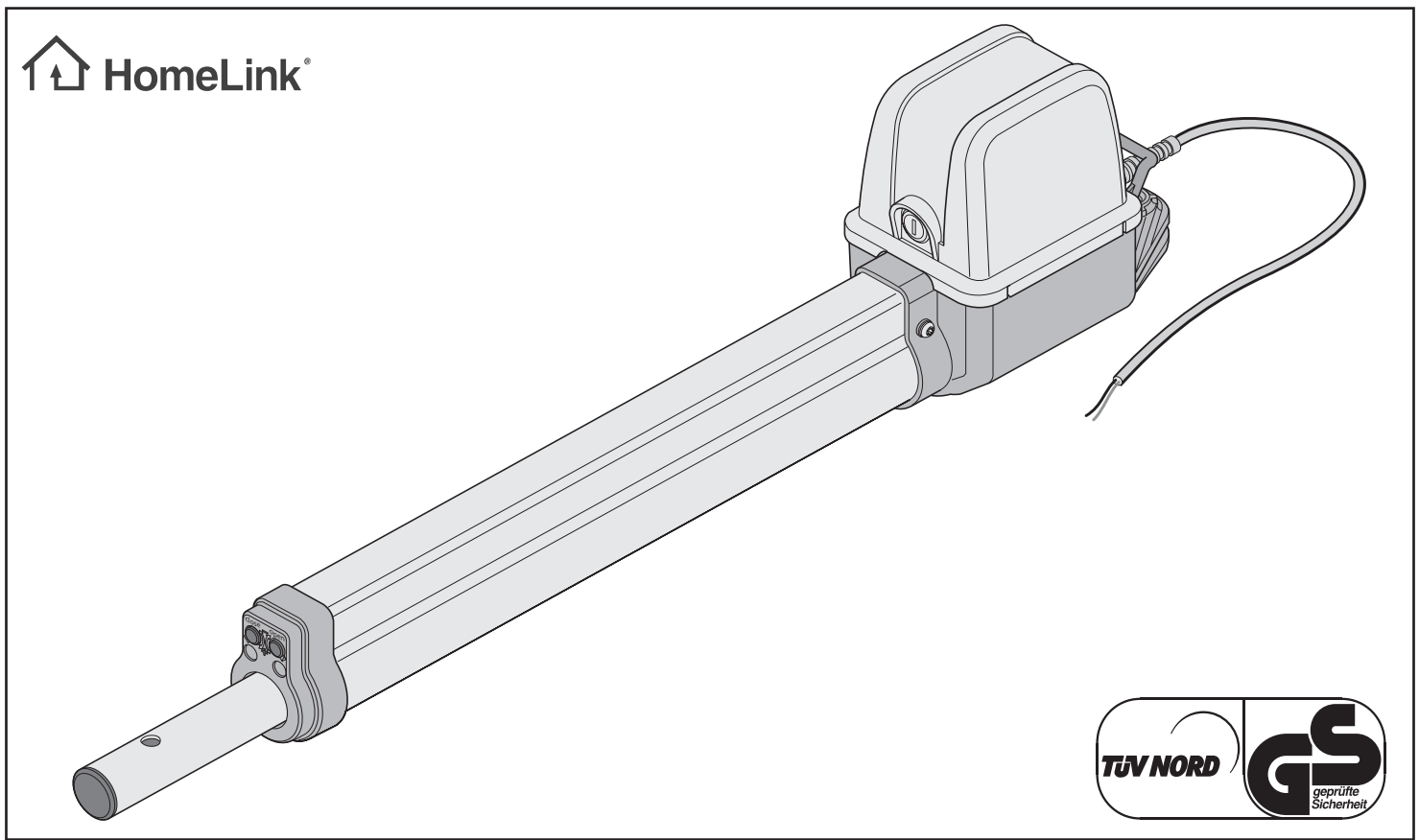


HomeLink®



twist 200 EL



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General Information

Symbols



ATTENTION SYMBOL:

Important safety instructions!

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.

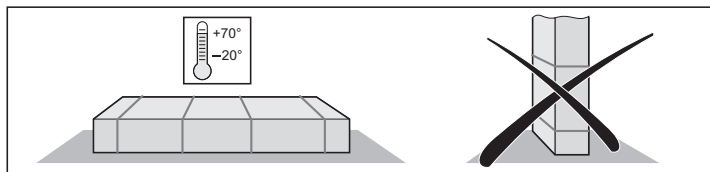
Safety instructions

General

- These installation and operating instructions must be read, understood and complied with by persons who install, use or perform maintenance on the drive.
- The manufacturer does not accept liability for damage or interruptions to business resulting from non-observance of the installation and operating manual.
- Always ensure compliance with accident prevention regulations and current standards in each respective country.
- All applicable Directives and standards must be observed for installation and operation, such as: EN 12453, EN 12604, EN 12605
- Before working on the gate or the drive always disconnect the control unit from the power supply and lock to prevent reactivation.
- All electrical wiring must be firmly secured to prevent displacement.
- There is a risk of persons being crushed or cut by the mechanism or sharp edges of the door.
- Never operate a damaged drive.
- After installation and commissioning all users must be instructed in the function and operation of the swing gate drive.
- 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 - +70 °C.
- The drive should be stored horizontally.



Operation

- Do not allow children or persons who have not been instructed to operate the gate control unit.
- Open and close the gate only if there are no children, persons, animals or objects within its range of motion.
- Actuate the gate wirelessly only if you have an unobstructed view.
- Never put your hand near the gate when it is moving or near moving parts.
- Regularly check the safety and protection functions and repair faults when they are detected. See Care and maintenance.
- Drive through the gate only when it has opened completely.
- Set the force tolerance as low as possible.

- For automatic closing the main and auxiliary closing edges must be secured in accordance with the applicable directives and standards.
- Always remove the key to ensure that unauthorized persons cannot unlock the drive and open the gates.

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 inside the cover of the control unit.

Intended use



NOTE!

After installation of the drive the person responsible for the installation must complete an EC declaration of conformity for the gate 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 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.

- 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 an operator must comply with the valid standards and directives: e.g. EN 12453, EN 12604, EN 12605.
- Maintain the safety clearances between the gate and surroundings as specified in EN 12604.
- The drive must be in good technical condition, and it must be used for its intended purpose with awareness of the hazards as described by the installation and operating manual.
- Faults that may affect safety must be repaired without delay.
- The gate must have very little play in the hinges.
- The gates must be stable and resistant to twisting, i.e. they must not bend or twist when opening and closing.
- The DSTA24 control unit and the twist 200 drive must only be used together.
- The DSTA24 control unit and the twist 200 drives are designed for private use.
- The electric drive is designed exclusively for opening and closing one or two-wing swing gate installations.

General Information

Improper use

- Opening or closing flaps, e.g. for access to roofs or similar.
- Operation with 2x twist200E, EL, on one wing is prohibited.
- Mixed operation with 1 x twist 200 E, EL, and 1 x twist XL is permitted only in combination with the **twist XS # 3248V000** conversion kit.

Permitted gate wing dimensions

Length:	min. 1 m ...max. 2.5 m
Height:	max. 2.5 m
Weight:	max. 200 kg
Open area:	min. 50 %, regardless of wing size
Gate inclination:	0 %

With lift gates

NOTE!
Risk of injury with lift gates that are not balanced!
Gates that lift must be optimally balanced to ensure that they cannot accidentally fall closed when not locked!

i NOTE!
The twist 200E must not be operated with a lift gate except in combination with the 3129V001 (left wing of gate) and 3129V003 (right wing of gate) gate brackets!

- Weight: max. 120 kg
- Length: max. 2.5 m
- Gate inclination: max. 10 %

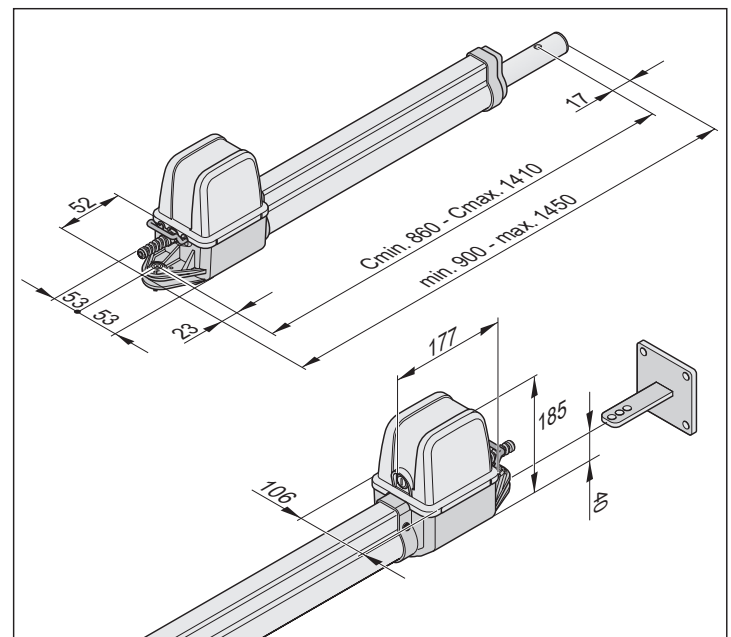
Technical data

	1-wing	2-wing	Unit
General			
Runtime depending on A/B size	approx. 10 ...22	approx. 15 ...27	seconds
Protection type			
Drive	IP 44	IP 44	
Controller housing	IP 65	IP 65	
Rated voltage	220 ...240	220 ...240	AC/V
Rated frequency	50	50	Hz
Operating temperature range			
Drive	$\begin{matrix} \swarrow -30 \\ \searrow +70 \end{matrix}$	$\begin{matrix} \swarrow -30 \\ \searrow +70 \end{matrix}$	°C
Controller housing	$\begin{matrix} \swarrow -30 \\ \searrow +70 \end{matrix}$	$\begin{matrix} \swarrow -30 \\ \searrow +70 \end{matrix}$	°C
Lift (per drive)	550	550	mm
Max. tension and compress. force	2000	2000	N
Duty cycle:	15	15	%
Stand by			
Rated current consumption	20	20	mA
Rated wattage	2,2	2,2	W
Rating			
Motor voltage:	approx. 22	approx. 20	DC/V
Rated current consumption:	approx. 3	approx. 6	A
Rated power consumption:	approx. 118	approx. 234	W

Workplace-related emission value < 75 dBA – drive only

Dimensions

All dimensions are in millimeters.



Functional description

i NOTE!
The end positions (gate OPEN + CLOSE) are set by internal limit switches in the drive and detected during operation.

The gate wing is opened and closed by retracting and extending the gate operator. When the defined end positions are reached the drive is automatically switched off by the limit switch.

Closing the gate

i NOTE!
An end stop at the "gate CLOSED" end position is absolutely essential. An electric lock can be installed as an additional lock.

The gate wing does not require a lock, because the drive is self-locking (retained by the control unit). The gate cannot be pushed open manually without damaging the drive or the fittings.

Wireless actuation

The drive can be actuated with the included hand-held transmitter once the transmitter has been set to the radio receiver.

Safety devices

The control system has an automatic force monitor. If the drive requires more force for opening or closing than the value saved during the learning run, the drive stops and reverses (gate "CLOSE" direction) or remains stationary (gate "OPEN" direction).

Various safety devices can be connected to the control unit (see additional functions and connections).

e.g.

- Photo eye
- Safety contact strip with additional evaluation unit

General Information

Declaration of Installation

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

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

hereby declares that the control unit

twist 200 EL

as of the identification twist 200 EL 01/10 complies with the Machinery Directive 2006/42/EC and is specified for installation in a door system.

• The following fundamental safety requirements in accordance with appendix I have been applied and observed:

- General principles no. 1


- 1.2 Safety and reliability of control units
Safety input I terminal 17 + 18: 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 table "Reference list" on the Internet under 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 door system complies with the regulations of the Machinery Directive.



Kirchheim, 29.12.2009


Jochen Lude
Responsible for documents

EU Declaration of Conformity

SOMMER Antriebs- und Funktechnik GmbH hereby declares that the twist 200 E gate drive and the SOMMER Antriebs- und Funktechnik GmbH hand-held radio 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

Installation preparations

Safety instructions



NOTE!

The control unit is supplied with a mains cable for use in installing the drives only. On completion of installation disconnect the mains cable and replace it with permanent wiring. The mains cable is not approved for constant or outdoor operation.

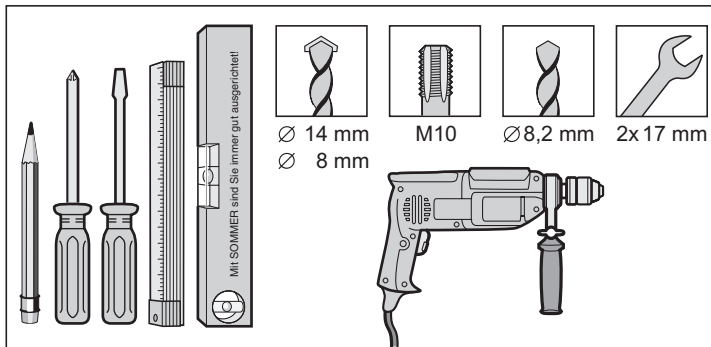


NOTE! DANGER OF DESTRUCTION BY VOLTAGE FLUCTUATIONS.

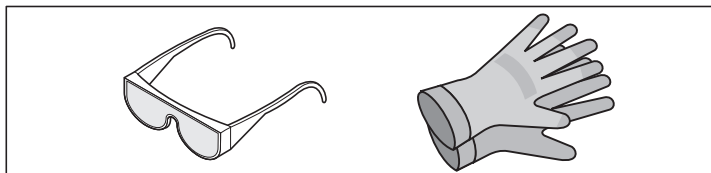
Voltage fluctuations e.g.: caused by welders may destroy the control unit.
Do not connect the control unit to the mains until all installation work is completed.

- Install all wiring for the drive in ducts approved for the purpose (e.g. for underground installation).
- The control unit must be connected to the power supply by an electrician only.
- Installation must be in accordance with the installation and operating manual.
- Remove or disable locking devices (electric locks, bars etc.) before installing the drive.
- Ensure that the drive is securely fastened to posts, pillars and gate wing to withstand forces generated when opening and closing the gate.
- Cover or remove the drive when welding fittings to posts or gate wing to prevent damage from sparks or welding beads.
- 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.
- Use only approved fasteners (e.g. wall plugs) in public areas.

Tools required



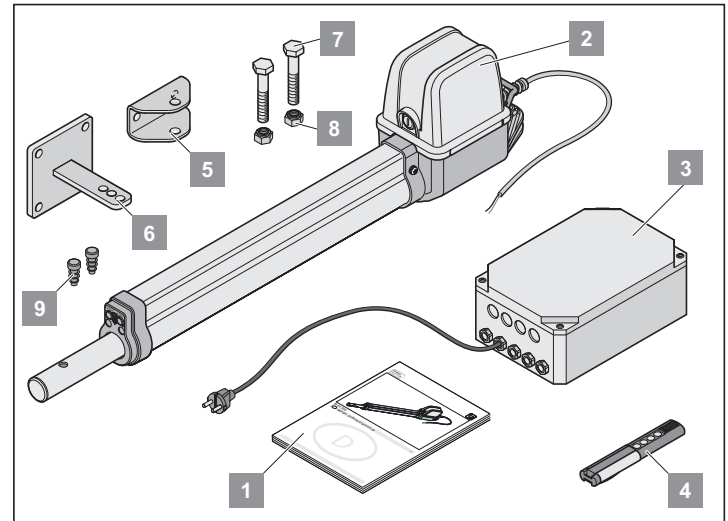
Personal safety equipment



- Safety glasses (for drilling)
- Work gloves

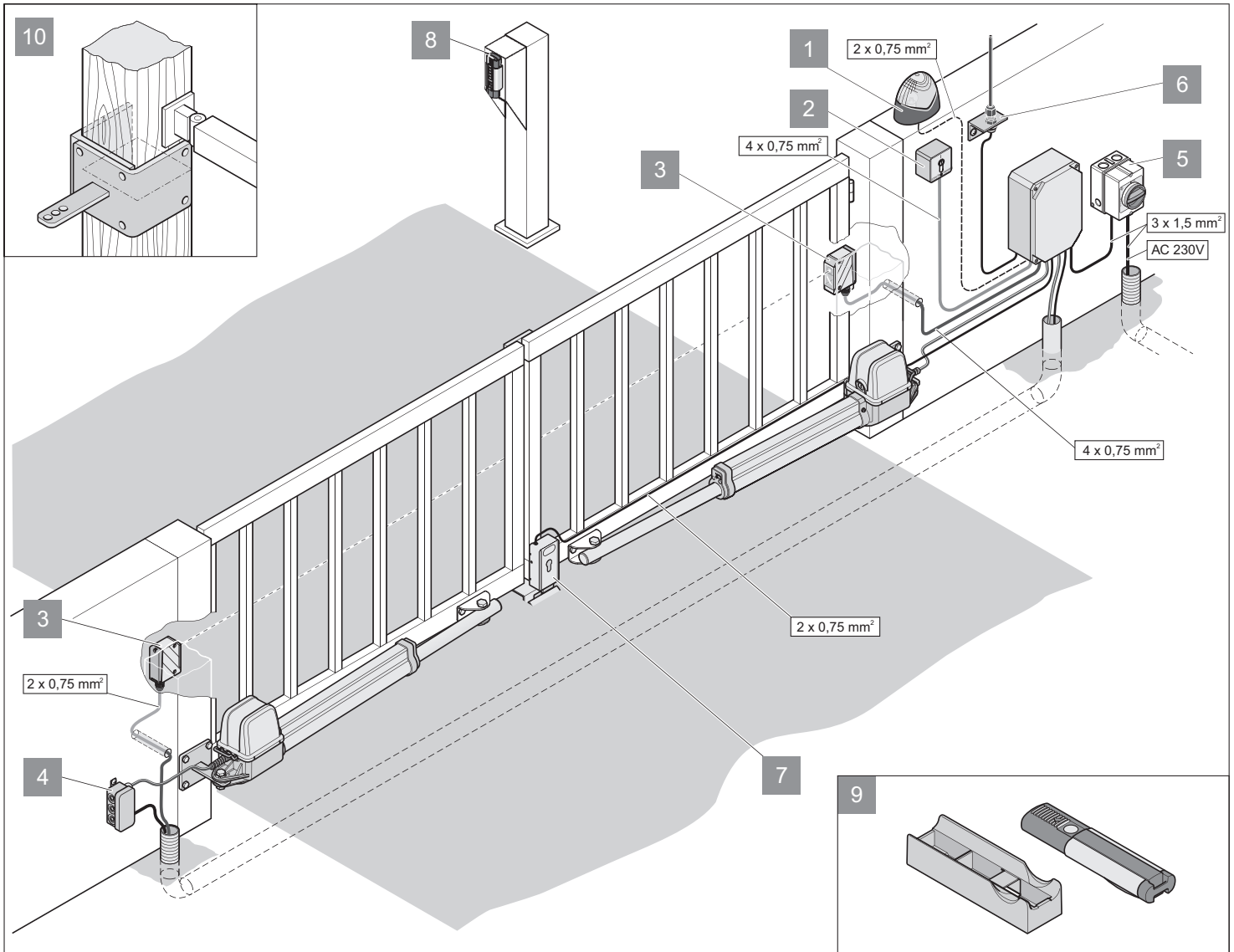
Scope of supply

- 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 design of the drive.



Complete set	1-wing	2-wing	
Weight	9,4	14,4	kg
Package (L x W x H):	980 x 220 x 220		mm
1. Installation and Operating Instructions	1 x	1 x	
2. Drive with cable	1 x	2 x	
3. Control unit in housing (incl. radio receiver, transformer and power plug)	1 x	1 x	
4. Hand-held transmitter with battery	1 x	1 x	
5. Fittings for gate wing	1 x	2 x	
6. Fittings for post or pillar	1 x	2 x	
7. Stainless steel hex bolt M10x45	2 x	4 x	
8. Stainless steel locknut M10	2 x	4 x	
9. Plug	2 x	4 x	

Installation



Tips for installation

- Define the installation location together with the operator.
- Do not install the housing where it could be seen from the street, otherwise the housing and control unit may be damaged by vandalism.
- If the gate wings are larger than 2 m or there are two wings, attach a threshold or a threshold bar to the gate.



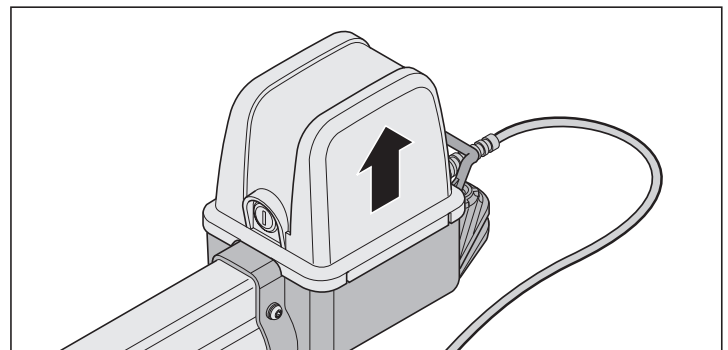
NOTE!

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 (contact your dealer).

1.	Warning light DC 24 V
2.	Key switch (1 or 2 contact)
3.	Photo eye
4.	Connector wiring set 7 m
5.	Main switch (lockable)
6.	rod antenna (with cable)
7.	Electric lock DC 24 V
8.	Telecody
9.	Car/wall holder for hand-held transmitter
10.	Timber post fittings

Drive installation position

Install drive horizontally. Note installation position of motor; it must always point upright.



Installation

A/B dimension table



NOTE!

Before installation define the A/B dimensions. Without them the drive cannot be correctly installed and operated.

- Note different post or pillar dimensions.

B \ A	80	100	120	140	160	180	200	220	240	260	280
100	90°	100°	110°	120°	120°	125°	130°	135°	140°	140°	130°
120	90°	100°	105°	110°	120°	125°	125°	130°	130°	140°	130°
140	90°	100°	105°	110°	115°	120°	120°	125°	130°	135°	130°
160	90°	95°	100°	110°	115°	120°	120°	125°	130°	130°	115°
180	90°	95°	100°	105°	110°	115°	120°	125°	125°	120°	110°
200	90°	95°	100°	105°	110°	115°	120°	120°	120°	110°	105°
220	90°	95°	100°	105°	110°	110°	115°	115°	110°	105°	100°
240	90°	95°	100°	100°	105°	110°	115°	110°	105°	100°	95°
260	90°	95°	100°	100°	105°	110°	110°	100°	95°	95°	90°
280	90°	95°	100°	100°	105°	110°	105°	100°	90°	90°	
300	90°	95°	100°	100°	105°	100°	95°	90°			
320	90°	90°	95°	100°	100°	90°	90°				
340	90°	90°	95°	100°	90°						
360	90°	90°	95°								
380	90°	90°									
400	90°										



NOTE!

Select A/B dimensions so the desired opening angle is reached. The specified opening angle (D) is a reference value for the largest possible angle. If the gate wings are *larger* than 1.5 m, the B dimension must be at least 140 mm.

- Dimensions A, B in mm
- D = largest possible opening angle in degrees
- 1 revolution = 1.25 mm adjustment path when adjusting the limit switch

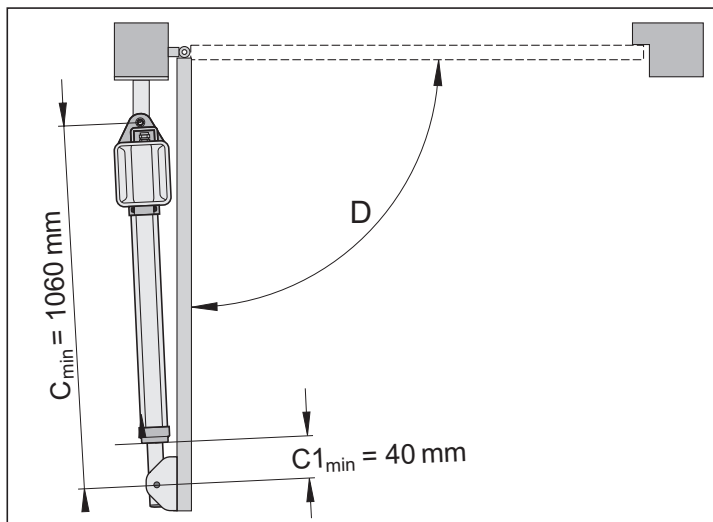


NOTE!

Follow these instructions to set the end positions. This ensures that:

- the drive is at maximum rigidity in the CLOSED position
- the maximum possible path is fully used
- only one limit switch (CLOSED position) must be set

1. Setting the end position for gate "OPEN"

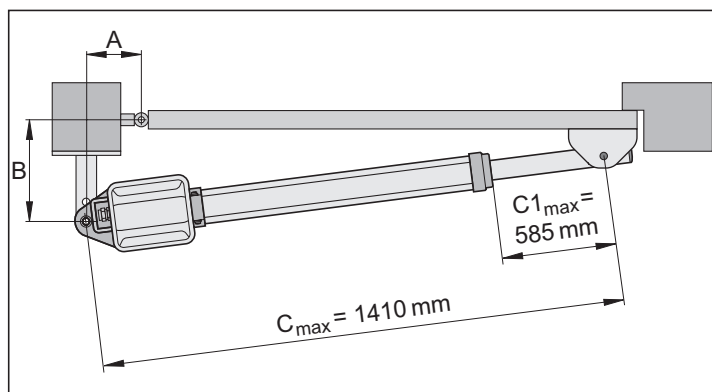


NOTE!

Gate "OPEN" end position preset, approx. C1 = 40 mm.

- Measure A and B dimension and compare with preset values from A/B dimension table.
- Install the post fitting on post in accordance with the selected A/B dimensions.
- Move the gate to the desired OPEN position. Note the maximum possible opening angle D from the A/B dimension table.
- Remove drive from package and attach to post fitting. The drive at maximum retraction as delivered.
- Fasten drive temporarily to gate with gate fitting, e.g. with a clamp.
- Set gate "AUF/open" end position. See "Setting the end switches"

2. Setting the end position for gate "CLOSE"



NOTE!

End position gate "CLOSE" preset, approx. C1 = 430 mm. This corresponds to the maximum possible value for C1 or Cmax. Do not exceed maximum values for C1 = 430 mm and C = 1060 mm.

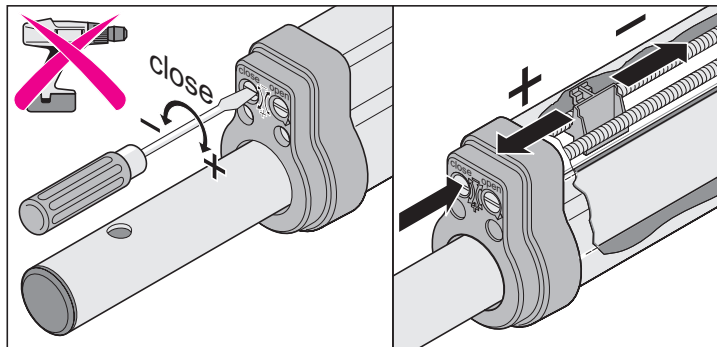
- Close the gate manually. Unlock the drive to allow this (see "Unlocking the drive", page 9).
- Measure dimension C1 on drive and check that C1 is no greater than C1max = 430 mm.
- Set dimension C1. See "Setting the limit switches".
- Connect the control unit to the preinstalled plug and connect the drive (see "Connecting drive to control unit").

Installation

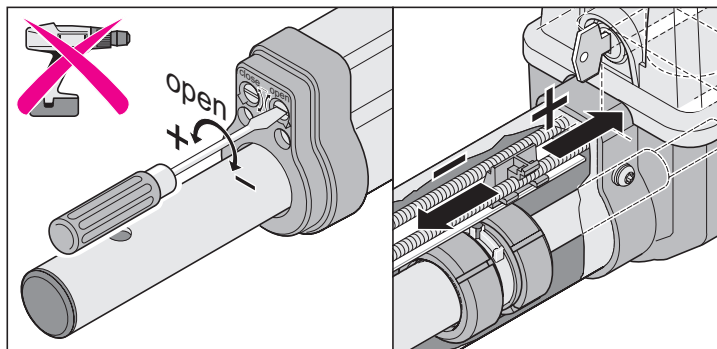
Setting the limit switches

NOTE!
Before setting the limit switches read the "Information on setting the end positions".
If the information and instructions are not observed the drive and control unit may be irreparably damaged.

Gate CLOSE



Gate OPEN

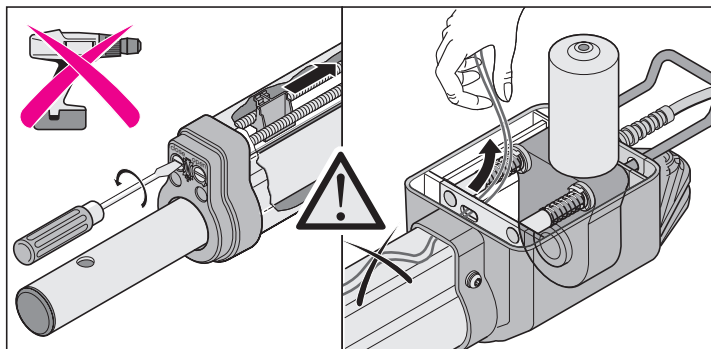


Instructions for setting the end positions

NOTE!
Do not adjust limit switches with a battery-powered screwdriver or a similar tool. This may destroy the limit switches.

NOTE!
Never connect drive to 230V. This will destroy the motor immediately.

NOTE!
Before installation set the limit switches for "gate OPEN" and "gate CLOSE". The gate wing must not come into contact with the housing, or it may be damaged.



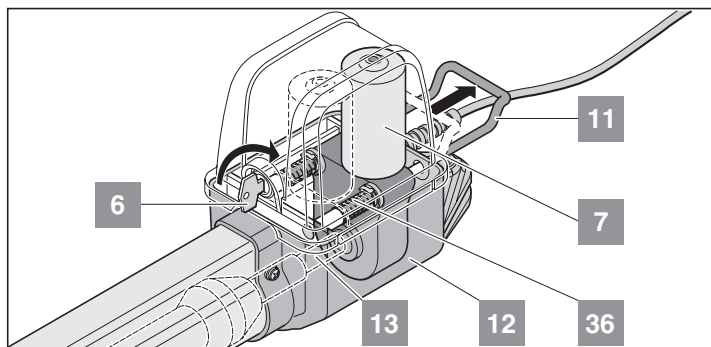
NOTE!
Always reposition the limit switch connector cable after adjustment to prevent it from being jammed in the gate operator.

Emergency unlock for power failure and installation

NOTE!
Actuate the emergency lock only with the control disconnected from the power and locked to prevent reactivation.

In case of power failure the gate can be opened or closed manually after unlocking the drive, regardless of its position.

Unlocking the drive



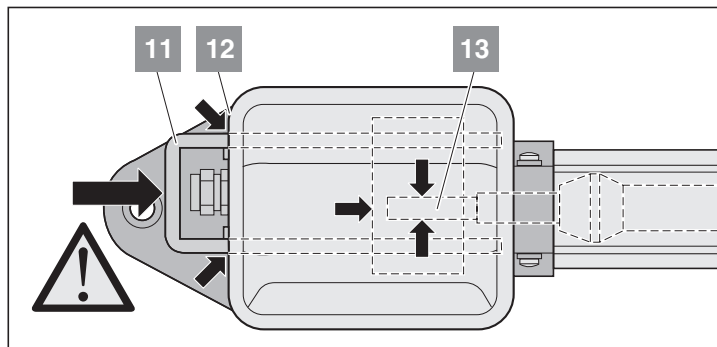
1. Turn key (6) 90° clockwise - this unlocks the emergency release bracket (11).
2. Pull the emergency release bracket (11) away from the housing (12), the motor (7) is pulled down from the spindle (13). The springs (36) push the motor (7) down off the spindle (13).
Make unlocking easier: move gate wing manually.

Installation

Locking the drive

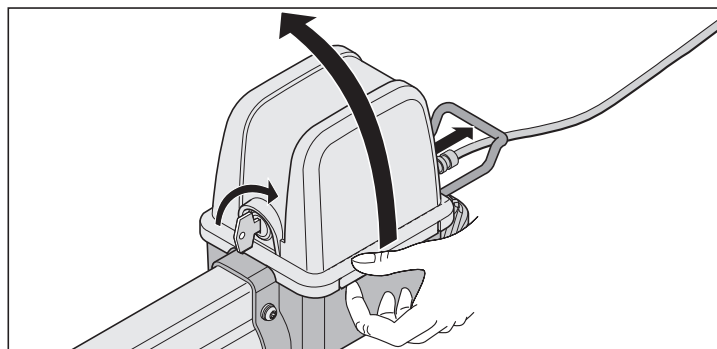
1. Proceed in reverse order of emergency unlock.

i **NOTE!**
The emergency release bracket (11) must be almost in contact with the housing (12). If the drive is not completely unlocked, it will damage the motor (7).



Removing cover

i **NOTE!**
Remove the cover only with the control unit disconnected from the power and locked to prevent reactivation.



Installation of fittings

i **NOTE!**
The strength of the included fittings is designed for the drive (twist 200). If other fittings are used, the warranty will not apply.

i **NOTE!**
If the B dimension is smaller than the smallest B dimension in the table, install a spacer plate under the post fitting to ensure that the B dimension is at least 100 mm (see A/B dimension table).

- Cover or remove the drive when welding fittings to posts or gate wing to prevent damage from sparks or welding beads.
- Attach fitting to thick brick or concrete pillar so the wall plugs cannot come loose during operation. Adhesive-bonded anchors, with which a threaded pin is cemented to the brickwork without tension, are more suitable than steel and plastic expanding plugs.
- Clearances between the gate wing and post or gate wing and drive must be maintained in accordance with the applicable standards.

Steel posts

Note the thickness of the post.
The fitting can be welded or bolted directly to steel posts.

Brick or concrete pillars

When attaching the fitting to the brick pillar, ensure that the holes are not too close to the edge of the pillar. The distance may vary depending on the type of plug. The plug manufacturer will provide recommended distances.

Timber posts

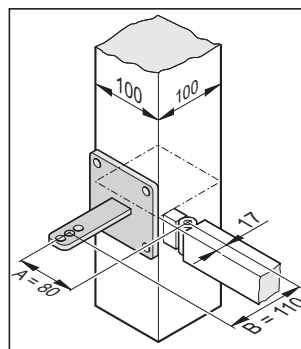
The included fitting can be used, because the forces are not excessively large.
If the included fitting cannot be used with your gate, contact your dealer for special fittings (e.g. wood post fitting).



NOTE!
After installation of fittings do not do any more welding or grinding. Residues of such work will result in rapid corrosion of fittings.

Examples for A/B dimensions

1. Small post



Assumed:

Steel post 100 mm x 100 mm
desired opening angle min. 90°
wing length 1.5 m

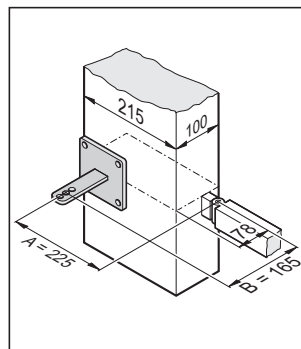
Measured:

A = 80 mm
B = 110 mm

According to table

A = 80 mm
B = 120 mm
Opening angle = max. 94°

2. Long post



Assumed:

Concrete pillar 215 mm x 100 mm
desired opening angle min. 95°
wing length 2.5 m

Measured:

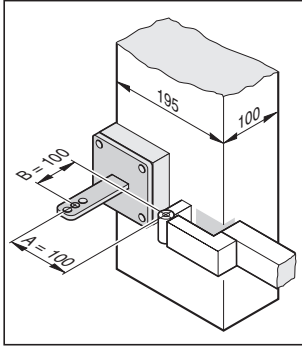
A = 225 mm
B = 165 mm

According to table

A = 220 mm
B = 160 mm
Opening angle = max. 91°

Installation

3. Angle/hinge inside

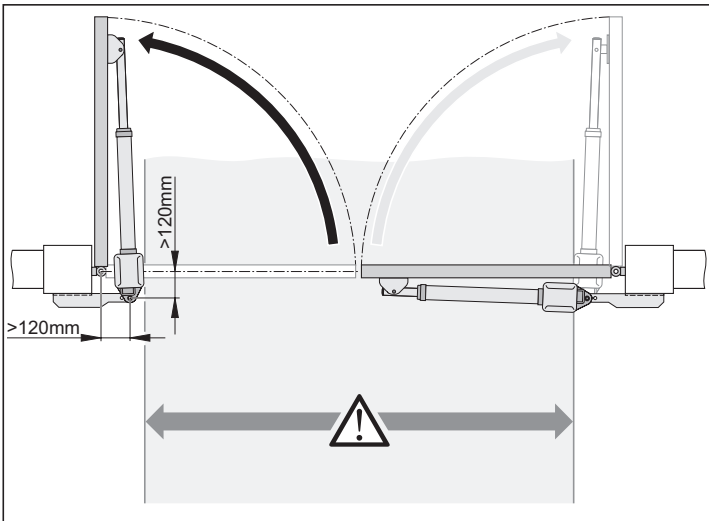


Because the B dimension is less than 100 mm, install a spacer under the post fitting. This means that the B dimension is 100 mm.

According to table

A = 100 mm
B = 100 mm
Opening angle = max. 105°

Opening gate outwards

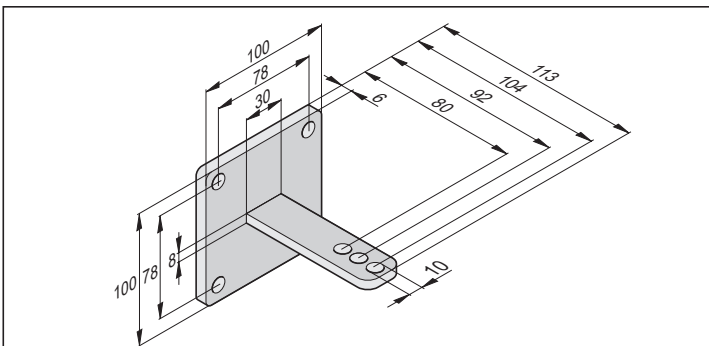


ATTENTION

Depending on the actual installation the passage width will be reduced by about 150 mm on each side, because the drives project into the passage.
The A/B dimensions must each be at least 120 mm.

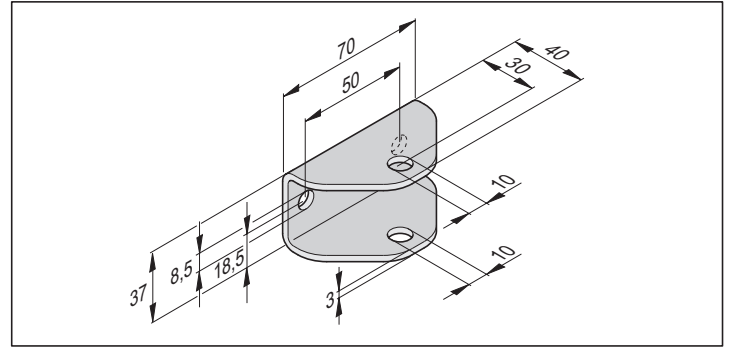
- Prepare the post or pillar fitting on site. It must always be fitted to the actual dimensions of the post or pillar.

Post or pillar fitting



2. Height from ground to bottom of fitting min. 50 mm. This may be restricted by the fastening options of the drive to the gate wing.
3. Tighten the nut on the bolt until the drive can still be easily rotated.

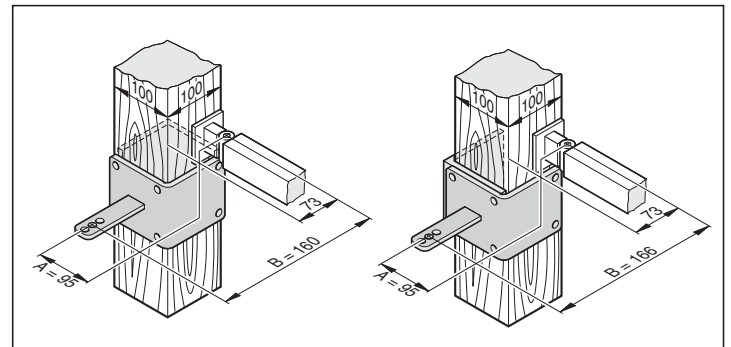
Gate wing fitting



1. Close door
2. Mount fitting on the gate operator of the drive, insert bolt from above.
3. Clamp the fitting to the gate wing and check the end position setting of the limit switch with a test movement.
4. Check that the drive is horizontal in three positions:
 - Gate "CLOSE"
 - Gate "OPEN"
 - Gate opened 45°
5. Position of fitting OK, fix fitting to gate wing.
6. Tighten the nut on the bolt so the drive can still be easily rotated.

Timber post fittings

Available as an accessory.



Installation

Installing the control unit



NOTE!

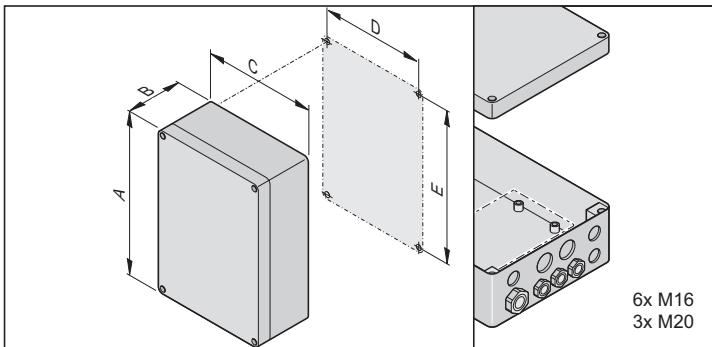
The drive is supplied with a mains cable for use in installation only. On completion of installation disconnect the mains cable and replace it with permanent wiring. The mains cable is not approved for constant or outdoor operation.



NOTE!

Connect the mains connection according to EN 12453 (all-pole line disconnecter). Install a lockable main switch (all-pole shut-off) to prevent the power from being accidentally switched on during maintenance work. See accessories, main switch on page 25.

Use a suitable power cable with a fuse (16 A, slow-blow).



6x M16
3x M20

Size	Housing 2
A	250 mm
B	75 mm
C	175 mm
D	160 mm
E	235 mm



ATTENTION DANGER OF DESTRUCTION BY WATER

Penetration of water may destroy the control unit. Use the fixture points provided for screwing on the housing. Do not drill through the rear wall of the housing. The housing is not sealed, water will penetrate and the control unit will be destroyed.

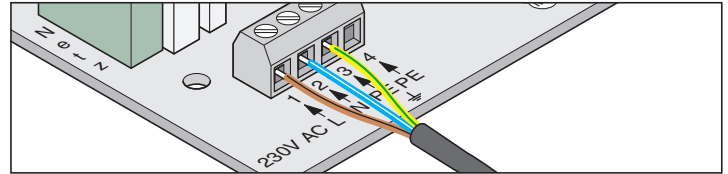
- Disconnect the power to the control unit before working on it.
- Dry any moisture that enters the housing with a fan.
- The control unit must be connected to the power supply by an electrician only.
- Install the control unit housing in a perpendicular position with the wire feed at the bottom without strain to prevent penetration of water and the cover is watertight.

Connection to mains power (AC 230 V)



NOTE!

Approved wire cross sections for all terminals:
1 mm² - 2.5 mm².



Terminal	Description	Function
1	L	Mains supply line AC 230 V
2	N	Neutral wire
3 + 4	PE	Protective ground



NOTE!

The control unit must be connected to mains power by an electrician.

Connecting drive to control unit



IMPORTANT!

Never connect drive directly to 230 V. This will destroy the motor immediately.



ATTENTION

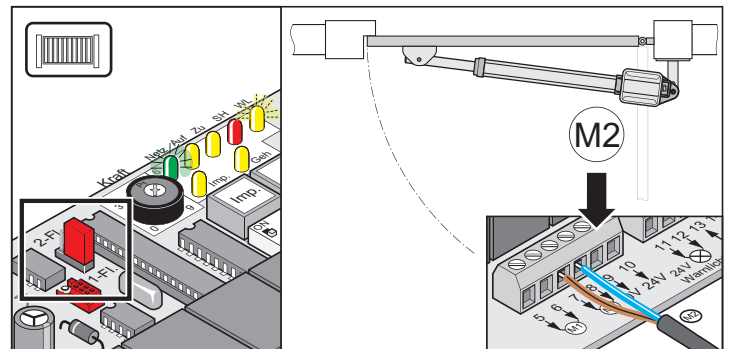
Connect the drives only with the control unit disconnected from the power and locked to prevent reactivation.

Gate 1 wing



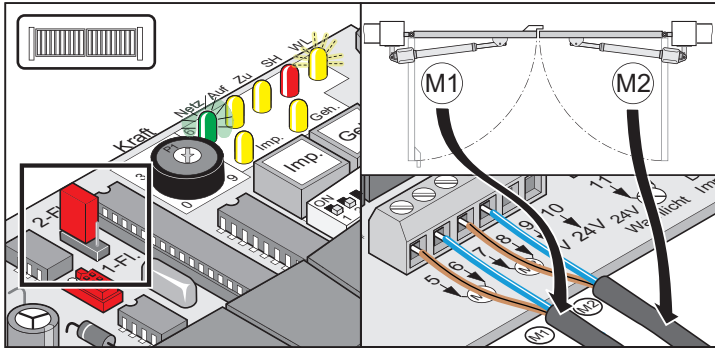
NOTE!

Connect 1-wing drive to terminal M2 only.



Installation

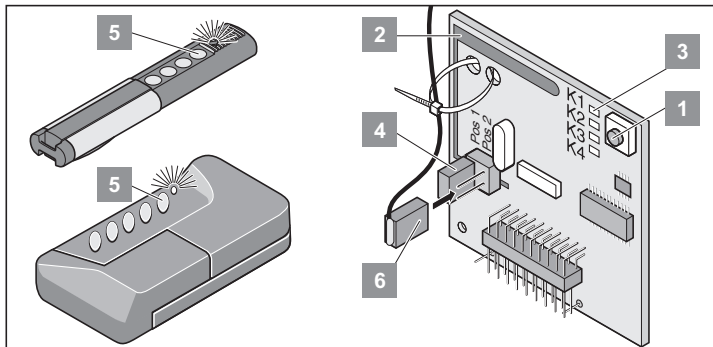
Gate 2 wing



1. Connecting drive to control unit
 - First connect and adjust the drive for the gate with stop (M1) and then the drive for the walk-through gate (M2).
2. Set all DIP switches to "OFF".
3. Set jumpers: 1 or 2-wing gate system
4. Connect control unit to the power supply.
 - ⇒ "Mains" LED lights and "WL" LED flashes.

Programming the hand-held remote control

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



1. Press the Learn button (1).
 - 1 x for channel 1; LED (K1) lights.
 - 2 x for channel 2; LED (K2) lights.
2. Press the desired hand-held transmitter button (5) until the LED is off.
 - Depending on which channel that has been selected. The hand-held transmitter has transferred the radio code to the radio transmitter.
 - ⇒ LED extinguishes - programming is finished.

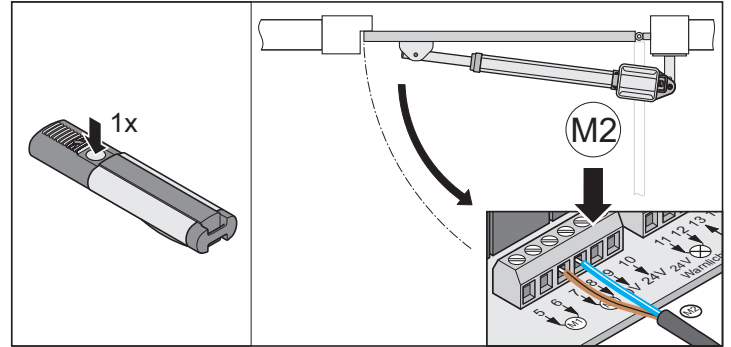
i **NOTE!** If no radio code is sent within 10 seconds, the radio receiver switches to normal operation.

3. Canceling the Learn mode: Press the Learn button (1) until no more LEDs are lit.
4. Programming additional hand-held remote controls. Repeat the above steps. A maximum of 112 memory slots is available.

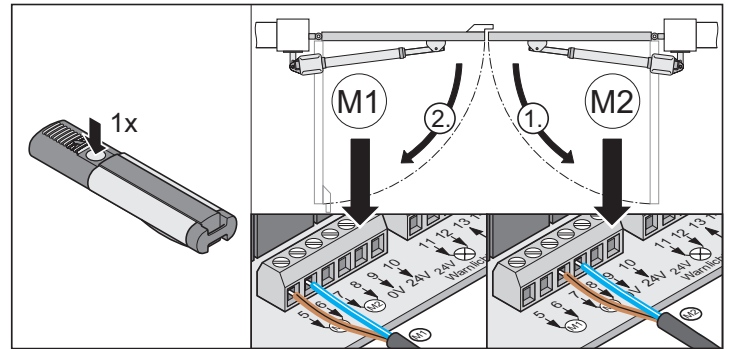
Checking the direction of running

- After the first command the drive must traverse in the gate "OPEN" direction. If the drive traverses to gate "CLOSE", reverse the drive connector cable at the control unit.

Gate 1 wing



Gate 2 wing



Terminal	Description	Function
5 + 6	M1	<ul style="list-style-type: none"> • 1 wing: no function • 2 wing: Connection for motor-1 The motor must be on the gate wing that opens second or on which there is an outside stop bar. • Terminal 5: motor wire brown • Terminal 6: motor wire blue
7 + 8	M2	<ul style="list-style-type: none"> • 1 wing: Connection for the motor • 2 wing: Connection for motor-2 The motor must be on the gate wing that opens first or on which there is no outside stop bar. • Terminal 7: motor wire brown • Terminal 8: motor wire blue

Initial operation

General information

NOTE!
Always run learning procedure under supervision, because the drives traverse at full power and half speed. This is dangerous for persons, animals and object within the range of motion of the gates.

- "WL" LED or a connected warning light will flash during the learning procedure as a visual warning independent of the setting of DIP switch 4.
- In the commissioning process the force required for opening and closing, the runtime and the closing delay are learned and saved by the control unit.
- If the learning run is interrupted by a stop before completion ("WL" LED lights when opening or closing), all previously saved values are lost.

Preparations for continuous operation

ATTENTION! DANGER OF SHORT-CIRCUIT!
Before switching the DIP switches, disconnect the power supply to the control unit.

1. Selection 1 or 2-wing, desired components connected and settings made, see additional functions and connections.
2. Mains power connected and voltage (AC 230 V) at control unit ("Mains" LED on).
3. Fittings bolts tightened, drives can be moved easily.
4. Position cover and click into place.
5. Set emergency unlock and lock with padlock.
6. Close door

Enabling continuous operation

- Check the setting of the limit switches. Open and close gate. If the drive switches off correctly at both end positions, run learning procedure.

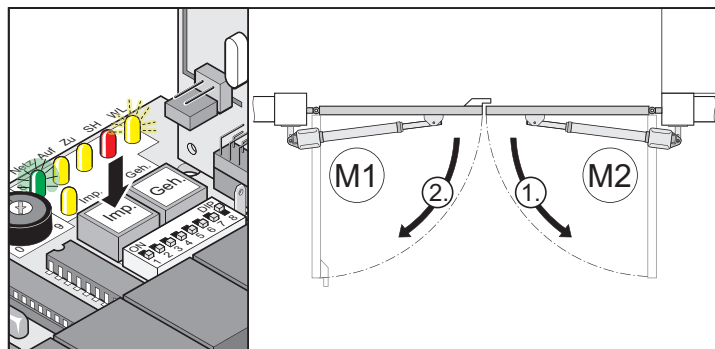
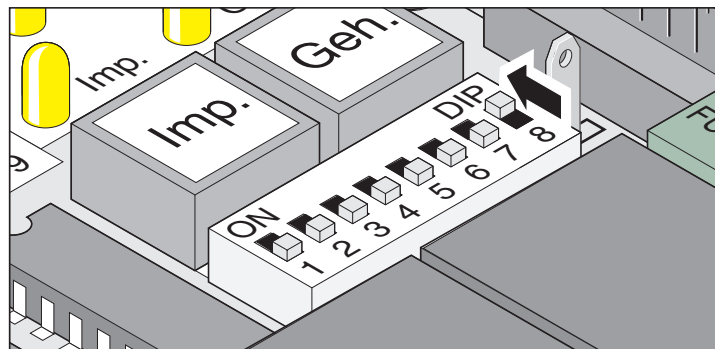
NOTE!
Set DIP switch 8 to "ON" and leave in this position.

"WL" LED flashes until the force values, runtimes and closing delays are learned and saved.

2-wing gate system!

Gate wing 1 (M1 gate with stop) closes first, then gate wing 2 (M2 walk-through gate), this prevents an incorrect closing sequence for gates with different runtimes.

Run learning procedure at least twice:

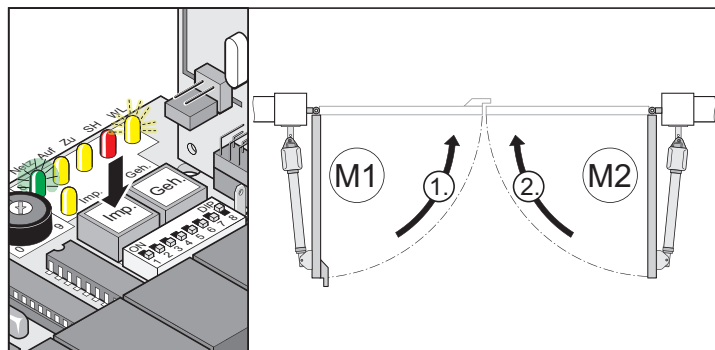


1. Press (Imp) button, drive traverse to gate "OPEN" end position.
⇒ "Mains" LED lights, "WL" LED flashes.



NOTE!

After the first command the drive must traverse in the gate "OPEN" direction. If the drive traverses to gate "CLOSE", reverse the drive connector cable at the control unit.



2. Press (Imp) button, drive traverses to gate "OPEN" end position.
⇒ "Mains" LED lights, "WL" LED flashes.
3. Repeat item 1 + 2.
⇒ "WL" LED stops flashing, all values learned and saved.

At the next command the gates are started and stopped with soft running. Every time the gates are opened the control unit monitors the force, runtime and closing delay and adjusts them incrementally when the end position is reached.



NOTE!

If the learning procedure is not correctly completed (drives traverse without soft running, "WL" LED flashes), reset the control unit (delete saved values, see control unit reset) and run the learning procedure again.

Initial operation

Adjusting the force tolerance



NOTE!

After installation of the drive the person responsible for the installation must complete an EC declaration of conformity for the gate 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 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.



NOTE!

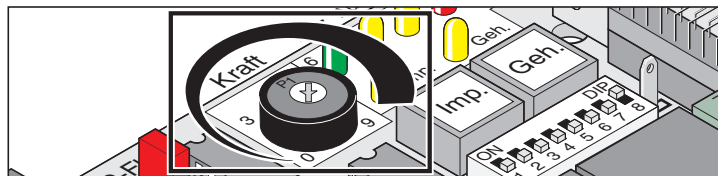
The adjustment of the force tolerance is safety-relevant and must be performed by qualified personnel with upmost care. If the force tolerance is too high, persons or animals may be injured and objects damaged. Select the force tolerance as low as possible to ensure that obstacles are detected quickly and safely.

- Maximum force = learned force + force tolerance (adjustable with the potentiometer).
- If the force is not sufficient for opening or closing the gate completely, increase the force tolerance by rotating the potentiometer clockwise.
- If the setting is changed while the gate is opening or closing, the control unit imports the setting next time the gate is opened.
- After setting the force tolerance it may be necessary to reset the end positions.

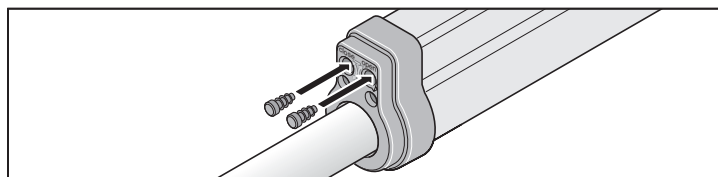
Checking the force tolerance

See Care and maintenance / regular testing.

Setting the force tolerance to the automatically learned force. The potentiometer setting is imported again at every start.



- Left stop of potentiometer (0) is the lowest tolerance, the right stop (9) is the highest tolerance.



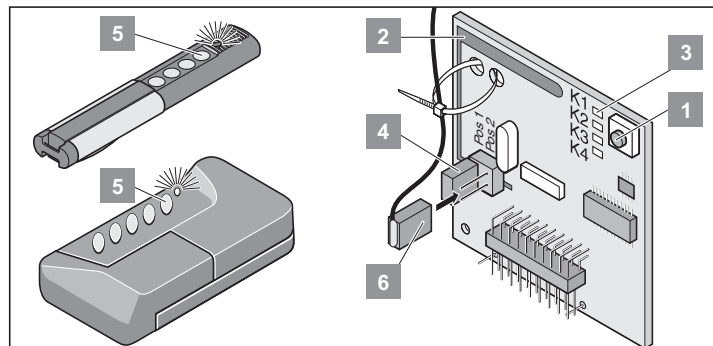
- Insert plugs.

Programming the hand-held remote control



NOTE!

Before programming the hand-held transmitter for the first time, always clear the radio receiver memory completely.



Deleting the radio receiver memory

1. Press and hold the Learn button (1).
⇒ After 5 seconds the LED flashes - after another 10 seconds the LED is steady.
⇒ After a total of 25 seconds all LEDs light.
2. Press the learn button (1).
⇒ All LEDs off - clearing process complete.

Programming the hand-held remote control

Gate system 1-wing:

- Button 1 on radio channel 1

Gate system 2-wing:

- Button 1 on radio channel 1 (both gate wings open)
- Button 2 on radio channel 2 (only the walk-through gate opens)

1. Press the Learn button (1).
 - 1 x for channel 1; LED (K1) lights.
 - 2 x for channel 2; LED (K2) lights.
2. Press the desired hand-held transmitter button (5) until the LED is off.
 - Depending on which channel that has been selected. The hand-held transmitter has transferred the radio code to the radio transmitter.
 - ⇒ LED extinguishes - programming is finished.
3. Canceling the Learn mode: Press the Learn button (1) until no more LEDs are lit.



NOTE!

If no radio code is sent within 10 seconds, the radio receiver switches to normal operation.

Control

1. Press button 2, walk-through gate wing opens.
2. Press button 1, both gate wings open.
3. Repeat the above steps to program additional hand-held transmitters.
 - The radio receiver can save a maximum of 112 different radio codes (hand-held transmitter buttons).

Safety instructions

- Never operate a damaged drive.
- Children, persons, animals or objects must not be within the range of motion of the gates during opening or closing.
- Do not operate the hand-held transmitter in areas with sensitive radio communications or systems (e.g. airports, hospitals, etc.).
- Actuate the gate wirelessly only if you have an unobstructed view of it.
- Store the hand-held transmitter so that unintended operation, e.g., by children or animals, is impossible.
- Use the radio remote control only if a non-hazardous force tolerance is set. Set the force tolerance low enough to eliminate any danger of injury by the closing force.

Normal mode

The force required for opening and closing may be affected by changes to the gate as a result of damage, moisture absorption, ground subsidence, outside temperature, etc.

If the force required for opening or closing increases within the defined tolerance on the potentiometer, the new value is automatically learned by the control unit. The control unit also learns a reduced force requirement in the same way.

Summer-winter mode

Weather differences between summer and winter mean that the drive requires different forces for opening or closing the gate. If the gate will not open or close, reset the control unit and run a new learn procedure.

Temperature differences between summer and winter may mean that the gate wings have different end positions, which must be compensated by adjusting the limit switches.

Intermediate stop

2-wing gate system:

Open the gate wing with the pulse command and then send the stop command. If gate wing 1 has not yet opened, the open walk-through gate wing can only be closed with the walk-through gate command.

Obstacle detection



NOTE!

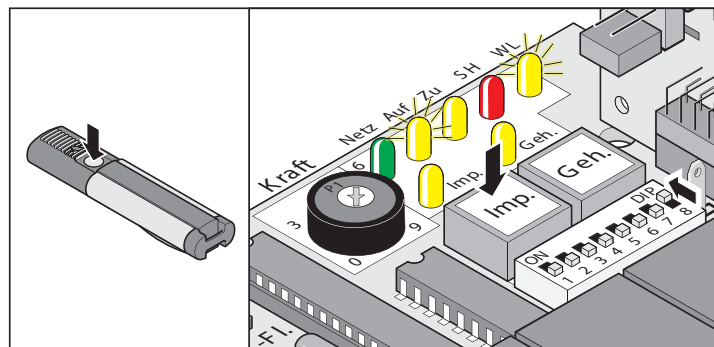
Obstacle detection requires a correctly completed learning run and correctly set force tolerance.

If the gate wing contacts an obstacle when opening or closing, this is detected. The gate wing will react differently depending on the direction of motion and the settings of the DIP switches. The direction of motion following a detected obstacle is always away from it.

Opening and closing gate

Requirements:

- Set DIP switch 8 set to "ON" and learning run completed.
- Hand-held transmitter (button 1 on channel K1, button 2 on channel K2) programmed.



Process 1-wing

1. Press button (Imp) or hand-held transmitter (button 1)
2. Gate opens to gate "OPEN" end position
 - ⇒ "OPEN + WL" LED on
 - ⇒ Gate "OPEN" end position reached - LED "OPEN + WL" off

Process 2-wing - both gate wings

1. Press button (Imp) or hand-held transmitter (button 1)
 - ⇒ Gate wing 2 (M2/walk-through gate) opens first and then gate wing 1 (M1) after a delay of 3 seconds - LED "OPEN + WL" is on.
 - ⇒ Gate "OPEN" end position reached - LED "OPEN + WL" off
2. Press button (Imp) or hand-held transmitter (button 1)
 - ⇒ Gate wing 1 (M1) closes first and then gate wing 2 (M2/walk-through gate) after a delay of 5 seconds - LED "CLOSE + WL" is on.
 - ⇒ Gate "CLOSE" end position reached - LED "CLOSE + WL" off.

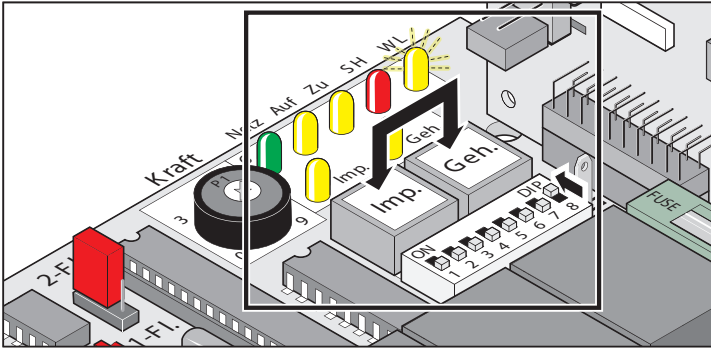
Process 2-wing - walk-through gate

1. Press button (walk-through) or hand-held transmitter (button 2)
 - ⇒ Gate opens to gate "OPEN" end position - LED "OPEN + WL" on.
 - ⇒ Gate "OPEN" end position reached - LED "OPEN + WL" off
2. Press button (walk-through) or hand-held transmitter (button 2)
 - ⇒ Gate closes to gate "CLOSE" end position - LED "CLOSE + WL" on.
 - ⇒ Gate "CLOSE" end position reached - LED "CLOSE + WL" off.

Operation / Use

Control unit reset

The control unit reset deletes all programmed values (e.g. force values: force required by drive to open or close the gate, closing delay). It may be necessary to reset the control unit to delete the saved values and reprogram the unit.



1. Press and hold the button (pulse + walk-through).
⇒ "WL" LED flashes.
2. "WL" LED off - all values deleted. Release button.
⇒ "WL" LED flashes.
3. Run learning procedure again, see activating continuous operation.

Radio receiver



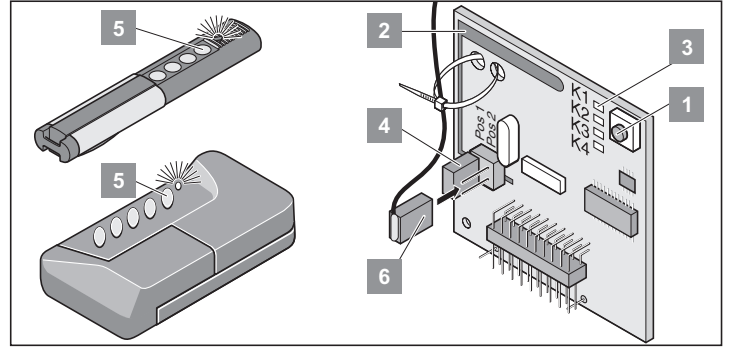
HOMELINK-COMPATIBLE

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 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
2	Internal antenna
3	LEDs: show which channel has been selected. K1 = channel 1 -> same function as pulse button K2 = channel 2 -> same function as walk-through button ! K3 = channel 3 -> no function ! K4 = channel 4 -> no function
4	Connection for external antenna (6) Use an external antenna if the range with the internal antenna is not sufficient. See accessories
5	Hand-held transmitter button
6	External antenna

Programming the hand-held remote control



NOTE!

Before programming the hand-held transmitter for the first time, always clear the radio receiver memory completely.

1. Press the Learn button (1).
 - 1 x for channel 1; LED (K1) lights.
 - 2 x for channel 2; LED (K2) lights.
2. Press the desired hand-held transmitter button (5) until the LED is off.
 - Depending on which channel that has been selected. The hand-held transmitter has transferred the radio code to the radio transmitter.
 - ⇒ LED extinguishes - programming is finished.



NOTE!

If no radio code is sent within 10 seconds, the radio receiver switches to normal operation.

3. Canceling the Learn mode: Press the Learn button (1) until no more LEDs are lit.
4. Programming additional hand-held remote controls. Repeat the above steps. A maximum of 112 memory slots is available.

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.



NOTE!

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

1. Press the learn button (1) and hold it down for five seconds until any LED flashes.
2. Release the learn button (1) - the radio receiver is in delete mode.
3. Press the button on the hand-held transmitter corresponding to the radio code you want to delete - LED goes off. The deletion procedure is ended.
⇒ LED off - wipe procedure complete.

Deleting all radio codes of a channel

1. Press and hold the Learn button (1).
 - 1 x for channel 1; LED (K1) lights.
 - 2 x for channel 2; LED (K2) lights.⇒ The LED lights depending on the channel that has been selected.
⇒ After 5 seconds the LED flashes - after another 10 seconds the LED is steady.
2. Release the Learn button (1) - the deletion procedure is ended.

Deleting the radio receiver memory

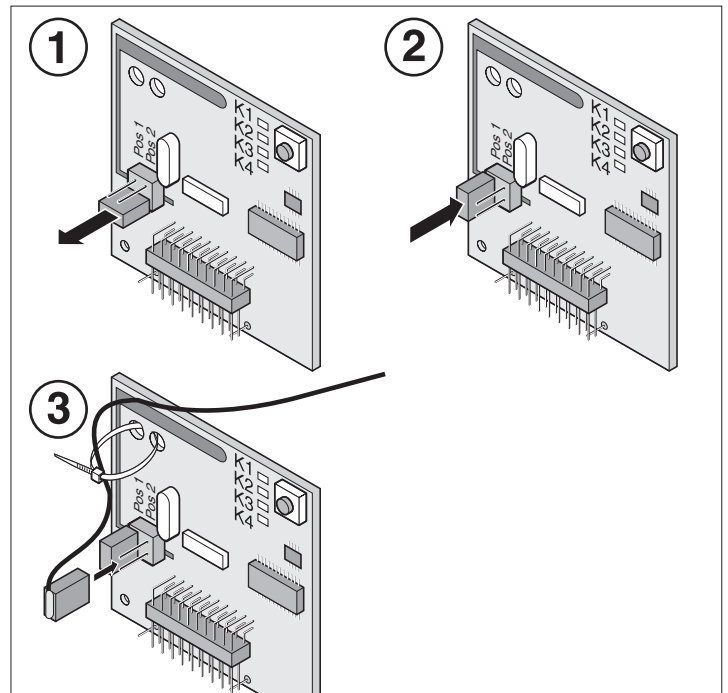
If a hand-held transmitter is lost, all channels in the radio receiver must be deleted for security reasons!

After that, reprogram all hand-held transmitters in the radio receiver.

1. Press and hold the Learn button (1).
 - ⇒ After 5 seconds the LED flashes - after another 10 seconds the LED is steady.
 - ⇒ After a total of 25 seconds all LEDs light.
2. Release the Learn button (1).
 - ⇒ All LEDs off - clearing process complete.

Connecting external antenna

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



Troubleshooting

All LEDs flashing:

- Attempt to set more than 112 memory slots on the radio receiver. If additional hand-held transmitters are to be programmed, delete other hand-helds from the receiver first.

LED on:

- Learn mode: radio receiver is waiting for a radio code from a hand-held transmitter.
- radio receiver is receiving a radio code from a hand-held transmitter.

Additional functions and connections

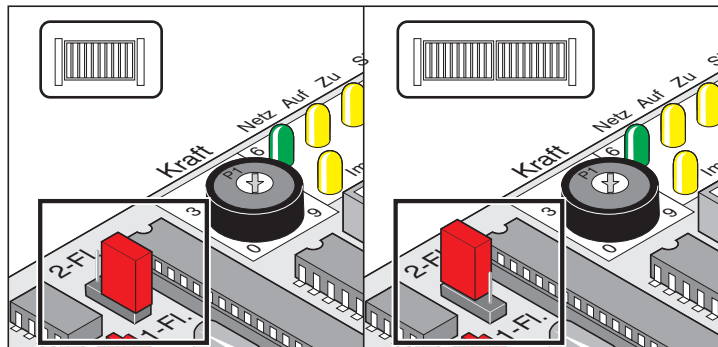
Jumper

Selection of gate system, 1 or 2-wing



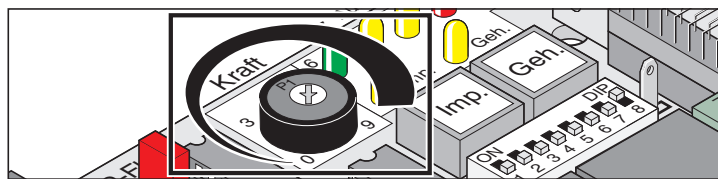
NOTE!

After moving the jumper reset the control unit and run a learning procedure again.



Label	Function
2-Fi. / 1-Fi.	Jumper on top pins = 2-wing
	Jumper on bottom pins = 1-wing
	Jumper not plugged in = 1-wing

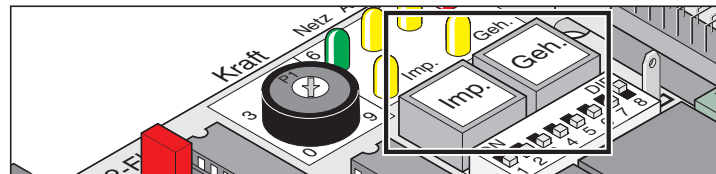
Potentiometer for force tolerance



Setting the force tolerance to the automatically learned force.
The potentiometer setting is imported again at every start.

- Left stop of potentiometer (0) is the lowest tolerance, the right stop (9) is the highest tolerance.

Button on control unit



Label	Function
Pulse	Pulse button: opens both gate wings Actuating the pulse button while the walk-through gate is moving stops it. If the walk-through wing is open, the pulse button also open gate wing 1. Function sequence: Open - Stop - Close - Stop - Open ...
Walk-through	Walk-through button: opens walk-through wing only Walk-through button opens gate wing 1 only on a 2-wing gate. Gate wing 2 always opens first in gate systems with the stop bar outside. Function sequence: Open - Stop - Close - Stop - Open ...



NOTE!

Button (walk-through) operates only if wing 1 is fully closed.

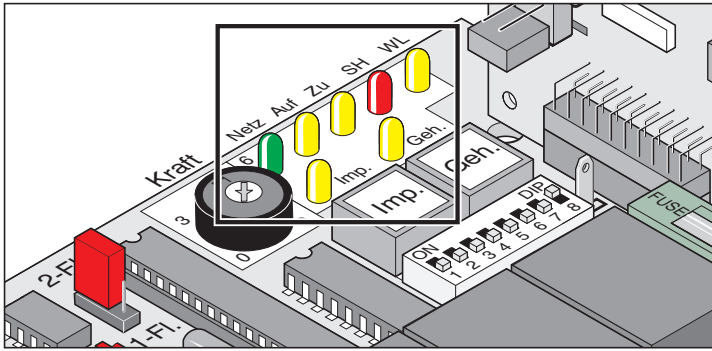
Control unit reset:

To reset the control unit to the factory settings (RESET), press and hold both buttons simultaneously for 5 seconds - until LED (WL) is out.

Additional functions and connections

Light-emitting diodes (LED)

Show the status of the control unit.



Label	Color	Description of the status
Power	Green	off = no mains power on = voltage on in the low-voltage range of control unit, e.g.: DC 24 V .

ATTENTION! DANGER OF ELECTROCUTION!
If the fuse is burnt out, this LED will not be on, but there may still be mains voltage (230 V AC) at terminals 1, 2, 19 or 21.

Label	Color	Description of the status
OPEN	Yellow	off = idle on = gate opens
CLOSE	Yellow	off = idle on = gate is closing
SH	Red	off = idle on = safety input interrupted (e.g. photo eye tripped)
WL	Yellow	off = idle with programmed force values flashing = in test mode, with DIP switch 8 set to OFF. <ul style="list-style-type: none"> In learning mode, with DIP switch 8 set to ON. Gate opens or closes with programmed force values and DIP switch 4 set to ON on = gate opens or closes with programmed force values and DIP switch 4 set to OFF.
Pulse	Yellow	off = idle on = pulse button or radio channel 1 actuated.
Walk-through	Yellow	off = idle on = walk-through button or radio channel 2 actuated.

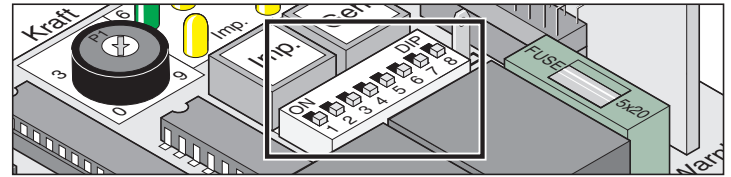
DIP switches



NOTE!

Before switching the DIP switches, disconnect the power supply to the control unit then switch it on again.

Factory setting: OFF



DIP	Function in "OFF" setting	Function in "ON" setting
1	No reaction to triggering safety input while gate is opening.	Gate stops if safety input is triggered while gate is opening.
2	Gate reverses if safety input is triggered while gate is closing.	Gate stops if safety input is triggered while gate is closing.
3	Switch 2 "OFF": reversing	Switch 2 "OFF": Gate opens completely
4	Warning light on	Warning light flashes
5	Early warning time "OFF"	Early warning time 3 sec. Warning light on or flashing before gate starts moving, depending on the position of switch 4.
6 *	Manual mode/ semi-automatic	Automatic closing, variation 1 and 2 (gate closes automatically after 60 seconds)
7 *	No function/ automatic closing, variation 1	Automatic closing, variation 2 (gate closes automatically 5 seconds after interruption of the photo eye)/ semi-automatic
8	Test mode: drive opens or closes the gate with no force values programmed.	Continuous operation: <ul style="list-style-type: none"> drive learns force values, runtime and closing delay for opening and closing after switching from OFF to ON. Gate opens or closes.



NOTE!

The gate and its movement zone must always be in sight.



NOTE

DIP switch 8:

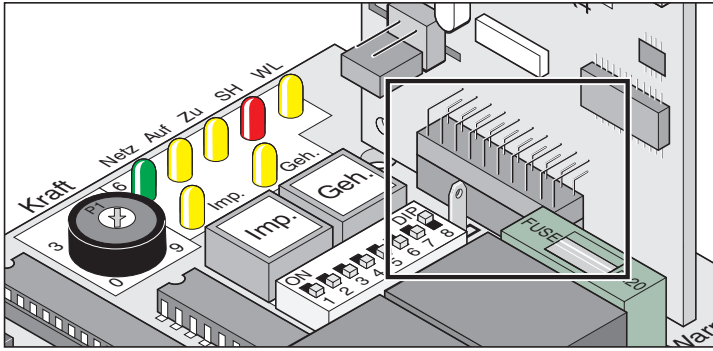
always leave in ON position for continuous operation. OFF position immediately deletes all saved values.

* See TorMinal owner's manual.

Additional functions and connections

Radio connector

The radio receiver is connected here. Installed on delivery.



Automatic closing function



NOTE!

When using the automatic close function, ensure compliance with standard EN 12453 (e.g. install photo eye 1).

The gate closes automatically after a programmable open time. The gate can be opened only by a command from a button or hand-held transmitter. While the door is being opened, it cannot be stopped by a command.

Switch open hold time on and off with DIP switch 6:

- Time programmable with TorMinal: 5 ...255 seconds, factory setting 60 seconds.

Behavior of drive when safety input is triggered

When gate is closing:

- Drive behavior depending on setting of DIP switch 2.

When gate is opening:

- Drive behavior depending on setting of DIP switch 1.

Automatic closing, variation 1

Automatic closing is activated when gate OPEN end position is reached. The open hold time set by TorMinal starts at this point. If a command is sent by a button or hand-held transmitter during this period, the open hold time is restarted.

Settings:

- DIP switch 6 ON
- Set open hold time with TorMinal (5 ...255 seconds), Factory setting 60 seconds
- DIP switch 7 "OFF"
- DIP switch 8 ON
- other DIP switches as desired

Automatic closing, variation 2



NOTE!

Install a switch in the photo eye supply wire for manual interruption of automatic closing.

However, as described above, the drive closes the door 5 seconds after crossing the photo eye.

Settings:

- DIP switch 6 ON
- Set open hold time with TorMinal (5 ...255 seconds), Factory setting 60 seconds
- DIP switch 7 ON
- DIP switch 8 ON
- other DIP switches as desired

Semi-automatic closing function

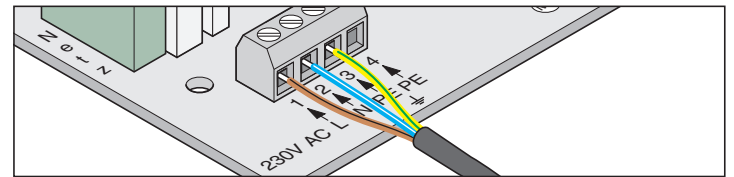
Automatic closing is activated when gate OPEN end position is reached. The open hold time set by TorMinal (factory setting 60 seconds) starts at this point.

The gate closes automatically after the open hold time. If a command is sent by a button or hand-held transmitter during this period, **the gate closes immediately - before expiration of the programmed open hold time.**

Settings:

- DIP switch 6 "OFF"
- Set open hold time with TorMinal (5 ...255 seconds), Factory setting 60 seconds
- DIP switch 7 ON
- DIP switch 8 ON
- other DIP switches as desired

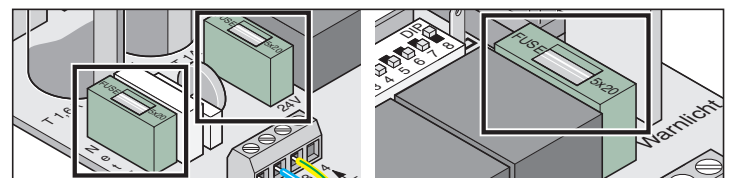
Connection to mains power (AC 230 V)



Terminal	Description	Function
1	L	Mains supply line AC 230 V
2	N	Neutral wire
3 + 4	PE	Protective ground

- The control unit must be connected to mains power by an electrician.

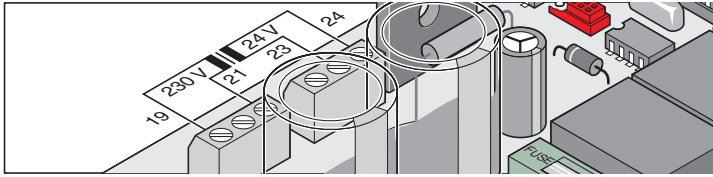
Fuses



Label	Size	Description
Power	1.6 A slow-blow	Mains supply line AC 230 V
24V	1 A slow-blow	Power supply output DC 24 V Terminal 9 + 10
Warning light	1 A slow-blow	Warning light output DC 24 V Terminal 11 + 12

Additional functions and connections

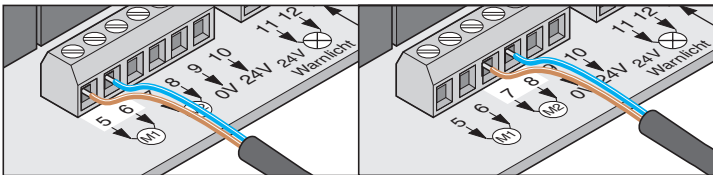
Transformer terminal



Terminal	Description	Function
19 + 21	230V	Mains supply line (primary winding), brown
23 + 24	24V	24V input (secondary winding), Supply line to control unit, violet or white

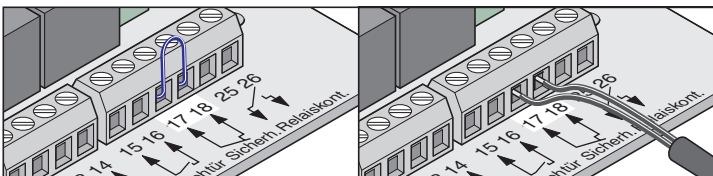
Connecting drives

ATTENTION
Connect the drives only with the control unit disconnected from the power and locked to prevent reactivation. The control unit detects only the connected drives correctly (type of limit switch).



Terminal	Description	Function
5 + 6	M1	1 wing: no function 2 wing: Connection for motor-1 The motor must be on the gate wing that opens second or on which there is an outside stop bar. • Terminal 5: motor wire brown • Terminal 6: motor wire blue
7 + 8	M2	1 wing: Connection for the motor 2 wing: Connection for motor-2 The motor must be on the gate wing that opens first or on which there is no outside stop bar. • Terminal 7: motor wire brown • Terminal 8: motor wire blue

Connecting safety device



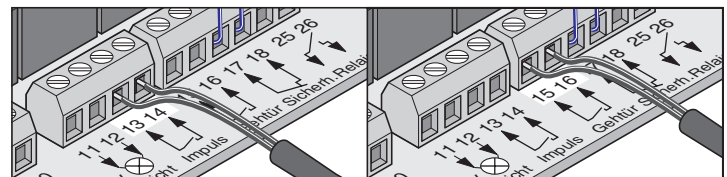
NOTE!
When using the automatic close function, ensure compliance with standard EN 12453 (e.g. install photo eye).

As-delivered status: bridge between terminals 17 + 18.

Terminal	Description	Function
17 + 18	Safety device	Connection for safety device, e.g. • Photo eye • Safety contact strip requires additional evaluation unit. The contact must be closed when the safety device is in non-actuated status. If the connection is not used, install a bridge between the terminals (delivery status).

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

Connecting button



Terminal	Description	Function
13 + 14	Pulse	Connection for pulse transmitter for actuating one or both wings.
15 + 16	Walk-through gate	Connection for pulse transmitter for actuating one wing.

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

A 2-contact button is required for a two-wing gate only if the walk-through function is used.

Pulse and walk-through buttons have the same function in a 1-wing gate system.

1-contact button connection:

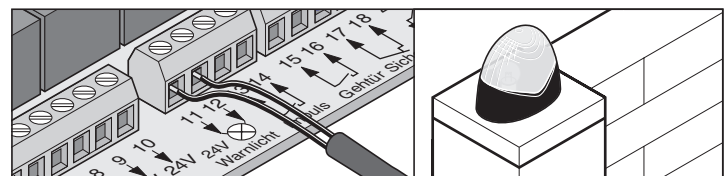
- 1-wing gate buttons at terminals 13 + 14 or 15 + 16
- 2-wing gate buttons at terminals 13 + 14

2-contact button connection:

- Walk-through terminal 15 + 16
- Both gate wings 13 + 14

Connecting warning light

Available as an accessory.



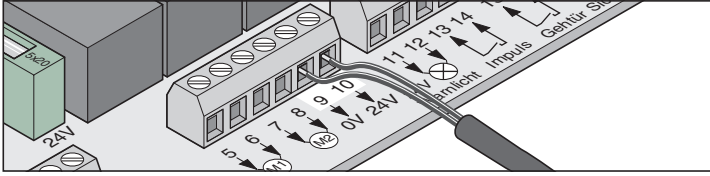
Setting the function, see DIP switches 4 + 5.

Terminal	Description	Function
11 + 12	24V warning light	Connection for DC 24 V warning light with 1 A fuse for max. 24 W power.

NOTE!
It is direct-current, unregulated transformer voltage. It can fluctuate between DC 22 V ... DC 27 V under full load.

Additional functions and connections

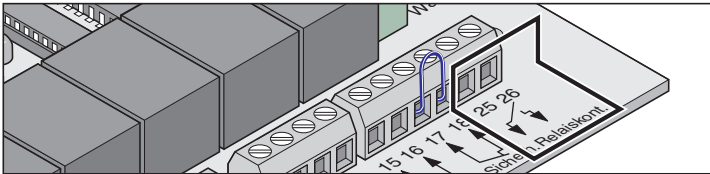
Connecting external consumers



Terminal	Description	Function
9	0V	
10	24V	DC 24 V output with 1 A fuse max. 20 W power.

NOTE!
It is direct-current, unregulated transformer voltage.
It can fluctuate between DC 22 V ...DC 27 V under full load.

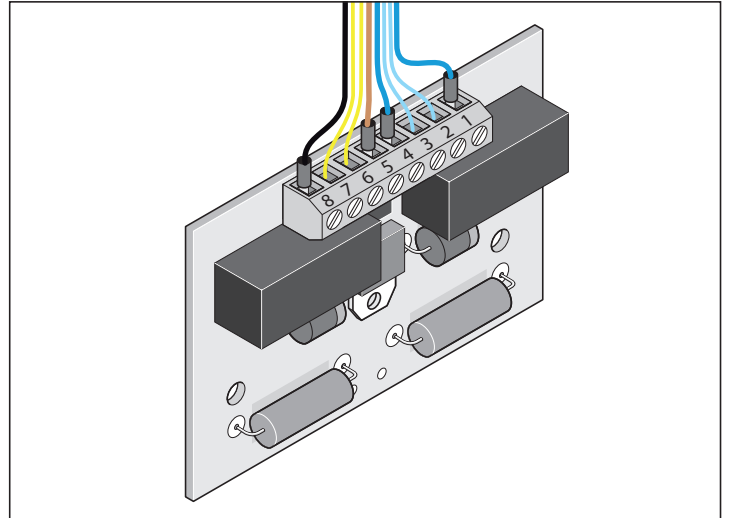
Potential-free relay contact



Terminal	Description	Function
25 + 26	Special function	Connection for e.g. electric lock max. 8 A, DC 24 V under resistance load

NOTE!
Operate under resistance load only. Use only electric locks approved by SOMMER Antriebs- und Funktechnik GmbH. Check for the correct polarity. If other types of electric locks are used, the guarantee for the motor control unit will be canceled.

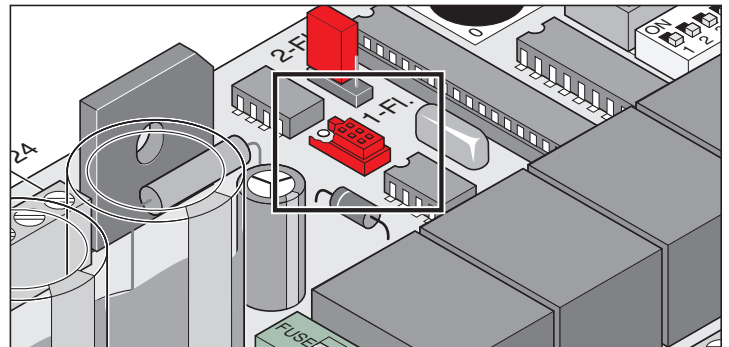
Motor PCB



Terminal	Function/wire color
1	24 V feed line from control unit, blue
2	Limit switch gate "CLOSE", blue
3	Limit switch gate "CLOSE", blue
4	Motor, blue
5	24 V feed line from control unit, brown
6	Limit switch gate "OPEN", yellow
7	Limit switch gate "OPEN", yellow
8	Motor, black

TorMinal interface

See TorMinal owner's manual.



Accessories

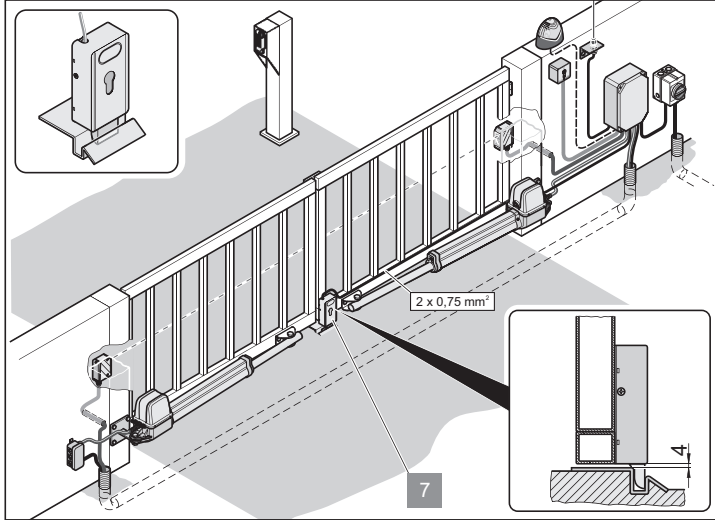
Safety instructions



NOTE!

Before working on the gate or the drive always disconnect the control unit from the power supply and lock to prevent reactivation.

Warning light



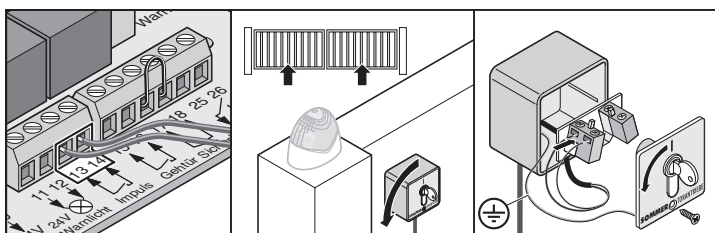
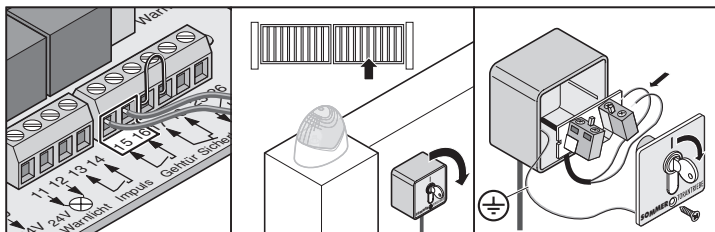
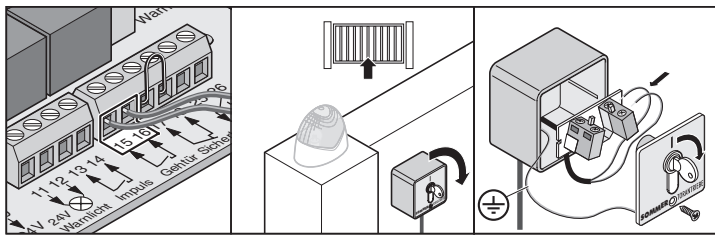
Key switch



NOTE!

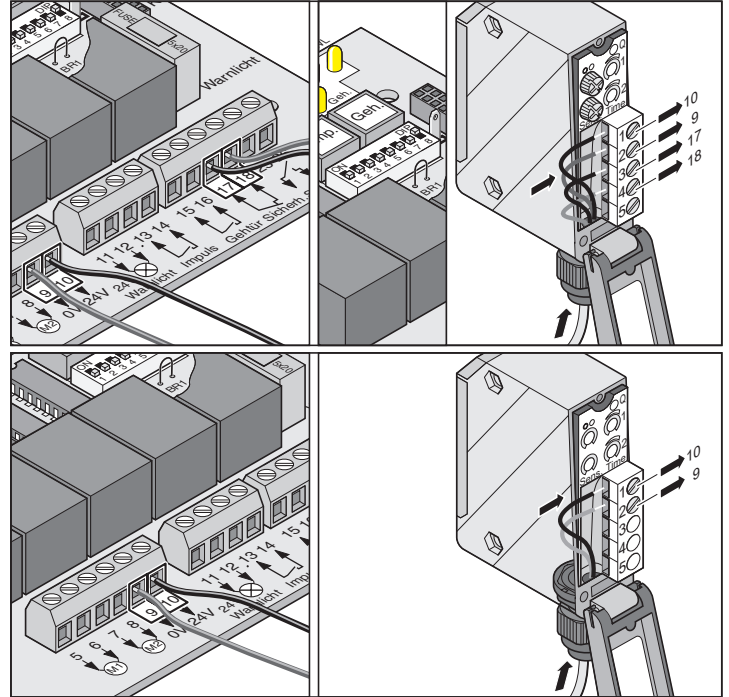
When actuating the key switch the operator must keep clear of the movement zone of gate and must have a direct view of it.

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



- Install key switch at a suitable, accessible position.

Photo eye



Accessories

Connector wiring set

- Terminal box must be fastened with screws through the eyelets.

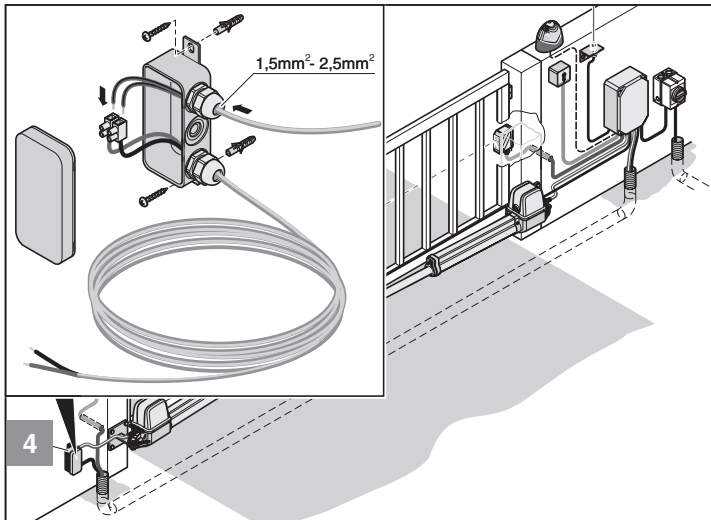
Installation

Always connect wires of the same color.

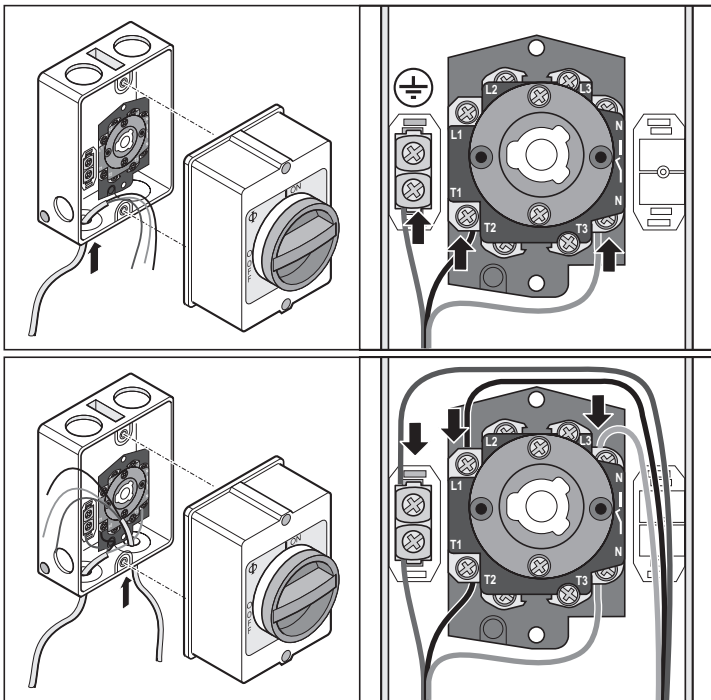
- blue with blue
- brown with brown
- etc.

Tighten PG fasteners well to prevent ingress of moisture into the terminal box. Close the terminal box after installation.

Wiring diagram:

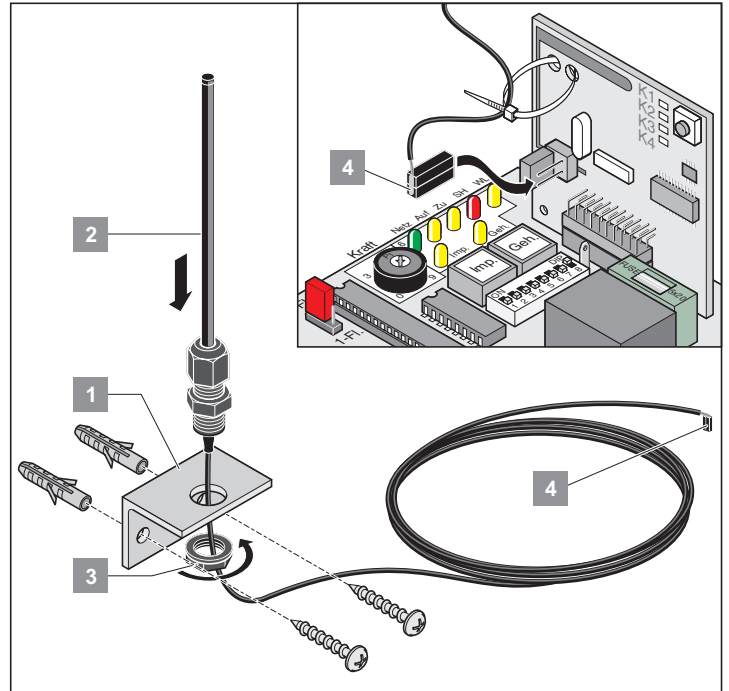


Main switch



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.



- Connect external antenna to connection.

Accessories

Electric lock DC 24 V

Installation:

- Before installation delete the saved values by a control unit reset.
- Setting the end position for gate "CLOSE" after installation.
- Install the lock in a perpendicular position, otherwise it may become jammed during closing or opening.
- The distance between lock and strike plate must be between 4 mm and 6 mm.

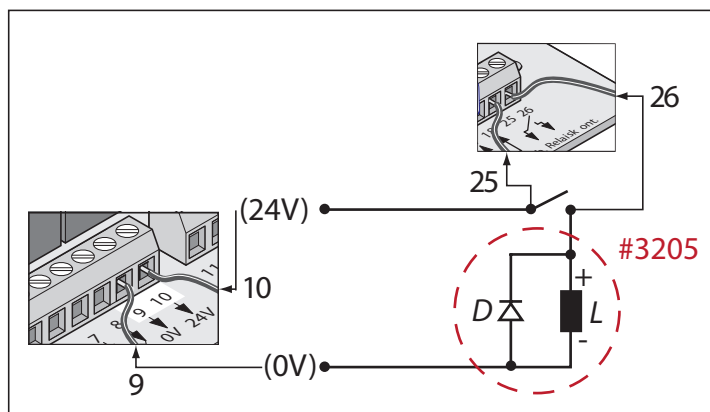
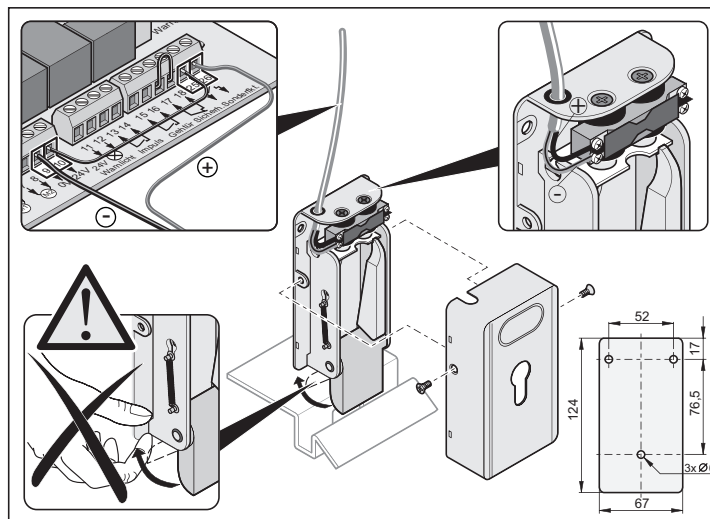
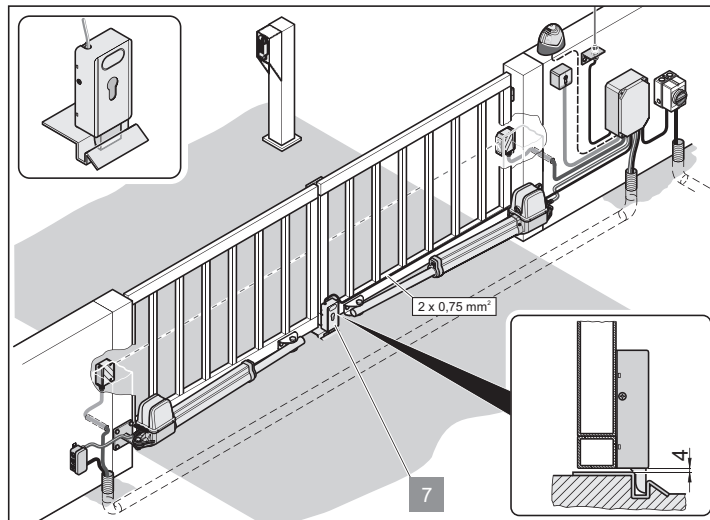
Electric lock DC 24 V connection diagram



NOTE!

The connection diagram is for a DC 24 V electric lock. DC 12 V electric locks must not be connected without consultation with the manufacturer.

Use only electric locks approved by SOMMER Antriebs- und Funktechnik GmbH. Check for the correct polarity. If other types of electric locks are used, the guarantee for the motor control unit will be canceled.



Maintenance and care

Safety instructions



DANGER!

Never use a hose or high-pressure cleaner to spray down the drive or the controller housing.

- Do not use acids or alkalis for cleaning.
- Keep drive clean and clean the gate operator with a dry cloth regularly.
- Check the control unit housing regularly for insect infestation and moisture; if necessary clean and dry.
- Check the mounting screws and bolts of the fittings for tightness and tighten if necessary.
- Check that the control unit housing cover is correctly seated.

Regular testing

- Check that safety equipment is fully functional regularly, at least once a year (e.g. BGR 232, 2003; applicable in Germany only).
- Check every four weeks to ensure that pressure-sensitive safety devices (e.g. safety contact strip with extra evaluation unit) are operating correctly. (See EN 60335-2-95:11-2005).

Testing	Behavior	Yes/no	Possible cause	Remedy
Force cut-off Try to stop the gate wing by hand while it is closing. Do not try to hold the gate wing.	Gate stops and reverses when lightly held?	Yes	<ul style="list-style-type: none"> • The force cut-off works without limitations. 	<ul style="list-style-type: none"> • Leave all settings as they are.
		No	<ul style="list-style-type: none"> • Potentiometer at right stop. Force tolerance too high. • Control unit defective. 	<ul style="list-style-type: none"> • Reduce the force tolerance. Rotate potentiometer counterclockwise until the test is successful. First open and close the gate completely twice under supervision. • Decommission the gate and lock it to prevent reactivation. Contact customer service.
Emergency release Procedure as described in "Emergency unlock in power failure".	The gate must be easily opened and closed by hand. Motor can be pulled down from the shaft?	Yes	<ul style="list-style-type: none"> • Everything is OK. 	
		No	<ul style="list-style-type: none"> • Hinges rusted. 	<ul style="list-style-type: none"> • Grease hinges
Safety contact strip, if present. Open and close the gate and actuate the strip at the same time.	Adjust the behavior of the door, as set with DIP switch 1, 2 or 3.	Yes	<ul style="list-style-type: none"> • Everything is OK. 	
		No	<ul style="list-style-type: none"> • Cable breakage, terminal loose. • DIP switch adjusted. • Strip defective. 	<ul style="list-style-type: none"> • 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 behavior of the door, as set with DIP switch 1, 2 or 3. LED "SH" lights.	Yes	<ul style="list-style-type: none"> • Everything is OK. 	
		No	<ul style="list-style-type: none"> • Cable breakage, terminal loose. • DIP switch adjusted. • Photo eye dirty. • Photo eye defective. 	<ul style="list-style-type: none"> • Check the wiring; retighten the terminals. • Setting the DIP switches • Clean the photo eyes. • Decommission the system and lock it to prevent reactivation. Then, contact customer service.

Disassembly



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. Please contact your specialist retailer/supplier if you have any queries regarding the warranty. The warranty is only valid in the country in which the product was purchased.

Batteries, fuses and bulbs are excluded from the warranty.

Ownership of replaced parts passes to us.

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

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

Troubleshooting

Tips on troubleshooting

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

- Reset the control units (delete force values).
- Disconnect any connected accessories (e.g. photo eye).
- Set all DIP switches to the factory setting.
- Set potentiometer to the factory setting.
- If settings have been changed using TorMinal, perform the controller reset with TorMinal.

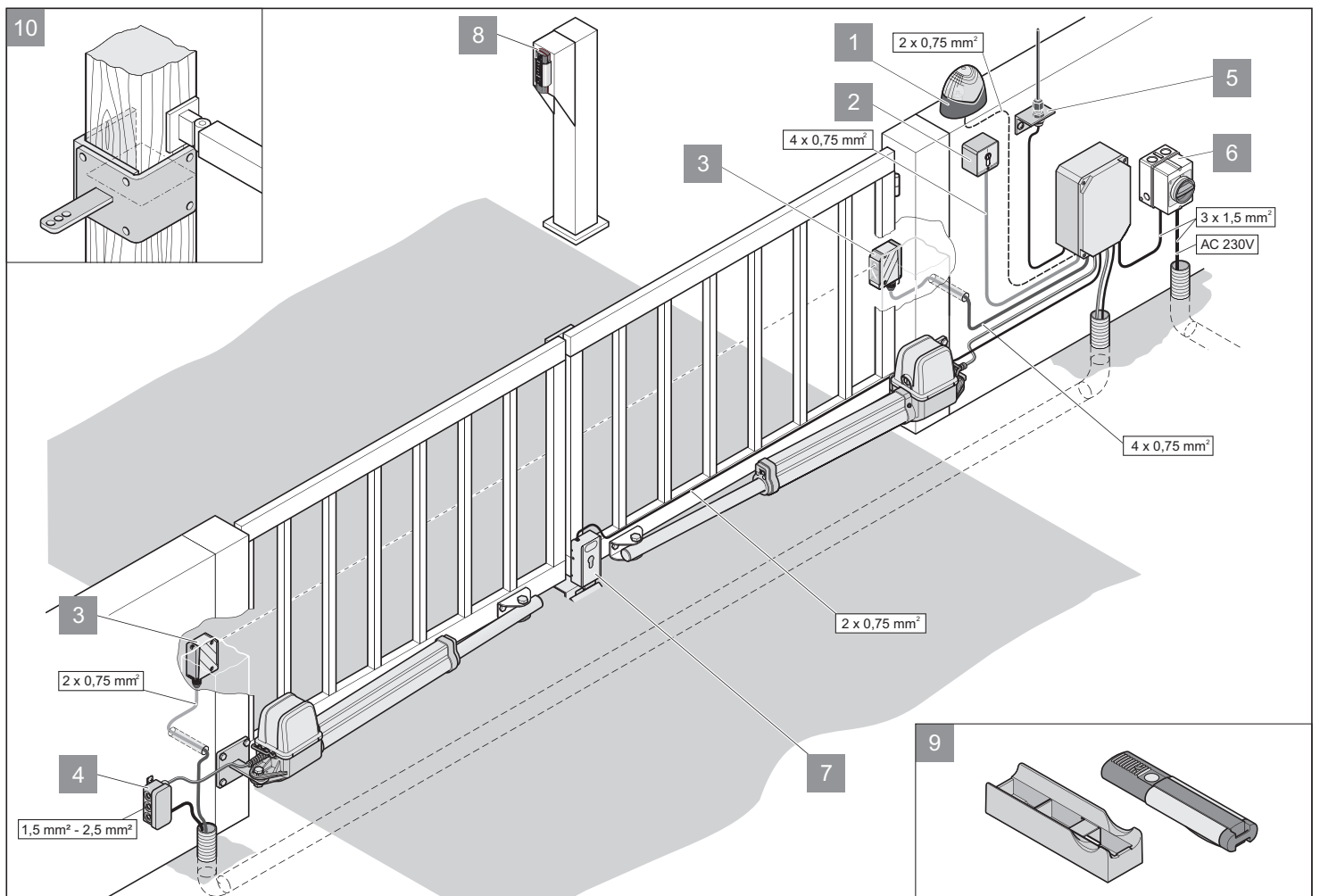
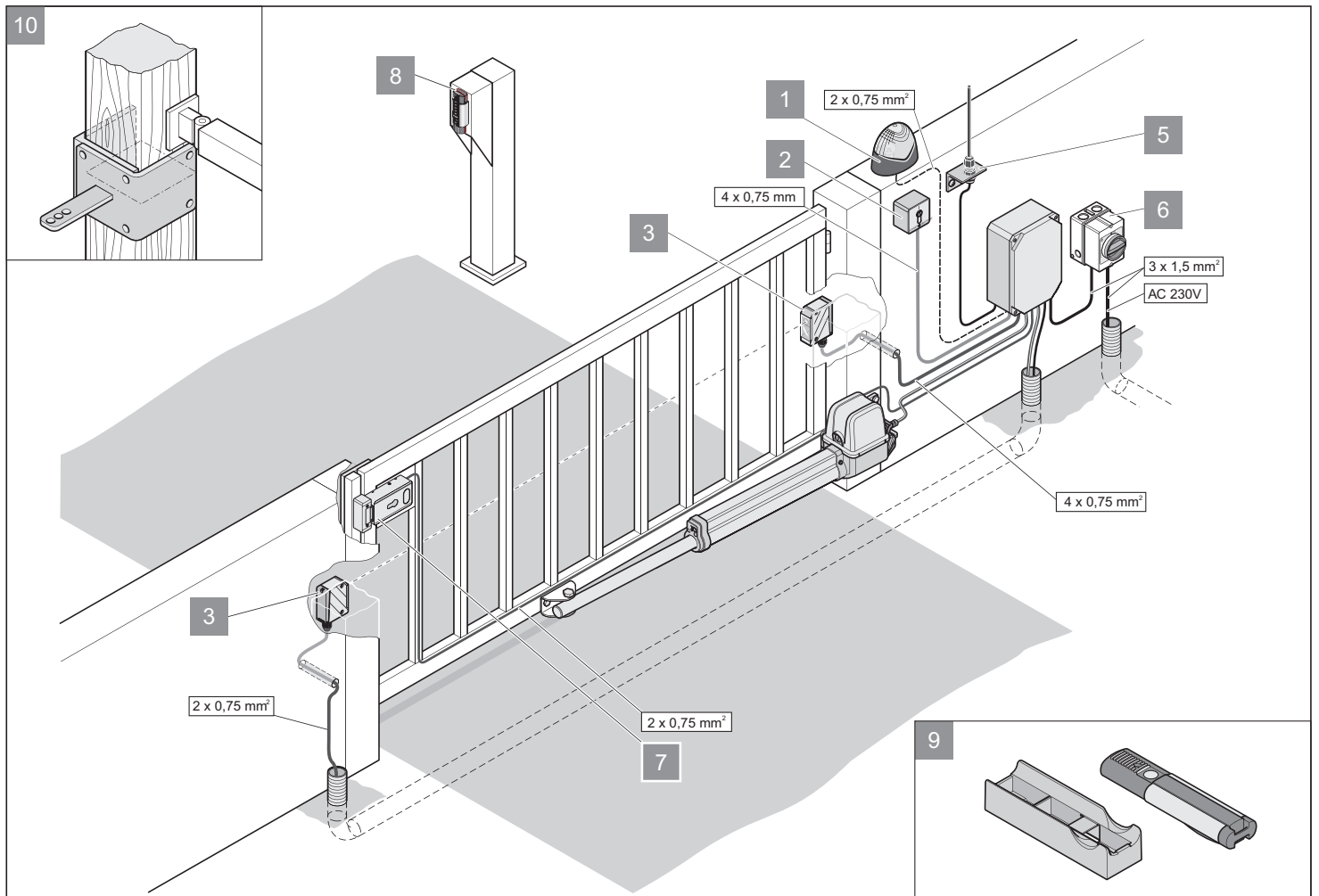
If this does not help, contact your specialist dealer for assistance or consult our website at <http://www.sommer.eu>.

Fault	Control	Yes/ no	Possible cause	Remedy
Gate cannot be opened or closed with buttons or hand-held transmitter.	Is the "mains" LED on?	No	<ul style="list-style-type: none"> • No supply voltage. • Mains fuse defective. 	<ul style="list-style-type: none"> • Check connection and connect if necessary. • Check fuse and replace if necessary.
		Yes	<ul style="list-style-type: none"> • Gate jammed. • Motor hums but does not move. • Drive displaced. • Wire insulation too long and no contact • Gate frozen. • Too much snow in the movement zone of gate. • Wiring on motor PCB disconnected. 	<ul style="list-style-type: none"> • Gate wing has sunk or distorted because of high temperature variations. • Switch off immediately. Possible motor or control unit fault. Contact customer service. • Lock drive. • Disconnect wire, shorten insulation and reconnect. • Clear snow and ice from gate and hinges. • Clear snow. • Connect wiring.
	Is the LED on the hand-held transmitter on?	No	<ul style="list-style-type: none"> • Battery flat. • Battery incorrectly inserted. • Hand-held transmitter defective. 	<ul style="list-style-type: none"> • Replace battery. • Insert battery correctly. • Replace the hand-held transmitter.
		Yes	<ul style="list-style-type: none"> • Hand-held transmitter battery too weak and range reduced. • Radio receiver defective. • Hand-held transmitter not programmed. • Poor reception. • Incorrect frequency. 	<ul style="list-style-type: none"> • Replace battery. • Replace radio receiver. • Program hand-held transmitter. • Install external antenna (see accessories). • Check frequency; hand-held transmitter and radio receiver must be on the same frequency.
	Does an LED on the radio receiver come on if a button on the transmitter is pressed?	No	<ul style="list-style-type: none"> • Radio receiver not properly plugged in. • No radio receiver power supply, possible fault. • Hand-held transmitter not programmed. • Hand-held transmitter battery flat. • Battery incorrectly inserted. • Hand-held transmitter defective. 	<ul style="list-style-type: none"> • Plug in radio receiver properly. • Replace radio receiver. • Program hand-held transmitter. • Replace battery. • Insert battery correctly. • Replace the hand-held transmitter.
	Is the "mains + OPEN/ CLOSE" LED on?	Yes	<ul style="list-style-type: none"> • Continuous signal pending. 	<ul style="list-style-type: none"> • Pulse transmitter defective - disconnect all connected pulse transmitters.
	Is the "mains + SH" LED on?	Yes	<ul style="list-style-type: none"> • Photo eyes interrupted. 	<ul style="list-style-type: none"> • Remove interruption.
	Fault occurs intermittently or forshort time.	Yes	<ul style="list-style-type: none"> • Very powerful public address systems in hospitals or industrial areas may interfere with radio. 	<ul style="list-style-type: none"> • Change radio frequency. • Contact source of interference.
	"SH" LED flashes quickly.	Yes	<ul style="list-style-type: none"> • Control unit has saved erroneous values, e.g. as a result of a brief power interruption. 	<ul style="list-style-type: none"> • Reset control unit and reprogram drive. If this is not possible, remove control unit and send it to the manufacturer, call a technician.

Troubleshooting

Fault	Control	Yes/ no	Possible cause	Remedy
Gate cannot be opened or closed with a connected key switch.	"mains + pulse/walk-through" LED on	Yes	<ul style="list-style-type: none"> • Wire connections loose. • Key switch defective. • Broken wire. 	<ul style="list-style-type: none"> • Tighten terminal screw. • Replace key switch. • Replace wire.
		No	<ul style="list-style-type: none"> • Pulse transmitter (key switch, hand-held transmitter) defective. 	<ul style="list-style-type: none"> • Check pulse transmitter and replace if faulty.
Gate remains stationary and reverses during opening and closing.	Obstacle in range of motion?	No	<ul style="list-style-type: none"> • Hinges stiff. • Post or pillar has changed. • Limit switch out of adjustment. 	<ul style="list-style-type: none"> • Lubricate hinges. • Call a technician. • Adjust limit switch.
		Yes	<ul style="list-style-type: none"> • Power cut-off tripped. 	<ul style="list-style-type: none"> • Remove obstacle.
	Does the gate wing vibrate when moving?	Yes	<ul style="list-style-type: none"> • Gate wing unstable. 	<ul style="list-style-type: none"> • Reinforce gate wing.
	Was there a strong wind?	Yes	<ul style="list-style-type: none"> • Wind pressure too strong. 	<ul style="list-style-type: none"> • Simply open and close gate again.
Gate does not open or close completely.	Gate stops before required end position?	No	<ul style="list-style-type: none"> • Gate fittings not installed correctly. 	<ul style="list-style-type: none"> • Change the gate bracket.
		Yes	<ul style="list-style-type: none"> • Limit switch incorrectly adjusted. 	<ul style="list-style-type: none"> • Adjust limit switch.
Closing sequence incorrect.			<ul style="list-style-type: none"> • Drives incorrectly connected. 	<ul style="list-style-type: none"> • Connect drives to control unit as specified in the manual.
Drive does not learn the force values.			<ul style="list-style-type: none"> • DIP switch 8 in "OFF" position. 	<ul style="list-style-type: none"> • Set DIP switch 8 to "ON".
			<ul style="list-style-type: none"> • Limit switch incorrectly adjusted, drive stops and reverses - power cut-off. 	<ul style="list-style-type: none"> • Adjust limit switches.
Gate does not stop at an obstacle.			<ul style="list-style-type: none"> • Gate in learning mode. 	<ul style="list-style-type: none"> • After learning mode the power cut-off responds.
			<ul style="list-style-type: none"> • Force tolerance too high. 	<ul style="list-style-type: none"> • Reduce force tolerance (see "Setting force tolerance").
Drive stops at pillar.	Measure A/B dimensions again.	No	<ul style="list-style-type: none"> • A or B dimension not correct. 	<ul style="list-style-type: none"> • Adjust fastening of drive to post or pillar.
		Yes	<ul style="list-style-type: none"> • Limit switch out of adjustment. 	<ul style="list-style-type: none"> • Adjust limit switch.
Gate moves unevenly.			<ul style="list-style-type: none"> • Unequal A/B dimensions. 	<ul style="list-style-type: none"> • Change dimension if possible.
Walk-through gate does not open with hand-held transmitter.			<ul style="list-style-type: none"> • Hand-held button not programmed. 	<ul style="list-style-type: none"> • Program button (see "Programming hand-held transmitter").
Drives do not start.	"SH" LED flashes quickly.	Yes	<ul style="list-style-type: none"> • Jumper was moved with programmed force values. 	<ul style="list-style-type: none"> • Replace jumper in previous position. • Reset the controller. • Place jumper in desired position. • Run learning procedures.

Connection diagram



Wiring diagram

