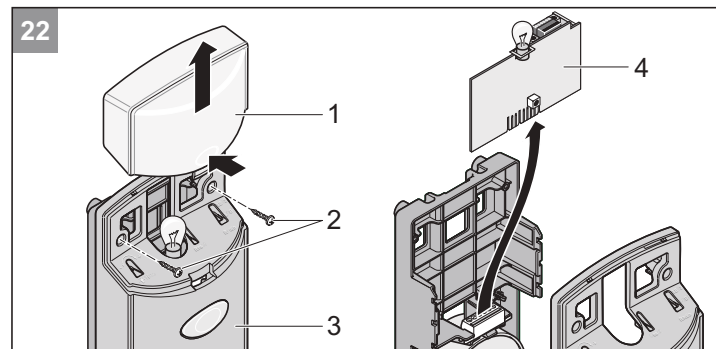
22 Take off the lamp cover (1). Unscrew the screws (2) and take off the cover (3), remove the control unit (4).

Installation

Installation variant A/B
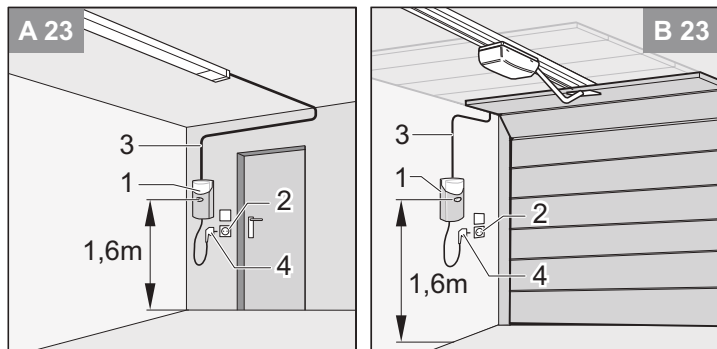
A 23

B 23

23 Choose a suitable location for the control unit housing (1) close to an existing wall socket (2). The minimum height above the ground is 1.6 m.

⚠ **NOTE!**
Bear in mind the installation position of the control unit housing (1). Ensure that the maximum length of the control cable (3) of 6900 mm is not exceeded.

23 Install the control cable (3) (24 V) to the control unit housing (1) in the garage. **Do not plug in the power mains plug (4) yet.**

24

25
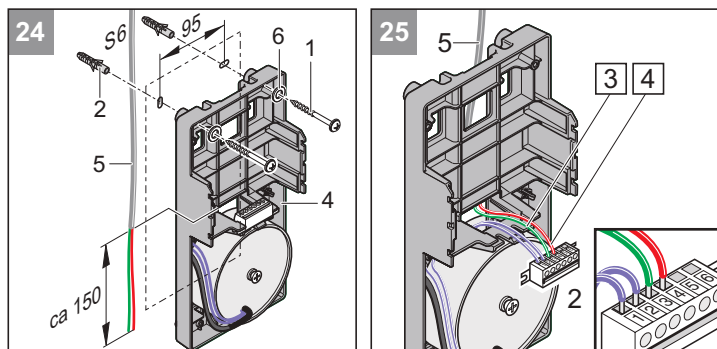
⚠ **NOTE!**
Do not drill into the power supply line to the wall socket. Do not plug in the power mains plug yet.

24 Drill two holes (Ø 6 x 40 mm deep). Insert anchor fittings (2) into the drill holes.

Affix the control unit housing with two screws (1) and two washers (6), align the unit properly and firmly tighten the screws.

25 Insert the end of the control cable (5) through the back of the control unit housing (4).

Connect the control cable (5): With hinged double doors, connect the wire marked with 3 (green) to terminal 3 and the wire marked with 4 (red) to terminal 4 of the direct connector (2). Shorten the control cable (5) if necessary.

26
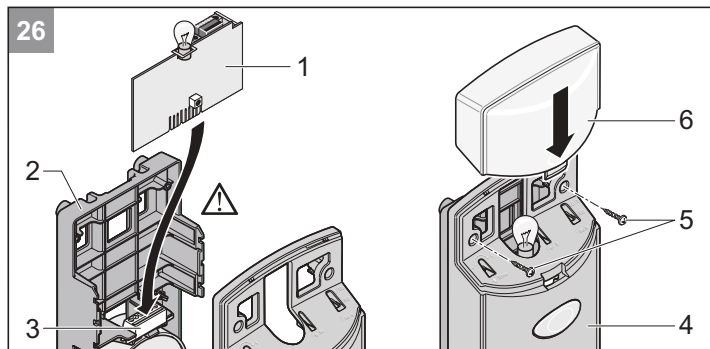
26 Put the control unit circuit board (1) into the base frame (2) and insert into the direct connector (3). Put the cover (4) in place and fasten with screws (5). Put the lamp cover (6) in place.

Installation variant C
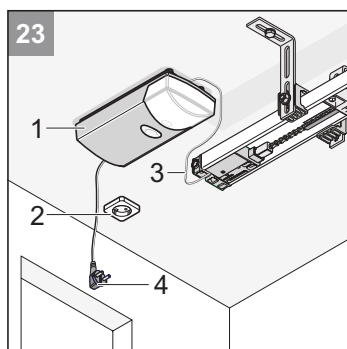
23

23 Choose a suitable location for the control unit housing (1) close to an existing wall socket (2).

⚠ **NOTE!**
Bear in mind the installation position of the control unit housing (1). Ensure that the maximum length of the control cable (3) of 5000 mm is not exceeded.

Install the control cable (3) (24 V) to the control unit housing (1) in the garage. **Do not plug in the power mains plug (4) yet.**

Installation
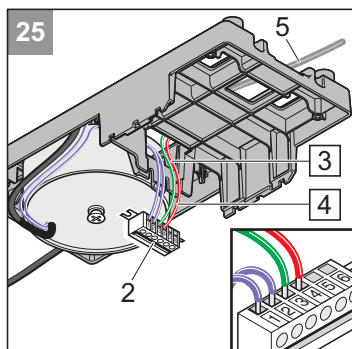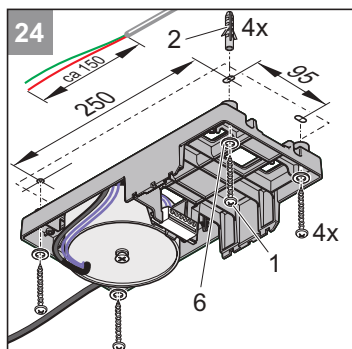
24

NOTE!
Do not drill into the power supply line to the wall socket.
Do not plug in the power mains plug (4) yet.

24 Drill four holes (Ø 6 x 40 mm deep). Insert anchor fittings (2) into the drill holes. Delivery scope: 2x anchor fittings, 2x screws and 2x washers.

Affix the control unit housing with four screws (1) and four washers (6), align the unit properly and firmly tighten the screws.

25 Insert the end of the control cable (5) through the back of the control unit housing (4).

Connect the control cable (5): With hinged double doors, connect the wire marked with 3 (green) to terminal 3 and the wire marked with 4 (red) to terminal 4 of the direct connector (2). Shorten the control cable (5) if necessary.
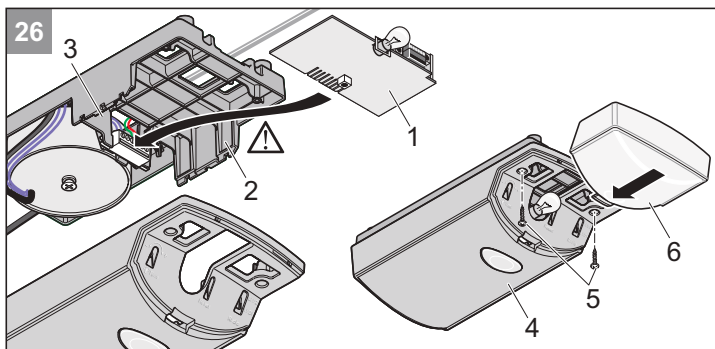
26 Put the control unit circuit board (1) into the base frame (2) and insert into the direct connector (3). Put the cover (4) in place and fasten with screws (5). Put the lamp cover (6) in place.

Install the wall socket.

NOTE!
Wall sockets may only be installed by a trained electrician.
Protect the wall socket with a circuit breaker (16 A, slow-blow).
Comply with all applicable regulations (e.g. VDE).
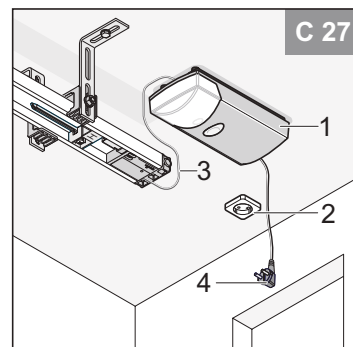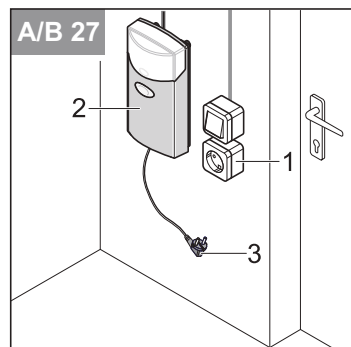
27 Install the socket (1) on the wall at a distance of approx. 0.5 m from the control unit housing (2) for variant A/B, or on the ceiling for variant C. Install and hook up the connecting line from the socket (1) to the electrical power mains.

NOTE!
Do not plug the power mains plug (3) into the socket yet.

Install and connect the additional button

NOTE!
Only use the connection for potential-free closer contacts.
External voltage can damage or destroy the control unit.

NOTE!
Danger due to electric current!
Touch the control unit (4) at the outside edge only!
Do not touch the electronic components!

NOTE!
Installation of an additional button is only necessary if an extra one is required apart from the integrated button.

NOTE
Never lay the cable of the key switch along a power line as this could cause interference in the control unit.

B 28

1,6m

7 6 3 4 5

C 28

1,6m

7 6 3 4 5
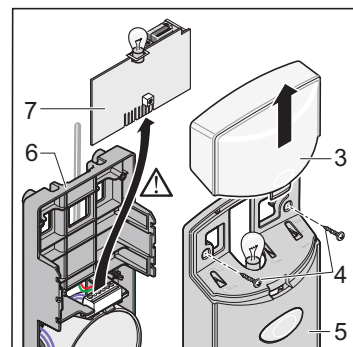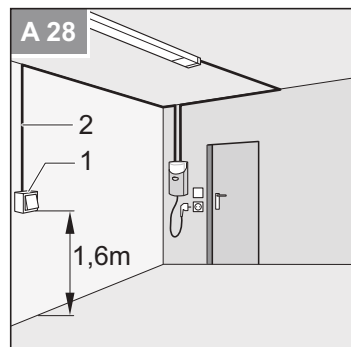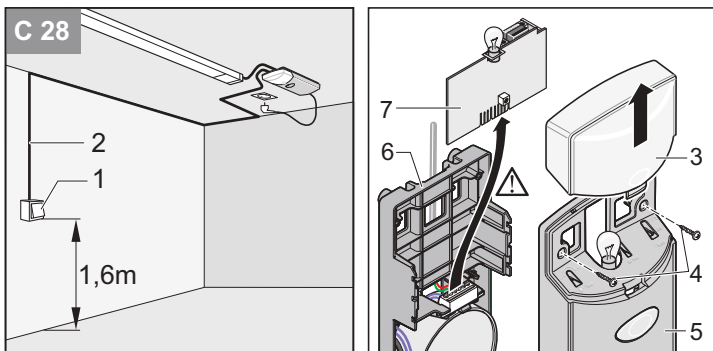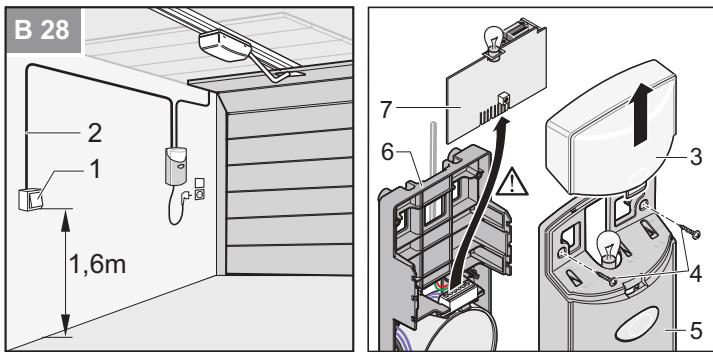
28 Install the key switch (1) in a suitable, easily accessible position in the garage. Minimum height above the ground: 1.5 m
Install the switch cable (2) in the garage. Connect the end of the cable to the button (1).

28 Take off the lamp cover (3). Unscrew the screws (4) and take off the cover (5). Pull the control unit circuit board (1) upwards out of the base frame (6).


29 3 5 6 4

30 1 2 6 5 3 4
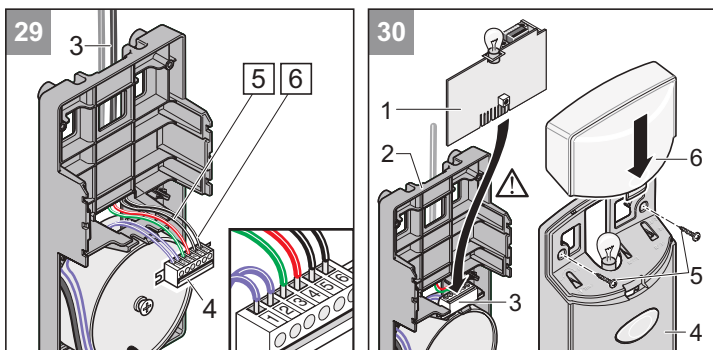
NOTE!
Connect any key switches (potential-free NO contact) that are present in parallel to terminals 5 + 6.

29 Connect the switch cable (3) to terminals 5 + 6 on the direct connector (4).

30 Put the control unit circuit board (1) into the base frame (2) and insert into the direct connector (3). Put the cover (4) in place and fasten with screws (5). Put the lamp cover (6) in place.

Safety instructions

⚠ **RISK OF INJURY!**
The force setting is relevant to safety and must be carried out by trained specialists with the utmost caution. If the adjustment of the spring unit is excessively high, people or animals could be injured and objects damaged.
Select a force adjustment that is as low as possible so that obstacles are detected quickly and safely.

⚠ **DANGER OF FALLING!**
Actuating the emergency release can lead to uncontrolled door movements if springs are weakened or broken, or if the door has not been optimally weight-balanced.

ℹ **NOTE!**
After installation of the drive the person responsible for the installation must complete an EC declaration of conformity for the door system in accordance with the Machinery Directive 2006/42/EC and apply the CE mark and a type plate.
This is also required for private installations, including if the drive is retrofitted to a manually-operated door.
This documentation and the Installation and Operating Instructions are retained by the operator.

Connecting safety and accessory parts

1. Connect all safety components and accessories before commissioning, because the control unit automatically detects and saves the connected safety and accessory parts.

2. If additional safety and accessory parts are connected later, reset the control unit (see "Operation/use - control unit reset") and then connect the safety and accessory parts.

   ⇒ When it is switched on for the first time, the control unit detects connected safety and accessory parts and the system can be operated again.

Adjust door end positions for CLOSE + OPEN

ℹ **NOTE!**
Make adjustments with the drive unlocked and move the door by hand.

The running path of the drive can be extended or shortened (V + H) by means of the guide idlers.

Check whether the door opens and closes completely. If this isn't the case, then the running path and/or the limit stops must be adjusted.
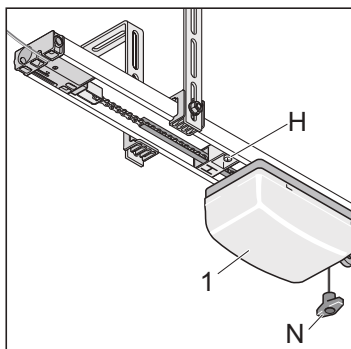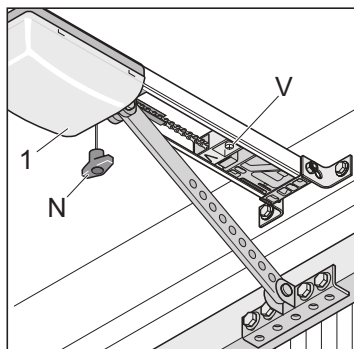
Door end position CLOSED

1. Unlock the carriage. Pull once on the emergency unlocking cord (N). It should be possible to manually push the carriage back and forth.

2. Close the door by hand.

3. Loosen the guide idler (V) and push it toward the carriage until it clicks.

   ⇒ Limit switch switches.

4. Tightly fasten the guide idler (V).

Door end position OPEN

1. Open the door by hand.

2. Loosen the guide idler (H) and push it toward the carriage until it clicks.

   ⇒ Limit switch switches.

3. Tightly fasten the guide idler (H).

4. Close the door by hand.

Lock the carriage (1).

1. Pull once on the emergency unlocking cord (N).

2. Manually push the carriage a bit until the chain wheel makes an audible click.

   ⇒ The chain wheel makes a loud click sound when it snaps into place.

Programming the drive

⚠ **RISK OF ENTRAPMENT!**
The forces are programmed exclusively in dead man operation. During this procedure there is no power cut-off, but only overload cut-off.
Persons and animals must never be within the range of motion of the door when dead man operation is active. Severe injuries may result!

⚠ **NOTE!**
After installation, it is imperative that you check the drive to ensure that it has been correctly adjusted and that it reverses upon contacting a 50 mm high object on the floor.

⚠ **NOTE!**
After installation, it is imperative to check whether the drive stops when it encounters a 20 kg load that attached to the middle of the bottom edge of door.

⚠ **NOTE!**
After installation, ensure that no parts of the door protrude into public footpaths or streets.

The control unit has an automatic force setting. The control unit automatically records the force required during the "OPEN" and "CLOSE" door movements and stores it when the end positions have been reached.

ℹ **NOTE!**
The drive cannot be programmed by radio, because for safety reasons dead man operation can only be controlled with the buttons on the housing or an external button.

ℹ **NOTE!**
Once programming has been started, it cannot be interrupted and restarted at a later time.
If programming is interrupted, it must be restarted from the beginning.

⚠ **NOTE!**
Before sticking in the power mains plug, ensure that the voltage of the power source corresponds with the voltage listed on the drive type plate.

1. Stick in the power mains plug.

   ⇒ Integrated lighting (2) flashes.
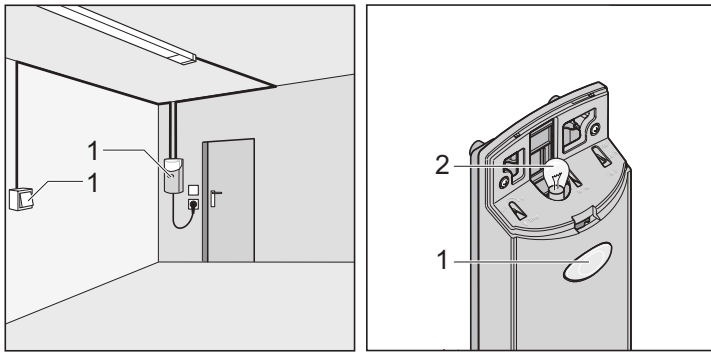
2. Reset the control unit. Reset the control unit depending on the drive type: see "Operation/use - control unit reset".

> ℹ️ **NOTE**
> **The first movement of the drive after switching on the mains power must always be door OPEN. If this isn't the case, then reverse the cables at terminals 3 + 4.**

3. Press and hold button (1) until the drive reaches the door OPEN end position.

    ⇒ The drive traverses to the end position at reduced speed (creep speed) and without soft running.

4. Press and hold button (1) until the drive reaches the door CLOSED end position.

    ⇒ The drive traverses to the end position at reduced speed (creep speed) and without soft running.

5. Press and hold button (1) until the drive reaches the door OPEN end position.

    ⇒ The drive traverses to the end position at the factory-set maximum speed and with soft running.

6. Press and hold button (1) until the drive reaches the door CLOSED end position.

    ⇒ The drive traverses to the end position at the factory-set maximum speed and with soft running.

7. If the integrated lighting and a connected warning light (2) come on, the forces have been imported and saved.

    ⇒ The drive has been successfully programmed!

Check door end positions OPEN + CLOSED

The running path of the drive can be extended or shortened by means of the guide idlers.

Check whether the door opens and closes completely. If this isn't the case, then the running path must be adjusted.
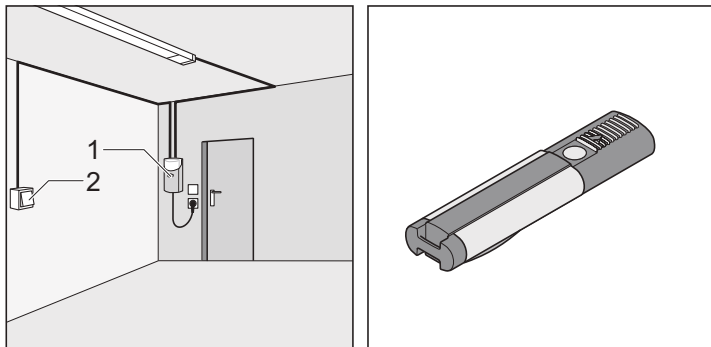
1. Voltage fluctuations e.g.: Actuate control device (e.g. button, hand-held transmitter) once.

    ⇒ The door opens to the until the door OPEN end position is reached.

2. Check whether the door reaches the desired end positions.

    ⇒ Adjust the end positions if necessary. See the chapter "Commissioning - adjusting the door Closed + Open end positions".

Checking the emergency release

> ℹ️ **NOTE!**
> **You can activate Backjump for sectional doors or doors with ceiling guides by means of DIP switch 6; this relieves the drive and door mechanisms. Simpler actuation of the emergency release.**
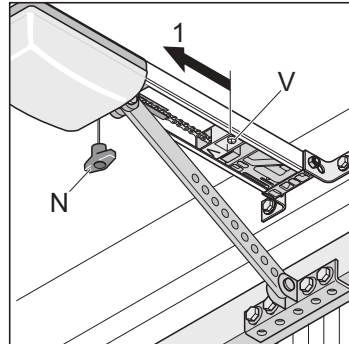
1. Close the door with the drive.

2. Pull once on the emergency release (N).
    If the emergency release cannot be actuated, loosen the end switch (V) and push it a bit in direction (1).

3. Open and close the door with the drive. Recheck the emergency release.

Check the force settings.

For every run of the door, the control unit compares the stored force values with the actual values required and automatically adjusts the stored values upon reaching the end position.

Check: See chapter "Care and maintenance / regular testing".

Programming the hand-held remote control

> ℹ️ **NOTE!**
> **Before programming the hand-held transmitter for the first time, always clear the radio receiver memory completely.**
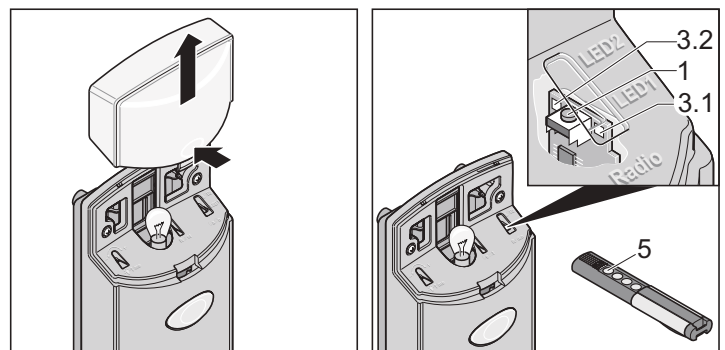
Deleting the radio receiver memory

1. Take off the lamp cover.

2. Press and hold the Learn button (1).

    ⇒ After 5 seconds, the LED flashes (3.1 or 3.2).

    ⇒ After another 10 seconds, the LED lights up steadily (3.1 or 3.2).

    ⇒ After a total of 25 seconds, all LEDs light up steadily (3.1 and 3.2).

3. Release the Learn button (1) - the deletion procedure is ended.

Initial operation

Programming the hand-held remote control

1. Press the Learn button (1).

   ▫ 1x for channel 1; the LED (3.1) lights up.
   ▫ 2x for channel 2; the LED (3.2) lights up.
   ⇒ If no code is sent within 10 seconds, the radio receiver switches to Normal mode.

2. Press the desire hand-held transmitter button (5) until the LED (3.1/3.2) extinguishes, depending upon which channel has been selected.

   ⇒ LED extinguishes - programming is finished.
   ⇒ The hand-held transmitter has transferred the radio code to the radio transmitter.

3. Repeat the above steps to programme additional hand-held transmitters. A maximum of 112 storage locations for each radio receiver are available.

Cancelling the Learn mode:

Press the Learn button (1) until no more LEDs are lit.

Mount the information sign
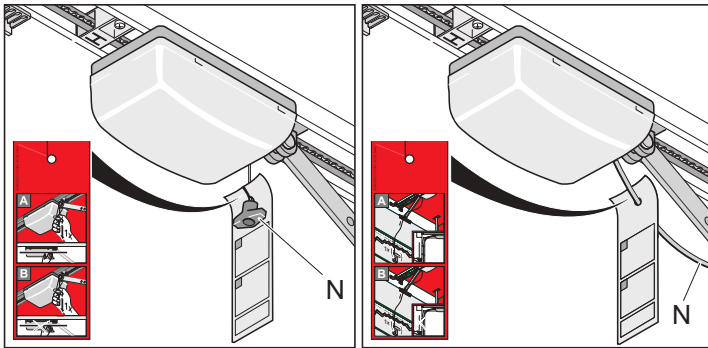
The information sign concerning the function of the emergency release; please hang on the emergency release cord.

Attaching the warning sign
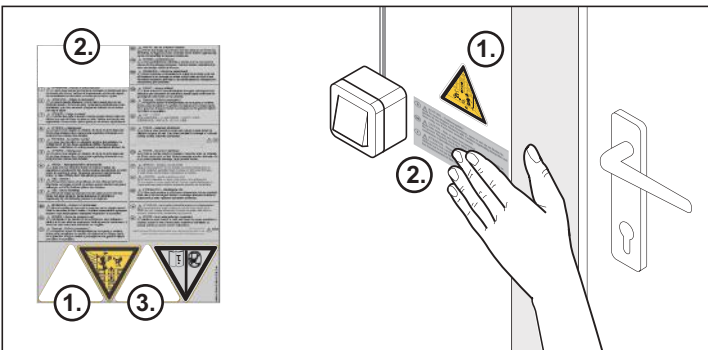
Please attach the warning signs (text + triangle sign) to a position where they are clearly visible, e.g. beside the pushbutton (warning triangle) and on the door wing (text + warning triangle).

> **NOTE**
> **See page 26 "Cleaning chains and drive unit rail".**

③ Place the sticker on a clearly visible location near the running rail.

Operation / Use

Safety instructions

➢ Continuously monitor the door while it is in motion and keep all persons away from it until the door is completely opened or closed.

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

➢ Only pass through the door only once it is completely open.

➢ There is a risk of persons being crushed or cut by the mechanism or sharp edges of the door.

Open door
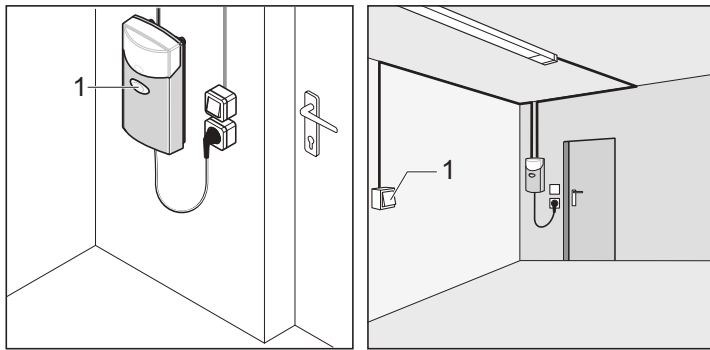
1. Press button (1) or hand-held transmitter button once to open the door.

2. Press the button (1) again for the door movement "OPEN".

   ⇒ The door stays in place (depending on DIP switch 7).

3. If the door has stopped, press the button (1) again.

   ⇒ The door closes (depending on DIP switch 7).

Close door

1. Press button (1) or hand-held transmitter button to close the door.

2. Press the button (1) again for the door movement "CLOSE".

   ⇒ The door stays in place (depending on DIP switch 7).

3. If the door has stopped, press the button (1) again.

   ⇒ The door opens (depending on DIP switch 7).

Pulse sequence of door movement

Set pulse sequence with DIP switch 7.
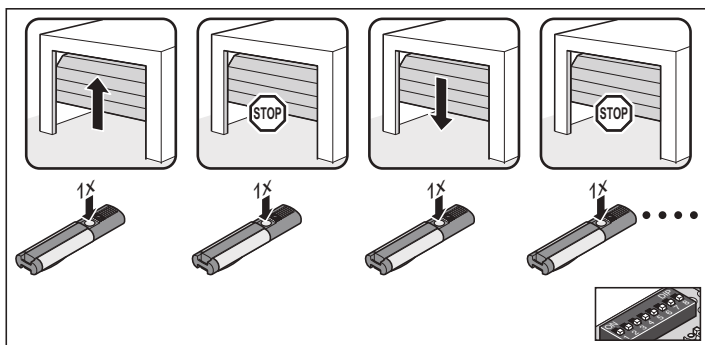
DIP 7 OFF, standard setting for all drives (see diagram):

• Open - Stop - Close - Stop - Open …

DIP 7 ON:

• Button 1: Open - Stop - Open - Stop - …

• Button 2: Open - Stop - Open - Stop - …

Emergency release

⚠ **CAUTION!**
The emergency release is only suitable for opening or closing the door in case of an emergency, e.g. a power outage or drive failure. E.g. a power outage or drive failure. It is not suitable for regularly opening or closing the door for other reasons. This could cause damage to the drive or door.

⚠ **DANGER OF FALLING!**
In case of an emergency release, the door could independently open or close itself due to a broken spring or incorrect setting of the weight balancing. The drive could be damaged or destroyed.

ℹ **NOTE**
It can be locked and released in any door position.
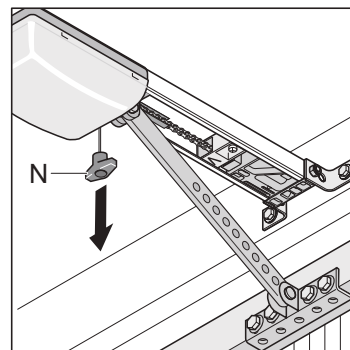
1. Pull once on the emergency unlocking cord (N).

   ⇒ The drive moves freely and the door can be moved manually.

2. Pull on the emergency unlocking cord (N) again.

   ⇒ The drive clicks into place and the door can only be moved mechanically.

ℹ **NOTE!**
If there is a slip door installed in the door but no slip door safeguard - install a slip door safeguard (see accessories instructions).
If the garage door does not have a built-in slip door or the garage does not have a separate entrance, you must install an emergency release - a release lock or Bowden cable - that can be operated from outside (see accessories instructions).

Control unit reset
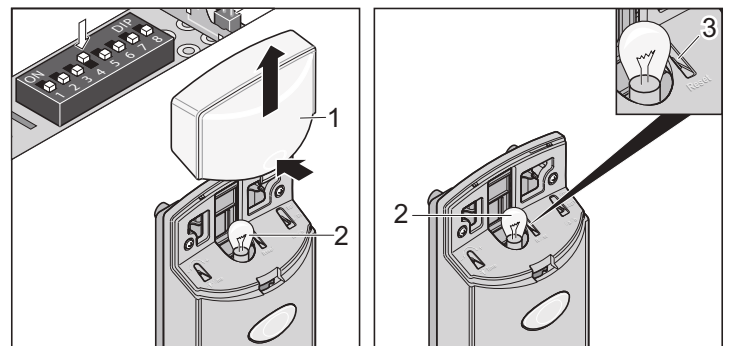
1. Take off the lamp cover (1).

2. Press and hold button (3) until the integrated lighting (2) lights.

   ⇒ Integrated lighting (2) on - forces deleted.

3. Release the button (3).

   ⇒ Integrated lighting (2) and a connected warning light flash.

   ⇒ The control unit reset has been completed.

Operation / Use

The integrated lighting behaves differently depending on the DIP switch:

- DIP switch 4 ON
  integrated lighting (2) lights up after the control unit reset

- DIP switch 4 OFF
  integrated lighting (2) flashes after the control unit reset

> **i** **NOTE!**
> **After a control unit reset, the drive must be reprogrammed.**

Intermediate stop

An intermediate stop, caused by actuating a button or hand-held remote control, immediately stops the drive. At the next command the drive moves in the opposite direction; see chapter "Operation/use - pulse sequence of door movement".

Safety stop 1 (power cut-off)

For a power cut-off, the drive stops or reverses. At the next command the drive moves in the opposite direction; see chapter "Operation/use - pulse sequence of door movement".

- Safety stop when closing the door - the door stops and reverses

- Safety stop when opening the door - the door stops and reverses

Safety stop 2 (safety input)

When the safety input is triggered (e.g. if someone has gone across the photo eyes), the drive stops, reverses or opens depending on the setting of the DIP switches.

Explanations of and setting options for the DIP switches can be found in the chapter "Functions and connections - obstacle detection".

Factory settings: DIP switches 1 and 3 OFF:

- Door reverses if safety input is triggered while the door is closing.

- If the safety input is activated while the door is opening, there is no reaction (the door continues to open).

Overload protection

If the drive is overloaded during opening or closing, the control unit detects it and stops the drive. After about 20 seconds or a control unit reset, the control unit releases the overload protection again.

The drive can now resume operation.

Operation after a power failure

The programmed force values are retained in the event of a power failure. The first movement of the drive after a power failure is always door OPEN. The first movement of the drive after a power failure is always to the end position at reduced speed (creep speed) and without soft running.

Radio receiver

> **i** **HOMELINK-COMPATIBLE**
> **If your vehicle is equipped with a HomeLink system (Version 7), our drive and radio receiver with 868.6 MHz are compatible. Another radio frequency (40.685 or 434.42 MHz) must be used with older HomeLink systems. For information see: "http://www.eurohomelink.com"**

Safety instructions

➢ The local safety regulations for the system must be complied with to ensure safe operation. Information is available from electrical utility companies, VDE (Association for Electrical, Electronic &Information Technologies) and professional associations.

➢ The operator is not protected against interference caused by other telecommunications equipment or devices (e.g. wireless systems which are being operated properly in the same frequency range).

➢ Replace the hand-held transmitter unit's batteries if you experience reception problems.

Display and button explanation
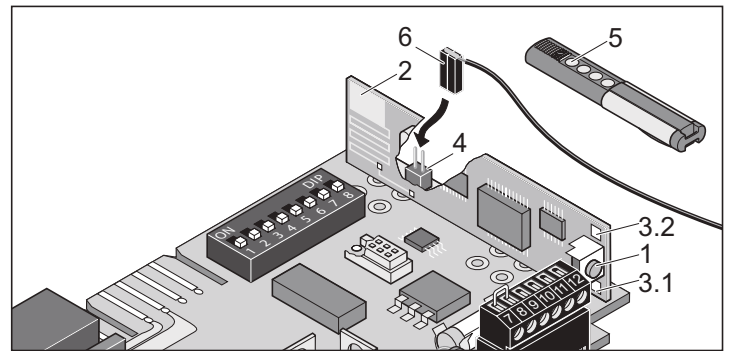
1	Learn button - sets the radio receiver in different operating modes:
	• Learn mode
	• Delete mode
	• Normal mode
2	Internal antenna
3	LEDs - show which channel has been selected.
	• 3.1 LED channel 1
	• 3.2 LED channel 2
4	Connection for an external antenna. An external antenna (6) can be used if the range with the internal antenna is insufficient.
5	Hand-held transmitter button
6	External antenna

Operation / Use

Programming the hand-held remote control

1. Press the Learn button (1).
   - ▫ 1x for channel 1; the LED (3.1) lights up.
   - ▫ 2x for channel 2; the LED (3.2) lights up.
   - ⇒ If no code is sent within 10 seconds, the radio receiver switches to Normal mode.

2. Press the desire hand-held transmitter button (5) until the LED (3.1/3.2) extinguishes, depending upon which channel has been selected.
   - ⇒ LED extinguishes - programming is finished.
   - ⇒ The hand-held transmitter has transferred the radio code to the radio transmitter.

3. Repeat the above steps to programme additional hand-held transmitters. A maximum of 112 storage locations for each radio receiver are available.

Cancelling the Learn mode:

Press the Learn button (1) until no more LEDs are lit.

Deleting a hand-held remote control button from the radio receiver

If a user moves to a group garage unit and wishes to use the hand-held transmitter with it, all radio codes in the transmitter must be deleted from the radio receiver.

For safety reasons every button and all button combinations must be deleted from the hand-held transmitter.

1. Press the Learn button (1) and keep it pressed for five seconds.
   - ⇒ An LED blinks (which one is irrelevant).

2. Release the Learn button (1).
   - ⇒ The radio receiver is in Deletion mode.

3. Press the hand-held transmitter button whose code should be deleted in the radio receiver.
   - ⇒ The LED extinguishes. The deletion procedure is ended.

4. Repeat the procedure for all buttons and button shortcuts.

Deleting a channel from the radio receiver

1. Press and hold the Learn button (1).
   - ▫ 1x for channel 1; the LED (3.1) lights up.
   - ▫ 2x for channel 2; the LED (3.2) lights up.
   - ⇒ After 5 seconds, the LED flashes (3.1 or 3.2).
   - ⇒ After another 10 seconds, the LED lights up steadily (3.1 or 3.2).

2. Release the Learn button (1).
   - ⇒ The deletion procedure is ended.

Deleting the radio receiver memory

If a hand-held transmitter is lost, all channels in the radio receiver must be deleted for security reasons! Afterwards, the radio receivers of all hand-held remote control must be reprogrammed.

1. Press and hold the Learn button (1).
   - ⇒ After 5 seconds, the LED flashes (3.1 or 3.2).
   - ⇒ After another 10 seconds, the LED lights up steadily (3.1 or 3.2).
   - ⇒ After a total of 25 seconds, all LEDs light up steadily (3.1 and 3.2).

2. Release the Learn button (1) - the deletion procedure is ended.

Connecting external antenna

If reception is inadequate with the radio receiver internal antenna, an external antenna can be connected; see chapter "Functions and connections - connecting an external antenna".

The antenna cable may not exert any mechanical force on the radio receiver; provide for stress relief.

Button 2

Button 2 is defined for opening and closing the door by means of two different buttons or channels (2-channel operation). This way the door can be opened with one button and closed with the other.

If this function is utilized, 2 buttons can be connected. For details on settings, see chapter "Functions and connections - connecting button 2 (DIP 2)" and chapter "Functions and connections - defined opening and closing (DIP 7)" as well as "Partial opening (DIP 8)".

Dead man operation

⚠ **RISK OF ENTRAPMENT!**
In dead man operation there is no power cut-off, but only overload cut-off.
Persons and animals must never be within the range of motion of the door when dead man operation is active. Severe injuries may result!

➢ In dead man operation the door can only be moved by continuous signals from buttons.

➢ Dead man operation is not available by radio.

➢ Dead man operation is activated:
   - ▫ After a control unit reset.
   - ▫ At initial commissioning.
   - ▫ If a photo eye is missing, defective or interrupted.

➢ Dead man operation is deactivated:
   - ▫ After programming the drive.
   - ▫ After release of the photo eyes.

1. To open or close the door, press and hold buttons until the drive reaches the door OPEN or door CLOSED end position.

Functions and connections

General information

➢ As delivered, DIP switches are set to the "OFF" position, all additional functions are switched off.

➢ Cable length max. 10 m (at the terminal): 9 + 10, 11 + 12

➢ Cable length max. 30 m (at the terminal): 5 + 6, 7 + 8

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

Obstacle detection (DIP 1, 2 + 3)

Drive behaviour when opening the door

If the door encounters an obstacle (power cut-off) or a safety input is interrupted (e.g. someone passes through the photo eye), the drive detects this and reacts according to the setting of DIP switch 1.

DIP switch 1

OFF   No reaction during an interruption of a safety input. A power cut-off stops the door and closes it slightly (reversed).

ON   The door stops if the safety input is interrupted. A power cut-off stops the door and closes it slightly (reversed).

Drive behaviour when closing the door

If the door encounters an obstacle (power cut-off) or a safety input is interrupted (e.g. someone passes through the photo eye), the drive detects this and reacts according to the setting of DIP switches 2 + 3.
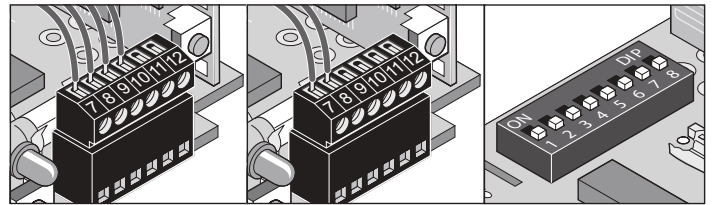
DIP switch 2: Function: safety connection

OFF   NC contact for photo eye.

ON   Button connection for button 2
(Prerequisite is partial opening via DIP switch 7 or defined opening and closing activated via DIP switch 8.)

DIP switch 3: behaviour of drive when the door closes

OFF   Drive stops and opens the stop slightly (reverses).

ON   The drive stops and opens the door completely.

Connect photo eyes (DIP 2)

➢ The programming process of the drive (commissioning) detects whether a 2-wire or 4-wire photo eye is connected. No additional settings are required.

➢ If photo eyes are missing or defective, the door can still be opened and closed with the buttons on the housing or an external button in dead man operation. For safety reasons, radio operation is not possible.

➢ Approved wiring cross-section: max. 0.75 mm².

➢ Use only photo eyes from SOMMER Antriebs- und Funktechnik GmbH.

1. If additional safety and accessory parts are connected later, reset the control unit (see "Operation/use - control unit reset") and then connect the safety and accessory parts.

    ⇒ When it is switched on for the first time, the control unit detects connected safety and accessory parts and the system can be operated again.

| Terminals 7 + 8 | Safety connection, only if DIP switch 2 "OFF". |
| Terminal 9 + 10 4-wire photo eyes only | Regulated DC 24 V, max. 0.1 A |

Terminal 9 + 10
4-wire photo eyes only
Regulated DC 24 V, max. 0.1 A
• Terminal 9: DC 24 V
• Terminal 10: earth

Settings: "Functions and connections - obstacle detection (DIP 1, 2 + 3)"

Connect button 2 (DIP 2)

➢ Approved wiring cross-section: max. 0.75 mm².

⚠ **ATTENTION**
Only use the connection for potential-free closer contacts. External voltage can damage or destroy the control unit.

Button 2 can be used as needed for the following functions:

• Defined opening and closing

• Partial opening

ℹ **ALWAYS OBSERVE!**
If button 2 is used, a safety connection is no longer available.
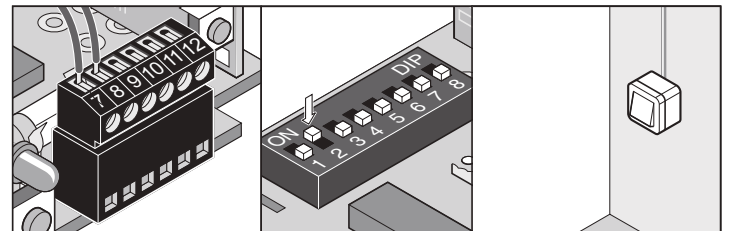
Terminals 7 + 8   Connection for button 2 only if **DIP switch 2 ON**

Connect warning light (DIP 4)

➢ Approved wiring cross-section: max. 0.75 mm².
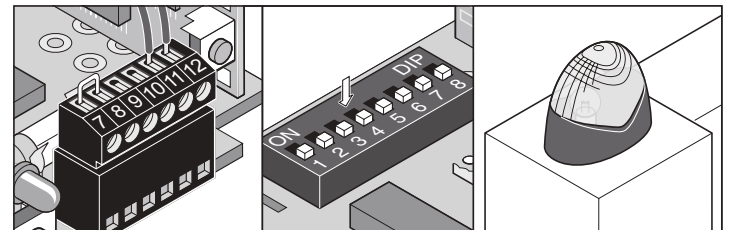
Terminals 11 + 12   Unregulated DC 24 V (max. 34 V), max. 1 A

DIP switch 4

OFF   Connected warning light flashes during door movement (control unit generates flashing)

ON   Door status display
• Lights up if the door is not closed
• Is off if the door is closed

Functions and connections

Direct connector (button 1)

➤ Approved wiring cross-section: max. 1.5 mm².
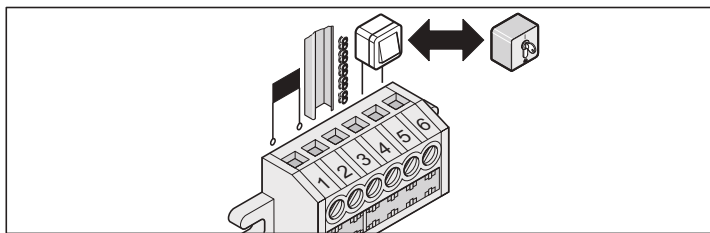
Terminals 1 + 2	Transformer
Terminal 3	C-rail
Terminal 4	Chain
Terminals 5 + 6	Button connection (button 1)

⚠ **ATTENTION**
Only use the connection (terminals 5 + 6) for potential-free closer contacts. External voltage can damage or destroy the control unit.

Prewarning time (DIP 5)

The warning light flashes for 3 seconds after the button or the hand-held transmitter is pressed before the drive starts (adjustable with TorMinal). The prewarning time is cancelled if the button or hand-held remote control is actuated again within this timeframe.

The prewarning time affects both the internal illumination and a connected warning light.

DIP switch 5

OFF	Deactivated
ON	Activated, internal lighting and warning light blink for 3 seconds

Backjump (DIP 6)

ⓘ **NOTE!**
For sectional or doors with ceiling guides set DIP switch 6 to ON. This takes the strain off the drive and door mechanism and simplifies actuation of the emergency release.

Serves to relieve the door and drive mechanical system. After reaching the door CLOSE end position, the drive moves in the direction of door OPEN, relieving the mechanical system.

DIP switch 6

OFF	Deactivated
ON	Activated

Defined opening and closing (DIP 7)

ⓘ **NOTE!**
With this function, only button 1/radio channel 1 opens the door and button 2/radio channel 2 closes the door.
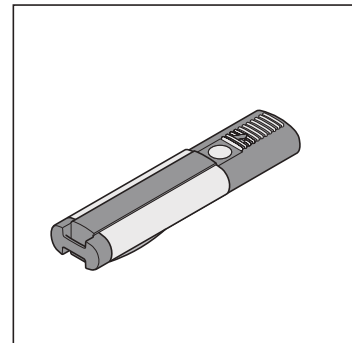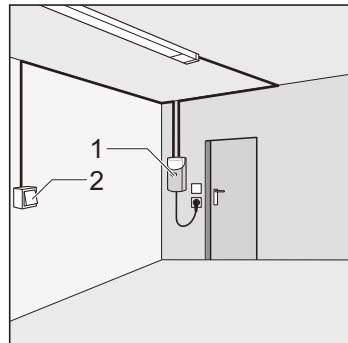
Button 1/channel 1 opens and button 2/channel 2 closes the door. This function can also be used with only 2 buttons or just with hand-held remote controls.

Requirement:

• DIP switch 8 "OFF".

• 2 buttons connected (DIP switch 2 ON) or 2 hand-held transmitter buttons programmed.
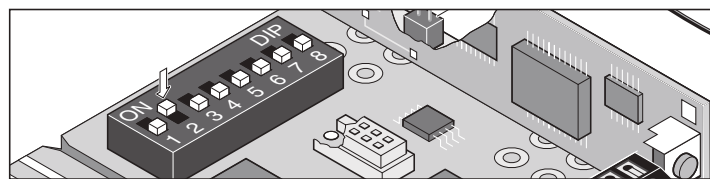
DIP switch 7

OFF	Deactivated Command sequence button 1 or radio channel 1: OPEN-STOP-CLOSE-STOP-OPEN-
ON	Activated Command sequence button 1 or radio channel 1: OPEN-STOP-OPEN-STOP-OPEN- Command sequence button 2 or radio channel 2: CLOSE-STOP-CLOSE-STOP-CLOSE-

Functions and connections

Partial opening (DIP 8)

ℹ️ **NOTE!**
After a power reset (e.g. power failure) the door must reach the "door CLOSED" end position before partial opening is activated again.

Depending on the setting, this function partially opens the door.

Use examples: airing out the garage, opening the side-sectional door for personal access, and many others. The partial opening can be used with two buttons or with hand-held transmitters.
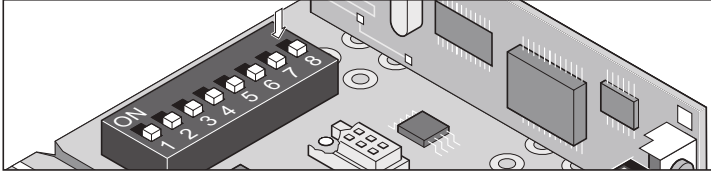
DIP switch 8

OFF   Deactivated Button 2 or radio channel 2 without function.

ON   Activated Defined opening and closing (DIP switch 7) non-functional.

Partial opening with 2 buttons

Install additional button and connect to terminals 7 + 8 as button 2. Refer to chapter "Functions and connections - connecting button 2 (DIP 2)".

- **Button 1** always opens the door completely.
  If the door is partially opened with button 2, pressing button 1 opens the door completely.

- **Button 2** only opens the door partially if it is closed.
  If the door is to be completely opened with button 1 or partially opened with button 2, pressing button 2 again closes the door.

Procedure

1. Close door.

2. Set DIP switch 8 to "ON".
   ⇒ Partial opening activated.
   ⇒ Always leave DIP switch 8 set to ON, the OFF setting immediately deletes the set partial opening.

3. Press button 2 (open door from CLOSED end position).
   ⇒ Door opens until button 2 is pressed again or the door reaches the "door OPEN" end position.

4. Press button 2 once the desired position is reached.

5. Close door with button 2.

ℹ️ **NOTE!**
Partial opening saved and pressing button 2 opens the door to the saved position. Set DIP switch 8 to OFF to delete the partial opening setting.

Partial opening with the hand-held remote control (2-channel operation)

Programming the 2 buttons of the remote control, e.g. button 1 on radio channel 1 and button 2 on radio channel 2.

- Radio channel 1 always has the same function as button 1.

- Radio channel 2 always has the same function as button 2.

Automatic closing (DIP 7 + 8)

⚠️ **RISK OF INJURY DURING AUTOMATIC CLOSING!**
Automatically closing doors may injure persons within the range of movement of the door when it is closing. Secure the closing area with photo eyes before activating automatic closing.
This is a legal requirement.

➢ Operation with 2 buttons and automatic closing is not possible. Defined opening and closing (DIP switch 7 = ON) and partial opening (DIP switch 8 = ON) is possible with radio only.

➢ Operation with automatic closing must comply with EN 12453.

➢ The control unit does not respond to continuous signals in the door OPEN direction. A time clock must be connected via the photo eyes.

Requirement:

- DIP switch 2 "OFF"

- Photo eyes connected

Types of automatic closing

Features of semi-automatic closing

- The door can be opened and closed by a command from a button of hand-held transmitter.

- If the door is open or partially open, it closes on expiration of the stay open time.

- If a command is sent while the door is closing automatically, it opens completely and the stay open time is reset.

- A command sent while the door is open or partially open opens or closes the door immediately.

- If the photo eyes are interrupted during opening and with the door open or partially open the stay open time is reduced by 5 seconds.

- If the photo eyes are interrupted during closing, the door opens completely regardless of the setting of DIP switch 3. The stay open time is reset from the start.

- If there is a power cut-off during closing, the door opens completely regardless of the setting of DIP switch 3. The stay open time is **not** reset.

Features of fully automatic closing

- If DIP switch 7 is OFF: The door can **only** open in response to a.command from a button or hand-held transmitter.
  The door **cannot** be stopped by a command from a button or hand-held transmitter while opening.

ℹ️ **NOTE!**
Set DIP switch 7 to ON only in exceptional cases.

- If DIP switch 7 is ON: The door opens in response to a.command from a button or hand-held transmitter.
  The door can also be closed before expiration of the stay open time by a command via radio channel 2 of the hand-held transmitter.

- If the door is open or partially open, it closes on expiration of the stay open time.

- If a command is sent again while the door is closing automatically, it opens completely and the stay open time is reset.

- A command sent when the door is open or partially open resets the stay open time.

- A command to partially open via radio channel 2 - during which the door is in the partially open position - resets the stay open time.

- If the photo eyes are interrupted during opening and with the door open or partially open the stay open time is reduced by 5 seconds.

- If the photo eyes are interrupted during closing, the door opens completely regardless of the setting of DIP switch 3. The stay open time starts again.

- If there is a power cut-off during closing, the door opens completely regardless of the setting of DIP switch 3. The stay open time does **not** start again.

Setting automatic closing with TorMinal

ℹ️ NOTE!
The factory setting is semi-automatic closing. Semi-automatic or fully automatic closing can be activated and the stay open time can be set only with the TorMinal from SOMMER Antriebs- und Funktechnik GmbH.

To activate semi-automatic or automatic closing, use the TorMinal to set the stay open time and the control parameters listed below.

Memory space MEM	Setting range VAL	Functional description	Factory setting
028	0 -200	Stay open time for semi-automatic and automatic closing. Settable in increments of 1 second	0
037	0 -58	• Close 5 seconds after photo eyes event = 2 • Semi-automatic operation active / fully automatic closing deactivated = 8 • Automatic closing from "Open" position active = 16 • Automatic closing from "Partially Open" position active = 32	58

Example of stay open time

Required stay open time for semi-automatic and automatic closing 30 seconds:

1. Enter and save value 30 at memory position 028 with TorMinal.

Example for activating fully automatic operation

Functional description	Value
Door closes 5 seconds after photo eyes event.	2
Semi-automatic operation active / fully automatic closing deactivated	0
Automatic closing from "Open" position active	16
Automatic closing from "Partially Open" position active	32
Result	**50**

1. Enter and save value 50 at memory position 037 with TorMinal.

Connecting external antenna

Delivery status: free
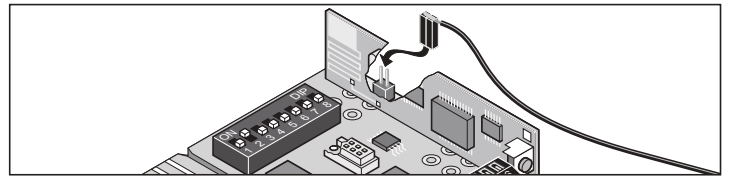
TorMinal interface

See TorMinal operating manual.

Carriage circuit board
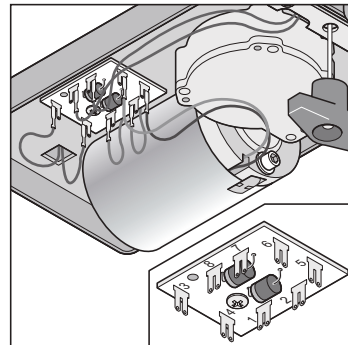
Terminal	1	Chain current draw
Terminal	2	Rail current draw
Terminal	3 + 4	Door OPEN end switch
Terminal	5	Motor cable
Terminal	6	Motor cable
Terminal	7 + 8	Door CLOSE end switch

Maintenance and care
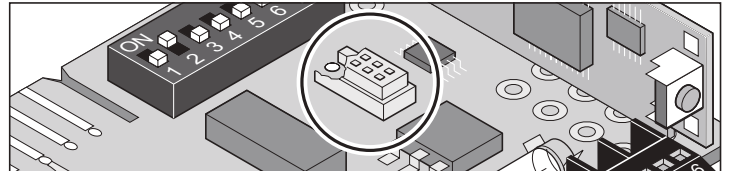
Important information

⚠ **DANGER!**
Never use a hose or high-pressure cleaner to spray down the drive or the control unit housing.

➢ Always disconnect the mains plug prior to working on the drive mechanism.

➢ Do not use acids or alkalis for cleaning.

➢ Wipe drive clean with a dry cloth as required.

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

➢ There is a risk of persons being crushed or cut by the mechanism or sharp edges of the door.

➢ Check the mounting screws and bolts of the drive for tightness and tighten if necessary.

➢ Check the door according to the manufacturer's manual.

Cleaning chain and drive unit rail
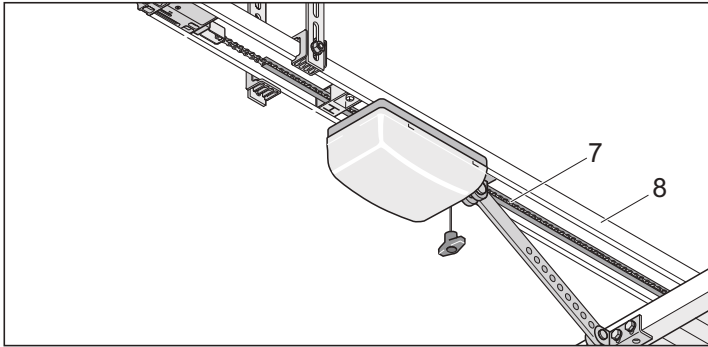
1. Chain (7) or the drive unit rail (8) is very dirty - cleanse it with a clean cloth.

2. If necessary, lubricate the chain (7) and drive unit rail (8) with a "conductive" oil. Do not use any grease!

ℹ **NOTE!**
Specified types of oil: Ballistol, WD40 contact spray

Replacing light bulbs

1. Unplug the mains plug from the socket.
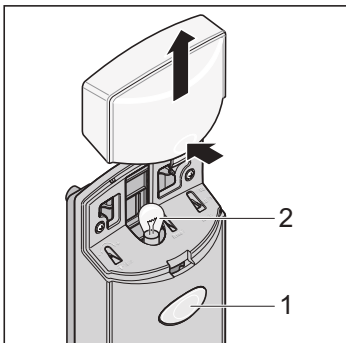
2. Take off the lamp cover (1).

3. Unscrew the light bulb (2) by turning it counterclockwise and removing it.

4. Insert new bulb (32 V, 18 W, BA 15 s) and turn clockwise until it is locked.

5. Put the lamp cover (1) in place.

Replacing fuse (warning light terminal)

1. Unplug the mains plug from the socket.
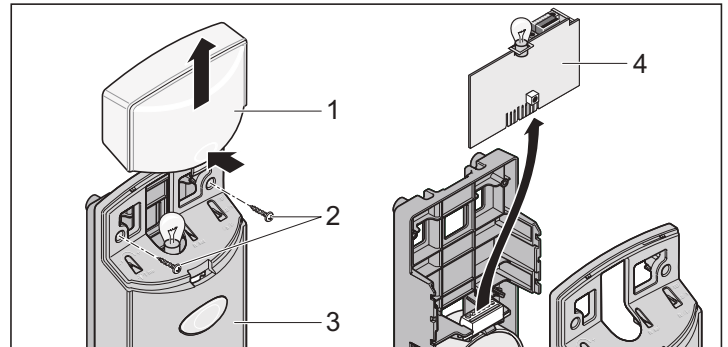
2. Take off the lamp cover (1). Unscrew the screws (2) and take off the cover (3).

3. Pull the control unit circuit board (2) upwards out of the base frame (4).

4. Replace defective fuse.
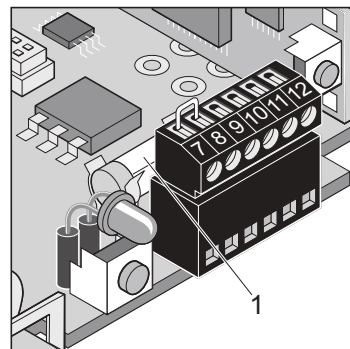
5. Fuse for warning light terminal, terminal 11 + 12. 1 A fast-acting fuse.
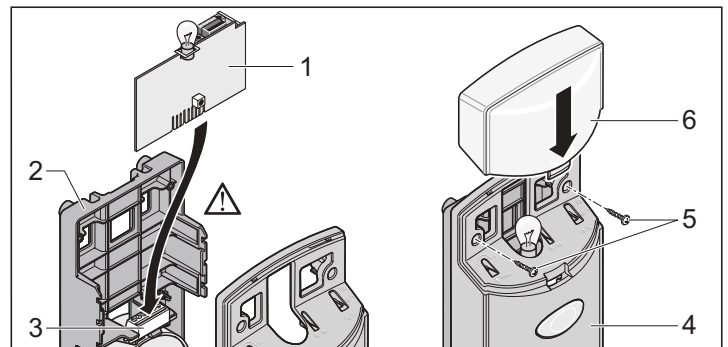
6. Put the control unit circuit board (1) into the base frame (2) and insert into the direct connector (3).

7. Put the cover (4) in place and fasten with screws (5). Put on the lamp cover (6) and lock in place.

Maintenance and care

Regular testing

Regularly check that the safety devices function correctly; no less than every six months. See EN 12453:2000.

Test the function of pressure-sensitive safety devices (e.g. safety contact strip) every 4 weeks.
see EN 60335-2-95:11-2005.
In particular, check whether the drive reverses correctly when it encounters a 50 mm high obstacle lying on the ground. Correctly adjust if necessary and recheck; an incorrect setting presents a hazard.

Testing	Behaviour	yes or no	Possible cause	Remedy
Force cut-off Try to stop the door wing while it is closing with a 50 mm high object.	Drive reverses when it encounters the object	Yes	• The force cut-off works without limitations.	• Leave all settings as they are.
		No	• Door incorrectly adjusted.	• Adjust door, call a technician.
Emergency release Proceed as described in the chapter "Operation/use - emergency release".	The emergency release can be easily actuated (pull once and the drive releases).	Yes	• Everything is OK.	
		No	• Drive forces the door closed. Door and drive mechanism is stressed. • Emergency release defective. • Door jams.	• Adjust door CLOSE end switch or switch on Backjump (DIP switch 6 ON). • Repair emergency release. • Check door, see door owner's manual.
Safety contact strip, if present. Open and close the door and actuate the strip at the same time.	Adjust the behaviour of the door, as set with DIP switch 1, 2 or 3.	Yes	• All OK!	
		No	• Cable breakage, terminal loose. • DIP switch adjusted. • Strip defective.	• Check the wiring; retighten the terminals. • Setting the DIP switches. • Decommission the system and lock it to prevent reactivation. Then, contact customer service.
Photo eye, if present Open and close the door while interrupting the photo eye.	Adjust the behaviour of the door, as set with DIP switch 1, 2 or 3.	Yes	• Everything is OK.	
		No	• Cable breakage, terminal loose. • DIP switch adjusted. • Photo eye dirty. • Photo eye maladjusted (holder bent). • Photo eye defective.	• Check the wiring; retighten the terminals. • Setting the DIP switches. • Clean the photo eyes. • Adjusting photo eyes. • Decommission the system and lock it to prevent reactivation. Then, contact customer service.

Miscellaneous

Disassembly

> **i** **IMPORTANT!**
> **Observe safety information.**

The sequence is identical to that described in the "Installation" section, but in reverse order. Ignore the setting instructions.

Disposal

Observe applicable national regulations.

Warranty and customer service

The warranty complies with statutory requirements. The contact person for warranties is the specialist retailer.

The warranty is only valid in the country in which the drive was purchased.

Batteries, fuses and bulbs are excluded from the warranty.

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

We have tried to make the Installation and Operating Instructions 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:

Fax.:   0049 / 7021 / 8001-403

email: doku@sommer.eu

Tips on troubleshooting

i **HOMELINK-COMPATIBLE**
If your vehicle is equipped with a HomeLink system (Version 7), our drive and radio receiver with 868.6 MHz are compatible. Another radio frequency (40.685 or 434.42 MHz) must be used with older HomeLink systems. Information can be found under "http://www.eurohomelink.com" or contact your specialist dealer.

i **IMPORTANT!**
Many malfunctions can be resolved by a control unit reset (delete force values), then reprogram the drive.

If you cannot find the malfunction in the table and eliminate it, take the following actions:

• Perform a control unit reset (delete force values) on the control unit.

• Disconnect connected accessories (e.g. photo eyes) and reconnect the jumper for a safety connection.

• Set all DIP switches to the factory setting.

• If settings have been changed using TorMinal, perform the control unit reset with TorMinal.

• Check all connections on the direct connectors and terminal strip and retighten if necessary.

Drive malfunctions can be corrected according to the following table. If this does not help, contact your specialist dealer for assistance or consult our website at http://www.sommer.eu.

Malfunction	Possible causes	Corrective action
Lighting flashes.	Drive has not been programmed, no force values stored.	Program the drive. See chapter "Commissioning - programming the drive".
Drive does not function and lights do not light up.	No power.	Stick in the power mains plug.
	No control unit installed.	Install the control unit.
	Circuit breaker for garage circuit has tripped.	Replace circuit breaker, check circuit with a different consumer device (e.g. electric drill).
No lights when opening and closing the door.	Defective bulb.	Replace light bulb. See chapter "Care and maintenance - light bulb replacement".
Drive doesn't function.	Control unit incorrectly installed.	Plug the control unit correctly into the connector.
Drive does not function when operated with a hand-held remote control.	Battery in the hand-held transmitter is flat.	Replace battery with new one.
	The hand-held remote control has not been programmed for the radio receiver.	Program hand-held transmitter.
	Incorrect radio frequency.	Check the frequency (868/434 MHz, without external antenna).
	The command is constantly pending because the button of the hand-held remote control is stuck.	Release the key or exchange the hand-held transmitter.
	Safety input tripped (e.g. photo eyes defective).	• Remove obstacle from photo eyes. • Repair photo eyes. • Direct connector not properly plugged in.
Drive does not function when button-operated.	Button not connected or defective.	Connect button or replace it.
Door stops while closing, moves about 10 cm in the opposite direction, and stops.	Actuation of the force cut-off due to an obstacle.	Remove obstacle, open door completely.
	Incorrect force values programmed or force tolerance set too low.	Delete force values and reprogram.
	Guide idler incorrectly adjusted.	Readjust the guide idler, see the chapter "Commissioning - adjusting the door Closed + Open end positions".
	Door incorrectly adjusted or defective (e.g. spring shaft).	Have door adjusted or repaired by a technician.
	Drive has not been programmed, no force values stored.	Program the drive. See chapter "Commissioning - programming the drive".
Door stops while opening, moves about 10 cm in the opposite direction and stops.	Actuation of the force cut-off due to an obstacle.	Remove obstacle. Move door completely to "door Close" end position using button.
	Incorrect force values programmed or force tolerance set too low.	Delete force values and reprogram.
	Guide idler incorrectly adjusted.	Readjust the guide idler, see the chapter "Commissioning - adjusting the door Closed + Open end positions".
Door stops while opening.	Connected photo eye interrupted and DIP switch 1 is ON.	Eliminate interruption or turn DIP switch 2 to OFF.

Troubleshooting

Malfunction	Possible causes	Corrective action
Drive does not close the door.	Photo eyes power supply interrupted.	• Check connection. • Replace fuse.
	Drive has been disconnected from mains power supply.	The drive always opens the door completely upon first command after the power supply has been restored.
Drive opens the door and then does not respond to a command from the remote control or the button.	Safety input tripped (e.g. photo eyes defective).	• Remove obstacle from photo eyes. • Repair photo eyes. • Direct connector not properly plugged in.
	"Door CLOSE" end switch in the carriage defective.	Replace end switch.
	Automatic closing function active.	• Wait until the automatic closing function closes the door. • Deactivate automatic closing function (refer to chapter "Functions and connections - automatic closing function (DIP 7 + 8)". • Set stay open time of automatic closing function (see TorMinal manual).
Drive closes the door and then does not respond to a command from the hand-held remote control or the button.	"Door OPEN" end switch in the carriage defective.	Replace end switch.
No light at connected warning light.	Defective fuse.	Replace fuse; see chapter "Maintenance and care - replace fuse (warning light connection)".
	Defective bulb.	Replace light bulb of warning light.
Speed varies during opening and closing.	Drive starts slowly and then accelerates.	Soft running, completely normal.
	Chain rail dirty.	Clean the rail and lubricate again; see chapter "Care and maintenance - cleaning chains and drive unit rail".
	Chain rail lubricated with incorrect oil type.	Clean the rail and lubricate again; see chapter "Care and maintenance - cleaning chains and drive unit rail".
	Chain tightened incorrectly.	Tighten the chain; see chapter "Installation - pre-installation of installation variant".
Drive does not end programming procedure.	End positions incorrectly adjusted.	Adjusted end positions; see chapter "Commissioning - adjusting the door Closed + Open end positions".
Door cannot be operated unless the user presses and holds the buttons, e.g. key switches. Drive is in dead man operation.	Safety input tripped (e.g. photo eyes defective).	• Remove obstacle from photo eyes. • Repair photo eyes. • Direct connector not properly plugged in.
	Drive has not been programmed, no force values stored.	Program the drive. See chapter "Commissioning - programming the drive".
Radio receiver only! All LEDs flashing.	All memory locations occupied, max. 112.	• Delete any hand-held remote controls that are no longer needed. • Install additional radio receivers.
LED 3.1 or 3.2 lights up constantly.	The radio signal is being received; the button of a hand-held remote control might be defective or an external signal is present.	• Remove the battery from the hand-held transmitter. • Wait until the external signal falls off.
LED 3.1 or 3.2 lights up.	The radio receiver is in the Learning mode and awaiting a radio code from a hand-held remote control.	Press the desired hand-held transmitter button.