



Operating instructions

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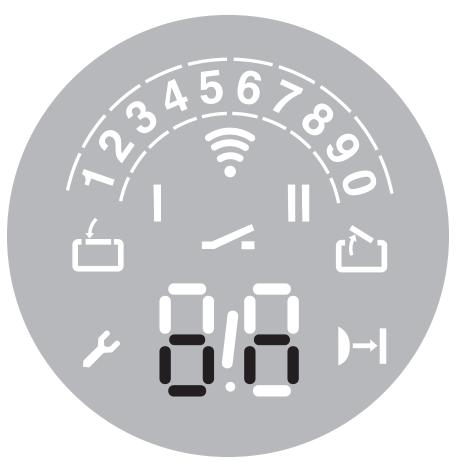






Control unit for sliding gates and parking barriers

Control x.82





MSBUS œ⊚

Table of Contents

1. 2.	1.1 1.2 1.3	eral safety instructions Intended use Target group Warranty e of supply	3
3.	-	system	
4.	Insta 4.1	Illation	
	4.1	Opening the control unit	
	4.3	Connection of control elements	
	4.4	Connecting the mains cable	
	4.5	Completing the installation	
5.	Setti	ng in operation	. 13
	5.1	Overview of the controls	
	5.2	Status display	
	5.3 5.4	Factory settings	
	5.4 5.5	Express programming	
	5.6	Special programming	
6.	Oper	ration	
7.		and cleaning	
8.		ntenance	
0.	8.1	Maintenance work by the operator	
	8.2	Maintenance work by qualified and trained	
		professionals	. 23
9.	Disa	ssembly	. 23
10.	Disp	osal	. 23
11.	Rect	ifying faults	. 24
12.	Appe	endix	. 26
		Technical Data	
	12.2	Declaration for the incorporation of a partly	
		completed machine	. 26

DANGER!

IMPORTANT SAFETY INSTRUCTIONS:

ATTENTION! IT IS VITALLY IMPORTANT FOR THE SAFETY OF PERSONS THAT YOU FOLLOW ALL THE INSTRUCTIONS. KEEP THESE INSTRUCTIONS IN A SAFE PLACE.

IMPORTANT INSTRUCTIONS FOR SAFE INSTALLATION:

ATTENTION! SERIOUS INJURIES CAN BE CAUSED IF THE EQUIP-MENT IS NOT INSTALLED CORRECTLY - BE SURE TO FOLLOW ALL THE INSTALLATION INSTRUCTIONS.

Regarding this document

- Original instruction manual.
- Part of the product.
- Read these instructions carefully before use and keep them in a safe place for future reference.
- Protected by copyright.
- No part of this manual may be reproduced without our prior ap-
- Subject to alterations in the interest of technical progress.
- All dimensions are given in millimetres.
- The drawings are not true to scale.

Meaning of symbols



DANGER!

Safety notice indicating a danger that will directly result in death or severe injury.

♠ WARNING!

Safety notice indicating a danger that could result in death or severe injury.

⚠ CAUTION!

Safety notice indicating a danger that could result in slight or moderate injuries.



NOTICE

Safety notice indicating a danger that could result in damage to property or in irreparable damage to the product.



▼ CHECK

Reference to a check that needs to be carried out.



♦i REFERENCE

Reference to separate documents that must be observed.

- Instruction requiring action
- List, itemisation
- → Reference to other sections of this document
- Factory settings

1. General safety instructions

▲ DANGER!

Failure to comply with the documentation could result in life-threatening danger!

• Be sure to follow all the safety instructions in this document.

1.1 Intended use

- The operator system is designed only for opening and closing gates.
- Never use the gate to lift persons or objects.

The following applies for the product Control x.82:

- The control unit is intended only for operating sliding gates.
- The control unit requires a suitable motor unit in order to operate it.

1.2 Target group

- Installation, connection, setting in operation and servicing: qualified, trained specialist personnel.
- Operation, inspection and servicing: the operator of the gate system.

Requirements to be met by qualified and trained specialist staff:

- Knowledge of the general and specific safety and accidentprevention regulations.
- 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.

1.3 Warranty

The product is manufactured in accordance with the guidelines and standards listed in the manufacturer's declaration and in the declaration of conformity. The product left the factory in perfect order with regard to safety.

In the following cases, the manufacturer will accept no liability for damage. The warranty on the product and accessory components becomes void in the event of:

- Failure to observe these operating instructions.
- Incorrect handling and use of the product for anything other than its intended purpose.
- Work being carried out by unqualified personnel.
- Changes or modifications to the product.
- The use of replacement parts that have not been approved or were not manufactured by the manufacturer.

The warranty does not cover batteries, rechargeable batteries, fuses or bulbs.

Further safety instructions are given in the relevant sections of the document.

- → "4. Installation"
- → "5. Setting in operation"
- → "7. Care and cleaning"
- → "9. Disassembly"

2. Scope of supply

There may be some country-specific differences.

Item	Control unit	
1		1x
2		1x
3		3x
4		4x
5		2x
6		1x

Item	Hand transmitter	Multi-Bit	bi∙linked
7		1x	1x
8	600	1x	_
9	(59)	_	1x
10		1x	1x
11		1x	1x
12		1x	_
13		_	1x

The control is integrated in the following products:

- Comfort 850, 851
- Comfort 850 S, 851 S
- Comfort 860, 861
- Comfort 860 S, 861 S
- Comfort 880, 881
- Parc 150
- Parc 200
- Parc 300

3. Gate system

∳i REFERENCE

The gate construction is described in the documentation provided with the motor unit.

Installation 4.

DANGER!

Life-threatening danger due to electric shock!

- It is vital that you disconnect the operator system from the power supply before commencing cabling work. Take measures to ensure that the power supply remains disconnected for the duration of the work.
- Observe the local safety regulations.
- It is imperative that you lay power cables separately from control cables. The control voltage is 24 V DC.

NOTICE

Material damage resulting from incorrect installation of the operator!

To avoid installation errors and damage to the gate or operator system, the following installation instructions must be observed at all costs.

- Install all impulse transmitters and control equipment (such as radio code buttons e. g.) within sight of the gate and at a safe distance from the gate's moving parts. The installation height must be at least 1.5 metres from the ground.
- Only use fixing materials that are suitable for the foundation material in question.

Preparing for installation 4.1

Before commencing installation, the following works must be carried out without fail.

Supply package

- Check that all the parts are present.
- Check that all the necessary accessory parts for your installation situation are present.

Gate system

- Ensure that a suitable mains connection and a mains disconnection facility are available for your gate system.
- The minimum cross-section of the earth cable is $3 \times 1.5 \text{ mm}^2$.
- Ensure that all cables are suitable for outdoor use with respect to UV resistance and cold resistance.
- Ensure that a suitable motor unit is available for your gate system.



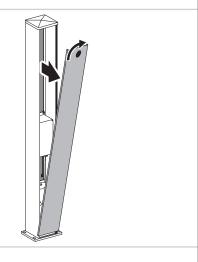
∳i REFERENCE

When using and installing accessory equipment, observe the corresponding documentation.

4.2 Opening the control unit

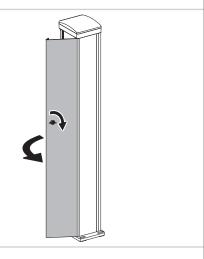
Comfort 850, 851

4.2 / 1



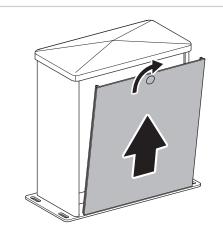
Comfort 860, 861 / Parc 150

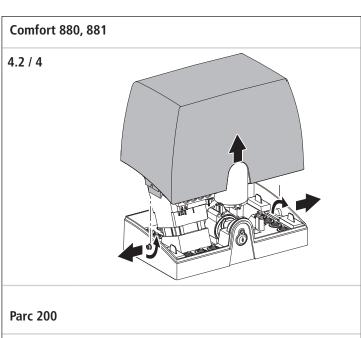
4.2 / 2

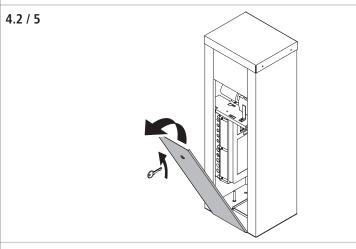


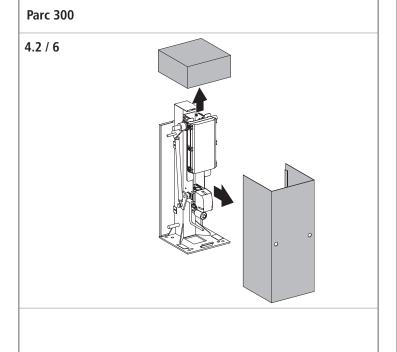
Comfort 850 S, 851 S, 860 S, 861 S

4.2 / 3









4.3 Connection of control elements

▲ DANGER!

Life-threatening danger due to electric shock!

• It is vital that you disconnect the operator system from the power supply before commencing cabling work. Take measures to ensure that the power supply remains disconnected for the duration of the work.

₩ NOTICE

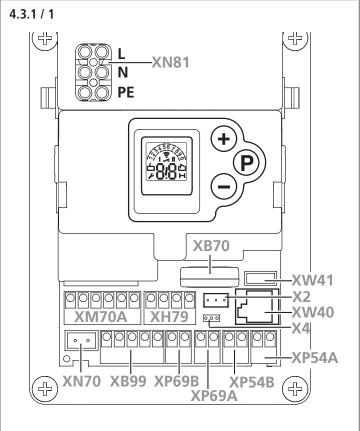
Danger of material damage resulting from incorrect installation of the operator!

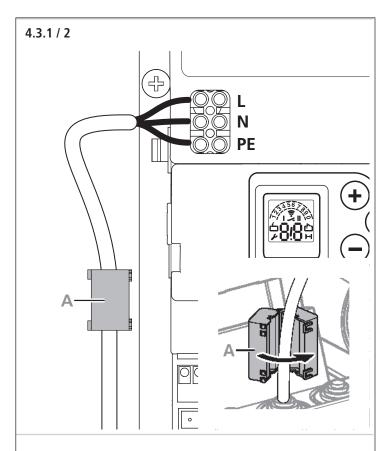
If an external voltage is connected to terminal block XB99, the entire electronic system will be irreparably damaged.

• Connect only potential-free contacts to terminals B9, 5, 34, 3 and 8 (XB99).

4.3.1 Overview of the control unit connections

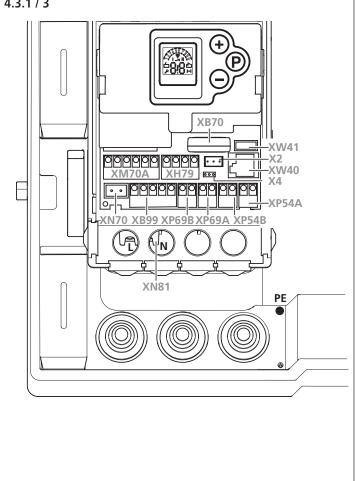
Comfort 850, 851, 860, 861, Parc 150, 200, 300

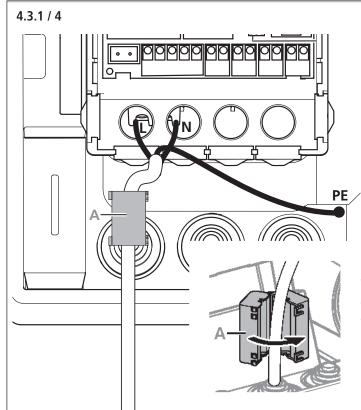




Comfort 880, 881

4.3.1 / 3





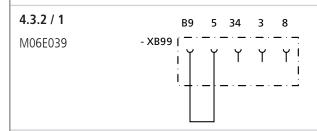
А	Split ferrite core
X2	Reference point
X4	Revolutions per minute
XB99	Connection for external control elements → "4.3.2 Terminal block XB99"
XB70	Connection for modular antenna
XH79	Connection for electric lock and signal light → "4.3.3 Terminal block XN81 / XH79"
XM70A	Motor connection
XN70	Connection for battery backup
XN81	Mains connection → "4.3.3 Terminal block XN81 / XH79"
XP54A	Connection for closing edge safety device, gate travelling direction CLOSE → "4.3.4 Terminal blocks XP54A / XP54B"
XP54B	Connection for closing edge safety device, gate travelling direction OPEN → "4.3.4 Terminal blocks XP54A / XP54B"
XP69A	Connection for photocell, gate travelling direction CLOSE → "4.3.5 Terminal block XP69A / XP69B"
XP69B	Connection for photocell, gate travelling direction OPEN → "4.3.5 Terminal block XP69A / XP69B"
XW40	Connection MS BUS
XW41	For internal use only!

A two-wire photocell connected to terminals XP69B / XB69A will be recognised automatically by the controls after "Mains On". The photocell can be deactivated later (Level 8 / Menu 1). When the contacts of a closing prevention device are closed, the gate can no longer be closed.

4.3.2 Terminal block XB99

Factory default settings

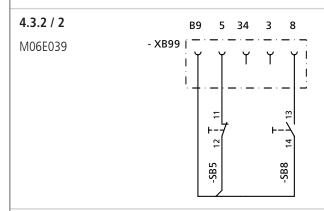
B9 and 5 bridged



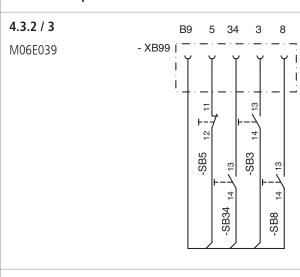
The connection arrangement depends on the programming of special functions. Depending upon the programming, it is possible to connect impulse or directional pushbuttons.

- → "5.6 Special programming"
- When the contacts of a closing prevention device are closed, the gate can be closed only in deadman mode.
- Additional external control elements and safety devices with a 24 V connection (50 mA maximum) must be connected to XB99.

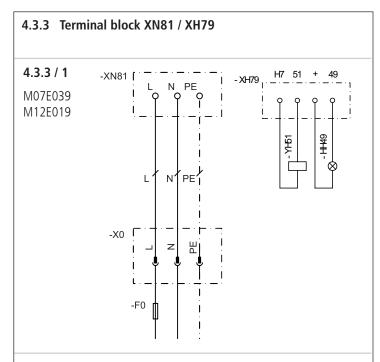
Connection option number 1

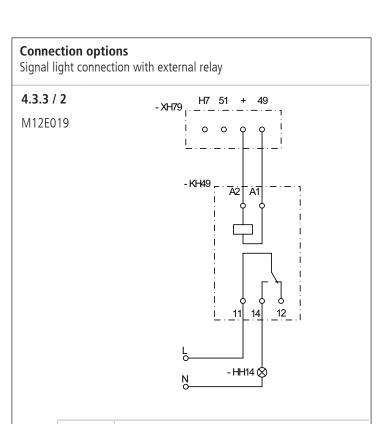


Connection option number 2



+	24 V DC connection (50 mA max.)		
_	GND connection		
1	Connection of potential-free normally open contact		
2	Connection of potential-free normally open contact		
3	Connection for intermediate CLOSE position		
5	STOP connection		
8	Impulse connection		
27	Photocell connection		
34	Connection → "Level 5, Menu 3 - Programmable input"		
В9	+24 V DC connection (50 mA max.)		
P6	GND connection		
S1	Receiver normally open contact, potential-free		
SB3	Button → "Level 5, Menu 1 – Programmable impulse input"		
SB5	STOP button		
SB8	Button → "Level 5, Menu 1 – Programmable impulse input"		
SB34	Closing prevention device button (photocell) / operator system stops and reverses		
X1	Connection for external receivers		
XP69A	Connection for photocell, gate travelling direction CLOSE		





+	24 V DC connection / 0,7 A max.		
+/49	Connection for programmable output (24 V DC / 0.5 A) → "Level 1, Menu 7 - Signal light output"		
L	Phase connection		
N	Neutral wire connection		
PE	Earth wire connection		
H7/51	Connection for electric lock, 24 V DC		
H7	H7 24V DC connection / 0,7 A max.		
HH14	Signal light		
HH49	Signal light 24 V DC / 0,7 A max.		
KH49 User's relay 24 V			
YH51	Electric lock (provided by the customer)		

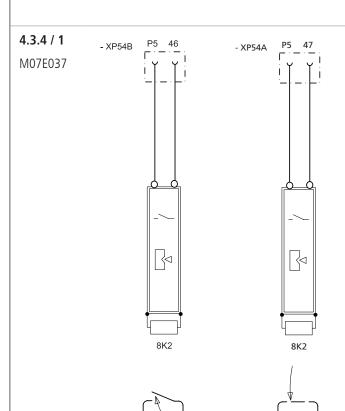
4.3.4 Terminal blocks XP54A / XP54B



NOTICE

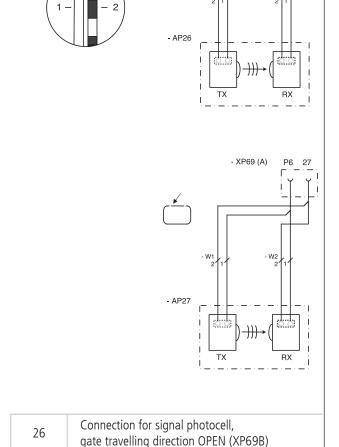
Failure to make connections correctly can result in damage to property.

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



P5	GND connection
46	Connection for signal of closing edge safety device Gate travelling direction OPEN (XP54B)
Connection for signal of closing edge sa device Gate travelling direction CLOSE (XP 54A	

4.3.5 Terminal block XP69A / XP69B 4.3.5 / 1 M12E017 - W1 - W2



	TX	Transmitter for the two-wire photocell	
recognis	sed automa	ell connected to terminals X69B / XB69A will be tically by the controls after "Mains On". The deactivated later (Level 8 / Menu 1).	
		ell for the OPEN direction can only be installed if a	

two-wire photocell is available in the CLOSING direction.

Connection for signal of photocell,

GND OPEN connection (XP69B)

GND CLOSE connection (XP69A)
Receiver for the two-wire photocell

gate travelling direction CLOSE (XP69A)

27

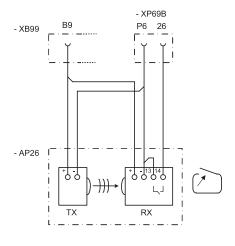
P6

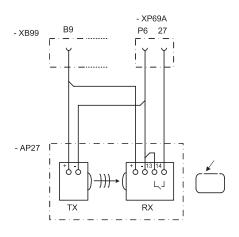
RX

4.3.6 Connection to different makes of photocell

4.3.6 / 1

M12E017a





+	Connection of supply voltage
_	Connection of supply voltage
13	Relay contact input
14	Relay contact output
26	Connection for photocell OPEN
27	Connection for photocell CLOSE
AP26	Relay photocell
AP27	Relay photocell
В9	+24V DC connection
P6	GND connection
RX	Photocell receiver RX
TX	Photocell transmitter TX
XB99	External control elements connection
XP69A	Connection terminal for 2-wire photocell CLOSE
XP69B	Connection terminal for 2-wire photocell OPEN

4.4 Connecting the mains cable

♠ DANGER!

Life-threatening danger due to electric shock!

- It is vital that you disconnect the operator system from the power supply before commencing cabling work. Take measures to ensure that the power supply remains disconnected for the duration of the work.
- If the mains cable is connected via a permanent mains connection, this connection must have an all-pole disconnection switch.

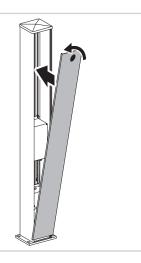
4.5 Completing the installation

Before closing the control unit, the following work must be carried out:

→ "5. Setting in operation"

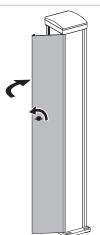
Comfort 850, 851

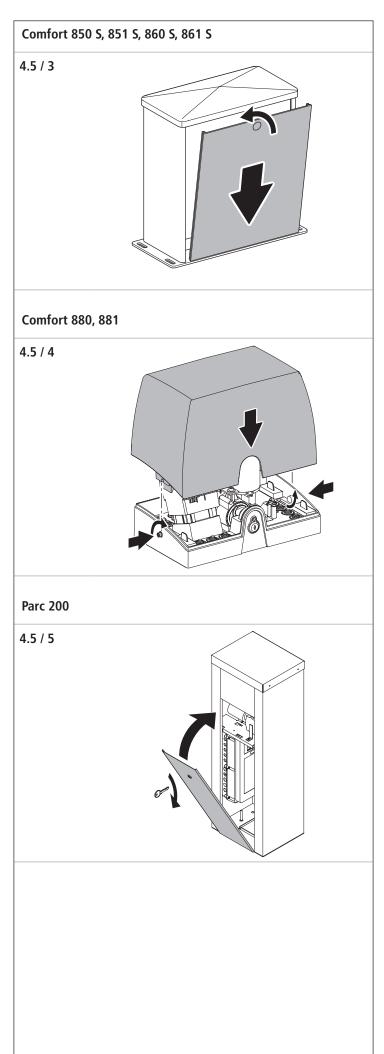
4.5 / 1

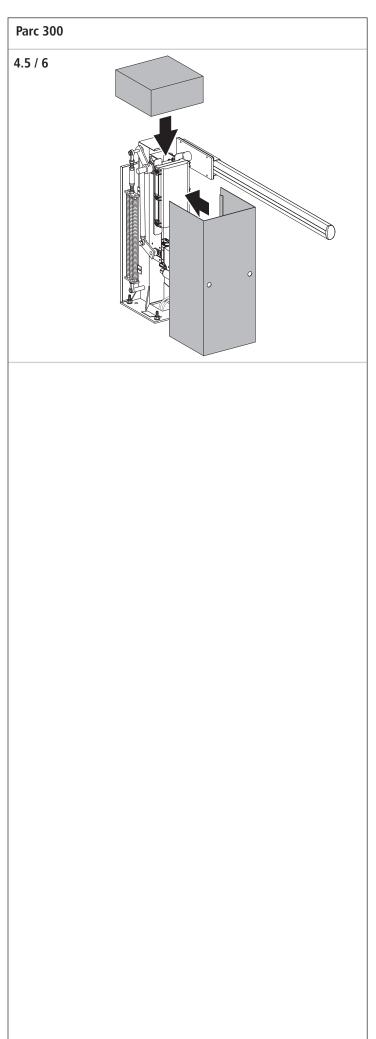


Comfort 860, 861 / Parc 150

4.5 / 2







5. Setting in operation

Before putting into operation for the first time and whenever necessary, but at least once a year, power-operated windows, doors and gates must be inspected by a qualified and trained professional with a force tester designed for this purpose (written inspection records must be kept).

After setting the system in operation, the operator of the gate system, or the operator's representatives, must be instructed in the operation of the system.

↑ WARNING!

Danger of injury due to uncontrolled movement of the gate!

- Ensure that children cannot play with the gate controls or the hand transmitter.
- Before setting the gate in motion, make sure that no persons or objects are within the danger zone of the gate.
- Before going through the gate opening, make sure that the gate is in the OPEN position.
- Check all the existing emergency command devices.
- Pay attention to potential crushing and shearing zones in the gate system.
- Never touch a running gate, the guide rail or any moving parts.
- The regulations of DIN EN 13241-1 ("Doors and gates Product Standard") must be observed.

5.1 Overview of the controls

Operational controls



LED display



Drive the gate in the OPEN direction, increase the value



Drive the gate in the CLOSE direction, decrease the value



Start programming, confirm and save values

1 4	2 a	Δ	n	М
_	- 4		ш	u



The display flashes



Display lights up

Display	Function / Element
00	Ready for operation
6	Position CLOSE
	Position OPEN
s	Fault message / Maintenance indicator in CLOSED gate position
)→	Photocell or closing edge safety device
(íc-	Remote control
/ .	External button
1	Status display (example: 1 − Reference point) → "5.2 Status display"
1234567890	Level indicator (example: Level 2)
A 5 6 > 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Menu and parameter indicator (example: Menu 3, Parameter 8)

Minute indicator



Times exceeding one minute are shown in minutes and seconds.

Example: 1.2 = 1 minute + 20 seconds = 80 seconds

Display Function / Element Reference point is passed Battery backup connected (optional) Warning time indicator (only for programmed automatic closing)

5.3 Factory settings

Using the reset procedure, the operator parameters can be restored to their original factory settings.

→ "Level 1, Menu 8 – RESET"

5.4 Express programming

To set the operator system properly in service and after every reset, the express programming procedure must be carried out.

Requirements:

- The gate must be in the CLOSED position.
- The operator system is locked.

∳i REFERENCE

A description of the operator locking mechanism release can be found in the documentation for the motor unit.

When in programming mode, the controls will revert automatically to operating mode if a period of 120 seconds passes without any buttons being pressed.

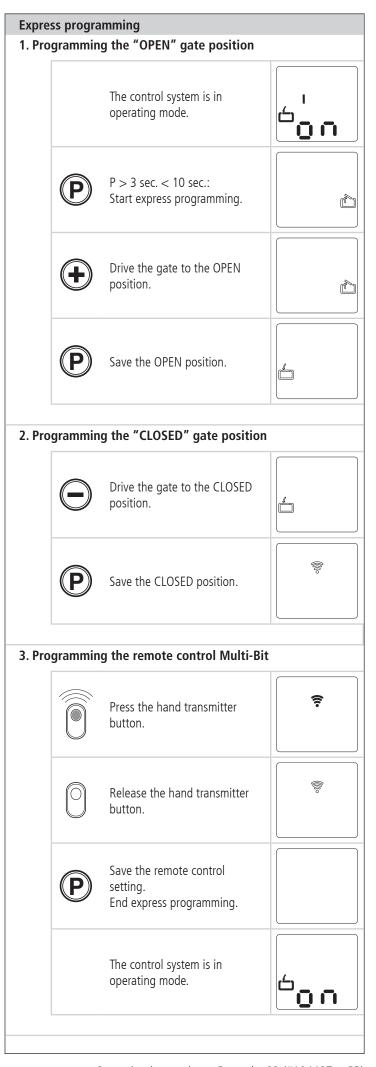
A corresponding fault number will be displayed.

- → "11. Rectifying faults"
- Carry out the express programming procedure.

✓ CHECK

A function test must be carried out after express programming.

→ "5.5 Function test"



Express programming 3. Programming the remote control bi-linked Press the programming button inside the hand transmitter. <u></u> Press the hand transmitter button. ٥ Release the hand transmitter button. Save the remote control setting. End express programming. The control system is in operating mode.

5.5 Function test

5.5.1 Programming run for setting the driving power

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

 Move the operator system (with the gear engaged) from the CLOSED gate position to the OPEN position and back again 3 times without interruption.

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

Check	Check the function				
1.		The control system is in operating mode.	é _o n		
2.	(+)	The gate should open and move to the saved OPEN gate position.			
3.		The gate must close and travel to the saved CLOSED end position.	é on		
4.		The operator system must move the gate in either the OPEN or CLOSE direction.			
5.		The operator system should stop.			
6.		The operator system should run in the opposite direction.			

5.5.2 Checking the automatic cut-out

À

WARNING!

Danger of injury due to incorrect settings for the gate driving power!

 Check the automatic cut-out function in the OPEN and CLOSE directions.

Automatic cut-out

All gate systems must be in compliance with EN 13241 when tested.

- 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 should stop and reverse when it touches the obstacle.

The settings for the driving power in the OPEN and CLOSE directions remain saved even if the mains power supply is interrupted.

The parameters are returned to the factory settings only after a reset.

→ "Level 1, Menu 8 – RESET"

5.5.3 Checking the photocell

- Check all the photocells individually by triggering them.
- Check each closing edge safety device in turn by triggering the function.

5.6 Special programming

Λ

WARNING!

Danger of injury due to incorrect settings for the gate 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.
- → "5.5.2 Checking the automatic cut-out"
- Have the driving force tested by qualified and trained professionals with a force tester designed for this purpose.

<u>u</u>l

NOTICE

Material damage resulting from incorrect programming of the gate operator.

After a reset, all the parameters revert to the factory settings. Safety elements that are operational and are connected to the system will be recognised anew after a reset.

To ensure that the controls functions properly:

- Reprogram all the required functions.
- Reprogram the remote control.
- Drive the operator system once to the OPEN position and then the CLOSED position.

If a photocell is connected, it will be automatically detected by the control system as soon as the power supply is connected.

The photocell can be reprogrammed later.

Photocells that are not required must be disconnected before the power supply is connected; otherwise they will be recognised by the controls.

→ "4.3.5 Terminal block XP69A / XP69B"

CHECK

A function test must be carried out after changes have been made in programming mode.

→ "5.5 Function test"

561	Program	ming the special functions	
3.0.1	Program	ining the special functions	
Progi	ramming	procedure	
1.		The control system is in operating mode.	00
2.	P	P > 10 sec.: Start programming the extended operator functions. Display the levels.	1. 3456 > 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
3.		Select the level required (example: Level 2).	1234567890
4.	P	Confirm the level required. Display the first menu and the programmed parameter.	150 A 5 6 > 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
5.	+	Select the menu required (example: Menu 3).	1,23 ⁴⁵⁶ 200
6.	P	Confirm the menu required. Display the programmed parameter value.	123A 5 6 > 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
7.		Change the parameter value.	123 ⁴⁵⁶ 200
8.	P	Save the parameter value. The control system switches to display the levels	1234567890
	(+)	Select the next level required. Continue programming.	1234567899
	or		
9.	P	P > 5 sec.: Finish programming. All the altered parameters are saved.	
		The control system is in operating mode.	00

Intermediate OPEN position Intermediate CLOSE position Signal light output RESET Driving power required to OPEN Driving power required to CLOSE Automatic cut-out in the OPEN direction Automatic cut-out in the CLOSE direction Automatic closing timer Gate open duration Warning time Start-up warning Signal light Intermediate OPEN position Intermediate CLOSE position OPEN CLOSE Operator lighting ON / OFF
Signal light output RESET Driving power required to OPEN Driving power required to CLOSE Automatic cut-out in the OPEN direction Automatic cut-out in the CLOSE direction Automatic closing timer Gate open duration Warning time Start-up warning Signal light Intermediate OPEN position Intermediate CLOSE position OPEN CLOSE
RESET Driving power required to OPEN Driving power required to CLOSE Automatic cut-out in the OPEN direction Automatic cut-out in the CLOSE direction Automatic closing timer Gate open duration Warning time Start-up warning Signal light Intermediate OPEN position Intermediate CLOSE position OPEN CLOSE
Driving power required to OPEN Driving power required to CLOSE Automatic cut-out in the OPEN direction Automatic cut-out in the CLOSE direction Automatic closing timer Gate open duration Warning time Start-up warning Signal light Intermediate OPEN position Intermediate CLOSE position OPEN CLOSE
Driving power required to CLOSE Automatic cut-out in the OPEN direction Automatic cut-out in the CLOSE direction Automatic closing timer Gate open duration Warning time Start-up warning Signal light Intermediate OPEN position Intermediate CLOSE position OPEN CLOSE
Automatic cut-out in the OPEN direction Automatic cut-out in the CLOSE direction Automatic closing timer Gate open duration Warning time Start-up warning Signal light Intermediate OPEN position Intermediate CLOSE position OPEN CLOSE
Automatic cut-out in the CLOSE direction Automatic closing timer Gate open duration Warning time Start-up warning Signal light Intermediate OPEN position Intermediate CLOSE position OPEN CLOSE
Automatic closing timer Gate open duration Warning time Start-up warning Signal light Intermediate OPEN position Intermediate CLOSE position OPEN CLOSE
Gate open duration Warning time Start-up warning Signal light Intermediate OPEN position Intermediate CLOSE position OPEN CLOSE
Warning time Start-up warning Signal light Intermediate OPEN position Intermediate CLOSE position OPEN CLOSE
Start-up warning Signal light Intermediate OPEN position Intermediate CLOSE position OPEN CLOSE
Signal light Intermediate OPEN position Intermediate CLOSE position OPEN CLOSE
Intermediate OPEN position Intermediate CLOSE position OPEN CLOSE
Intermediate CLOSE position OPEN CLOSE
OPEN CLOSE
CLOSE
Operator lighting ON / OFF
operator lighting off 7 of 1
Programmable impulse input
Programmable input
Lighting duration
Hand-held programming device
Control version
Battery back-up
Magnetic lock version
OPEN speed
Soft run OPEN speed
Soft run OPEN position
CLOSE speed
Smart run CLOSE speed
Soft run CLOSE speed
Smart run CLOSE position
Soft run CLOSE position
Soft start time OPEN
Soft start time CLOSE
Gate cycle counter
Servicing counter
Servicing interval
Reset maintenance and servicing
Error indicator

Level	Menu
8	1 Photocell
System settings	2 Closing edge safety device
	3 Automatic cut-out function
	4 Operating modes
	5 Function of the direction command transmitters
	6 Function of the impulse command transmitters
	7 Stress relief in the CLOSED gate position (back jump)
	8 Direction of rotation
	9 Changing the display language

5.6.3 Contents of the special functions

Level 1 – Basic functions

Menu 3 – Intermediate OPEN position

Adjust the setting using the + (OPEN) and - (CLOSE) buttons.

The closing function with automatic closing is possible.

Menu 4 – Intermediate CLOSE position

Adjust the setting using the + (OPEN) and - (CLOSE) buttons.

The closing function with automatic closing is not possible.

Menu 7 – **Signal light output**

(only programmable with optional signal light relay)

1	 Signal light→ "Level 3, Menu 7 - Signal light"
2	Position OPEN
3	Position CLOSE
4	Intermediate OPEN position
5	Intermediate CLOSE position
6	Operator system starts (wiping impulse, 1 second)
7	Faults
8	Lighting (3-minute light) → "Level 5, Menu 4 - Lighting duration"
9	Locking mechanism release (operator system running)
10	Locking mechanism release (operator system immobile)
11	Release lock (operator system starts / wiping impulse, 3 seconds)
12	Push-open security device
13	Radio remote control (relay is activated for the duration of the impulse) → "Level 4, Menu 8 - Operator lighting ON / OFF"
14	Test impulse for the closing edge safety device (relay transmits a test impulse and is activated for 300 ms)

Level 1 - Basic functions

Menu 8 - RESET

The operator system can be reset to the factory settings.

1 Reset the controls (to factory settings) 2 Connected modules (BUS modules, bi·linked) must be reset separately. 3 Reset the remote control (telegrams are deleted) 4 Reset the special function: automatic closing timer → "Level 3 - Automatic closing timer" Reset only the special operator functions (except the OPEN/CLOSED gate positions and the remote control impulse) 6 Reset the safety elements (photocell / hold circuit) 7 Reset bus modules (connected bus modules will be programmed in)		
2 Connected modules (BUS modules, bi-linked) must be reset separately. 3 Reset the remote control (telegrams are deleted) 4 Reset the special function: automatic closing timer → "Level 3 - Automatic closing timer" Reset only the special operator functions (except the OPEN/CLOSED gate positions and the remote control impulse) 6 Reset the safety elements (photocell / hold circuit) 7 Reset bus modules (connected bus modules will be	1	₩ No reset
Reset the special function: automatic closing timer → "Level 3 - Automatic closing timer" Reset only the special operator functions (except the OPEN/CLOSED gate positions and the remote control impulse) Reset the safety elements (photocell / hold circuit) Reset bus modules (connected bus modules will be	2	Connected modules (BUS modules, bi-linked) must
 → "Level 3 - Automatic closing timer" Reset only the special operator functions (except the OPEN/CLOSED gate positions and the remote control impulse) Reset the safety elements (photocell / hold circuit) Reset bus modules (connected bus modules will be 	3	Reset the remote control (telegrams are deleted)
 the OPEN/CLOSED gate positions and the remote control impulse) Reset the safety elements (photocell / hold circuit) Reset bus modules (connected bus modules will be 	4	ı
7 Reset bus modules (connected bus modules will be	5	the OPEN/CLOSED gate positions and the remote
1 / 1	6	Reset the safety elements (photocell / hold circuit)
	7	

Level 2 – Gate operator settings

Menu 1 – Driving power required to OPEN

Sensitivity in on a scale of 1 to 16 (the higher the number, the greater the driving power).

<u>~~</u>

Menu 2 – Driving power required to CLOSE

Sensitivity in on a scale of 1 to 16 (the higher the number, the greater the driving power).



Menu 3 – Automatic cut-out in the OPEN direction

Sensitivity on a scale of 1 (OFF) to 16 (the lower the number, the more sensitive the automatic cut-out).

10

Menu 4 – Automatic cut-out in the CLOSE direction

Sensitivity on a scale of 1 (OFF) to 16 (the lower the number, the more sensitive the automatic cut-out).

10

Level 3 – Automatic closing timer

Menu 1 – Automatic closing timer

If the automatic closing function is activated, the relay output (Level 1 / Menu 7) can be reprogrammed if required.

1	E Deactivated	
2	Gate open duration 15 / Warning time 5	The open duration can
3	Gate open duration 30 / Warning time 5	only be increased via an impulse signal (button or hand
4	Gate open duration 60 / Warning time 8	transmitter).
5	Gate open duration 15 / Warning time 5	- L 2
6	Gate open duration 30 / Warning time 5	The gate open duration ends after the photocell has been triggered.
7	Gate open duration 60 / Warning time 8	nus seen triggered.
8	Gate open duration infinite / Warning time 3	Gate closes after the photocell has been triggered / Closing prevention.

Menu 3 – **Gate open duration**

2 - 250 seconds in increments.

Dependent on Level 3, Menu 1

Menu 4 – Warning time

1 - 70 seconds in increments.

Dependent on Level 3, Menu 1

Menu 5 – **Start-up warning**

0-7 seconds.

0

Menu 7 – Signal light

1	Gate movement / Warning: Flashing Gate stationary: light is off (energy-saving)
2	Gate movement / Warning: Light on Gate stationary: Light off (energy-saving)
3	Gate movement / Warning: Flashing Gate stationary: Flashing
4	Gate movement / Warning: Light on Gate stationary: Light on
5	Gate movement / Warning: Flashing Gate stationary: Light on
6	Gate movement / Warning: Light on Gate stationary: Flashing

Level 4 – Programming the remote control

Menu 2 – Intermediate OPEN position

Parameter indicator flashes -> Press the hand transmitter button -> Hand transmitter display also flashes -> The function has been programmed.

Menu 3 – Intermediate CLOSE position

Parameter indicator flashes -> Press the hand transmitter button -> Hand transmitter display also flashes -> The function has been programmed.

Menu 4 – **OPEN**

Parameter indicator flashes -> Press the hand transmitter button -> Hand transmitter display also flashes -> The function has been programmed.

Menu 5 – CLOSE

Parameter indicator flashes -> Press the hand transmitter button -> Hand transmitter display also flashes -> The function has been programmed.

Menu 8 - Operator lighting ON / OFF

Parameter indicator flashes -> Press the hand transmitter button -> Hand transmitter display also flashes -> The function has been programmed.

The parameter "Lighting" must be programmed.

→ "Level 1, Menu 7 - Signal light output"

Level 5 – Special functions

Programming of the special functions is dependent on terminal block

→ "4.3.2 Terminal block XB99"

Menu 1 – Programmable impulse input

1	Connection option number 1: Terminal B9/3: Intermediate OPEN position Terminal B9/8: Impulse (OPEN/STOP/CLOSE)
2	Connection option number 2: Terminal B9/3: Intermediate CLOSE position Terminal B9/8: Impulse (OPEN/STOP/CLOSE)
3	Connection option number 3: Terminal B9/3: Intermediate OPEN position Terminal B9/8: Intermediate CLOSE position
4	Connection option number 4: Terminal B9/3: Direction command transmitter, CLOSE Terminal B9/8: Direction command transmitter, OPEN

Level 5 – Special functions

Menu 3 – **Programmable input** (Terminal B9/34)

1	Impulse (normally open contact only)
2	Impulse RC (ext. radio remote module, normally open contact)
3	Closing prevention device (normally open contact only)
4	OPEN impulse (induction loop — normally open contact only)
5	STOP (normally closed contact only)
6	Earlier closing possible by pressing the buttons on the input device or hand transmitter > 2 seconds (Multi-Bit only)
7	Automatic closing timer ON/OFF (closed)

Menu 4 – Lighting duration

2 - 250 seconds in increments.

3.0 (180 seconds)

Menu 5 – **Hand-held programming device**

1	Operation and programming option
2	Operation only

Menu 6 – **Control version** (after this is saved, the control automatically carries out a RESET)

1	Comfort 8xx reference point
3	Parc 200 / Parc 300 reference point
4	Parc 300 absolute value encoder
5	Parc 150 reference point

Menu 7 – **Battery back-up**

1	Battery back-up deactivated
2	Battery back-up active

Menu 8 – Electric lock version

1	Electric lock (Electric lock active for 3 seconds when operator starts)
2	Electric lock / magnetic lock (Electric lock / magnetic lock inactive for 3 seconds when operator starts)
3	Electric lock with locking pin (Electric lock active when operator running)
4	Lockmatic electric lock (Electric lock inactive when operator running)
5	Lockmatic Version II electric lock (Electric lock opens when operator starts, and closes when operator stops)

Level 6 - Variable speed

Menu 1 – OPEN speed

On a scale of 5 to 16.

≝ 16

Menu 2 – Soft run OPEN speed

On a scale of 1 to 16.

--- 7

Menu 3 – **Soft run OPEN position**

Adjust the setting using the + (OPEN) and - (CLOSE) buttons.

Menu 4 – **CLOSE speed**

On a scale of 5 to 16.

16

Menu 5 – Smart run CLOSE speed

On a scale of 5 to 16.

-- 7

Menu 6 – **Soft run CLOSE speed**

On a scale of 5 to 16.

™ 7

Menu 7 – Smart run CLOSED position

Adjust the setting using the + (OPEN) and - (CLOSE) buttons.

Menu 8 – **Soft run CLOSE position**

Adjust the setting using the + (OPEN) and - (CLOSE) buttons.

Menu 9 – **Soft start time OPEN**

1	Soft start time 1 second
2	Soft start time 2 seconds
3	Soft start time 3 seconds
4	Soft start time 6 seconds

Menu 10 – **Soft start time CLOSE**

1	Soft start time 1 second
2	Soft start time 2 seconds
3	Soft start time 3 seconds
4	Soft start time 6 seconds

Level 7 - Maintenance and servicing

Menu 1 – Gate cycle counter

Six-figure indicator showing the number of gate operations, up to 999999.

Figures shown one after the other up to the indicator point, then repeated.

Menu 2 – Maintenance counter

Five-figure indicator showing the number of gate operations still to go till a maintenance reminder is displayed.

Figures run up consecutively until maintenance reminder is displayed, then process is repeated.

Menu 3 – Servicing interval

Adjustment of the number of gate operations to be completed before a servicing reminder is displayed.

1	□ OFF
2	100 gate operations
3	500 gate operations
4	1,000 gate operations
5	4,000 gate operations
6	5,000 gate operations
7	6,000 gate operations
8	7,000 gate operations
9	8,000 gate operations
10	9,000 gate operations
11	10,000 gate operations
12	15,000 gate operations
13	20,000 gate operations
14	30,000 gate operations
15	40,000 gate operations
16	50,000 gate operations

Menu 8 – Fault log reset

The fault log for maintenance, diagnostics and servicing work is reset here.

When servicing is required:

Before deleting, note down the displayed error messages in case queries arise later.

1	No reset
2	Reset the error memory

Menu 9 – **Fault indicator**

Shows the current fault message. (No more than 16 fault messages can be viewed).

	Display the previous fault / Navigate through the list of faults
•	Navigate through the list of faults

Level 8 – System settings

Gate reverses a short distance: The operator system moves the gate slightly in the opposite direction in order to release an obstacle.

Gate reverses over a long distance: The operator system moves the gate all the way to the OPEN position.

Menu 1 – **Photocell**

1	Operation without photocell
2	2-wire photocell for CLOSE direction
3	2-wire photocell for CLOSE direction 2-wire photocell for OPEN direction
4	2-wire photocell for CLOSE direction (2x)
5	2-wire photocell for CLOSE direction 2-wire photocell for OPEN + CLOSE direction
6	Other make of photocell for CLOSE direction
7	Other make of photocell for CLOSE direction Other make of photocell for OPEN direction
8	Other make of photocell for CLOSE direction (2x)
9	Other make of photocell for CLOSE direction Other make of photocell for OPEN + CLOSE direction

Menu 2 – Closing edge safety device

	• •
1	Gate movement, OPEN: Gate reverses a short distance Gate movement, CLOSE: Gate reverses a short distance
2	Gate movement, OPEN: Gate reverses a short distance Gate movement, CLOSE: Gate reverses over a long distance
3	Gate movement, OPEN: Gate reverses over a long distance Gate movement, CLOSE: Gate reverses a short distance
4	Gate movement, OPEN: Gate reverses over a long distance Gate movement, CLOSE: Gate reverses over a long distance
5	Gate movement, OPEN: Gate reverses a short distance with airswitch testing Gate movement, CLOSE: Gate reverses a short distance with airswitch testing
6	Gate movement, OPEN: Gate reverses a short distance with airswitch testing Gate movement, CLOSE: Gate reverses over a long distance with airswitch testing
7	Gate movement, OPEN: Gate reverses over a long distance with airswitch testing Gate movement, CLOSE: Gate reverses a short distance with airswitch testing
8	Gate movement, OPEN: Gate reverses over a long distance with airswitch testing Gate movement, CLOSE: Gate reverses over a long distance with airswitch testing

Level 8 – System settings

Menu 3 – Automatic cut-out function

1	Gate movement, OPEN: Gate stops Gate movement, CLOSE: Gate reverses a short distance
2	Gate movement, OPEN: Gate reverses a short distance Gate movement, CLOSE: Gate reverses a short distance
3	Gate movement, OPEN: Gate stops Gate movement, CLOSE: Gate reverses over a long distance
4	Gate movement, OPEN: Gate reverses over a long distance Gate movement, CLOSE: Gate reverses over a long distance

Menu 4 – **Operating modes**

1	Gate movement, OPEN: Deadman Gate movement, OPEN: Deadman
2	Gate movement, OPEN: Press-and-release Gate movement, CLOSE: Deadman
3	Gate movement, OPEN: Deadman Gate movement, CLOSE: Press-and-release
4	Gate movement, OPEN: Press-and-release Gate movement, CLOSE: Press-and-release

Menu 5 – Function of the direction command transmitters

1	Direction command transmitters not activated: The direction command transmitters only give a command when the gate is stationary.
2	 Direction command transmitters, STOP only: A moving gate is stopped by every direction command transmitter.

Menu 6 – Function of the impulse command transmitters

1	Impulse command transmitters not activated: The impulse command transmitters only give a command when the gate is stationary.
2	Impulse command transmitters, 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). STOP in OPEN direction possible in the case of automatic closing.
3	Impulse command transmitters, 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). With automatic closing, there is no STOP in the OPEN direction.

Level 8 – System settings

Menu 7 – Stress relief in the CLOSED gate position (back jump)

 Back jump activated – short Back jump activated – medium Back jump activated – long 	1	🕮 Back jump not activated
	2	Back jump activated — short
4 Back jump activated — long	3	Back jump activated — medium
	4	

Menu 8 – **Direction of rotation**

1	Standard
2	Reversing the direction of rotation The end positions must be reset after changing the rotational direction. → "5.4 Express programming"

Menu 9 – Changing the display language

The plain text display can be set to 16 different languages.

	1 1 1 3 3 3
1	🕮 German
2	English
3	French
4	Dutch
5	Italian
6	Spanish
7	Czech
8	Russian
9	Polish
10	Norwegian
11	Swedish
12	
13	
14	
15	
16	

6. Operation

The following operating devices can be used to actuate the gate system:

- Code button
- Transponder
- Coin acceptor
- Induction loop
- Hand transmitter / radio technology

∳i REFERENCE

Please refer to the relevant manuals for instructions on using the operating devices.

7. Care and cleaning

▲ DANGER!

Life-threatening danger due to electric shock!

 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.

M NOTICE

Damage resulting from incorrect operation!

When cleaning the operator system, never use:

direct water jets, high pressure cleaners, acids or alkaline solutions.

 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.

8. Maintenance

8.1 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.
- → "5.5.2 Checking the automatic cut-out"
- 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.
- → "5.5.3 Checking the photocell"
- 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.

8.2 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.

9. Disassembly

⚠ DANGER!

Life-threatening danger due to electric shock!

• It is vital that you disconnect the operator system from the power supply before disassembly. Take measures to ensure that the power supply remains disconnected during disassembly.

♠ WARNING!

Improper dismantling may result in severe injury!

• Observe all the applicable health and safety regulations.

The system must be dismantled by qualified and trained professionals, following the installation instructions in reverse order.

10. Disposal



Do not dispose of old equipment or batteries with the normal household waste!

- Dispose of old devices at a waste collection centre for electronic waste or via your specialist dealer.
- Dispose of old batteries in a battery recycling container or via a specialist dealer.
- Dispose of the packaging material in the special waste collection containers for paper, cardboard and plastic.

11. Rectifying faults

Faults with no fault messages

LCD display does not light up or display information.

No supply voltage present.

- Check that the mains voltage supply is operational.
- Check the electrical connection.

The thermal overload protection in the mains transformer has been triggered.

• Allow the transformer to cool down.

Control unit defective.

• Have the operator system checked.

No reaction after impulse signal.

The connection terminals for the "impulse" button were by-passed, e.g. due to a short-circuit or flattened terminals.

- If key switches or interior push buttons are connected, try disconnecting them from the control unit: remove cables from the XB99 terminal block, insert the shorting plug, if necessary, and search for the wiring fault.
- → "4.3.2 Terminal block XB99"

No reaction on impulse from hand transmitter.

Modular antenna is not plugged in.

• Connect the modular antenna to the control unit.

Hand transmitter code does not correspond to the receiver code.

- Activate the hand transmitter anew.
- → "5.4 Express programming"

The battery in the hand transmitter is empty.

- Insert new battery.
- → "6. Operation"

The hand transmitter, control electronics or modular antenna are defective.

• Have all 3 components checked.

Faults with fault messages

The system indicates recognised faults by showing a fault number (example: fault number 7). The control system switches to reporting mode. In operating mode, the last fault number can be shown by pressing the P button.



Fault number 3

The closing edge safety device in the OPEN direction has been tripped.

• Check the gate and remove any obstacles.

Faults with fault messages

Fault number 5

The closing edge safety device in the CLOSE direction has been tripped.

• Check the gate and remove any obstacles.

Fault number 7

Programming mode will end automatically if a period of 120 seconds has elapsed without a button being pressed or if there is an error during programming.

Start the programming procedure again.
 The reference point must be activated during programming.

Fault number 8

The reference point is not recognised.

• Have the operator system checked.

Fault number 9

Rotational speed sensor impulse not present, operator system is obstructed.

• Have the operator system checked.

Fault number 10

The gate does not move easily or is obstructed.

• Take measures to ensure that the gate moves freely and smoothly.

The maximum driving power has been set too low.

- Have the maximum driving force tested by qualified and trained professionals with the aid of a force tester designed for this purpose.
- → "Level 2, Menu 1 Driving power required to OPEN"
- → "Level 2, Menu 2 Driving power required to CLOSE"

Fault number 11

Excess travel stop.

• Have the operator system checked.

Faults with fault messages

Fault number 12

Closing edge safety device testing in OPEN direction not OK

• Have the closing edge safety device checked.

Closing edge safety device in OPEN direction programmed but not connected.

 Deactivate or connect closing edge safety device in OPEN direction.

Fault number 13

Closing edge safety device testing in CLOSE direction not OK.

• Have the closing edge safety device checked.

Closing edge safety device in CLOSE direction programmed but not connected.

• Deactivate or connect closing edge safety device in CLOSE direction.

Fault number 15

Photocell triggered or defective.

• Remove obstacle or have the photocell checked.

Photocell programmed but not connected.

• Deactivate or connect the photocell.

Fault number 16

The current sensor for the automatic cut-out is defective.

• Have the motor unit checked.

Fault number 26

Undervoltage. The operator system is overloaded when the driving power is set to 16 (maximum).

• Have the external power supply checked.

Fault number 28

The gate does not move easily or smoothly or is obstructed.

• Check the gate movement and take measures to ensure that the gate moves freely and smoothly.

Fault number 30

MS bus error.

- Reset the bus modules.
- → "Level 1, Menu 8 RESET"
- Have the connected bus modules checked.

Fault number 35

Electronic defect.

• Have the operator system checked.

Faults with fault messages

Fault number 36

This fault number can also be triggered if an expansion module is connected.

Stop button function programmed, but no stop button connected.

- Connect stop button.
- → "4.3 Connection of control elements"
- If a stop button is not available, carry out "Reset safety equipment" or "Reset BUS modules".
- → "Level 1, Menu 8 RESET"

Fault number 48

The gate does not move easily or smoothly or is obstructed.

• Check the gate movement and take measures to ensure that the gate moves freely and smoothly.

CLOSED gate position setting faulty.

- Check and, if necessary, readjust the OPEN and CLOSED gate positions.
- Check the gate.

12. Appendix

12.1 Technical Data

Electrical data		
Rated voltage, regional deviations are possible	V	230 / 260
Rated frequency	Hz	50 / 60
Current input	А	3,2 / 1,7 / 1,5
Power consumption in operation*	kW	0,4
Power consumption in standby*	W	ca. 3.2
Duty cycle	min.	KB 5
Control voltage	V DC	24
Protection class		II

^{*} without any additional equipment connected

Environmental data					
Sound pressure level		dB(A)	< 70		
Tomporature range		°C	-20		
Temperature range		°C	+60		

12.2 Declaration for the incorporation of a partly completed machine

(Declaration of Incorporation in line with EC Machinery Directive 2006/42/EC in accordance with Annex II, Part 1 B)

Manufacturer:

Marantec Antriebs und Steuerungstechnik GmbH & Co. KG, Remser Brook 11, 33428 Marienfeld, Germany

The partly completed machine (product):

Control x.82 control unit **Revision status: R01**

has been developed, designed and manufactured in accordance with the:

- EU Machinery Directive 2006/42/EC
- EU RoHS Directive 2011/65/EU
- EU Low Voltage Directive 2014/35/EU
- EU Electromagnetic Compatibility Directive 2014/30/EU
- Radio Equipment Directive (RED) 2014/53/EU

Applied and referenced standards and specifications:

- EN ISO 13849-1, PL "c", Cat. 2 Safety of machinery - Safety-related parts of control systems -Part 1: General principles for design
- EN 60335-2-103 Household and similar electrical appliances – Safety – Part 2-103: Particular requirements for drives for gates, doors and windows.
- EN 61000-6-3/2 Electromagnetic compatibility – Emitted interference and immunity

The following requirements of EC Directive 2006/42/EC were complied

General principles, No. 1.1.2, 1.1.3, 1.1.5, 1.1.6, 1.2.1, 1.2.2, 1.2.3, 1.2.6, 1.3.1, 1.3.4, 1.3.7, 1.3.8, 1.3.9, 1.4.1, 1.4.3, 1.5.1, 1.5.4, 1.5.6, 1.5.8, 1.5.14, 1.7

Furthermore, we declare that the special technical documentation for this partly completed machine was prepared in accordance with Annex VII Part B and we undertake to supply these documents, in electronic form, to the national authorities in response to a duly reasoned request.

This partly completed machine is intended only for installation in a door system, in order to create a complete machine pursuant to Machinery Directive 2006/42/EC. The door system may not be set in operation until it has been ascertained that the complete system complies with the requirements of the above-mentioned EC directives.

This declaration shall no longer be valid if changes are made to the product without our authorisation.

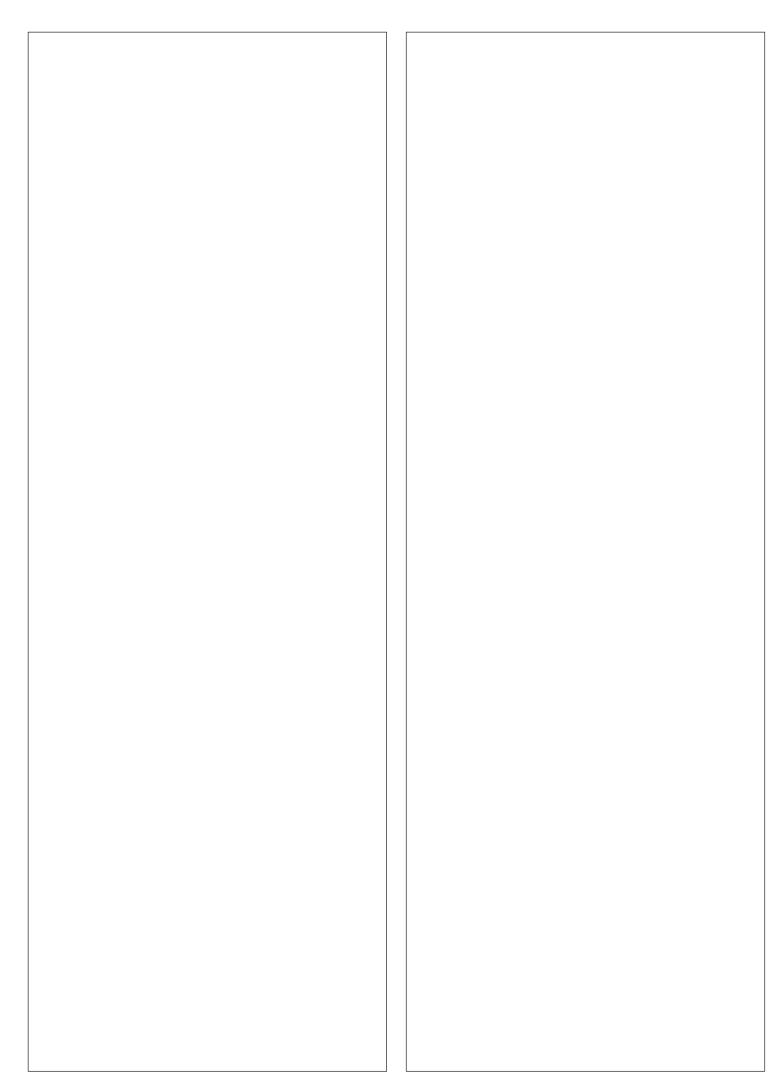
Authorised agent for the preparation of the technical documentation: Marantec Antriebs- und Steuerungstechnik GmbH & Co. KG, Remser Brook 11 · 33428 Marienfeld · Germany Fon +49 (5247) 705-0

Marienfeld, 1 February 2016

M. Hörmann Director







Type plate

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Rev (B)	
Art. No. (C)	
Prod. No. (D)	

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