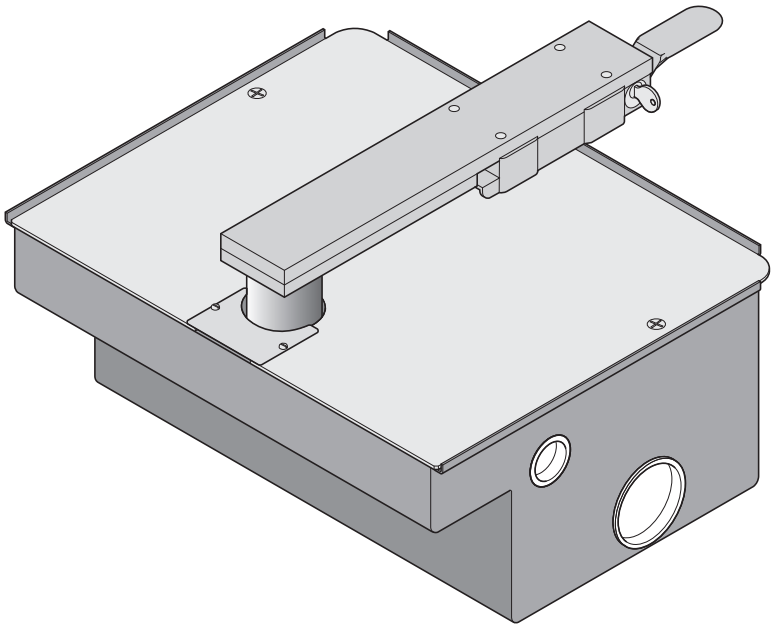
SOMMER Made in Germany

HomeLink®



jive 200 E

Contents

EU declaration of conformity

The company

SOMMER Antriebs- und Funktechnik GmbH
Hans-Böckler-Str. 21-27
D-73230 Kirchheim unter Teck

herewith declares that the product named below, if operated properly, conforms to the general requirements according to Article 3 of the R&TTE Directive 1999/5/EC and fulfils the requirements of the standards listed below:

Product: RF Remote Control for Doors & Gates

Type: RMO4-868-2, RM03-868-4, RX01-868-2/4, RFSDT-868-1, RFSW-868-1, RM02-868-2, RM06-868-2, RM04-868-1, RM02-868-2-TIGA, RM08-868-2, RM01-868, RM02-434-2, Rm03-434-4, RM04-434-2

Applicable guidelines and standards are:
- ETSI EN 300220-1:09-2000, -3:09-2000
- ETSI EN 301489-1:07-2004, -3:08-2002
- DIN EN 60950-1:03-2003

Kirchheim, 04.08.2004
Frank Sommer
Managing Director

General information

Symbols

Indicates a potential risk.
Indicates a potential risk. Failure to comply with the instructions may result in serious injury or damage to property!

Information, useful advice.

1 (1) Refers to the relevant illustration in the introduction or the main text of this manual.

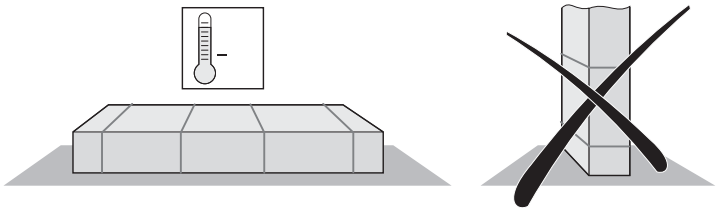
Safety instructions

General safety instructions

- All persons in charge of the installation, maintenance or operation of the drive system must have read and fully understood these instructions.
- Keep this installation and operating manual near the unit for future reference.
- After installation and commissioning, all persons operating the drive must be instructed on its functions and proper operation.
- All persons in charge of the installation, maintenance or operation of the drive system must have read and fully understood these instructions.
- Always comply with the statutory health and safety regulations and the applicable standards.
- The installation and operation of the drive system is governed by the following standards: EN 12 453, EN 12 604, EN 12 605, etc.
- There is a risk of injury from crushing at the closing edges of the gates or near the mechanical parts.
- Never operate the drive if you suspect that it might be faulty or damaged.
- Prior to any work at the gate or drive, disconnect drive system from the power supply and secure it against inadvertent reconnection or actuation.
- Use only original spare parts, accessories and fixtures supplied by the manufacturer.

Operation

- The drive mechanism may only be stored indoors, in a dry, sealed environment at an ambient temperature of between -20°C and +50°C.
- Store drives in horizontal position.



Operation

- The drive mechanism may only be operated, if a risk-free force tolerance has been set. The force tolerance must be set as low as possible in order to ensure that the door's closing force does not constitute a danger, see section “Testing force settings”.
- Never reach into the gate or any of its moving parts.
- Only drive through the gate after it has been fully opened.
- Ensure that the drive is never operated by children or persons who have not been specifically instructed.
- When operating the gate, ensure that there are no persons, especially children, animals or objects within its operating range.
- Only operate the gate with the remote control device when you have full view of the gate.
- Regularly inspect the safety devices. Immediately repair damaged or defective parts. For details, see maintenance instructions.
- At gates with automatic closing mechanism, all edges must be secured according to the applicable regulations and standards.
- Always remove the key to prevent unauthorised operation.

Radio remote control

- The radio remote control may only be used for equipment and systems in which defective remote operation of the transmitter or receiver does not constitute a risk to people, animals or property, or in cases where this risk is eliminated by means of additional safety facilities.
- All persons operating the gate must be instructed that systems, where there is a risk of injury or damage, may not be operated by remote control, or that such operation is only permitted, if all movements of the gate can be supervised.
- The radio remote control device may only be used, if the operator can fully supervise the movement of the device and if no persons or objects are within the movement range of the gate.
- Keep the remote control device out of reach of children or animals and prevent any inadvertent use.
- The operator of this radio-controlled equipment is not in any way protected against interference from other telecommunication systems and facilities (e.g. other radio-controlled equipment that is licensed to operate at the same frequency range). If such interference occurs, please contact the local radio and telecommunications authority requesting a radiolocation.
- Do not use hand-held transmitters near locations or installations that are susceptible to radio interference (e.g. airports, hospitals).

Rating plate

The rating plate is located on the cover of the control unit housing.

Normal use

After the drive system has been installed, the person responsible for the installation must complete an EU Declaration of Conformity according to Machine Directive 98/37/EU and attach a CE mark at the type plate of the drive.
This also applies in cases where the owner of the system is a private person, as well as to manually operated gates that have been upgraded with a drive. The above documents and the instructions for installation and operation must be handed over to the operator.

- The drives are exclusively designed for the opening and closing of gates. Any other use is deemed improper. The manufacturer shall not be liable for damages resulting from improper use. The user accepts sole responsibility for any risks thereby incurred. Improper use shall void all warranty.
- Gates that are to be upgraded with an automatic drive system must comply with the applicable standards and directives as amended, e.g. EN 12 453, EN 12604, EN 12605.
- Maintain the safety distances between the gate and any nearby object as required by EN 12604.
- The drive system may only be operated if it is in proper working order. Always follow standard safety procedures and adhere to the instructions in this installation and operating manual.
- Immediately eliminate any defects that might impair the safety of the equipment.
- The gate wings must only have minimum play at the hinges.
- The gate wings must be stable and warp-proof, i.e. they may not bend or warp during opening or closing operation.
- The DSTA24 control and jive 200 drive systems may only be operated in conjunction.
- The DSTA24 control and the jive 200 drives are designed for use in private premises.
- The electric drive may only be used for the opening and closing of gates with one or two wings.

General information

Permitted gate wing dimensions

- **Length:** **max. 2,0 m**
- **Height:** **max. 2,5 m**
- **Weight:** **max. 200 kg**
- **Free surface:** **min. 50 %, irrespective of gate wing size**
- **Slope:** **0 %**

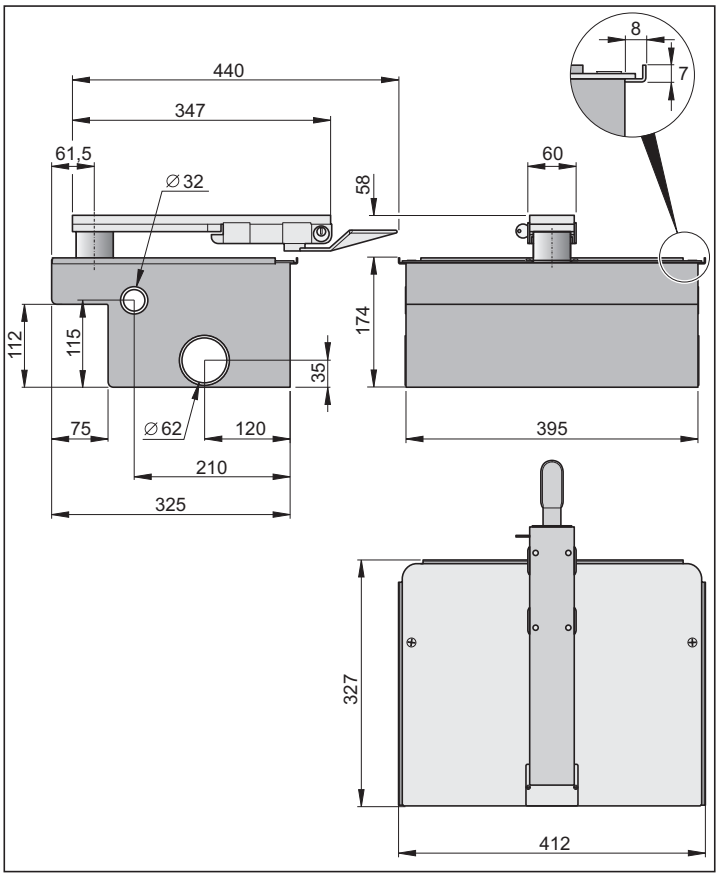
Technical data

General	**1 wing**	**2 wing**	
Runtime	approx. 10 ...25	approx. 15 ...30 sec.	
Protection class			
Drive	IP 44	IP 44	
Control system housing	IP 54	IP 54	
Rated voltage	220 ...240	220 ...240	Volt
Rated frequency	50	50	Hz
Operating temperature			
Drive	-10 ...+70	-10 ...+70	°C
Control system housing	-20 ...+70	-20 ...+70	°C
Travel	370	370	Nm
Operating factor:	15	15	%
Stand-by			
Rated current consumption	10	10	mA
Rated power consumption	2	2	W
Rated operation			
Motor voltage:	ca. 30	ca. 30	V
Rated current consumption:	ca. 1,8	ca. 3,6	A
Rated power consumption:	ca. 50	ca. 100	W

Workplace noise emission < 75 dBA - drive only

Dimensions

All dimensions in mm.



Functions

When the preset stop positions are reached, the drive is automatically switched off by means of limit switches.

Locking of gate

An electric lock can be mounted for additional safety.

The gate does not require a lock to be kept closed, as the drive mechanism is self-locking(with connection to the control system). The gate can thus not be forced open by hand without damaging the drive system or fittings.

Remote control

The drive can be operated by remote control with the supplied remote control transmitter, provided that the transmitter and the radio receiver have been properly programmed.

Safety devices

The control unit is equipped with an automatic force monitoring system. If there is more force required for opening or closing the gate as has been programmed during the programming run, the drive is set into reverse motion (gate direction “CLOSE”) or halted (direction “OPEN”).

The operator has the option to extend the control with various safety devices. For details see chapter additional functions and connections.

Examples of available accessories:

- Light barrier
- Safety contact unit with monitoring system

EU manufacturer’s declaration

SOMMER Antriebs- und Funktechnik GmbH
Hans-Böckler-Straße 21-27
D-73230 Kirchheim/Teck

herewith declares that its drive system:

- jive 200 E

complies with the following Directives:

- Machine Directive 98/37EU
- Low-Voltage Directive 73/23/EEC
- EU Directive on Electromagnetic Compatibility 89/336/EEC

The equipment fulfils the requirements of the following standards:

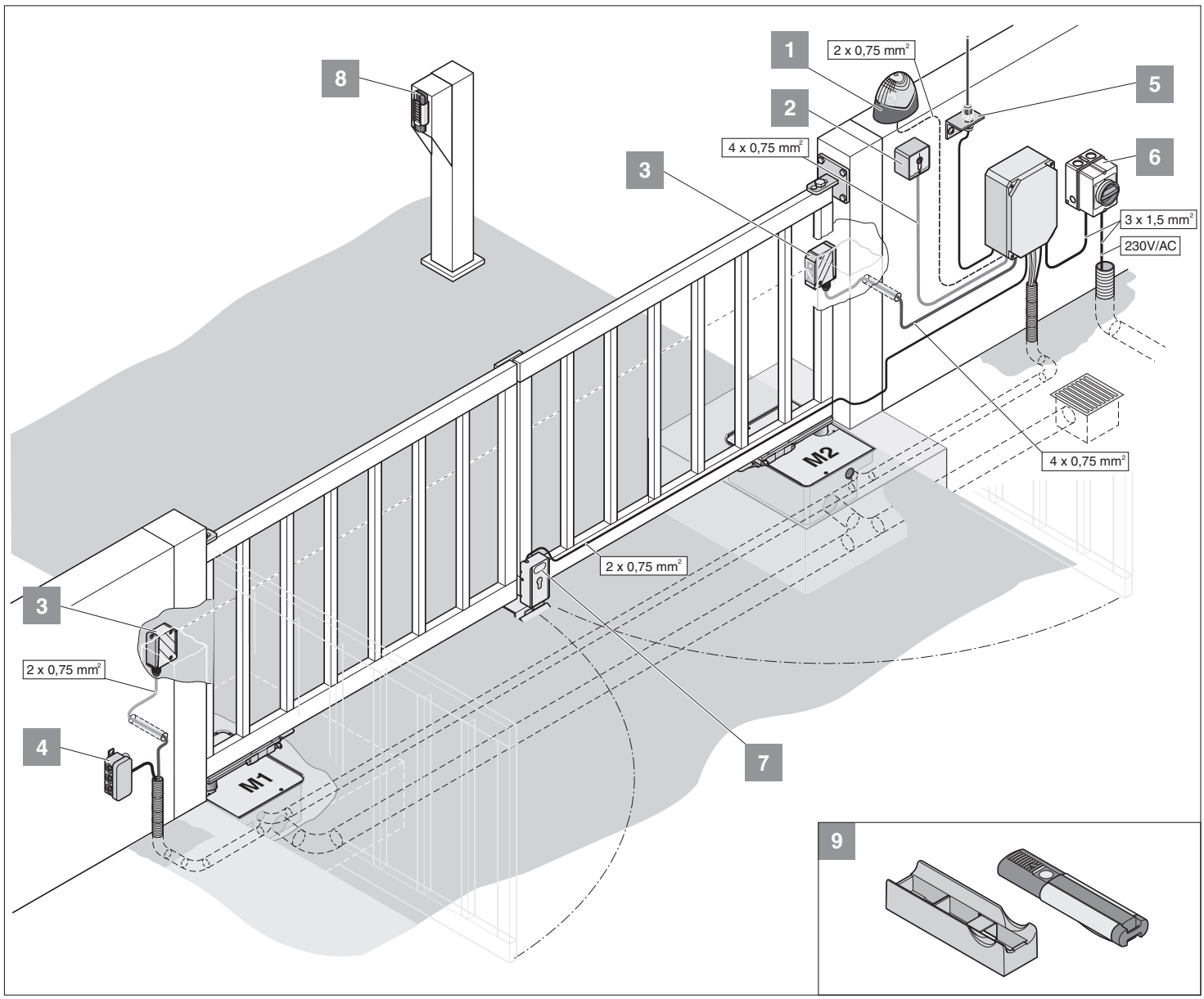
- DIN EN 55014-1, DIN EN 55014-2, DIN EN 55022
- DIN EN 61000-3-2, DIN EN 61000-3-3, EN 60335-1/A14,
- E DIN VDE 0700 Teil 103, DIN V VDE 0801/A1, EN 12453

Note:
The gate system may not be commissioned until it has been established that the system in which the above drive is to be installed fulfils all specifications of the relevant EU Directives.

Kirchheim, xx.02.2006

Frank Sommer
Managing Director

Installation



Safety instructions

The power cable supplied with the control unit may only be used for the installation of the drive systems. After completion of the installation, disconnect the cable and replace it with a duct-laid cable. It is forbidden to use the supplied power cable for standard operation of the gate.

Caution!
Risk of damage to the system from voltage fluctuations
Voltage fluctuations caused by welding equipment, etc. can destroy the control system.
- Connect the control system only to the power mains after all installation work is completed.

- The control unit may only be connected to the power supply by a qualified electrician.
- Always comply with the instructions in this manual.
- Locking devices (electrical keys, locking bolts, etc.) must be removed and disabled prior to installation of the dive system.
- Check the upper hinge for proper functioning. It should be adjustable, if possible.
- Ensure that the gate wings are properly secured to the posts as considerable forces are applied to the system during opening and closing.
- When carrying out welding work on the gate, cover the operator to prevent damage from sparks or weld splashes.
- If the gate is operated by means of a switch, it must be installed at a minimum height of 1.6 m above ground to prevent inadvertent activation by children.
- In public areas, use only approved fittings and securing devices (e.g. dowels).

Tips for installation

- Consult the operator when deciding on the location for installation of the control unit.
- Do not install the housing where it is visible from the street, in order to protect it against vandalism.
- For double-wing gates, install a centre stop.

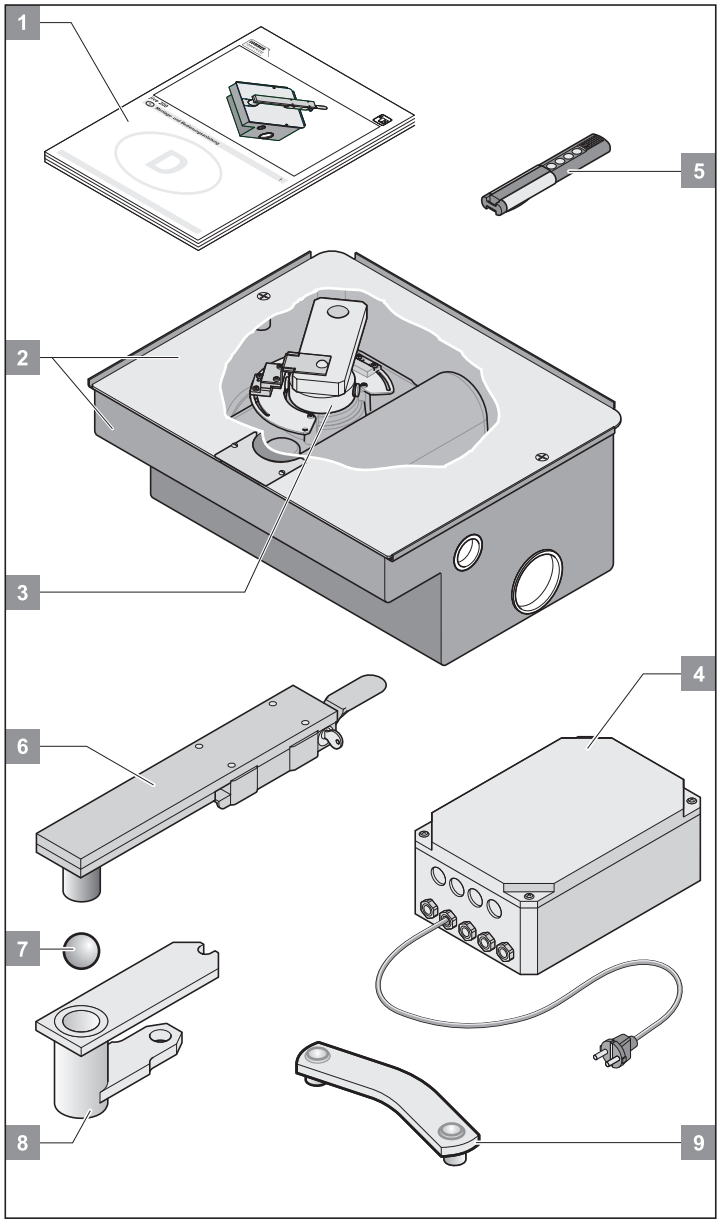
The gate can be operated with a number of different control devices: Hand-held transmitter, Telecody, interior push-button and key switch. For the hand-held transmitter, Telecody and interior push-button, there is no need for cables as they are radio control devices. For more information, contact the supplier.

1. Warning light 24 V
2. Key switch (1 or 2 contact)
3. Light barrier
4. Connecting cables 7 m
5. Main switch (lockable)
6. Rod aerial (including cable)
7. 24 V electric lock
8. Telecody
9. Holder for remote control device for installation in car or on wall

Installation

Supplied components

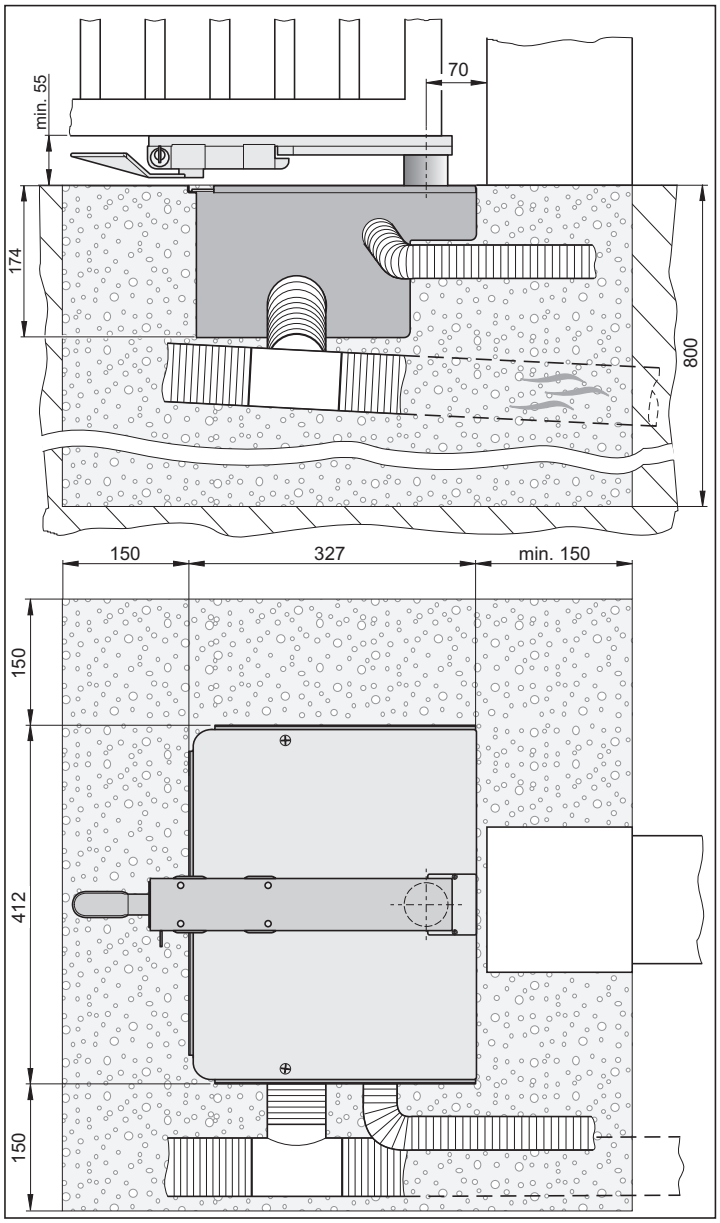
- Prior to installation, check delivery to ensure that it contains all necessary parts.
- Depending on the design of your drive system, the delivery might deviate from the standard delivery.



Complete installation kit	1 wing	2 wing	
Weight	30.5	58.5	kg
Packaging (L x W x H):	800 x 200 x 220		mm
1. Installation and operating instructions	1 x	1 x	
2. Foundation box with cover	1 x	2 x	
3. Drive unit including cables	1 x	2 x	
4. Control system, in housing (with radio receiver, transformer and mains plug)	1 x	1 x	
5. Remote control device including battery	1 x	1 x	
Items 6, 7 + 8 are located in the foundation box (item 2).			
6. Gate hinge (incl. emergency release)	1 x	2 x	
7. Ball	1 x	2 x	
8. Gate bearing	1 x	2 x	
9. Lever	1 x	2 x	

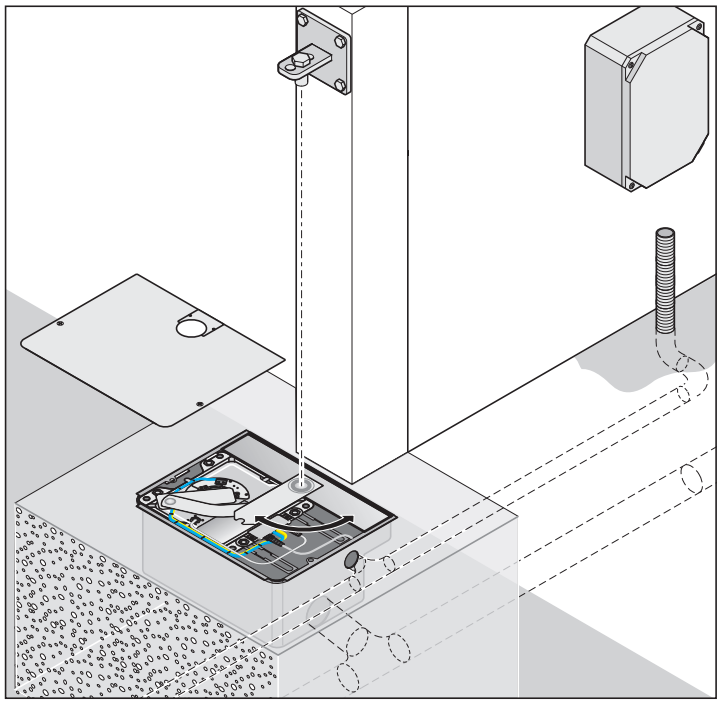
Location of installation

- Always install the operator in a horizontal position.
- Observe the position of installation of the motor.
- Provide drain pipe for the drainage of the foundation box to prevent water collecting in the box.
- Install all cables of the operator in conduits approved for the respective type of installation (e.g. installation in open ground).
- The foundation must extend to the frost-free depth (in Germany approx. 800mm), depending on local conditions and requirements.
- The foundation must be firm and level.
- For foundation dimensions, see figure.



Installation

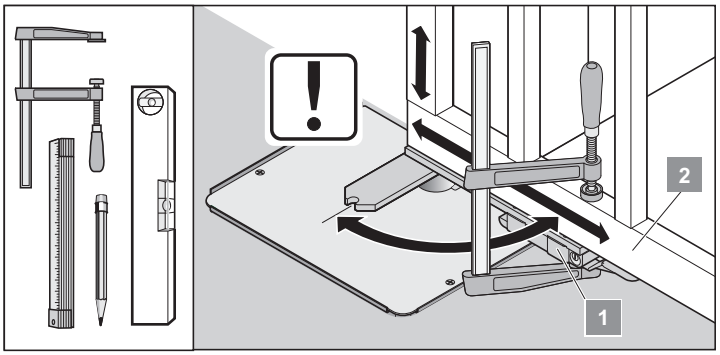
The upper gate fitting must be horizontally aligned with the lower fitting. If this is not the case, the operator might become tensioned and eventually damaged. This can lead to failure of the operator.



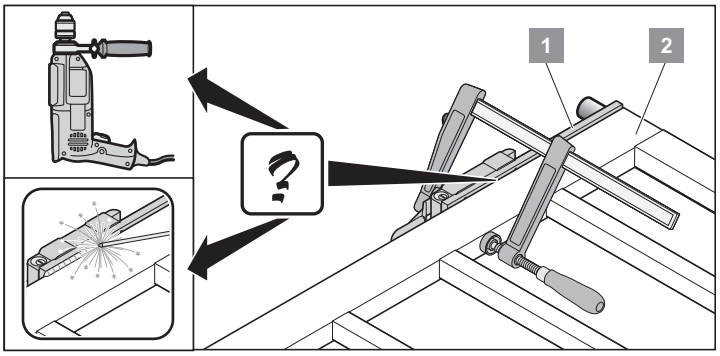
Installation of gate wing fittings

Do not carry out any welding or grinding work after the fittings have been mounted, as residue from such work results in accelerated corrosion of the fittings and gate operator.

- When carrying out welding work on the gate, cover the operator to prevent damage from sparks or weld splashes.



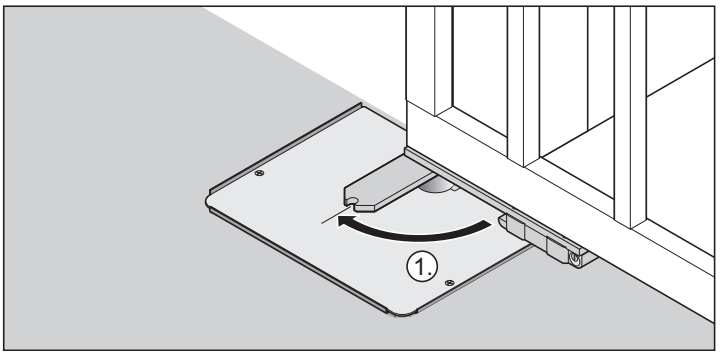
1. Secure the fitting (1) with a vice to the gate (2) and manually open and close the gate to check the fitting's position (1). Adjust the position of the fitting, if required.



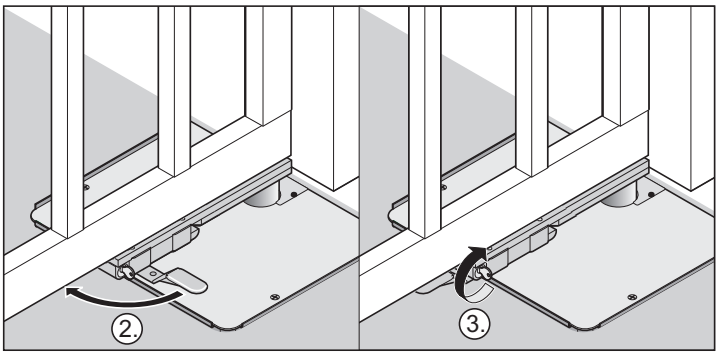
2. If the fitting (1) is in the correct position, secure it to the gate (2) (welding, screwing).

† Check whether the gate wing can be easily opened and closed. If this is not the case, adjust the gate wing.

Locking the gate



1. Engage the gate in the gate wing fitting (push against slight resistance)



2. Press the emergency release lever towards the gate until it engages. The gate is locked.
3. Turn the key by 90° in anticlockwise direction. The emergency release lever is locked.

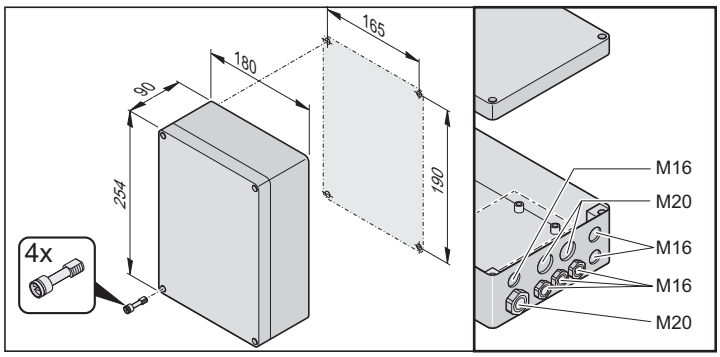
† The gate is now closed and locked.

Installation of control unit

The power cable supplied with the control unit may only be used for the installation of the drive systems. After completion of the installation, disconnect the cable and replace it with a duct-laid cable. It is forbidden to use the supplied power cable for standard operation of the gate.

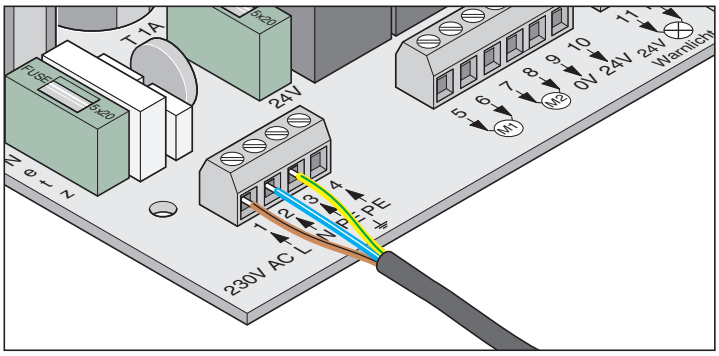
Establish power connection according to EN 12453 (all-pole disconnecting switch).

- Prior to carrying out any work at the control unit, disconnect it from the power supply.
- If there is humidity inside the housing, dry it with a blower.
- The control unit may only be connected to the power supply by a qualified electrician.
- Install control unit in upright position (cable ducts at base) and without applying any strain. The cover must fully close to prevent water from penetrating the housing.
- The cable ducts are designed for 1.5 mm² to 2.5 mm² cables. Do not use any other cables.
- Attach the housing at the intended fixing points; do not drill through the rear wall of the housing, as it might otherwise not be waterproof.



Installation

Connecting to power supply (230V)



Terminal	Label	Function
1	L	Power conductor AC 230 V
2	N	Neutral conductor
3 + 4	PE	Earth conductor

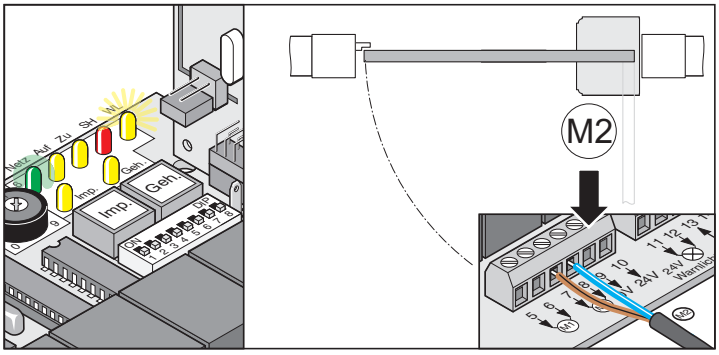
The connection to the power supply must be carried out by a qualified electrician.

Connecting the operator to the control unit

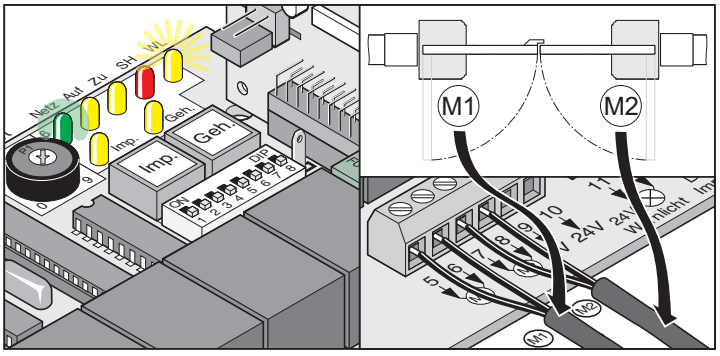
⚠ **Never connect drive to 230V power directly, as this would immediately destroy the motor.**

⚠ **Never connect the operator directly to the 230V power supply, as this would destroy the motor.**

Single-wing gate



Double-wing gate

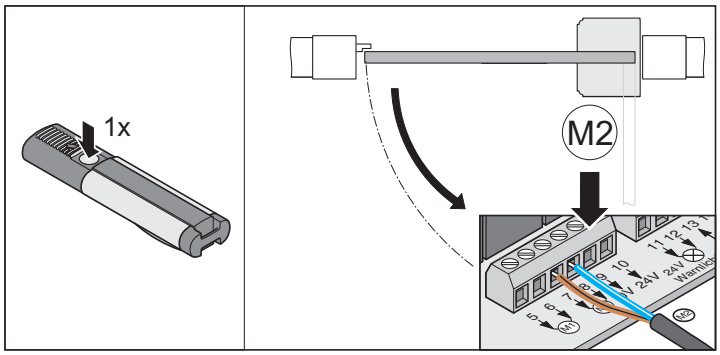


1. Connect drive to control unit
   - First connect and adjust drive at the wing with stop (M1), then install drive for pedestrian wing (M2)
2. Set all DIL switches to OFF
3. Set jumpers: single-wing or double-wing gate
4. Connect control system to power supply.
   LED for power supply is on and “WL” LED flashes.

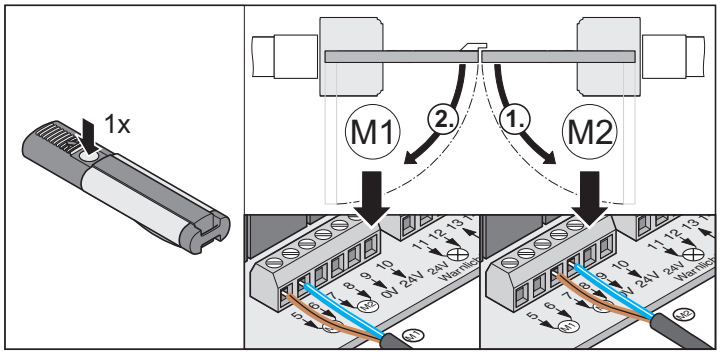
Checking direction of movement

- Upon the first command, the drives must move the gate in direction “OPEN”. If this is not the case, exchange the connecting cables of the drive at the control unit.

Single-wing gate



Double-wing gate



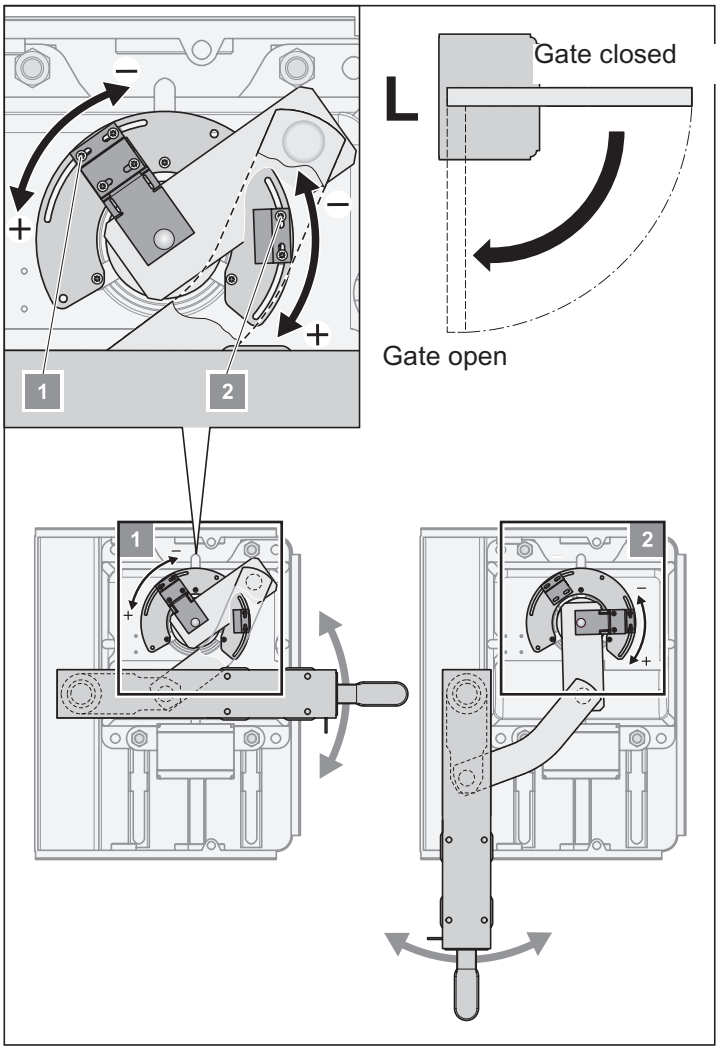
Terminal	Label	Function
5 + 6	M1	single-wing gate: no function assigned double-wing gate: connection for motor-1 The motor must be mounted on the wing that opens as the second wing, or that is equipped with a stop bar at the outside. Terminal 5: Motor cable, brown Terminal 6: Motor cable, blue
7 + 8	M2	single-wing gate: connection for motor double-wing gate: connection for motor-2 The motor must be mounted on the wing that opens as the first wing, or that is not equipped with a stop bar at the outside. Terminal 7 Motor cable, brown Terminal 8: Motor cable, blue

Adjusting end stops

Ensure that the gate wing is stopped before it touches the gate post, as this could damage the operator or the post.

Tip
Only connect the operator whose end stops are to be adjusted to the control system. If both operators are connected, the closing and opening of the gate takes longer.

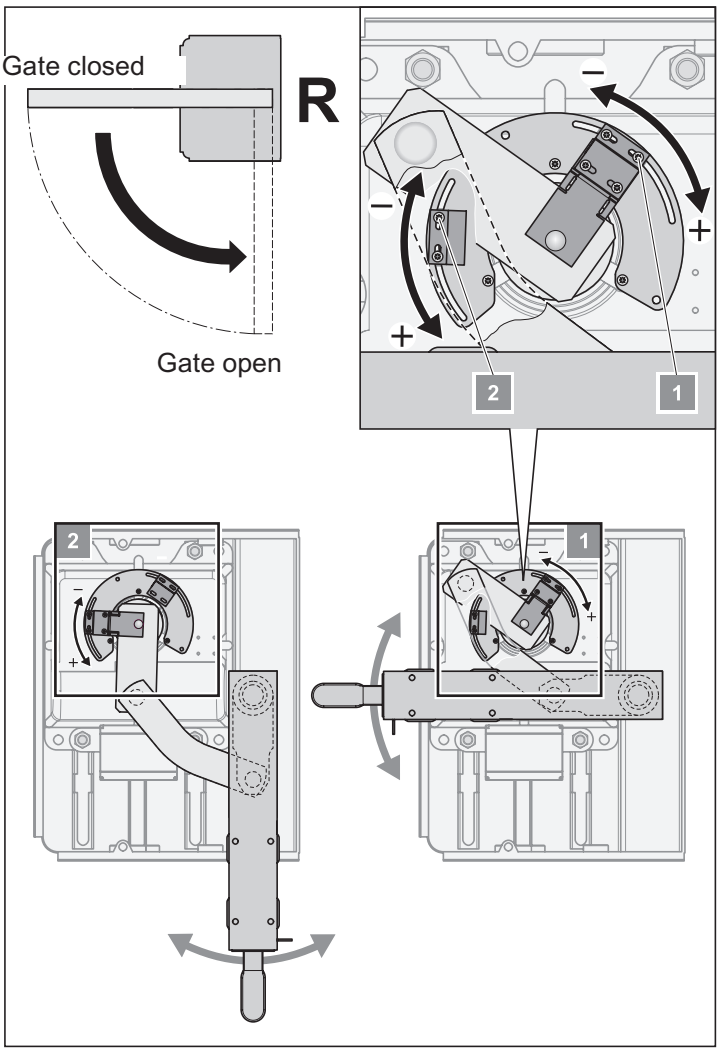
Adjusting end stop of left operator



The operator is factory-set to "gate OPEN" (see illustration to the right).The end switches are factory-set for the gate end positions "gate OPEN" and gate CLOSED" to approx. 90°.

1. Press key (Imp). The operator moves the gate to end position "gate OPEN".
2. When end position "gate OPEN" is reached, check whether the opening angle of the gate is sufficient.
3. Adjust the end switches for "gate OPEN" as required. Prior to adjusting the end switch, move the gate slightly in direction "gate CLOSED".
4. Press key (Imp). The operator moves the gate to end position "gate OPEN".
5. Repeat steps 1 to 4 until the desired opening angle is reached.

Adjusting end stop of right operator



The operator is factory-set to "gate OPEN" (see illustration to the left).The end switches are factory-set for the gate end positions "gate OPEN" and gate CLOSED" to approx. 90°.

1. Proceed as described under "Adjustment of end stops of left operator".

Commissioning

General instructions

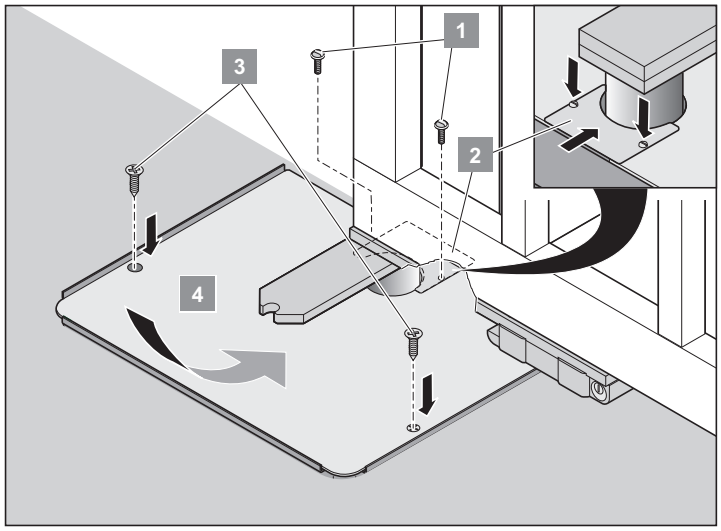
Lernlauf immer unter Aufsicht durchführen, da die Antriebe mit voller Kraft und halber Geschwindigkeit fahren. Dies stellt eine Gefahr für Personen, Tiere oder Gegenstände im Bewegungsbereich der Tore dar.

- During the programming run, the “WL” LED or the connected warning lamp are flashing, irrespective of position of DIL switch 4.
- During the commissioning runs, the force necessary to properly open and close the gate, the runtime and the delay upon closing are evaluated and stored by the control system.
- If a programming run is interrupted before it is completed (“WL” LED is on during opening or closing), all previously saved values are deleted.

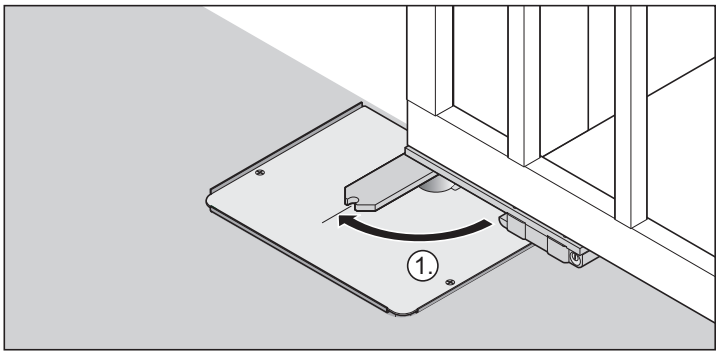
Preparation for standard operation

Caution!
Risk of short circuit! Prior to adjusting the DIL switch settings, disconnect control unit from power supply.

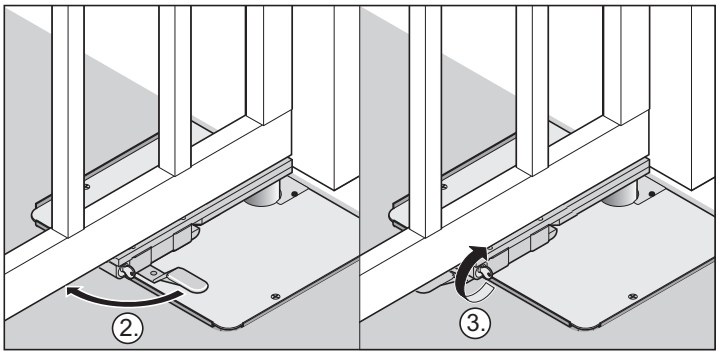
1. Select 1 or 2 wing option, connect desired components and complete settings (see additional functions and connections).
2. Connect control unit to power supply (AC 230V) (“Power” LED is on).
3. Tighten all screws at the fittings so that the drives can easily be moved.



4. Replace the lid (4 + 2) and tighten the screws (3 + 1).



5. Engage the gate in the gate wing fitting (push against slight resistance).



6. Press the emergency release lever towards the gate until it engages. The gate is locked.
7. Turn the key by 90° in anticlockwise direction - The emergency release lever is locked.

† The gate is now closed and locked.

Activating standard operation

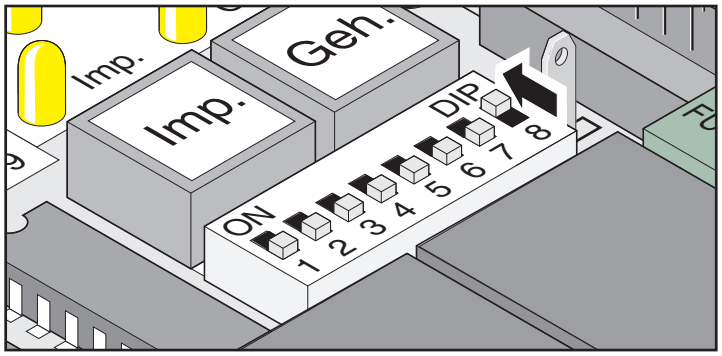
“WL” LED flashes, until the values for force, runtime and closing delay have been registered and stored.

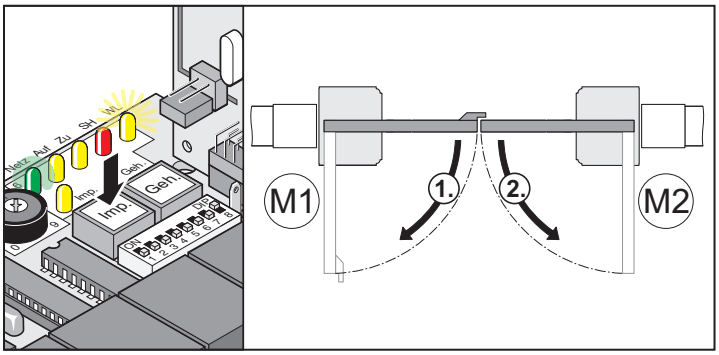
2 wing gate!
Wing 1 (M1 wing with stop) is closed first, followed by wing 2 (M2 pedestrian wing). This prevents that gates with different runtimes are closed in the wrong sequence.

- Check end switch settings. Open and close the door. If the drive switches off when an end position is reached, complete a teaching-in process.

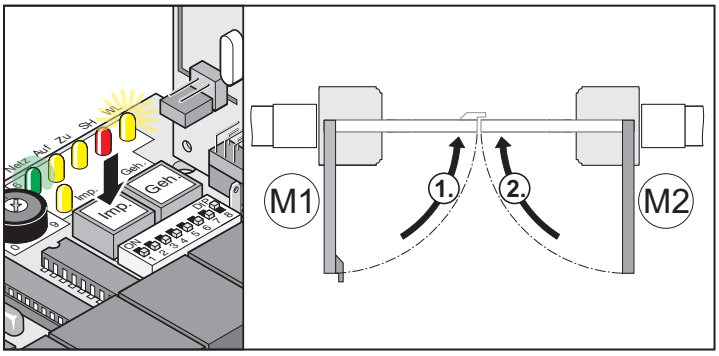
Complete at least 2 programming runs:

Set DIL switch 8 to ON and leave it in this position.





1. Press key (Imp). Gate moves to end position gate “OPEN”.
   - “Power” LED is on, “WL” LED flashes.



2. Press key (Imp). Gate moves to end position gate “CLOSE”.
   - “Power” LED is on, “WL” LED flashes.
3. Repeat items 1 + 2.

† When the "WL" LED stops flashing, all values have been registered and stored.

Upon the next command, the gates are started and stopped in soft run. The control system thereby checks the force, runtime and closing delay during every opening and closing procedure and gradually adjusts the settings each time the end position is reached.

If a programming run could not be properly completed (drives not in soft run mode, LED "WL" flashes), the control system is reset (all stored values are deleted, see control reset). Start a new programming run.

Adjusting force tolerance

After the drive system has been installed, the person responsible for the installation must complete an EU Declaration of Conformity according to Machine Directive 98/37/EU and attach a CE mark at the type plate of the drive.
This also applies in cases where the owner of the system is a private person, as well as to manually operated gates that have been upgraded with a drive. The above documents and the instructions for installation and operation must be handed over to the operator.

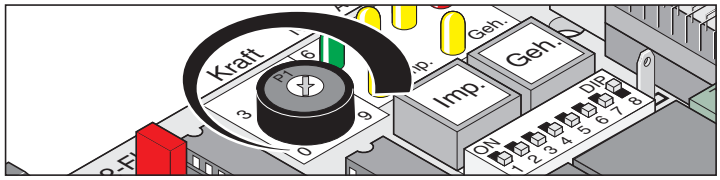
The force settings are relevant for the system's safety and must therefore be adjusted with due care and attention. If the force tolerance is outside the permitted range, there is a serious risk of injury and damage.
Select the lowest possible force tolerance in order to ensure that obstacles are immediately and reliably detected.

- Maximum force = programmed force + force tolerance (adjustable at potentiometer)
- If the set force is not sufficient to fully open or close the gate, increase the force tolerance by turning the potentiometer clockwise.
- Adjust value while the gate is in operation; the new values are subsequently stored upon the next opening operation of the gate.
- After the adjustment of the force tolerance is completed, check the end positions and readjust, if necessary.

Inspection of force tolerance settings

For detailed instructions, see chapter Maintenance / Regular Inspections.

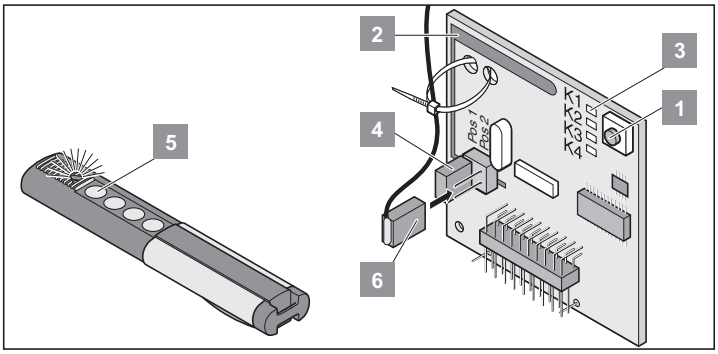
Adjustment of force tolerance to programmed value. The potentiometer data is read every time the system is started.



- Potentiometer at left stop (0): smallest tolerance value; potentiometer at right stop (9): greatest tolerance value

Programming of remote control

Prior to the initial programming of the hand-held transmitter, delete the radio receiver memory.



Deleting the radio receiver memory

- Press and hold the programming key (1).
  - After 5 seconds, the LED begins to flash; after another 10 seconds, it is continuously on.
  - After 25 seconds, all LEDs are on.
- Release the programming key (1).

† All LEDs are off. Deletion of the memory is completed.

Programming remote control transmitter

Gate system with 1 wing:

- Key 1 to radio channel 1

Gate system with 2 wing:

- Key 1 to radio channel 1 (both gate wings open)
- Key 2 to radio channel 2 (only pedestrian wing opens)

- Press the programming key (1)
  1x for channel; 1 LED (K1) is on.
  2x for channel 2; LED (K2) is on.
- If no radio code is transmitted within 10 seconds, the receiver switches back to normal operating mode.
- Aborting programming mode: Repeatedly press the programming key (1) until all LEDs are off.
- Press the desired remote control key (5) until LED is off - depending on chosen channel.
  The radio code has been transmitted from the remote control transmitter to the receiver

† LED off - programming process is completed.

Check

Press key 2. The pedestrian gate wing opens.

Press key 1. Both wings open.

Programme all other remote control devices by repeating the above steps. Each radio remote control receiver can store up to 112 different radio codes (remote control keys).

Operation and use

Safety instructions

- Never operate the drive if you suspect that it might be faulty or damaged.
- Before opening or closing the gate, ensure that no persons, especially children, animals or objects are within the opening range of the gate.
- Never use remote control device at locations where it might interfere with other important radio systems (e.g. airports, hospitals).
- Only operate the gate with the remote control when you have full view of the gate.
- Keep the remote control device out of reach of children or animals and prevent any inadvertent use.
- Use remote control device only, if the force tolerance is set to a permitted value. Select the lowest possible force tolerance to reduce the risk of injury.

Standard operation

Damage to the gate, humidity, subsidence, extreme temperature, etc. may affect the force that is required to open and close the gate.

If the force required to open or close the gate is increased within the tolerance range set at the potentiometer, the force settings are automatically adjusted accordingly. In the same way, the drive adjusts the settings, if less force is required.

Operation in summer/winter

Due to the temperature variations between summer and winter, the forces required to operate the gate might vary considerably. If the gate cannot be opened or closed, reset the control system and complete a programming run.

The temperature difference might also affect the end position of the wings. If necessary, adjust positions at the limit switch.

Intermediate stop

2 wing gate system

If the wing is opened by means of the pulse command and stopped with the stop command, before wing 1 is opened, the pedestrian gate wing can only be closed with the pedestrian gate command.

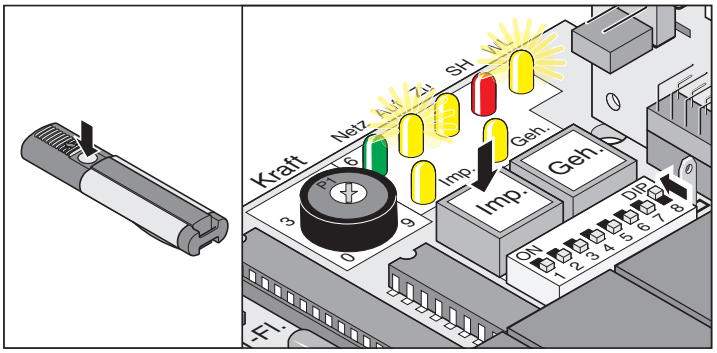
Obstacle detection:

The obstacle detection function is only working properly after the programming runs are completed and the force tolerance is set.

If the moving gate wing touches an obstacle, it is identified as such. Depending on the actual movement and DIL switch settings, the gate wing responds in different ways. The first subsequent gate movement is always away from the obstacle.

Opening and Closing Gate

- **DIL switch 8 set to ON and programming run completed.**
- **Remote control programmed (key 1 to channel K1, key 2 to channel K2).**



Procedure for single-wing gates

1. Press key (Imp) or key 1 at remote control.
2. Gate opens until end position “OPEN” is reached.
   - LEDs “OPEN”+ “WL” are on.
   - When end position “OPEN” is reached, the LEDs “OPEN” + “WL” are switched off.

Procedure for double-wing gates – operation of both wings

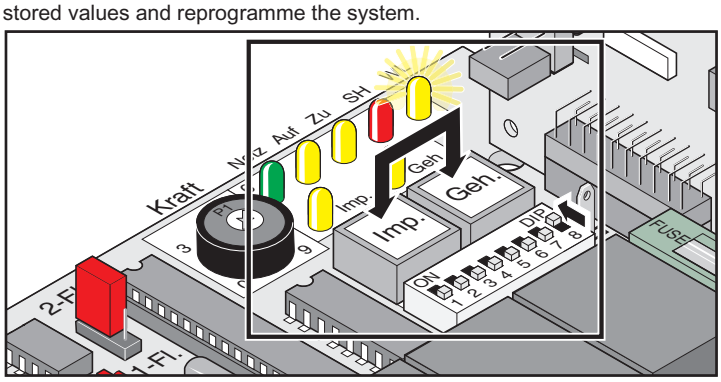
1. Press key (Imp) or key 1 at remote control.
   - Wing 2 (M2/pedestrian wing) opens first. After 3 seconds, wing 1 (M1) opens - LEDs “OPEN” + “WL” are on.
   - When end position “OPEN” is reached, the LEDs “OPEN” + “WL” are switched off.
2. Press key (Imp) or key 1 at remote control.
   - Wing 1 (M1) closes first. After 5 seconds, wing 2 (M2/pedestrian wing) closes – LEDs “CLOSE” + “WL” are on.
   - When end position “CLOSE” is reached, the LEDs “CLOSE” + “WL” are switched off.

Procedure for double-wing gates – operation of pedestrian gate only

1. Press key (Geh) or key 2 at remote control.
   - Wing opens until end position “OPEN” is reached – LEDs “OPEN” + “WL” are on.
   - When end position “OPEN” is reached, the LEDs “OPEN” + “WL” are switched off.
2. Press key (Geh) or key 2 at remote control.
   - Gate closes until end position “CLOSE” is reached – LEDs “CLOSE” + “WL” are on.
   - When end position “CLOSE” is reached, the LEDs “CLOSE” + “WL” are switched off.

Resetting control

When the control system is reset, all programmed values (e.g. force settings: drive force required to open/close the gate, delay settings) are deleted. Under certain circumstances, it might be necessary to delete all stored values and reprogramme the system.



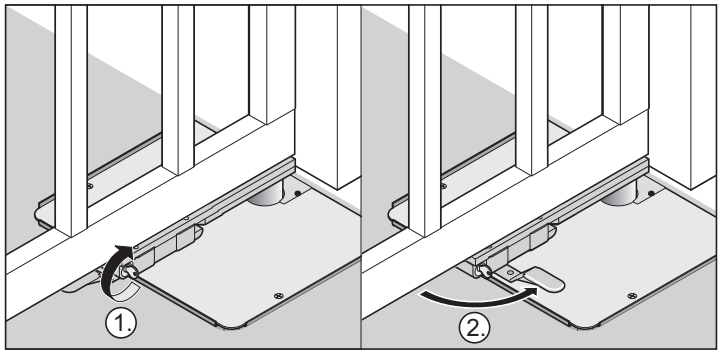
1. Press keys (Imp. + Geh) and hold until LED “WL” begins to flash.
2. LED “WL” is off - all data is deleted. Release keys.
3. LED “WL” flashes.
4. Complete programming run, see chapter “Activating Standard Operation”.

Emergency release in the event of a power Failure

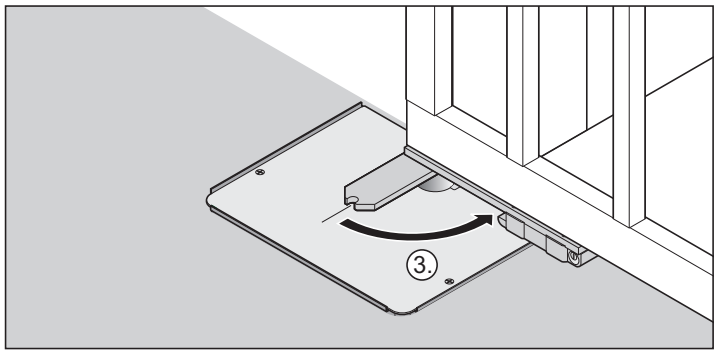
This procedure should only be applied if the control system is not powered and is secured against inadvertent activation.

In the event of a power failure, the gate can be manually opened or closed, irrespective of its initial position. The gate can be locked and released from both sides.

Releasing operator

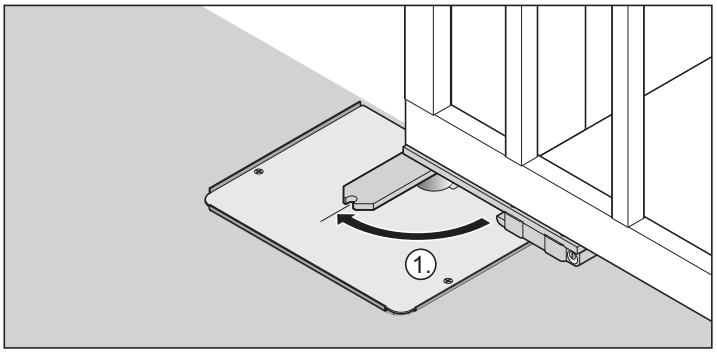


1. Turn the key by 90° in clockwise direction – the emergency release lever is released.
2. Pull the emergency release lever way from the gate (approx. 90°). The gate is released.

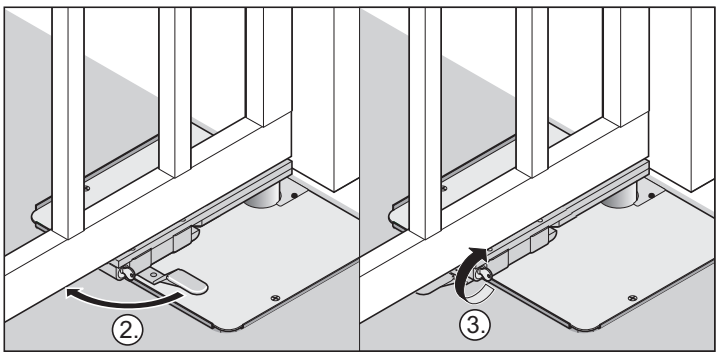


3. Disengage the gate from the gate wing fitting (push against slight resistance).

Locking operator



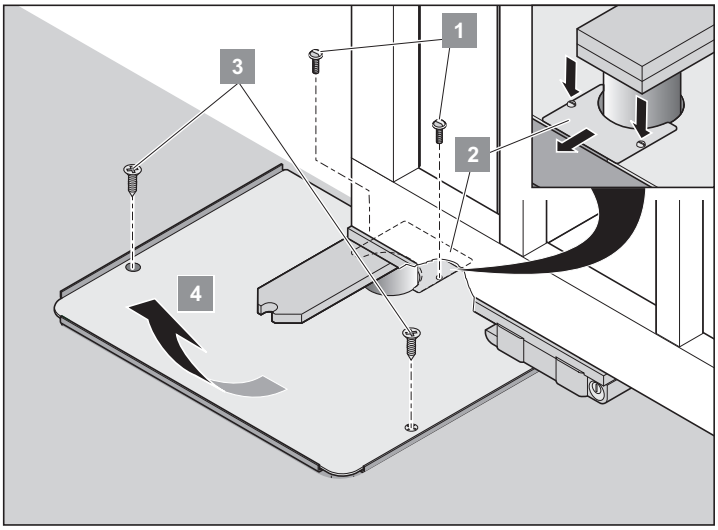
1. Engage the gate in the gate wing fitting (push against slight resistance).



2. Press the emergency release lever towards the gate until it engages. The gate is locked.
3. Turn the key by 90° in anticlockwise direction. The emergency release lever is locked.

Opening foundation box

The foundation box may only be opened after the control system has been disconnected from the power supply and secured against inadvertent activation.



1. Gate opens until end position "gate OPEN" is reached.
2. Disconnect the control system from the power supply and secure it against inadvertent activtion.
3. Remove the screws (1 + 3). Remove the lid (2 + 4).

† Open the foundation box.

Radio receiver

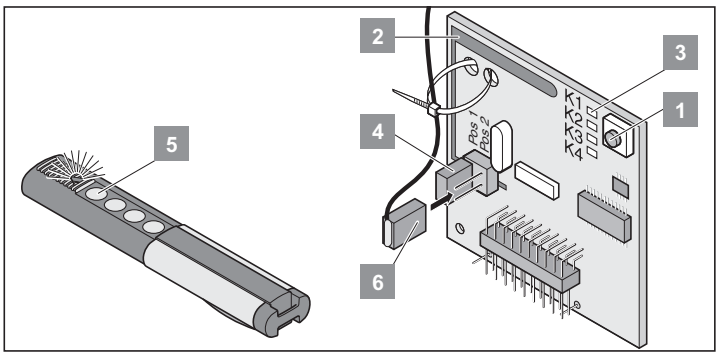
Homelink compatible!
If your vehicle is equipped with a Homelink system (version 7), you can reach our drive/radio receiver at 868.6 MHz. With holder Homelink systems, you must use a different frequency (40.685 or 434.42 MHz). For more information, please visit: "http://www.eurohomelink.com"

Safety instructions

- The operator of this radio-controlled equipment is not in any way protected against interference from other telecommunications systems and facilities (e.g. other radio-controlled equipment that is licensed to operate at the same frequency range).
- In the event of poor reception, replace the battery of the remote control.

Operation and use

Display and keys



1 Programming key

2 Internal aerial

3 LEDs: indicate the selected channel.
K1 = radio channel 1 -> same function as Imp key
K2 = radio channel 2 -> same function as pedestrian gate key
! K3 = radio channel 3 -> no function assigned
! K4 = radio channel 4 -> no function assigned

4 Connection for external aerial (6)
If the internal aerial does not have the necessary reach, connect an external aerial to the device. For details, see accessories.

5 Remote control transmission key

6 External aerial

Programming of remote control device

Prior to teaching in the hand transmitter, clear the radio receiver memory.

- Press the programming key (1)
  1x for channel 1; LED (K1) is on.
  2x for channel 2; LED (K2) is on.
- If no radio code is transmitted within 10 seconds, the receiver switches back to normal operating mode.
- Aborting programming mode: Repeatedly press the programming key (1) until all LEDs are off.
- Press the desired remote control key (5) until LED is off - depending on chosen channel.
  The radio code has been transmitted from the remote control transmitter to the receiver.

† LED off - programming process is completed.

Programme all other remote control devices by repeating the above steps. Each radio remote control receiver can store up to 112 different radio codes (remote control keys).

Disabling remote control key at receiver

If, for instance, a user of a parking facility is moving house and wishes to keep his remote control device, all radio codes of this device must be disabled at the receiver.

For reasons of safety, we recommend to disable every single key and possible key combination!

- Press programming key (1) and hold for 5 seconds until one of the LEDs is flashing.
- Release programming key (1) – the radio receiver is now in delete mode.
- Press the remote control key whose radio code is to be deleted from the radio receiver memory.

† LED is off - the deletion process is completed.

Deleting all radio codes of a channel

- Push the “Learn” button (1)
  1x for channel 1, LED (3.1) lights up
  2x for channel 2, LED (3.2) lights up
- LED is on, depending on which channel has been selected.
  After 5 seconds, the LED starts to flash and then after an additional 10 seconds is continuously illuminated
- Release the 'Learn' button (1) - deletion process is completed.

Deleting the radio receiver’s memory

If a remote control transmitter is lost, we recommend deleting all data in the radio receiver memory for safety reasons.

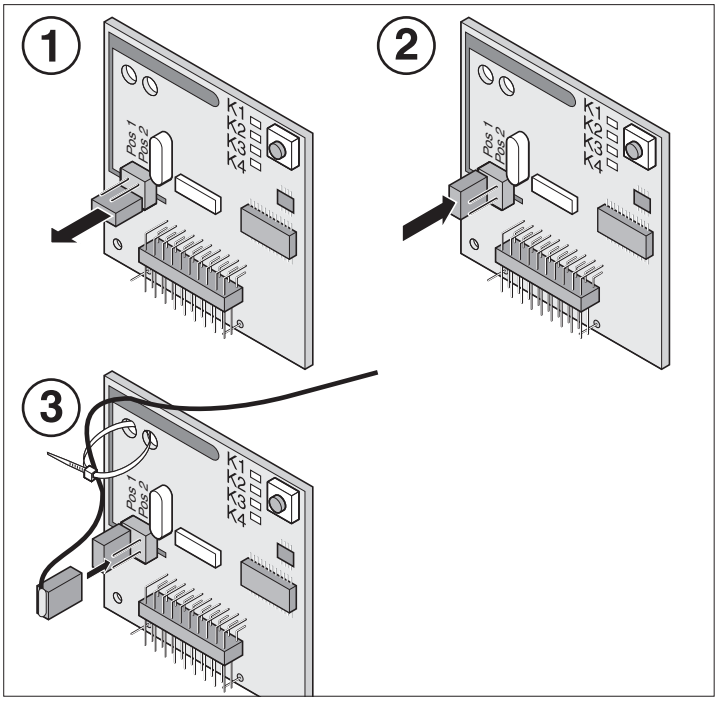
All remote control devices must subsequently be programmed again.

- Press and hold the programming key (1).
  - After 5 seconds, the LED begins to flash; after another 10 seconds, it is continuously on.
  - After 25 seconds, all LEDs are on.
- Release the programming key (1).

† All LEDs are off – Deletion of the memory is completed.

Connecting an external aerial

- The aerial cable should not place any mechanical stress on the radio remote control receiver, attach a strain relief device.



Troubleshooting

All LEDs are flashing:
Attempt to save more than 112 radio codes (remote control keys) in the radio receiver. If you wish to save additional radio codes over and above the already stored 112 codes (remote control keys), you must first delete some of the stored (unused) codes.

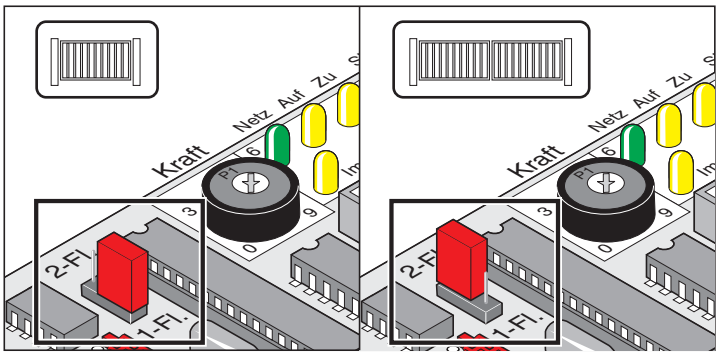
The LED is on; the device is in programming mode:
- Radio receiver is awaiting a code signal from a remote control transmitter.
- Radio receiver receives a signal from a remote control transmitter.

Additional functions and connections

Jumpers

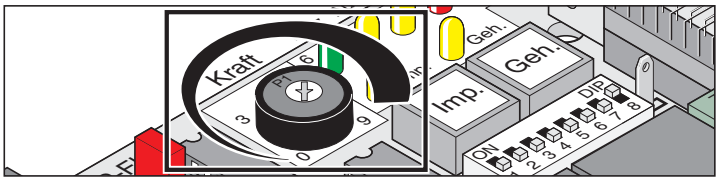
Selection of gate system (single-wing or double-wing)

After changing the jumper settings, reset the control system and complete a new programming run.



Label	Function
2-wing / 1-wing	Jumper at upper pins = double-wing
	Jumper at lower pins = single-wing
	Jumper not set = single-wing

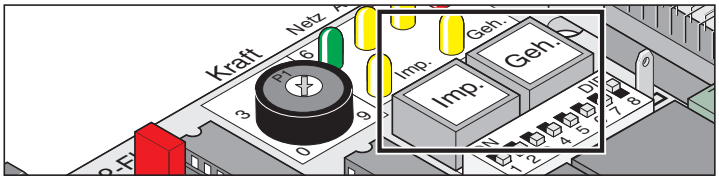
Potentiometer for force tolerance settings



Adjustment of force tolerance to programmed value. The potentiometer data is read every time the system is started.

If the potentiometer is set to the left stop (0), the force tolerance is minimal, if set to the right stop (9), the force tolerance is set to the highest value.

Control panel keys



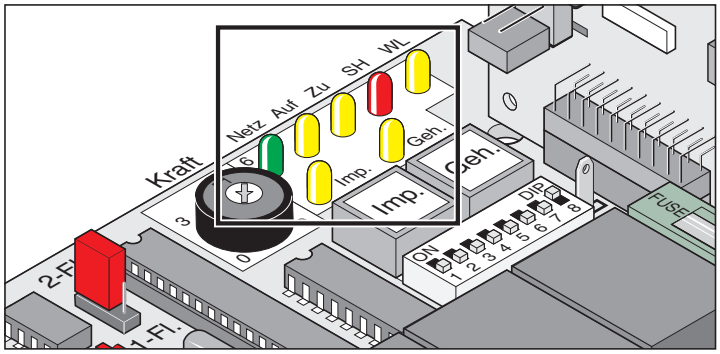
Label	Function
Imp.	Pulse key: opens both gate wings If the Imp key is pressed while a pedestrian gate wing is in motion, the wing is stopped. If the pedestrian wing is fully opened, wing 1 can be opened by pressing the Imp key. Sequence: open - stop - close - stop - open ...
Geh.	Pedestrian gate key: Open only the pedestrian gate In a double-wing gate, this key opens only gate wing 2. In gates where the stop bar is on the outside, wing 2 always opens before wing 1. Sequence: open - stop - close - stop - open ...

Key (Geh) is only enabled, if wing 1 is fully closed.

Reset of control:
To reset the control, press both keys together for minimum 5 seconds until LED (WL) is switched off.

LEDs

The LEDs indicate the control system status.



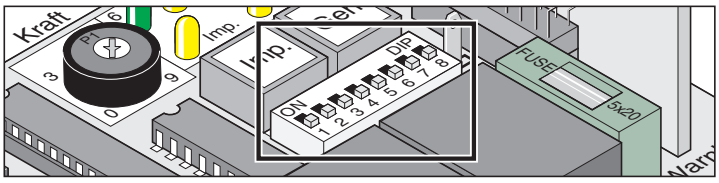
Label	Colour	Status
Power	green	OFF = no power ON = power in low-voltage range (24 V) of the control **If the mains fuse is blown, this LED is off; terminals 1, 2, 19 or 21 might however be powered with mains voltge (AC 230 V).**
OPEN	yellow	OFF = idle ON = gate is opening
CLOSE	yellow	OFF = idle ON = gate is closing
SH	red	OFF = idle ON = signal at safety input (light barrier triggered)
WL	yellow	OFF = idle, with programmed force values flashing = test mode, where DIL switch 8 is set to OFF. - During programming run, where DIL switch 8 is set to ON. - The gate is opened and closed, whereby the programmed force values are applied and DIL switch 4 is set to ON. ON = gate is opening or closing with the programmed force values, and DIL switch 4 is set to OFF.
Imp.	yellow	OFF = idle ON = pulse key or radio channel 1 activated.
Geh	yellow	OFF = idle ON = pedestrian gate key or radio channel 2 activated.

Additional functions and connections

DIL switch

Factory settings: OFF

Prior to adjusting the DIL switch settings, disconnect the control unit from the power supply.



Switch	Position OFF	Position ON
1	No response to signal at the safety input upon opening of gate.	Gate is stopped, when the safety input is triggered while the gate is opening.
2	Gate movement reversed, when safety input is triggered while the gate is closing.	Gate is stopped, when the safety input is triggered while the gate is closing.
3	Switch 2 OFF: reversion	Switch 2 OFF: gate is fully opened
4	Warning lamp is on	Warning lamp flashes
5	Early warning OFF	Early warning period approx. 3 seconds. Lamp is on or flashes, before the gate is started, depending on position of switch 4.
6 *	Manual mode	Automatic close mode: Gate is automatically closed after 60 seconds.
7 *	No function assigned	Switch 6 ON, gate closes automatically 5 seconds afterthe light barrier has been triggered
8	Test mode: Drive can be operated while no force values are programmed. Use test mode to adjust end position settings.	Standard mode: - After switching from OFF to ON; the force values, run times, and delays for closing/opening are programmed in the course of programming runs. - The gate opens or closes.

* See TorMinal manual

Operate gate only within full view of the gate's operating range.

After programming, leave DIL switch 8 in position ON.

Automatic close mode

For operation with automatic close mode, comply with EN 12453 (e.g. installation of light barrier 1).

The gate closes automatically after the time for GATE OPEN set at the potentiometer has lapsed. The gate can only be opened by means of a command issued via a push-button or manual remote control. When the gate is opening, no command issued can stop it from doing so.
When it is closing automatically and a further command is given, the gate opens fully. If a command is issued during the GATE OPEN period, this period is restarted.

The GATE OPEN time can be adjusted at DIL switch 6:
- Time (adjustable in TorMinal): 5 to 255 seconds

Behaviour of the drive system when a signal is received at the safety input
While gate is closing:
drive behaves according to the settings of DIL switch 2.
While gate is opening:
drive behaves according to the settings of DIL switch 1.

Automatic close mode, option 1

Automatic closing is activated as soon as the end position gate OPEN is reached; at this moment, the GATE CLOSE time set at the potentiometer is started.
If a command is issued during the GATE CLOSE period, this period is restarted.

Settings:

- set potentiometer to the desired time (5 to 255 seconds)
- DIL switch 7 OFF
- DIL switch 8 ON
- Other DIL switches set as required

Automatic close mode + light barrier, option 2

This option allows for the manual interruption of the automatic closing motion.

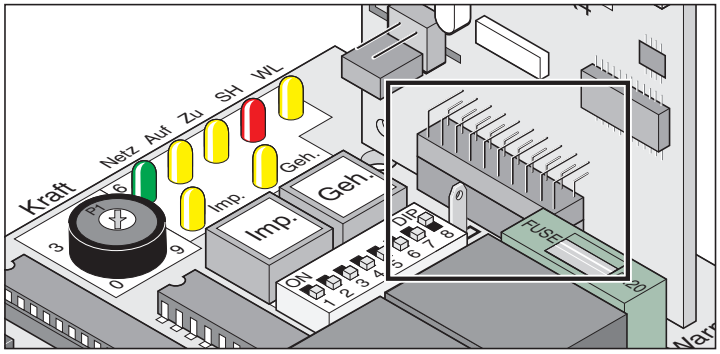
Similar to the option described above; the gate is however automatically closed 5 seconds after the light barrier has been triggered.

Settings:

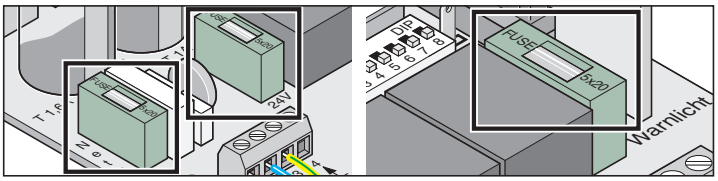
- set potentiometer to the desired time (5 to 255 seconds)
- DIL switch 7 ON
- DIL switch 8 ON
- Other DIL switches set as required

Slot for radio receiver

The radio receiver is inserted here (factory-installed).



Fuses

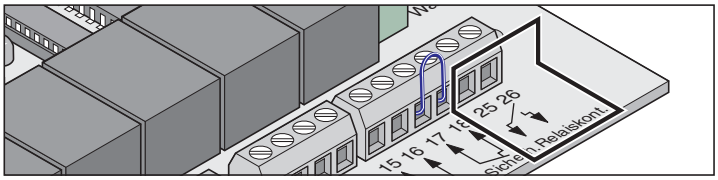


Label	Capacity	Description
Mains	1,6 A, slow	Power supply line AC 230 V
24 V	1 A, slow	Power output DC 24 V Terminals 9 + 10
Warning light	1 A, slow	Warning light output DC 24 V Terminals 11 + 12

Additional functions and connections

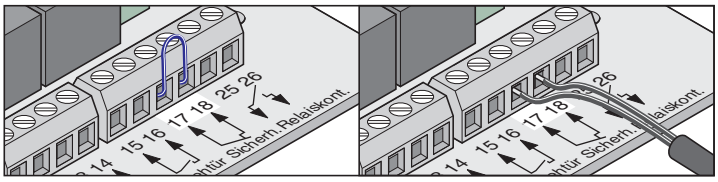
Potential-free relay contact

Admissible cable diameters for all terminals: 1 mm² - 2.5 mm²



Terminal	Description	Function
25 + 26	Special funct.	Connection for electric lock, etc. max. 8 A, DC 24 V at ohmic load

Connecting safety devices



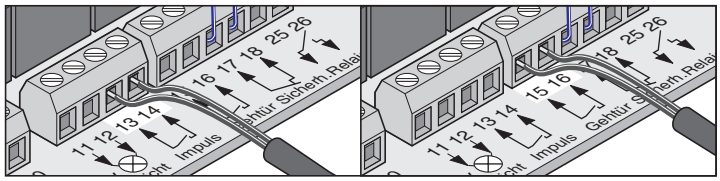
For operation with automatic close mode, comply with EN 12453 (e.g. installation of light barrier).

Factory settings: Bridge between terminals 17 + 18.

Terminal	Label	Function
17 + 18	Sicherh.	Connection for safety devices, e.g. - Light barrier - Contact strip If the connected safety device is not triggered, the contact must be closed. If the contact is not used, mount a bridge between the terminals (factory settings).

Use contact only for potential-free normally closed contacts. External voltage may damage the control system.

Connect keys



Terminal	Label	Function
13 + 14	Pulse	Connection for pulse key used to operate one or both gate wings.
15 + 16	Pedestrian wing	Connection for pulse key used to operate one gate wing.

Use connections only for potential-free NO contacts. External voltage can damage or even destroy the control system.

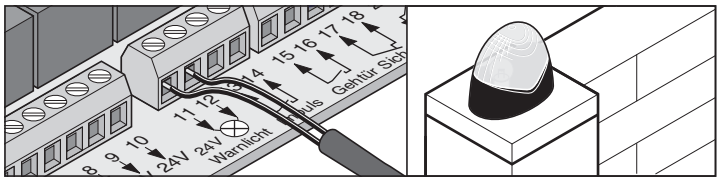
A 2-contact key is only required for double-wing gates, and if the pedestrian gate function is to be used.
In single-wing gates, the pulse and the pedestrian gate key are assigned identical functions.

Connection Key 1 Contact
single-wing gate system Key to terminals 13 + 14 or 15 + 16
double-wing gate system Key to terminals 13 + 14

Connection Key 2 Contact
Pedestrian gate terminals 15 + 16
Both wings terminals 13 + 14

Connecting warning lamp

Available as optional accessories.

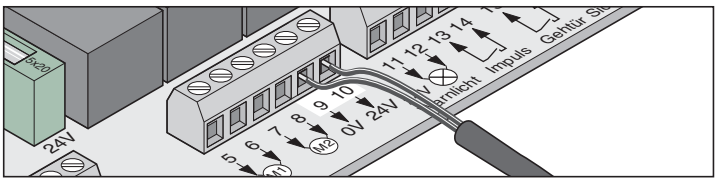


For function settings, see DIL switches 4 + 5

Terminal	Label	Function
11 + 12	24 V Warn. lamp	Connection for 24-V-warning lamp, fused with 1A at max. 20W.

Rectified, not stabilised transformer voltage, fluctuating between 22V and 27V at full load.

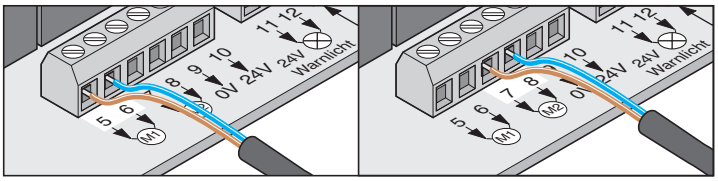
Connecting external device



Terminal	Label	Function
9	0 V	
10	24 V	24V output, fused with 1A max. 20W

Rectified, not stabilised transformer voltage, fluctuating between 22V and 27V at full load.

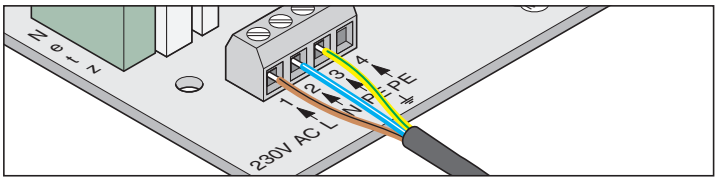
Connecting drives



Terminal	Label	Function
5 + 6	M1	single-wing gate: no function assigned double-wing gate: connection for motor-1 The motor must be mounted on the wing that opens as the second wing, or that is equipped with a stop bar at the outside. Terminal 5: Motor cable, brown Terminal 6: Motor cable, blue
7 + 8	M2	single-wing gate: connection for motor double-wing gate: connection for motor-2 The motor must be mounted on the wing that opens as the first wing, or that is not equipped with a stop bar at the outside. Terminal 7 Motor cable, brown Terminal 8: Motor cable, blue

Additional functions and connections

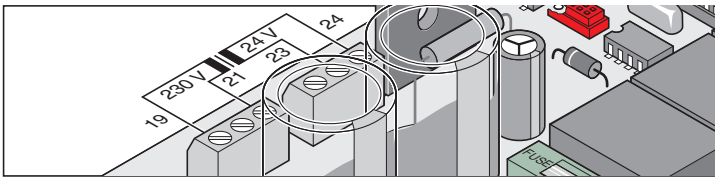
Connecting to power supply (230 V)



Terminal	Label	Function
1	L	Power conductor AC 230 V
2	N	Neutral conductor
3 + 4	PE	Earth conductor

The connection to the power supply must be carried out by a qualified electrician.

Connection of transformer



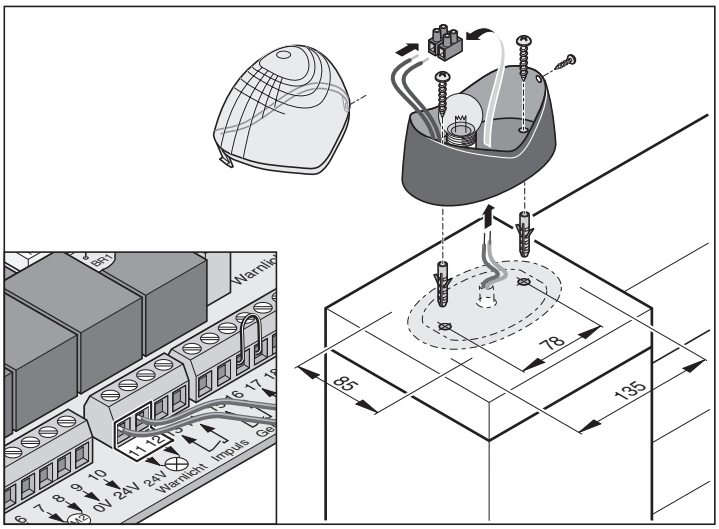
Terminal	Label	Function
19 + 21	AC 230 V	Power supply (primary winding), brown
23 + 24	AC 24 V	24V output (secondary winding), power supply line to control unit, mauve

Accessories

Safety instructions

Caution!
Prior to any work on the gate or drive, disconnect control unit from the power supply and secure it against inadvertent reconnection or actuation.

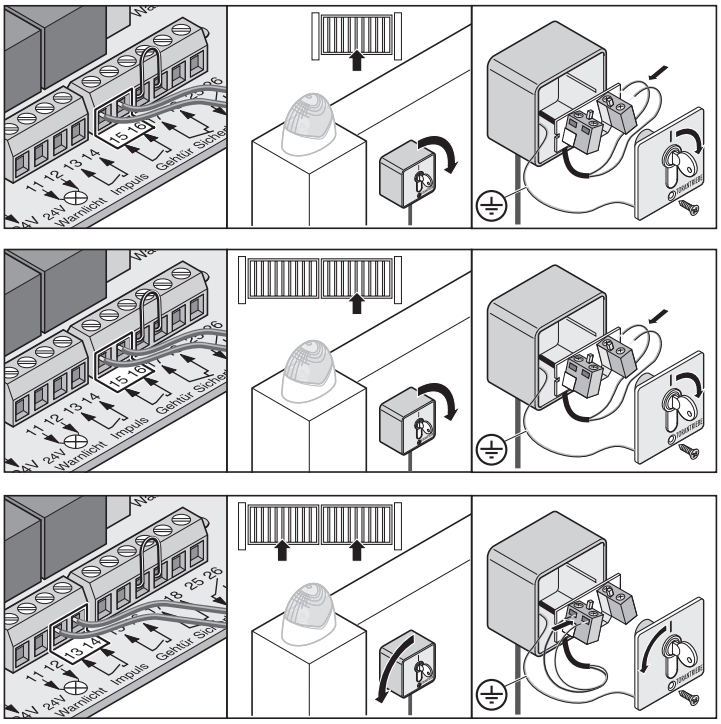
1. Warning lamp



2. Key switch

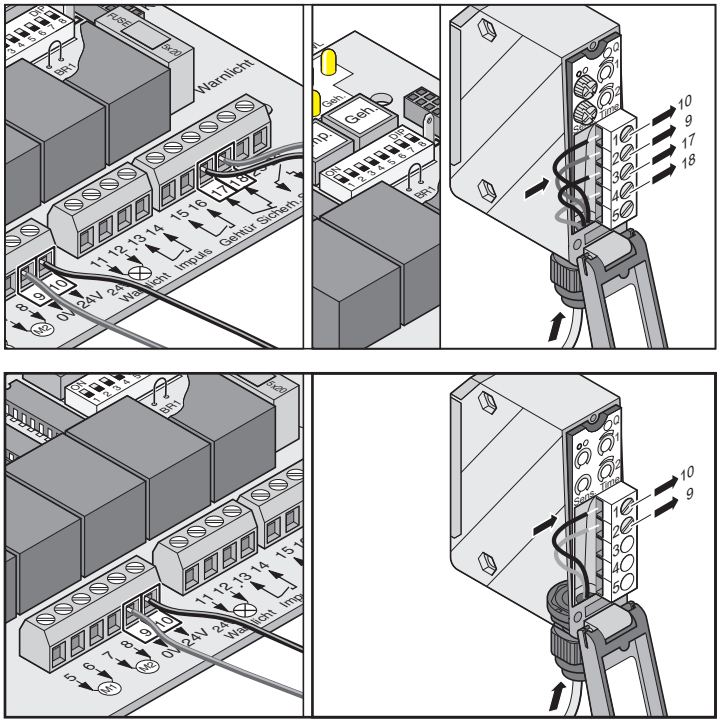
Position the key switch box in such a way that the operator can see the gate, while he/she is not inside the operating area of the gate.

- Never lead the key switch cable along the power line, as this could lead to interference in the control system.
- Use a separate conduit for the key switch line.



- Install key switch box at a suitable location where it can be easily accessed.

3. Light barrier



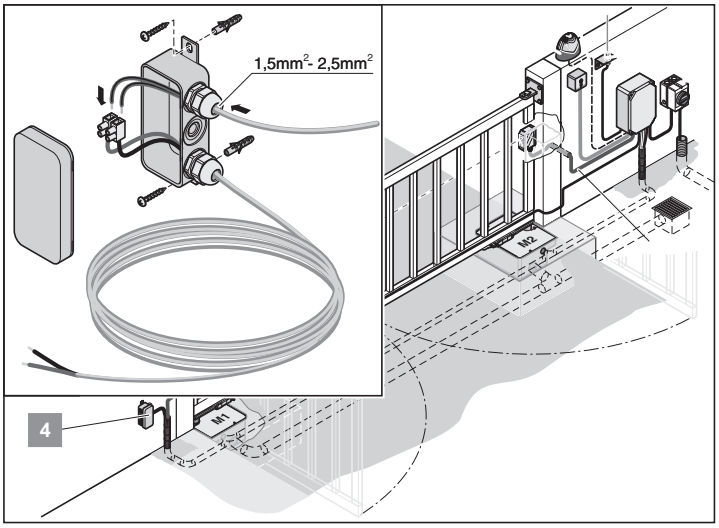
4. Connecting cables

- Secure distribution box with screws at the provided eyelets.

Installation
Only connect cables that have the same colour, i.e.:
- blue to blue
- brown to brown

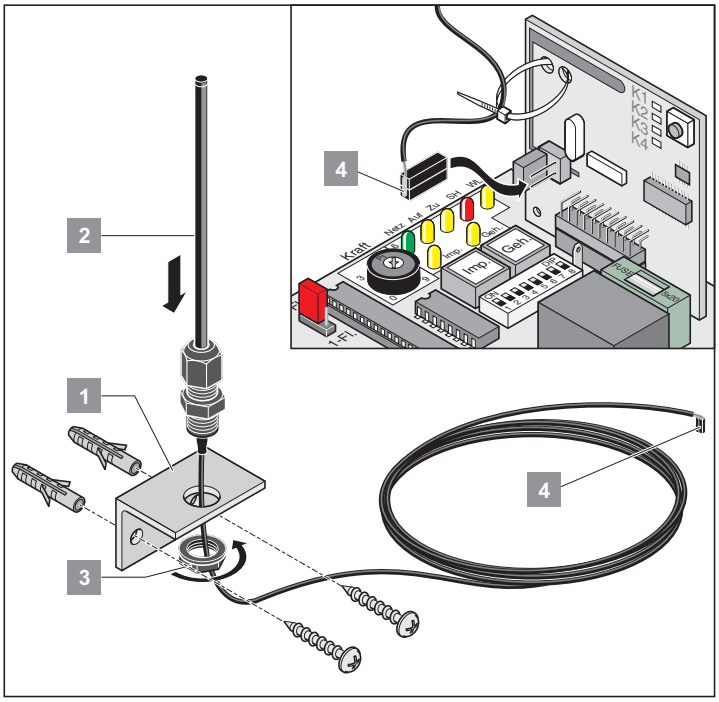
Secure screws tightly to prevent moisture from penetrating the distribution box. After installation, connect distribution box to power supply.

Wiring diagram:



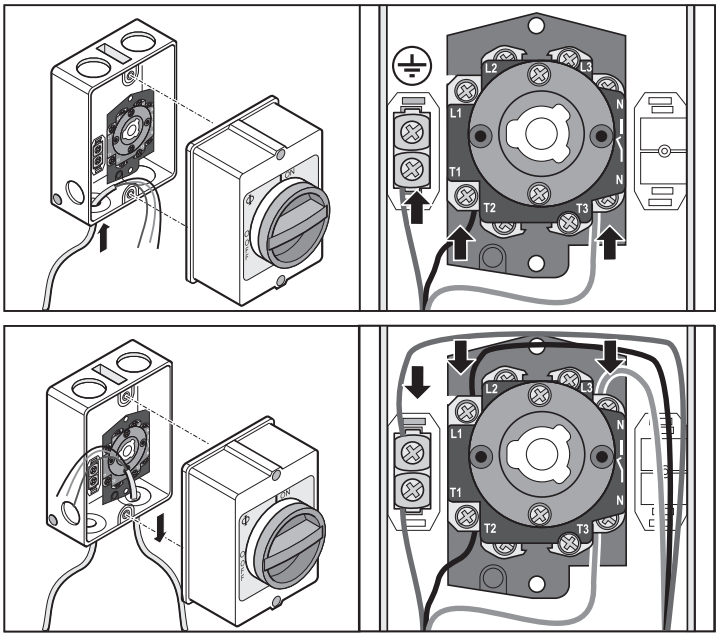
5. External aerial

- If the built-in aerial is not sufficient for the proper operation of the gate, you have the option to connect an external aerial to the system.
- Ensure that the aerial cable is laid in such a way that there is no physical impact to the radio transmitter. Install tension protection, if necessary.
- Consult the operator/owner of the system in order to find a suitable location for the external aerial.



- Connect external aerial to the respective adapter.

6. Main switch



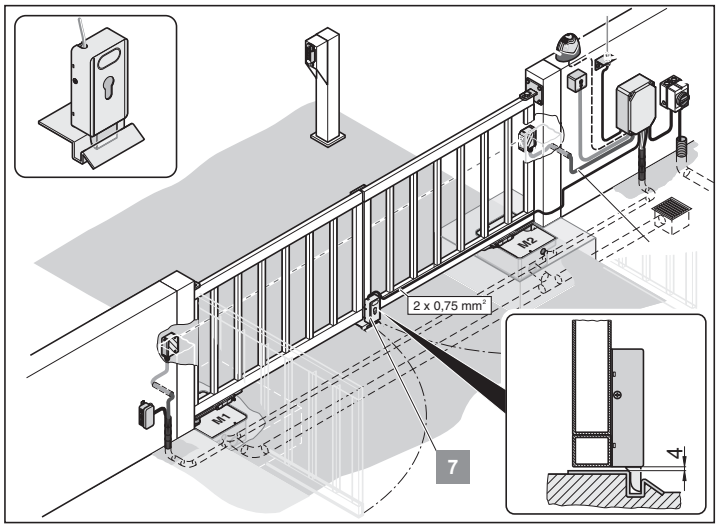
7. 24 V electric lock

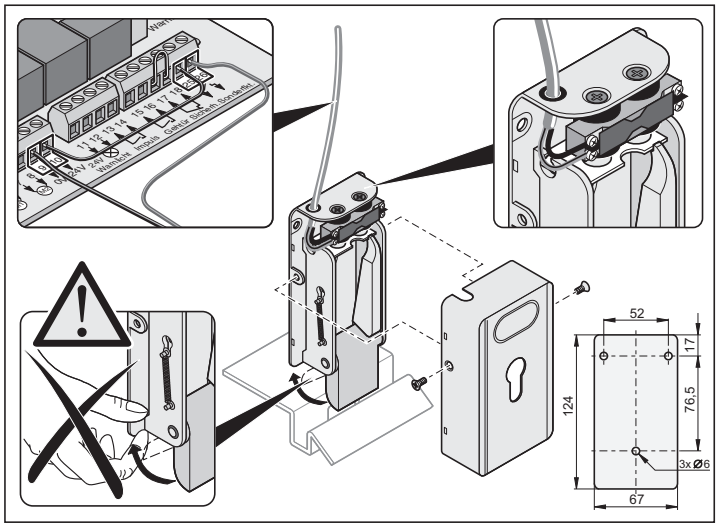
Installation:

- Reset the control system.
- After completion of the installation adjust end position gate “CLOSE”.
- Mount the lock horizontally, as it might otherwise be jammed when the gate is operated.
- Distance between lock and closing plate: min. 4 mm, max. 6 mm.

Wiring diagram of 24 V electric lock

This wiring diagram is only valid for 24 V electric locks. 12 V electric locks may only be connected after consultation with the manufacturer.





Maintenance

Safety instructions

Never clean drive system or control unit with a water hose or power washer.

- Never clean the drive with alkaline or acidic solutions.
- Carefully remove dirt from drive system and clean push rod from time to time with a dry cloth.
- If necessary, clean and/or dry.
- Regularly inspect all screws at the fittings and retighten, if necessary.
- Inspect the cover of control unit and readjust, if necessary, to ensure that it is watertight.

Regular inspections

- Check safety devices regularly, at least once a year, to ensure proper functioning (e.g. BHR 232/2003, only applicable in Germany).
- Safety devices that are sensitive to pressure (e.g. safety switch unit) should be checked every 4 weeks to ensure proper functioning, see EN 60335-2-95.

Service and warranty

The warranty granted complies with statutory requirements. In the event of a repair that is covered by warranty, please contact your dealer/specialist stockist. Warranty entitlements only apply to the country in which the product has been purchased.
Batteries, fuses and light bulbs are not covered by warranty.
Replaced parts remain the property of the service agent.
If you require after-sales service, spare parts or accessories, please contact your dealer/specialist stockist.
We have made every effort to ensure that these instructions are as clear and concise as possible. However, if you have any queries or wish to comment on this document, please contact us with your suggestions:

Fax.: 0049 / 7021 / 8001-403

email: doku@sommer.eu

Disassembly

Observe safety instructions!
To dismantle the unit, complete the respective steps described in chapter “Installation” in reverse order. There is of course no need to adjust settings.

Test	Behaviour	yes/no	Possible cause	Remedy
Force cut-off				
While the wing is closing, try to stop it by hand. Do not try to hold the wing.	Does gate stop and move in opposite direction after it has been halted?	yes	• Force cut-off works properly	• Do not change settings.
		no	• Potentiometer at right stop. Force tolerance set too high.	• Set force tolerance to lower value by turning the potentiometer in anticlockwise direction until the test is successful. Prior to test, open and close the gate twice observing its operation.
			• Control system defective	• Shut down the gate and secure against switching on. Contact customer service!
Emergency release system				
Proceed as described in section “Emergency Release”.	It must be possible to open/close the gate by hand without special effort. Can the motor be removed from the shaft?	yes	• Everything OK!	
		no	• Gate fittings rusty	• Lubricate gate fittings
			• Emergency release damaged	• Repair emergency release, call customer service.
Safety contact unit (optional)				
Open/close gate and interrupt motion by triggering the safety contact strip.	Gate behaviour according to settings of DIL switches 1, 2 and 3.	yes	• Everything OK!	
		no	• Cable defective, terminal screw loose	• Inspect wiring, retighten terminal screws
			• DIL switch settings changed	• Check DIL switch settings and adjust
			• Contact strip defective	• Shut down gate system and secure against inadvertent switching on. Contact customer service!
Light barrier (optional)				
Open/close gate and interrupt motion by triggering the light barrier.	Gate behaviour according to settings of DIL switches 1, 2 and 3. Is the LED “SH” on?	yes	• Everything OK!	
		no	• Cable defective, terminal screw loose •	• Inspect wiring, retighten terminal screws
			• DIL switch settings changed	• Check DIL switch settings and adjust
			• Light barrier dirty	• Clean light barrier
			• Light barrier defective	• Shut down gate system and secure against inadvertent switching on. Contact customer service!

Troubleshooting

Tips for troubleshooting

Should you be unable to identify and eliminate a fault using this table, please take the following steps:

- Carry out a reset of the control system (deletion of set force values).
- Disconnect any accessories (e.g. light barrier) connected to your system.
- Reset all DIL switches to the default settings.
- Reset potentiometer to the default settings.
- If settings have been changed with TorMinal, reset the control system with the TorMinal software.

Fault	Check	yes/no	Possible cause	Remedy
Gate cannot be opened or closed with the switch or the remote control.	Is “Power” LED on?	no	• No mains power	• Check power line and reconnect, if necessary.
			• Mains fuse blown	• Check fuse and replace, if necessary.
		yes	• Gate jammed	• A gate wing has been pushed down or has warped due to high temperature differences.
			• Motor makes a sound but does not move	• Shut down unit. Possible motor and/or control system failure. Contact customer service.
			• Drive disengaged	• Engage drive.
			• Cable insulation too long, preventing contact	• Disconnect cable, remove insulation and reconnect again.
			• Gate frozen to ground/posts	• Remove ice and snow from gate and hinges.
			• Gate obstructed by snow	• Remove snow.
			• Cable disconnected from motor board	• Reconnect cable to motor board
	Is LED at the remote control device on?	no	• Battery empty	• Replace battery
			• Battery incorrectly inserted	• Insert battery correctly
			• Remote control defective	• Replace remote control device
		yes	• Remote control battery nearly empty; resulting in limited radio range	• Replace battery
			• Radio receiver defective	• Replace radio receiver
			• Remote control not programmed	• Programme remote control device
			• Poor reception	• Install external aerial, see section “Accessories”
			• Wrong frequency	• Check frequency; remote control and radio receiver must be set to the same frequency.
	Is at least one LED at the receiver on when a remote control key is pressed?	no	• Radio receiver not properly mounted	• Check and readjust radio receiver
			• Radio receiver not powered, or defective	• Replace radio receiver
			• Remote control not programmed	• Programme remote control device
			• Battery of remote control empty	• Replace battery
			• Battery incorrectly inserted	• Insert battery correctly
			• Remote control defective	• Replace remote control device
	Are LEDs “Power” + “OPEN/CLOSE” on?	yes	• Permanent signal	• Pulser defective; disconnect all pulsers
	Are LEDs “Power” + “SH” on?	yes	• Light barrier triggered	• Remove object triggering the barrier
	Disruption occurs only from time to time or temporarily	yes	• Powerful radio transmitters (pager systems) of hospitals or industrial plants might interfere with your gate system.	• Change radio frequency. • Contact telecommunication authority.

Troubleshooting

Fault	Check	yes/no	Possible cause	Remedy
Gate cannot be opened/closed with a key switch.	LEDs “Power” + “Imp./Geh” on?	no	• Cable connections loose • Key switch defective, possible water damage. • Cable defective	• Retighten terminals • Replace key switch • Replace cable
		yes	• Pulser (key switch, remote control) defective	• Check pulser and replace, if defective.
Gate is stopped or continues in reverse motion.	Obstacle in operating range?	no	• Hinges too stiff • Post has moved • Limit switch settings incorrect	• Lubricate hinges • Contact specialist • Readjust limit switch
		yes	• Force cut-off triggered	• Remove obstacle
	Is gate wing hopping at start?	yes	• Wing not stable	• Reinforce wing
	Is there strong wind?	yes	• Wind pressure too high	• Simply open and close gate again
Gate does not fully open or close.	Does gate stop before it has reach its end position?	no	• Wing hinge incorrectly mounted	• Change fittings at wing
		yes	• Limit switch settings incorrect	• Readjust limit switch
Incorrect closing sequence			• Drive wires incorrectly connected at terminals	• Read the instructions and reconnect drives to the control system
Drive cannot be properly programmed			• **DIL switch 8 is in position OFF** • End switch incorrectly set	• **Set DIP switch 8 to ON** • Adjust end switch
Gate is not stopped by an obstacle			• Gate is completing a programming run • Force tolerance set too high	• After the programming is completed, the force cut-off is operational • Reduce force tolerance, see "Adjusting force tolerance".
Pedestrian wing cannot be opened with remote control device			• Remote control key not programmed	• Programme key, see "Programming remote control transmitter".
Drive cannot be started	Is LED “SH” flashing rapidly?	yes	• Position of jumper with programmed force values has been changed	• 1. Reset jumper to previous position 2. Reset control system 3. Position jumper as desired 4. Complete programming runs

Wiring diagram