Control x.81

Control unit for Sliding Gates

GB

EASY OPERATING SYSTEM

Operating Instructions

Marantec

Torantriebe automatisch am besten

www.marantec.com

1. Meaning of symbols

Controls and motor unit symbols

 Photocell or closing edge safety device (CESD)

 Gate position OPEN

 Intermediate position

 Gate position CLOSED

 Reference control point

 Has no function

 Impulse
(remote control, external control elements)

 Operation

 Closing edge safety device

 STOP

 External control elements

 Modular antenna

Advice

Caution!
Danger of personal injury!
The following safety advice must be observed at all times so as to avoid personal injury!

Attention!
Danger of material damage!
The following safety advice must be observed at all times so as to avoid material damage!

Advice / Tip

Check

Reference

Type plate on control unit

Type: _____

Art. No.: _____

Product No.: _____

Type plate on motor unit

Type: _____

Art. No.: _____

Product No.: _____

2. Table of contents

3. General safety advice

Please read carefully!

IMPORTANT SAFETY INSTRUCTIONS:
IMPORTANT - PLEASE OBSERVE ALL SAFETY INSTRUCTIONS TO PREVENT INJURY TO PERSONS.
PLEASE KEEP THESE INSTRUCTIONS FOR FURTHER USE.

IMPORTANT INSTRUCTIONS FOR SAFE INSTALLATION:
IMPORTANT - INCORRECT INSTALLATION CAN RESULT IN SERIOUS INJURY. PLEASE FOLLOW ALL INSTALLATION INSTRUCTIONS.

Target group
– Installation, connection, setting in operation and servicing: qualified, trained specialist personnel.
– Operation, inspection and servicing: the operator of the door system.

Requirements to be met by qualified and trained specialist staff:
– Knowledge of the general and specific safety and accident-prevention regulations.
– they have knowledge of the relevant electrical regulation,
– Training in the use and care of appropriate safety equipment.
– Adequate instruction and supervision by qualified electricians.
– The ability to recognise hazards that can be caused by electricity.
– Knowledge of the application of the following standards
  – EN 12635 (“Doors and gates - Installation and use”),
  – EN 12453 (“Safety in use of power operated doors - Requirements”),
  – EN 12445 (“Safety in use of power operated doors - Test methods”),
  – EN 13241-1 (“Industrial, commercial and garage doors and gates - Part 1: Products without fire resistance or smoke control characteristics”)

Requirements to be met by the operator of the door system:
– Knowledge and safekeeping of the instruction manual.
– Safe and proper keeping of the inspection logbook.
– Knowledge of general safety and accident-prevention regulations.
– Instruction of all persons who use the door system.
– Ensure that the door system is serviced and maintained periodically by qualified and trained professionals.

Special requirements apply to the following users:
– Children aged eight and above.
– Persons with with reduced physical, sensory or mental capabilities.
– Persons with a lack of experience and knowledge.
These users are only authorised to operate the device.
Special requirements:
– The users must be supervised.
– The users must have been briefed on how to use the device.
– The users must understand the dangers involved in handling the device.
– Children are not allowed to play with the device.

Warranty
For an operations and safety warranty, the advice in this instruction manual has to be observed. Disregarding these warnings may lead to personal injury or material damage. If this advice is disregarded, the manufacturer will not be liable for damages that might occur.

Batteries, fuses and bulbs are excluded from warranty.

To avoid installation errors and damage to the gate and operator system, it is imperative that the installation instructions are followed. The system may only be used after thoroughly reading the respective mounting and installation instructions.

The installation and operating instructions are to be given to the gate system user, who must keep them safe. They contain important advice for operation, checks and maintenance.

This item is produced according to the directives and standards mentioned in the Manufacturer's Declaration and in the Declaration of Conformity. The product has left the factory in perfect condition with regard to safety.

Power-operated windows, doors and gates must be checked by an expert (and this must be documented) before they are put into operation and thereafter as required, but at least once a year.

Correct use
– The control unit is intended exclusively for controlling sliding doors and gates.
- A suitable motor unit is required to operate the control unit.
- Never use the gate to help lift persons or objects.

Beside the advice in these instructions, please observe the general safety and accident prevention regulations!
Our sales and supply terms and conditions are effective.

Information on installing the operator system
- Before commencing cabling works it is very important to disconnect the operator system from the electricity supply.
  Ensure that the electricity supply remains disconnected throughout the cabling works.
- Adhere to the local protection regulations.
- Lay the electricity supply cables and control cables; these MUST be laid separately. The controls voltage is 24 V DC.
- Install all the impulse transmitters and control devices (e.g. remote control buttons) within sight of the gate and at a safe distance from the moving parts of the gate. A minimum installation height of 1.5 m must be observed.
- Ensure that no part of the gate extends across public footways or roads when the installation is complete.

Please read carefully!

Information on commissioning the operator system
After initial operation, the persons responsible for operating the gate system, or their representatives must be familiarised with the use of the system.
- Make sure that children cannot access the gate control unit.
- Before moving the gate, make sure that there are neither persons nor objects in the operating range of the gate.
- Test all existing emergency command devices.
- Never insert your hands into a running gate or moving parts.
- Pay attention to any parts of the gate system that could cause crushing or shearing damage or accidents.
  The EN 13241-1 regulations must be observed.

Information on servicing the operator system

Maintenance work by the operator
Damage or wear to a door system must only be rectified by qualified and trained professionals.
To ensure fault-free operation, the gate system must be inspected regularly and, if necessary, be repaired. Before starting work on the gate system, the operator system must always be disconnected from the power supply.

- Check once a month that the operator system reverses when the gate touches an obstacle. Place an obstacle in the path of the gate to check this.
- Check all the moving parts of the gate system and gate operator system.
- Check the gate system for signs of damage or wear and tear.
- Move the gate manually to check that the gate travels easily and smoothly.
- Check that the photocell functions properly.
- Check that the closing edge safety device functions properly.
- Check the power supply cable for signs of damage.For safety reasons, if the power supply cable is damaged it must be replaced by the manufacturer or his customer service department, or by a similarly qualified person.

Maintenance work by qualified and trained professionals
Power-operated windows, doors and gates must be inspected by qualified and trained professionals whenever necessary, but at least once a year (written inspection records must be kept).
- Test the driving power with a force tester designed for this purpose.
- Replace any damaged or worn parts.

Information on cleaning the operator system
- It is vital that you disconnect the operator system from the power supply before cleaning. Take measures to ensure that the power supply remains disconnected for the duration of the cleaning operation.

Never use water jets, high pressure cleaners, acids or bases for cleaning.
- Clean the outside of the housing using a damp, soft cloth that does not shed fibres.

If particularly dirty, the housing can be cleaned using a mild detergent.

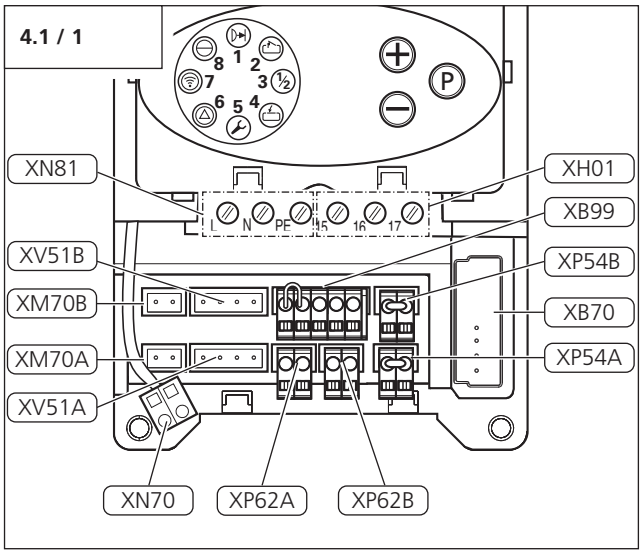
4. Installation

4.1 Connection of control elements

Caution!
Danger of electric shock:
Before any cabling works begin, it must be ensured that the cables are disconnected from the power supply. During cabling works, it must be ensured that the cables remain disconnected from the power supply at all times (e.g. prevent reconnection).

Attention!
In order to avoid damaging the controls:
- The local safety regulations must be complied with at all times.
- It is very important that mains cables are laid separately from control cables.
- The controls voltage must be 24 V DC.
- If external voltages are applied at terminals XM70A, XV51A, XM70B, XV51B, XB99, XP54B, XP54A, XP62B, XP62A or XB70, the entire electronic system will be destroyed.
- Only potential-free contacts may be connected to terminals B9, 5, 34, 3 and 8 (XB99).
- The connections XM70B and XV51B are not to be used!

4.1 / 1



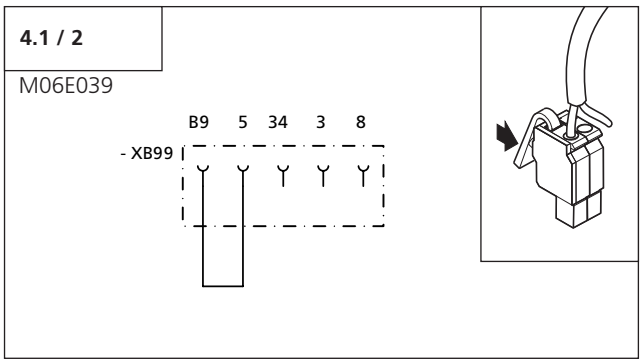
• Open the controls.

Label	Type / function	
XB70	Connection of modular antenna	6.1
XB99	Connection of external control elements	4.1 / 2 4.1 / 3 4.1 / 4 4.1 / 5
XH01	Connection for programmable output 16/17 (e.g. signal light, 24 V DC, 0.5 A, max. 10 W) Wiping impulse 15/16 (24 V DC, 0.5 A)	4.1 / 6 4.1 / 7 4.1 / 8
XM70A	Connection for motor	4.2
XM70B	Connection has no function	-
XN70	Connection Battery Backup (if available)	-
XN81	Connection for mains cable	4.1 / 6 4.3
XP54A	Connection for closing edge safety device, gate travelling direction CLOSE	4.1 / 9
XP54B	Connection for closing edge safety device, gate travelling direction OPEN	4.1 / 9
XP62A	Connection for photocell, gate travelling direction CLOSE	4.1 / 10
XP62B	Connection for photocell, gate travelling direction OPEN	4.1 / 10
XV51A	Connection for RPM/reference point sensor	-
XV51B	Connection has no function	-

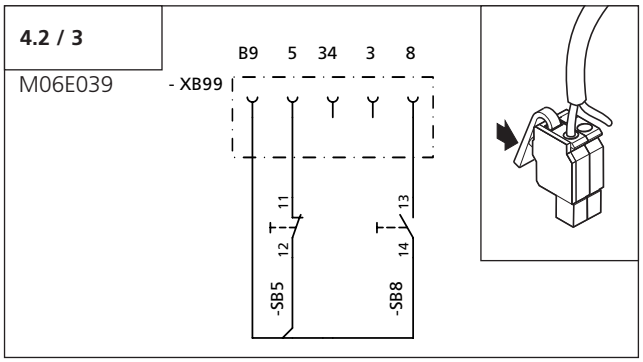
Reference:
When installing external control elements, or safety and signal equipment, the relevant instructions must be observed.

Terminal XB99

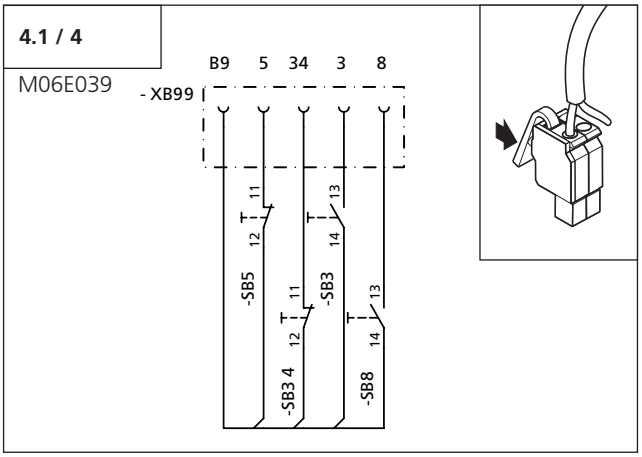
Factory settings:
B9 and 5 bridged



Connection option 1:



Connection option 2:



Label	Type / function
3	Connection for intermediate position
5	Stop connection
8	Impulse connection
34	Connection for closing prevention device
B9	+24 V DC connection
SB3	Button for intermediate position
SB5	STOP button
SB8	Impulse button
SB34	Button for closing prevention device / Drive system stops and reverses

Reference:
The connection configuration depends on the programming of the special functions. Depending on the programming, impulse or direction buttons can be connected.
Programming the special functions is described in Section 7.4 (Level 5).

Advice:
If a closing prevention device (photocell, timer, …) is connected to XB99, the controls will recognise it automatically after "Mains On" (contact SB34 must be closed).
The photocell can be deactivated later (Level 8 / Menu 1).

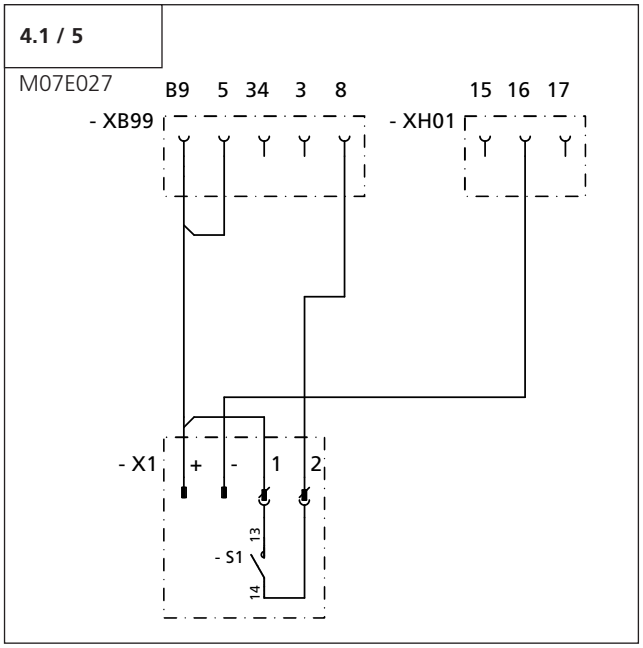
When the contacts of a closing prevention device are open, the gate can no longer be closed.

Additional external control elements, and safety and signal devices with 24 V connections must be connected to XB99 and XH01.

Connection option 3:
- External radio receiver

4.1 / 5

M07E027

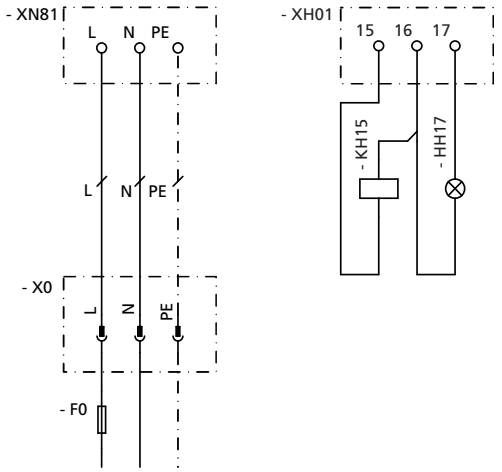


Label	Type / function
XB99	Connection of external control elements
3	Connection for intermediate position
5	Stop connection
8	Impulse connection
34	Connection for closing prevention device
B9	24 V DC connection
X1	Connection for external receiver
1	Connection of potential-free normally open contact
2	Connection of potential-free normally open contact
+	24 V DC connection
-	GND connection
S1	Normally open contact, receiver, potential-free
XH01	Connection of control unit output
15	Connection for wiping impulse 24 V
16	GND connection
17	Connection for programmable output

Terminals XN81 / XH01

4.1 / 6

M07E039
M07E038

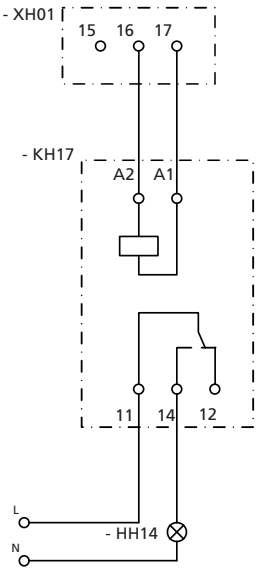


Label	Type / function
L	Connection for phase
N	Connection for neutral wire
PE	Earth wire connection
15 / 16	Connection for wiping impulse 24 V DC
16	GND connection
16 / 17	Connection of programmable output (24 V DC / 0.5 A)
HH14	Signal light
HH17	Signal light 24 V (max. 10 W)
KH14	User's time relay
KH15	User's relay wiping impulse
KH17	User's relay 24 V

Connection option 1:
- Connection for signal light with external relay

4.1 / 7

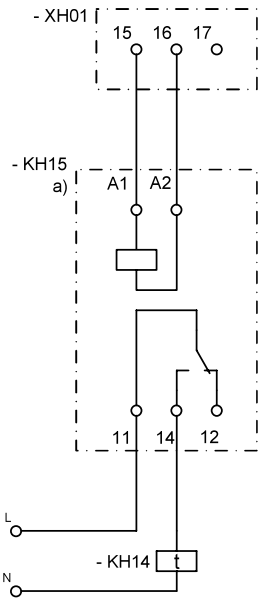
M07E038



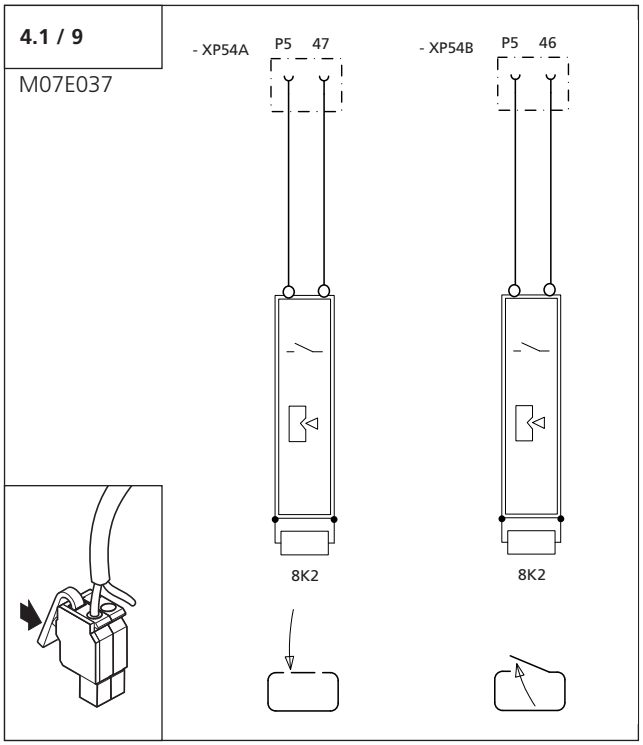
Connection option 2:
- Wiping impulse for on-site lighting

4.1 / 8

M07E038a



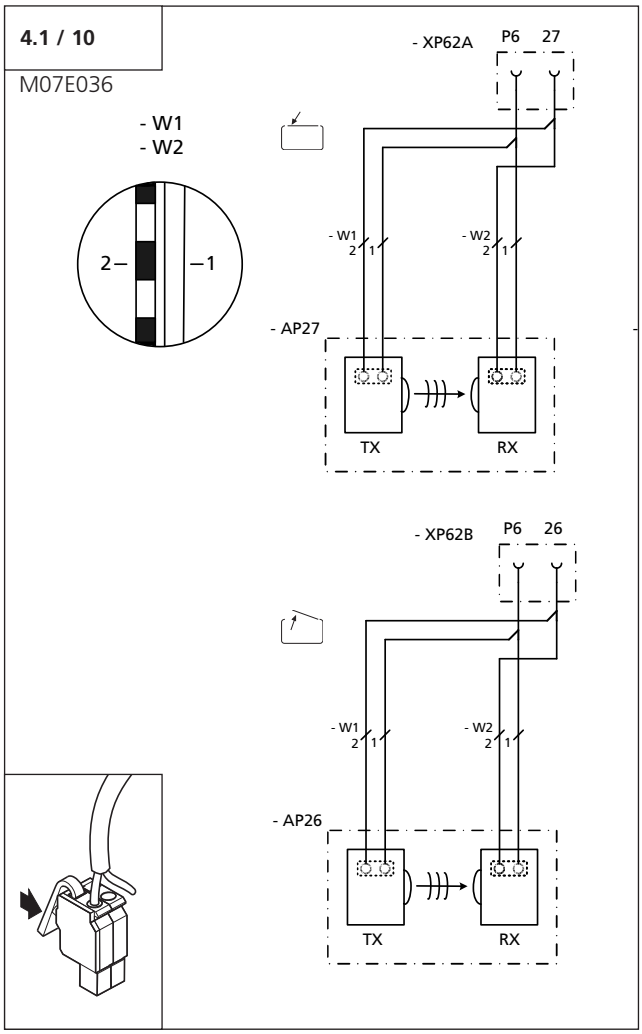
Terminals XP54A / XP54B



Label	Type / function
P5	GND connection
46	Connection for signal of closing edge safety device Gate travelling direction OPEN (XP54B)
47	Connection for signal of closing edge safety device Gate travelling direction CLOSE (XP 54A)

Attention!
If an 8.2 kΩ contact strip closing edge safety device is connected, the 8.2 kΩ resistors installed at terminals XP54B closing edge OPEN and XP54A closing edge CLOSE must be removed.

Terminals XP62A / XP62B



Label	Type / function
P6	GND connection
26	Connection for photocell signal gate travelling direction OPEN (XP62B)
27	Connection for signal of photocell, gate travelling direction CLOSE (XP62A)
RX	Receiver for the two-wire photocell
TX	Transmitter for the two-wire photocell

Advice:
A two-wire photocell connected to terminals XP62B / XP62A will be recognised automatically by the controls after "Mains On".
The photocell can be deactivated later (Level 8 / Menu 1).

If the contacts of a closing prevention device are open, the gate can no longer be closed.

4.2 Setting the rotational direction

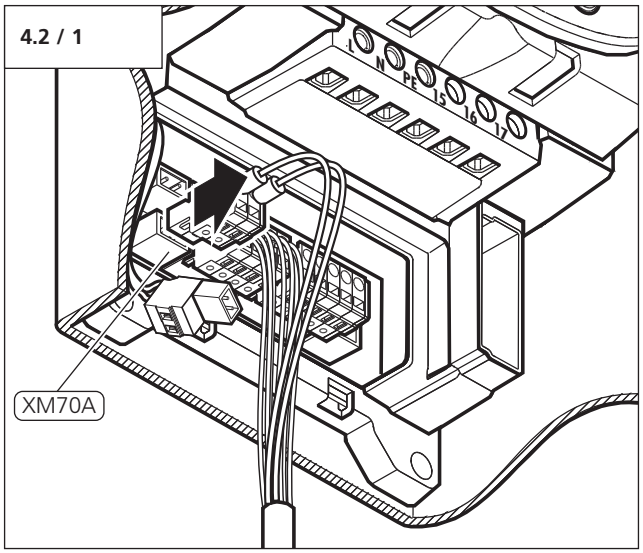
Mounting the motor unit on the inner side on the right (Standard configuration, as supplied)

Terminal	Assigned to
A1	White lead
A2	Brown lead

Mounting the motor unit on the inner side on the left

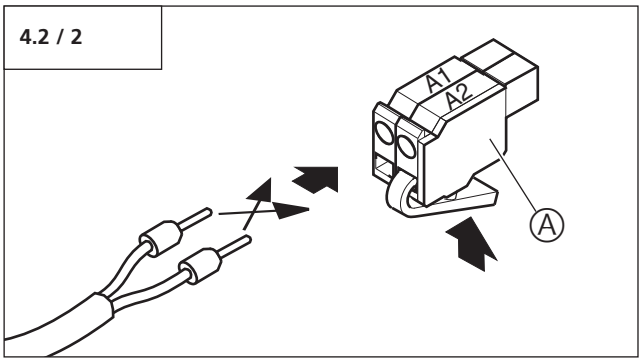
If the motor unit is installed on the inner side on the left, the rotational direction of the motor must be changed.

4.2 / 1



- Pull out the motor plug from the connection (XM70A).

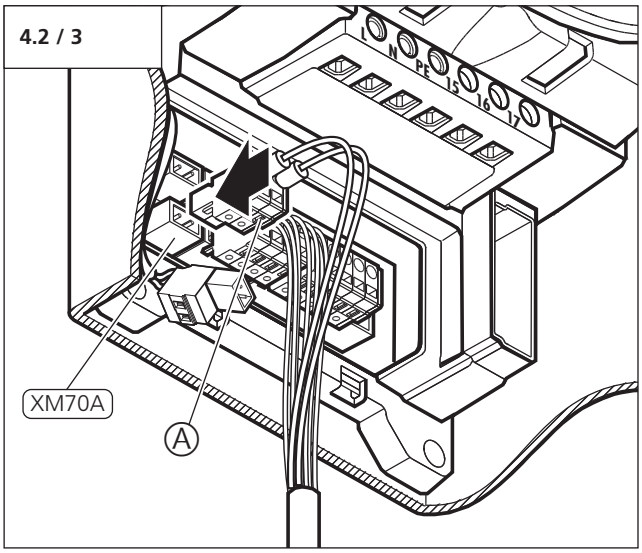
4.2 / 2



• Switch the positions of the leads in the motor plug (A).

Terminal	Assigned to
A1	Brown lead
A2	White lead

4.2 / 3



• Insert the motor plug (A) in the connection (XM70A).

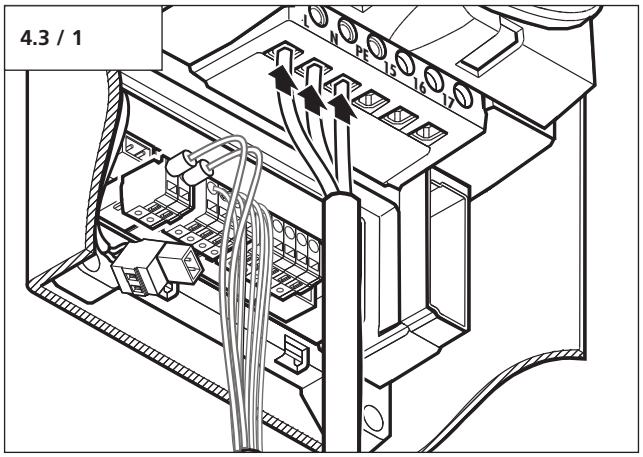
4.3 Connection of the mains cable

Caution!
- During cabling works, the supply cables must be disconnected from the power supply. It must be ensured that the cables remain disconnected from the supply for the duration of the cabling works.
- The fixed connection of a mains supply requires a universally poled mains disconnection facility.

Attention!
In order to guarantee the protection grade of the controls, the cable must be passed through the correct screw fixing.

• Feed the cable through the screw fixing into the controls.

4.3 / 1



• Ensure that the gate is in the CLOSED position.

• Connect the power supply leads in the controls.

• Connect the controls to the mains power supply.

Advice:
All the control lights light up for approx. 3 seconds. Then LED 8 is lit. Other LEDs may also be lit.

5. Hand transmitter

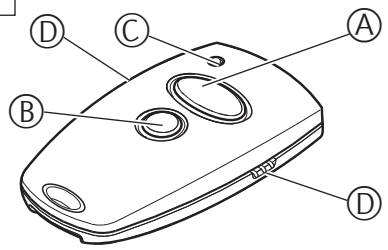
5.1 Operation and accessories

Caution!
Children are not allowed to operate the hand transmitters!

Before operating the hand transmitter, make sure that there are neither persons nor objects in the operating range of the gate.

Overview

5.1 / 1



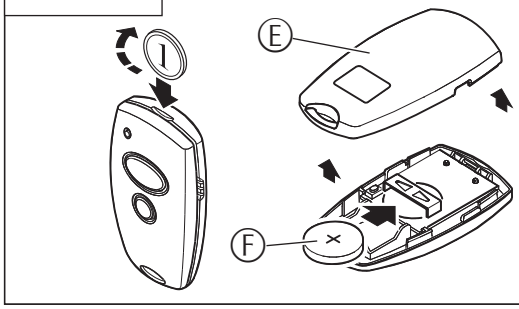
A Operating button - large
B Operating button - small
C Battery - transmission control light
D Transmission socket

Another operator system can be operated using the second operating button.

Reference:
The procedure for programming hand transmitters (remote controls) to operate the operator system is described in Section 6.5.3.

Change batteries

5.1 / 2

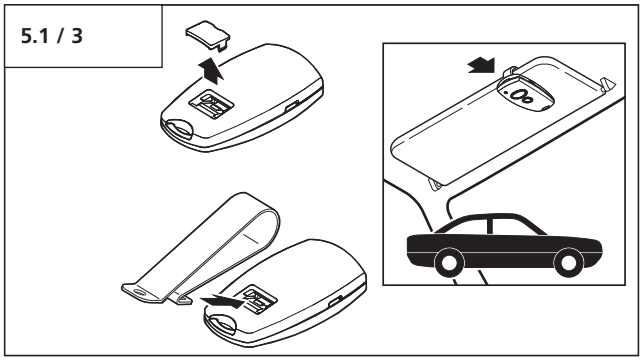


E Back of hand transmitter
F Battery 3V CR 2032

- Open the back of the hand transmitter (E), e.g. with a coin.
- Change the battery (F) and observe correct poling.

Accessory

5.1 / 3



Visor clip, for attaching the hand transmitter to a visor in a car.

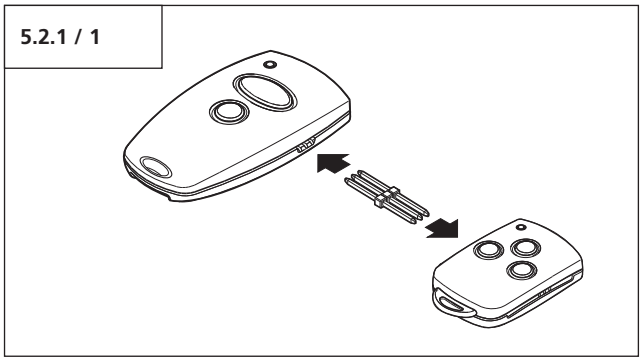
5.2 Hand transmitter coding

5.2.1 Transfer the coding

Using this function it is possible to transfer the coding of a hand transmitter that has already been programmed for operating the operator system (master transmitter) to another hand transmitter.

Caution!
Before operating the hand transmitter, ensure that there are neither persons nor objects in the operating range of the gate.

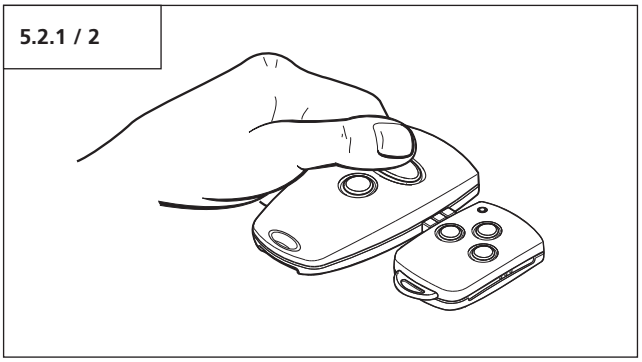
5.2.1 / 1



- Connect both transmitters with the enclosed transmission plug.

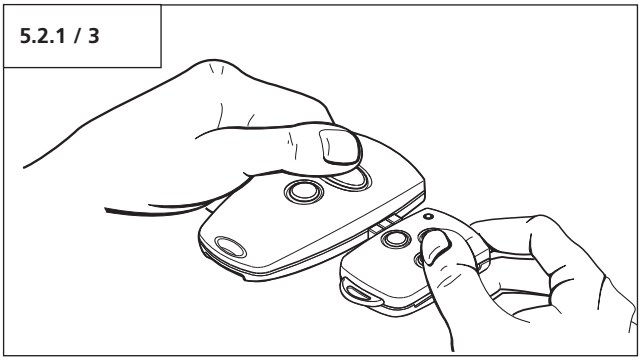
Advice:
The plug connections on both sides of the hand transmitter are identical.

5.2.1 / 2



- Actuate the master transmitter and hold the button. The transmitter LED lights up.

5.2.1 / 3



- Whilst keeping the button on the master transmitter depressed, press the desired button on the other hand transmitter.
  The LED flashes.

After 1 -2 seconds, the LED on the newly programmed transmitter lights up permanently.
The programming procedure is complete.
The coding of the master transmitter has now been transferred to the other hand transmitter.

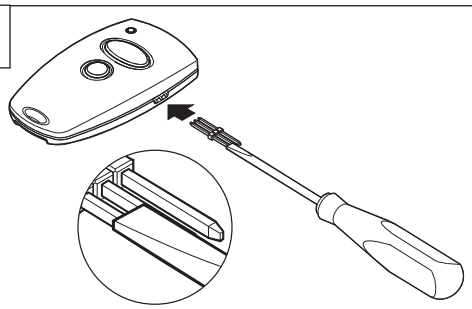
- Remove the transmission plug.

Advice:
For multi-channel hand transmitters, the coding procedure has to be carried out for each button separately.

5.2.2 Change coding

If a hand transmitter has been lost, this function can be used to change the coding of the remaining remote control transmitters.

5.2.2 / 1



- Connect one end of the transmission plug to the hand transmitter.
- At the free end of the transmission plug, short-circuit one of the outer pins with the centre pin adjacent to it (e.g. using a screw driver).
- Press the desired button on the hand transmitter. A new code is then generated by the integrated random coding facility. The LED flashes quickly.

As soon as the LED lights up permanently, the hand transmitter has been programmed with a new code. The button can then be released and the transmission plug removed.

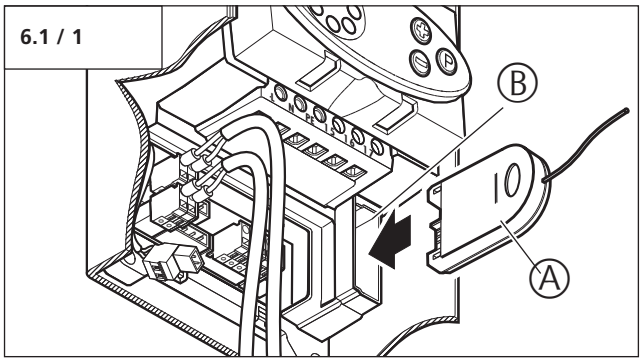
Advice:
After the hand transmitter has been re-programmed, the operator system must also be re-programmed to respond to the new code.

For multi-channel transmitters, the programming process must be carried out for each button separately.

6. Initial operation

6.1 Connecting the modular antenna

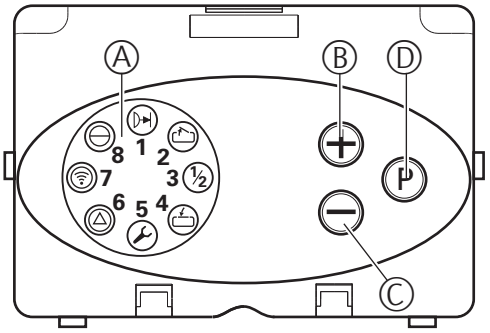
6.1 / 1



- Insert the modular antenna (A) into the antenna socket (B) in the controls.

6.2 Overview of the control unit

6.2 / 1



Operating elements

Label	Type / function	
A	Carousel display	6.3
B	OPEN button (+) (e.g. to drive the gate to the OPEN position or to increase parameters when programming)	-
C	CLOSE button (-) (e.g. to drive the gate to the CLOSED position or to decrease parameters when programming)	-
D	STOP button (p) (e.g. to switch to programming mode or to save parameters)	-

6.3 Overview of the display functions

LED displays in operating mode

	Photocell or the CESD has been interrupted
	Gate moving towards OPEN position
	Gate in OPEN position
	Gate is at intermediate position
	Gate moving towards CLOSED position
	Gate in CLOSED position
	Reference point is switched
	Permanent actuation of an external control element
	Remote control is actuated
	Ready for operation

Legend:	
LED off	○
LED on	●
LED flashes slowly	☀
LED pulses	☼
LED flashes quickly	✺
Factory default setting	
Not possible	–

6.4 Reference point

In operating mode, LED 5 lights up briefly when an object/person passes the reference point.

Advice:
In the factory default setting and after a reset, the controls are set to start in the CLOSED gate position.
To ensure trouble-free programming, therefore, the gate and the operator system must be in the CLOSED end position before resetting or carrying out the express programming procedure.

6.5 Express programming

6.5.1 General notes on express programming

Advice:
For proper initial operation of the operator system, the express programming procedure must be carried out.

Test run (only necessary after resetting)
Before carrying out the express programming procedure, the drive system (with the gate coupled up) must be driven to the factory default OPEN and CLOSED gate positions using the (+) and (-) buttons.

- Carry out a test run.

Preconditions
The following conditions must be assured before express programming can commence:
- the gate must be in the CLOSED end position.
- the operator system is coupled up.

Express programming
The basic functions of the operator system are set during the express programming procedure.
- Gate OPEN position
- Gate CLOSED position
- Remote control

The programming procedure is a consecutive process. It is essential that this procedure be carried out.
After express programming has been completed and a learning run has been carried out to set the automatic cut-out at the OPEN and CLOSED gate positions, the operator system is ready for operation.

Advice:
When programming the OPEN and CLOSED gate positions, the reference point must be passed.

Attention!
To ensure that the release mechanism operates properly, the OPEN and CLOSED gate positions must be programmed such that the closing profiles are not pressed.

6.5.2 Programming buttons

The controls are programmed using the plus (+), minus (-) and (P) buttons.
If no buttons are pressed within 120 seconds while in programming mode, the controls revert to operating mode.
A corresponding message is displayed.

Reference:
The messages are explained in Section 8.

- Carry out the express programming according to the following procedure.

6.5.3 Express programming sequence

Operating mode	1.	1x >2s <10s	**Start express programming / Programme the gate OPEN end position**
	2.		Drive the gate to the OPEN position
	3.		Correct the OPEN gate position using (+) and (–)
	4.	1x <1s	**Save the OPEN gate position / Programme the CLOSED gate position**
	5.		Drive the gate to the CLOSED position
	6.		Correct the CLOSED gate position using (+) and (–)
	7.	1x <1s	**Save the CLOSED gate position / Programme the remote control**
	8.		Press the hand transmitter button
	9.		Release the hand transmitter button
	10.	1x <1s	**Save the remote control settings / End the express programming procedure**

6.6 Function test

6.6.1 Learning run for determining the driving power

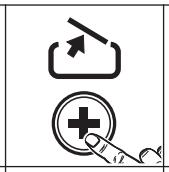
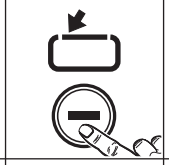
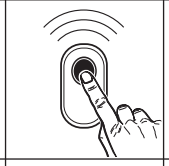
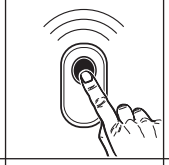
Check:
After express programming and after making changes to the programming menu, the following learning runs and checks must be carried out.

The operator system determines the maximum required driving power during the first two runs after setting the end positions of the gate.

- Operate the operator system (with the gate coupled) to drive the gate once from the CLOSED position to the OPEN position and back to the CLOSED position without interruption.

The driving power must be inspected by qualified and trained professionals with a force tester designed for this purpose.

Test:

1.		After pressing the (+) button: The gate must open and travel to the saved OPEN end position.
2.		After pressing the (–) button: The gate must close and travel to the saved CLOSED end position.
3.		After pressing the hand transmitter button: The operator system must move the gate in either the "OPEN" or "CLOSE" direction.
4.		After pressing the hand transmitter button while the operator system is running: The operator system must stop.
5.		When the button is pressed again, the operator system moves in the opposite direction.

6.6.2 Checking the automatic cut-out

Caution!
The automatic cut-out must be correctly programmed for the CLOSE and OPEN directions to prevent damage to persons or property.

- Place an obstacle in the path of the gate in both the OPEN and CLOSE directions.
- For each direction, drive the gate into the obstacle.

The operator system must stop and reverse when it hits the obstacle.

Advice:
The parameter settings are still saved if the power supply is disconnected. Only a reset causes the driving power settings for the OPEN and CLOSE directions to revert to the factory settings.

Legend:	
LED off	○
LED on	●
LED flashes slowly	☀
LED pulses	☼
LED flashes quickly	✹
Factory default setting	
Not possible	–

7. Extended operator functions

7.1 General notes on extended operator functions

Additional functions can be programmed for the operator system using the extended functions.

Caution!
Danger of injury due to incorrect settings for the door driving power!
The DIN EN 13241-1 and EN 12453 provide limits for the protection of people. These can be exceeded by selecting the wrong parameters. It is therefore essential to test the force generated by the door.
Check the programmed parameter values.
(Section 6.6.2, Checking the automatic cut-out)
Have the driving force tested by qualified and trained professionals with a force tester designed for this purpose.

The programming facility is divided into three areas:

Area 1: Levels
The adjustable functions have been grouped in 8 levels according to the type of function.
Each level can have up to 8 menus.
The (+) and (-) buttons are used to scroll through the selections within the levels.
Levels that are not used are displayed but cannot be opened.
Levels-Exit switches from programming to operating mode.

Area 2: Menu
Each menu sets one parameter.
The (+) and (-) buttons are used to scroll through the settings within the menus.
Menus that are not in use are skipped over and are not displayed.
You can return to the first level via Menu-Exit.

Area 3: Parameters
Each function has a maximum of 16 settings.
The (+) and (-) buttons are used to scroll through the settings for the adjustable parameters.
Parameters that cannot be adjusted are skipped over and not displayed.
It is not possible to overshoot by pressing the (+) and (-) buttons.
Pressing the (P) button saves the parameters you have set.

End Programming
The programming session can be ended in two ways:
1. Via Levels-Exit by pressing the (P) button.
   The controls then switch to operating mode.
2. By pressing the (P) button for longer than 5 seconds at any time and from any area.
   The controls then switch to operating mode.
   If a parameter had been changed, it will be saved in the process.

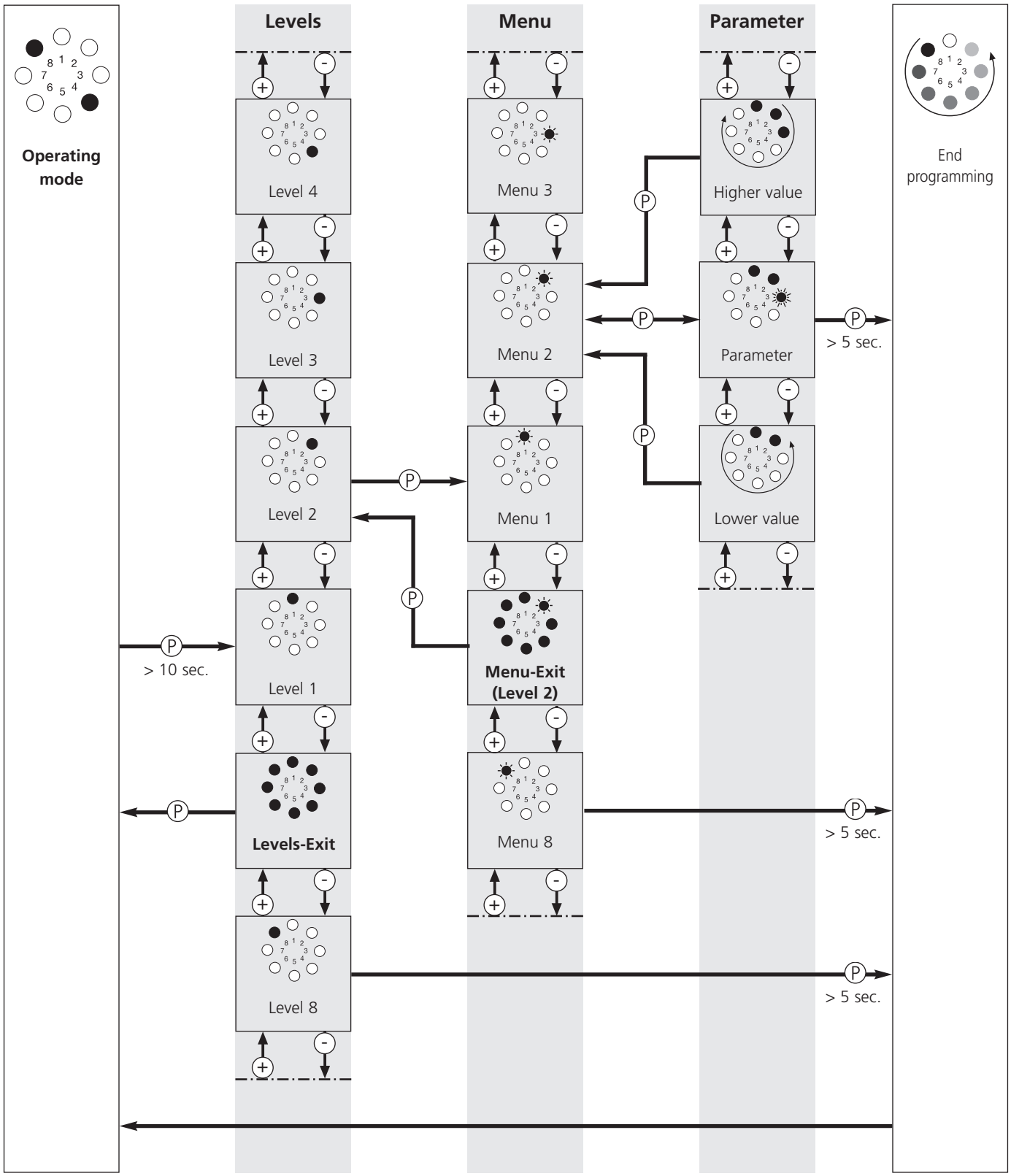
When the programming session ends, all the LEDs light up and then go out one after the other, in sequence from 8 to 1.

If no buttons are pressed within 120 seconds while in programming mode, the controls revert to operating mode.
A corresponding message is displayed.

Reference:
- All the available levels and menus are described in the overview of the programmable functions (Section 7.3).
- The messages are explained in Section 8.

Legend:	
LED off	○
LED on	●
LED flashes slowly	☀
LED pulses	☼
LED flashes quickly	✹
Factory default setting	
Not possible	–

7.2 Programming structure for extended operator functions (Example for Level 2, Menu 2)



7.3 General overview of the programmable functions

Level	Menu	Factory default setting
Level 1 – Basic functions	Menu 3: Intermediate position OPEN	–
	Menu 4: Intermediate position CLOSE	–
	Menu 7: Relay output	A7
	Menu 8: RESET	No reset
Level 2 – Operator settings	Menu 1: Required driving power OPEN	Setting 5
	Menu 2: Required driving power CLOSE	Setting 5
	Menu 3: Automatic cut-out OPEN	Setting 8
	Menu 4: Automatic cut-out CLOSE	Setting 8
Level 3 – Automatic closing timer	Menu 1: Automatic closing timer	Deactivated
	Menu 3: Gate open duration	15 Seconds
	Menu 4: Warning time	5 Seconds
	Menu 5: Start-up warning	0 Seconds
	Menu 7: Signal light	A7
Level 4 – Remote programming	Menu 2: Intermediate position	–
Level 5 – Special function	Menu 1: Programmable impulse input	A1
	Menu 4: Lighting duration	180 Seconds
Level 6 - Variable speed	Menu 1: Speed OPEN	Setting 16
	Menu 2: Soft run speed OPEN	Setting 8
	Menu 3: Soft run position OPEN	–
	Menu 4: Speed CLOSE	Setting 16
	Menu 5: Smart run speed, CLOSE	Setting 16
	Menu 6: Soft run speed CLOSE	Setting 8
	Menu 7: Smart run position, CLOSE	–
	Menu 8: Soft run position CLOSED	–

Level	Menu	Factory default setting
Level 8 – System settings	Menu 1: Photocell	Operation without photocell
	Menu 2: Closing edge safety device	Gate reverses a little (OPEN/CLOSE)
	Menu 4: Operating modes	Press-and-release (OPEN/CLOSE)
	Menu 5: Function of the direction command transmitters	Not active
	Menu 6: Function of the impulse command transmitters	Stop function active

Legend:	
LED off	○
LED on	●
LED flashes slowly	☀
LED pulses	☼
LED flashes quickly	✹
Factory default setting	
Not possible	–

7.4 Functions overview for the levels

Level 1 – Basic functions																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Menu 3: Intermediate position OPEN																
	Set using the (+ / OPEN) and (- / CLOSE) buttons "Intermediate position OPEN" – closing function is possible with automatic closing timer															
Menu 4: Intermediate position CLOSE																
	Set using the (+ / OPEN) and (- / CLOSE) buttons															
Menu 7: Relay output – terminal 16/17																
	**A7**	**B7**	**C7**	**D7**	**E7**	**F7**	**G7**	**H7**	–	–	–	–	–	–	–	–
Menu 8: RESET																
	**No**	**Yes**	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Attention!

After a reset, all the parameters revert to the factory settings.
In order to ensure that the controls operate properly:
- all the required functions must be re-programmed,
- the remote control unit must be re-programmed,
- the drive system must be driven once to the OPEN and CLOSED gate positions.

Advice:

- Only the intermediate position that was programmed last can be used.
- If an automatic closing timer is activated (Level 3 / Menu 1), the relay output (Level 1 / Menu 7) cannot be programmed.

Reference:

- If changes are made in Menus 3 and 4 in Level 1, a new performance check must be carried out (Section 6.6).
- The function of the signal light (A7) can be adjusted in level 3, menu 7.
- The function of the lighting (H7) can be adjusted in level 5, menu 4.

Menu 7: Relay output

A7	Signal light	E7	Intermediate position CLOSED
B7	Gate position OPEN	F7	Motor starts (wiping impulse – 1 second)
C7	Gate CLOSED position	G7	Fault
D7	Intermediate position OPEN	H7	Lighting

Level 2 – Operator settings

The following menus and functions are only accessible to qualified and trained professionals.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
																
Menu 1: Required driving power OPEN (sensitivity in increments*)																
	**OFF**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Menu 2: Required driving power CLOSE (sensitivity in increments*)																
	**OFF**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Menu 3: Automatic cut-out OPEN (sensitivity in increments)**																
	**OFF**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Menu 4: Automatic cut-out CLOSE (sensitivity in increments)**																
	**OFF**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**

* The higher the setting, the higher the driving power.

** The lower the setting, the more sensitive the automatic cut-out.

Caution!

To exclude any risk of injury, the automatic cut-out (Menus 3 and 4) may only be switched to OFF if a photocell barrier or closing edge safety device is installed.

Legend:	
LED off	○
LED on	●
LED flashes slowly	☀
LED pulses	☼
LED flashes quickly	✹
Factory default setting	
Not possible	–

Level 3 - Automatic closing timer

The following menus and functions are only accessible to qualified and trained professionals.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Menu 1: Automatic closing timer																
	A1	**B1**	**C1**	**D1**	**E1**	**F1**	**G1**	**H1**	–	–	–	–	–	–	–	–
Menu 3: Gate open duration (in seconds)																
	2	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**50**	**80**	**100**	**120**	**150**	**180**	**255**
Menu 4: Warning time (in seconds)																
	1	**2**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**65**	**70**
Menu 5: Start-up warning (in seconds)																
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	–	–	–	–	–	–	–	–
Menu 7: Signal light																
	A7	**B7**	**C7**	**D7**	**E7**	**F7**	–	–	–	–	–	–	–	–	–	–

Advice:
- The automatic closing timer can only be programmed if a photocell barrier is connected.
- The functions in Menu 1 can be altered as desired via the time settings in Menus 3 and 4.

Legend:	
LED off	○
LED on	●
LED flashes slowly	☀
LED pulses	☼
LED flashes quickly	✹
Factory default setting	
Not possible	–

Menu 1: Automatic closing timer

Setting	Gate open duration (seconds)	Warning time (seconds)	Automatic closing timer	other functions
A1	-	-	deactivated	-
B1	15	5	activated	Extension of door OPEN time only through impulse signal (button, hand transmitter)
C1	30	5	activated	
D1	60	8	activated	
E1	15	5	activated	Interruption of the gate open duration after the photocell barrier has been driven past
F1	30	5	activated	
G1	60	8	activated	
H1	unlimited	3	activated	Closes after the photocell barrier has been driven past / closing prevention

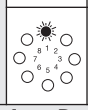
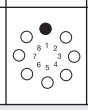
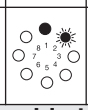
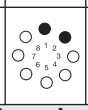
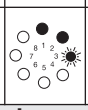
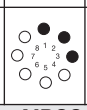
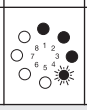
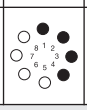
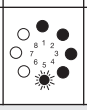
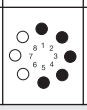
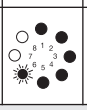
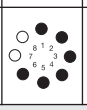
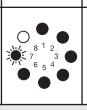
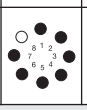
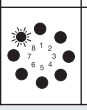
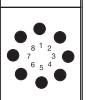
Advice:
Without a connected photocell or closing prevention device, only parameter A1 can be adjusted.

Menu 7: Signal light

Setting	Gate movement / Warning	Gate stoppage
A7	flashing	OFF (Electricity saving)
B7	lighting	OFF (Electricity saving)
C7	flashing	flashing
D7	lighting	lighting
E7	flashing	lighting
F7	lighting	flashing

Reference:
The signal light connection can be adjusted in level 1, menu 7.

Level 4 – Remote programming	
	
Menu 2: Intermediate position	
	LED 7 flashes slowly -> press the hand transmitter button -> LED 7 flashes quickly

Level 5 – Special function																
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
																
Menu 1: Programmable impulse input - XB99																
	**A1**	**B1**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Menu 4: Lighting duration (in seconds) – Terminal 16/17																
	**2**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**50**	**80**	**100**	**120**	**150**	**180**	**255**

Menu 1: Programmable impulse input

A1 Connection option 1:
- Terminal B9/3: Intermediate position
- Terminal B9/8: Impulse (OPEN/STOP/CLOSE)

B1 Connection option 2:
- Terminal B9/3: Direction command transmitter, CLOSE
- Terminal B9/8: Direction command transmitter, OPEN

Reference:
The programming of the special function is dependent on terminal XB99.
Terminal XB99 is described in Section 4.1.

The lighting duration programmed is only active when the relay output (Level 1 / Menu 7) is programmed for lighting.

Level 6 - Variable speed

The following menus and functions are only accessible to qualified and trained professionals.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Menu 1: Speed OPEN (in increments)																
	–	–	–	–	–	–	7	8	9	10	11	12	13	14	15	16
Menu 2: Soft run speed OPEN (in increments)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Menu 3: Soft run position OPEN																
	Set using the (+ / OPEN) and (- / CLOSE) buttons															
Menu 4: Speed CLOSE (in increments)																
	–	–	–	–	–	–	7	8	9	10	11	12	13	14	15	16
Menu 5: Smart run speed, CLOSE (in increments)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Menu 6: Soft run speed CLOSE (in increments)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Menu 7: Smart run position, CLOSE																
	Set using the (+ / OPEN) and (- / CLOSE) buttons															
Menu 8: Soft run position CLOSED																
	Set using the (+ / OPEN) and (- / CLOSE) buttons															

Reference:
If changes are made in Menus 1, 2, 3, 4, 6 and 8 in Level 6, a new performance check must be carried out (Section 6.6).

Level 8 – System settings

The following menus and functions are only accessible to qualified and trained professionals.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Menu 1: Photocell																
	A1	**B1**	**C1**	**D1**	**E1**	**F1**	**G1**	**H1**	**I1**	**J1**	**K1**	–	–	–	–	–
Menu 2: Closing edge safety device																
	A2	**B2**	**C2**	**D2**	–	–	–	–	–	–	–	–	–	–	–	–
Menu 4: Operating modes																
	A4	**B4**	**C4**	**D4**	–	–	–	–	–	–	–	–	–	–	–	–
Menu 5: Function of the direction command transmitters																
	A5	**B5**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Menu 6: Function of the impulse command transmitters																
	A6	**B6**	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Attention!
If a photocell is connected, it is automatically recognised by the controls after MAINS ON.
The photocell can be reprogrammed later.

Advice:
Photocells and closing edge safety devices that are not required must be disconnected, or the controls will recognise them. Disconnected closing edge safety devices must be replaced with an 8.2 kΩ resistance.

If an external photocell is connected at terminals B9 and 34, the power supply must be switched off and on again before programming the automatic closing timer.

Legend:	
LED off	○
LED on	●
LED flashes slowly	☀
LED pulses	☼
LED flashes quickly	✹
Factory default setting	
Not possible	–

Menu 1: Photocell

	Photocells				Gate movement, OPEN	Gate movement, CLOSE
2-wire photocells						
A1	A	B	C	D	Operation without photocell	
B1	**A**	B	C	D	Gate stops	not active
C1	A	**B**	C	D	not active	Gate reverses completely[2]
D1	**A**	**B**	C	D	Gate stops	Gate reverses completely[2]
E1	A	**B**	C	**D**	not active	Gate reverses completely[2]
2-wire photocells and photocells with potential-free relay contacts						
F1	A	B	**C**	D	not active	Gate reverses completely[2]
G1	**A**	B	**C**	D	Gate stops	Gate reverses completely[2]
H1	A	**B**	**C**	D	not active	Gate reverses completely[2]
I1	**A**	**B**	**C**	D	Gate stops	Gate reverses completely[2]
J1	A	**B**	**C**	**D**	not active	Gate reverses completely
2-wire photocells						
K1	**A**	**B**	C	**D**	[2]Gate stops	Gate reverses completely[2]

A Photocell OPEN (terminal XP62B)
B Photocell CLOSE1 (terminal XP62A)
C Photocell at terminals B9 and 34 (only in CLOSE direction) (normally closed contact only)
D Photocell CLOSE2 (terminal XP62B)
■ Photocell active
Photocell not active

[1] Gate reverses a little: The drive system moves the gate a short distance in the opposite direction in order to free an obstacle.

[2] Gate reverses completely: The drive system moves the gate to the opposite end position.

Menu 2: Closing safety edge device

	Gate movement, OPEN	Gate movement, CLOSE
A2	Gate reverses a little[1]	Gate reverses a little[1]
B2	Gate reverses a little[1]	Gate reverses completely[2]
C2	Gate reverses completely[2]	Gate reverses a little[1]
D2	Gate reverses completely[2]	Gate reverses completely[2]

Menu 4: Operating modes

	OPEN	CLOSE
A4	press and hold	press and hold
B4	automatic closing	press and hold
C4	press and hold	automatic closing
D4	automatic closing	automatic closing

Menu 5: Function of the direction command transmitter

	Direction command transmitters	Explanations
A5	not active	The direction command transmitters only give a command when the gate is stationary.
B5	STOP only	A moving gate is stopped by every direction command transmitter.

Menu 6: Function of the impulse command transmitter

	Impulse command transmitters	Explanations
A6	not active	The impulse command transmitters only give a command when the gate is stationary.
B6	STOP only, then standard sequence	A moving gate is stopped by every impulse command transmitter. The next command starts the drive system running in the opposite direction (OPEN - STOP - CLOSE - STOP - OPEN).

8. Messages

8.1 Status messages

In addition to messages regarding the gate position, status messages give information regarding the status of the operator system during operation.

Safety elements:

During operation LED 1 serves as a status indicator for the safety elements connected (closing edge safety device, photocell).
If the safety element in question is triggered, LED 1 lights up whilst it is activated.

Control elements / remote controls:

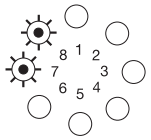
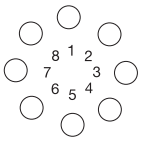
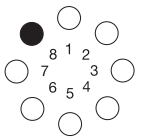
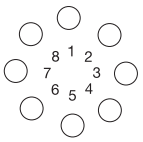
During operation and when carrying out component tests, LED 7 serves as a status indicator for the control elements connected (OPEN, CLOSE, STOP, half OPEN, etc.).
If the control element in question is triggered, LED 7 lights up whilst it is activated.

If a remote signal is received, LED 7 flashes quickly.

Legend:	
LED off	○
LED on	●
LED flashes slowly	☀
LED pulses	☼
LED flashes quickly	✹
Factory default setting	
Not possible	–

8.2 Fault messages

Malfunctions in the system are indicated by a corresponding message number.
The controls switch to message mode.

1.	Message number is displayed for approx. 3 seconds (example: Message 15).	
2.	Pause between messages for approx. 1 second.	
3.	Operating mode is displayed for approx. 3 seconds (example: operating voltage).	
4.	Pause between messages for approx. 1 second.	
5.	Messages 1 to 4 are repeated.	

Advice:
- The controls show the message numbers via one or more rhythmically flashing LEDs.
  The message number is found by adding together the numbers next to the flashing LEDs.
- During programming, all status messages and other messages are suppressed. The messages in programming mode are always unambiguous.

The message numbers serve two purposes:
1. They indicate why the controls were unable to carry out the drive command given.
2. They indicate which components are faulty. This facilitates better and faster service on site, and only the control components identified as being faulty need be replaced.

The controls remain in message mode until they switch to operating mode or diagnostic mode.

Switching to operating mode
The controls switch to operating mode as soon as they receive a movement impulse.

Switching to diagnostic mode
The controls can be switched to diagnostic mode from either message mode or operating mode.

- Give the (P) button a short press.

The controls switch to diagnostic mode and display the last fault.

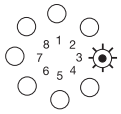
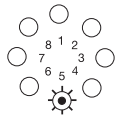
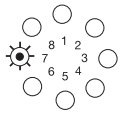
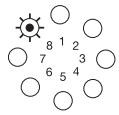
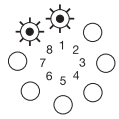
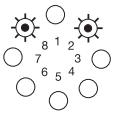
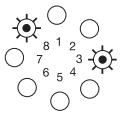
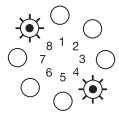
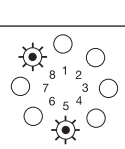
8.3 Rectifying faults

8.3.1 Malfunctions without error messages

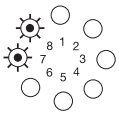
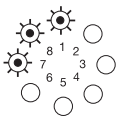
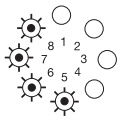
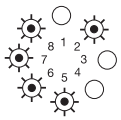
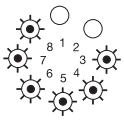
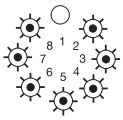
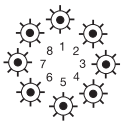
Error	Cause	Solution
LED 8 does not light up.	- No voltage.	- Check that the mains power supply is operational. - Check the connection to the mains power supply.
	- Thermal overload protection in power transformer was activated.	- Allow the power transformer to cool down.
	- Defective control unit.	- Have the operator system checked.
No reaction on impulse.	- The connection terminals for the "impulse" button were by-passed, e.g. due to a short-circuit or flattened terminals.	- Try temporarily disconnecting any key switches or interior push buttons that are connected to the control unit (Section 4.1): Remove the lead from socket XB99 and then bridge terminals B9 and 5; insert jumper plug and check for cabling errors.
No reaction on impulse from hand transmitter.	- Module antenna is not plugged in.	- Connect the module antenna to the control unit (Section 6.1).
	- The hand transmitter coding does not correspond to the receiver coding.	- Activate hand transmitter again (Section 6.5.3).
	- Hand transmitter battery is empty.	- Insert new battery (Section 5.1).
	- Defective hand transmitter, control unit electronics or module antenna.	- Have all 3 components checked.

Legend:	
LED off	○
LED on	●
LED flashes slowly	☀
LED pulses	☼
LED flashes quickly	✹
Factory default setting	
Not possible	–

8.3.2 Malfunctions with error messages

Error	Cause	Solution
Message 3 	- Closing edge safety device OPEN was activated.	- Remove the obstacle or have the closing edge safety device checked. - Deactivate or connect the closing edge safety device.
Message 5 	- Closing edge safety device CLOSE was activated.	- Remove obstacle or have the closing edge safety device checked. - Deactivate or connect the closing edge safety device.
Message 7 	- If no buttons are pressed within 120 seconds, the programming mode terminates automatically. - OPEN and CLOSED gate positions programmed without passing the reference point.	
Message 8 	- Reference point button defective.	- Have the operator system checked.
Message 9 	- No speed sensor impulses, drive system is blocked.	- Have the operator system checked.
Message 10 	- Gate movement too stiff. - Gate blocked.	- Ensure that the gate moves easily.
	- Maximum driving power setting is too low.	- Have the max. driving power (Section 7.4 / Level 2 / Menu 1+2) checked by an expert.
Message 11 	- Excess travel stop.	- Have the operator system checked.
Message 12 	- CESD test in OPEN direction not OK.	- Check closing edge safety device. - Programme out the closing edge safety device if there is no CESD present (Section 7.4 / Level 8 / Menu 2). - Reinsert an 8.2 kOhm resistance.
Message 13 	- CESD test in CLOSED direction not OK.	- Check closing edge safety device. - Programme out the closing edge safety device if there is no CESD present (Section 7.4 / Level 8 / Menu 2). - Reinsert an 8.2 kOhm resistance.

8. Messages

Error	Cause	Solution
Message 15 	- External photocell interrupted or defective.	- Remove obstacle or have the photocell checked.
	- Programmed for photocell, but no photocell is connected.	- Deactivate or connect the photocell.
Message 16 	- Power sensor for the automatic cut-out is defective.	- Have the motor unit checked.
Message 26 	- Undervoltage, operator system overloaded at maximum power setting, 16.	- Have the external power supply checked.
Message 28 	- Gate movement too stiff or irregular. - Gate blocked.	- Check the path of the gate and ensure that the gate moves easily.
	- Automatic cut-out is set to be too sensitive.	- Have the automatic cut-out facility checked by an expert (Section 7.4 / Level 2 / Menu 3+4).
Message 33 	- Rise in temperature due to overheating.	- Allow the motor unit to cool down.
Message 35 	- Electronics are defective.	- Have the operator system checked.
Message 36 	- Wire jumper removed, but stop button not connected.	- Connect stop button or wire jumper B9/5 (Section 6.7).
	- Closed circuit interrupted.	- Close closed circuit.

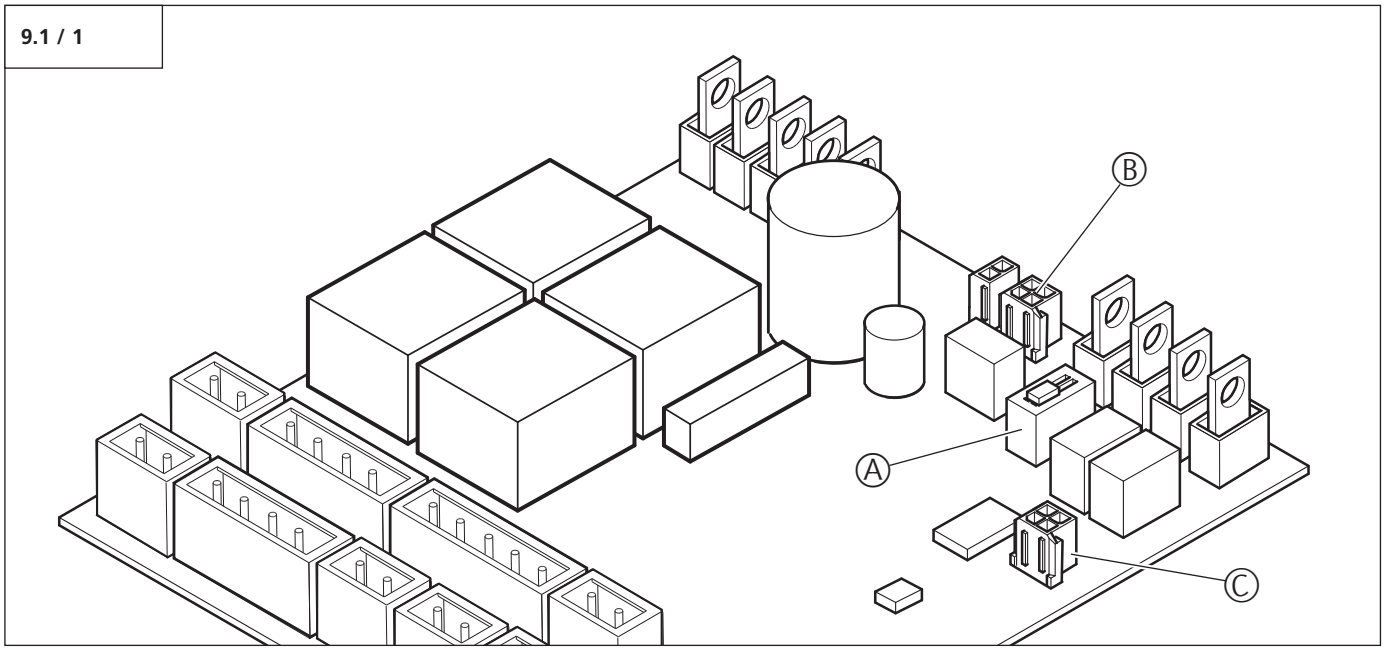
Legend:	
LED off	○
LED on	●
LED flashes slowly	☀
LED pulses	☼
LED flashes quickly	✹
Factory default setting	
Not possible	–

9. Attachment

9.1 Connection diagram Comfort 850, 851

Expansion module

9.1 / 1



Expansion module legend

Designation	Description
A	DIP switch ON/OFF for hold circuit of plug B (hold circuit sliding gate OFF)
B	Connection of release mechanism - sliding gates only
C	Connection of extension module for potential-free limit switch

9.2 Technical data for Comfort 850, 851

Electrical data		
Voltage rating *)	V	120 / 230 / 260
Rated frequency	Hz	50 / 60
Current input	A	1.0
Power consumption in operation	KW	0.2
Power consumption on standby	W	3.7
Operating mode (connection period)	Min.	KB 5
Controls voltage	V DC	24
Protection category for motor unit		IP 44
Protection class		II
*) For country-specific version: see type plate		

Mechanical data		
Max. push and pull force		
- Comfort 850	N	400
- Comfort 851	N	800
Travel speed	mm/cec.	180
Opening phase (specific to gate)	sec.	approx. 22

General data			
Motor unit dimensions			
- Model 1	mm	210x1250x192	
- Model 2	mm	210x1500x192	
Weight Comfort 850			
- Model 1	kg	16.8	
- Model 2	kg	18.5	
Weight Comfort 851			
- Model 1	kg	18.8	
- Model 2	kg	20.5	
Sound pressure level	db (A)	< 70	
Temperature range	°C		-20
			+60

Supply package **)
Motor unit, Comfort 850, 851 with integrated electronic controls: Control x.81
Multibit remote control, 315 / 433 / 868 MHz, incl. Digital 304 mini hand transmitter, 4-channel *)
Modular antenna, 868 MHz
Release key
Magnet housing set
Spur gear, Module 4
Fixing material
*) For country-specific version: see type plate
**) subject to country-specific alternations

Application
Can be universally used for gates up to 8 m wide and weighing a maximum of 400 kg (Comfort 850) or 800 kg (Comfort 851)

Features / Safety functions	
Electricity saving technology	x
Reference point technology	x
Electronic travel cut-out	x
Soft start, soft stop	x
Anti-blocking device	x
Excess travel stop	x
Release function	x
Connections for push-buttons, code buttons and key switches	x
Connections for photocell, gate travelling directions OPEN and CLOSE	x
Connection for signal light 24 V DC	x
Connection of gate position message system	x
Connection of extension module for gate position message system	x
Connection for closing edge safety device OPEN and CLOSE 8.2 kΩ	x
Integrated evaluation 8.2 kΩ	x
Automatic cut-out OPEN and CLOSE, can be programmed separately	x
Partial opening can be programmed	x
Gate travelling speed can be programmed	x
Soft run position OPEN and CLOSE can be programmed separately	x
Soft run speed OPEN and CLOSE can be programmed separately	x
Automatic closing function	x
Retrofit measures for potential-free signal relay possible, for: - Signal light - Wiping impulse - 3 minute lighting - Travel limit message - Error message	x
Fault signalling	x
Reset function	x

Accessories	
Multibit remote control	x
Modular antenna, 868 MHz, IP 65	x
Signal light 24 V DC	x
Closing edge safety device 8.2 kΩ	x
Photocell	x
Transponder system	x
Key switch	x
Code button	x
Toothed rack	x
Signal light relay retrofit kit 24 V DC	x
Expansion module	x

9.3 Protection of closing edges

The gate drives Comfort 850, 851 can be applied for sliding gates of a door weight of up to 400 kg (Comfort 850) and 800 kg (Comfort 851).
A passive protection of the main and secondary closing edge up to the max. possible door weight is sufficient, if the following combinations are assured.

Comfort 850: passive protection of closing edges

Door weight	Rubber profile of main closing edge	Main closing edge/ main leading edge		Rubber profile of secondary closing edge	Secondary closing edge	
		max. speed	max. soft run		max. speed	max. soft run
250 kg	Art. No. 61885	150 mm/sec.	80 mm/sec. *	Art. No. 63823	150 mm/sec.	80 mm/sec. *
300 Kg	Art. No. 61885	150 mm/sec.	70 mm/sec.	Art. No. 63823	150 mm/sec.	70 mm/sec.
400 Kg	Art. No. 63823	180 mm/sec.*	80 mm/sec. *	Art. No. 63823	180 mm/sec.*	80 mm/sec. *

Comfort 851: passive protection of closing edges

Door weight	Rubber profile of main closing edge	Main closing edge/ main leading edge		Rubber profile of secondary closing edge	Secondary closing edge	
		max. speed	max. soft run		max. speed	max. soft run
400 kg	Art. No. 63823	180 mm/sec.*	80 mm/sec. *	Art. No. 63823	180 mm/sec.*	80 mm/sec. *
600 Kg	Art. No. 63823	140 mm/sec.	80 mm/sec. *	Art. No. 63823	140 mm/sec.	80 mm/sec. *
800 Kg	Art. No. 63823	80 mm/sec.	80 mm/sec. *	Art. No. 63823	80 mm/sec.	80 mm/sec. *

Comfort 851: active protection of closing edges

Door weight	Rubber profile of main closing edge	Main closing edge/ main leading edge		Rubber profile of secondary closing edge	Secondary closing edge	
		max. speed	max. soft run		max. speed	max. soft run
600 kg	Art. No. 65290	180 mm/sec.*	80 mm/sec. *	Art. No. 65290	180 mm/sec.*	80 mm/sec. *
800 Kg	Art. No. 65290	160 mm/sec.	80 mm/sec. *	Art. No. 65291	160 mm/sec.	80 mm/sec. *

Advice:
The soft run position CLOSED at the main closing edge must be programmed 500 mm before the CLOSED end position (section 7.4 / level 6 / menu 8).

* Factory settings

English

140270E

Version: 10.2016
#140270

1 - GB 360443 - M - 0.5 - 1016