

Dynamic xs.plus

Operator system for industrial doors

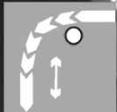
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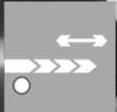
FULL-SERVICE



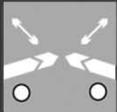
OPERATOR SYSTEMS FOR GARAGE DOORS



OPERATOR SYSTEMS FOR SECTIONAL DOORS



OPERATOR SYSTEMS FOR SLIDING GATES



OPERATOR SYSTEMS FOR HINGED GATES



OPERATOR SYSTEMS FOR ROLLER SHUTTERS



PARK BARRIER SYSTEMS



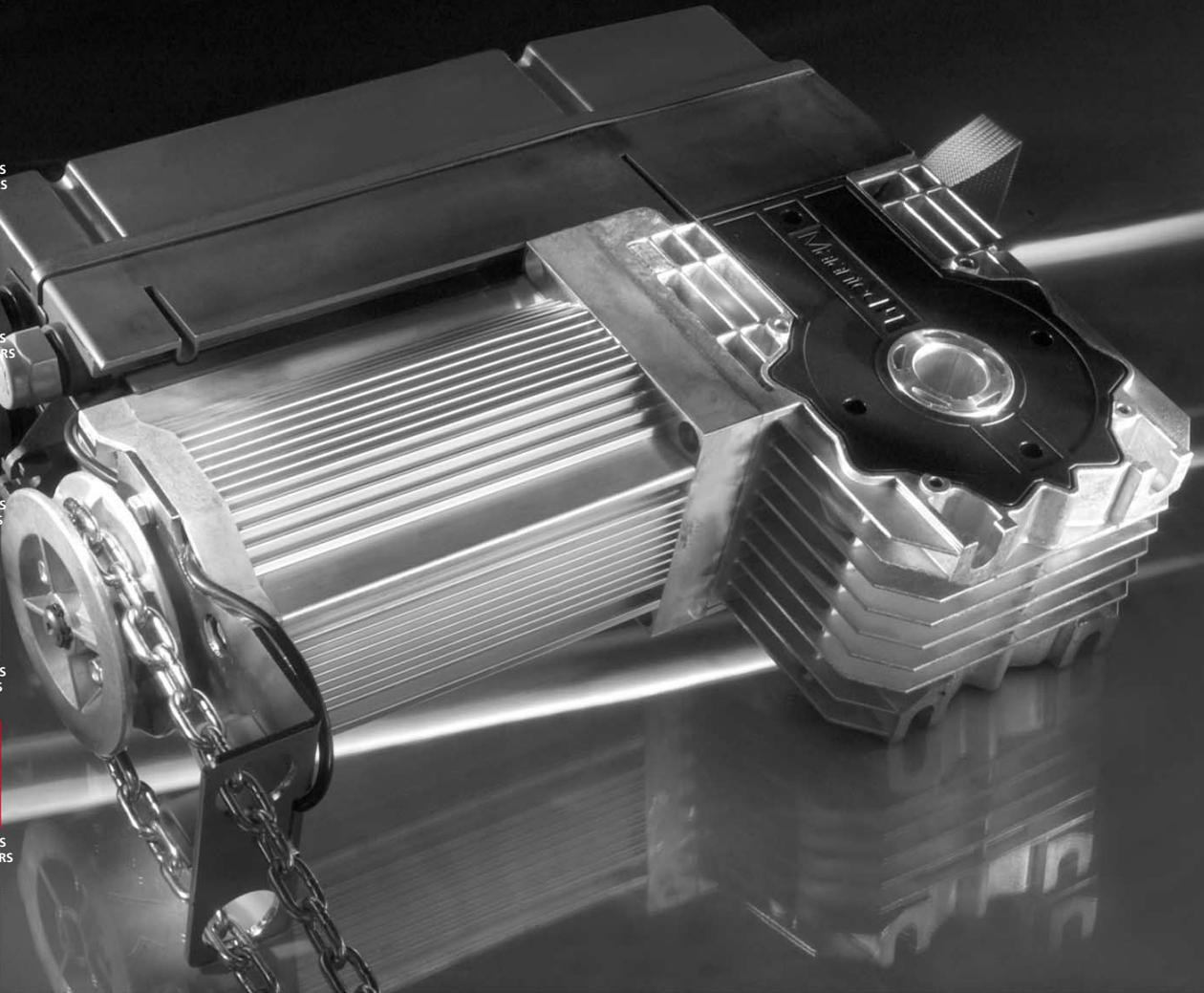
ELECTRONIC CONTROL UNITS



PRODUCT SERVICE



ACCESSORIES



Manual for installation and operation

Marantec

Door operators ► automatically the best choice

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1. Meaning of symbols

Controls and motor unit symbols

-  Safety devices
-  Door position OPEN
-  Intermediate position
-  Door position CLOSED
-  Maintenance indicator
-  Messages specific to the operator system
-  Impulse
(remote control, external control elements)
-  Operation

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 x.plus control unit

Type: _____

Art. No.: _____

Product No.: _____

Type plate on Dynamic xs.plus motor unit

Type: _____

Art. No.: _____

Product No.: _____

2. Table of contents

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3. General safety advice



Please read carefully!

Target group

This operator system may only be installed, connected and put into operation by qualified and trained professionals! Qualified and trained specialist personnel are persons

- who have knowledge of the general and special safety regulations,
- who have knowledge of the relevant electro-technical regulations,
- with training in the use and maintenance of suitable safety equipment,
- who are sufficiently trained and supervised by qualified electricians,
- who are able to recognise the particular hazards involved when working with electricity,
- with knowledge regarding applications of the EN 12635 standard (installation and usage requirements).

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 door 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 door 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 operator system is intended exclusively for opening and closing industrial doors. The maximum torque must be observed.

Door requirements

The drive system is suitable for spring-loaded roller shutters.

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

3. General safety advice



Please read carefully!

Information on installing the operator system

- Ensure that the door is in good mechanical condition.
- Ensure that the door is balanced.
- Ensure that the door opens and closes properly.
- Ensure that there is a suitable mains connection near the door.
- Remove all unnecessary components from the door (e.g. cables, chains, brackets).
- Render any installations inoperable that will no longer be needed after the operator system has been installed.
- Before commencing cabling works, you **MUST** disconnect the operator system from the mains supply. Adhere to the safety period of 10 seconds to guarantee that the operator system is voltage free.
- Adhere to the local protection regulations.
- Lay the electricity supply cables and control cables; these **MUST** be laid separately.
- Install the operator system with the door in the **CLOSED** position.
- Install all the impulse transmitters and control devices (e.g. remote control buttons) within sight of the door and at a safe distance from the moving parts of the door. A minimum installation height of 1.5 m must be observed.
- Permanently fix the warning signs, which advise of the danger of becoming trapped, at conspicuous locations.
- Ensure that no part of the door extends across public footways or roads when the installation is complete.

Information on commissioning the operator system

After initial operation, the persons responsible for operating the door system, or their representatives must be familiarised with the use of the system.

- Make sure that children cannot access the door control unit.
- Before moving the door, make sure that there are neither persons nor objects in the operating range of the door.
- Test all existing emergency command devices.
- Never insert your hands into a running door or moving parts.
- Pay attention to any parts of the door system that could cause crushing or shearing damage or accidents. The EN 13241-1 regulations must be observed.

Information on servicing the operator system

To ensure proper operation, the following items must be checked regularly and repaired if necessary. Before any works to the door system are undertaken, the operator system must be disconnected from the mains.

- Check all movable parts of the door and operator system.
- Check the door system for signs of wear or damage.
- Check whether the door can be easily moved by hand.

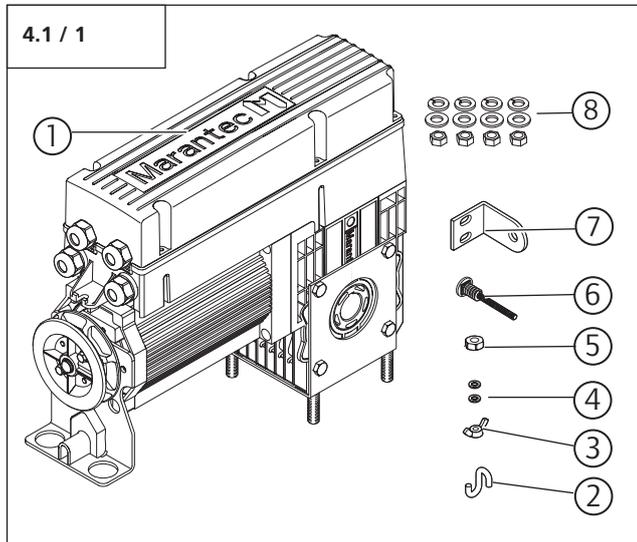
Information on cleaning the operator system

Never use water jets, high pressure cleaners, acids or bases for cleaning.

4. Product overview

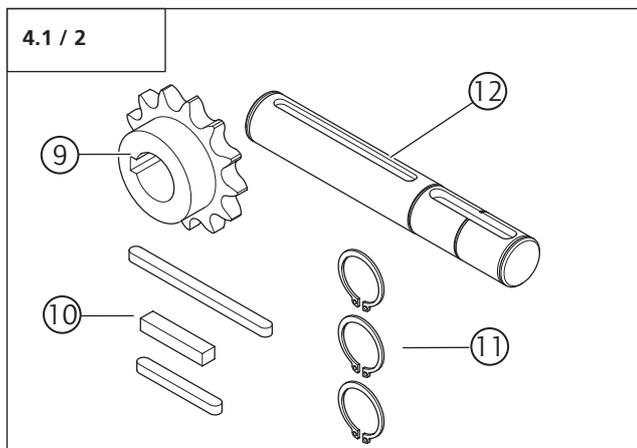
4.1 Dynamic xs.plus supply package

Motor unit



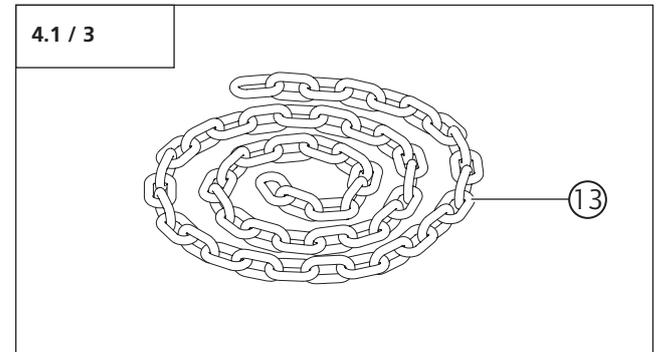
- 1 Dynamic xs.plus motor unit
- 2 Chain connecting link (2x)
- 3 Wing-nut
- 4 Washer (2x)
- 5 Nut, width across flats: 13
- 6 Securing bolt
- 7 Mounting bracket
- 8 Fixing materials

Steckwelle



- 9 Sprocket
- 10 Feather key (3x)
- 11 Retaining ring (3x)
- 12 Drive shaft assembly

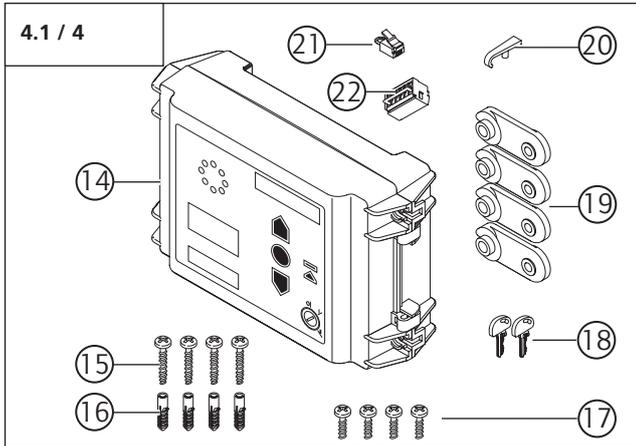
Emergency hand chain extension



- 13 Emergency hand chain 8 m

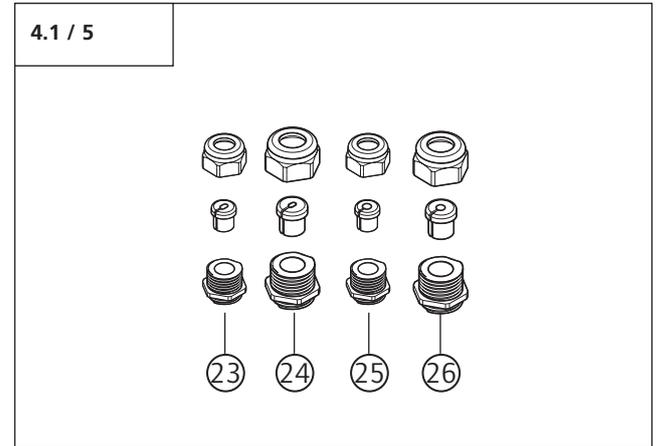
4. Product overview

Control x.plus control unit



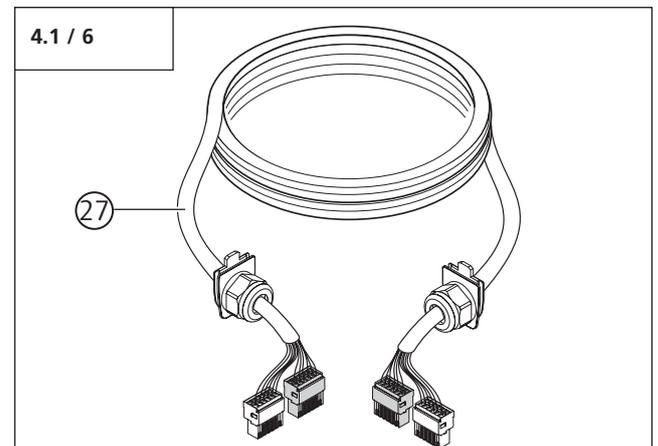
- 14 Control x.plus control unit
- 15 Wood screw 4 x 35 (4x)
- 16 Wall plug (4x)
- 17 Plastic screw 4 x 10 (4x)
- 18 Key (2x)
- 19 Foot for control unit housing (4x)
- 20 Operating handle
- 21 Shorting plug
- 22 Plug for safety circuit 8.2 K Ω

Screw connection set



- 23 M16 screw fixing for 4-pole flat cable
- 24 M20 screw fixing for 6-pole flat cable
- 25 M16 screw fixing for 4 - 6 mm round cable
- 26 M20 screw fixing for 6 - 9 mm round cable

Cable loom, motor unit - control unit

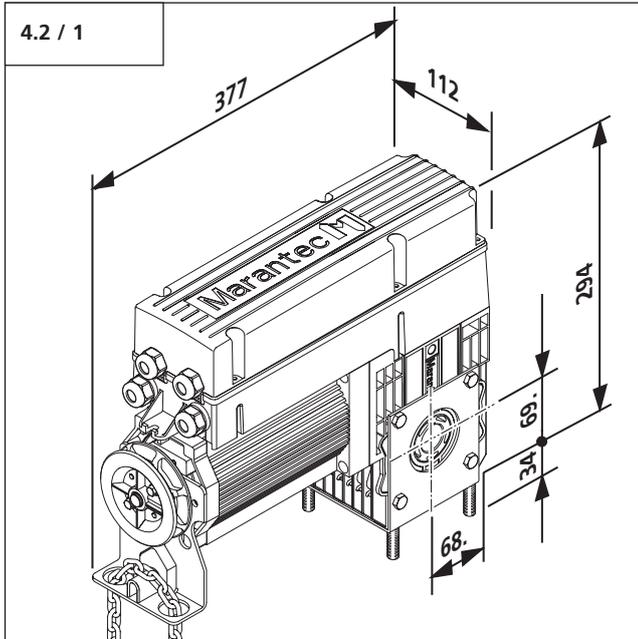


- 27 Cable loom, motor unit - control unit

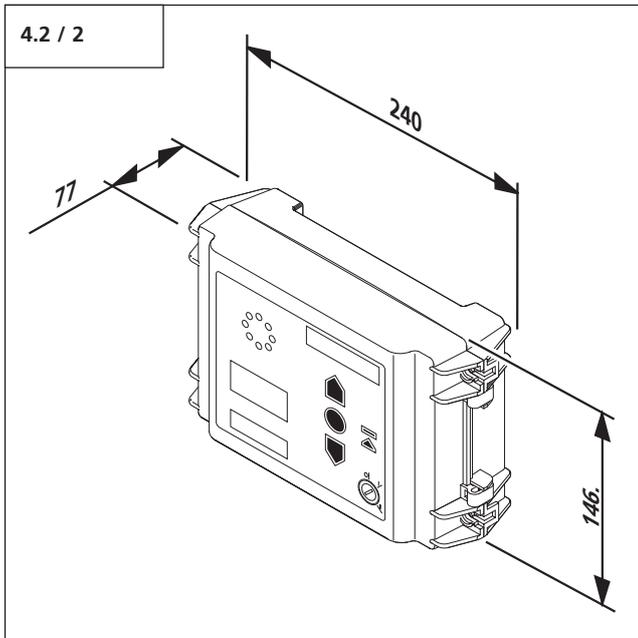
4. Product overview

4.2 Dimensions

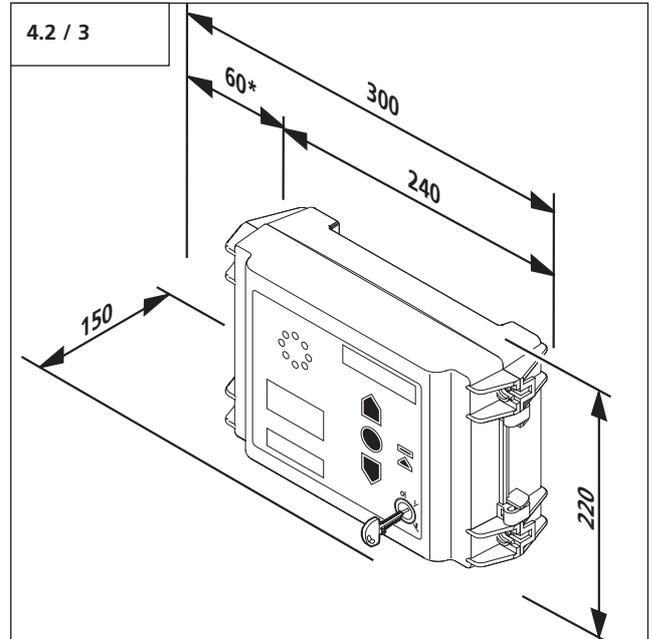
Dynamic xs.plus with emergency hand crank



Control x.plus control unit



Space required for Control x.plus control unit



* Opening side

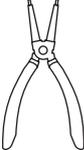
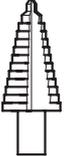
5. Preparation for mounting

5.1 General notes

The pictures in these instructions are not true-to-scale.
Dimensions are always given in millimetres (mm)!

The illustrations in these instructions show the installation on the inner right hand side, for a door with normal fittings.

For correct mounting you will need the following tools:

5.1 / 1	 16	 2 / 2.5	 2.5
 4			
	 *	 ø 4 - 20	

* Grease

5. Preparation for mounting

5.2 Checks



Attention!

In order to guarantee correct mounting, carry out the following checks before installing.

Supply package

- Check the package to ensure that all the parts are included.
- Check that you have all the additional components that are necessary for your particular installation requirements.

Door system



Attention!

The operator system cannot be disengaged from the outside. A separate entrance must be available in order to gain access to the garage in the event of a malfunction.



Reference:

The relevant instructions must be observed when mounting the operator at the door.

The door must be properly installed and must have been checked to ensure that it functions correctly.

- Ensure that a suitable mains connection and a mains disconnection facility are available for your door system.
- Determine on which side of the door system the operator system should be mounted.
- Check to ensure that there is sufficient space to mount the operator system.



Reference:

When using and installing accessories, always observe the specific instructions included with the equipment.

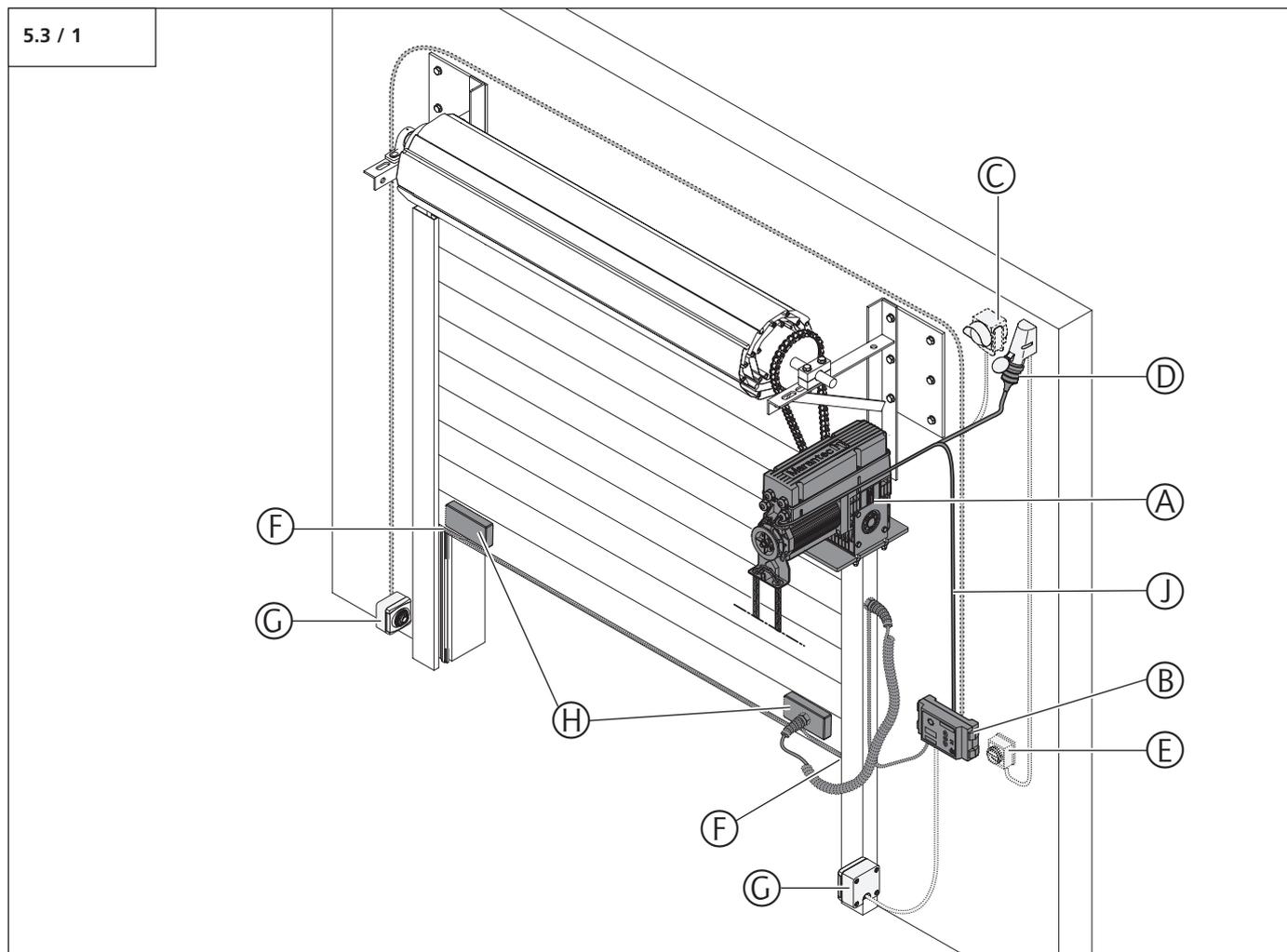
5. Preparation for mounting

5.3 Cabling layout



Advice:

This is just an example of a cabling layout; the layout can vary according to the type of door and the associated equipment.



- A Dynamic xs.plus motor unit
- B Control x.plus control unit
- C Signalling device (e.g. signal light)
- D Mains connection
Useable length:
 - 1.8 m (400 V)
 - 1.8 m (230 V)

- E Mains isolator switch
- F Optosensors
- G Photocell barrier
- H Housing, connection unit
- I Cable loom, motor unit - control unit



Reference:

The relevant installation instructions must be observed when mounting and connecting door sensors, control elements and signalling devices.

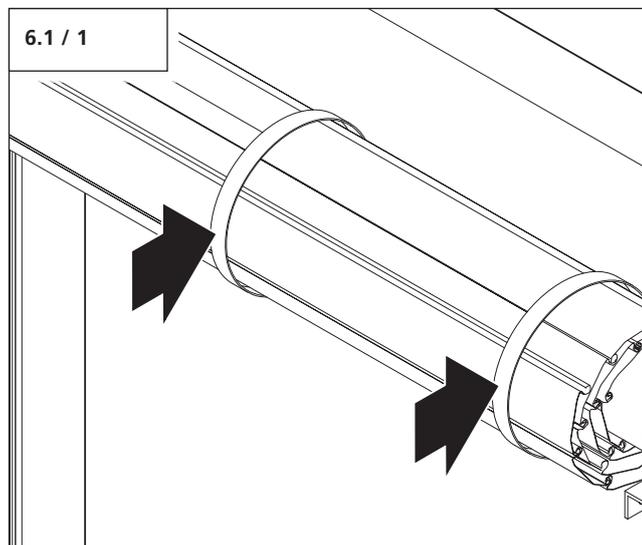
6. Installation

6.1 Preparing the door



Caution!

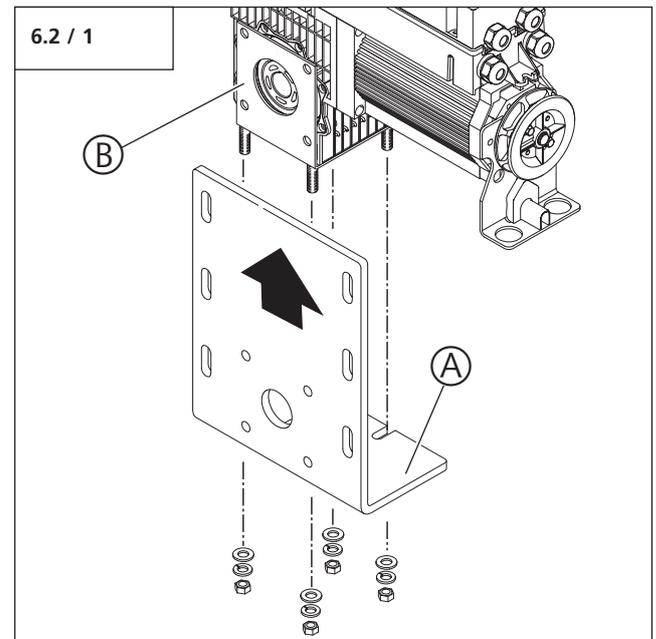
- To prevent falls, the installation works must be carried out from a safe standing position. A lifting platform or scaffold can be used.
- To avoid injury, the door curtain must be secured for the duration of the installation works to prevent it from rolling off or turning over.



- Secure the door curtain.

6.2 Assembling the motor unit console

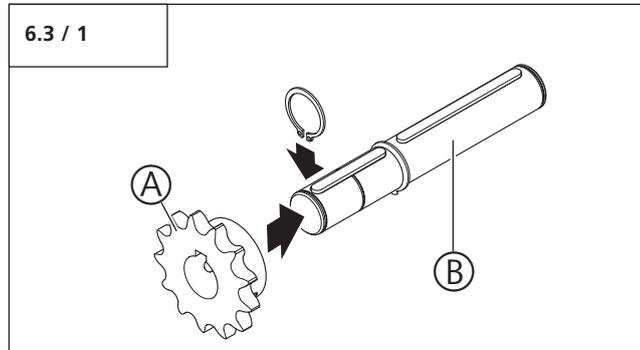
Different types of console (A) can be used depending on the type of gate.



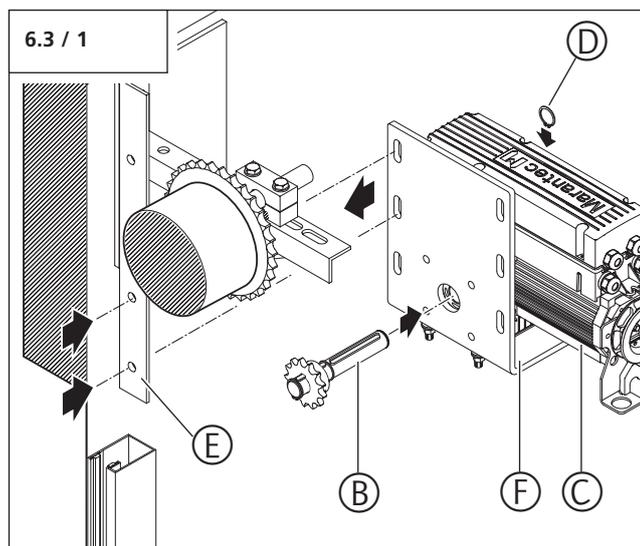
- Screw the motor unit console (A) to the motor unit (B).

6. Installation

6.3 Installing the motor unit at the door



- Fit the sprocket (A) to the drive shaft assembly (B).



- Push the drive shaft assembly (B) into the motor unit (C).
- Secure the drive shaft assembly (A) with the securing ring (D).
- Mount the motor unit on the gate console (E).



Advice:

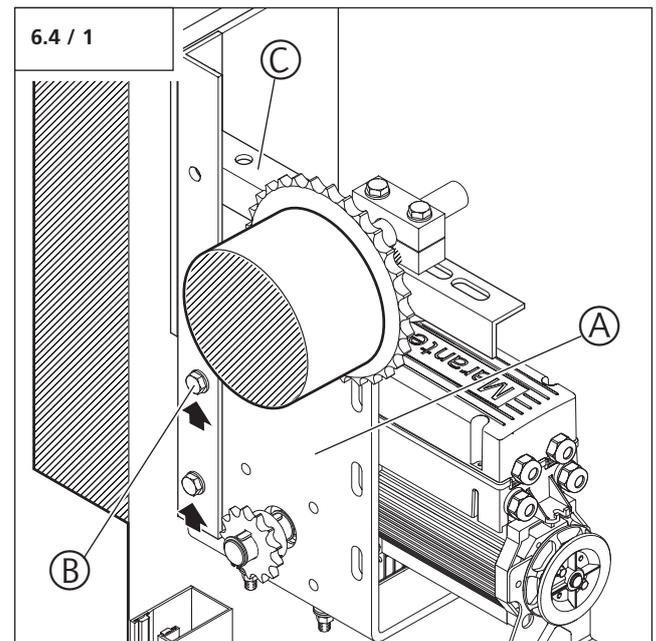
The connection of the motor unit console (F) to the gate console (E) is dependent on the types of console used (E + F).

6.4 Installing the drive chain



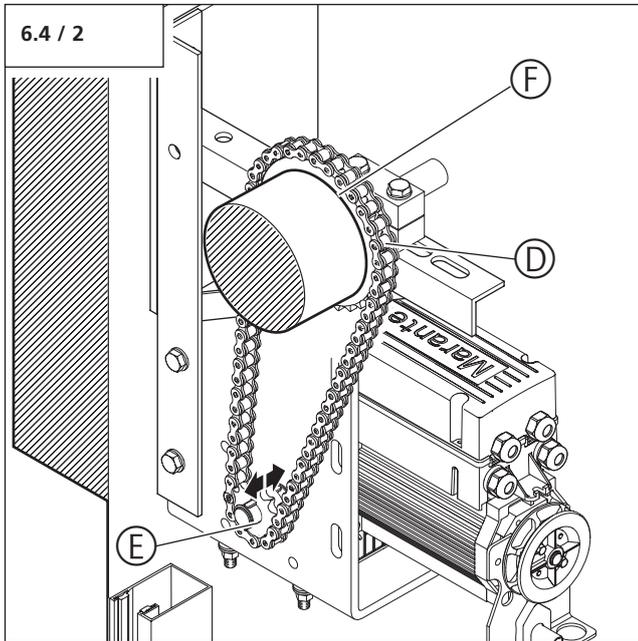
Attention!

To prevent the motor unit from falling, the screws (B) may only be slightly loosened.

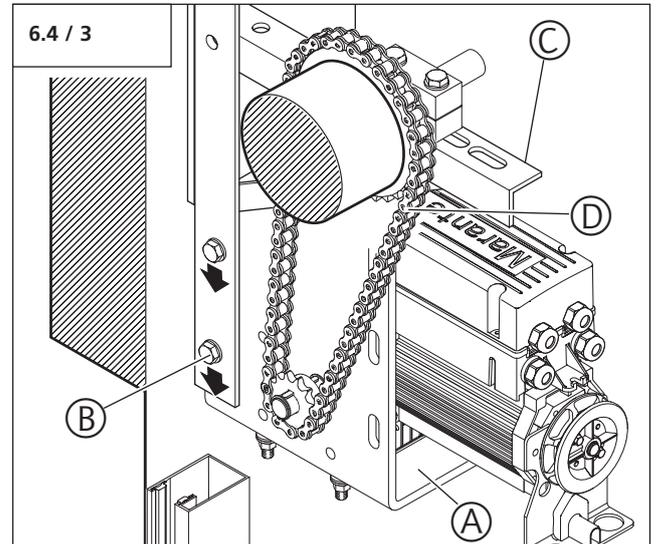


- Loosen the screws (B) connecting the motor unit console (A) with the door console (C).
- Push up the console with the motor unit (A) as far as possible.
- Tighten the screws (B) again.

6. Installation



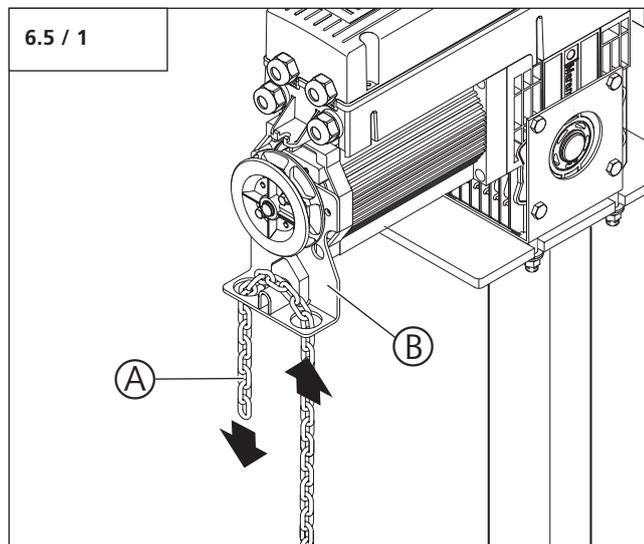
- Place the drive chain (D) around the two sprockets (E+F).
- Adjust the length of the drive chain (D).
- Close the drive chain (D).
- Align the motor unit sprocket (E) so that it stands vertically under the door sprocket (F).
- Tighten the two screws at the motor unit sprocket (E).



- Loosen the screws (B) connecting the motor unit console (A) with the door console (C).
- Lower the console with the motor unit (A) until the drive chain (D) has adequate tension.
- Tighten the screws (B) again.

6. Installation

6.5 Installing the emergency hand chain



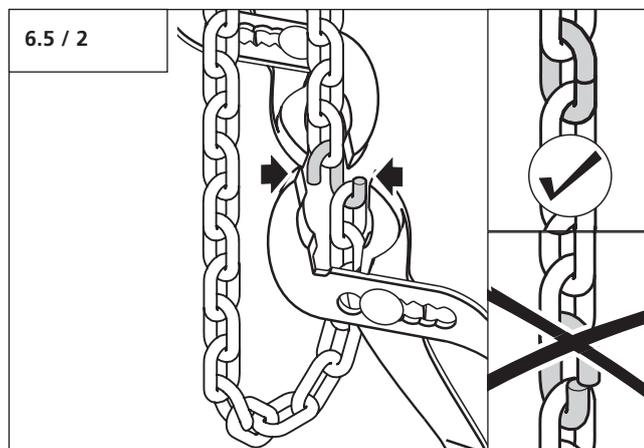
- Pull the emergency hand chain (A) through the entry on the motor unit (B).



Attention!

To ensure that the emergency operation facility functions properly, the following conditions must be ensured:

- The ends of the emergency hand chain must be joined together.
- The edges of the connecting link must be exactly aligned with each other when closed.
- The emergency hand chain should not be twisted.

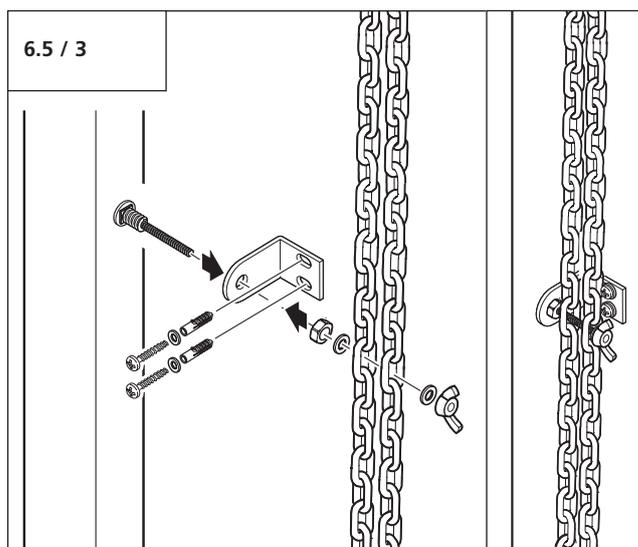


- Join the ends of the emergency hand chain together with the chain connecting link.



Attention!

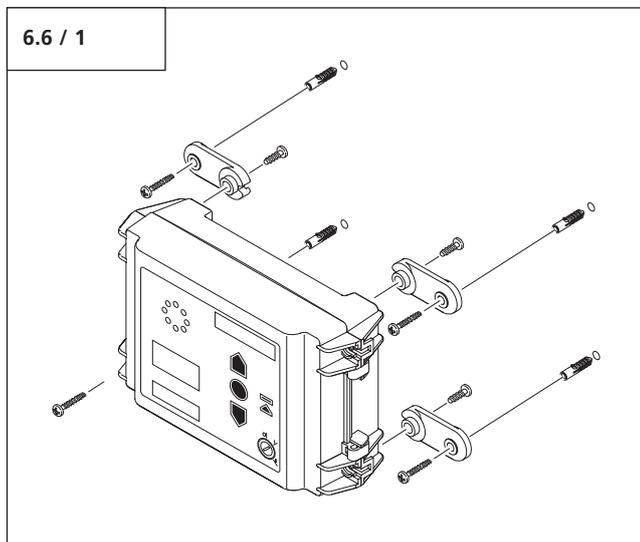
The emergency hand chain must be secured to prevent it from being caught in the door mechanism when the door is operated.



- Fix the bracket to the wall.
- Fix the securing assembly to the bracket.
- Secure the emergency hand chain.

6. Installation

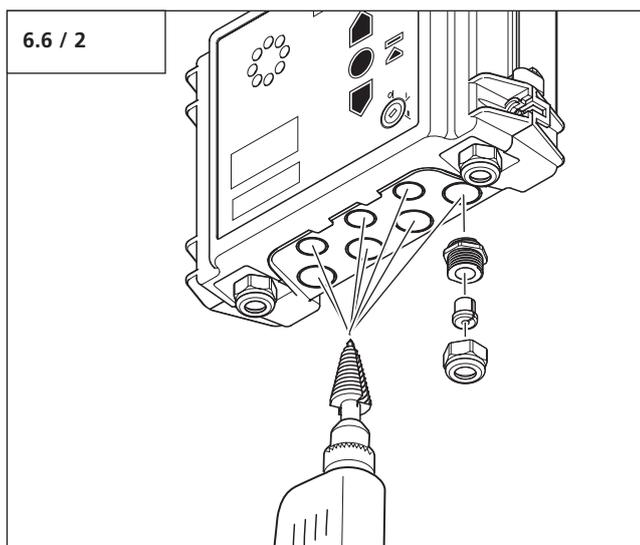
6.6 Mounting the Control x.plus control unit



- Mount the Control x.plus control unit on the same side as the motor unit.

Creating further cable inlets

It is only necessary to create further cable inlets if additional systems are to be connected to the control unit.



- Using a step drill, open up the corresponding cable inlet.
- Close the inlet using the corresponding screw fitting.

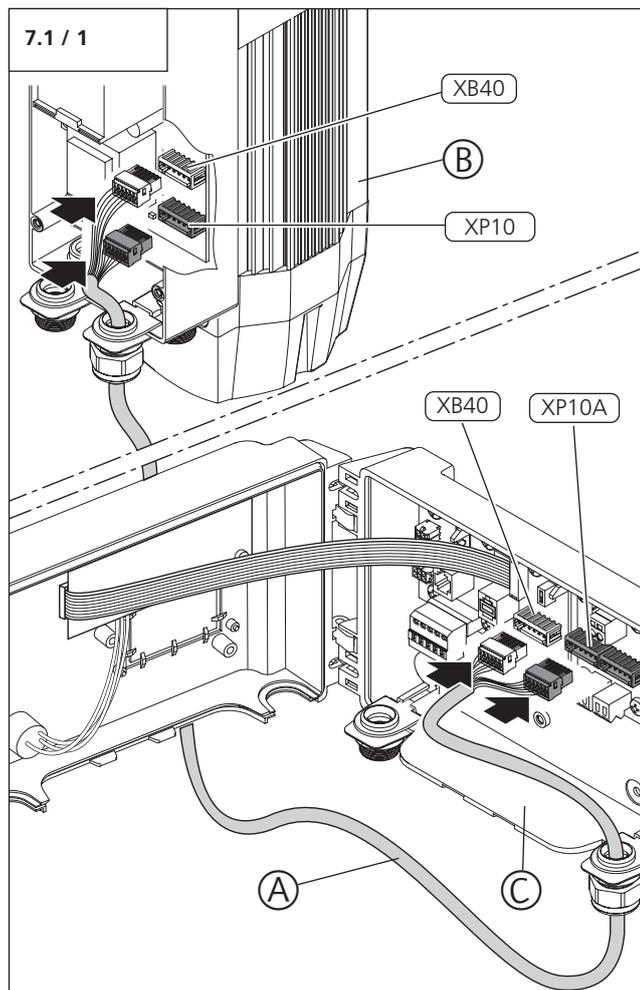
7. Initial operation

7.1 Cabling for the drive system



Attention!

To ensure that the system functions properly, the plugs of the motor cable loom (A) must be inserted in the designated sockets in the motor unit (B) and in the control unit (C).



Motor unit	Connection	Control unit
XB40 (white plug)	<--->	XB40 (white plug)
XP10 (blue plug)	<--->	XP10A (blue plug)



Reference:

The motor unit cabling is described in Section 7.2.
The control unit cabling is described in Section 7.3.

7.2 Motor unit cabling

7.2.1 Preparation



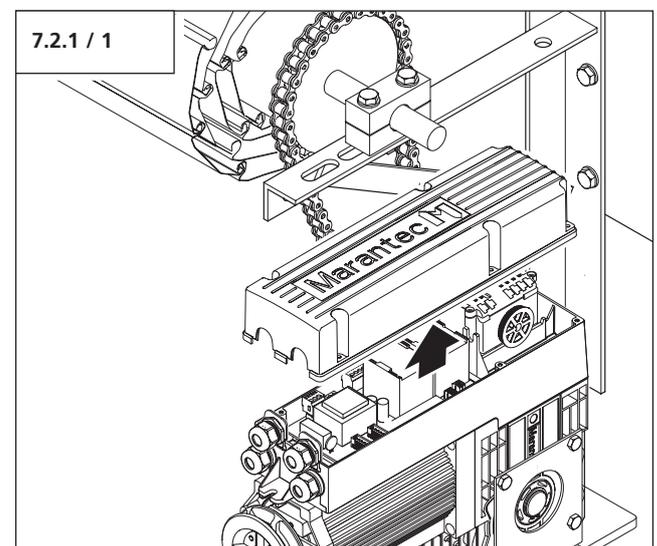
Caution!

Danger of electric shock:
Before cabling works commence, a check must be carried out to ensure that the cables are at zero voltage. Measures must be taken to ensure that the cables remain dead for the duration of the works (e.g. prevent the power supply from being switched back on).



Attention!

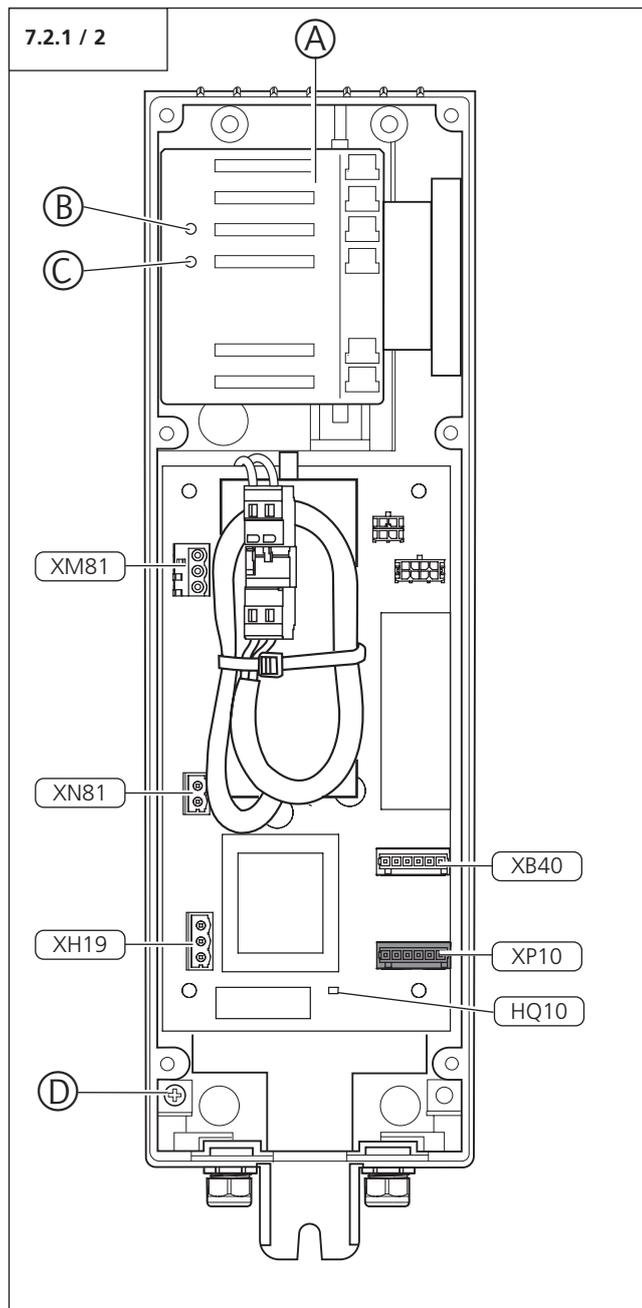
- To avoid damage, it is essential that the following points be observed:
 - The local protection regulations are to be complied with at all times.
 - The mains cables and control cables MUST be laid separately.
- To maintain the specified protection category of the operating system, the cables must be fitted with the correct gaskets.



- Loosen the screws on the housing cover.
- Remove the housing cover.

7. Initial operation

Control unit Control x.base single-phase model

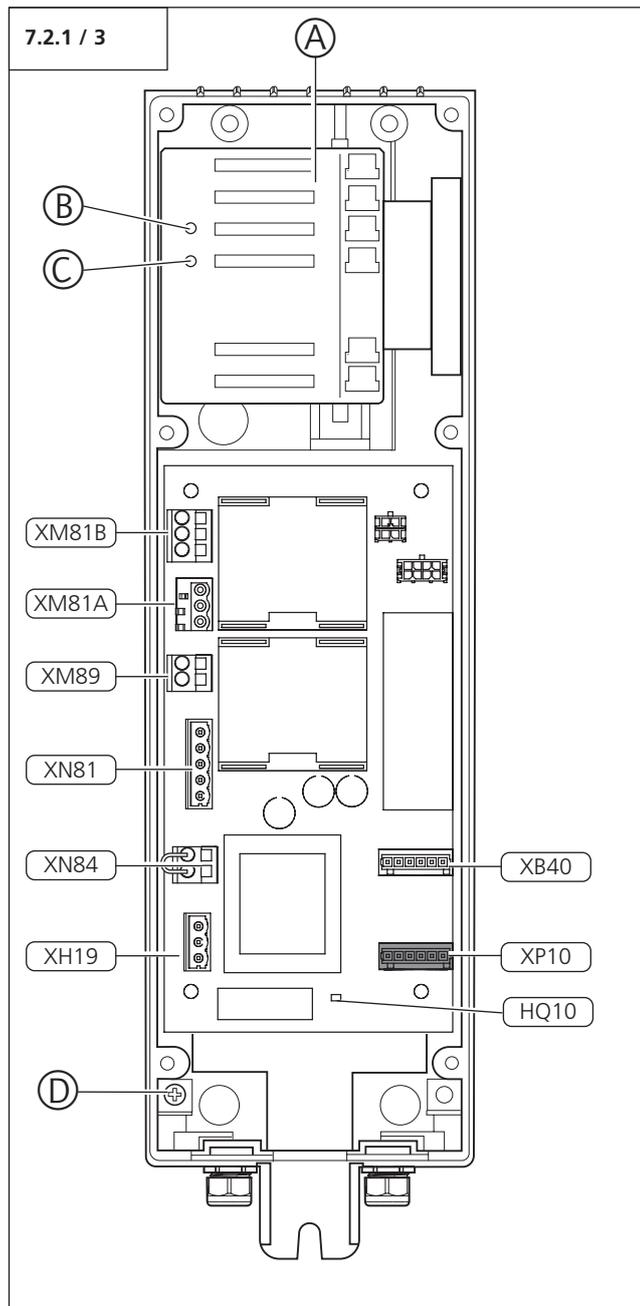


Label	Type / function	
A	Positioning box (EPM)	–
B	EPM stand-by mode indicator (LED off)	–
C	Operating indicator (EPM)	–
D	PE connection	7.4
HQ10	Operating voltage indicator for operator system	7.4 / 1
XB40	Connection of Control x.plus control unit	7.2.2
XH19	Connection of signalling device Programmable relay output	7.2.4 9.4
XM81	Connection of motor	7.4
XN81	Connection of mains cable	7.4
XP10	For connection of door sensors (safety circuit SC)	7.2.3

EPM: Electronic Positioning Module

7. Initial operation

Control unit Control x.base 3-phase model



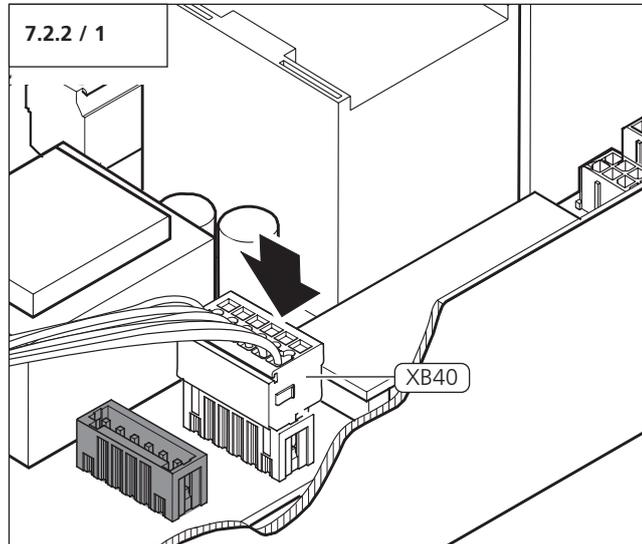
Label	Type / function	
A	Positioning box (EPM)	-
B	EPM stand-by mode indicator (LED off)	-
C	Operating indicator (EPM)	-
D	PE connection	7.4
HQ10	Operating voltage indicator for operator system	7.4 / 1
XB40	Connection of Control x.plus control unit	7.2.2
XH19	Connection of signalling devices Programmable relay output	7.2.4 9.4
XM81A	Connection of motor	7.4
XM81B	Connection of motor, delta mode	7.4.3
XM89	Connection of brake	-
XN84	Connection of external transformer	-
XN81	Connection of mains cable	7.4
XP10	For connection of door sensors (safety circuit SC)	7.2.3

EPM: Electronic Positioning Module

XN84: Supplied from factory with shorting jumper.
If this terminal is used, the shorting jumper must be removed.

7. Initial operation

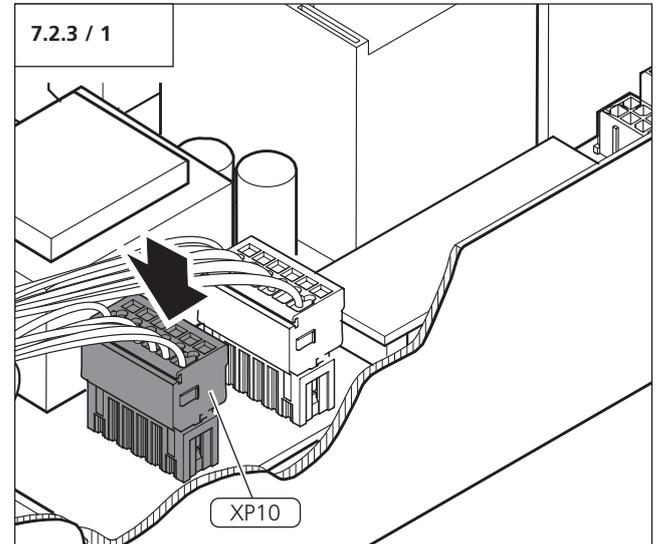
7.2.2 Connection of Control x.plus control unit (XB40)



- Insert the plug of the cable loom into terminal XB40 (white plug).

Terminal	Configuration (12 leads)	Configuration (6 leads)
B4	Blue lead	White lead
b	Red lead	Brown lead
c	Black lead	Green lead
d	Violet lead	Yellow lead
e	Grey/pink lead	Grey lead
f	Red/blue lead	Pink lead

7.2.3 Connecting safety devices (XP10)



- Insert the plug of the cable loom into terminal XP10 (blue plug).

Terminal	Configuration
P1	White lead
b	Brown lead
c	Green lead
d	Yellow lead
e	Grey lead
f	Pink lead

All connected and operational safety devices are recognised automatically.



Advice:

A defective or removed safety device must be deactivated.



Reference:

Safety devices are deactivated in the Reset menu (Section 9.4 / Level 1 / Menu 8).

7. Initial operation

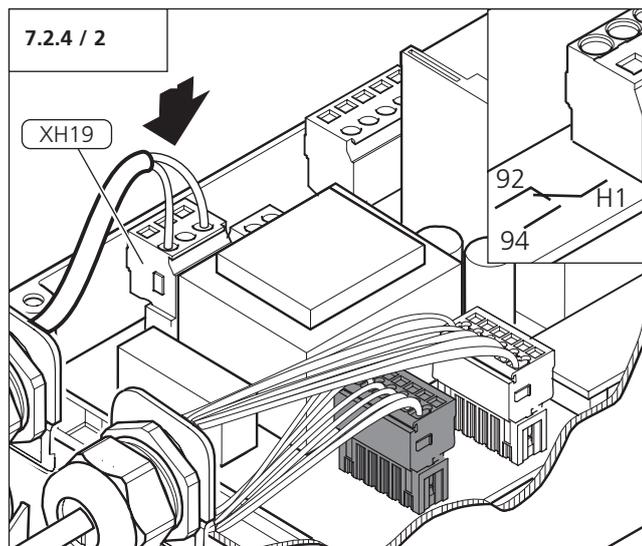
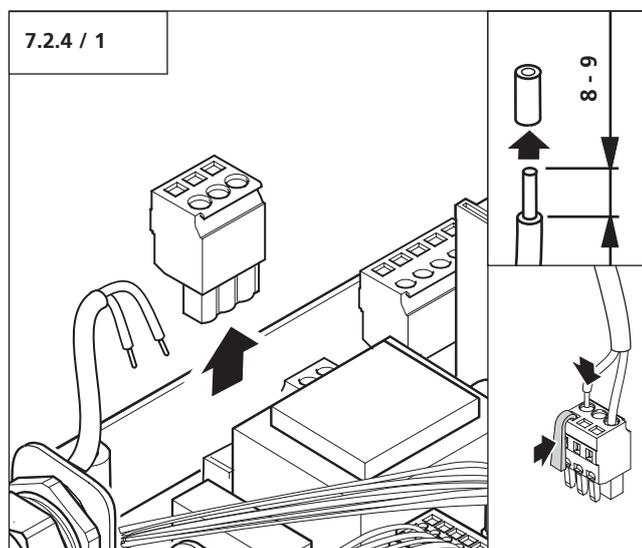
7.2.4 Connection of signal device

Signal lights are not included in the operator system supply package.



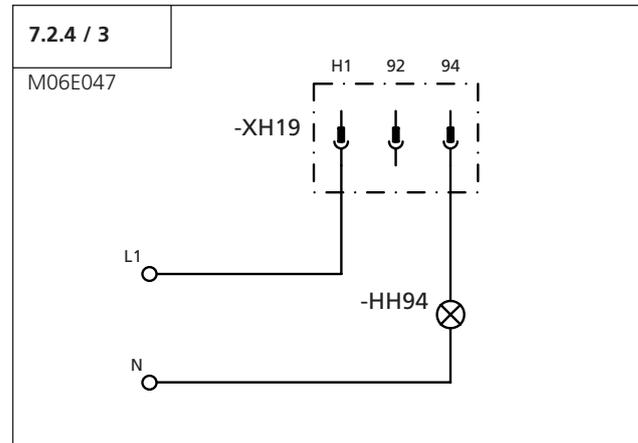
Attention!

To avoid damage being caused to the circuit board, the contact loading (max. 230 V / 2 A) must be observed.



- Insert the plug of the devices to be connected into socket XH19.

Connection for signal light:



Designation	Type / function
HH94	Signal light supplied by customer
XH19	Connection of signalling device

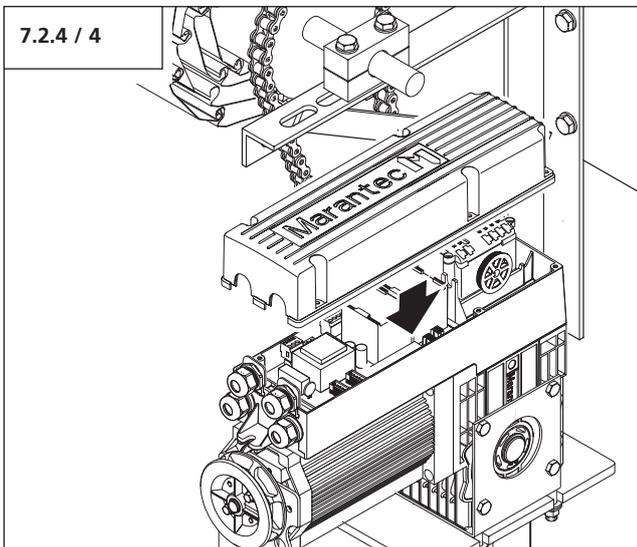
7. Initial operation



Attention!

- To avoid damage to the cabling, care must be taken not to trap the cables when closing the cover.
- To maintain the specified protection category of the operator system:
 - the inlet openings must be fitted with suitable cable gaskets,
 - the cables must lie correctly in the cable inlets.

7.2.4 / 4



- Place the housing cover on the motor unit.
- Screw the housing cover to the motor unit.

7.3 Cabling for the Control x.plus control unit

7.3.1 Preparation



Caution!

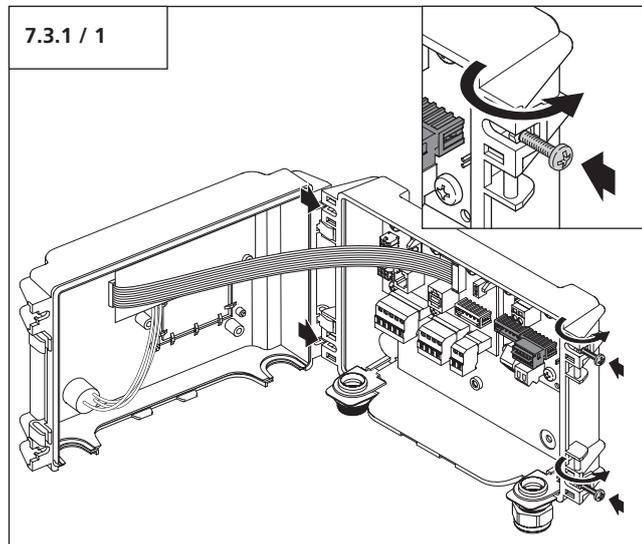
Danger of electric shock:
Before cabling works commence, a check must be carried out to ensure that the cables are at zero voltage. Measures must be taken to ensure that the cables remain dead for the duration of the works (e.g. prevent the power supply from being switched back on).



Attention!

- To avoid damage, it is essential that the following points be observed:
 - The local protection regulations are to be complied with at all times.
 - The mains cables and control cables MUST be laid separately.
- To maintain the specified protection category of the operating system, the cables must be fitted with the correct gaskets.

7. Initial operation

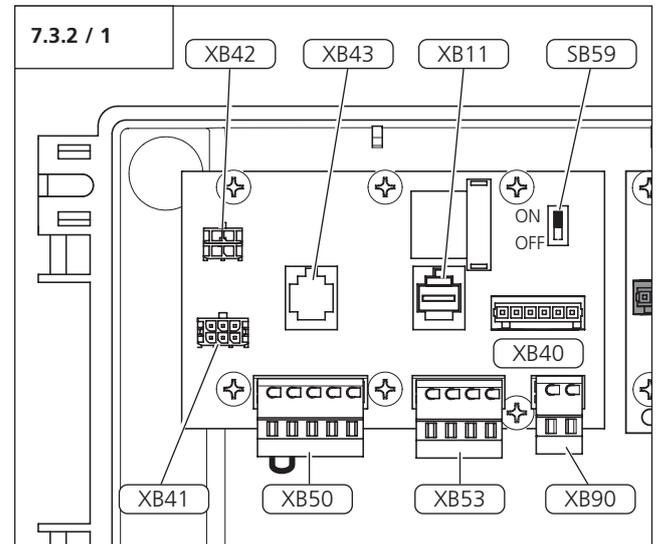


Advice:

The screws need not be removed in order to open the housing cover.

- Loosen all 4 screws on the housing cover.
- Swivel all four screws away from the cover.
- Open the housing cover out to one side.

7.3.2 Terminal board, Control x.plus control unit



Designation	Type / function	
SB59	Programming switch (ON/OFF)	7.8.1 9.1
XB11	For connection of command device	–
XB40	For connection of Control x.plus control unit	7.3.2 / 5
XB41	For connection of expansion modules	–
XB42	For connection of remote transceiver module	–
XB43	For connection of MDS module	–
XB50	For connection of external control elements	7.3.2 / 2
XB53	For connection for closing prevention device	7.3.2 / 3
XB90	For connection of programmable impulse input	7.3.2 / 4

7. Initial operation

MDS Marantec Diagnostic System

XB50 Supplied with shorting jumper in place.
If the STOP terminal is used, the shorting jumper must be removed.

XB11 If terminal XB11 is used, the shorting plug must be removed.

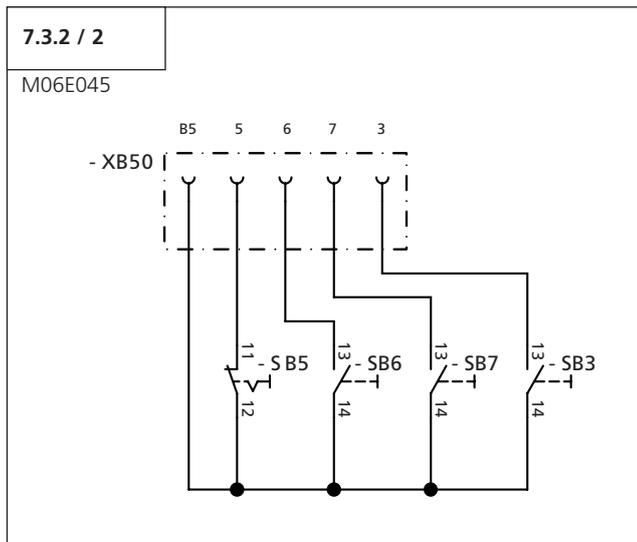


Advice:

Programming can be disabled with switch SB59.

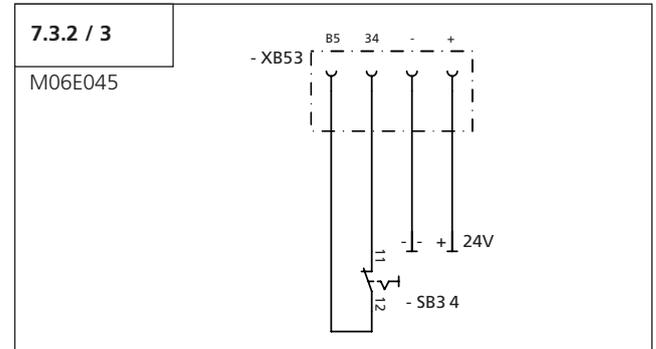
ON Programming enabled
OFF Programming disabled

Connection of external control elements (XB50)



Designation	Type / function
SB3	Operating button for intermediate position OPEN
SB5	Operating button for STOP
SB6	Operating button for OPEN
SB7	Operating button for CLOSE

Connection for closing prevention device (XB53)



Designation	Type / function
24V	+ 24 V DC
-	GND
SB34	Potential-free normally closed contact for closing prevention device



Advice:

- To enable the "automatic closing timer" function to be programmed, one of the following two elements must be connected:
 - a closing prevention device at terminal XB53, or
 - a photocell barrier at terminal XP62A/B.
- If a closing prevention device is connected, it will be recognised when the mains supply is switched on.
- A device that is faulty or has been removed must be deactivated.

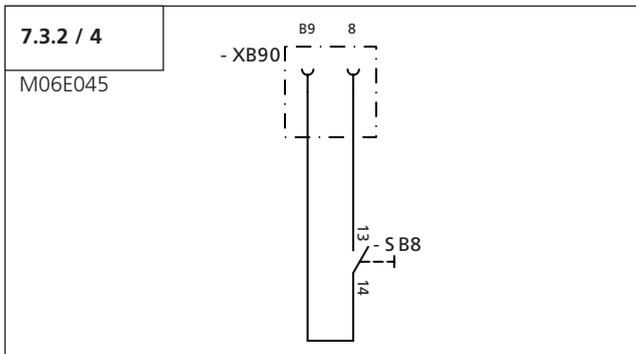


Reference:

Safety devices and closing protection devices are deactivated in the Reset menu (Section 9.4 / Level 1 / Menu 8).

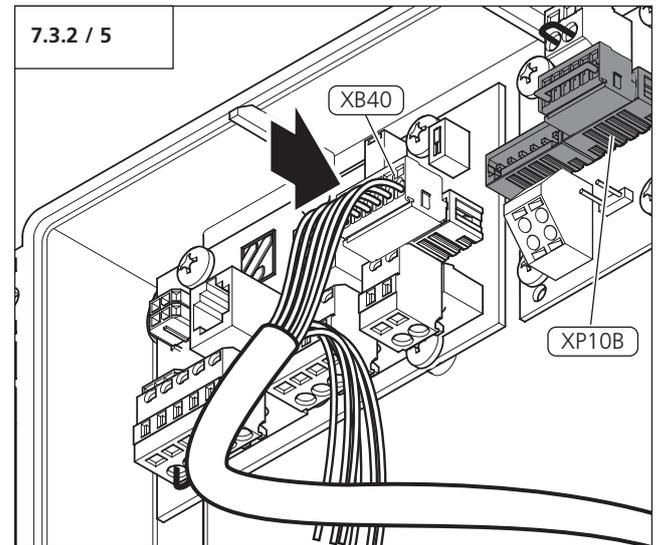
7. Initial operation

For connection of programmable impulse input (XB90)



Designation	Type / function	
SB8	Impulse button (programmable)	9.4 / Level 5 / Menu 1

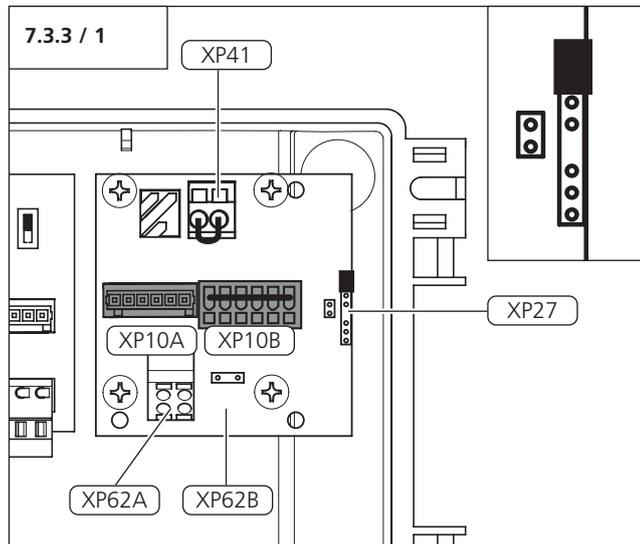
For connection of Dynamic xs.plus motor unit (XB40)



- Insert the plug of the cable loom into the socket XB40 (white plug).
- Insert the 8,2 K Ω plug in the XP10B socket.

7. Initial operation

7.3.3 Terminal board for safety device

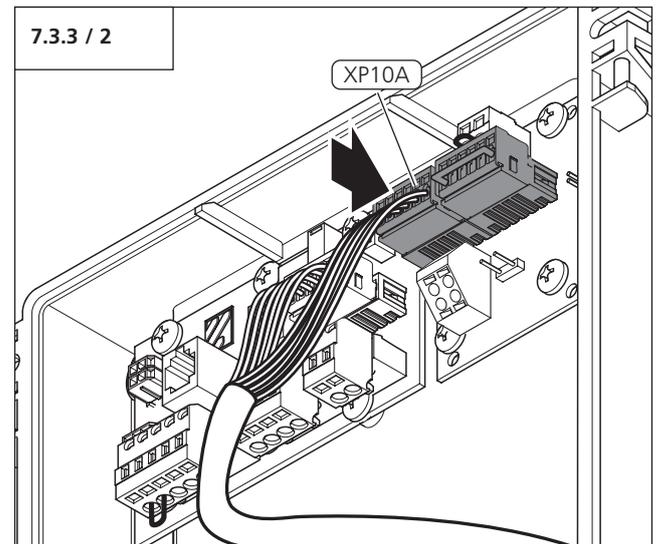


Designation	Type / function	
XP10A	For connection of Control x.plus control unit	7.3.3 / 2
XP10B	For connection of door sensors / Plug (safety circuit SC)	–
XP27	For connection of photocell expander circuit board	–
XP41	For connection of safety circuit, SC	–
XP62A	For connection of first photocell (2-wire design)	7.3.3 / 3
XP62B	For connection of second photocell (2-wire design) (only with photocell expander circuit board)	

XP27 The unit is delivered with the jumper in the position shown.

XP41 Delivered with the shorting jumper in place. If this terminal is used, the shorting jumper must be removed.

Connecting the cable of the safety devices (XP10A)



- Insert the plug of the cable loom into socket XP10A (blue plug).

All connected and operational safety devices are recognised automatically.



Advice:

A defective or removed safety device must be deactivated.



Reference:

Safety devices are deactivated in the Reset menu (Section 9.4 / Level 1 / Menu 8).

7. Initial operation

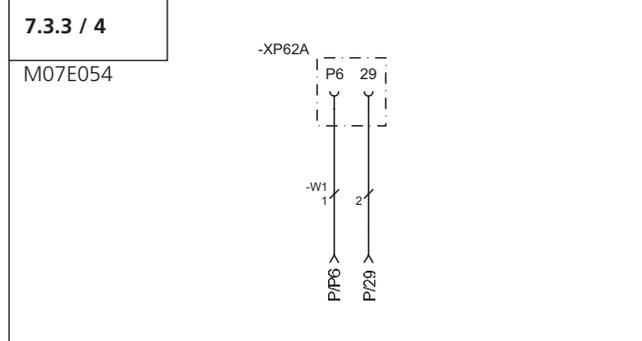
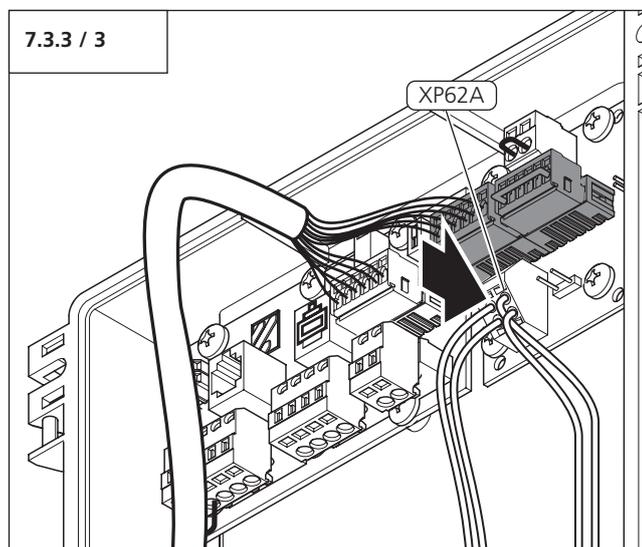
For connection of photocell (XP62A)

For the connection of further systems it may be necessary to extend the number of cable inlets in the control unit.



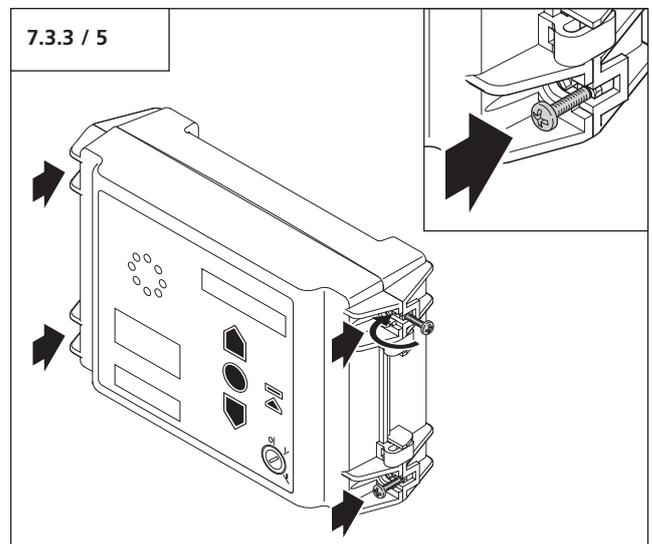
Reference:

Increasing the number of the cable inlets is described in Section 6.8.



Attention!

- To avoid damage to the cabling, care must be taken not to trap the cables when closing the cover.
- To maintain the specified protection category of the operator system
 - the inlet openings must be fitted with suitable cable gaskets,
 - the cables must lie correctly in the inlets.



- Close the housing cover.
- Swivel all four screws into place above the housing cover.
- Screw the housing cover tight.

7. Initial operation

7.4 Connecting the power supply



Caution!

Danger of electric shock:
Before cabling works commence, a check must be carried out to ensure that the cables are at zero voltage. Measures must be taken to ensure that the cables remain dead for the duration of the works (e.g. prevent the power supply from being switched back on).



Attention!

To guarantee correct operation of the operator system,

- the system must be connected to a technically sound power supply network that is protected with a 16 A fuse;
- the voltage and frequency must correspond to those specified on the identification plate of the operator;
- for the 3-phase motor model, a clockwise rotating field must be provided right up to the connection of the controls;
- if fixed cabling is used, an all-pole main switch must be used.

- Connect the mains plug of the operator system to an available mains socket near the door.



Advice:

For an unprogrammed control unit (first time installation), the start display for express programming is shown.



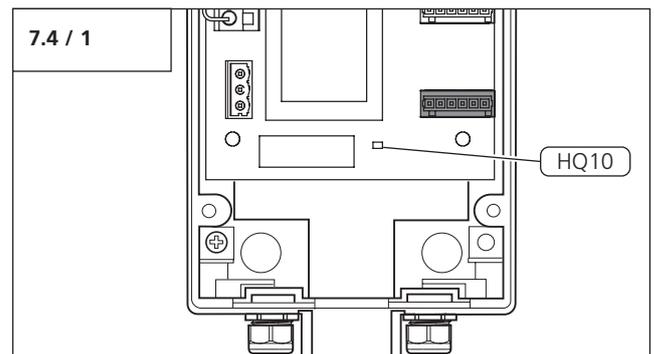
Reference:

Express programming is described in Section 7.8.



Check:

When the controls are supplied by the mains voltage, the indicator HQ10 should light up green.



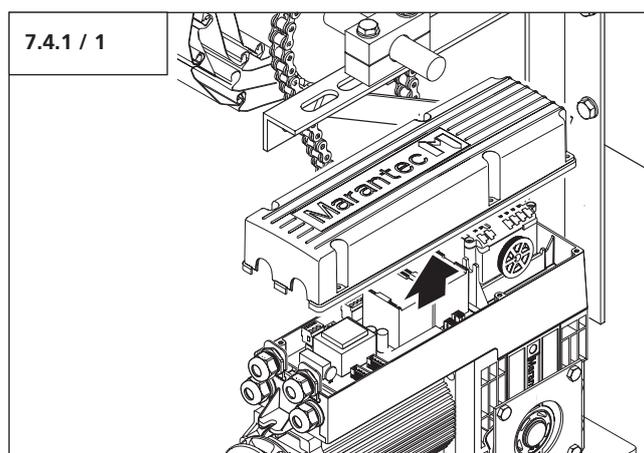
Advice:

A fixed connection must be made if a higher protection category is required on site than can be provided by a mains plug connection. The motor unit must conform to the requirements of the protection category.

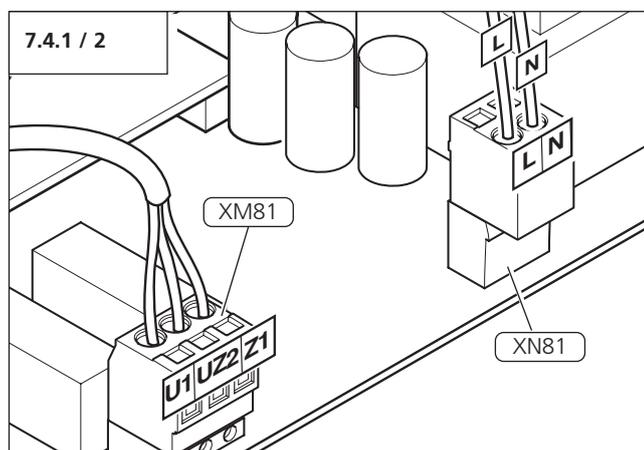
7. Initial operation

7.4.1 1N~, 230 V connection

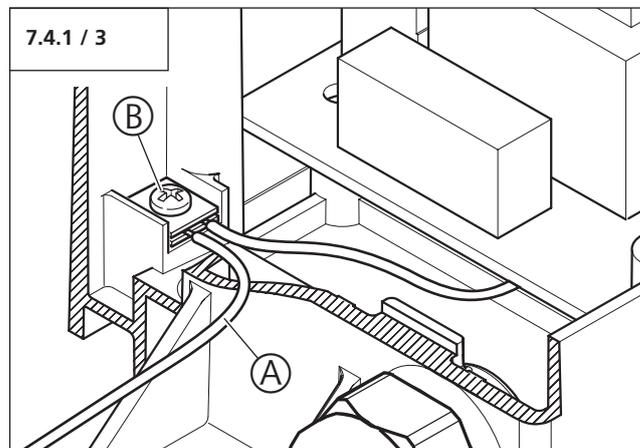
Terminal block XN81 is pre-cabled when delivered. The leads at terminal block XN81 need only be changed if the plug-in connection is replaced or if the controls are to be connected directly to the power supply network (fixed cabling).



- Open the operator control.



- Connect the leads to terminal block XN81.

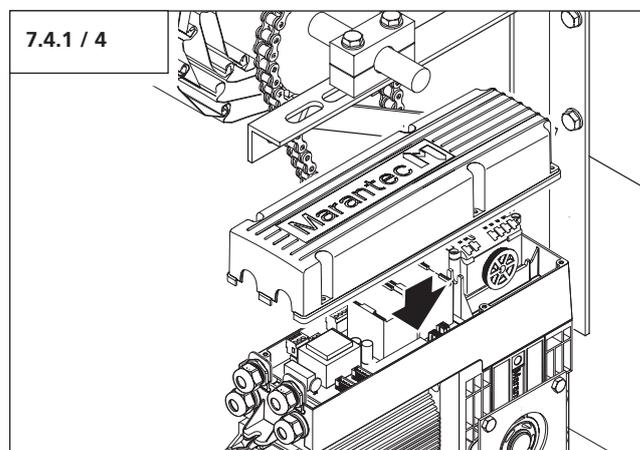


- Connect the PE (protective earth) lead (A) of the power supply network to the PE connection (B) of the motor unit.
- Check to ensure that the leads are screwed tightly in place.



Attention!

- To avoid damage to the cabling, care must be taken not to trap the cables when closing the cover.
- To maintain the specified protection category of the operator system
 - the inlet openings must be fitted with suitable cable gaskets,
 - the cables must lie correctly in the inlets.

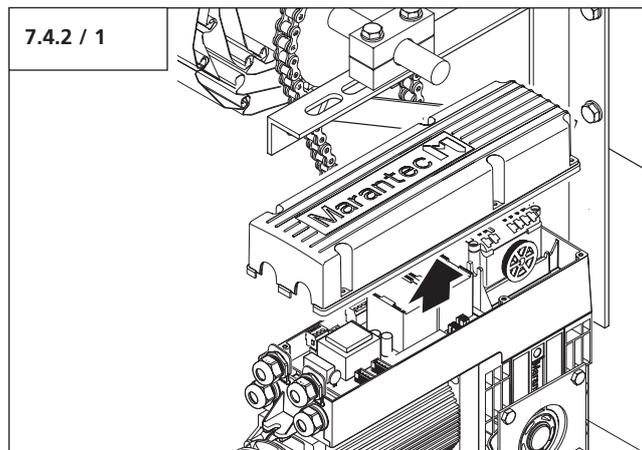


- Close the control unit.

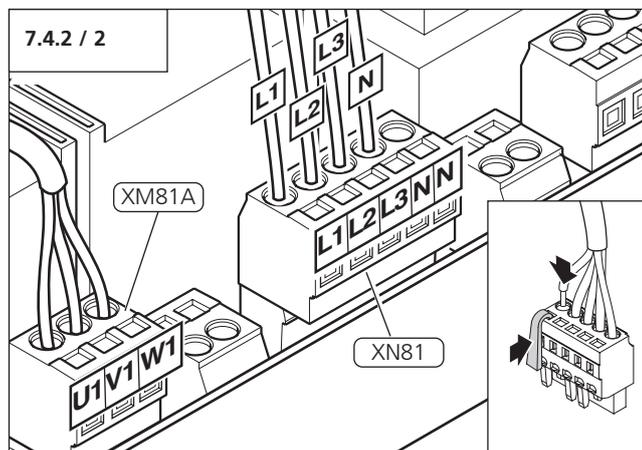
7. Initial operation

7.4.2 3N~, 400 V connection

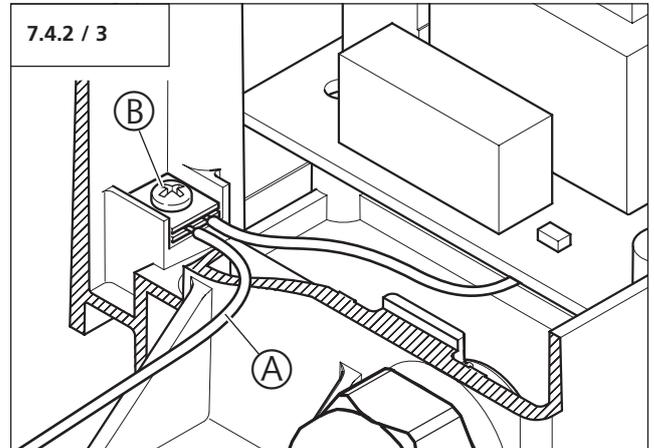
Terminal block XN81 is pre-cabled when delivered. The leads at terminal block XN81 need only be changed if the plug-in connection is replaced or if the controls are to be connected directly to the power supply network (fixed cabling).



- Open the operator control.



- Connect the leads to terminal block XN81.

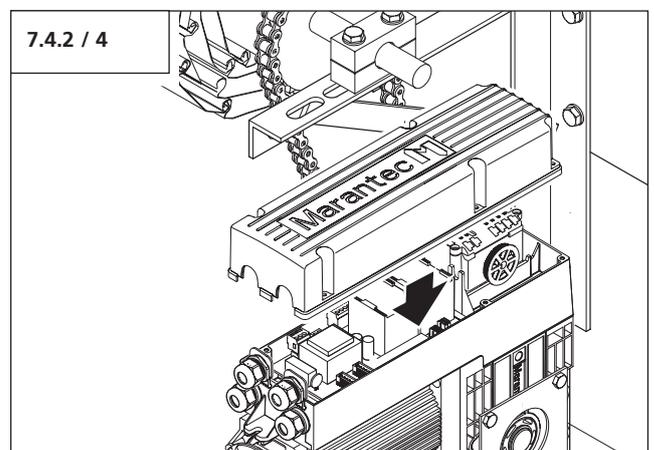


- Connect the PE (protective earth) lead (A) of the power supply network to the PE connection (B) of the motor unit.
- Check to ensure that the leads are screwed tightly in place.



Attention!

- To avoid damage to the cabling, care must be taken not to trap the cables when closing the cover.
- To maintain the specified protection category of the operator system
 - the inlet openings must be fitted with suitable cable gaskets,
 - the cables must lie correctly in the inlets.



- Close the control unit.

7. Initial operation

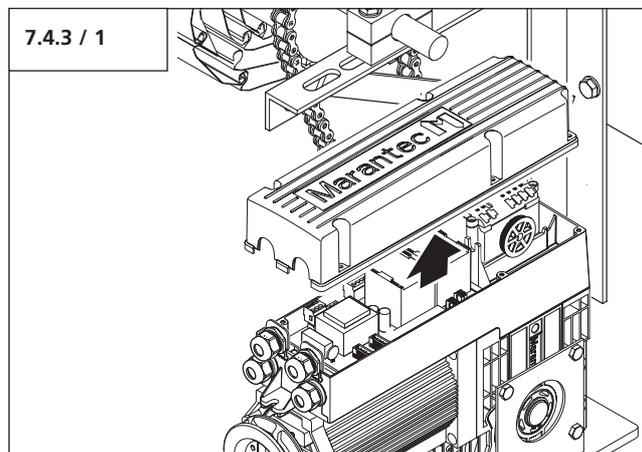
7.4.3 3~, 230 V connection



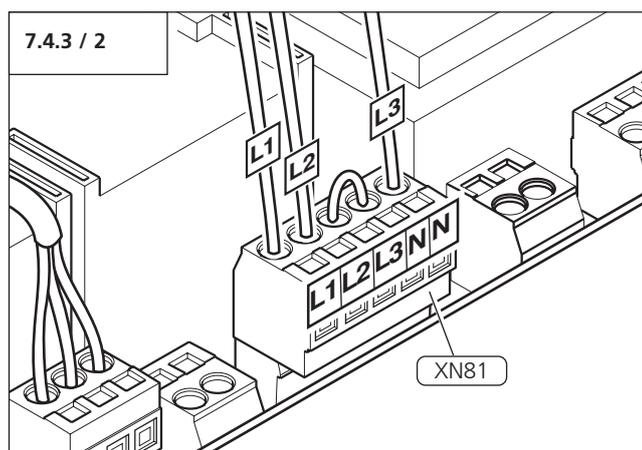
Attention!

To avoid damage to the motor unit, the cabling may only be changed if a 3-phase AC power supply with a phase voltage of 230 V is available on site.

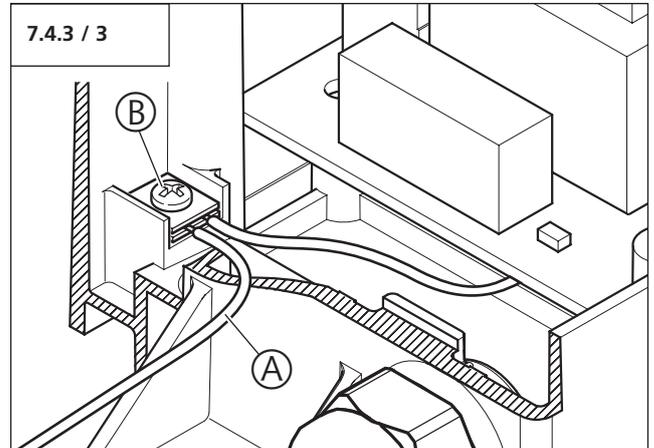
The star connection (400 V) of the motor unit can be changed to a delta connection (230 V) by rearranging the leads.



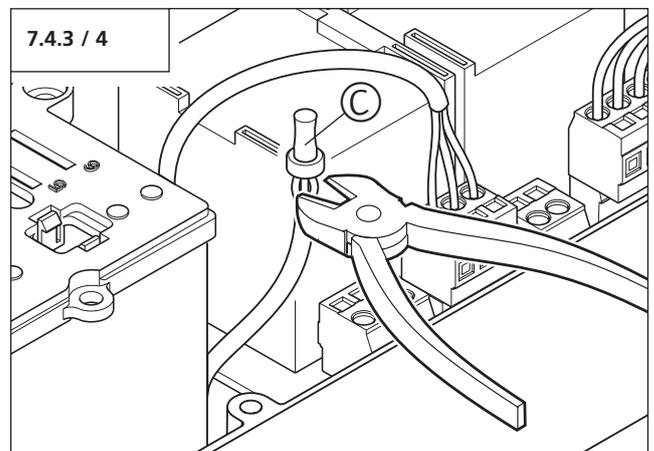
- Open the operator control.



- Connect the three phases to terminal block XN81.
- Place a wire jumper between terminal L3 and terminal N.



- Connect the PE (protective earth) lead (A) of the power supply network to the PE connection (B) of the motor unit.
- Check to ensure that the leads are screwed tightly in place.



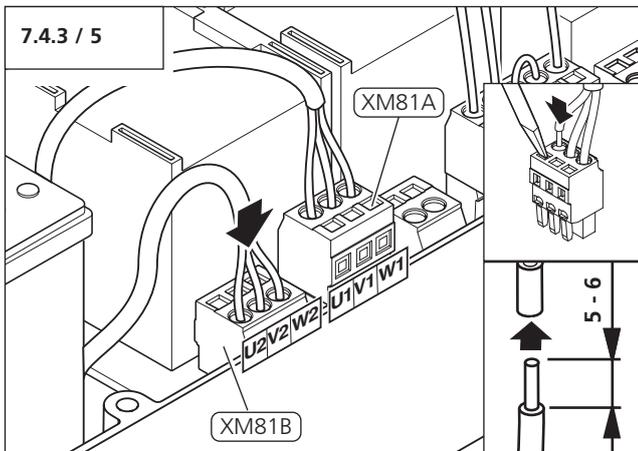
- Cut off the crimp sleeve (C).

7. Initial operation



Attention!

To guarantee correct operation, the order of the coloured leads at terminal block XM81B must be the same as the order of the coloured leads connected to terminal block XM81A.

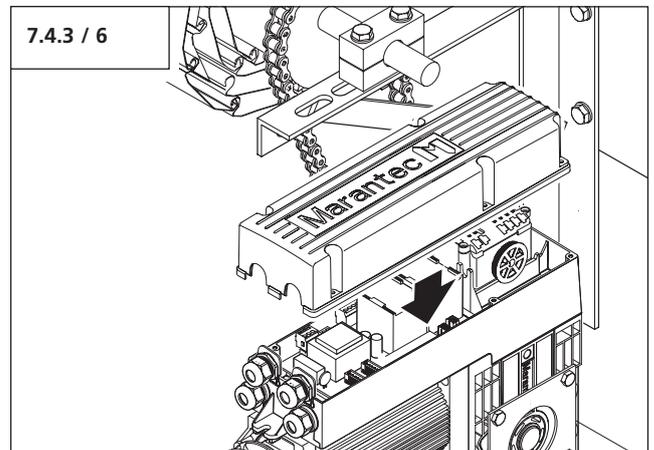


- Strip the casing from the ends of the leads.
- Insert the leads in terminal block XM81B.



Attention!

- To avoid damage to the cabling, care must be taken not to trap the cables when closing the cover.
- To maintain the specified protection category of the operator system
 - the inlet openings must be fitted with suitable cable gaskets,
 - the cables must lie correctly in the inlets.



- Close the control unit.

7. Initial operation

7.5 Check the rotational direction



Attention!

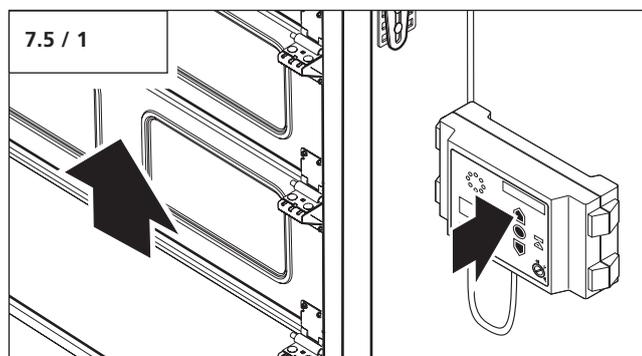
Before the OPEN and CLOSED door positions have been set, the door can be moved electrically beyond these door positions, which could lead to the door being damaged. In order to check that the operation is correct for the 3-phase version, a clockwise rotating field must be provided right up to the connection of the controls.



Reference:

The connection of the mains supply is described in Section 7.4. The emergency operation is described in Section 8.2.

- Using the emergency operation facility, move the door approx. 50 cm from its mechanical end position.



- Press the OPEN button on the control unit.

The door moves in the OPEN direction.

The rotational direction is correct.

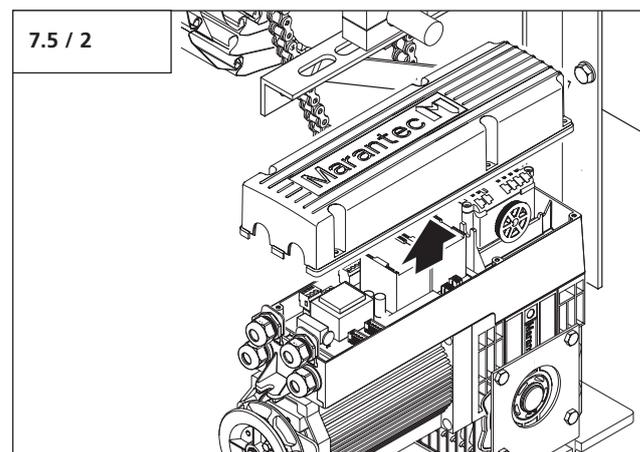
The door moves in the CLOSE direction.

The lead arrangement at the motor connection must be altered.



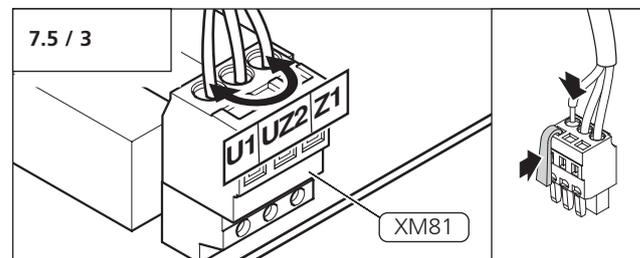
Caution!

Danger of electric shock: Before cabling works commence, a check must be carried out to ensure that the cables are at zero voltage. Measures must be taken to ensure that the cables remain dead for the duration of the works (e.g. prevent the power supply from being switched back on).



- Open the operator control.

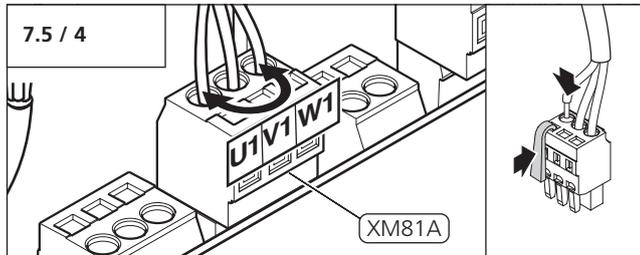
1N~, 230 V connection



- At the motor connection (XM81), swap lead (U1) with lead (Z1).

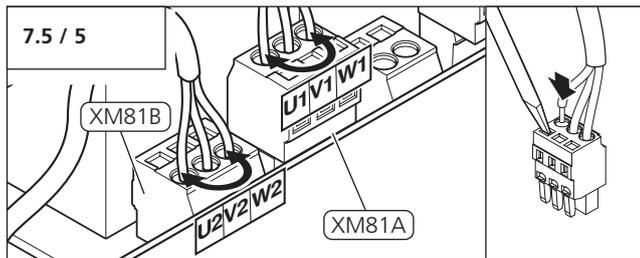
7. Initial operation

3N~, 400 V connection

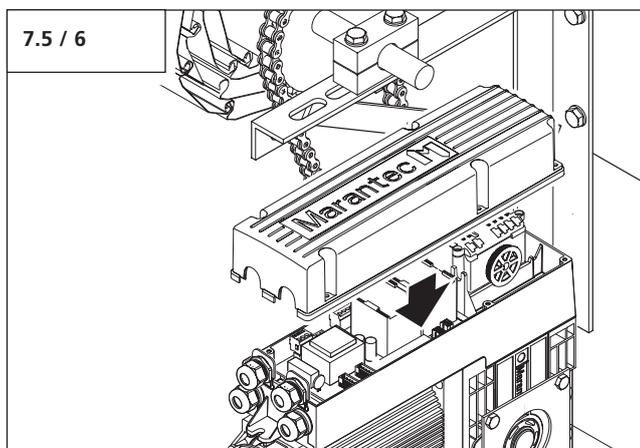


- At the motor connection (XM81A), swap lead (U1) with lead (W1).

3~, 230 V connection

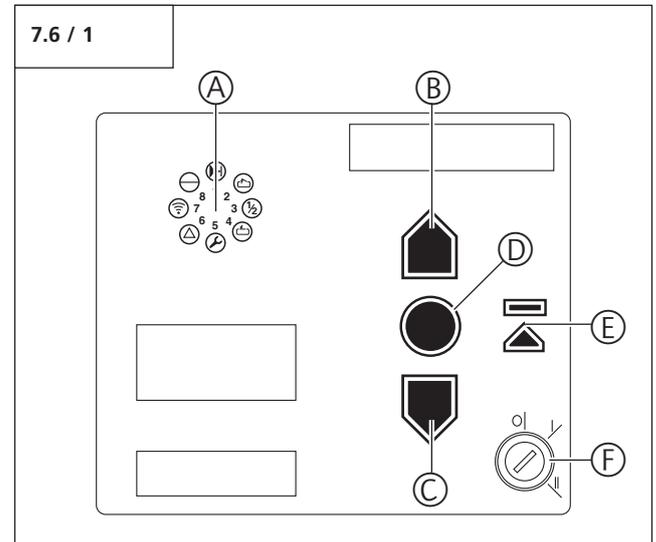


- At the motor connection (XM81A) swap lead (U1) with lead (W1).
- At the motor connection (XM81B) swap lead (U2) with lead (W2).



- Close the control unit.

7.6 Overview of the Control x.plus control unit



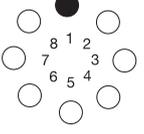
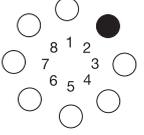
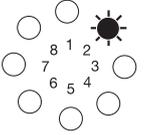
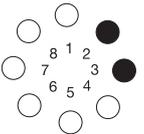
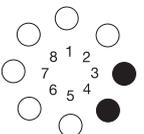
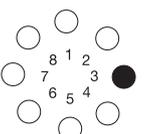
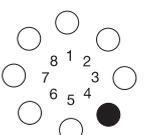
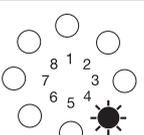
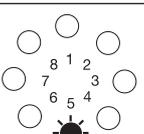
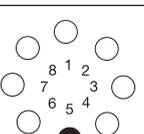
Operating elements

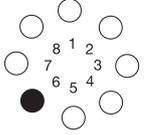
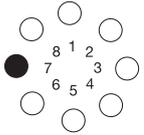
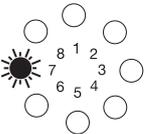
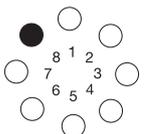
Label	Type / function	
A	Carousel display	7.7
B	OPEN button (+) (e.g. to drive the door to the OPEN position or to increase parameters in the programming mode)	-
C	CLOSE button (-) (e.g. to drive the door to the CLOSED position or to decrease parameters in the programming mode)	-
D	STOP button (P) (e.g. to switch to programming mode or to save parameters)	-
E	Intermediate OPEN button (e.g. to drive the door to the intermediate OPEN position, or to close the door from the intermediate OPEN position)	-
F	Key switch 0 = Locked I = Control x.plus control unit ready for operation II = Keypad on cover disabled	-

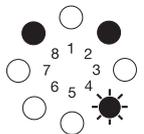
7. Initial operation

7.7 Overview of the display functions

LED displays in operating mode

	Status of safety devices
	Door in door position: OPEN
	The door moves in the OPEN direction. or Start-up warning is active
	Intermediate OPEN position
	Intermediate CLOSE position
	Door in intermediate position
	Door in door CLOSED position
	The door moves in the CLOSE direction or Start-up warning or warning period is active
	Reference point (flashes as the reference point is passed)
	Maintenance

	Safety circuit, motor unit
	Command unit activated
	Remote control activated
	Ready for operation

	Example: The door is at the OPEN position. It starts to move towards the CLOSED position as soon as the warning period / start-up warning expires.
--	---

Legend:

LED off	
LED on	
LED flashes slowly	
LED pulses	
LED flashes quickly	
Factory default setting	
Not possible	-

7. Initial operation

7.8 Express programming

7.8.1 General notes on express programming

**Advice:**

For proper initial operation of the operator system, the express programming procedure must be carried out. This applies for initial operation and after a reset.

The basic functions of the operator system are set during the express programming procedure.

- Door OPEN position
- Door CLOSED position
- Remote control

The programming procedure is a consecutive process. It is essential that this procedure be carried out.

Preconditions

The following conditions must be assured before express programming can commence:

- the door must be in the CLOSED end position.
- The rotational direction is set correctly.
- The programming switch SB59 is set to ON.

**Advice:**

If the door starts to move towards the CLOSED position when the OPEN button is pressed, the rotational direction must be changed.

**Reference:**

Changing the rotational direction is described in Section 7.5.

Fine adjustment

Fine adjustments are made by pressing the OPEN or CLOSE button for a short time (< 0.5 seconds). The door position adjusts itself by 2 to 7 mm (depending on the type of door fitting) each time a button is pressed in this way. The operator system does not actually move the door during this setting operation.

**Advice:**

If the OPEN button is pressed, LED 1 lights up. If the CLOSE button is pressed, LED 4 lights up. A maximum of 15 impulses in the OPEN direction and 15 impulses in the CLOSE direction can be given without the door being moved.

7.8.2 Programming buttons

The controls are programmed using the OPEN (+), CLOSE (-) and STOP (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 10.

Starting the express programming

**Advice:**

The operator system is already in express programming mode when set in operation for the first time.

The operator system is already in express programming mode when set in operation for the first time.

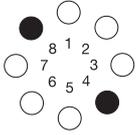
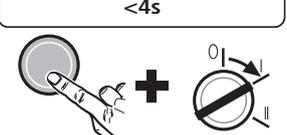
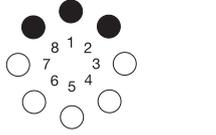
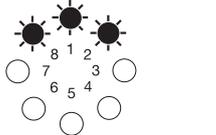
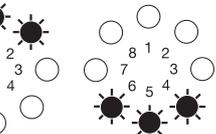
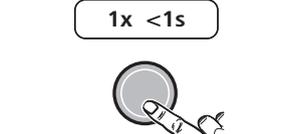
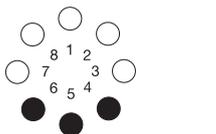
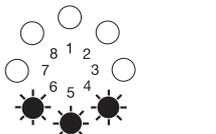
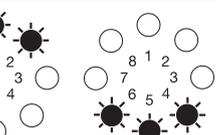
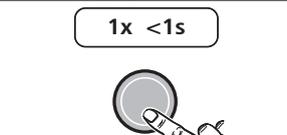
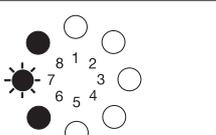
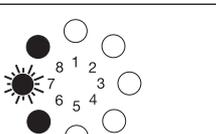
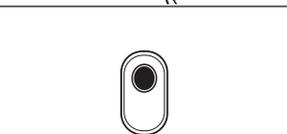
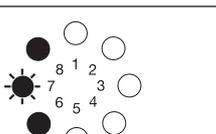
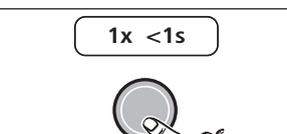
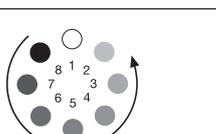
- Turn the key to the "0" position.
- Press the STOP button and keep it pressed.
- Switch the key from position "0" to position "1" within 4 seconds and then release the STOP button.
- Carry out the express programming according to the following procedure.

Legend:

LED off	○
LED on	●
LED flashes slowly	☀
LED pulses	⚙
LED flashes quickly	☀
Factory default setting	
Not possible	-

7. Initial operation

7.8.3 Express programming sequence

 <p>Operating mode</p>		Start express programming / Programme the door OPEN end position	
		Drive the door to the OPEN position	
		Correct the OPEN door position using (+) and (-)	
		Save the OPEN door position / Programme the CLOSED door position	
		Drive the door to the CLOSED position	
		Correct the CLOSED door position using (+) and (-)	
		Save the CLOSED door position / Programme the remote control	
		Press the hand transmitter button	
		Release the hand transmitter button	
		Save the remote control settings / End the express programming procedure	

7. Initial operation

7.9 Check the system

Learning run

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

During this learning run, the drive system determines the maximum push and pull forces and the power required to move the door.

Before completing the installation, the following must be checked to ensure that they function properly and that the settings are correct:

Door position

1.		After pressing the (+) button: The door must open and travel to the saved OPEN end position.
2.		After pressing the (-) button: The door must close and travel to the saved CLOSED end position.
3.		After pressing the button on the hand transmitter: The operator system should move the door towards the OPEN position. If the door is in the OPEN position, it closes.

Door sensors

- Cause each door sensor in turn to respond.



Check:

Check the door sensors with reference to the corresponding operating instructions. LED 1 lights up when a safety device is activated.

Signal device

- Check that the signal device functions correctly.

Emergency operation



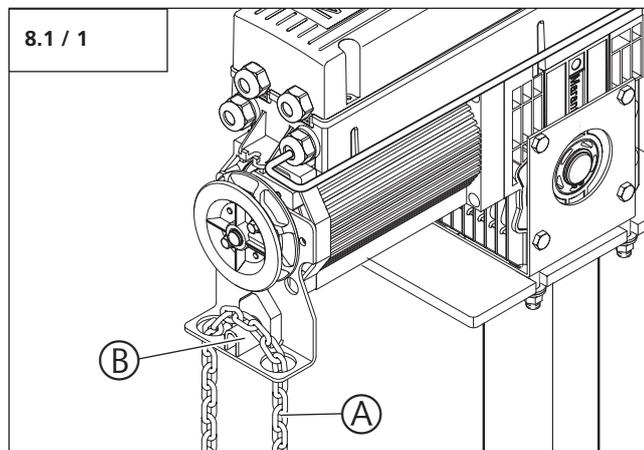
Reference:

The emergency operation facility is described in Section 8.2.

- Check that the emergency operation facility functions properly.

8. Operation

8.1 Standard operation

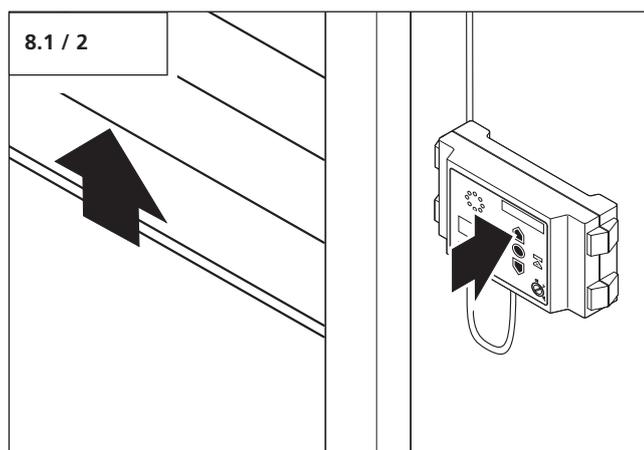


Advice:

The door can only be moved electrically if the emergency hand chain (A) is lying on top of the switch (B), pressing it down.

- Turn the key on the Control x.plus control unit to Position 1.

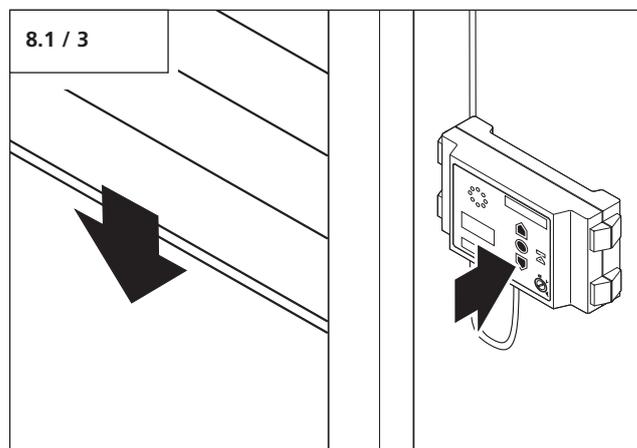
Drive the door in the OPEN direction



- Press the OPEN button on the Control x.plus control unit.

The door stops automatically when it reaches the door OPEN position.

Drive the door in the CLOSE direction



- Press the CLOSE button on the Control x.plus control unit.

The door stops automatically when it reaches the door CLOSED position.

8. Operation

8.2 Emergency operation

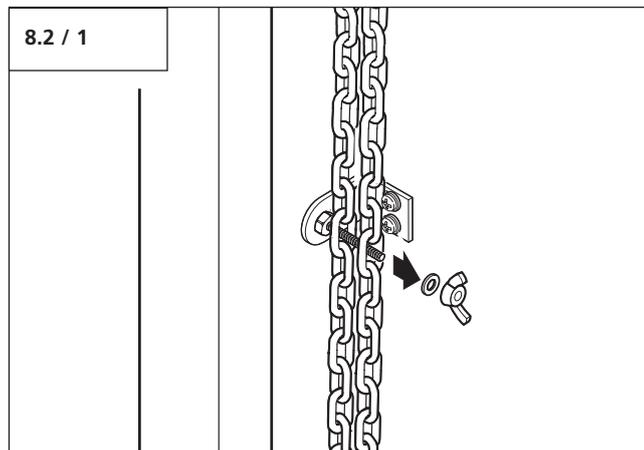


Caution!

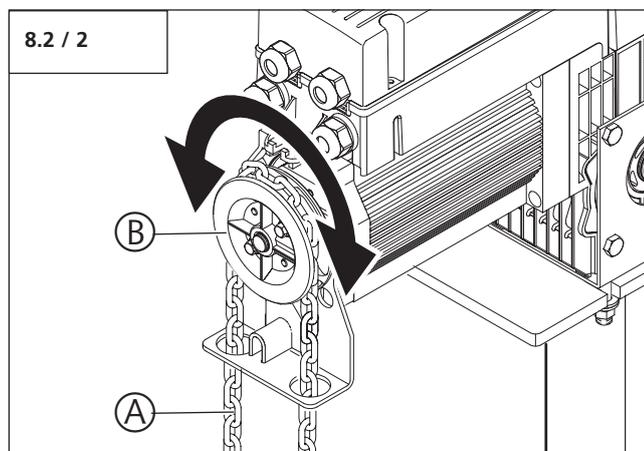
To avoid injury:

- Emergency operation may only be carried out from a safe standing position.
- The motor unit must be at zero voltage, i.e. disconnected from the power supply.

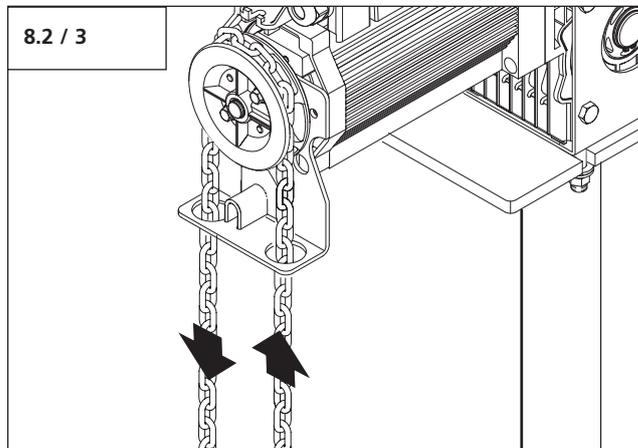
In the case of an electrical fault, the door can be moved in the OPEN or CLOSE directions using the emergency operation facility.



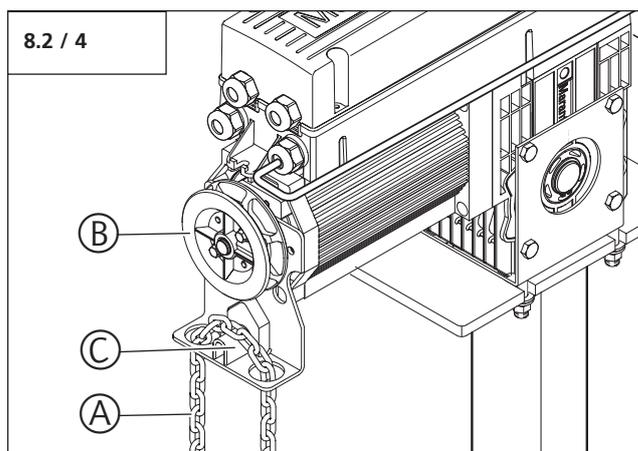
- Release the emergency hand chain from the securing assembly.



- Place the emergency hand chain (A) on the guide wheel (B).



- Move the door in the OPEN or CLOSE direction by pulling on the emergency hand chain.



- Remove the emergency hand chain (A) from the guide wheel (B).
- Place the emergency hand chain (A) on the switch (C).
- Secure the emergency hand chain with the securing assembly after use.



Advice:

The door can only be moved electrically if the emergency hand chain (A) is lying on the switch (C), pressing it down.

9. Extended operator functions

9.1 General notes on extended operator functions

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



Caution!

Important factory default settings can be changed using the extended functions.
All the parameters must be set correctly to avoid damage to persons or property.



Advice:

To enable the programming procedure to be carried out, the programming switch SB59 must be set to ON.

Start programming

Before programming the extended operator functions, the key switch must be set to position "2".

- Press the STOP button and keep it pressed.
- Switch the key switch from position "2" to position "1" within 4 seconds and then release the STOP button.

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 STOP button (P). The controls then switch to operating mode.
2. By pressing the STOP 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 9.3).
- The messages are explained in Section 10.

9. Extended operator functions

9.3 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	Signal light
	Menu 8: RESET	No reset
Level 2 – Operator settings	Menu 1: Required driving power OPEN	Setting 14
	Menu 2: Required driving power CLOSE	Setting 14
	Menu 3: Automatic cut-out OPEN	Setting 9
	Menu 4: Automatic cut-out CLOSE	Setting 9
Level 3 – Automatic closing timer	Menu 1: Automatic closing timer	Deactivated
	Menu 5: Start-up warning	Off
	Menu 7: Signal light	Door movement / Warning: flashes Door stoppage: lights up
Level 4 – Remote programming	Menu 2: Intermediate position OPEN	–
	Menu 3: Intermediate position CLOSE	–
	Menu 4: OPEN	–
	Menu 5: CLOSE	–
Level 5 – Special function	Menu 1: Programmable impulse input	Impulse
Level 7 - Servicing and maintenance	Menu 1: Door cycle counter	–
	Menu 2: Maintenance counter	–
	Menu 3: Set the maintenance interval	OFF
	Menu 8: Reset servicing and maintenance	No reset

9. Extended operator functions

Level	Menu	Factory default setting
Level 8 – System settings	Menu 1: Photocell	Door reverses completely (OPEN/CLOSE)
	Menu 2: Closing edge safety device	Door reverses a little (OPEN/CLOSE)
	Menu 3: Automatic cut-out	Door stops (OPEN) Door reverses a little (CLOSE)
	Menu 4: Operating modes	Press-and-release (OPEN/CLOSE)
	Menu 5: Function of the direction command transmitters	STOP only
	Menu 6: Function of the impulse command transmitters	STOP only, followed by standard sequence

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

9. Extended operator functions

9.4 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																
	A7	B7	C7	D7	E7	F7	-	-	-	-	-	-	-	-	-	-
Menu 8: RESET																
	A8	B8	C8	D8	E8	F8	-	-	-	-	-	-	-	-	-	-



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 drive system must be driven once to the OPEN and CLOSED door positions.



Reference:

The function of the signal light (A7) can be adjusted in level 3, menu 7.

Menu 7: Relay output

A7	Signal light	D7	Intermediate position OPEN
B7	Door position OPEN	E7	Intermediate position CLOSED
C7	Door CLOSED position	F7	Motor starts (wiping impulse – 1 second)

Menu 8: Reset

A8	No reset	E8	Reset extended operator functions only (except door OPEN/CLOSED positions and remote control impulse) *
B8	Reset control unit *	F8	Reset safety devices *
C8	Reset remote control		
D8	Reset extension module, automatic closing timer / two-way traffic control		

* All connected and operational safety devices are recognised automatically after resetting.

9. Extended operator functions

Level 2 – Operator settings																
	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*)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Menu 2: Required driving power CLOSE (sensitivity in increments*)																
	1	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	–

9. Extended operator functions

Level 3 - Automatic closing timer																
	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 5: Start-up warning (in seconds)																
	OFF	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 Menu 5.

Legend:	
LED off	○
LED on	●
LED flashes slowly	
LED pulses	
LED flashes quickly	
Factory default setting	
Not possible	-

9. Extended operator functions

Menu 1: Automatic closing timer

Setting	Door open duration	Warning time	Automatic closing timer	other functions
A1	-	-	deactivated	-
B1	15	5	activated	Renewal (restart) of the door open duration after the photocell barrier has been driven past
C1	30	5	activated	
D1	60	8	activated	
E1	15	5	activated	Interruption of the door 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	Door movement / Warning	Door 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.

9. Extended operator functions

Level 4 – Remote programming	
	
Menu 2: Intermediate OPEN position	
	LED 7 flashes slowly -> press the hand transmitter button -> LED 7 flashes quickly
Menu 3: Intermediate CLOSE position	
	LED 7 flashes slowly -> press the hand transmitter button -> LED 7 flashes quickly
Menu 4: OPEN	
	LED 7 flashes slowly -> press the hand transmitter button -> LED 7 flashes quickly
Menu 5: CLOSE	
	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																
	A1	B1	C1	-	-	-	-	-	-	-	-	-	-	-	-	-

Menu 1: Programmable impulse input

- A1 Impulse (normally open contact only)
- B1 Automatic on/off (normally open contact only)
- C1 Intermediate CLOSE position (normally open contact only)

Legend:	
LED off	
LED on	
LED flashes slowly	
LED pulses	
LED flashes quickly	
Factory default setting	
Not possible	-

9. Extended operator functions

Level 7 - Servicing and maintenance																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Menu 1: Door cycle counter																
	A1	B1	C1	D1	E1	F1	-	-	-	-	-	-	-	-	-	-
Menu 2: Maintenance counter																
	A2	B2	C2	D2	E2	-	-	-	-	-	-	-	-	-	-	-
Menu 3: Set the maintenance interval																
	A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3	L3	M3	N3	O3	P3
Menu 8: Reset servicing and maintenance																
	A8	B8	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Portrayal of the number of operations:									
0	1	2	3	4	5	6	7	8	9

Menu 1: Door cycle counter

The door cycle counter of the controls displays the number of cycles here as a six-digit number (up to 999,999).

The display function is illustrated in the flow chart below.

The number of operations is shown as 1s, 10s, 100s, etc.

Pressing the (+) or (-) button displays the next or the previous digit of the number of operations.

- A1 Number of operations – number of hundreds of thousands
- B1 Number of operations – number of tens of thousands
- C1 Number of operations – number of thousands
- D1 Number of operations – number of hundreds
- E1 Number of operations – number of tens
- F1 Number of operations – number of units

9. Extended operator functions

Menu 2: Maintenance counter

The maintenance counter of the controls displays the number of operations here as a five-digit number (up to 99,999).

The display function is illustrated in the flow chart below.

The number of operations still required is shown as 1s, 10s, 100s, etc.

The digits are displayed as described for Menu 1.

A2 Number of operations – number of tens of thousands

B2 Number of operations – number of thousands

C2 Number of operations – number of hundreds

D2 Number of operations – number of tens

E2 Number of operations – number of units

Menu 3 Set the maintenance interval

The number of door operations after which the controls indicate that maintenance is required can be programmed here.

A3 Maintenance interval: OFF

B3 Maintenance interval: every 1,000 door operations

C3 Maintenance interval: every 2,000 door operations

D3 Maintenance interval: every 3,000 door operations

E3 Maintenance interval: every 4,000 door operations

F3 Maintenance interval: every 5,000 door operations

G3 Maintenance interval: every 6,000 door operations

H3 Maintenance interval: every 7,000 door operations

I3 Maintenance interval: every 8,000 door operations

J3 Maintenance interval: every 9,000 door operations

K3 Maintenance interval: every 10,000 door operations

L3 Maintenance interval: every 15,000 door operations

M3 Maintenance interval: every 20,000 door operations

N3 Maintenance interval: every 30,000 door operations

O3 Maintenance interval: every 40,000 door operations

P3 Maintenance interval: every 50,000 door operations

Menu 8: Reset servicing and maintenance

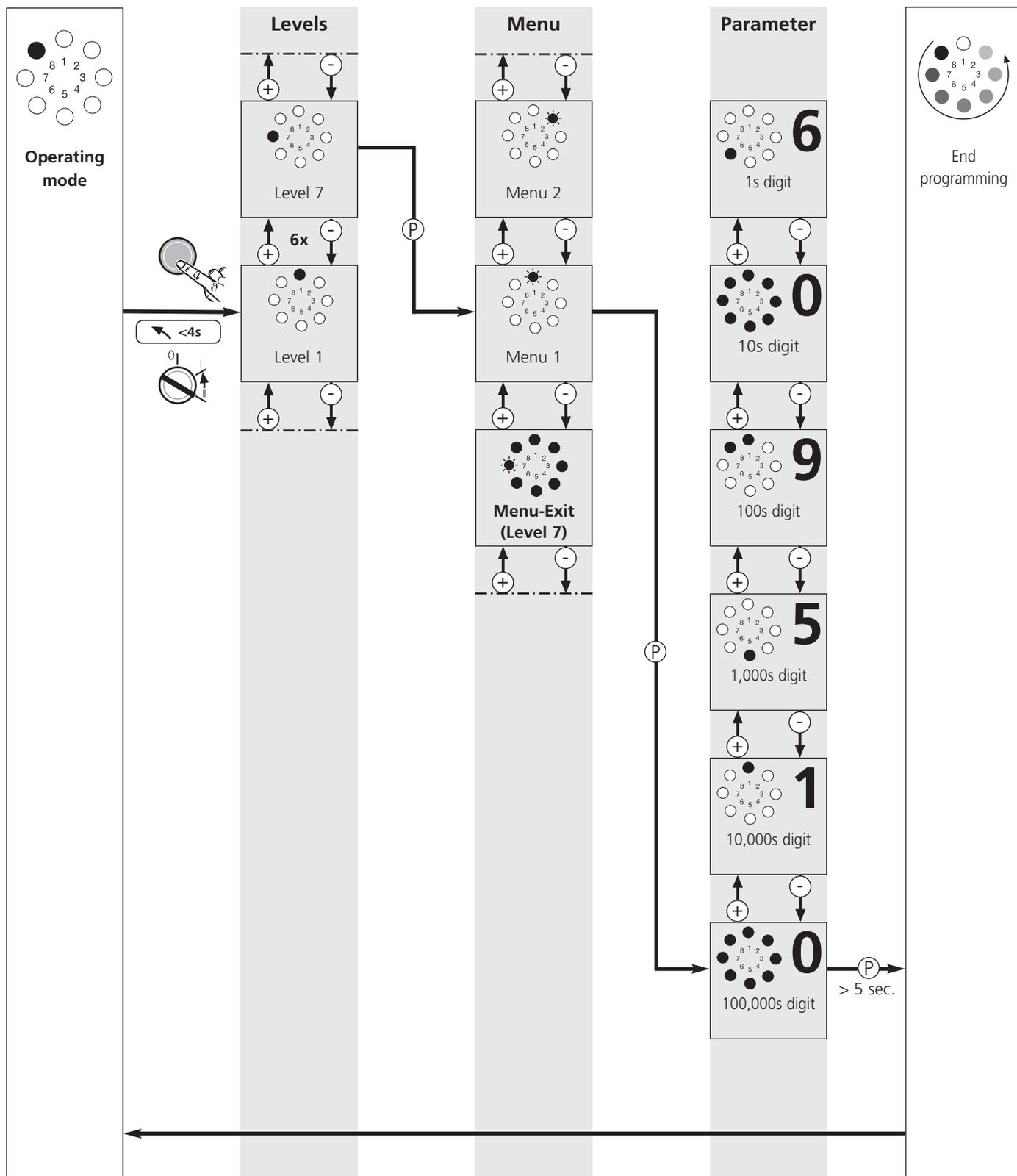
The fault memory for servicing, diagnosis and maintenance works can be reset here.

A8 No reset

B8 Reset fault memory

9. Extended operator functions

Flow chart: door cycle and maintenance counter (Example: 015,906 door cycles)



9. Extended operator functions

Level 8 – System settings																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Menu 1: Photocell																
	A1	B1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Menu 2: Closing edge safety device																
	A2	B2	C2	D2	-	-	-	-	-	-	-	-	-	-	-	-
Menu 3: Automatic cut-out																
	A3	B3	C3	D3	E3	-	-	-	-	-	-	-	-	-	-	-
Menu 4: Operating modes																
	A4	B4	C4	D4	-	-	-	-	-	-	-	-	-	-	-	-
Menu 5: Function of the direction command transmitters																
	A5	B5	C5	-	-	-	-	-	-	-	-	-	-	-	-	-
Menu 6: Function of the impulse command transmitters																
	A6	B6	C6	D6	-	-	-	-	-	-	-	-	-	-	-	-

Legend:	
LED off	
LED on	
LED flashes slowly	
LED pulses	
LED flashes quickly	
Factory default setting	
Not possible	-

9. Extended operator functions

Menu 1: Photocell

	Door movement, OPEN	Door movement, CLOSE
A1	Door reverses a little	Door reverses a little
B1	Door reverses completely	Door reverses completely

Menu 2: Closing safety edge device

	Door movement, OPEN	Door movement, CLOSE
A2	Door reverses a little	Door reverses a little
B2	Door reverses completely	Door reverses completely
C2	Door stops	Door reverses a little
D2	Door stops	Door reverses completely

Menu 3: Automatic cut-out

	Door movement, OPEN	Door movement, CLOSE
A3	Door reverses a little	Door reverses a little
B3	Door reverses completely	Door reverses completely
C3	Door stops	Door reverses a little
D3	Door stops	Door reverses completely
E3	Door stops	Door stops

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

9. Extended operator functions

Menu 5: Function of the direction command transmitter (OPEN/CLOSE)

	Direction command transmitters	Explanations
A5	not active	The direction command transmitters only give a command when the door is stationary.
B5	STOP only	A moving door is stopped by every direction command transmitter.
C5	active without STOP	The door travels towards the OPEN position after the OPEN button has been pressed. The door travels towards the CLOSE position after the CLOSE button has been pressed.

Menu 6: Function of the impulse command transmitter (Impulse, intermediate OPEN position, intermediate CLOSE position)

	Impulse command transmitters	Explanations
A6	not active	The impulse command transmitters only give a command when the door is stationary.
B6	STOP only, then standard sequence	A moving door is stopped by every impulse command transmitter. The next command starts the drive system running in the opposite direction (OPEN - STOP - CLOSE - STOP - OPEN).
C6	STOP only, then standard sequence	A moving door is stopped by every impulse command transmitter. A subsequent command starts the operating system again in the preferred direction: OPEN (CLOSE - STOP - OPEN - STOP - OPEN).
D6	active without STOP	The impulse command transmitters trigger the corresponding command, without a STOP, in the preferred direction: OPEN.

10. Messages

10.1 Status messages

In addition to messages regarding the door 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.

Maintenance:

-  LED 5 serves as a maintenance indicator. If the specified maintenance interval is exceeded, LED 5 lights up continuously.

Safety circuit (SC), motor unit:

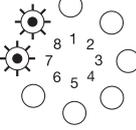
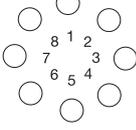
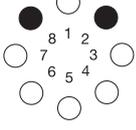
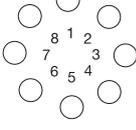
-  LED 6 serves as a status indicator for the safety devices connected to the controls, (thermal switch, CH, QR, MR). If a safety element is activated, LED 6 lights up for the duration of its operation.

Legend:	
LED off	○
LED on	●
LED flashes slowly	☀
LED pulses	⚙
LED flashes quickly	☀
Factory default setting	
Not possible	-

10. Messages

10.2 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.

Before switching to diagnostic mode, the key switch must be set to position "1".

- Press the STOP button and keep it pressed.
- Switch the key switch from position "1" to position "2" within 4 seconds and then release the STOP button.

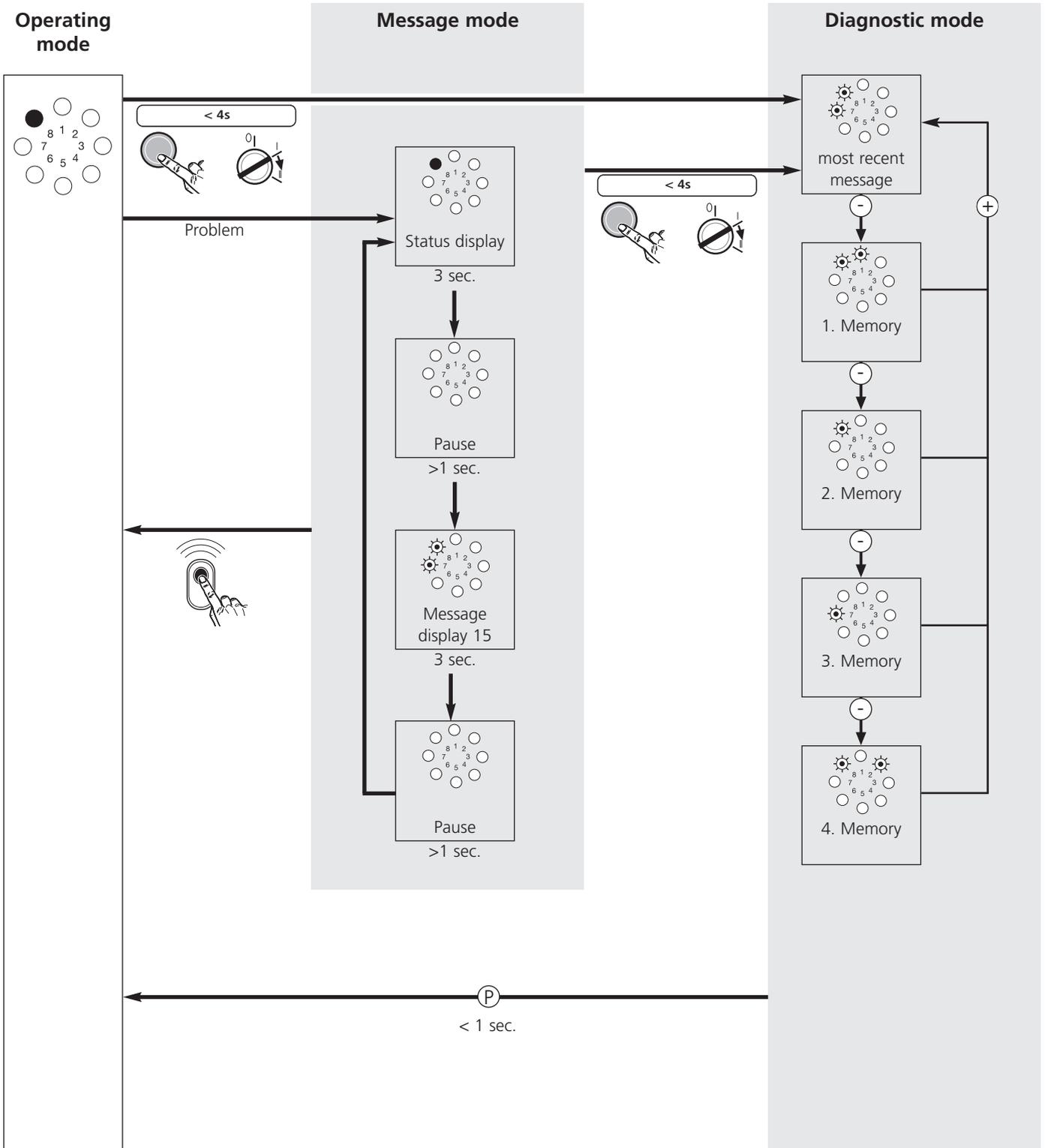
The controls switch to diagnostic mode.

Button functions in diagnostic mode

- (+ / OPEN) button The current fault is always shown when the (+) button is pressed.
- (- / CLOSE) button When the (-) button is pressed, up to 5 faults from the fault memory are shown in succession.
- (P / STOP) button Pressing the (P) button ends the diagnostic mode. The carousel display runs backwards. The controls return to operating mode.

10. Messages

10.3 Flow chart showing fault messages for control units with keypad on cover and key switch



10. Messages

10.4 Rectifying faults

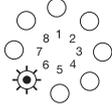
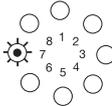
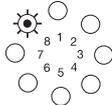
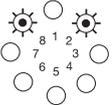
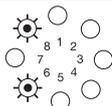
10.4.1 Malfunctions without error messages

Error	Cause	Solution
Operator system is not working.	- No voltage.	- Check the power supply to the system. - Check the external power supply against the specification on the identification plate. - Check the mains supply cable.
		3-phase model - Check that the wire jumper is in place between terminals 3 and 4 (standard configuration).
		Special model - Check whether voltage is present at terminal XN 84 from additional 230 Volt transformer. - Check whether there are 230 Volts between XN84 (terminal 4) and XN81 (terminal N).
	- Problem with connection between motor unit and control unit.	- Check cabling between motor unit and control unit (XB40) (Section 7.2.2 and 7.3.2/5).
	- The emergency hand chain is not lying on the switch.	- Place the emergency hand chain on the switch (Section 8.1 / 1).
Operator system is not working. Controls are in express programming mode.	- Safety circuit (door / operator controls) interrupted.	- Press stop button 3 times. (The controls are now in operating mode. The status of the elements connected to the controls is displayed.)

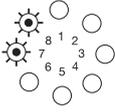
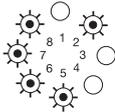
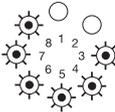
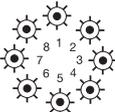
Legend:	
LED off	○
LED on	●
LED flashes slowly	☼
LED pulses	⚙
LED flashes quickly	☼
Factory default setting	
Not possible	-

10. Messages

10.4.2 Malfunctions with error messages

Error	Cause	Solution
Message 6 	- Closing prevention device (supplied by customer) activated.	- Check the door and remove any obstacles.
Message 7 	- If no buttons are pressed within 120 seconds, the programming mode terminates automatically.	
Message 8 	- OPEN and CLOSED door positions programmed without passing the reference point.	- Set the OPEN and CLOSED door positions again (Section 7.8.3).
	- Positioning box is defective.	- Have the operator system checked.
Message 10 	- Door movement too stiff. - Door blocked.	- Ensure that the door moves easily.
	- Maximum driving power setting is too low.	- Have the max. driving power (Section 9.4 / Level 2 / Menu 1+2) checked by an expert.
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 9.4 / Level 1 / Menu 8). - Reinsert an 8.2 kOhm resistance.
Message 14 	- End position is not OK.	- Set the OPEN and CLOSED door positions again (Section 7.8.3).

10. Messages

Error	Cause	Solution
Message 15 	- Photocell testing not OK.	<ul style="list-style-type: none"> - Check the photocell barrier. - Programme out the photocell barrier if no photocell barrier is connected (Section 9.4 / Level 1 / Menu 8). - Check the jumper at terminal XP27 (Section 7.3.3/1).
Message 28 	- Door movement too stiff or irregular.	- Check the path of the door and ensure that the door moves easily.
	- Automatic cut-out is set to be too sensitive.	- Have the automatic cut-out facility checked by an expert (Section 9.4 / Level 2 / Menu 3+4).
Message 33 	- Motor is not turning.	<ul style="list-style-type: none"> - Check the mains voltage. - Check the condenser. - Make sure the door can move smoothly.
Message 36 	- Wire jumper removed, but stop button not connected.	- Connect stop button or wire jumper B5/5 (XB50 / Section 7.3.2).
	- Operator system released.	- Lock the operator system.
	- Safety circuit interrupted.	- Close safety circuit.

Legend:	
LED off	○
LED on	●
LED flashes slowly	⊙
LED pulses	⊙
LED flashes quickly	⊙
Factory default setting	
Not possible	-

11. Attachment

11.1 Technical data for Dynamic xs.plus

Mechanical data		60/24	75/24	120/24	220/24	160/24
Driving torque	Nm	60	75	120	220	160
Nominal RPM	min ⁻¹	24	24	24	24	24
Max. revolutions, driven shaft		16				
Emergency operation		Emergency hand chain				
Sleeve shaft diameter		25.4				

Electrical data		60/24	75/24	120/24	220/24	160/24
Mains voltage	V	1N~ 230	Y 3N~ 400/230 / Δ 3~ 230			
Rated frequency	Hz	50				
Input current	A	4.6	Y 1.7 / Δ 2.9	Y 3.0 / Δ 5.1	Y 2.7 / Δ 4.7	Y 2.4 / Δ 4.7
Motor power	kW	0.37		0.55	1.1	0.75
Motor connection period	ED %	S3 – 25	S3 – 60			S3 – 80
Power supply for external elements	V	24 / 200 mA				
Protection category		IP 65				
Protection class		I				

Physical and ambient data		60/24	75/24	120/24	220/24	160/24
Dimensions	mm	112x377x293 (+34)			112x411x293 (+34)	112x415x293 (+34)
Weight	kg	14.7	14.39	15.29	17.19	17.4
Temperature range	C°	-20 to +60				



11. Attachment

11.2 Manufacturer's Declaration

We hereby declare that the product sold by us and mentioned below corresponds in its design, construction and version to the relevant and basic health and safety requirements of the following EC regulations: EMC Directive, Machinery Directive and Low Voltage Directive.
Product changes made without our consent will render this Declaration void.

Product: Dynamic xs.plus

Relevant EC Regulations:

- EC EMC Directive (89/336/EWG),
- Machinery Directive (98/37/EWG) and
- Low Voltage Directive (73/23/EWG and 93/68/EWG).

Applied harmonised standards, in particular:

EN 292-1
EN 61000-6-2
EN 61000-6-3
EN 55014
EN 61000-3-2
EN 61000-3-3
EN 60335-2-103
EN 12445
EN 12453



02.01.2008

ppa. K. Goldstein

11.3 EC Declaration of Conformity

We hereby declare that the product sold by us and mentioned below corresponds in its design, construction and version to the relevant and basic health and safety requirements of the following EC regulations: EMC Directive, Machinery Directive and Low Voltage Directive.
Product changes made without our consent will render this Declaration void.

Product:

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- EC EMC Directive (89/336/EWG),
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EN 61000-3-3
EN 60335-2-103
EN 12445
EN 12453

Date / Signature

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English

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