

## RUNner

GB

Installation and Operating Instructions

1 - 32



Serial number

 **HomeLink®**  
**compatible**



# Table of contents

<b>General Information .....</b>	<b>3</b>	<b>Operation.....</b>	<b>24</b>
Symbols .....	3	Safety instructions.....	24
Safety instructions.....	3	Opening the gate.....	24
Intended use .....	4	Closing the gate .....	24
Permitted gate wing dimensions .....	4	Partial opening .....	24
Technical data .....	4	Automatic closing function .....	25
Dimensions .....	4	Pre-warning time .....	25
<b>General Information .....</b>	<b>5</b>	Dead man button mode.....	25
<b>Installation preparations.....</b>	<b>6</b>	Obstruction detection .....	26
Safety instructions.....	6	Standby mode .....	26
Tools required.....	6	Overload protection.....	26
Personal protective equipment.....	6	Operation after a power failure.....	26
Scope of supply.....	6	Emergency release .....	27
Tips for installation .....	7	<b>Maintenance and care .....</b>	<b>28</b>
General preparations .....	7	Safety instructions.....	28
<b>Installation.....</b>	<b>8</b>	Regular testing .....	28
Safety instructions.....	8	<b>Troubleshooting .....</b>	<b>29</b>
Foundation .....	8	Description of the flash sequences of the LEDs .....	29
Installation on ground.....	8	<b>Disassembly and disposal.....</b>	<b>30</b>
Installing the racks .....	9	Disassembly.....	30
Adjusting the backlash .....	10	Disposal .....	30
<b>Connection .....</b>	<b>11</b>	<b>Settings .....</b>	<b>31</b>
Safety instructions.....	12	<b>Connection diagram.....</b>	<b>32</b>
Installation location.....	12		
Mains connection .....	13		
Connecting safety devices .....	13		
Connecting button .....	15		
Optional connections.....	16		
Radio-based safety contact strip.....	16		
Battery pack .....	16		
External antenna .....	17		
<b>Initial operation.....</b>	<b>18</b>		
Safety instructions.....	18		
Connecting the power supply.....	18		
Installing limit switches.....	19		
Resetting the control unit .....	20		
Teach-in run .....	21		
Safety instructions.....	21		
Radio receiver .....	21		
Explanation of radio channels.....	21		
Pulse sequence of gate movements.....	22		
Deleting the radio receiver memory .....	22		
Deleting a channel from the radio receiver .....	22		
Programming the handheld remote control.....	22		
Deleting the handheld transmitter from the radio receiver .....	22		
Teach-in by radio (HFL).....	23		
Concluding commissioning .....	23		

# General Information

## Symbols



### CAUTION SYMBOL:

#### Important safety instructions!

To ensure the safety of personnel it is important to follow all the instructions. Save these instructions!



### IMPORTANT INFORMATION SYMBOL:

Information, useful advice!

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

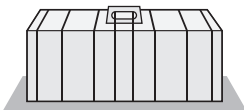
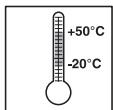
## Safety instructions

### General

- These installation and operating instructions must be read, understood and complied with by persons who install, use or perform maintenance on the drive.
- Keep this installation and operating manual accessible at all times.
- Installation, connection and initial commissioning of the drive may only be carried out by technically knowledgeable persons.
- All electrical leads must be laid immovably and secured against displacement.
- Install the drive on correctly aligned gates only. An improperly aligned gate 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.
- Always ensure compliance with accident prevention regulations and current standards in each respective country.
- Take heed of and comply with the 'ASR A1.7 Technical Regulations for Workplaces' of the committee for workplaces (ASTA). (Applies to operators in Germany)
- Before any work on the drive disconnect it from the power supply and lock it to prevent reconnection. This also includes disconnection of a battery, if present.
- Only use OEM (Original Equipment Manufacturer) spare parts, accessories and mounting material.

### Storage

- The drive must be stored in an enclosed, dry area at a room temperature of -20 - +50.00 °C.
- The drive should be stored horizontally.



## Operation

- The drive must be operated only if a non-hazardous force tolerance is set or safety is guaranteed by other safety equipment. The force tolerance must be set low enough to eliminate any danger of injury by the closing force (see 'Maintenance and care').
- A rubber strip must be attached as a closing edge safety device.
- Never reach into an operating gate or moving parts.
- Do not drive through the gate until it is fully open.
- There is danger due to the crushing and shearing points presented by the mechanism and the closing edges of the gate.
- For automatic closing the main and auxiliary closing edges must be secured in accordance with the applicable directives and standards.
- Open and close the gate only if there are no children, persons, animals or objects within its area of movement.
- Regularly check the safety and protection functions and repair faults when they are detected. See 'Care and maintenance'.

## 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 informed that the remote control of equipment that presents a risk of accident may take place, if at all, only when there is direct visual contact with the equipment.
- Radio remote control may be used only if the gate's movement can be viewed and if no persons or objects are in the area of movement.
- Store the handheld 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 handheld transmitter in areas with sensitive radio communications or systems (e.g. airports, hospitals).

## Rating plate

- The type plate is attached to the inside of the base frame/housing. The type plate shows the exact type drawing and the date of manufacture (month/year) of the drive.

# General Information

## Intended use

- The drive is designed exclusively for opening and closing sliding gates (see EN 12433-1), referred to below as gates. 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.
- Gates automated with a drive must comply with all currently valid standards and directives: e.g. EN 12604, EN 12605.
- Maintain the safety clearances between the gate and surroundings as specified in EN 12604.
- Use the drive only in technically flawless condition, in compliance with its intended use, conscious of safety and hazards subject to compliance with the installation and operating instructions.
- The gate must not have any rise or fall during opening or closing.
- Position the running rail to allow water to drain to prevent ice accumulation in winter.
- The gate must move freely in the guide and on the running rail to allow the drive to react sensitively and the gate to be switched off in emergency.
- The gate must have end stops in open and closed position, otherwise it may be pushed out of the guide in the event of an emergency release.
- Malfunctions which could affect safety must be corrected immediately.
- The gate must be stable and torsionally stiff, i.e. it must not bend or twist when being opened or closed.
- The drive cannot compensate for any defects in the gate or incorrect installation of the gate.
- Do not install the drive in potentially explosive areas.
- Do not operate the drive in rooms with corrosive atmospheres.

**For the Declaration of Conformity  
for the radio see:**

**[www.sommer.eu/mrl](http://www.sommer.eu/mrl)**

## Permitted gate wing dimensions

Min. travel path:	min. 1400 mm
Max. travel path:	max. 8000 mm
Weight:	max. 600 kg
Gate inclination:	0%

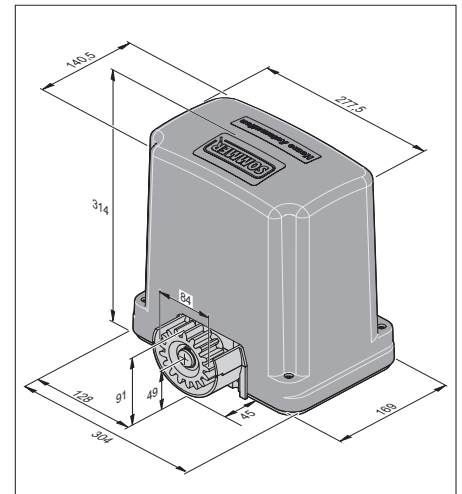
## Technical data

Rated voltage	220 ...240 AC/V
Rated frequency	50/60 Hz
Operating temperature range	$\nabla$ -30 – $\nabla$ +50°C
Degree of protection	IP 54
Max. torque	13 Nm
Nominal torque	4,5 Nm
Rated current consumption	0.54 A
Rated wattage	125 W
Max. speed	220 mm/s
Power consumption, standby	0.5 W
Weight	~ 10 kg
Operating time	40%
Properties of the pinion	Module 4/19 teeth

Workplace-related emission value < 75 dBA - drive only

## Dimensions

All dimensions are in millimetres. The drive is locked



## 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 drive

**RUNner**

in combination with the control unit

**ST-B-1**

as of the identification RUNner complies with the Machinery Directive 2006/42/EC and is specified for installation in a gate 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

Optical safety contact strip for gate OPEN direction of motion: terminal 19; 21; 23 cat 2 / PL C

Optical safety contact strip for gate CLOSE direction of motion: terminal 25; 27; 29 cat 2 / PL C

Electrical safety contact strip for gate OPEN direction of motion: terminal 19; 21 cat 2 / PL C

Electrical safety contact strip for gate CLOSE direction of motion: terminal 25; 27 cat 2 / PL C

2-wire photo eye terminal 12; 14 cat 2 / PL C

4-wire photo eye terminal 8; 10; 12; 14 cat 2 / PL C

STOP button terminal 20; 30 cat 2 / PL C

EMERGENCY STOP button terminal 15; 17 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 Directive 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](http://www.sommer.eu).
- Compliant with the Low Voltage Directive 2006/95/EC.
- Compliant with the Directive on Electromagnetic Compatibility 2004/108/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 gate system complies with the regulations of the Machinery Directive.

Kirchheim, 01-05-2013



Jochen Lude  
Responsible for documents

i.v.

# Installation preparations

## Safety instructions



### CAUTION!

Follow all installation directions. Improper installation can lead to serious injuries.

- The mains voltage must correspond with the voltage listed on the drive type plate.
- The contacts of all devices to be connected externally must be safely isolated from the mains voltage supply in accordance with the standard IEC 60364-4-41.
- Comply with the standard IEC 60364-4-41 when laying the leads of the external devices.
- The drive may be installed, connected and commissioned by competent personnel only.
- Do not move the gate, if there are any people, animals or objects in the area of movement.
- Keep children, disabled persons and animals away from the gate.
- Wear safety glasses when drilling the fastening holes.
- Cover the drive during drilling to prevent dirt from entering the drive unit.

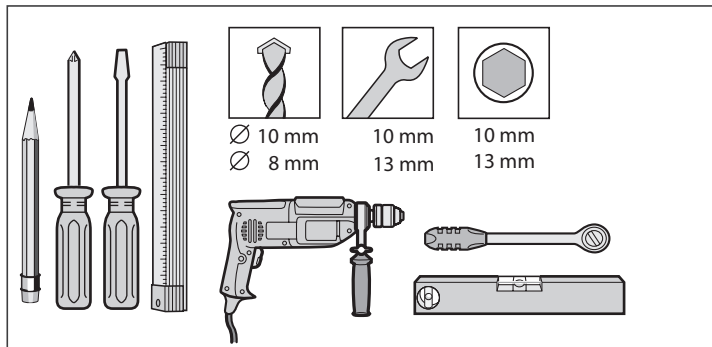


### CAUTION!

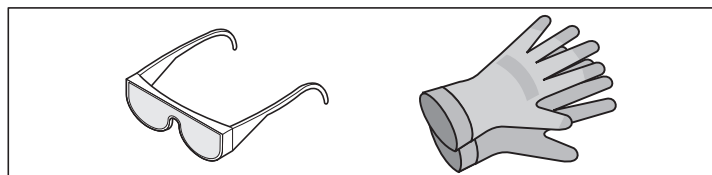
The foundation must be solid and stable. Only install the drive on a correctly aligned gate. An incorrectly aligned gate could cause serious injury.

- Remove any gate locks or render them inoperative.
- Use only approved fasteners (e.g. anchor fittings, bolts). The fasteners must match the material of the ground.
- Check the gate for smooth operation.

## Tools required



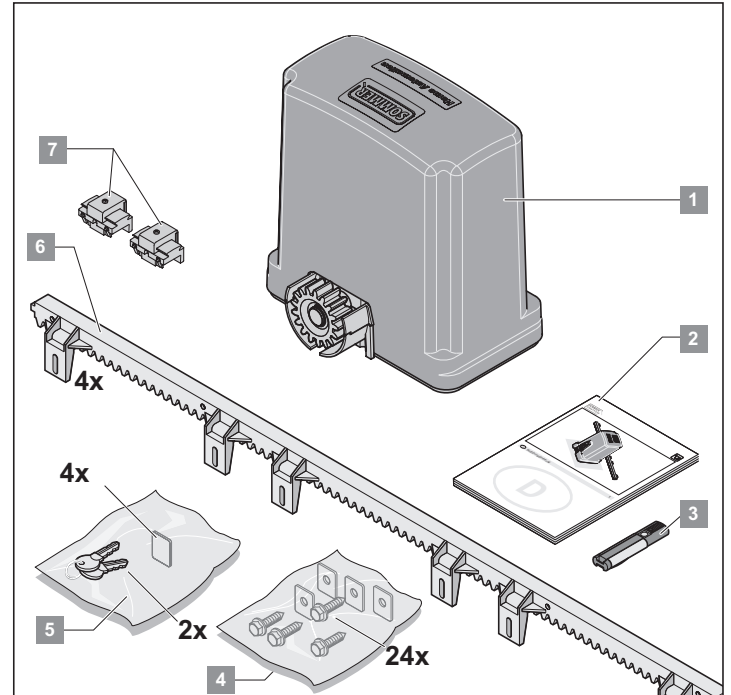
## Personal protective equipment



- Safety glasses (for drilling).
- Work gloves.

## Scope of supply

- Check the package before installation to avoid unnecessary work and expense if a part is missing.
- The actual scope of supply may vary depending on the drive version.



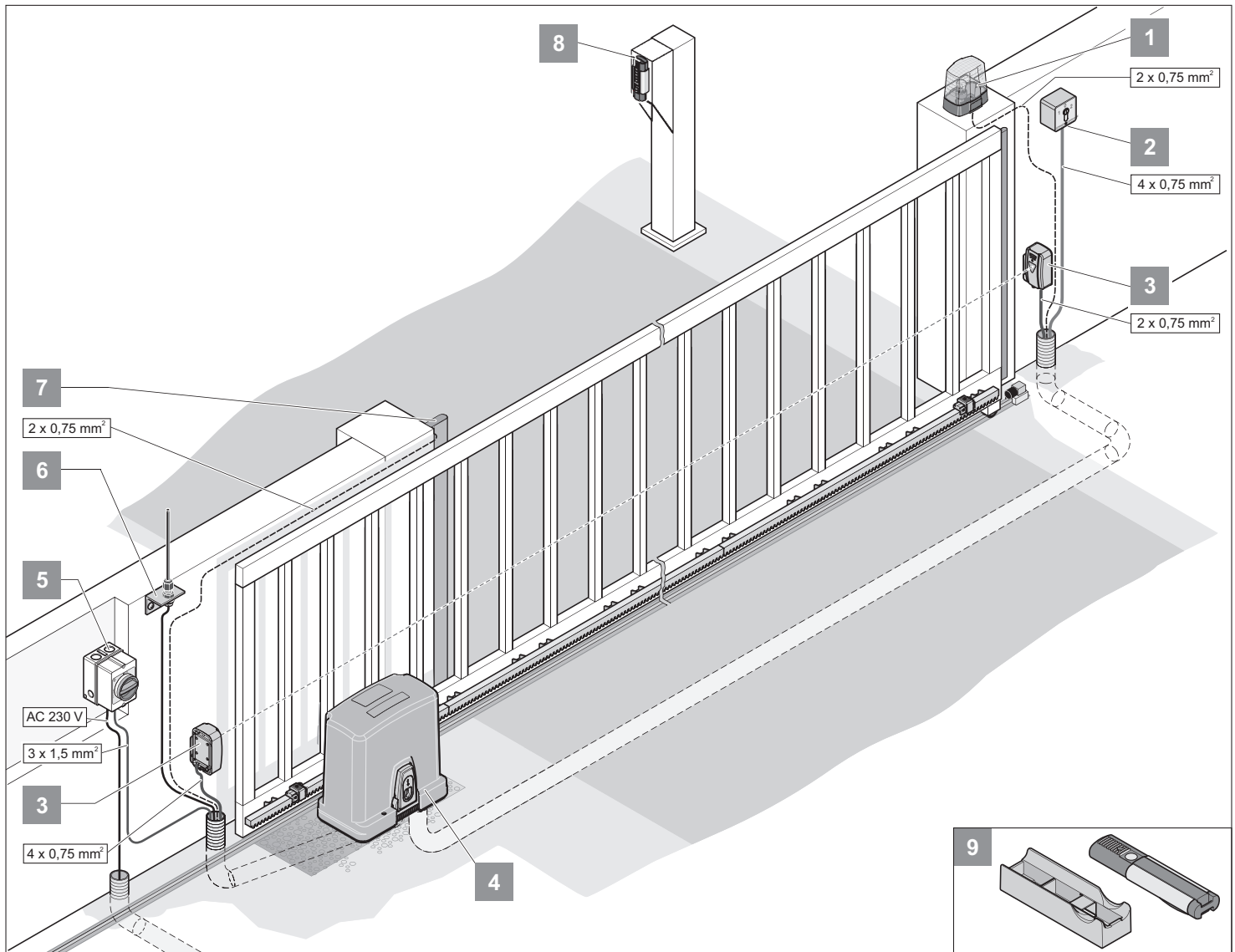
### Complete set

Package (l x w x h)		1035 × 350 × 270 mm
Weight		14 kg
1.	1 pc	RUNner sliding gate drive complete with control unit and radio receiver
2.	1 pc	Installation and operating instructions
3.	1 pc	4-command handheld transmitter
4.	1 pc	Installation bag (fasteners) Screw x 24 pcs 24 pcs Washer
5.	1 pc	Installation bag Auxiliary mounting plate x 4 pcs Key x 2 pcs
6.	4 pcs	1 m rack
7.	2 pcs	Limit switch

### Single drive

Package (l x w x h)		400 × 355 × 225 mm
Weight		10 kg
1.	1 pc	RUNner sliding gate drive complete with control unit and radio receiver
2.	1 items	Installation and operating instructions
5.	1 pc	Installation bag Auxiliary mounting plate x 4 pcs Key x 2 pcs
7.	2 pcs	Limit switch

# Installation preparations



## Tips for installation

- A safety device must always be connected as an NC contact. This ensures that safety is always guaranteed in the event of tripping or a fault.
- Determine the position of the accessories before installation together with the operator.

1.	Warning light DC 24V, 25W, max 0.8A
2.	Key switch (1 or 2 contact)
3.	Light barrier (prescribed for automatic closing, see EN 12543)
4.	Console
5.	Main switch (lockable)
6.	Rod antenna (including 10 m cable)
7.	Safety contact strip (8.2 kOhm, Fraba system)
8.	Telecody unit
9.	Car/wall holder for handheld transmitter

## General preparations

- Remove or disable all locking devices (electric lock, bars, etc.) before installing the drive.
- The gate must not show excessive lateral deviation throughout its range of movement.
- The system wheels and bottom track and the roller and top guide must operate without excessive friction.
- Install empty ducts under the gate for the cables of the mains supply line and the accessories (light barrier, warning light, key switch, etc.).



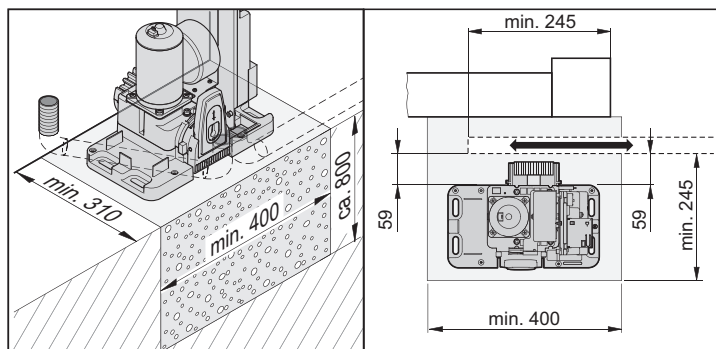
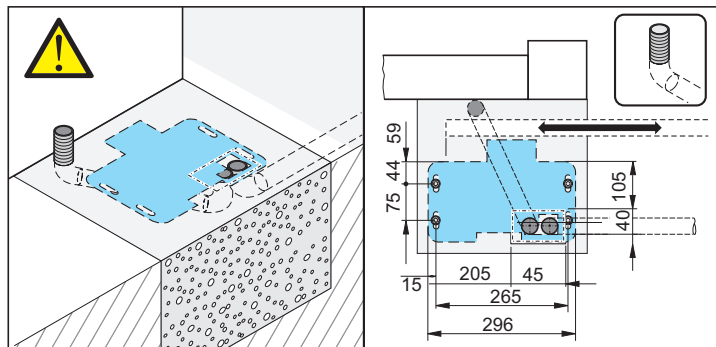
# Installation

## Safety instructions

- The control unit must be connected to the power supply by an electrician only.
- Ensure that the drive is securely fastened to the ground and the racks on the gate to withstand the high forces generated when opening and closing the gate.
- If a button is used for opening or closing, it must be installed at a height of at least 1.6 m to prevent operation by children.
- The rack must not press on the pinion during operation, otherwise the drive will be damaged.
- Follow the standards for installation, e.g.: EN12604, EN 12605.

## Foundation

- For free-standing gates install the drive centrally between the roller blocks.
- The foundation must extend below the frost line (approx. 800 mm in Germany).
- The foundation must be cured and horizontal.
- Foundation dimensions as shown.



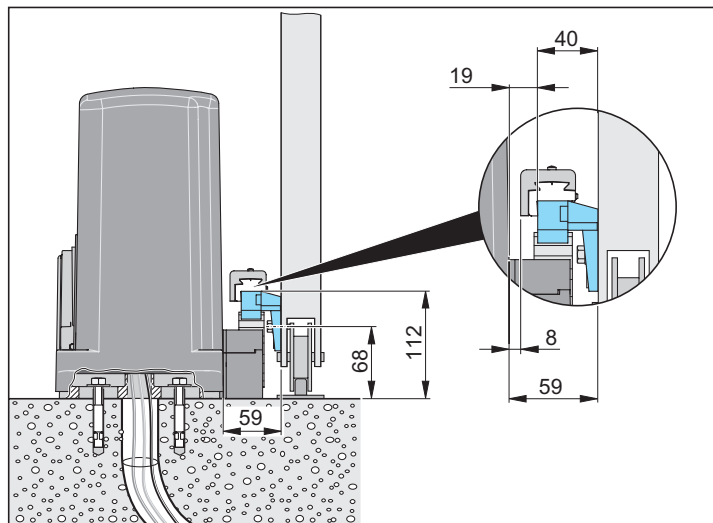
## Installation on ground



### IMPORTANT INFORMATION

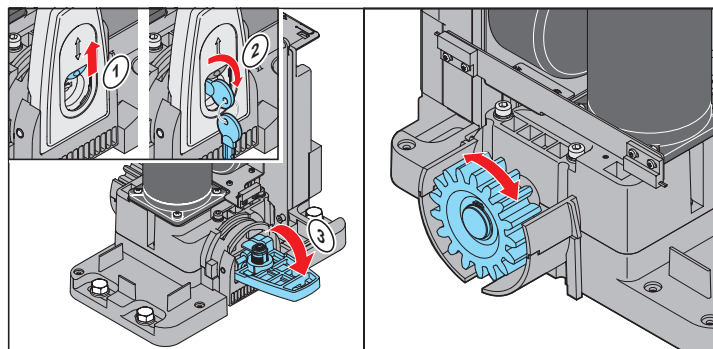
- After unpacking, check the scope of supply!

- Dispose of the packing in accordance with your national regulations!



1. Unscrew the hood fastening screw and remove the hood
2. Align the drive with the foundation in accordance with the illustration
3. Mark the holes
4. Make the drill holes (without the drive)
5. Place the drive on the foundation
6. Place the auxiliary mounting plates (30 x 20 x 1.5 mm) under the drive so that the drive unit is standing securely and does not wobble  
⇒ The auxiliary mounting plates act as spacers between the drive and the foundation and will later facilitate adjustment of the optimum tooth backlash
7. Screw the drive to the foundation  
⇒ Initially the auxiliary mounting plates remain between the drive and the foundation and will not be removed until later

### Releasing the drive



1. Open dust cap
2. Unlock lock
3. Flip the locking lever downwards  
⇒ The drive is released. The gate can now be moved by hand only



# Installation

## Installing the racks



### CAUTION!

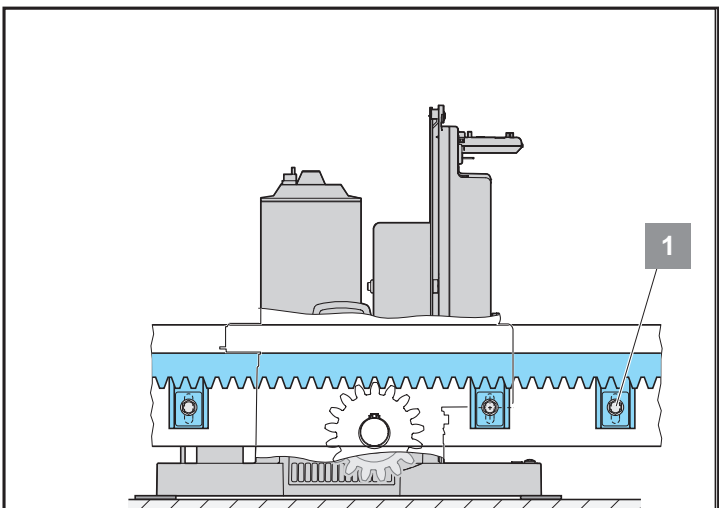
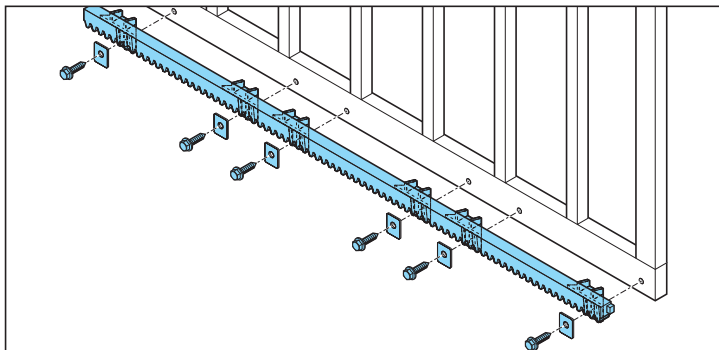
Steel racks must have a minimum width of 12 mm.  
Narrower steel racks may damage the drive



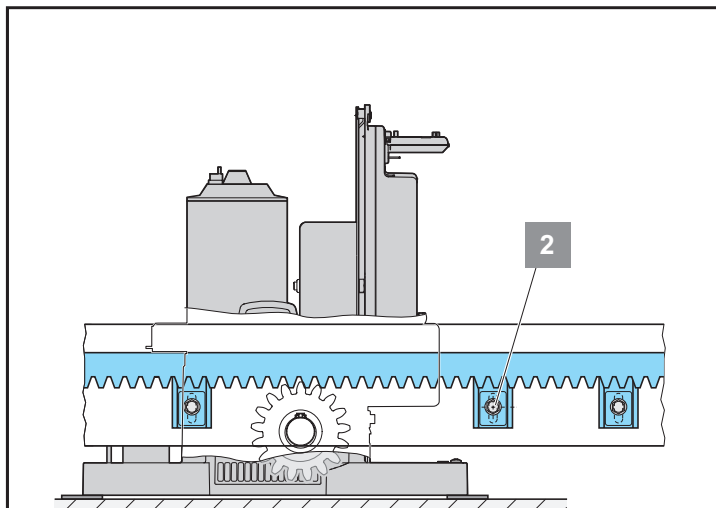
### IMPORTANT INFORMATION!

The complete set includes 4 toothed racks of 1 m each.  
If you require more racks, ask your authorized dealer.

- The toothed rack must not exert any pressure on the pinion in any position of the gate, otherwise the gearing will get damaged.
- Always start installation of the racks on the pass side of the gate.
- The holes must always be marked near the pinion.



1. Before marking the first hole open the gate completely by hand.
2. Position the rack on the pinion and align it horizontally with a spirit level.
3. Mark the first hole, drill it and fasten.



4. Push the gate in 'closed' direction until the next drilling point is positioned in accordance with the illustration and mark the holes again.
5. Repeat until all drill positions are marked.
6. Fasten rack.

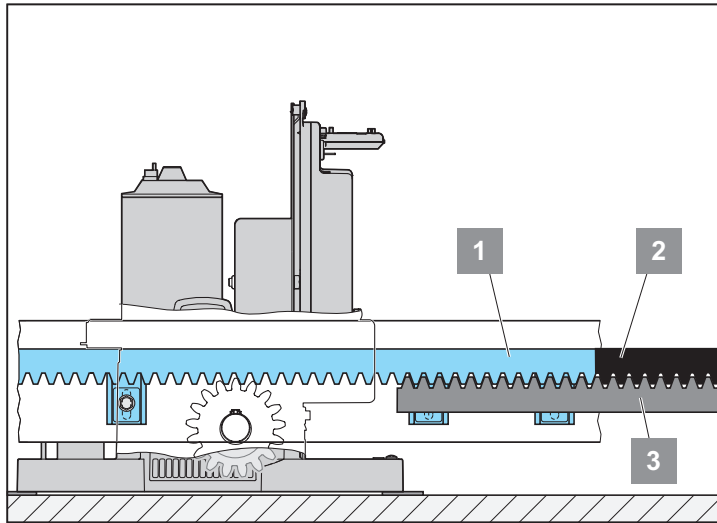
# Installation

## Installing additional racks

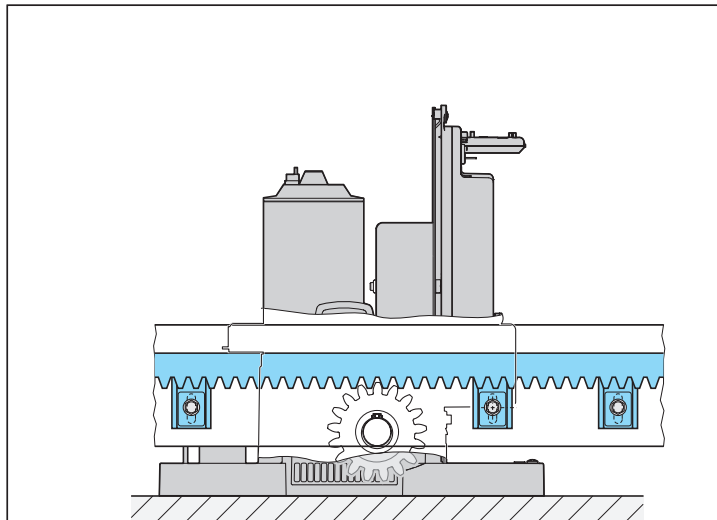


### TIP!

Mark the two outer drill holes first of all, then drill them and screw on provisionally. Then mark the remaining drill holes. Then remove the rack and drill the remaining holes. Then the rack can be finally bolted in position.



1. Position second rack (2) flush with the first rack (1) and hold another rack (3) against them from below so the teeth of the additional rack (3) mesh with the teeth of the two top racks (1 and 2). This will ensure that the second rack (2) is accurately fitted
2. Mark and drill the holes for the second rack
3. Attach the rack
4. If more racks are to be installed, repeat steps 1 to 3



5. Remove the auxiliary mounting plates

## Adjusting the backlash



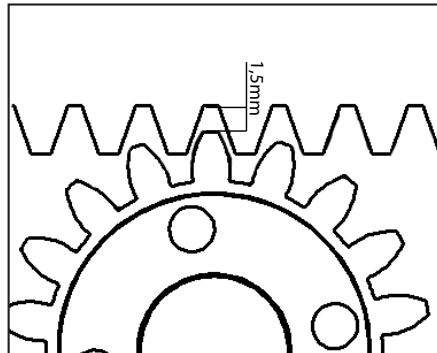
### IMPORTANT!

Adjusting the tooth play compensates for minor unevenness and protects the gears.



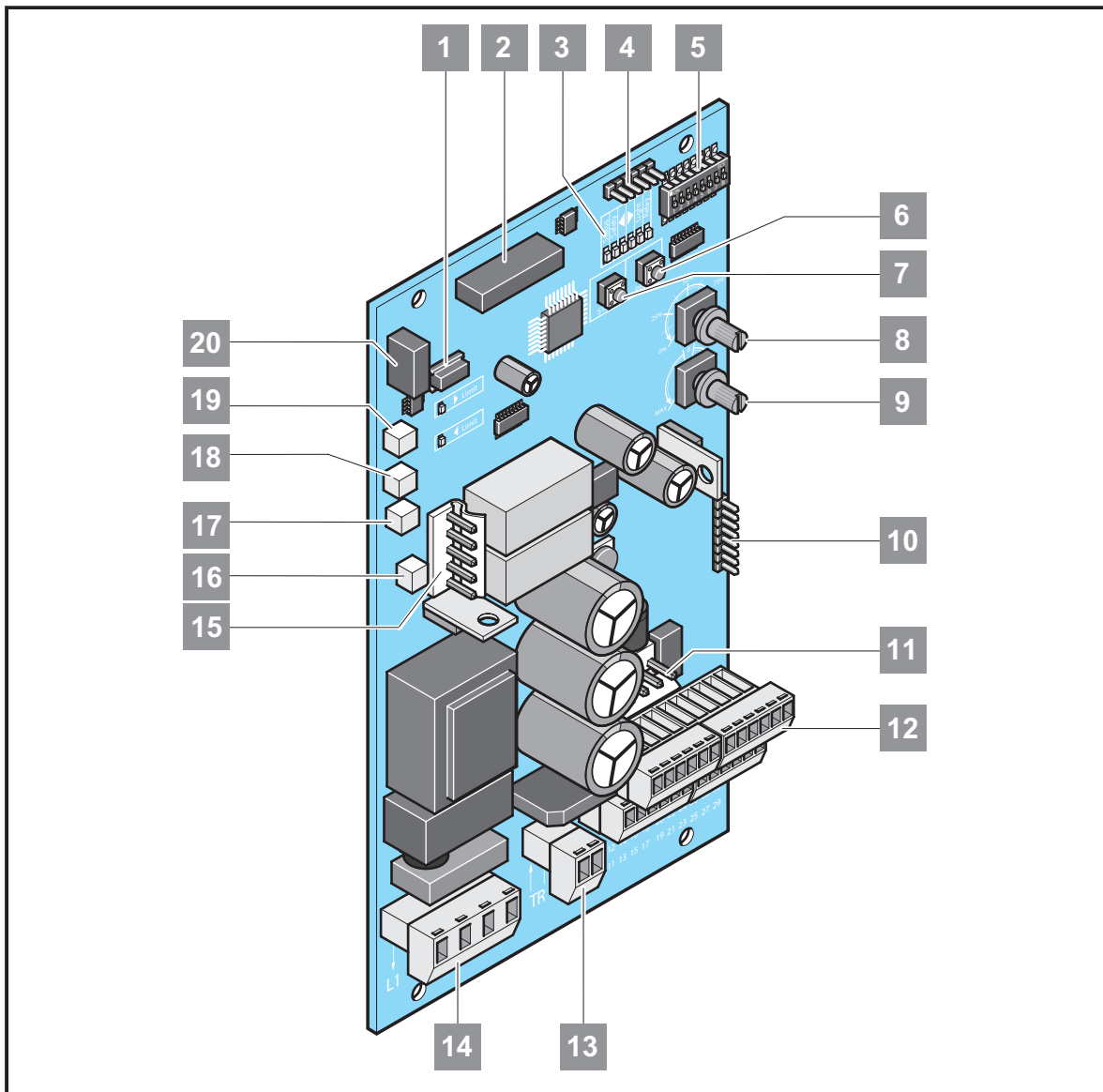
### IMPORTANT!

The weight of the gate must never rest on the motor shaft or pinion.



- The play between pinion and racks must be approx. 1.5 mm

# Connection



1. TorMinal connection
2. Slot for 4-channel radio receiver
3. LEDs
4. Software update interface
5. DIP switches
6. Prog. Button
7. Start button
8. Weight setting
9. Automatic close setting
10. SOM bus
11. Battery connection
12. Connecting strip for accessories

13. Secondary transformer
14. Mains connection
15. Motor connection
16. Lifting magnet (green)
17. Emergency release switch (red)
18. Limit switch left (orange)
19. Limit switch right (blue)
20. Terminal for wireless safety contact strip

# Connection

## Safety instructions

- The control unit must be connected to the power supply by an electrician only.
- Ensure that the drive is securely fastened to the ground and the racks on the gate to withstand the high forces generated when opening and closing the gate.
- If a button is used for opening or closing, it must be installed within sight of the gate and at a height of at least 1.6 m to prevent operation by children.
- The rack must not press on the pinion during operation, otherwise the drive will be damaged. See section 'Adjusting the tooth backlash'.
- Follow the standards for installation, e.g.: EN12604, EN 12605.



### IMPORTANT INFORMATION!

Actuation of the DIP switches with a narrow, flat plastic object.

Do not use a metal object under any circumstances, because it could damage the DIP switches.

## Installation location



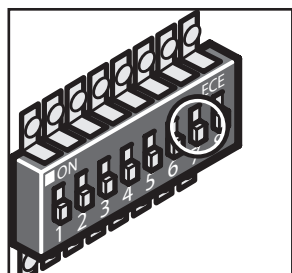
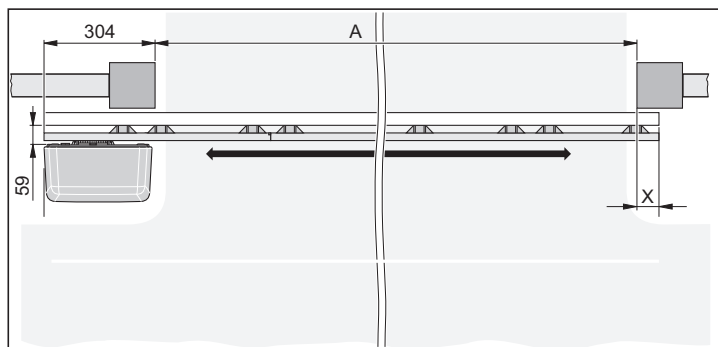
### IMPORTANT INFORMATION!

Delivery condition is drive left, i.e. the gate opens to the left



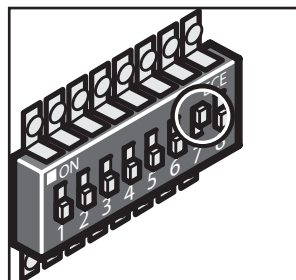
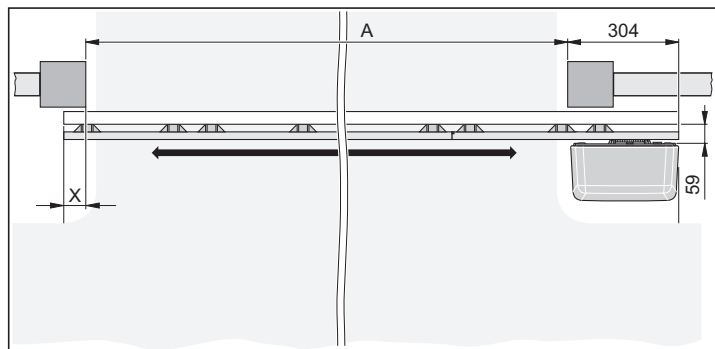
### IMPORTANT INFORMATION!

If a moving block with an internal rack is used, the DIP switch positions are reversed see the section 'Adjustment of the limit switches' and section 'Moving block with internal rack'



- DIP 7 'OFF'  
⇒ Gate opens to the left

## Drive right, calculation of gate length



- DIP 7 'ON'  
⇒ Gate opens to the right

# Connection

## Mains connection



### WARNING:

Risk of electric shock when working on live parts!  
Always disconnect the complete system from the power supply before starting any electrical work.  
Do not fail to disconnect the battery's plug.



### CAUTION:

The power cord supplied is for commissioning only and must be removed after completion of the commissioning and then has to be replaced by a permanently installed mains power connection.

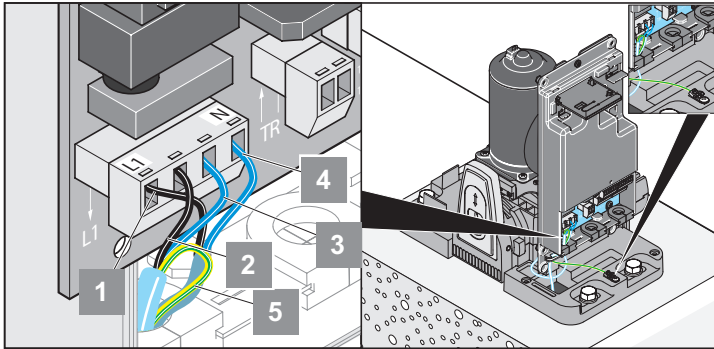
The mains power lead must be routed complete with insulation material into the control unit housing.



### IMPORTANT INFORMATION!

The terminal area on the control unit board must be covered with the plastic housing included with the system

- Permissible cable length 30 m max.
- Permissible cable cross-sections: 2.5 mm<sup>2</sup> max.



1	L1	Primary transformer line AC 220 V - 230 V
2	L (black)	Mains supply line AC 220 V - 230 V
3	N (blue)	Mains power connection (neutral conductor)
4	N	Primary transformer line (neutral conductor)
5	PE (green/ yellow)	The PE is run from the control unit housing and connected to the earth clamp under the control unit housing



### CAUTION!

Buttons and other command controls must be installed and actuated only within view of the gate.  
Violation of this requirement may result in serious injury to third parties.



### IMPORTANT INFORMATION!

All safety and accessory components must be connected before operating the gate for the first time, because the control unit automatically detects and saves the connected peripherals. If additional peripherals are connected, the control unit must be reset. Then the peripherals can be connected. When it is switched on for the first time after that, the control unit detects the new accessories and it can be operated again.

## Connecting safety devices



### CAUTION!

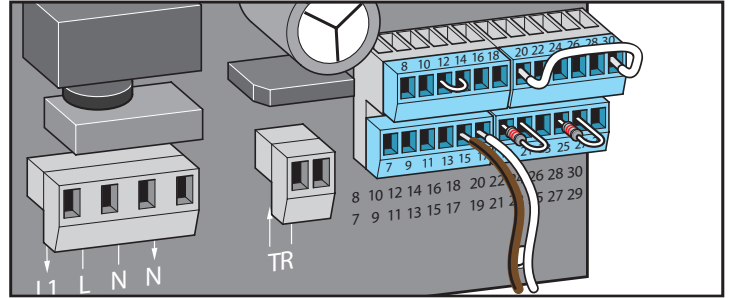
The system must be disconnected from the power supply before any work on the gate or drive.  
Do not fail to disconnect the battery's plug.



### CAUTION!

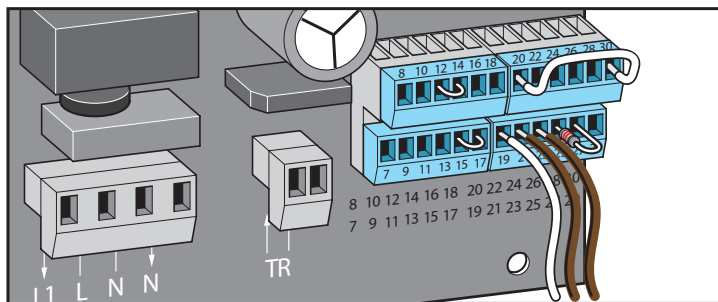
The emergency stop button must be used for the specified purpose only

### Emergency stop button (normally closed contact)



# Connection

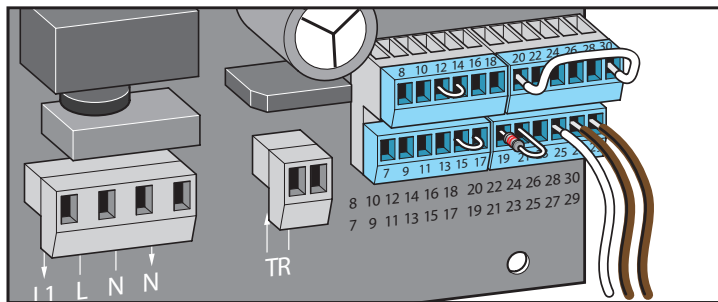
## Optoelectronic safety contact strip (OPEN)



Terminals:

- 19 GND
- 21 Signal
- 23 +12V

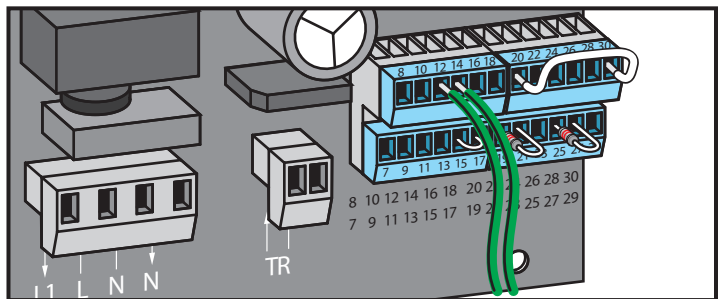
## Optoelectronic safety contact strip (CLOSED)



Terminals:

- 25 GND
- 27 Signal
- 29 +12V

## 2-wire light barrier (bus system)



Terminals:

- 12 NC
- 14 COM



**Important information!**

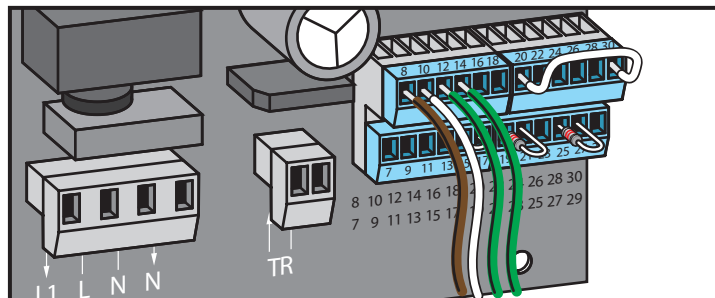
The polarity plays no role for connection!

## 4-wire light barrier



**CAUTION!**

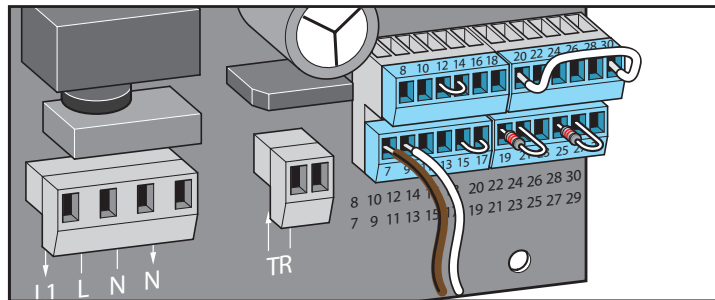
If an external device that is used only during movement operation is powered from the +24V output (e.g. card reader), power-saving mode must be disabled.



Terminals:

- 8 +24V; max. 400 mA
- 10 0 V
- 12 NC
- 14 COM

## Warning light



Terminals:

- 7 24 V (unregulated), max. 25 W
- 9 GND



**IMPORTANT INFORMATION!**

The control unit automatically generates the flashing warning light.

# Connection

## Connecting button



### IMPORTANT INFORMATION!

Connect button only!

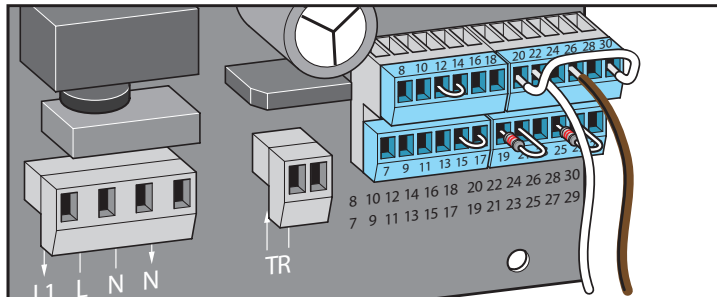
Do not use locking switches, because continuous signals cannot be processed.



### IMPORTANT INFORMATION!

All button inputs are potential-free!

## Pulse button



Terminals:

22 GND

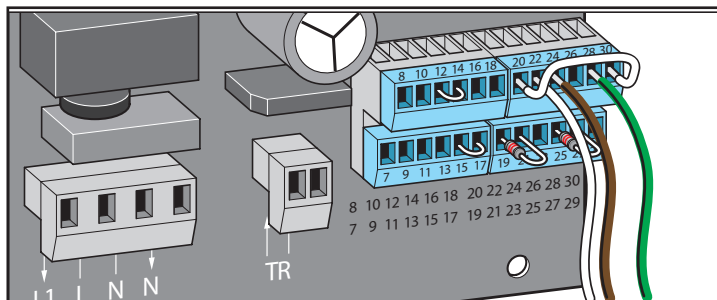
26 Signal (break contact)

## Defines OPEN/CLOSED



### CAUTION!

Which button has which function must be clearly labelled.



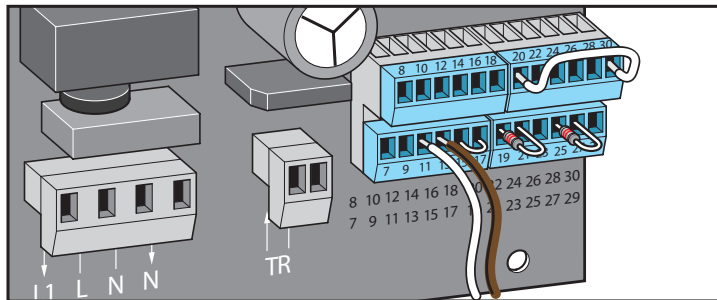
Terminals:

22 GND

24 OPEN input (normally open contact)

28 CLOSED input (normally open contact)

## Partial opening



Terminals:

11 GND

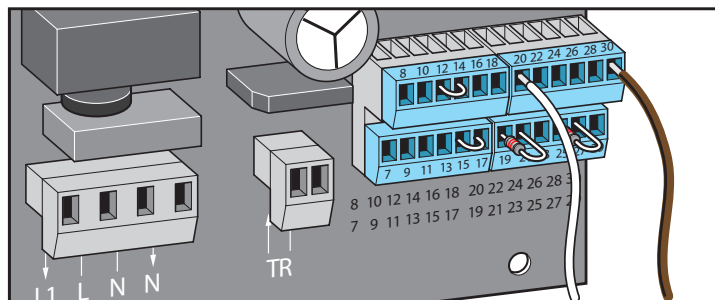
13 Partial opening (make contact)

## Stop button



### IMPORTANT INFORMATION!

Remove jumper



Terminals:

20 GND

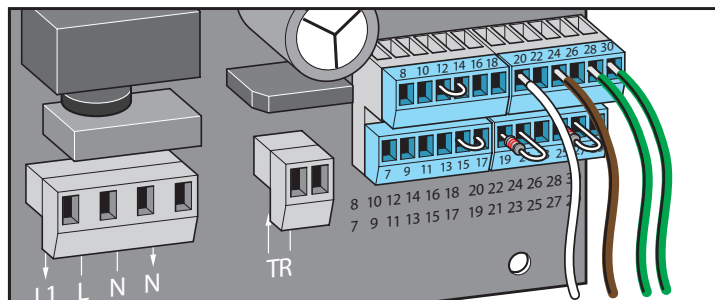
30 STOP input (normally closed contact)

## Open-Stop-Close button



### CAUTION!

Which button has which function must be clearly labelled.



Terminals:

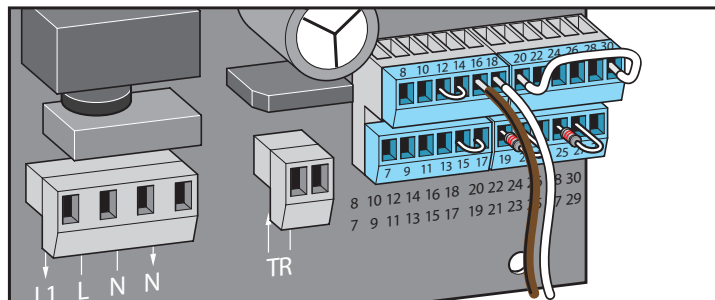
20 GND

24 OPEN input (normally open contact)

28 CLOSED input (normally open contact)

30 STOP input (normally closed contact)

## Potential-free relay contact



Terminals:

16 ; 18 max. 24 V DC or AC; max. 1 A



### IMPORTANT INFORMATION!

The functionality can be adjusted by means of TorMinal.

See TorMinal instructions

e.g.: Gate status indication, triggering of the external light etc.



# Connection

## Optional connections



### CAUTION!

The system must be disconnected from the power supply before any work on the gate or drive.  
Do not fail to disconnect the battery's plug.

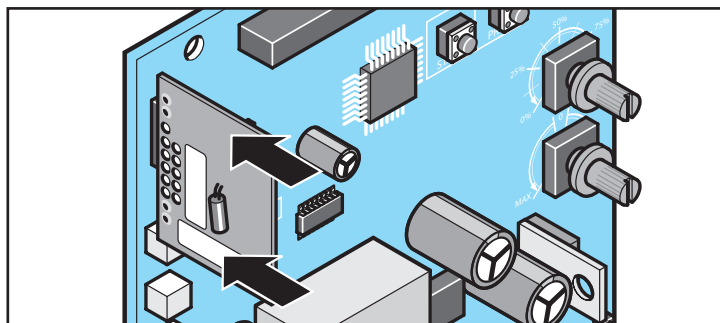
## Radio-based safety contact strip

### Connect radio receiver to board



### CAUTION!

The system must be disconnected from the power supply before plugging in the radio receiver.  
Do not fail to disconnect the battery's plug.



1. Connect the receiver pcb in accordance with the diagram on the control unit.



### IMPORTANT INFORMATION!

The maximum runtime for a gate movement when using a radio-based safety contact strip is reduced to 80 seconds for safety reasons.



### IMPORTANT INFORMATION!

For information on connection, settings etc., see the separate instructions for the radio-based safety contact strip

## Battery pack



### CAUTION!

Installation and inspection of the battery pack may only be performed by a qualified electrician



### CAUTION!

The system must be disconnected from the power supply before working on the drive.  
Also unplug the battery pack



### CAUTION!

The battery pack is not suitable for use on lifting gates.



### CAUTION!

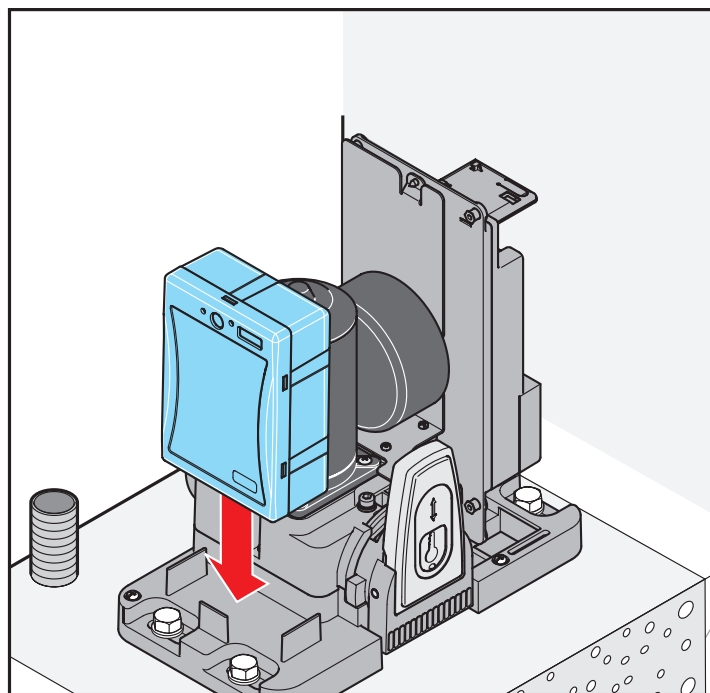
Only a genuine battery pack from the company SOMMER Antriebs- und Funktechnik GmbH may be used!



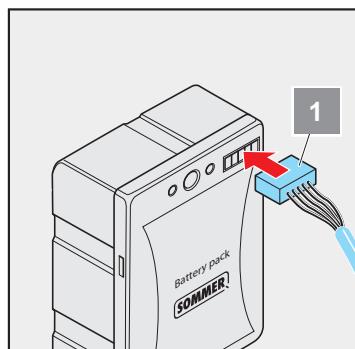
### IMPORTANT INFORMATION!

The general requirements for working with batteries (see instructions for battery pack) must be observed.

1. Disconnect the system from the power supply

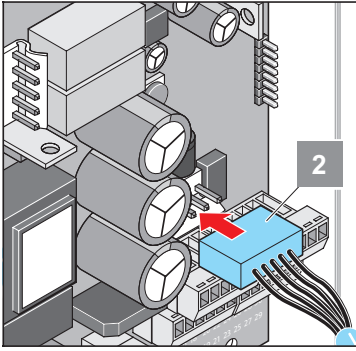


2. Position the battery pack in accordance with the illustration



3. Plug connector cable into the battery pack (1)

# Connection



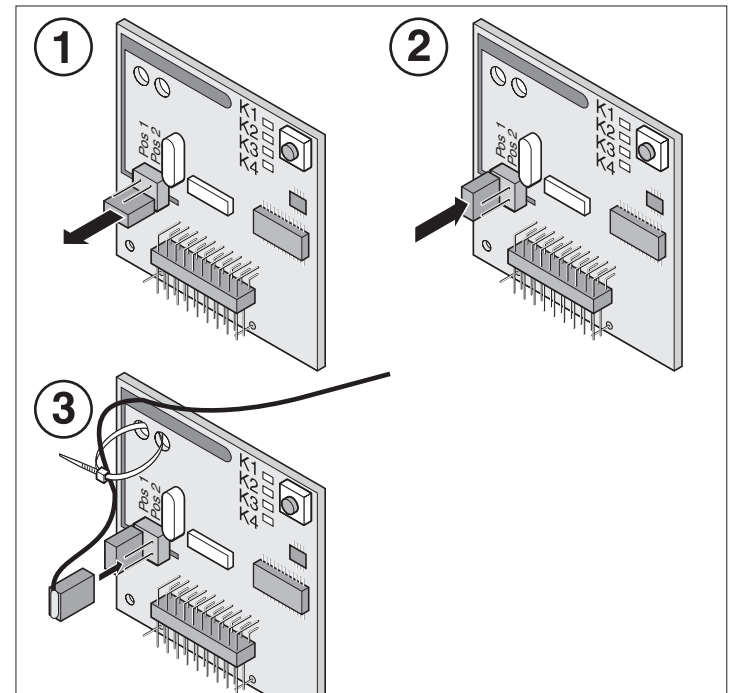
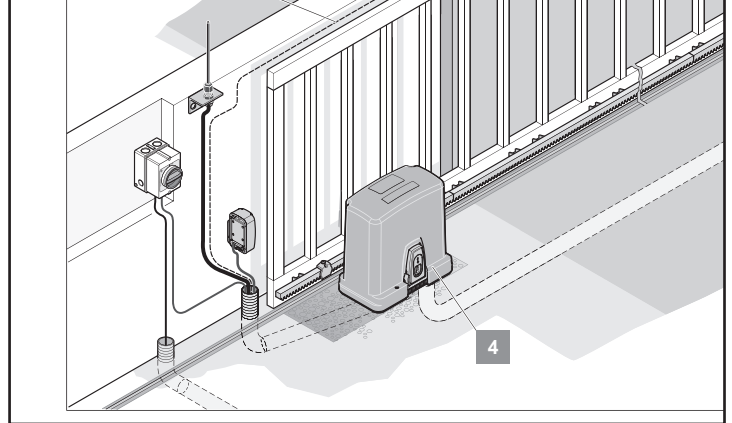
4. Remove control unit cover and plug the other end of the connector cable into the control unit (2)
5. Replace the cover
6. Connect main power

## Test run

1. Run a complete cycle with mains power (gate OPEN and gate CLOSE)
2. Start a new cycle and disconnect the mains power during the cycle  
⇒ Battery pack has been detected and activated
3. Restore the mains power supply

## External antenna

- If reception is inadequate with the radio receiver internal antenna, an external antenna can be connected.
- The antenna cable may not exert any mechanical force on the radio receiver; provide for stress relief.
- Define the installation location together with the operator.



1. Disconnect the jumper from the pins
2. Plug the jumper into 'Pos 1'
3. Insert the plug of the external antenna into 'Pos 2'



### IMPORTANT INFORMATION!

Follow the external antenna instructions

# Initial operation

## Safety instructions



### IMPORTANT INFORMATION!

After installation of the drive the person responsible for installation of the drive must issue an EC Declaration of Conformity for the gate system in accordance with Machinery Directive 2006/42/EC and attach the CE symbol and a type plate. This is also required for private installations and also if the drive is retrofitted to a manually operated gate. This documentation and the Installation and Operating Instructions are retained by the operator.



### IMPORTANT INFORMATION!

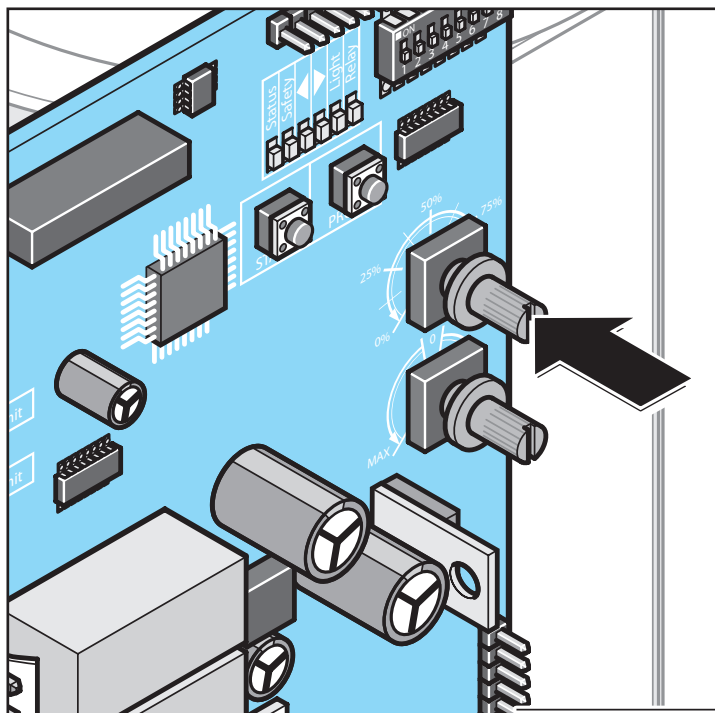
The commissioning sequence described below is important. Upon being switched all safety and accessory elements connected to the control unit are automatically detected by the control unit and are checked for correct functioning. If additional peripherals are connected at a later date, the control unit must be reset before the drive can be operated again.

## Adjusting the gate weight



### CAUTION!

The gate weight must be precisely adjusted. If the setting is not correct, the operating forces will be too high and the force cut-off will be too late. Severe injuries may result.



Gate weight	Setting
600 kg	100%
450 kg	75%
300 kg	50%
150 kg	25%

## Disabling the weight potentiometer

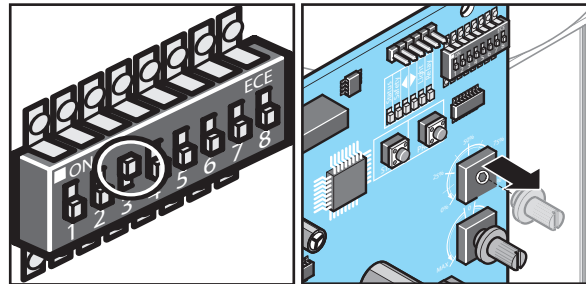


### VERY IMPORTANT INFORMATION!

(1) After adjusting the gate weight, DIP switch 3 must be set to ON immediately. This prevents the weight adjustment and other parameters important for safe operation of the system from being accidentally changed.

(2) In addition, after setting the DIP switch (3), pull out the rotary button of the weight potentiometer and place in the immediate vicinity of the drive.

The rotary button must never be pulled out before activation of the write protection, because the setting here can also be changed accidentally.



## Connecting the power supply

Connect the power supply of your drive.

# Initial operation

## Installing limit switches



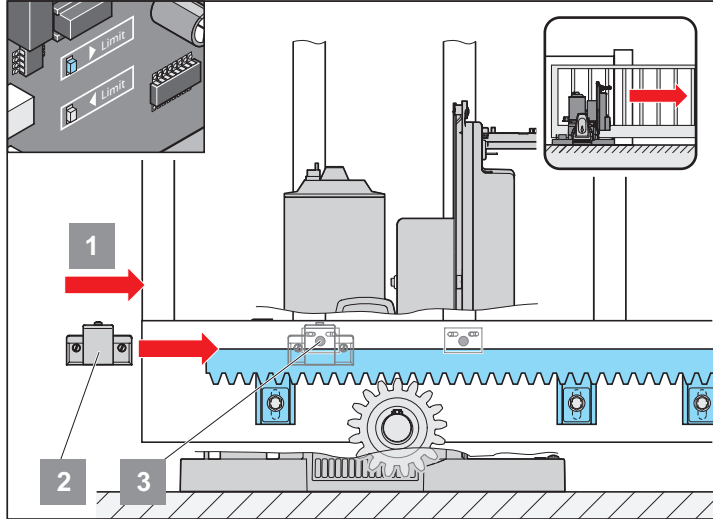
### CAUTION!

The limit switches contain strong magnets!

Strong magnetic fields may interfere with some medical devices such as pacemakers!  
Do not place magnets close to such devices!

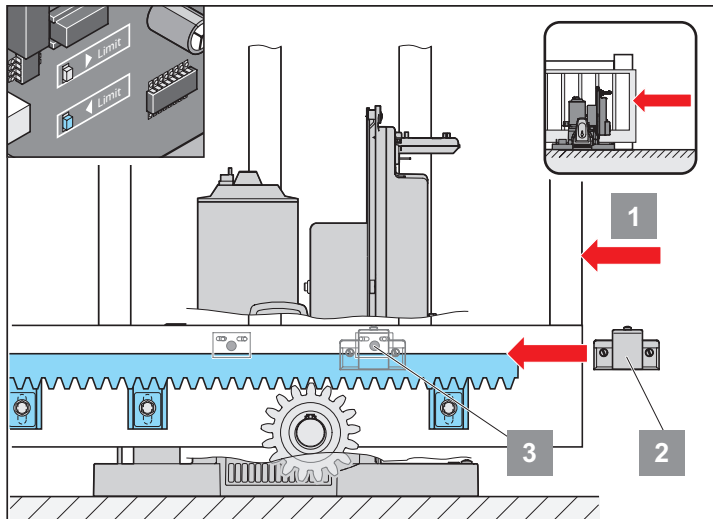
In case of doubt, consult the manufacturer of the device.

## Setting the left limit position



1. Make sure that the drive is unlocked
2. Move gate to limit position. (1)
3. Slide the limit switch magnet (2) to sensor (3) until the latter switches (LED ◀ on the control unit lights up).
4. Screw tight the limit switch magnet 2

## Setting the limit switch gate right

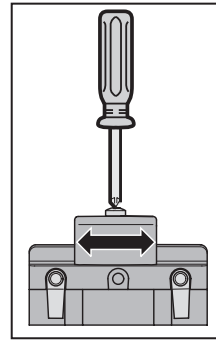


1. Slide the gate to the right-hand limit position. (1)
2. Slide the limit switch magnet (2) to sensor (3) until the latter switches (LED ◀ on the control unit lights up).
3. Screw tight the limit switch magnet 2.



### IMPORTANT INFORMATION!

Fine adjustment



1. Loosen screw
2. Adjust switching magnet
3. Tighten screw

## Install limit switch and adjust limit positions with a rectangular rack cover



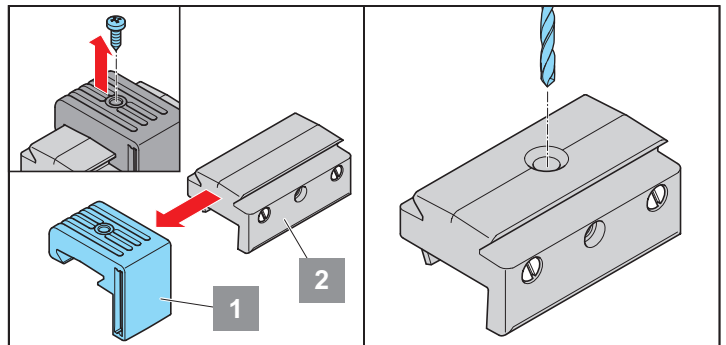
### IMPORTANT INFORMATION!

The rack cover cannot be obtained as an accessory from the company SOMMER!

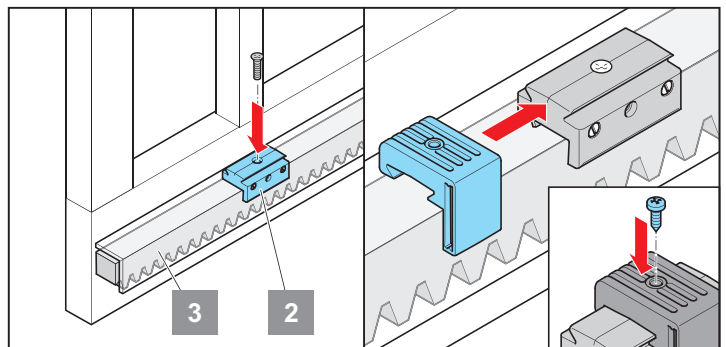


### IMPORTANT INFORMATION!

If a rectangular cover is attached above the rack, the limit switches must be attached to this cover



1. Remove the screw of the top part (1) of the magnet holder
2. Pull top section off to the side
3. Drill a hole in the bottom part (2) of the magnet holder for screw connection to the rack cover and deburr the hole properly



4. Screw the bottom part (2) of the magnet holder to the rack cover (3) in the desired position
5. Slide the top part (1) of the magnet holder onto the bottom part (2), make a fine adjustment (see important information on 'Fine adjustment') and fasten it again with the screw

# Initial operation

## Adjust the limit switch, if you are using a moving block with an internal rack



### IMPORTANT INFORMATION!

Not available from SOMMER as an accessory!



### IMPORTANT INFORMATION!

Because another pinion acts to transfer the movement of the motor to the rack when a block is used, the direction of motion of the gate is reversed. This means that the limit switches on the board must be reversed

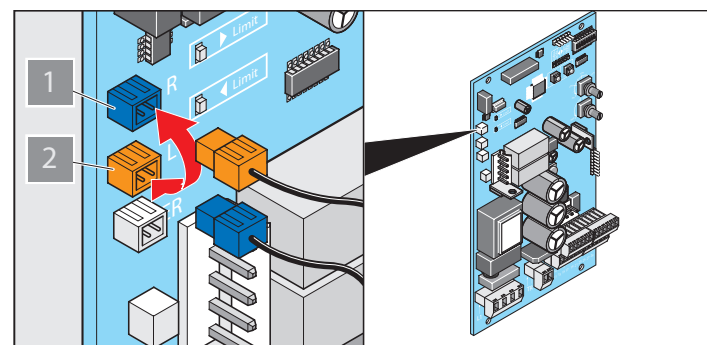
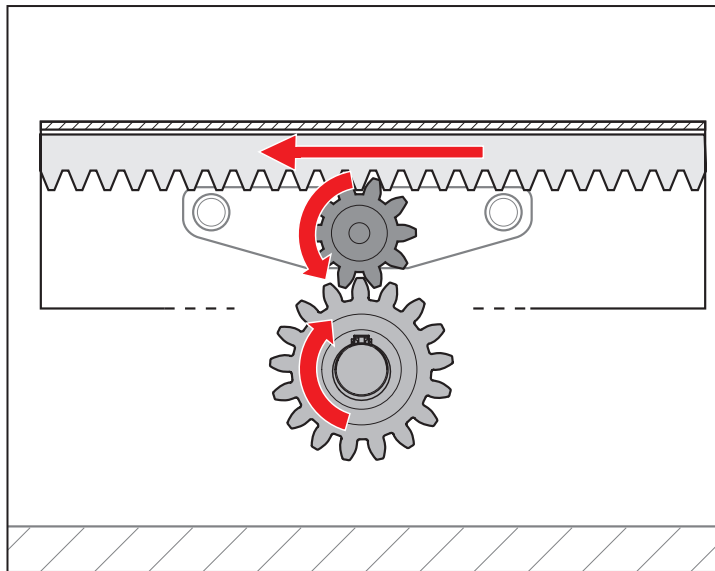
## Optional: Operation of a moving block with internal rack:



### CAUTION!

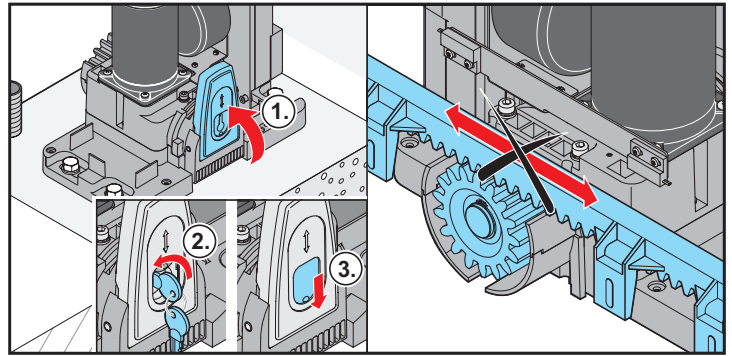
DIP switch position of DIP switch 7 is reversed here! (see 'Installation location')

After installation immediately test all safety devices (e.g. light barrier in CLOSED direction and safety contact strips in both directions) to ensure that they are operating correctly!



1. Open control unit housing
2. Pull off the two blue and orange limit switch wires
3. Connect the limit switch wire with the orange plug to the blue socket (1)
4. Connect the limit switch wire with the blue plug to the orange socket (2)

## Locking drive



1. Flip the locking lever upwards
2. Close the lock
3. Close the dust cap



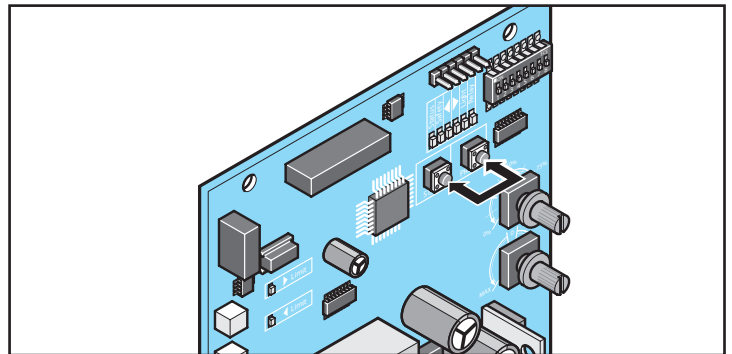
### IMPORTANT INFORMATION!

Move gate back and forth by hand so the pinion meshes with the rack more easily and the motor can lock.

⇒ Drive is locked and the gate can only be moved with the motor.

## Resetting the control unit

⇒ Power must be connected



1. Press and hold down the 'Start' and 'Prog' buttons at the same time.  
⇒ The 'Light' LED starts flashing.
2. Release the buttons when the 'Light' LED lights continuously.  
⇒ Reset successfully completed.



### IMPORTANT INFORMATION!

A reset can take place only if the drive is locked!

# Initial operation

## Teach-in run



### CAUTION!

The teach-in of the force values takes place in dead man button mode only. During this procedure the force cut-off does not operate, but only an overload cut-off. Persons and animals must never be within the movement area of the gate when dead man button mode is active. Serious crushing injuries may be caused, if this instruction is not complied with.

For dead man button mode see 'Operating modes'

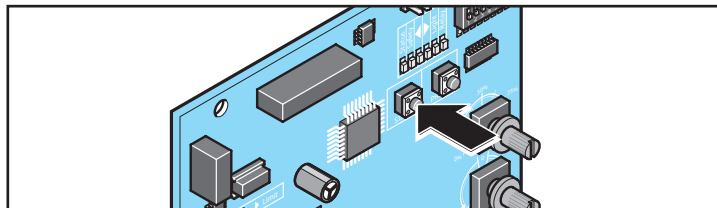


### IMPORTANT INFORMATION!

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.

The 'Light' LED flashes continuously during teach-in runs (as a rule 3 complete runs from one limit position to the other). The 'Light' LED lights continuously as long as the gate is stationary between runs.

On completion of programming the LED switches off.



1. Move gate manually to centre position.
2. Press and hold the start button on the control unit or external handheld control until the gate OPEN limit position is reached.  
⇒ Programming starts in dead man button mode.
3. Press and hold the start button on the control unit or external handheld control until the gate CLOSED limit position is reached.  
⇒ This was the programming movement for path measurement. It is run at reduced speed (creep mode)
4. Press and hold the start button on the control unit or external handheld control until the gate OPEN limit position is reached.  
⇒ This was the programming movement for force measurement in gate OPEN
5. Press and hold the start button on the control unit or external handheld control until the gate CLOSED limit position is reached.  
⇒ This was the programming movement for force measurement in gate CLOSED
  - When the light LED goes out,
  - ⇒ programming is complete
  - If the light LED remains on,
  - ⇒ repeat the procedure until the LED is out

## Checking the force tolerance



### CAUTION!

Rubber safety strips must be used on the main and auxiliary closing edges. No sliding gate without safety strips may be used!

- ⇒ Our program contains various safety strips, both active (triggers an immediate stop of the gate at contact) and passive (takes up part of the inertial mass of the moving gate). Such strips can be ordered from a SOMMER authorized dealer.

See also the section 'Maintenance and care/Regular testing' on the subject of safety strips

## Test run:

1. Close the gate.
2. Press button (1) once.  
Gate opens to gate OPEN limit position
3. Press button (1) once.  
The gate closes up to the limit position gate CLOSED.
4. If one of the set gate limit positions is not reached (gate OPEN or CLOSED), check whether the correct gate weight is set at the potentiometer.  
⇒ Correct if necessary.

## Safety instructions

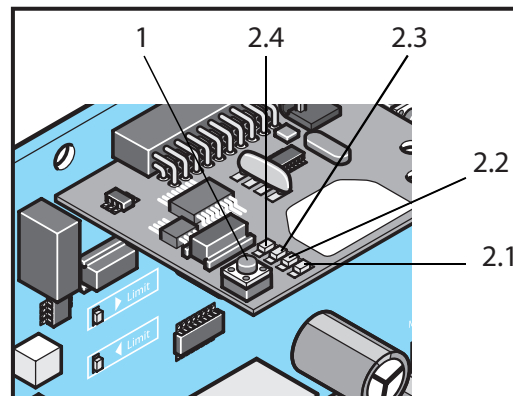
- The local safety regulations for the system must be complied with to ensure safe operation. Information is available from electrical utility companies, VDE (Association for Electrical, Electronic & Information Technologies) and professional associations.
- The operator is not protected against interference caused by other telecommunications equipment or devices (e.g. wireless systems which are being operated properly in the same frequency range).
- Replace the handheld transmitter unit's batteries if you experience reception problems.

## Radio receiver



### CAUTION!

The radio receiver must be connected or disconnected from the control unit only if the control unit is disconnected from the power supply. If the drive is operated by battery, it must also be disconnected from the control unit.



1. Teach-in button
- 2.1 LED channel 1
- 2.2 LED channel 2
- 2.3 LED channel 3
- 2.4 LED channel 4

## Explanation of radio channels

Channel 1	Pulse mode
Channel 2	Partial opening
Channel 3	Defined OPEN
Channel 4	Defined CLOSE or pot.-free relay (must be activated by TorMinal)



# Initial operation

## Pulse sequence of gate movements

Radio channel 1: OPEN - STOP - CLOSE - STOP - OPEN - STOP - CLOSE ...

Radio channel 2: Partial opening

Radio channel 3: OPEN - STOP - OPEN - STOP - OPEN ...

Radio channel 4: CLOSE - STOP - CLOSE - STOP - CLOSE ...



### IMPORTANT INFORMATION!

Delete the memory of the radio receiver before the first teach-in of handheld transmitters.

## Deleting the radio receiver memory

1. Press and hold the teach-in button (1).
  - ⇒ After 5 seconds one of the LEDs flashes - after another 10 seconds another LED lights
  - ⇒ After a total of 25 seconds all LEDs light
2. Release the teach-in button (1).
  - ⇒ The deletion procedure is ended

## Deleting a channel from the radio receiver

1. Press and hold the teach-in button (1).
  - 1 x for channel 1; the LED (2.1) lights up.
  - 2 x for channel 2; the LED (2.2) lights up.
  - 3 x for channel 3; the LED (2.3) lights up.
  - 4 x for channel 4; the LED (2.4) lights up.
  - ⇒ The LED flashes after 5 seconds
  - ⇒ The LED lights after another 10 seconds
2. Release the teach-in button (1).
  - ⇒ The deletion procedure is ended.

## Programming the handheld remote control



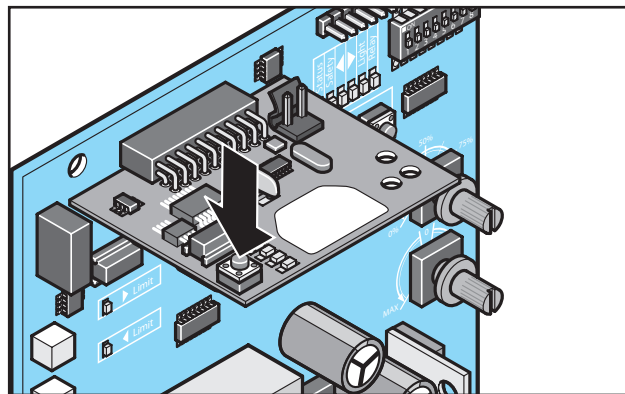
### CAUTION!

Radio remote control may be used only if the gate's movement can be viewed and if no persons or objects are in the area of movement.



### IMPORTANT INFORMATION!

Delete the memory of the radio receiver before the first teach-in of handheld transmitters.



1. Press the teach-in button.
  - 1 x for channel 1; the LED (2.1) lights up.
  - 2 x for channel 2; the LED (2.2) lights up.
  - 3 x for channel 3; the LED (2.3) lights up.
  - 4 x for channel 3; the LED (2.4) lights up.
  - ⇒ If no code is sent within 10 seconds, the radio receiver switches to Normal mode.
2. Press the desired handheld transmitter button until the LED (2.1/2.2/2.3/2.4) goes out, depending on which channel has been selected.
  - ⇒ LED goes out - programming is finished.
  - ⇒ The handheld transmitter has transferred the radio code to the radio transmitter.
3. Repeat the above steps to program by teach-in any additional handheld transmitters. A maximum of 112 storage locations for each radio receiver are available.

### Cancelling the teach-in mode:

Press the teach-in button (1) until all LEDs are out or make no input for 10 seconds.

## Deleting the handheld transmitter from the radio receiver

If a handheld transmitter is to be deleted from the radio receiver, **every** button and **every** shortcut of the handheld transmitter must be deleted for security reasons!

1. Press the teach-in button (1) and keep it pressed for 5 seconds.
  - ⇒ One of the LEDs flashes.
2. Release the teach-in button (1).
  - ⇒ The radio receiver is in Deletion mode.
3. Press the handheld transmitter button whose code should be deleted in the radio receiver.
  - ⇒ The LED goes out. The deletion procedure is ended.
4. Repeat the procedure for **all** buttons and shortcuts.



# Initial operation

## Teach-in by radio (HFL)

### Prerequisites for teach-in by radio

At least one handheld transmitter has been programmed by teach-in via the radio receiver (see Teach-in of handheld receivers).

### Restrictions:

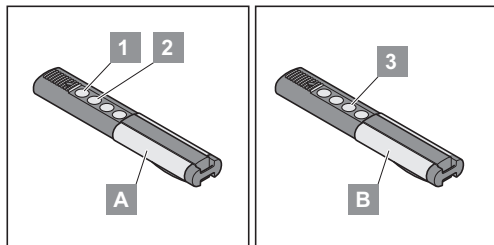
The following is not possible by radio:

- The targeted teach-in of a selected handheld transmitter button on a radio channel
- Deletion of a handheld transmitter, radio channel or of the entire radio receiver (memory)
- Changing the programming of a handheld transmitter programmed by teach-in by radio (e.g. teach-in of another button)

### Importation information:

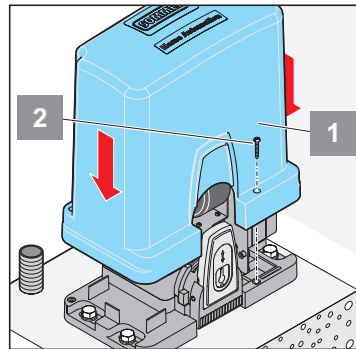
- Each handheld transmitter that has already been programmed by teach-in can put the radio receiver into teach-in mode by radio.
- Radio receivers that are within the range of the handheld transmitter are put into teach-in mode simultaneously.
- The key assignment of handheld transmitter (A) that put the radio receiver into teach-in mode by radio is used for the new handheld transmitter (B) that is to be programmed by teach-in. Example: Button 1 on channel 1 and button 2 on channel 2 has been programmed by teach-in by handheld transmitter (A).
  - ⇒ The new handheld transmitter (B) that has been programmed by teach-in has acquired the key assignment of handheld transmitter (A): Button 1 on channel 1 and button 2 on channel 2.

### Procedure:



1. Press buttons 1 + 2 of a handheld transmitter programmed by teach-in (A) for 5 seconds until LED channel 1 lights up on the radio receiver.
  - ⇒ If no code is transmitted within another 10 seconds, the radio receiver switches over to normal mode.
  - ⇒ To interrupt teach-in mode: Press button (1), LED channel 1 goes out.
2. Release buttons 1 + 2 of the handheld transmitter (A).
3. Press any key, e.g. (3) on the new handheld transmitter button (B) to be programmed by teach-in.
4. LED channel 1 on the radio receiver flashes initially and then goes out
  - ⇒ Handheld transmitter (B) has been programmed by teach-in.

## Concluding commissioning



1. Remove the power supply cord provided and replace it with a permanently installed power supply cable

Maximum lead length 30 m  
Max. lead cross section 2.5 mm<sup>2</sup>



### CAUTION!

**The power supply cord must be routed complete with its sheathing into the enclosure!**

2. Attach the hood
3. Fasten the hood with the screw

# Operation

## Safety instructions

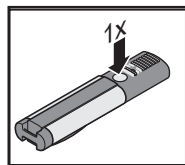
- Radio remote control may be used only if the gate's movement can be viewed and if no persons or objects are in the area of movement.
  - Keep children, disabled persons and animals away from the gate.
  - Never reach into a moving gate or moving parts.
  - Do not drive through the gate until it has been fully opened.
1. Entrapment and/or cutting hazard from the mechanism or closing edges of the gate.
    - ⇒ The safety instructions in this manual and the applicable standards and directives for securing closing edges must be observed at all times.

## Opening the gate



### CAUTION!

**Buttons and other command controls must be installed and actuated only within view of the gate. Contraventions can result in serious injury to third parties.**



1. Press the pulse transmitter or handheld transmitter button once.
  - Initial position gate CLOSED
  - If the button is pressed during the gate OPEN movement, the gate stops.
  - It closes when pressed again.

## Closing the gate

1. Press the button or handheld transmitter button once.
  - Initial position gate OPEN
  - If the button is pressed during the gate CLOSE movement, the gate stops.
  - It opens when pressed again.

## Defined opening and closing

This function opens and closes the gate with separate handheld transmitter buttons.

### Defined opening:

- Teach in the desired handheld transmitter button on radio channel 3 (see section 'Explanation of the radio channels')

### Defined closing:

- Teach in the desired handheld transmitter button on radio channel 4 (see section 'Explanation of the radio channels')

## Partial opening

This function partially opens the gate.



### IMPORTANT INFORMATION!

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



### IMPORTANT INFORMATION!

**A partial opening of approx. 20% of the total length of the gate is factory-set. If this is to be retained, it is only necessary to programme channel 2 or to connect the button accordingly.**

Example:

open the gate for persons to pass through. Partial opening can be used with a second button or by radio (handheld transmitter, Telecody, etc.).

### Partial opening by radio

1. Close the gate completely up to the gate CLOSED limit position
2. Select radio channel 2 and teach in partial opening to the desired handheld transmitter button
  - ⇒ See section 'Explanation of the radio channels'
3. Open the gate to the desired partial opening width by pressing the handheld transmitter button programmed by teach-in on channel 2 (partial opening button)
4. Press the partial opening button again when the desired partial opening position has been reached
  - ⇒ Gate stops
  - ⇒ The partial opening function has been programmed

### Partial opening by pulse button

1. Wire the button in accordance with the section 'Connection'
2. Close the gate completely up to the gate CLOSED limit position
3. Press button to open gate to the desired partial opening position
4. Press button again when the desired partial opening position is reached
  - ⇒ Gate stops
  - ⇒ The 'partial opening' function has been set successfully

### Deleting partial opening

- Close gate to the gate CLOSED limit position
- Press and hold PROG + the transmitter button that controls the partial opening for a few seconds

or

- Close gate to the gate CLOSED limit position
- Press and hold PROG + partial opening button for a few seconds

⇒ The 'Light' LED lights up when partial opening has been successfully deleted

# Operation

## Automatic closing function



### CAUTION!

Danger of injury during automatic closing. Automatically closing gates can injure people who are in the movement area of the gate when the gate is closing. Always install a light barrier before activating the function. This is a legal requirement.



### CAUTION!

The control unit does not respond to continuous signals in the gate OPEN direction. A time clock must be connected via the light barrier.



### IMPORTANT INFORMATION!

Operation with automatic closing must comply with EN 12453.



### IMPORTANT INFORMATION!

There are two types of automatic closing. Both allow the open holding time to be set from 0 - 255 seconds.

1. Semi-automatic closing (potentiometer left)
2. Fully automatic closing (potentiometer right)
3. Deactivate automatic closing (potentiometer in centre position)



### IMPORTANT INFORMATION!

The progress of the open holding time is indicated by the flashing status LED. (2 x ... 2 x...)

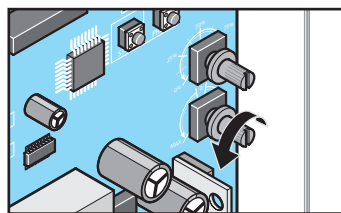


### IMPORTANT INFORMATION!

Automatic closing is deactivated when dead man button operation (DIP 1 ON) is activated

### Semi-automatic closing

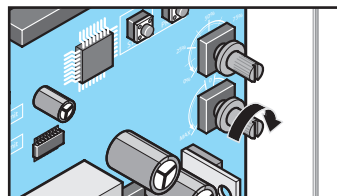
- All commands from command transmitters are accepted
- When the gate OPEN limit position or the programmed partial opening position is reached, the open holding time starts (referred to as OHZ below)
- The gate closes on expiration of the OHZ
- If a pulse command is received (e.g. START button or radio channel 1), the OHZ is reduced
- The OHZ is reduced if a partial opening command is received
- The OHZ does not expire at an intermediate stop



Turn potentiometer anticlockwise to the desired OHZ

### Fully automatic closing function

- All commands are ignored during opening
- When the gate OPEN limit position or the set partial open position is reached, the OHT is started
- If a pulse command is received (e.g. START button or radio channel 1), the OHZ is restarted
- If a repeat partial opening command is received in the drive position 'partial opening', the OHZ is restarted



Turn potentiometer clockwise to the desired OHZ

### STOP command during automatic closing

A STOP command triggered by a STOP button (see section 'Connection') always interrupts the movement of the drive, regardless of what type of automatic closing has been selected

### Light barrier event during automatic closing

#### DIP switch 6:

- ON gate closes 5 seconds after triggering light barrier
- OFF the OHZ restarts after triggering light barrier

## Pre-warning time

Before the drive starts, a connected warning light flashes for 5 seconds after the button or the handheld transmitter is pressed (factory presetting).

The pre-warning time is cancelled, if a command transmitter is actuated again within this time.

- Wire the warning light in accordance with the section 'Connection'

#### DIP switch 8:

ON: activates the pre-warning time

OFF: deactivates the pre-warning time

## Dead man button mode

In dead man button mode, gate movements are only possible by way of a continuous signal from the buttons.

Dead man button mode is not possible by radio.



### CAUTION!

Force cut-off does not take place in dead man button mode. Danger of serious injury! Always ensure that there are no persons, animals or object in the area of movement of the gate.



### CAUTION!

Buttons and other command controls must be installed and actuated only within view of the gate. Violation of this requirement may result in serious injury to third parties.

#### DIP switch 1:

ON: activates dead man button mode

- ⇒ Buttons must be pressed and held until the gate OPEN or CLOSE movement is completed.

OFF: deactivates dead man button mode

# Operation



## IMPORTANT INFORMATION!

If safety equipment fails, this will also set the control unit to dead man button mode. However, this only affects the endangering movement due to the safety device defect

Example: If a safety contact strip fails in gate-closed direction, closing of the gate is still possible in dead man button mode until it has been repaired.

## Obstruction detection



### CAUTION!

Buttons and other command controls must be installed and actuated only within view of the gate.  
Violation of this requirement may result in serious injury to third parties.



### CAUTION!

The reversing length must be set as short as possible to prevent an additional danger source being caused at an auxiliary closing edge on gates with trellis bars.  
The reversing times can be changed with the TorMinal.



## IMPORTANT INFORMATION!

**Reversing:** The drive stops when it meets an obstruction and then moves in the opposite direction to release the obstruction

**Partial reversing:** The drive reverses by a predefined distance to release the encountered obstruction.

**Full reversing:** The drive reverses completely back to the limit position.

The following safety devices are installed to detect obstacles:

- Light barrier (object protection)
- Safety contact strips (personal protection)
- Force cut-off of drive (personal protection)

## Obstacle detection by light barrier



### CAUTION!

A light barrier must be used for object protection only.  
A light barrier must not be used for personal protection.

- Wire the light barrier in accordance with the section 'Connection'

## Behaviour in gate CLOSE:

DIP 4 ON: Full reversing

DIP 4 OFF: Partial reversing



## IMPORTANT INFORMATION!

A light barrier has no effect in the gate OPEN direction.



## IMPORTANT INFORMATION!

If the light barrier is interrupted, the gate runs on for a short distance.

## Obstacle detection by safety contact strips:

- Connect the safety contact strips as described in the section 'Connection'



### CAUTION!

Make absolutely sure that the safety contact strips are connected for the correct direction (OPEN/CLOSE).  
A safety contact strip connected for gate CLOSE will not respond in the gate OPEN direction and vice versa.

## Behaviour:

DIP 2 ON: Full reversing

DIP 2 OFF: Partial reversing

## Force cut-off of the drive



### CAUTION!

There is no force cut-off in dead man button mode.  
This operating mode is activated by default during the programming phase.  
It is also activated if DIP switch 1 is set to ON.  
There is a risk of serious injury for anyone in the area of movement of the gate in this operating mode.

- The sensitivity of the force cut-off depends on the correct weight setting of the gate or the weight potentiometer.
- ⇒ See section Commissioning on this subject

## Standby mode

To save energy, the drive control unit switches to standby mode after the specified period. Connected accessories (e.g. light barrier, safety contact strip, external radio receiver etc.) are deactivated and then reactivated at the next command (button, radio etc.).



## IMPORTANT INFORMATION!

The factory-set period before the control unit switches to standby mode is 6.5 minutes.  
The period can be changed with a TorMinal.  
(see TorMinal instructions)

## Important information when using an external radio receiver:

Because external radio receivers are deactivated in standby mode, they cannot receive commands from the handheld remote control when the control unit has switched to standby mode.

If an external radio receiver is used, standby mode must be deactivated with DIP switch 5.

## Deactivating standby mode:

DIP 5 'OFF': standby activated (factory setting)

DIP 5 ON: Standby deactivated

## Important information when using a battery pack:

- If a battery pack is connected, standby mode is automatically deactivated to enable charging of the battery pack
- If there is a power failure while a battery pack is connected, the control unit automatically switches to standby mode after 5 seconds to extend the battery life. This function cannot be deactivated

## Overload protection

If the drive is overloaded during opening or closing, the control unit detects it and stops the drive.

A control unit reset then puts the drive back in standby mode (See section 'Commissioning').

## Operation after a power failure

The taught-in force values are stored in the event of a power failure.  
The first movement of the drive after a power failure is always gate OPEN.

If the power failure occurs while the gate is in motion, after return of the power supply the control unit switches the drive over to dead man button operation until a limit position is reached.

## Emergency release



### CAUTION

During an emergency release the gate may start moving autonomously, if it is not aligned so that it is perfectly horizontal.  
Risk of injury!

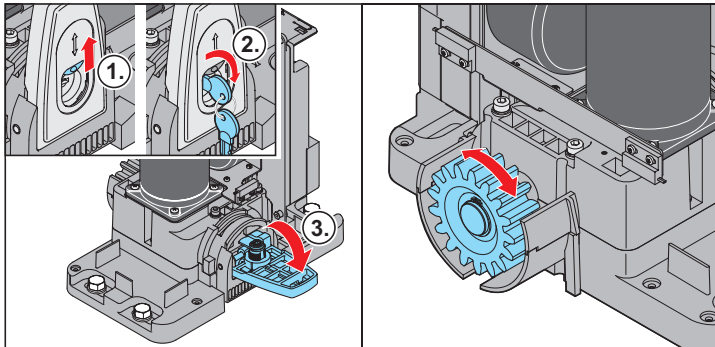


### IMPORTANT INFORMATION!

It can be released in any gate position.

It should be locked in a limit position only, otherwise the control unit switches to dead man button mode.

## Releasing the drive



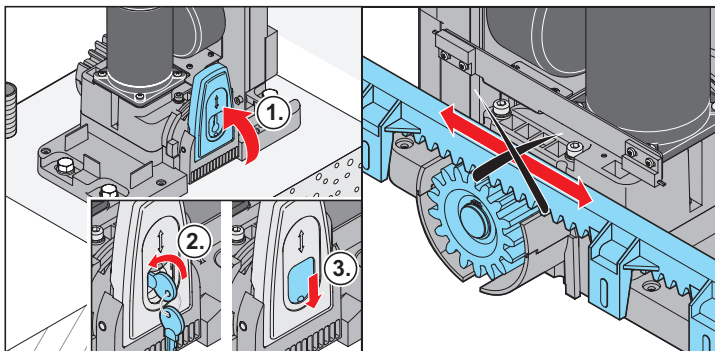
1. Open dust cap

2. Unlock lock

3. Flip the locking lever downwards

⇒ The drive is released. The gate can now be moved by hand only

## Locking drive



1. Flip the locking lever upwards

2. Close the lock

3. Close the dust cap



### IMPORTANT INFORMATION!

Move gate back and forth by hand so the pinion meshes with the rack more easily and the motor can lock.

⇒ Drive is locked and the gate can only be moved with the motor.

# Maintenance and care

## Safety instructions



### DANGER!

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

- Before any work on the gate or drive disconnect it from the power supply and lock it to prevent reconnection.
- Do not use acids or alkalis for cleaning.
- Wipe the drive clean with a dry cloth as required.
- Never reach into a moving gate or moving parts.
- Crush and shear hazards at the closing edges and the mechanical systems of the gate.
- Check all fastening screws and bolts of the drive for tight seating and retighten them where necessary.
- Check the gate in accordance with the manufacturer's instructions.

## Regular testing

- Check that the safety devices function correctly regularly no less than every 6 months. See EN 12453:2000.
- Check that pressure-sensitive safety devices (e.g. safety contact strip) are operating correctly every 4 weeks (see EN 60335-2-95:11-2005).

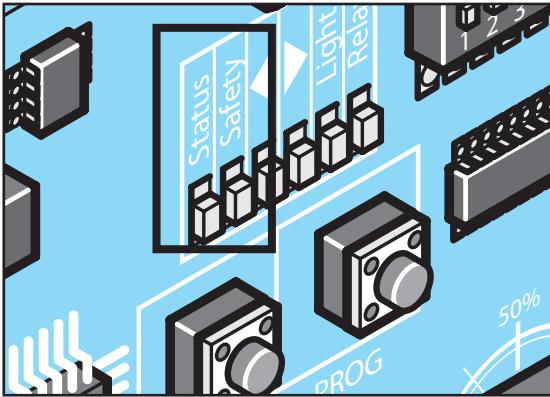
Testing	Behaviour	Yes or No	Possible cause	Remedy
<b>Force cut-off</b> Stop gate during closing with an object 50 mm x 50 mm.	Does drive reverse when it contacts the object?	Yes	• The force cut-off is functioning	
		No	• Force tolerance too high • Gate incorrectly adjusted	• Reduce the force tolerance with TorMinal until the test is successful. First open and close the gate completely twice under supervision. See TorMinal owner's manual. • Adjust the gate, call a technician.
<b>Emergency release</b> Proceed as described in the 'Emergency release' section.	The gate must be easily opened and closed by hand. (Gate is balanced)	Yes	• Everything is OK.	
		No	• Emergency release defective • Gate jams	• Repair emergency release • Check the gate, see maintenance instructions for the gate.
<b>Safety contact strip, if present.</b> Open and close the gate and actuate the strip at the same time.	Behaviour of the gate as set via DIP switch 2. Safety LED lights continuously.	Yes	• Everything is OK.	
		No	• Cable breakage, terminal loose. • Strip defective.	• Check the wiring; retighten the terminals. • Decommission the gate and lock it to prevent reactivation. Call customer service!
<b>Light barrier, if present</b> Open and close the gate while interrupting the light barrier.	Behaviour of the gate as set via DIP switch 4. Safety LED lights continuously.	Yes	• Everything is OK.	
		No	• Cable breakage, terminal loose. • Light barrier dirty. • Light barrier incorrectly adjusted (holder bent) • Light barrier defective.	• Check the wiring; retighten the terminals. • Clean the light barriers • Adjust light barriers • Decommission the gate and lock it to prevent reactivation. Call customer service!



# Troubleshooting

Malfunction	Possible cause	Corrective action
Drive does not close the gate	• Light barriers power supply interrupted.	Check connection Replace fuse
	• Drive has been disconnected from mains power supply.	• The drive always opens the gate completely upon first command after the power supply has been restored
	• The drive was in an intermediate position when it was disconnected from the mains supply or emergency released and as a consequence has switched over to dead man button operation	• Move gate to a limit position in dead man button mode and lock it in this position
Drive opens gate, then no further reaction to a command from the handheld remote control	• Safety input triggered (e.g. light barrier defective), safety LED flashing (see table)	• Remove object from light barrier • Repair light barriers • Control unit not properly plugged in
Speed varies during opening and closing	• Drive starts and slows down before reaching the limit position	Completely normal, drive starts at maximum speed. The drive reduces speed before reaching the other limit position (soft running).
Gate cannot be operated unless the user presses and holds the buttons, e.g. key switches.	• Dead man button mode switched on	Deactivate dead man button mode, see section 'Select DIP switch settings' or 'Remedy defective safety periphery'.
<b>Only radio receiver!!</b>		
All LEDs flashing	• All memory locations occupied, max. 112.	• Delete any handheld remote controls that are no longer needed. • Install additional radio receivers.
One of the LEDs on the receiver is on continuously	• The radio signal is being received; the button of a handheld remote control may be defective or an external signal present.	• Remove the battery from the handheld transmitter. • Wait until the external signal falls off.
One of the LEDs on the receiver is on	• The radio receiver is in the teach-in mode and awaiting a radio code from a handheld remote control.	Press the desired handheld transmitter button.

## Description of the flash sequences of the LEDs



Flash sequences of the safety LED		Meaning
████████████████████	Continuously on	Emergency release is actuated, EMERGENCY STOP or stop button is pressed
■ ■ ..... ■ ■	2 x	Safety contact strip is bent or a force cut-off has occurred
■ ■ ■ ..... ■ ■ ■	3 x	Light barrier is interrupted
■ ■ ■ ■ ..... ■ ■ ■ ■	4 x	Runtime is >90 seconds, path is too short or too long
■ ■ ■ ■ ■ ..... ■ ■ ■ ■ ■	5 x	System error: control unit has a defect or is overloaded

Flash sequences of the status LED		Meaning
████████████████████	Continuously on	System OK
■ ■ ■ ■	4 x	Standby mode is activated
■ ■ ..... ■ ■	2 x	Open time of auto closing is expiring
■ ..... ■	1 x	Battery charge is no longer sufficient



# Disassembly and disposal

## Disassembly



### **IMPORTANT!**

**Observe the safety notices!**

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- 401

Email: [doku@sommer.eu](mailto:doku@sommer.eu)

# Settings

Switch	ON	OFF (delivery status)
1	Dead man button mode activated	Dead man button mode deactivated
2	<b>Reaction to SKL input / force cut-off</b>	
	Full reversing	Partial reversing
3	Weight potentiometer blocked	Weight potentiometer unblocked
4	<b>Reaction to light barrier when closing</b>	
	Full reversing	Partial reversing
5	<b>Standby</b>	
	<b>Standby deactivated</b>	<b>Standby activated</b>
6	Gate closes 5 seconds after triggering light barrier	Triggering light barrier resets the open holding time
7	Gate right stop	Gate left stop
8	Pre-warning time activated	Pre-warning time deactivated

# Connection diagram

