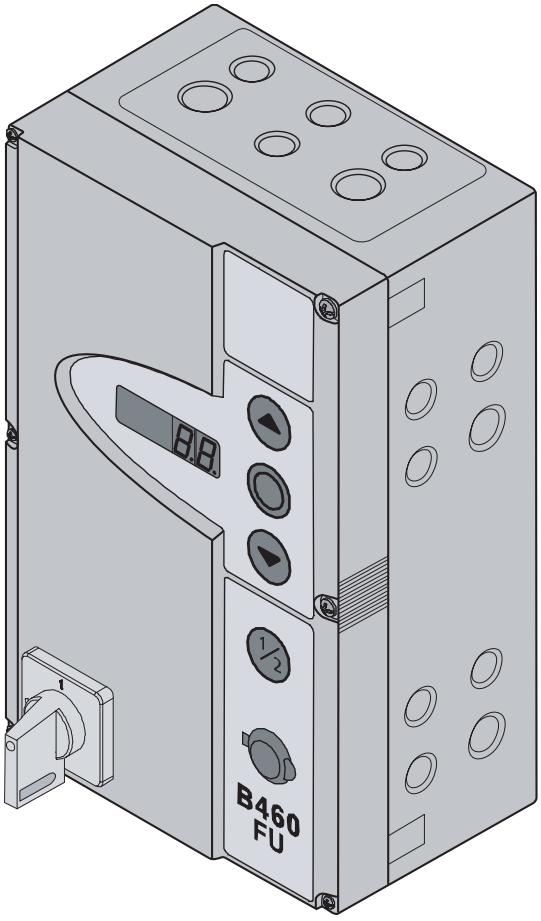
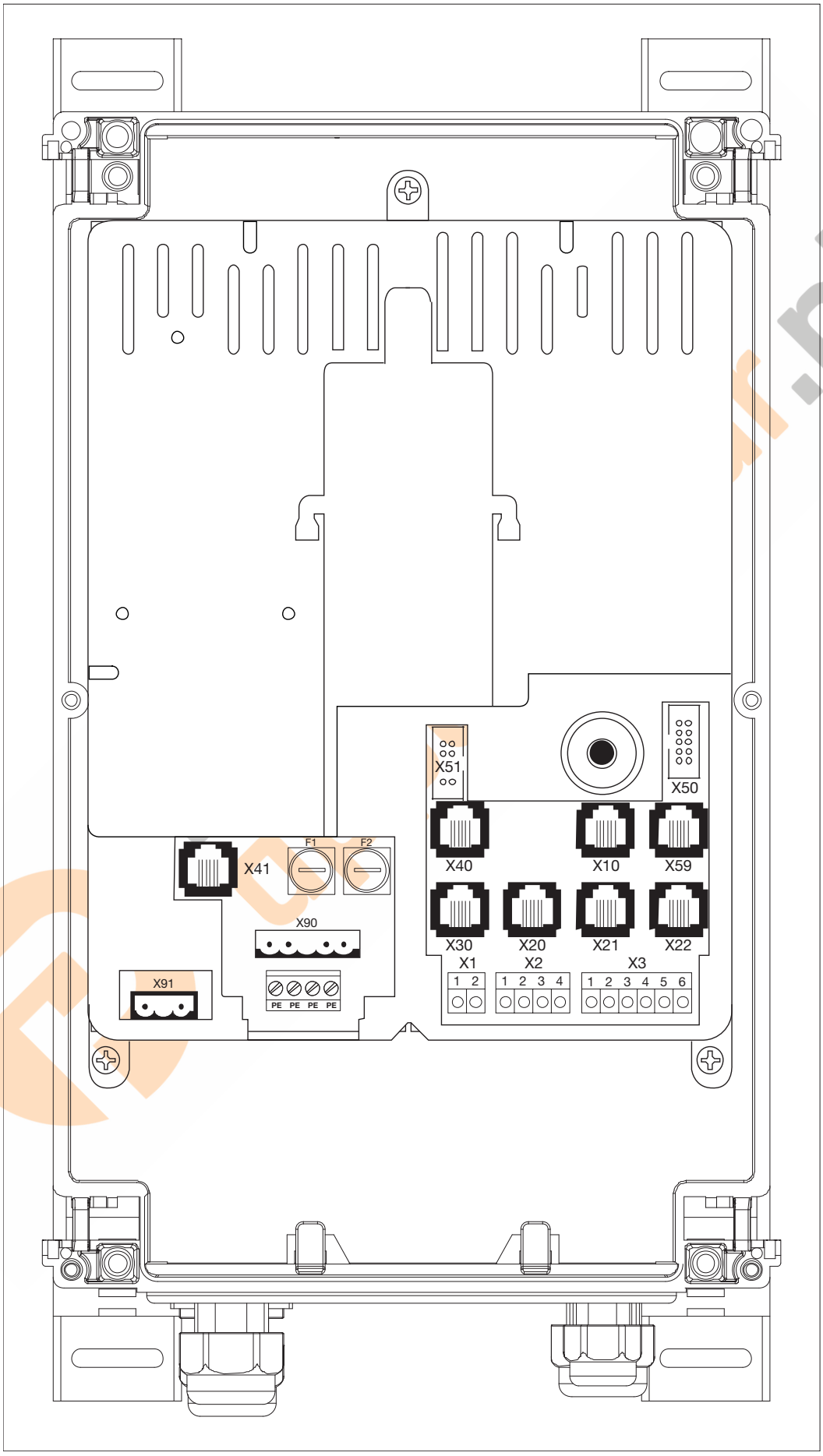
Installation, Operating and Service Instructions

Industrial Door Controls for Shaft Drive Operators WA 400 FU/WA 400 M



B460 FU (single phase /N/PE)

GB


X51
X50
X40
X10
X59
F1
F2
X41
X90
X30
X20
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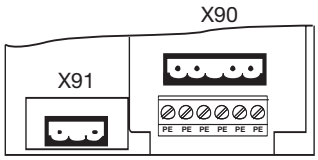
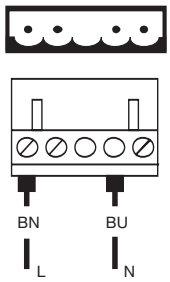
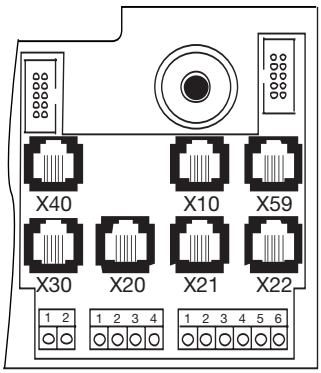
PE PE PE PE

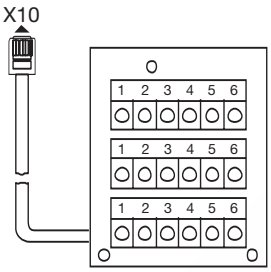


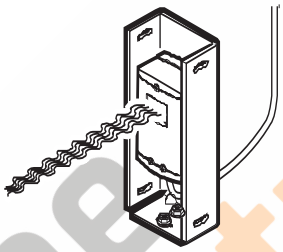
Mains connection 1-ph		Mains connection 3-ph		Motor connection	
X90	**Chapter 4.4**	**X90**	**Chapter 4.4**	**X91**	**Chapter 4.2.2**

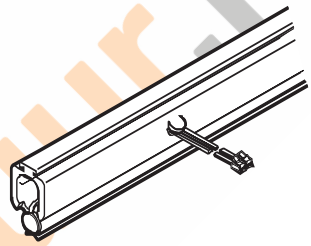


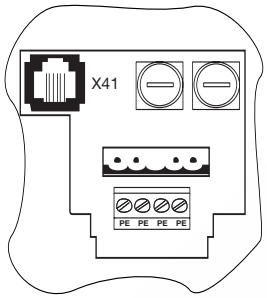


External control elements		Safety device		Closing edge safety device	
X10	**Chapter 4.3**	**X20/21/22**	**Chapter 4.3**	**X30**	**Chapter 4.3**

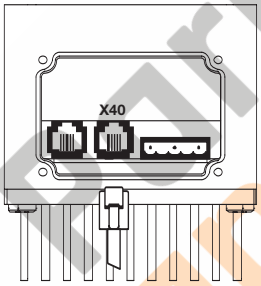


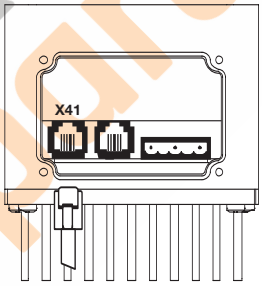


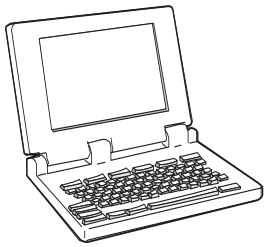


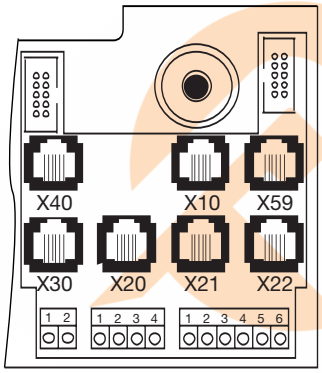


Door position encoder		Inverter controls		Diagnostic interface	
X40	**Chapter 4.2.1**	**X41**	**Chapter 4.2.1**	**X59**	**Chapter 4.3**

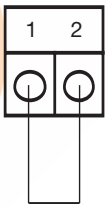


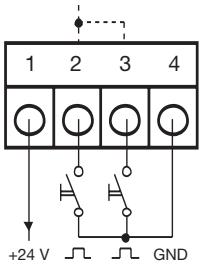


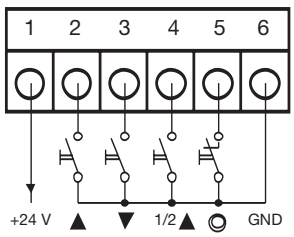


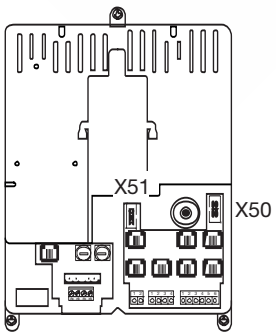


Static current circuit		Impulse/Radio receiver		External control elements	
X1	**Chapter 4.3.2**	**X2**	**Chapter 4.3.2**	**X3**	**Chapter 4.3.2**

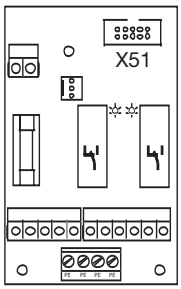


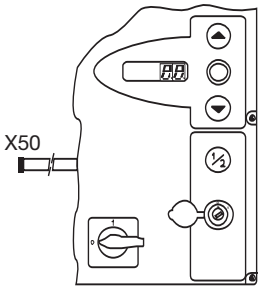






Extension PCBs		Cover control elements			
X51	**Chapter 7**	**X50**	**Chapter 5**		





1 General Notes

1.1 Introduction

Dear Customer,
Thank you for choosing a quality product from our company. Please keep these instructions safe for later reference!
Please observe the following instructions, they provide you with important information on the safe installation and use of your industrial door controls, thus ensuring that this product will give you satisfaction for many years to come.

1.2 Copyright

1.3 Warranty

For the warranty the generally recognized terms and conditions or those agreed in the delivery contract shall apply. The warranty does not cover damage caused due to a lack of knowledge of the operating instructions provided by us. The warranty shall also become invalidated in the event that the industrial door controls are used for a field of application other than that defined.

1.4 Structure of the Operating Instructions

Modular System

The Operating Instructions are compiled according to a modular system. The topics are dealt with in separate chapters.

Type-setting

- Important information in the wordwrap (continuous) text is presented in **bold type**.
- Additional information and captions are printed in *italics*.
- The page numbers are counted through, starting with the number of the chapter. Example: 3-13 means chapter 3, page 13.
- The numbers of the figures are counted through, starting with the page number. Example *4-12.7* means page 4-12, figure

Advice on personal safety
Safety advice pointing out the hazards to life and limb appears in a grey-shaded box with a warning triangle, as is the case here.

Advice on the risk of damage to property
Advice on the risk of damage to property and other important conduct measures appears in a grey-shaded box, as is the case here.

1.5 Colour Coding of Cables and Individual Wires

The abbreviations of the colours for identifying cables and wires complies with the international colour code to IEC 757.

BK = black
BN = brown
BU = blue
GD = gold
GN = green
GN/YE = green/yellow
GY = grey
OG = orange
PK = pink
RD = red
SR = silver
TQ = turquoise
VT = violet
WH = white
YE = yellow

2 Safety

2.1 General Notes

When used properly and for the designated purpose, the industrial door controls are reliable and completely safe to operate. Nevertheless, when used incorrectly or for purposes other than those designated, they can present hazards. At this point we would therefore like to expressly draw attention to the safety notes contained in point 2.4.

2.2 Designated Use

This industrial door controls may only be used together with shaft drives WA 400 FU/WA 400 M for the operation of sectional doors equipped with a full spring / weight counterbalance. If these industrial door controls are to be used for any other applications, the manufacturer must be consulted beforehand.
Designated use also includes following all the advice on personal safety and danger to property provided in these instructions, and complying with the country-specific standards and safety regulations as well as the inspection booklet.
Please also read and follow the Instructions for the Installation, Operation and Maintenance of the Shaft Drive Operator.

2.3 Personal Safety

In working with the industrial door controls, the personal safety of the persons handling it, must be paramount.
In Chapter 2.4 we have summarized all the safety advice that appears in the individual chapters. Every person working with the industrial door controls must be familiar with this summary. You should have these persons provide their personal signature confirming that they are acquainted with this safety advice.
At the start of each chapter we draw attention to the hazardous moments. If necessary, we once again draw attention to the hazard at the corresponding point in the text.

2.4 Summary of the Safety Advice (arranged in chapters)

Electrical Connection (Chapter 4)
When connecting to the electricity supply, you must observe the following:

Connection may only be carried out by qualified and authorized personnel in accordance with the local / country-specific electrical safety regulations.
Incorrect connection poses a danger to life!

- The controls are designed to be connected to the public low-voltage mains.
- Before connecting to the mains, check whether the permissible mains voltage range of the controls is compatible with the local mains voltage.
- For the three-phase current operator, the operating voltage must **rotate clockwise**.
- If the controls are permanently connected to the mains, a mains isolator switch with corresponding pre-fuse must be installed. Always feed the electrical connection cables into the control unit housing from below.
- To prevent malfunctions, the control cables must be laid in a separate installation system to the other supply cables carrying the mains voltage.
- As part of each door inspection, live cables must be checked for insulation faults and breakage points. If a fault is detected, isolate from the mains immediately and replace the defective cable.
- In the case of control unit housings with a mains switch (optional), this must be switched to "0" before the housing is opened.

Initial Operation (Chapter 6)
Before putting into service, observe the following:

Before programming the controls, you must make sure that neither persons nor objects are located in the door's danger zone because there are some adjustments which cause the door to move.

The force limit should be set weighing up personal safety and safety in use in accordance with the country-specific regulations.

The force limit should not be set unnecessarily high, since this can cause injury to persons and damage to property.

Accessories and Extensions (Chapter 7)
Before installing accessories and extensions, please observe the following:

Before installing accessories and extensions, the system must be switched off at the mains and in accordance with the safety regulations be safeguarded against being switched on again.

- Only install accessories and extensions authorized by the manufacturer for use with these controls.
- The local safety requirements must be observed.
- It is essential to lay the mains and control cables in separate installation systems.

Service (Chapter 8)
Before carrying out any service work, please note the following:

Before carrying out any service work, the system must be switched off at the mains and in accordance with the safety regulations be safeguarded against being switched on again.
The maintenance provision / secured release may only be actuated when the door is closed.

Before calling up the service menu, make sure for safety reasons that there are no persons or objects located in the door's danger zone.

Before trouble-shooting or taking any corrective action, the system must be switched off at the mains and in accordance with the safety regulations be safeguarded against being switched on again.

Before changing fuses, the system must be switched off at the mains and in accordance with the safety regulations be safeguarded against being switched on again.

3 Installation

3.1 General Notes

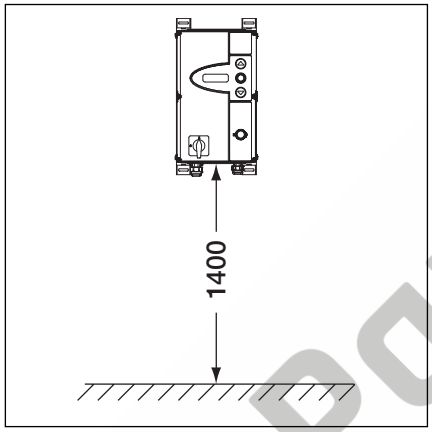
Prior to installation, the following regulations in particular (without any claim to completeness) must be observed:

European Standards	- EN 12453	Doors - Safety in use of Power-Driven Doors - Requirements
	- EN 12978	Tore Protection Devices for Power-Driven Doors Requirements and Test Methods
VDE Regulations	- VDE 0113	Electrical Installations with Electronic Operating Devices
	- VDE 0700	Safety of Electric Equipment for Domestic Use and Similar Purposes
Fire Prevention Regulations		
Accident Prevention Regulations	- VBG 4	Electrical Installations and Operating Devices
	- ZH 1/494	Directives for Power-Driven Windows and Doors

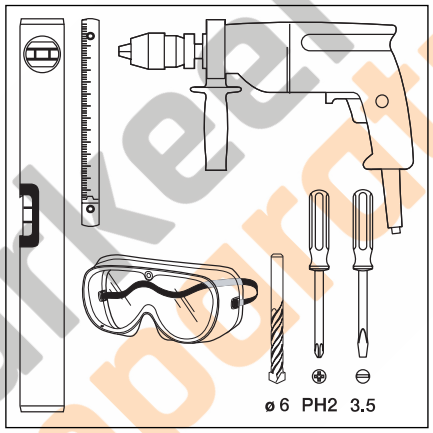
3.2 Installation

Operating the standard version of the controls in potentially explosive areas is not permitted. The housing should be fastened via all the installation feet supplied on an even, vibration-free base.

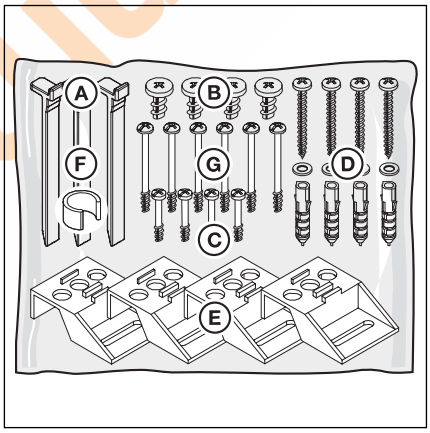
To achieve a user-friendly viewing height, we recommend that the bottom edge of the housing be at a height of approx. 1400 mm.



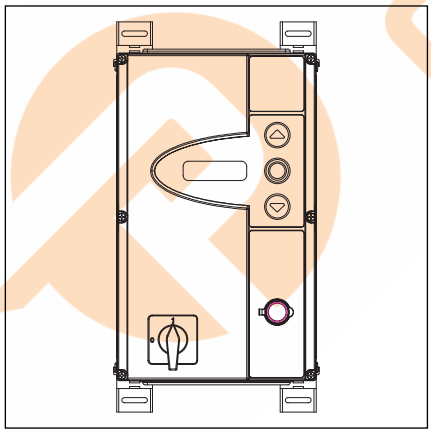
3–1.1 Installation Height



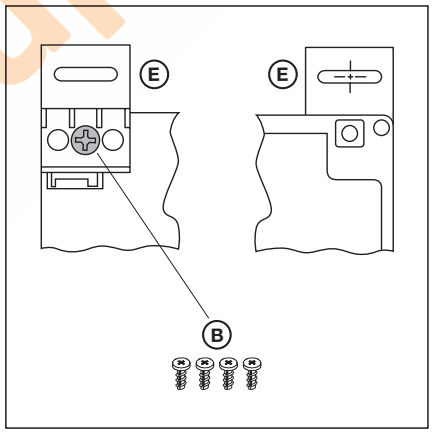
3–1.2 Required Tools



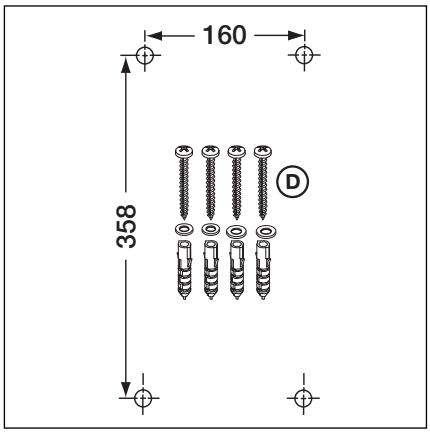
3–1.3 Bag of Accessories for the Control Unit Housing



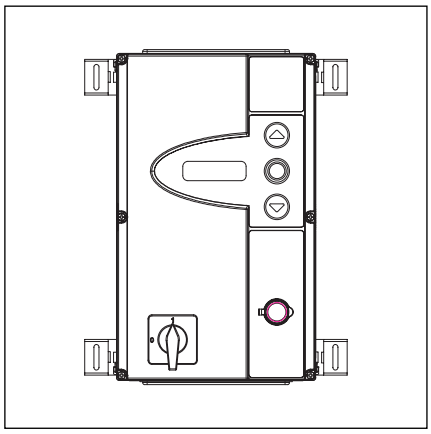
3–1.4 Control Unit Housing with vertically fixed installation feet



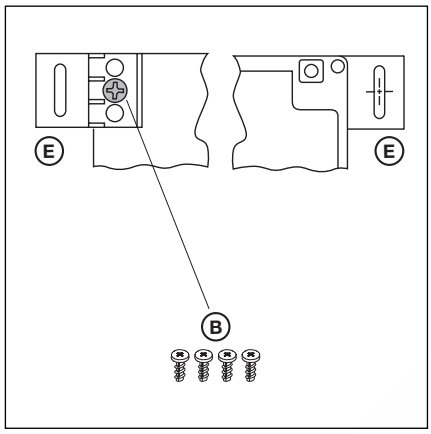
3–1.5 Fixing the installation feet,view from the back and front.



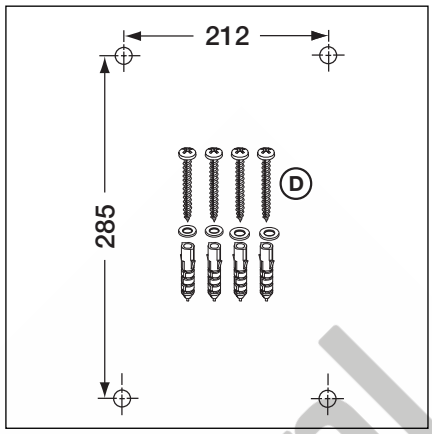
3–1.6 Drilling pattern of the mounting holes, required fixings.



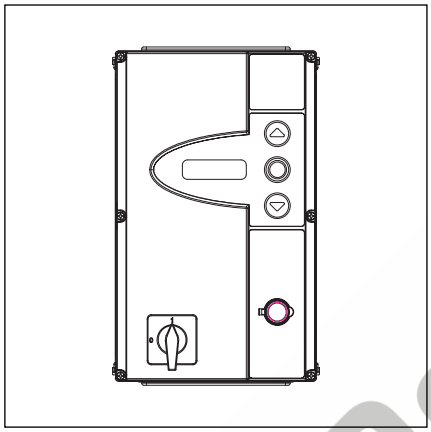
3–2.1 Control Unit Housing with horizontally fixed installation feet



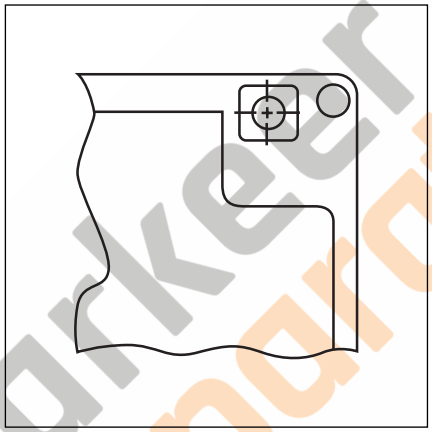
3–2.2 Fixing the installation feet, view from the back and front



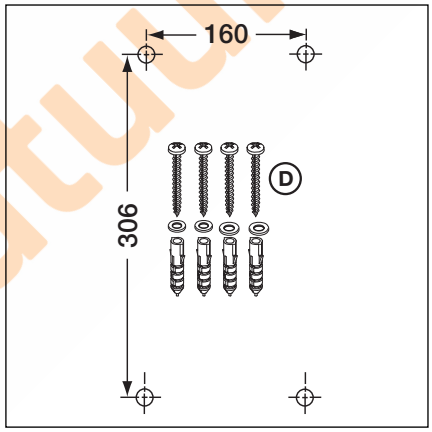
3–2.3 Drilling pattern of the mounting holes, required fixings



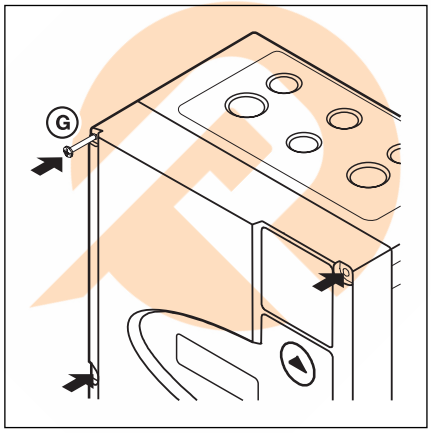
3–2.4 Control unit housing without installation feet, mounted directly to the wall



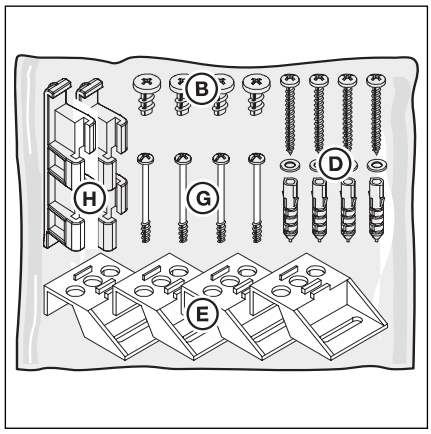
3–2.5 Using the mounting holes of the housing



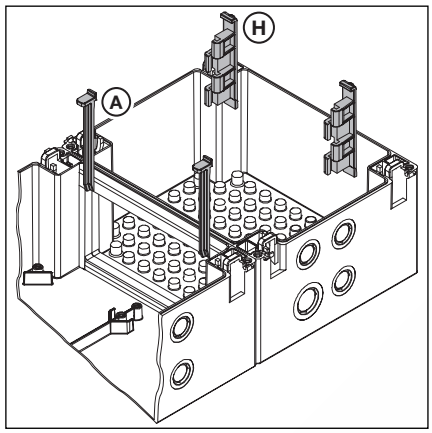
3–2.6 Drilling pattern of the mounting holes, required fixings



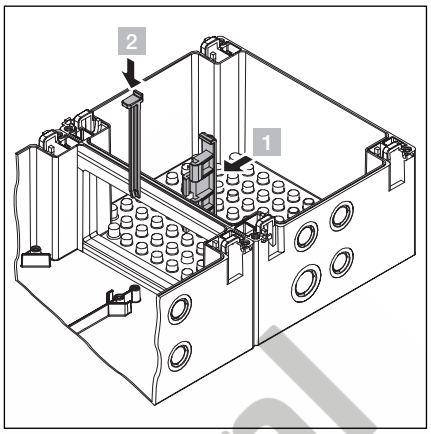
3–2.7 Insert all the screws into the cover



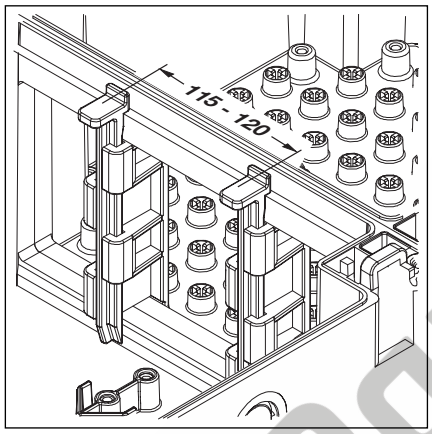
3–3.1 Bag of accessories for the housing extension



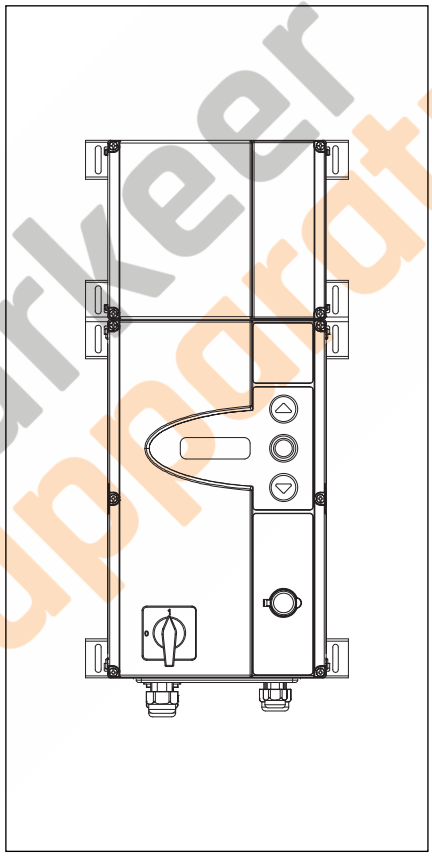
3–3.2 Positioning the housing connectors



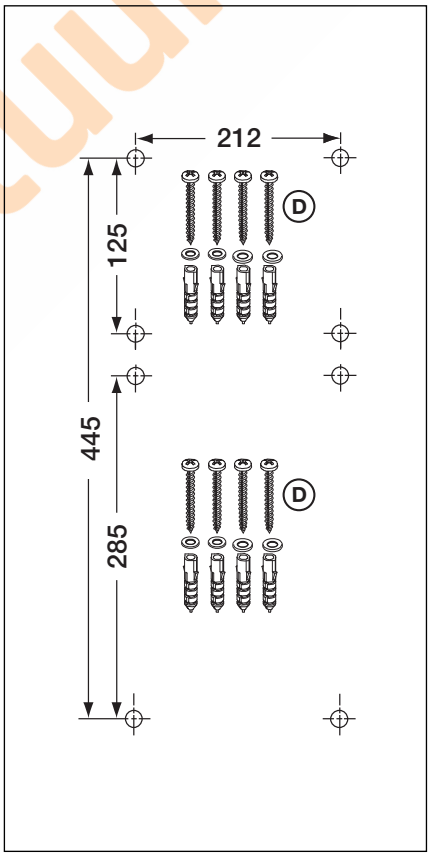
3–3.3 Assembly



3–3.4 Check that the housing connectors are correctly positioned



3–3.5 Control unit housing and extension with horizontally fixed installation feet



3–3.6 Drilling pattern of the mounting holes, required fixings.

4 Electrical Connection

4.1 General Notes

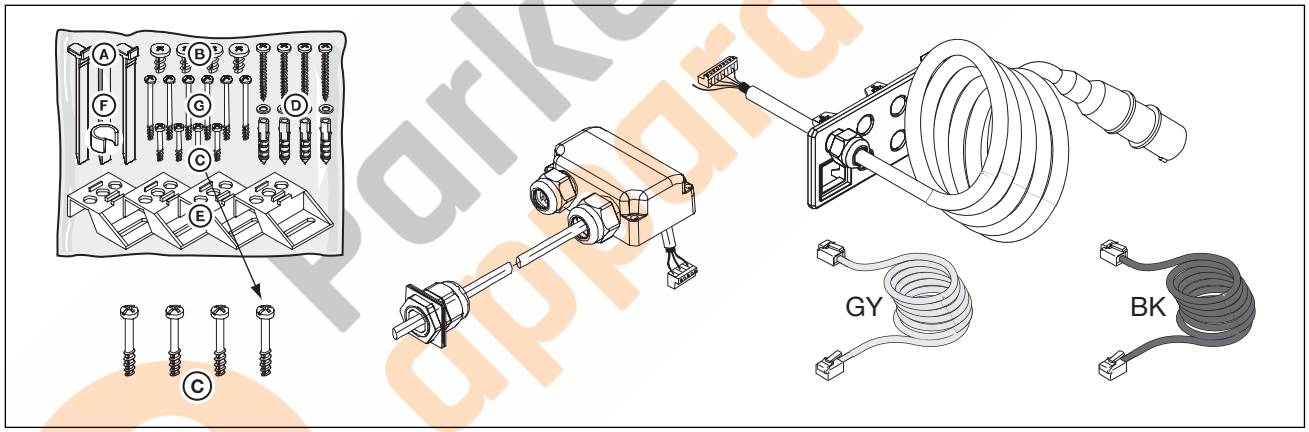
When connecting to the electricity supply, you must observe the following:

Connection may only be carried out by qualified and authorized personnel in accordance with the local / country-specific electrical safety regulations.

Incorrect connection poses a danger to life!

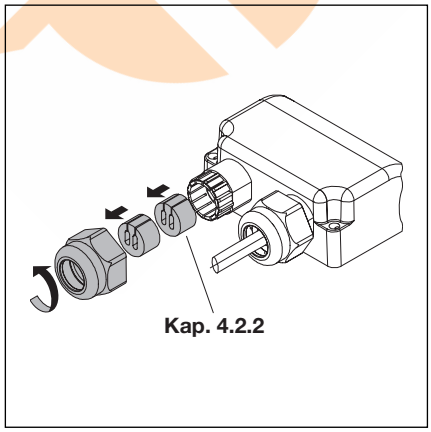
- The controls are designed to be connected to the public low-voltage mains.
- Before connecting to the mains, check whether the permissible mains voltage range of the controls is compatible with the local mains voltage.
- If the controls are permanently connected to the mains, a mains isolator switch with corresponding pre-fuse must be installed.
- Always feed the electrical connection cables into the control unit housing from below.
- To prevent malfunctions, the control cables must be laid in a separate installation system to the other supply cables carrying the mains voltage.
- As part of each door inspection, live cables must be checked for insulation faults and breakage points. If a fault is detected, isolate from the mains immediately and replace the defective cable.
- In the case of control unit housings with a mains switch (optional), this must be switched to "0" before the housing is opened.

4.2 Installing the Motor's Connection Cables

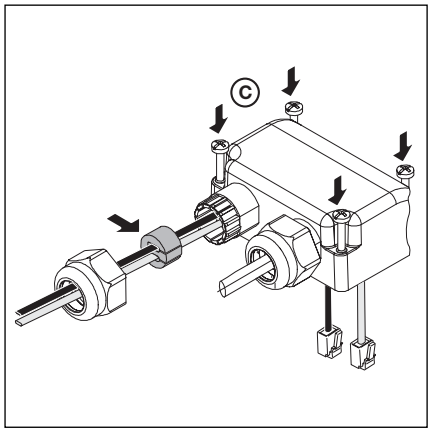


4–1.1 The following is required:
screws from the bag of accessories, motor connection cable, mains connection cable, 6-core system cable.

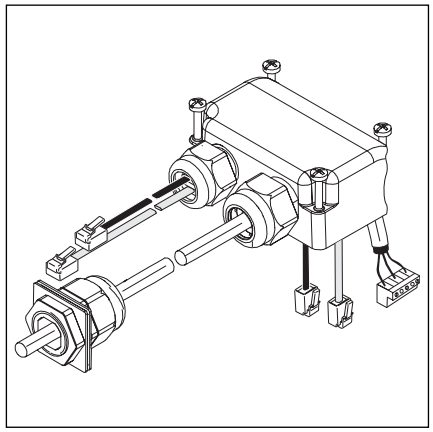
4.2.1 Connecting the motor connection cable / system cable to the motor



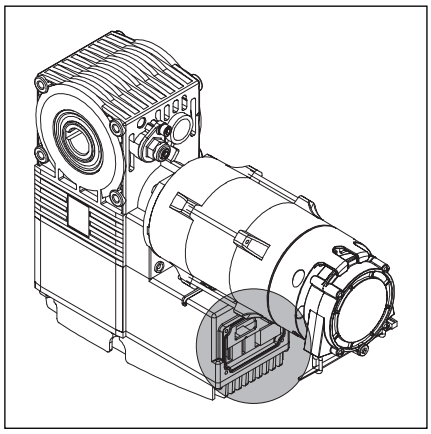
4–1.2 Preparing the screwed cable gland for the system cabling



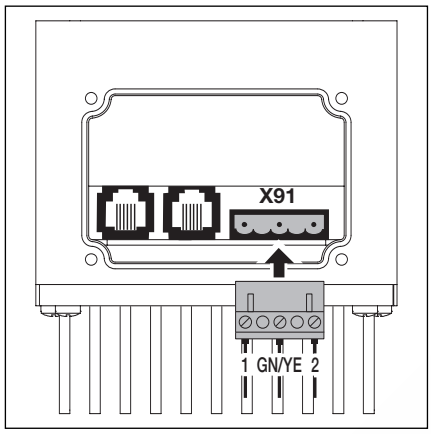
4–1.3 Leading through the system cable, positioning the gasket.



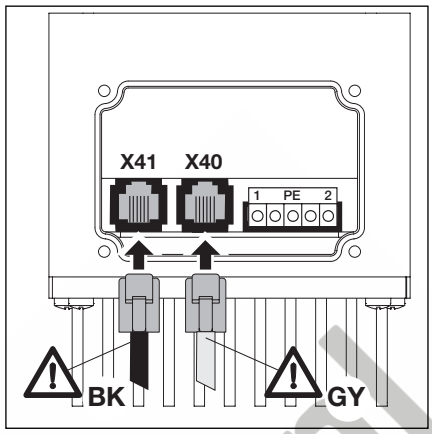
4–1.4 Prepared motor connection - outlet cover



4–2.1 Position of the motor connecting PCB on the motor

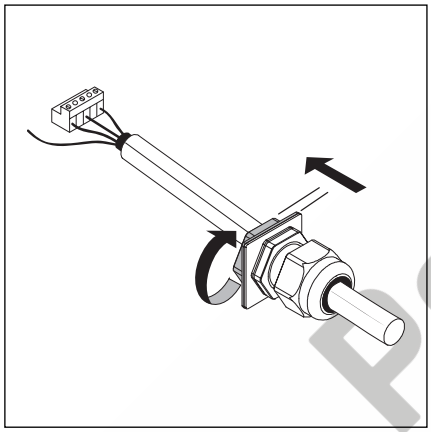


4–2.2 Connecting the motor cable to the motor connecting PCB

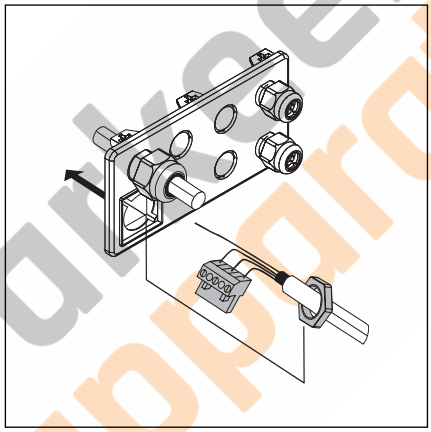


4–2.3 Connecting the system cable to the motor connecting PCB. Observe colours!

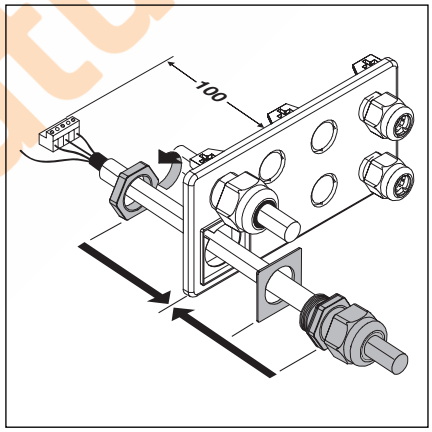
4.2.2 Connecting the motor connection cable / system cable to the control unit



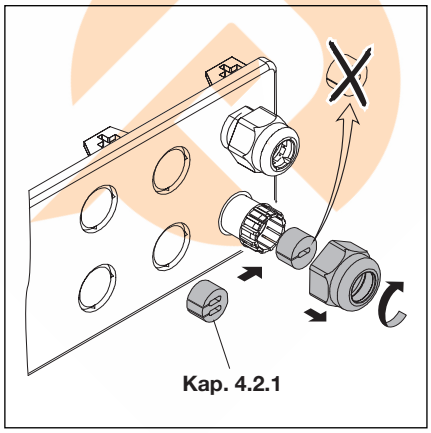
4–2.4 Loosening the screws on the motor cable



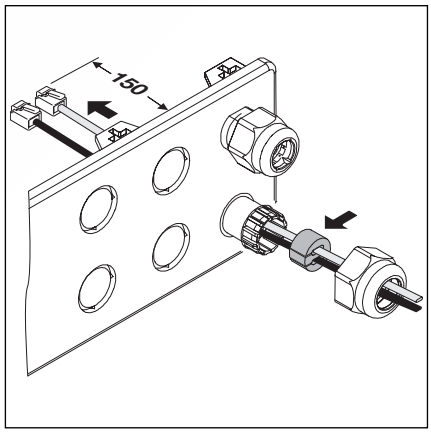
4–2.5 Feeding through the plug and the fastening nut



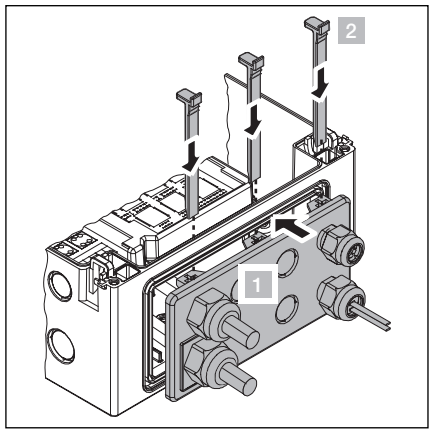
4–2.6 Final assembly on the control unit housing cover



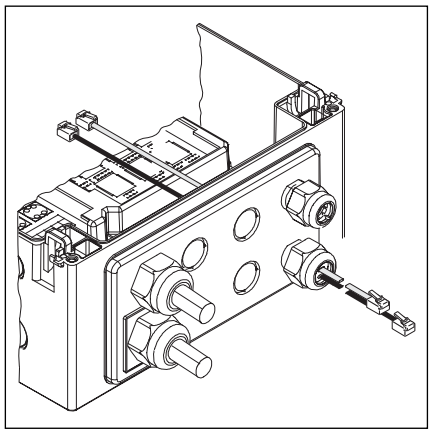
4–2.7 Preparing the screwed cable gland for the system cable



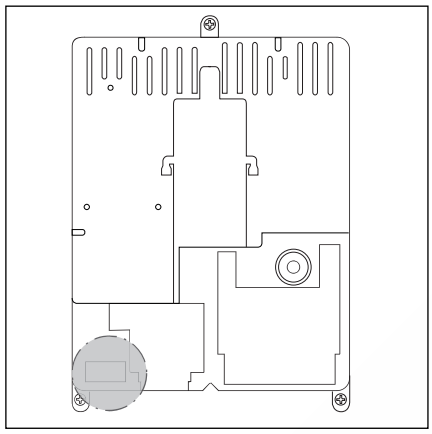
4–2.8 Leading through the system cable, positioning the gasket.



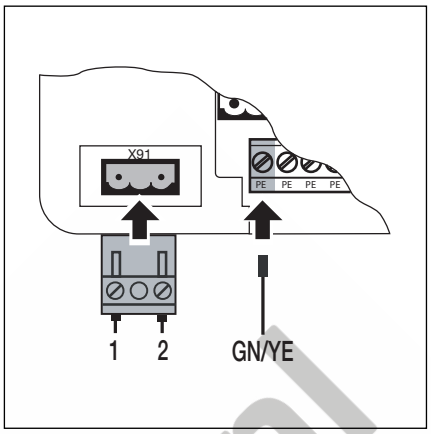
4–2.9 Fitting the housing cover



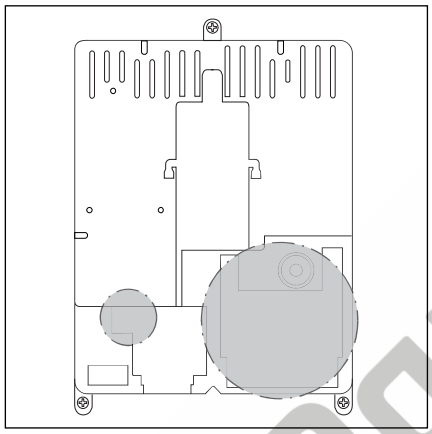
4–3.1 Ready fitted housing cover



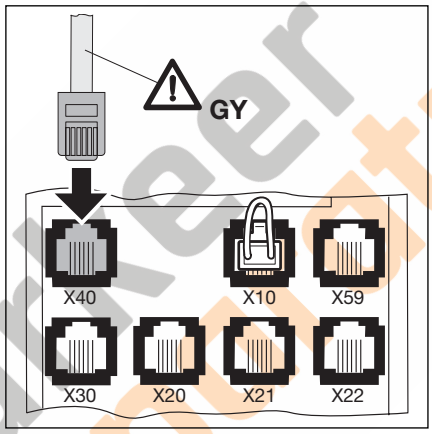
4–3.2 Position of the motor connection X91 in the control unit housing



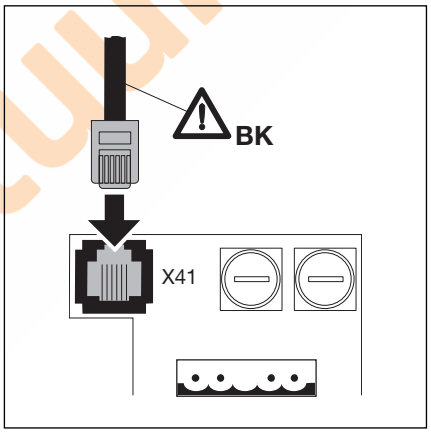
4–3.3 Connecting the motor cable to X91



4–3.4 Position of the system cables X10–X59 in the control unit housing



*4–3.5 Connecting "door position detector" of motor to X40, cable colour **grey**.*



*4–3.6 Connecting frequency inverter controls of motor to X41, cable colour **black**.*

4.3 Connecting external command and control element

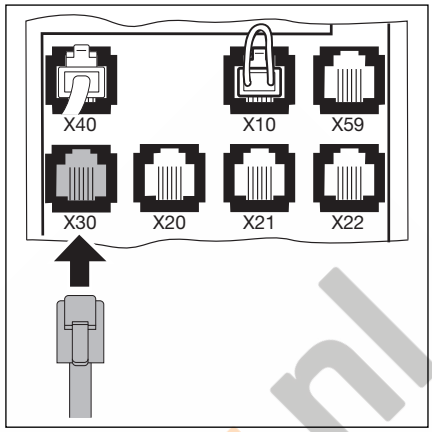
4.3.1 Connecting the system cables in the control unit housing

X40 Door position detector/transmitter

X10 External control elements (remove bridge plug!)

X59 Diagnostic interface

X30 Closing edge safety device (with optosensor or resistance contact strip 8K2) in the door closing direction (see chapter 7)



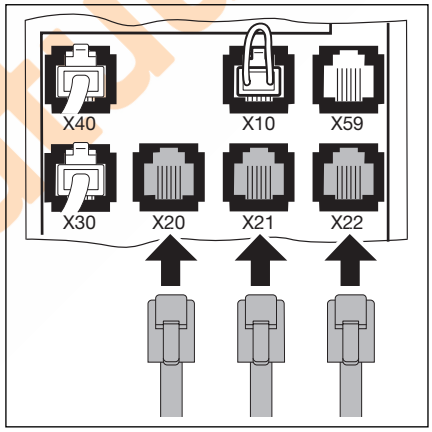
4–4.1 Connecting the system cables, e.g. closing edge safety device to X30

X20 Safety device (e.g. photocell)

X21 Safety device (e.g. photocell)

X22 Safety device (e.g. photocell)

Self-monitoring safety devices with system cable
Self-monitoring safety devices as safeguards (e.g. one-way photocell or reflection photocell with test unit) are connected directly to the plug sockets X20/21/22 with system cabling.
The response of the operator to these safety devices must be set in the corresponding menus 12/13/14.



4–4.2 Connecting the safety devices with system cabling

Other cable-connected devices
Other devices (e.g. induction loops, light curtains, radar detectors) can be connected to a screw terminal adapter. Connection to the control unit to plug sockets X20/21/22 is made via a system cable.
The response of the operator to these safety devices must be set in the corresponding menus 12/13/14.
Mains voltage: 24 V DC ±15%
Current input: max. 400mA

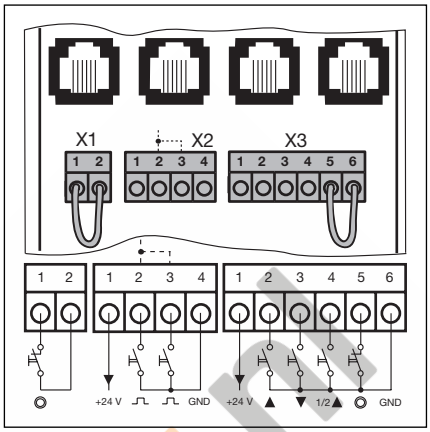
4.3.2 Connecting to the screw terminal strips in the control unit housing

X1 Static current circuit (opener, e.g. emergency-STOP)

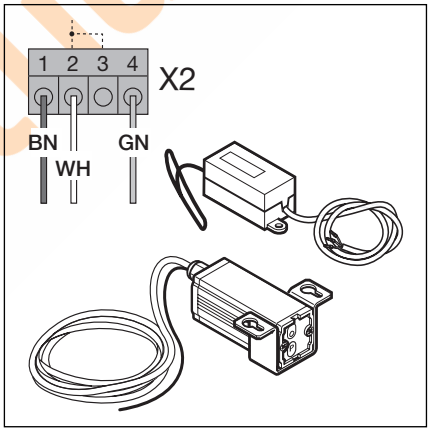
X2 Impulse input (e.g. radio receiver)
1 +24V
2 Impulse
3 Impulse (internally bridged with 2)
4 GND reference potential

X3 External buttons
1 +24 V
2 OPEN button
3 CLOSE button
4 HALF-OPEN button
5 STOP button (when connected, remove jumper to terminal 6!)
6 GND reference potential

External voltage at the terminal strips X1/X2/X3 will destroy the electronics.



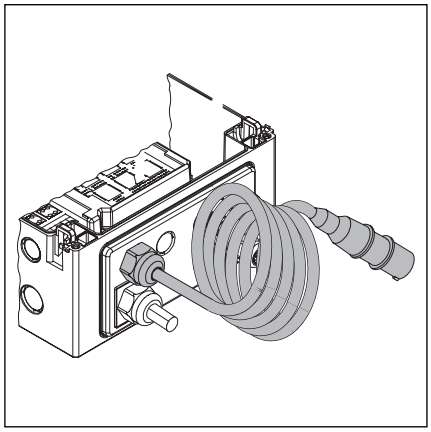
4–5.1 Connecting the screw terminals



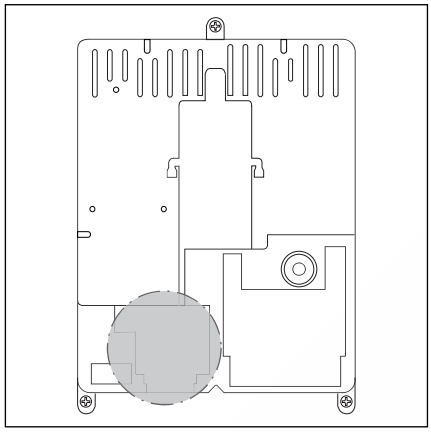
4–5.2 Connecting the radio receiver

4.4 Mains Connection

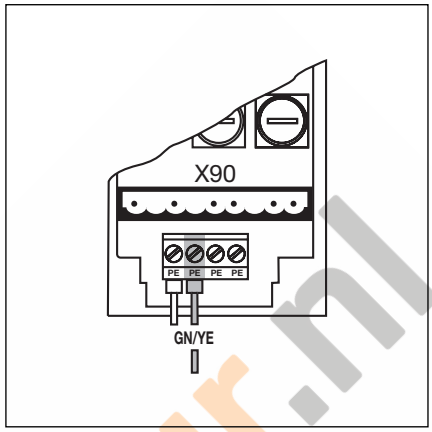
4.4.1 Connecting the mains lead



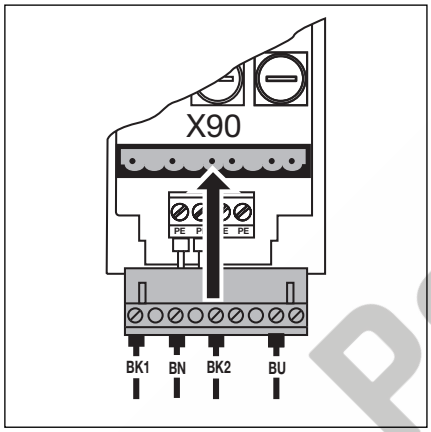
4–6.1 Housing flange with mains lead



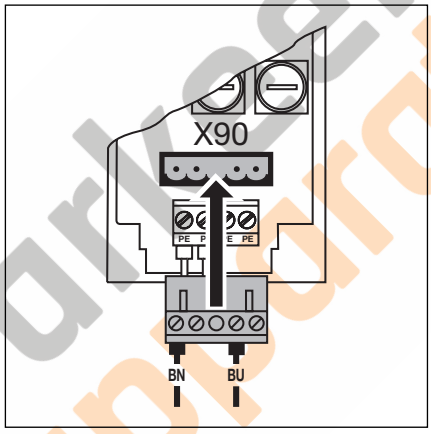
4–6.2 Position of the motor connection X90 in the control unit housing



4–6.3 Connecting the mains lead's protective conductor



4–6.4 Mains connection: 3-phase current to X90



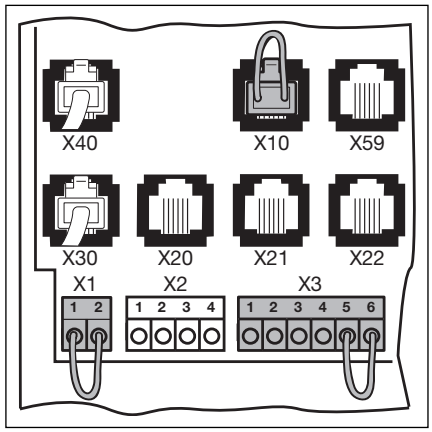
4–6.5 Mains connection: single-phase AC current to X90

4.4.2 Preparations before switching on the control unit

- On the control unit re-check the following:
  - All the electrical connections.
  - Plug-in bridges X1/X3/X10 (static current circuit) must be inserted in the PCB when no further accessories are connected here.

- Pre-fuse of the CEE mains socket in accordance with the local regulations.
- Check whether voltage is applied to the mains socket.

- Check that the operator has been correctly installed mechanically.
- Check that the motor connection box cover is properly fastened.
- Open door approx. 1000 mm high by hand (see chapter 8.2).



4–6.6 Plug-in bridges X1/X3/X10

5 Operation

5.1 Control elements on and in the control unit

A OPEN button
To open the door.

B STOP button
To stop movement of the door

C Numerical display
Two 7-segment numbers indicate the various operating states.

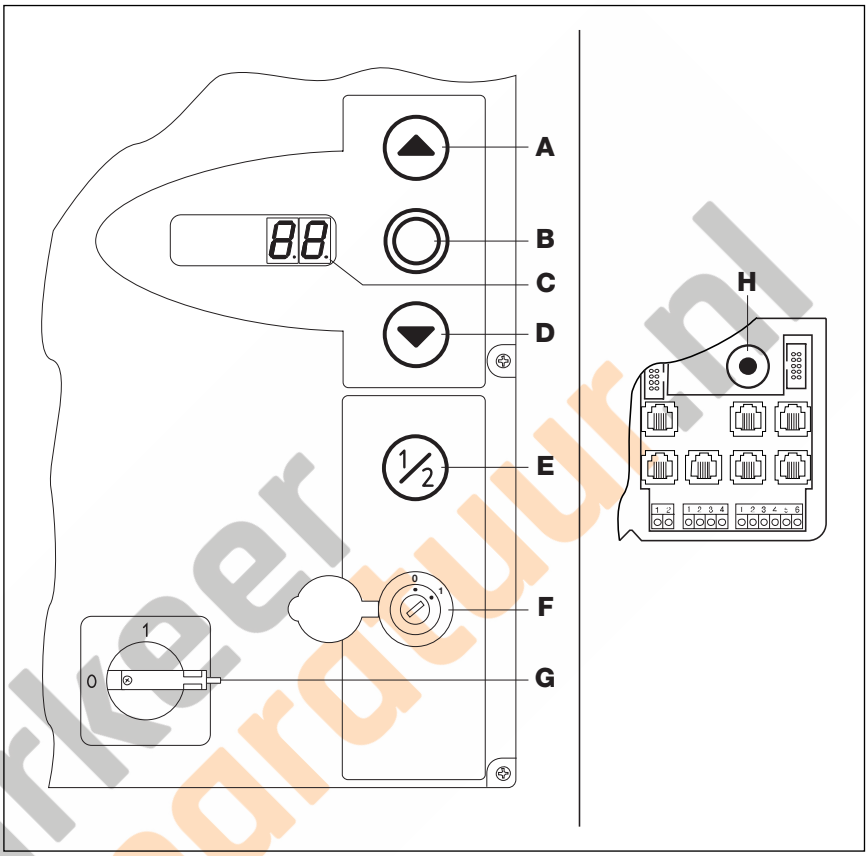
D CLOSE button
To close the door.

E HALF-OPEN button
To open the door to the programmed intermediate position.

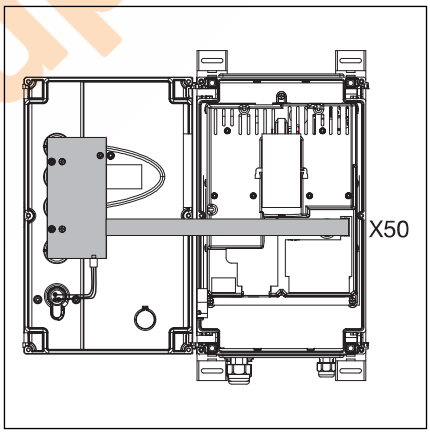
F Miniature lock
The miniature lock can, among other things, take over the function of a master switch and can be replaced with a profile half-cylinder (optional).

G Main switch
The main switch (optional) cuts off the operating voltage from the mains.
It can be locked with a padlock for maintenance and service work.

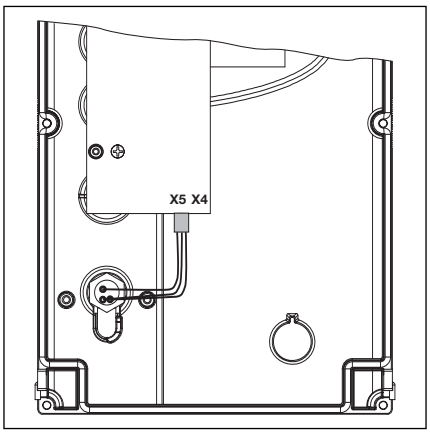
H Programming button
The programming button serves to initiate and terminate the menu programming.



5–1.1 Control elements on and in the control unit housing



5–1.2 Connecting the keyboard PCB to X50 in the control unit



5–1.3 Connecting the key switch to X5 of the keyboard PCB

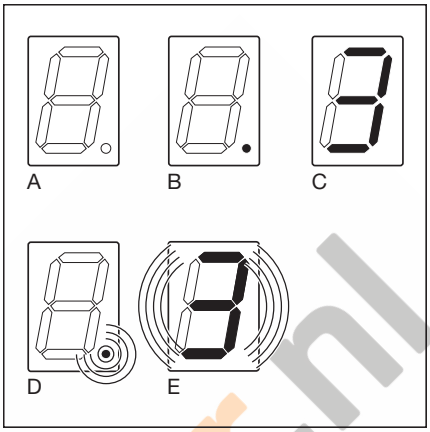
5.2 7-Segment Displays

The 7-segment displays serve to indicate door positions, operating states and error messages.

5.2.1 General definition of terms

Possible indication states of the 7-segment displays are explained in the following:

A Nothing displayed
B Point glows
C Number lights up
D Point flashes
E Number flashes

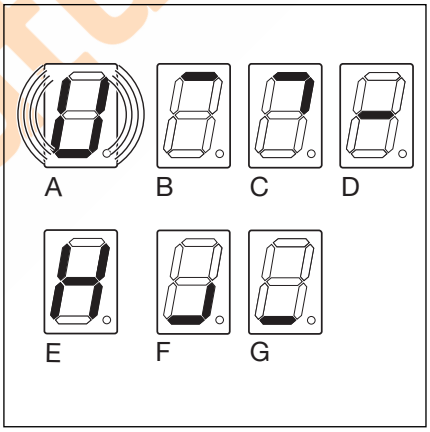


5–2.1 Possible indication states of the 7-segment displays

5.2.2 Display of the door positions

How the door positions are depicted on the 7-segment display.

A	Bar at side and bottom	The controls are being used for the very first time and have not yet undergone the learning procedure.
B	Bar at top	Door in OPEN end-of-travel position
C	Top bar, top right	braking point of the inverter for OPEN
D	Bar in the centre, flashing	Door travels to the end-of-travel positions
	Bar in the centre, lights up	Door stopped at any position
E	Bar at side and in the centre	Door in programmed intermediate end-of-travel position (HALF-OPEN position)
F	Bottom bar, bottom right	braking point of the inverter for CLOSE
G	Bar at bottom	Door in CLOSE end-of-travel position

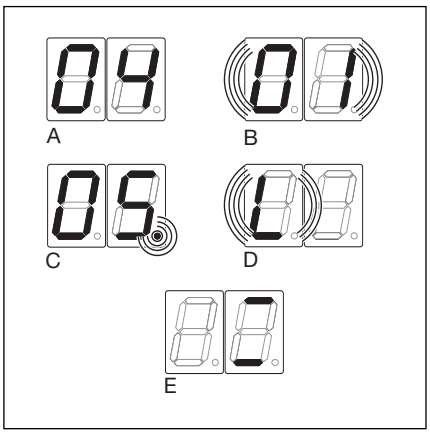


5–2.2 Displays for the door positions

5.2.3 Possible messages during operation

During operation these messages can be presented on both 7-segment displays.

A	A constantly glowing two-digit number	represents a menu number (e.g. menu 04)
B	Flashing two-digit number	indicates the presently set function number of a menu (e.g. function 01)
C	One-digit / two-digit number with flashing point	An error number is indicated (e.g. error number 05)
D	L flashing	A learn cycle in dead man's mode must be completed.
E	Constantly glowing bar at top and bottom	door position encoder/cable not connected or defective



5–2.3 Possible messages during operation

5.2.4 Display - Button on the control unit housing actuated -

Actuation of the buttons on the control unit housing leads to signal changes at the corresponding inputs and is indicated on the display for a period of approx. 2 seconds.

Button	Display indication	
Stop	**50**	
OPEN	**51**	
CLOSE	**52**	
1/2	**53**	
Key switch in pos. 1	**54**	Plug of key switch must be inserted at X4 (see menu 17)

5.2.5 Display - Externally connected buttons actuated -

Actuation of the externally connected buttons leads to signal changes at the corresponding inputs and is indicated on the display for a period of approx. 2 seconds.

Button	Display indication
Stop	**60**
OPEN	**61**
CLOSE	**62**
1/2	**63**
Impulse	**64**

5.2.6 Display - Signals to the inputs of the expansion units -

Signal changes at the inputs belonging to the expansion units are indicated on the display for a period of 2 seconds (see also page 7-3).

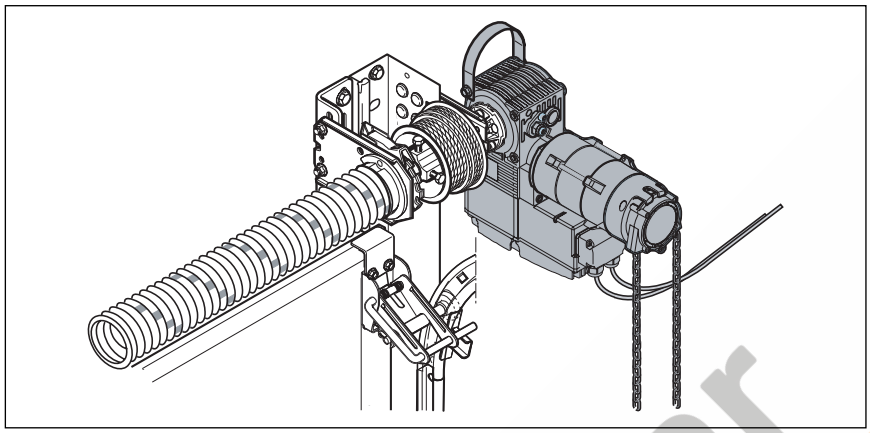
Input	Display indication
Input 1, traffic lane control X60	**70**
Input 2, traffic lane control X60	**71**
Input 3, traffic lane control X60	**72**
Input 4, traffic lane control X60	**73**
Input 5, traffic lane control X61	**74**
Input 6, traffic lane control X61	**75**
Input 7, traffic lane control X61	**76**
Input 8, traffic lane control X61	**77**
Input 1, option relay X61	**74**

6 Putting into Service

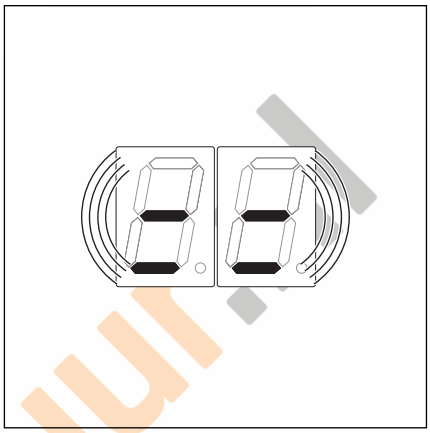
6.1 Fitting types of the shaft drive operator

With the various fitting types, the rotational direction of the operator and that of the door movement varies. This must be taken into consideration when putting the control unit into service.

6.1.1 "Horizontal" fitting type

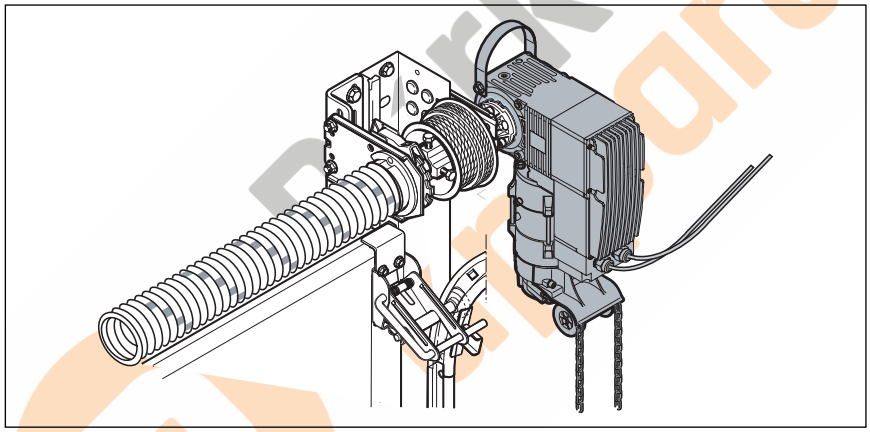


6–1.1 "Horizontal" fitting type

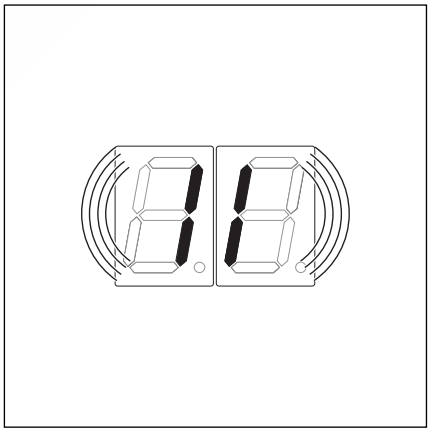


6–1.2 Setting the controls

6.1.2 Vertikal (mirror image) fitting type

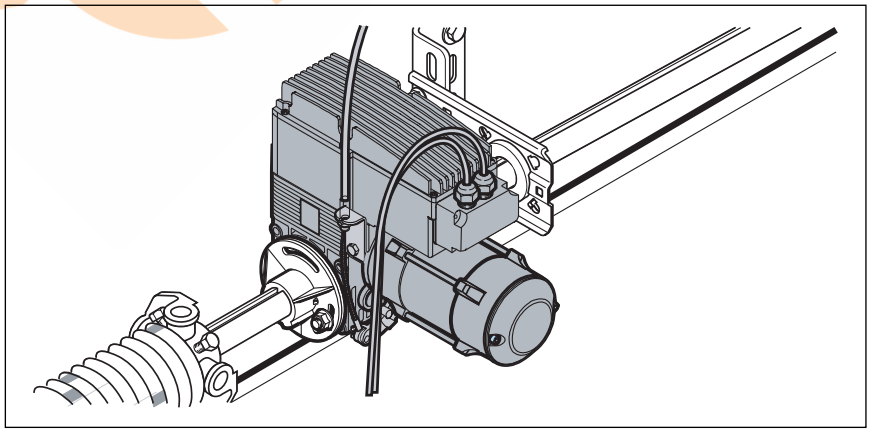


6–1.3 Vertical (mirror image) fitting type

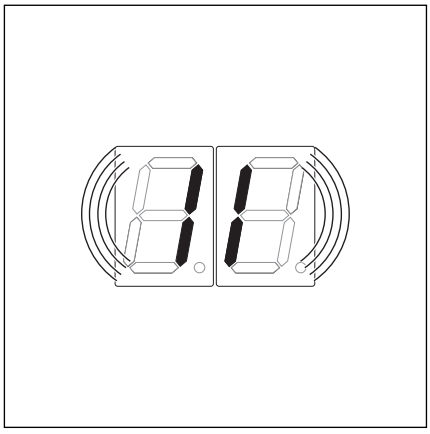


6–1.4 Setting the controls

6.1.3 Door in the centre fitting type



6–1.5 Door in the centre fitting type



6–1.6 Setting the controls

6.2 Programme Menu

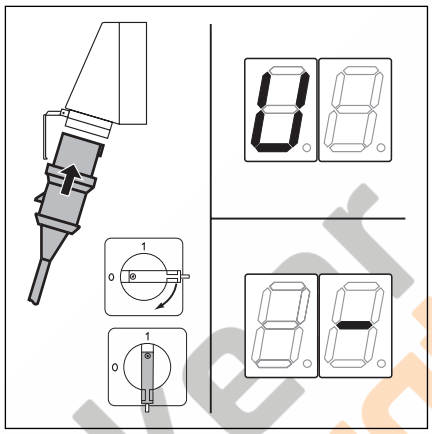
6.2.1 General information on the programme menu

For putting into service, observe the following:

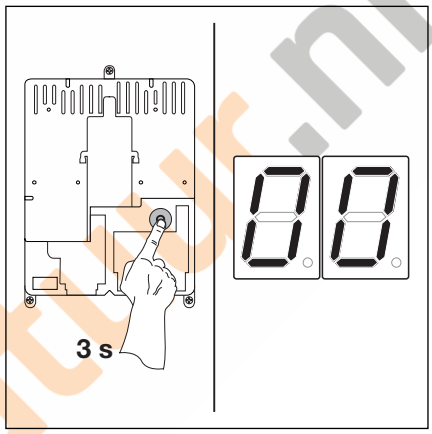
Before programming the controls, you must make sure that neither persons nor objects are located in the door's danger zone because there are some adjustments which cause the door to move.

6.2.2 Action to be taken in programming the control unit

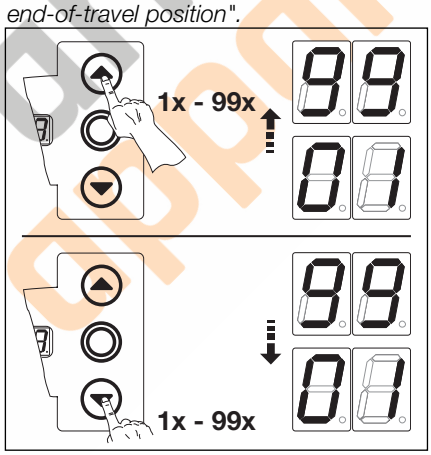
- Establish a power supply
  - Open the door by hand to a height of approx. 1000 mm (see chapter 8.2).
  - Insert the CEE phase-changer plug into the mains socket.
  - Turn main switch (optional) to position **1**.
- Status display
  - On initial operation "**U**" indicates a control unit in the non-learned state or **—** the intermediate end-of-travel position.
- Initiate programming
  - Open the control unit housing.
  - Press the programming button for 3 sec.
  - **00** is displayed.
- Selecting the menu number
  - Press the OPEN button as often as is necessary to arrive at the desired menu number (example **07**).
  - By pressing the CLOSE button a corresponding number of times, you can page back.
- Acknowledging the menu number
  - As soon as the desired menu number is displayed, press the STOP button. The function number of the selected menu is displayed flashing (example **04**).
- Altering the function number
  - Press the OPEN button as often as is necessary to arrive at the desired function number (example **09**).
  - By pressing the CLOSE button a corresponding number of times, you can page back.
- Acknowledging the function number
  - As soon as the desired function number is displayed, press the STOP button. The previously selected menu number (example **07**) is displayed.



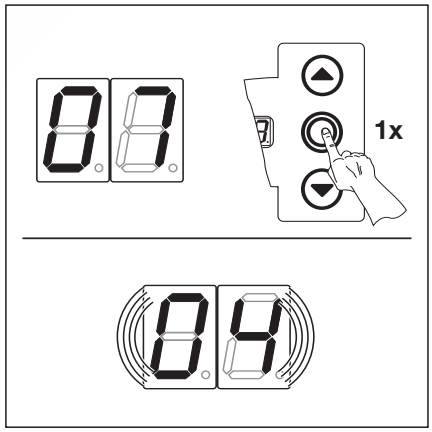
6–3.1 Establish a power supply, display indicates "non-learned" or "intermediate end-of-travel position".



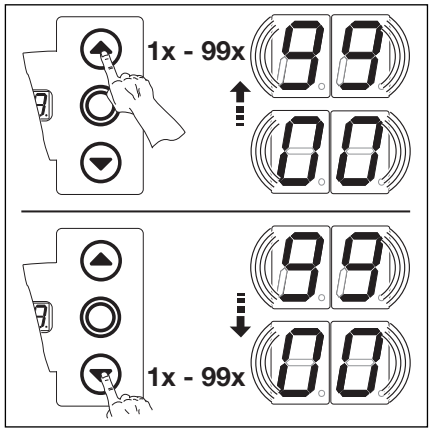
6–3.2 Initiating programming



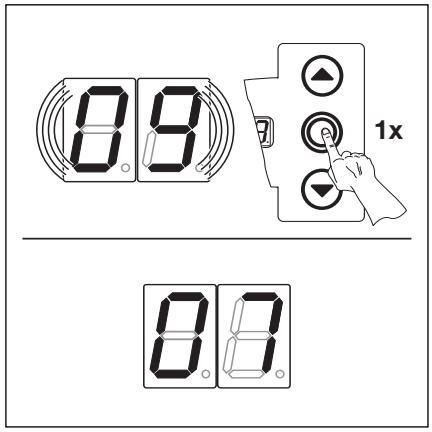
6–3.3 Selecting the menu number



*6–3.4 Acknowledging the menu number (**07**). Function number (**04**) is displayed.*



6–3.5 Altering the function number

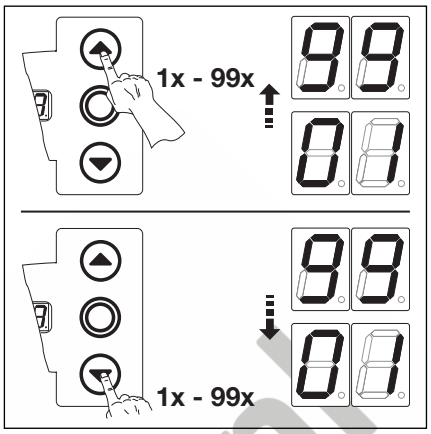


*6–3.6 Acknowledging the function number (**09**). Menu number (**07**) is displayed.*

Either

- select the new menu number and

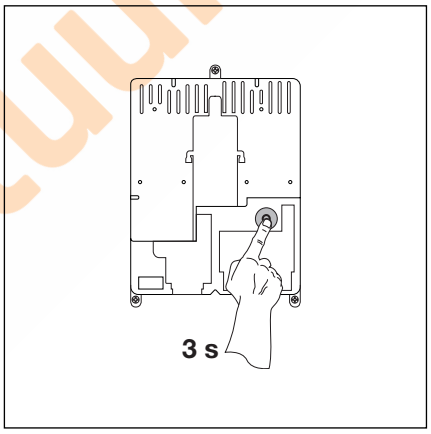
alter the corresponding function number.



6–4.1 Selecting a new menu number

or

- Terminate the programming
  - Press the programming button for 3 sec.
  - The display indicates the corresponding operating status (end-of-travel position or intermediate end-of-travel position).



6–4.2 Terminating the programming

If within 60 seconds no button is pressed, the altered settings are rejected and the control system automatically exits the programming mode.

6.3 Programme Menu 01 - Establishing the Fitting Type / Learning the end-of-travel positions and braking points

This menu is only executed in dead man's mode and without any force limit. Fine adjustment of the end-of-travel position can be carried out in menu 03/04. At the braking point switch-over from high speed to slow speed takes place

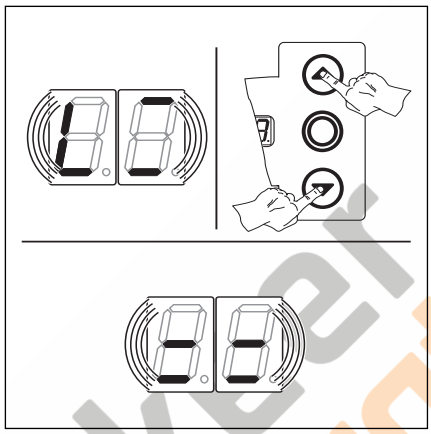
Action to be taken

- Initiating the programming (see chapter 6.2).
  - Open the control unit housing, press the programming button for 3 sec. The menu number 00 is displayed.
  - Press the OPEN button once. The menu number 01 is displayed.
  - Press the STOP button once. "Position" **L ¯** is displayed flashing.
  - By pressing the STOP button, the procedure can be aborted.

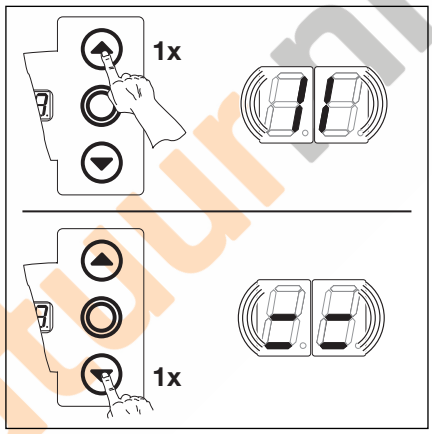
- Deleting the existing values
  - Press the OPEN and CLOSE buttons simultaneously.
  - The existing values are deleted and the "horizontal" fitting type **==** is displayed flashing.
- Establishing the fitting type (chap. 6.1)
  - Press the OPEN button once for the "vertical" fitting type **I I**.

or

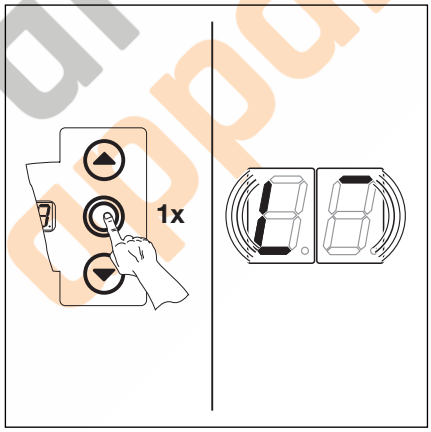
  - Press the CLOSE button once "Horizontal" fitting type
  - Press the STOP button once.
  - The fitting type has been learned and "position" **L ¯** is displayed flashing.
- Programming the OPEN end-of-travel position
  - Press the OPEN button until the top end-of-travel position is reached. If necessary, corrections can be made via the CLOSE button.
  - Press the STOP button once.
  - The OPEN end-of-travel position has been learned and "position" **L ¯I**. is displayed flashing.
- Programming OPEN braking point
  - via the CLOSE button, operate the door to travel back 500 mm in the CLOSE direction (dead man's operation). If necessary, any corrections can be made with the OPEN button.
  - Press the STOP button once.
  - The OPEN braking point has now been learned and the indication "braking point" **L _I** appears flashing in the display.
- Programming the CLOSE braking point
  - via the CLOSE BUTTON, operate the door to travel in the CLOSE direction up to 3000 mm or as case may be 500 mm in front of the bottom end-of-travel position (dead man's operation). If necessary, corrections can be made with the OPEN button.
  - Press the STOP button once.
  - The CLOSE braking point has now been learned and the indication "position" **L _** appears flashing in the display.



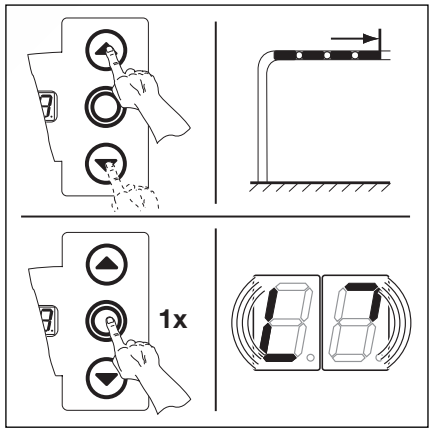
6–5.1 Deleting existing values, the "horizontal" fitting type is displayed



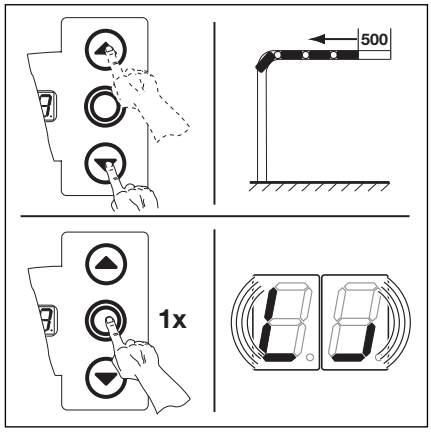
6–5.2 Select "Vertical" (mirrored) or "horizontal" fitting type



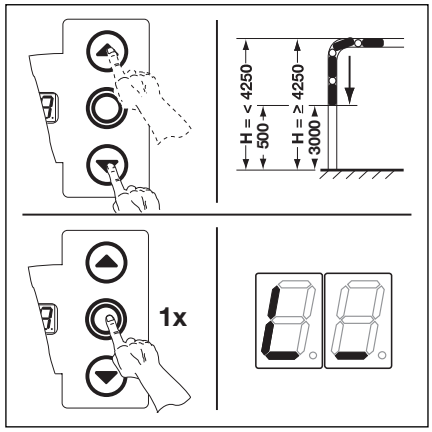
*6–5.3 Acknowledging the "fitting type", "position" **L ¯** is displayed*



6–5.4 Programming the OPEN end-of-travel position



6–5.5 Programming the OPEN braking point

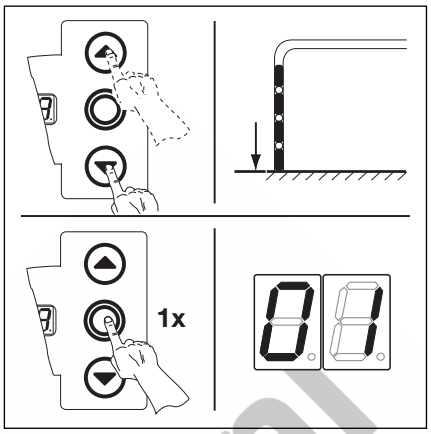


6–5.6 Programming the CLOSE braking point

- Programming the CLOSE end-of-travel position
  - Press and hold the CLOSE button (dead man's mode) until the bottom end-of-travel position is reached.
    Any necessary corrections can be made via the OPEN button.
  - Press the STOP button once.
  - The CLOSE end-of-travel position has been learned and the menu number 01 is displayed.
  - Programming of the "end-of-travel positions" is completed.

- Carry out a test run for the end-of-travel positions via menu 02.

After each door cycle in dead man's mode, it takes the control system approx. 1.5 sec. to respond to the next movement command.
During this time the display doesn't flash.



6–6.1 Programming the CLOSE end-of-travel position

6.4 Programme menu 02 - Test run for the end-of-travel positions

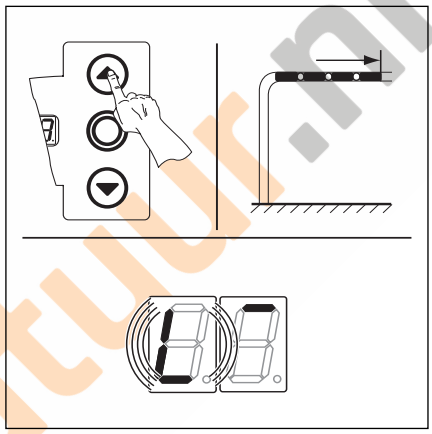
This menu assists in checking the door's end-of-travel positions following the learning process (menu 01). Fine adjustment (menu 03/04) is only carried out in dead man's mode and without any force limit.

Action to be taken

- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once. "Position" **L _** is displayed flashing.

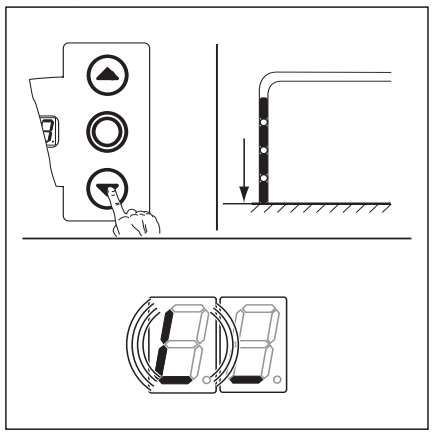
- Check the **OPEN** end-of-travel position
  - Press and hold the OPEN button (dead man's mode) until the top end-of-travel position is reached.
  - The door stops and "position" **L ¯** is displayed flashing.



6–7.1 Checking the OPEN end-of-travel position

- Check the **CLOSE** end-of-travel position
  - Press and hold the CLOSE button (dead man's mode) until the bottom end-of-travel position is reached.
  - The door stops and "position" **L _** is displayed flashing.

If the door should travel beyond the end-of-travel position and the safety device has come into action, open the door again mechanically (see chap. 8.2) and re-learn the end-of-travel position (chap. 6.3)

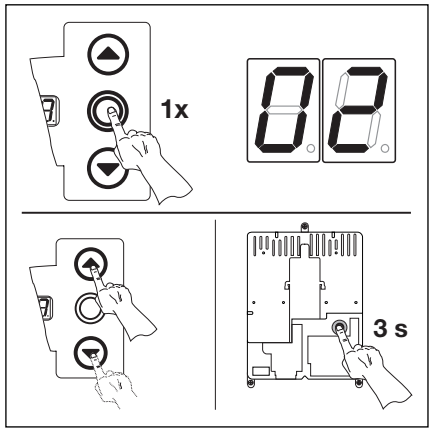


6–7.2 Checking the CLOSE end-of-travel position

After each door cycle in dead man's mode, it takes the control system approx. 1.5 sec. to respond to the next movement command.
During this time the display doesn't flash.

- Terminating the menu
  - Press the STOP button once.
  - The menu number **02** is displayed.
  - Setting the functions in this menu is thereby completed.

When the end-of-travel positions have been finally determined, carry out at least two full door cycles in the press-and-release mode to automatically learn the force limit. The door cycle must not be interrupted.



6–7.3 Acknowledging the function number. Terminating the programming

- Setting further further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.
  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.

6.5 Programme Menu 03 - Fine adjustment of the OPEN" end-of-travel position

In this menu you can re-locate in 9 increments the actual OPEN end-of-travel positions compared with the learned end-of-travel position from menu 01. This procedure can be repeated as often as you like.

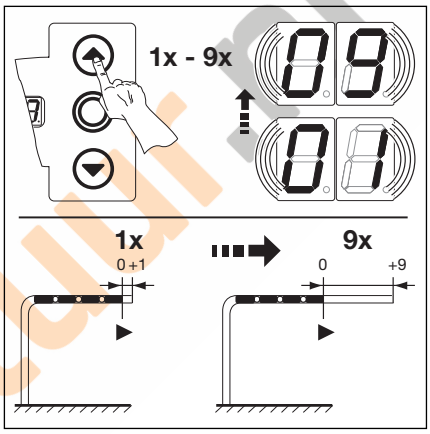
Action to be taken

- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once. The set increment number is displayed flashing.

- Setting the OPEN end-of-travel position further in the **OPEN** direction
  - Press the OPEN button. Each press of the button re-locates the actual end-of-travel position one increment further **behind** the learned end-of-travel position.
  - As many as 9 increments can make up the increment width (the increment width depends on the gears and cable drum).

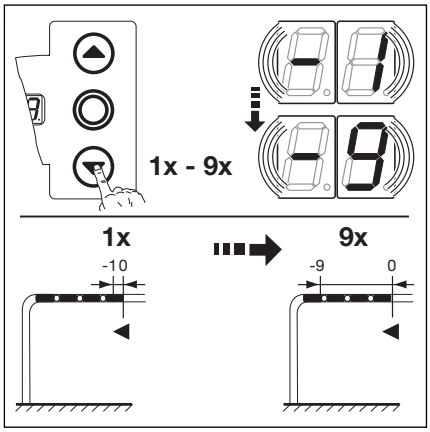
After each alteration via the fine adjustment the actual end-of-travel position of the door must be checked. To do this, stay in the programming mode and switch directly over to menu 02 "Test run for end-of-travel positions".



6–8.1 Setting the OPEN end-of-travel position further in the OPEN direction

- Setting the OPEN end-of-travel position back in the **CLOSE** direction
  - Press the CLOSE button. Each press of the button relocates the actual end-of-travel position one increment further **in front of** the learned end-of-travel position.
  - As many as 9 increments can make up the increment width (the increment width depends on the gears and cable drum).

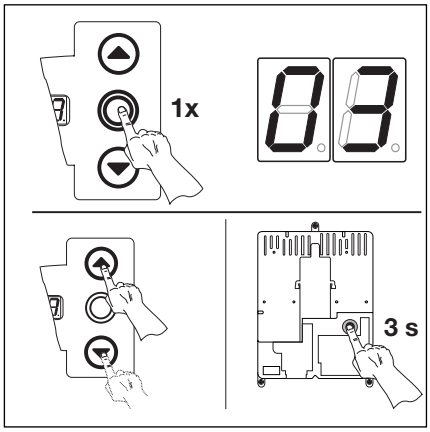
After each alteration via the fine adjustment the actual end-of-travel position of the door must be checked. To do this, stay in the programming mode and switch directly over to menu 02 "Test run for end-of-travel positions".



6–8.2 Setting the OPEN end-of-travel position back in the CLOSE direction

- Terminating the menu
  - Press the STOP button once.
  - The menu number **03** is displayed.
  - Setting the functions in this menu is thereby completed.

- Setting further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the function number.
  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.



6–8.3 Acknowledging the function number. Terminating the programming

6.6 Programme Menu 04 - Fine adjustment of the CLOSE end-of-travel position

In this menu you can re-locate in 9 increments the actual CLOSE end-of-travel positions compared with the learned end-of-travel position from menu 1. Relocating the increments. This procedure can be repeated as often as you like.

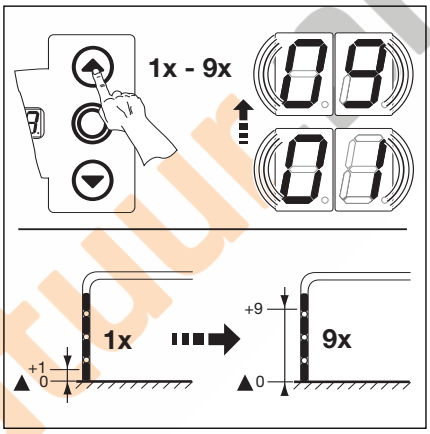
Action to be taken

- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once. The set increment number is displayed flashing.

- Setting the CLOSE end-of-travel position back in the **OPEN**
  - Press the OPEN button. Each press of the button re-locates the actual end-of-travel position one increment back **in front of** the learned end-of-travel position.
  - As many as 9 increments can make up the increment width (the increment width depends on the gears and cable drum).

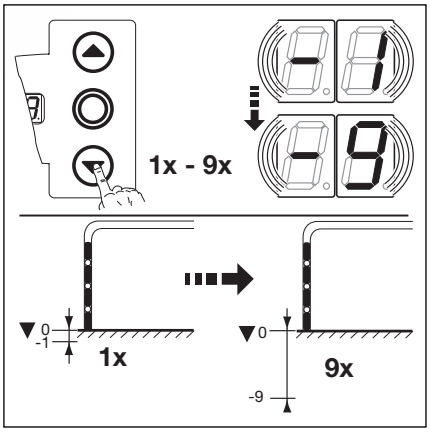
After each alteration via the fine adjustment the actual end-of-travel position of the door must be checked. To do this, stay in the programming mode and switch directly over to menu 02 "Test run for end-of-travel positions".



6–9.1 Setting the OPEN end-of-travel position back in the CLOSE direction

- Setting the CLOSE end-of-travel position further in the **CLOSE** direction
  - Press the CLOSE button. Each press of the button relocates the actual end-of-travel position one increment further **behind** the learned end-of-travel position.
  - As many as 9 increments can make up the increment width (the increment width depends on the gears and cable drum).

After each alteration via the fine adjustment the actual end-of-travel position of the door must be checked. To do this, stay in the programming mode and switch directly over to menu 02 "Test run for end-of-travel positions".

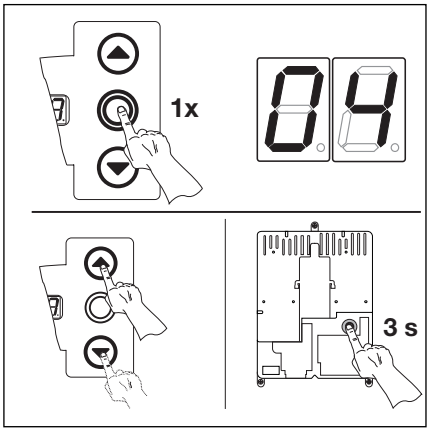


6–9.2 Setting the CLOSE end-of-travel position further in the CLOSE direction

If the door should travel beyond the end-of-travel position and the safety device has come into action, open the door again mechanically (see chap. 5.3) and finely adjust the end-of-travel position again.

- Terminating the menu
  - Press the STOP button once.
  - The menu number **04** is displayed.
  - Setting the functions in this menu is thereby completed.

- Setting further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.
  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.



6–9.3 Acknowledging the function number. Terminating the programming

6.7 Programme menu 05 - Force limit in the OPEN direction

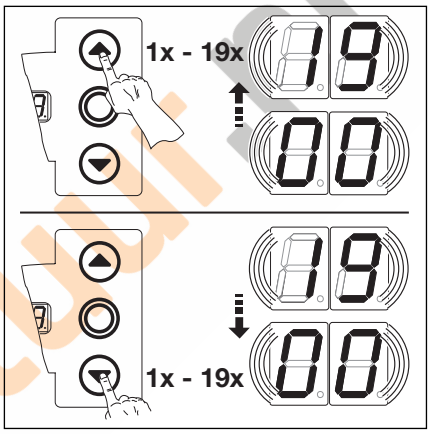
This protective function is designed to prevent people from "riding" on the door. It must be set in accordance with the country-specific regulations to ensure that in the event of a specific additional weight load the door comes to a halt.

Action to be taken

- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once. The level of the set force limit is displayed flashing.

- Setting the force limit in the **OPEN** direction
  - Press the OPEN button. Each press corresponds to a drop in the force limit (max. value **19**, max. additional weight, minimum safety).
  - At value **00** the force limit is switched off (no additional safety).

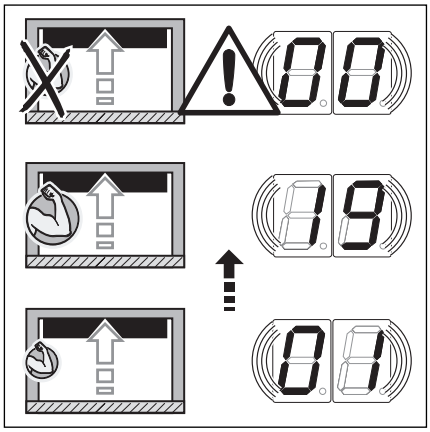


6–10.1 Selecting the function number

On switching off the force limit, the door without a roll-up safety device can only travel upwards in dead man's mode.

or

- Press the CLOSE button. Each press corresponds to an increase in the force limit (min. value **01**, minimum additional weight, maximum safety = the factory setting).

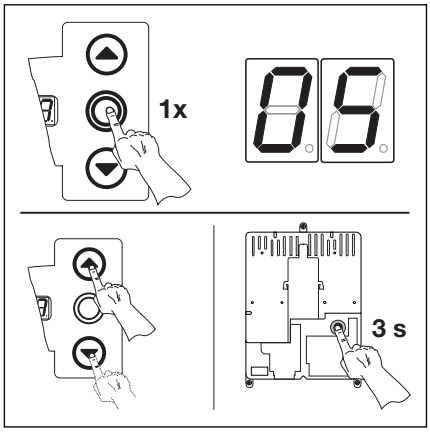


6–10.2 Setting the force limit.

The force limit should be set weighing up personal safety and safety in use in accordance with the country-specific regulations.

- Terminating the menu
  - Press the STOP button once.
  - The menu number **05** is displayed.
  - Setting the functions in this menu is thereby completed.

- Setting further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.
  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.



6–10.3 Acknowledging the function number. Terminating the programming

6.8 Programme menu 06 - Force limit in the CLOSE direction

Monitoring the closing door in the press-and-release mode must always be carried out via a closing edge safety device (=SKS, optional with additional photocell). The force limit function in the CLOSE direction promotes additional safety and protection in the presence of persons and obstacles. Once the force limit comes into action, the door is halted.

Action to be taken

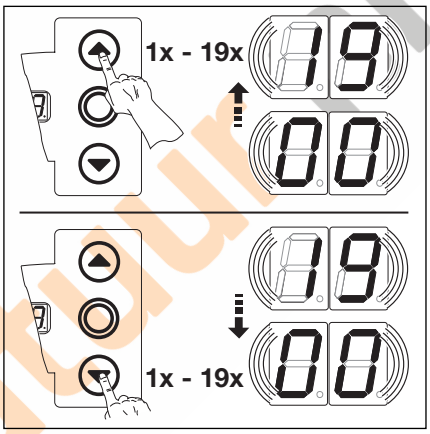
- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once. The level of the set force limit is displayed flashing.

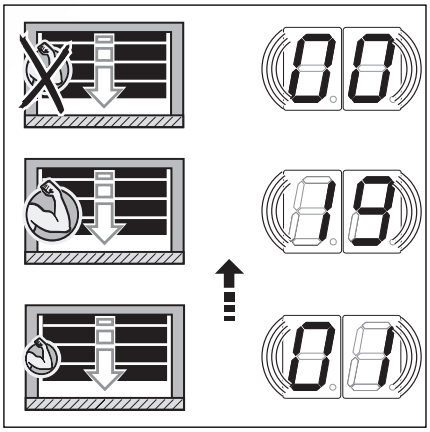
- Setting the force limit in the **CLOSE** direction
  - Press the OPEN button. Each press corresponds to a reduction in the force limit (max. value **19**).
  - At value **00** the force limit is switched off (no additional safety). Without a closing edge safety device, the door only ever travels in the CLOSE direction.

or

  - Press the CLOSE button. Each press corresponds to an increase in the force limit (min. value **01**, maximum safety = the factory setting).



6–11.1 Selecting the function number



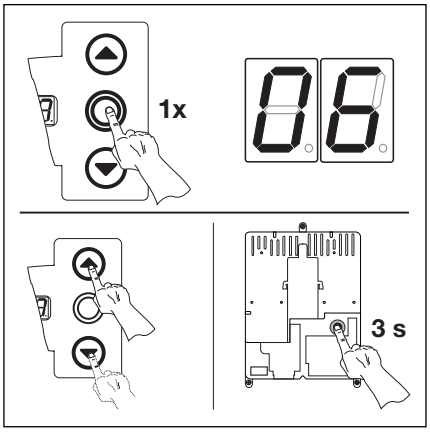
6–11.2 No additional safety with menu value 00.

> The force limit should not be set unnecessarily high, since this can cause injury to persons and damage to property.

- Terminating the menu
  - Press the STOP button once.
  - The menu number **06** is displayed.
  - Setting the values in this menu is thereby completed.

- Setting further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.

  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.



6–11.3 Acknowledging the function number. Terminating the programming

6.9 Menu 07 - Selecting the Track Application

To ensure that the reversing limit of the door is 50 mm above the ground, the used fitting mode must be set.

Action to be taken

- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once. The set function number is displayed flashing.

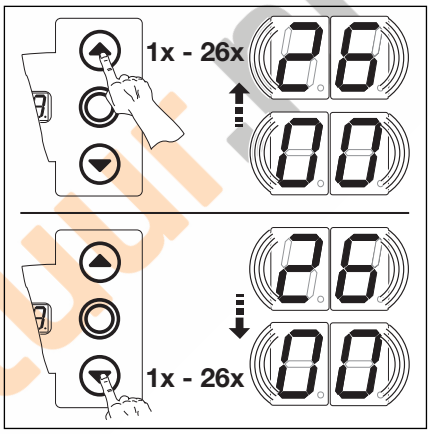
- Selecting the function
  - Press the OPEN button. Each press increases the function number (max. function number **26**).

or

  - Press the CLOSE button. Each press reduces the function number (min. function number **01**).

or

  - With function number **00**, the function is switched off.



6–12.1 Selecting the function number

Fitting type	Grid dimension in mm
00* not set	
01 ITO internal door operator	
02 N1 Normal tracks L1/L2 low-headroom tracks	— 3500
03 N2 Normal tracks	3500 — ≤ 4250
04 N2 Normal tracks	4250 — ≤ 5000
05 N3 Normal tracks	5000 — ≤ 7000
06 H4 Lift tracks High-lift ≤ 2000 mm	— 3500
07 H4 Lift tracks High-lift > 2000 mm	— 3500
08 H5 Lift tracks High-lift ≤ 2000 mm	3500 — ≤ 4250

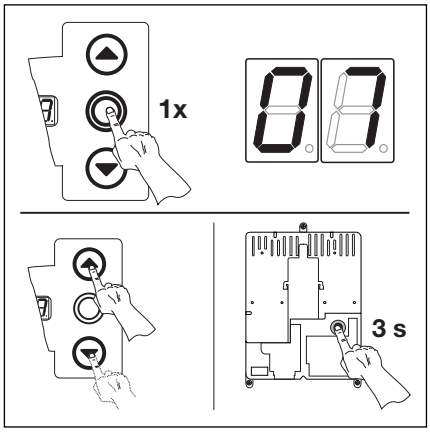
Fitting type	Grid dimension in mm
09 H5 Lift tracks High-lift > 2000 mm	3500 — ≤ 4250
10 H5 Lift tracks High-lift ≤ 2000 mm	4250 — ≤ 5000
11 H5 Lift tracks High-lift > 2000 mm	4250 — ≤ 5000
12 H8 Lift tracks	5000 — ≤ 7000
13 V6 Vertical tracks	— 3500
14 V7 Vertical tracks	3500 — ≤ 4250
15 V7 Vertical tracks	4250 — ≤ 5000
16 V9 Vertical tracks	5000 — ≤ 7000
17 N2 Normal tracks **with tandem roller (TR)**	3500 — ≤ 4250
18 N2 Normal tracks **(TR)**	4250 — ≤ 5000

Fitting type	Grid dimension in mm
19 N3 Normal tracks **(TR)**	5000 — ≤ 7000
20 H4 Lift tracks **(TR)** High-lift ≤ 2000 mm	— 3500
21 H4 Lift tracks **(TR)** High-lift > 2000 mm	— 3500
22 H5 Lift tracks **(TR)** High-lift ≤ 2000 mm	3500 — ≤ 4250
23 H5 Lift tracks **(TR)** High-lift > 2000 mm	3500 — ≤ 4250
24 H5 Lift tracks **(TR)** High-lift ≤ 2000 mm	4250 — ≤ 5000
25 H5 Lift tracks **(TR)** High-lift > 2000 mm	4250 — ≤ 5000
26 H8 Lift tracks **(TR)**	5000 — ≤ 7000

6–12.2 The adjustable functions.
** = Factory setting.*

- Terminating the menu
  - Press the STOP button once.
  - The menu number **07** is displayed.
  - Setting the functions in this menu is thereby completed.

- Setting further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.
  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.



6–12.3 Acknowledging the function number. Terminating the programming

6.10 Programme menu 08 - Learning the intermediate end-of-travel position (HALF OPEN)

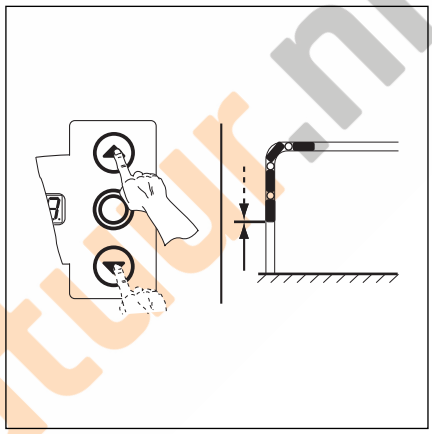
With the intermediate end-of-travel function, the door opens via the HALF-OPEN button to a specific "learned" height only. This menu is only executed in dead man's mode. Learned intermediate end-of-travel positions can be deleted in menu 99.

Action to be taken

- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once. "Position" **L I–I** is displayed flashing.

- Learning the intermediate end-of-travel position
  - Press and hold the OPEN button (dead man's mode) until the desired intermediate end-of-travel position is reached.
    Any necessary corrections can be made via the CLOSE button.



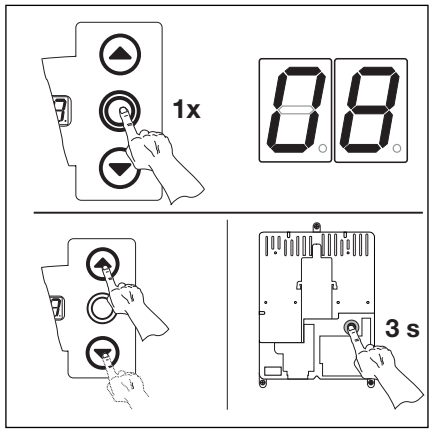
6–13.1 Learning the OPEN intermediate end-of-travel position

After each door cycle in dead man's mode, it takes the control system approx. 1.5 sec. to respond to the next movement command. During this time the display doesn't flash.

- Terminating the menu
  - Press the STOP button once.
  - The menu number **08** is displayed.
  - Setting the functions in this menu is thereby completed.

- Setting further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.

  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.



6–13.2 Acknowledging the function number. Terminating the programming

6.11 Programme Menu 09 - Time for Crash / Early Warning Phase

The option relays, which must be activated in menu 18/19 (time in seconds), work with these times.

Action to be taken

- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once. The set function number is displayed flashing.

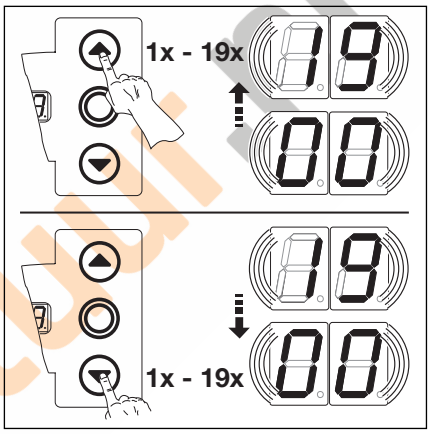
- Setting the function
  - Press the OPEN button. Each press increases the function number (max. function number **19**).

or

  - Press the CLOSE button. Each press reduces the function number (min. function number **01**).

or

  - With function number **00**, the function is switched off.



6–14.1 Selecting the function number

Note

Crash warning = signal on non-automatic operation before and during every door cycle.

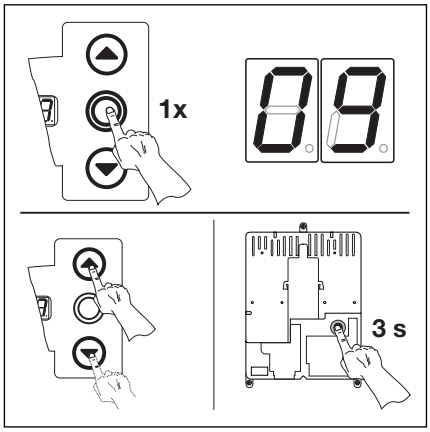
Early warning = signal on non-automatic operation (timer control/traffic lane control) before the door closes and during every door cycle.

00*	—	**11**	12
01	1	**12**	15
02	2	**13**	20
03	3	**14**	25
04	4	**15**	30
05	5	**16**	40
06	6	**17**	50
07	7	**18**	60
08	8	**19**	70
09	9		
10	10		

6–14.2 The adjustable functions.
** = Factory setting.*

- Terminating the menu
  - Press the STOP button once.
  - The menu number **09** is displayed.
  - Setting the functions in this menu is thereby completed.

- Setting further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.
  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.



6–14.3 Acknowledging the function number. Terminating the programming

6.12 Programme menu 10 - Setting the open phase using the automatic timer or traffic lane control

The open phase is the time during which the door remains open after it has reached the OPEN end-of-travel position. After this time has elapsed, the door closes (time in seconds). The operating mode must be additionally programmed in menu 20.

Action to be taken

- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once. The set function number is displayed flashing.

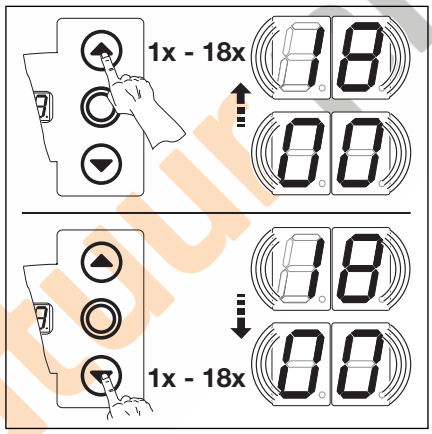
- Setting the function
  - Press the OPEN button. Each press increases the function number (max. function number **18**).

or

  - Press the CLOSE button. Each press reduces the function number (min. function number **01**).

or

  - With function number **00**, the function is switched off.



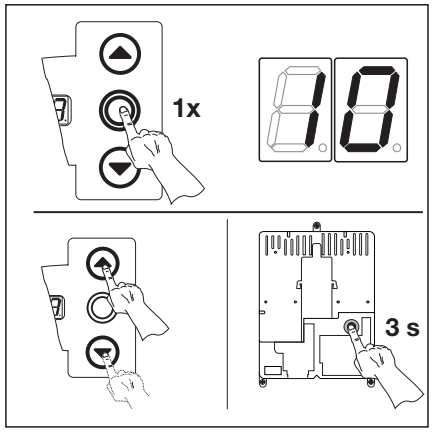
6–15.1 Selecting the function number

00*	—	**11**	90
01	5	**12**	120
02	10	**13**	180
03	15	**14**	240
04	20	**15**	300
05	25	**16**	360
06	30	**17**	420
07	35	**18**	480
08	40		
09	50		
10	60		

6–15.2 The adjustable functions.
** = Factory setting.*

- Terminating the menu
  - Press the STOP button once.
  - The menu number **10** is displayed.
  - Setting the functions in this menu is thereby completed.

- Setting further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.
  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.



6–15.3 Acknowledging the function number. Terminating the programming

6.13 Programme menu 11 - Setting the response of the operator after activation of the closing edge safety device (SKS) at socket X30

Here you can set how you wish the operator in the CLOSE direction to behave after activation of the closing edge safety device (SKS) connected at socket **X30**.

Action to be taken

- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once. The set function number is displayed flashing.

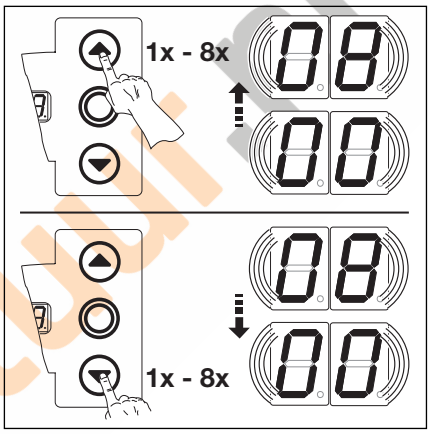
- Setting the function
  - Press the OPEN button. Each press increases the function number (max. function number **08**).

or

  - Press the CLOSE button. Each press reduces the function number (min. function number **01**).

or

  - With function number **00**, the function is switched off.



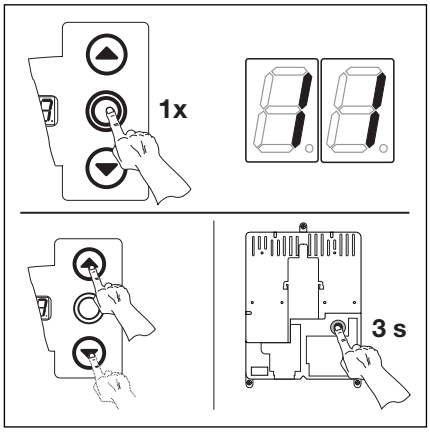
6–16.1 Selecting the function number

00*	Dead man's mode without closing edge safety device (SKS) in the CLOSE direction
01	Dead man's mode with closing edge safety device (SKS) in the CLOSE direction
02	SKS: Relief when the door encounters an obstruction
03	SKS: Short reverse when the door encounters an obstruction
04	SKS: Long reverse when the door encounters an obstruction
05	Dead man's mode with resistance contact strip (8K2) in CLOSE direction
06	8K2: Relief when the door encounters an obstruction
07	8K2: Short reverse when door encounters an obstruction
08	8K2: Long reverse when the door encounters an obstruction

6–16.2 The adjustable functions.
** = Factory setting*

- Terminating the menu
  - Press the STOP button once.
  - The menu number **11** is displayed.
  - Setting the functions in this menu is thereby completed.

- Setting further further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.
  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.



6–16.3 Acknowledging the function number. Terminating the programming

6.14 Programme menu 12 - Setting the response of the operator after activation of the closing edge safety device (SKS) at socket X20

Here you can set how the operator behaves after activation of the safety device (e.g. photocell) connected to socket **X20**.

Action to be taken

- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once. The set function number is displayed flashing.

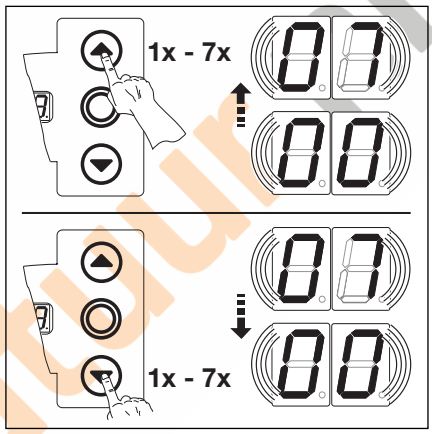
- Setting the function
  - Press the OPEN button. Each press increases the function number (max. function number **07**).

or

  - Press the CLOSE button. Each press reduces the function number (min. function number **01**).

or

  - With function number **00**, the function is switched off.



6–17.1 Selecting the function number

Note to function number 06
Using a photocell as a safety element and as a photocell to monitor through-traffic:
If the photocell is occupied, the open phase is halted. If the photocell is occupied again when the door closes, this initiates a long reverse.

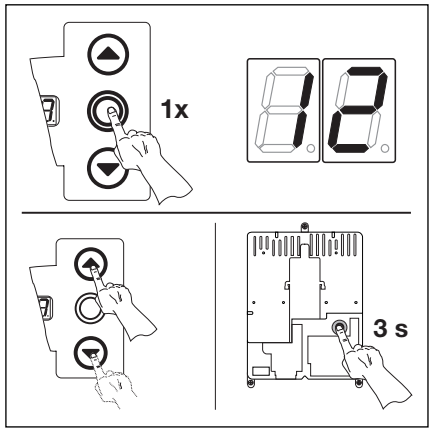
Note to function number 07
Using a photocell at a distance away from the door as a photocell to monitor through-traffic.
If the photocell is occupied, the open phase is aborted.

00*	Safety element (e.g. photocell) not fitted
01	Safety element in CLOSE direction. Reversing OFF when safety element activated.
02	Safety element in CLOSE direction. Reversing OFF when safety element activated.
03	Safety element in CLOSE direction. Long reversing when safety element activated.
04	Safety element (e.g. roll-up safety device) in the OPEN direction. Reversing OFF.
05	Safety element in OPEN direction. Reversing OFF when safety element activated.
06	Abort the open phase. Safety element in CLOSE direction. Long reversing when safety element activated.
07	Abort the open phase.

6–17.2 The adjustable functions.
** = Factory setting.*

- Terminating the menu
  - Press the STOP button once.
  - The menu number **12** is displayed.
  - Setting the functions in this menu is thereby completed.

- Setting further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.
  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.



6–17.3 Acknowledging the function number. Terminating the programming

6.15 Programme menu 13 - Setting the response of the operator after activation of the closing edge safety device (SKS) at socket X21

Here you can set how the operator behaves after activation of the safety device (e.g. photocell) connected to socket **X21**.

Action to be taken

- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once. The set function number is displayed flashing.

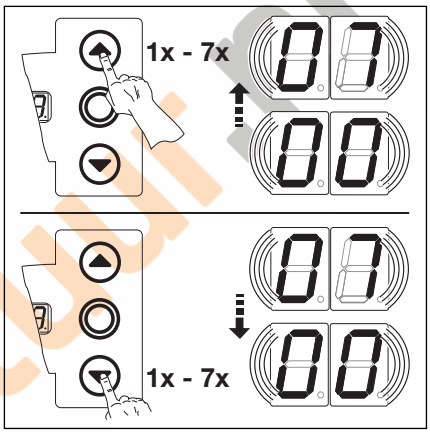
- Setting the function
  - Press the OPEN button. Each press increases the function number (max. function number **07**).

or

  - Press the CLOSE button. Each press reduces the function number (min. function number **01**).

or

  - With function number **00**, the function is switched off.



6–18 .1 Selecting the function number

Note to function number 06
Using a photocell as a safety element and as a photocell to monitor through-traffic:
If the photocell is occupied, the open phase is halted. If the photocell is occupied again when the door closes, this initiates a long reverse.

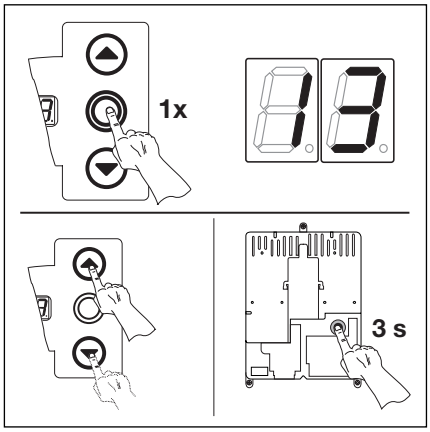
Note to function number 07
Using a photocell at a distance away from the door as a photocell to monitor through-traffic.
If the photocell is occupied, the open phase is halted.

00*	Safety element (e.g. photocell) not fitted
01	Safety element in CLOSE direction. Reverse OFF when the safety element comes into action.
02	Safety element in CLOSE direction. Reverse OFF when the safety element comes into action.
03	Safety element in CLOSE direction. Long reverse when the safety element comes into action.
04	Safety element (e.g. roll-up safety device) in the OPEN direction. Reversing OFF.
05	Safety element in OPEN direction. Short reverse when the safety element comes into action.
06	Abort the open phase. Safety element in CLOSE direction. Long reversing when safety element activated.
07	Abort the open phase.

6–18.2 The adjustable functions.
** = Factory setting.*

- Terminating the menu
  - Press the STOP button once.
  - The menu number **13** is displayed.
  - Setting the functions in this menu is thereby completed.

- Setting further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.
  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.



6–18.3 Acknowledging the function number. Terminating the programming

6.16 Programme menu 14 - Setting the response of the operator after activation of the closing edge safety device (SKS) at socket X22

Here you can set how the operator behaves after activation of the safety device (e.g. photocell) connected to socket **X22**.

Action to be taken

- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once. The set function number is displayed flashing.

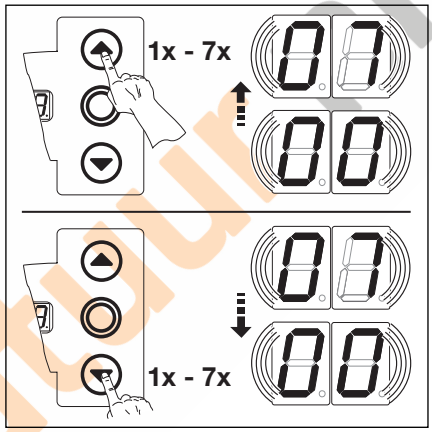
- Setting the function
  - Press the OPEN button. Each press increases the function number (max. function number **07**).

or

  - Press the CLOSE button. Each press reduces the function number (min. function number **01**).

or

  - With function number **00**, the function is switched off.



6–19.1 Selecting the function number

Note to function number 06
Using a photocell as a safety element and as a photocell to monitor through-traffic:
If the photocell is occupied, the open phase is halted. If the photocell is occupied again when the door closes, this initiates a long reverse.

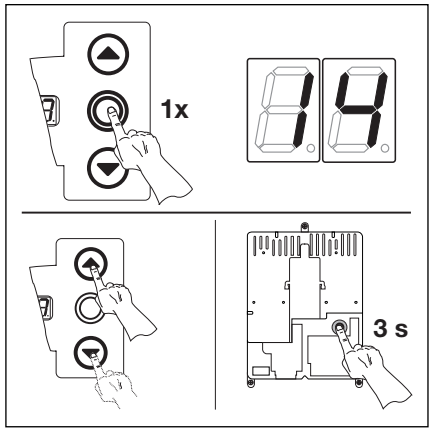
Note on function number 07
Using a photocell at a distance away from the door as a photocell to monitor through-traffic.
If the photocell is occupied, the open phase is halted.

00*	Safety element (e.g. photocell) not fitted
01	Safety element in CLOSE direction. Reverse OFF when the safety element comes into action.
02	Safety element in CLOSE direction. Reversing OFF when safety element activated.
03	Safety element in CLOSE direction. Long reversing when safety element activated.
04	Safety element (e.g. roll-up safety device) in the OPEN direction. Reversing OFF.
05	Safety element in OPEN direction. Reversing OFF when safety element activated.
06	Abort the open phase. Safety element in CLOSE direction. Long reversing when safety element activated.
07	Abort the open phase.

6–19.2 The adjustable functions.
** = Factory setting.*

- Terminating the menu
  - Press the STOP button once.
  - The menu number **14** is displayed.
  - Setting the functions in this menu is thereby completed.

- Setting further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.
  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.



6–19.3 Acknowledging the function number. Terminating the programming

6.17 Programme menu 15 - Response of the impulse input

Here you can set how the operator behaves after activation of the impulse entry at socket **X2**.

Action to be taken

- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once. The set function number is displayed flashing.

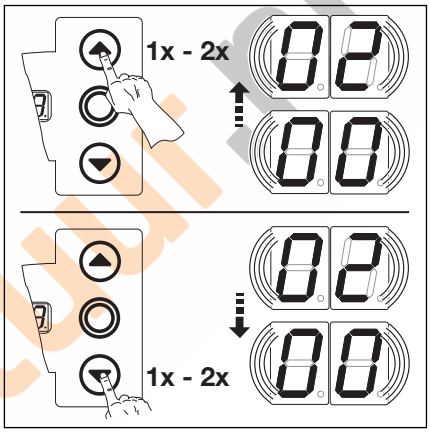
- Setting the function
  - Press the OPEN button. Each press increases the function number (max. function number **02**).

or

  - Press the CLOSE button. Each press reduces the function number (min. function number **01**).

or

  - With function number **00**, the function is switched off.



6–20.1 Selecting the function number

Note on function number 01 - 02
Observe the regulations specific to your country!

Note on automatic operation
(Menu 20 to function number 01 or 02). The functions of menu 15 are not included. The following are additionally retained:
- Impulse door opens without stopping.
Observe the regulations specific to your country!

00* Impulse function (follow-up control for elements operated by hand, e.g. buttons, hand transmitters, pull switches):
OPEN-STOP-CLOSE-STOP-OPEN-STOP ...

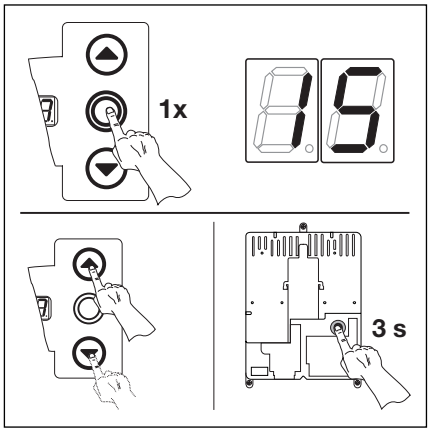
01 Impulse function (for electrically operated elements, e.g. induction loops):
OPEN (up to OPEN end-of-travel position)-CLOSE (up to CLOSE end-of-travel position)

02 Impulse function (for electrically operated elements, e.g. induction loops):
- OPEN direction: OPEN-STOP-OPEN-STOP ... (up to the OPEN end-of-travel position)
- CLOSE direction: CLOSE (up to CLOSE end-of-travel position)-STOP-OPEN-STOP-OPEN ...
(up to the OPEN end-of-travel position)

6–20.2 The adjustable functions.
** = Factory setting.*

- Terminating the menu
  - Press the STOP button once.
  - The menu number **15** is displayed.
  - Setting the functions in this menu is thereby completed.

- Setting further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.
  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.



6–20.3 Acknowledging the function number. Terminating the programming.

6.18 Menu 16 - Response of the command units

Here the function of the command elements on the control unit housing cover and at the sockets X3/X10 are set.

Action to be taken

- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once. The set function number is displayed flashing.

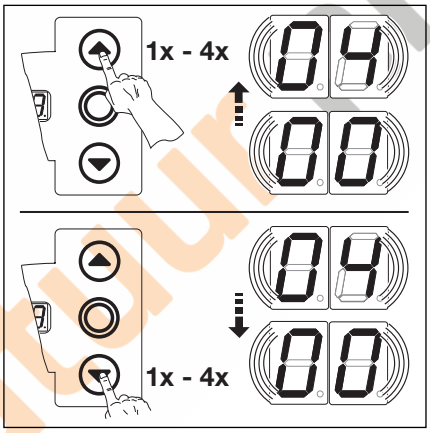
- Setting the function
  - Press the OPEN button. Each press increases the function number (max. function number **04**).

or

  - Press the CLOSE button. Each press reduces the function number (min. function number **01**).

or

  - With function number **00**, the function is switched off.



6–21.1 Selecting the function number

Note on function numbers 02 - 04
Observe the regulations specific to your country!
Note on automatic operation
(Menu 20 on function number 01 or 02).
The functions of menu 16 are not included. The following are additionally retained:
- The OPEN button opens the door without stopping
- The CLOSE button aborts the open phase when the door is open
- STOP button = STOP
- HALF-OPEN button = without function

Observe the regulations specific to your country!

00* Button function alternates with STOP
- OPEN button OPEN-STOP-OPEN-STOP-OPEN-STOP ...
- CLOSE button CLOSE-STOP-CLOSE-STOP-CLOSE-STOP ...

01 Button function only
- OPEN button OPEN up to end-of-travel position, the CLOSE button stops the door
- CLOSE button CLOSE up to end-of-travel position, the OPEN button stops the door

02 Button function with reverse of direction via STOP when door closing
- OPEN button stops the door. The door then opens automatically

03 Button function with reverse of direction when door opening
- CLOSE button stops the door. The door then closes automatically

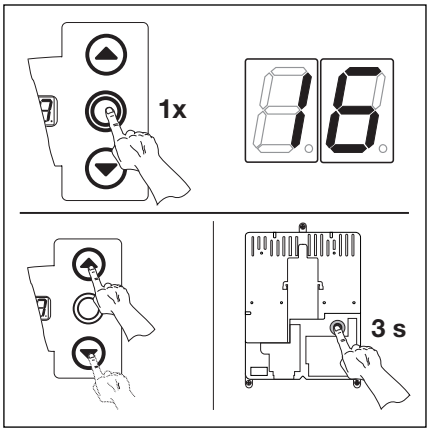
04 Button function with reverse of direction via STOP in both directions.
- The OPEN button stops a closing door. The door then opens automatically
- The CLOSE button stops an opening door. The door then closes automatically

6–21.2 The adjustable functions.
** = Factory setting.*

- Terminating the menu
  - Press the STOP button once.
  - The menu number **16** is displayed.
  - Setting the functions in this menu is thereby completed.

- Setting further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.

  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.



6–21.3 Acknowledging the function number. Terminating the programming

6.19 Programme menu 17 - Miniature lock alters the response of the command elements

Here you can set how the command elements respond after actuation of the miniature lock on the control unit housing. The miniature lock takes on the function of a master switch.

Action to be taken

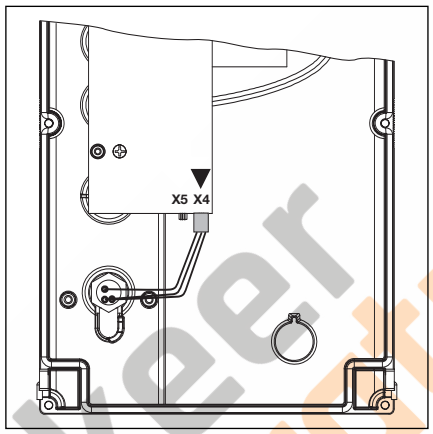
- Open the control unit and plug the connection for the miniature lock on the keyboard PCB in the cover into another socket (see fig,. 6-21.1).
- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once.
  The set function number is displayed flashing.

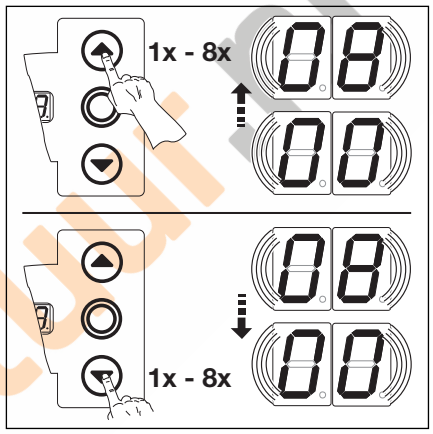
- Setting the function
  - Press the OPEN button. Each press increases the function number (max. function number **08**).

or

  - Press the CLOSE button. Each press reduces the function number (min. function number **00**).



6-22.1 Unplug the connection for the miniature lock, on the inside the cover, from X5 and plug into X4.



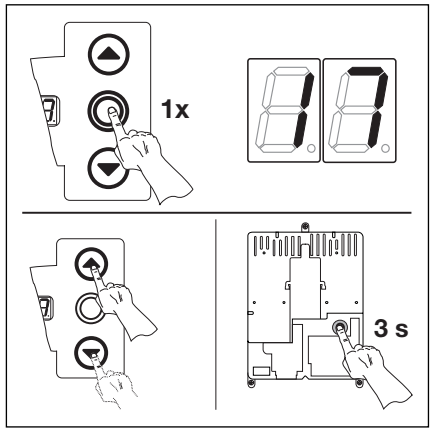
6-22.2 Selecting the function number

00*	Miniature lock without function	
01	Miniature lock at **1** blocks the buttons on the control unit housing (except the STOP button).	
02	Miniature lock at **1** blocks all the external control signals (except the STOP button).	
03	Miniature lock at **1** blocks the buttons on the control unit housing cover and all the external control signals (except the STOP button).	
04	Miniature lock at **1** blocks the buttons on the control unit housing (except the STOP button). The external OPEN/CLOSE buttons are master buttons.	
05	Miniature lock at **1** blocks all the external control signals (except the STOP button). The OPEN/CLOSE buttons on the control unit housing cover are master buttons.	
06	• Miniature lock at **0**: The miniature lock blocks the buttons on the control unit housing cover (except the STOP button).	• Miniature lock at **1**: The miniature lock blocks the buttons on the control unit housing cover (except the STOP button). The external OPEN/CLOSE buttons are master buttons.
07	• Miniature lock at **0**: The HALF-OPEN button assumes the function for door opening up to door closing (summer operation).	• Miniature lock at **1**: The HALF-OPEN button assumes the function for door opening up to the intermediate end-of-travel position - door closing (winter operation).
08	• Miniature lock at **0**: The HALF-OPEN button assumes the function for door opening up to Door closing (summer operation) with automatic timer function.	• Miniature lock at **1**: The HALF-OPEN button assumes the function for door opening up to the intermediate end-of-travel position - door closing (winter operation) with automatic timer function.

6-22.3 The adjustable functions.
** = Factory setting.*

- Terminating the menu
  - Press the STOP button once.
  - The menu number **17** is displayed.
  - Setting the functions in this menu is thereby completed.

- Setting further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.
  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.



6-22.4 Acknowledging the function number. Terminating the programming

6.20 Programme menu 18 - Settings of the option relay 1

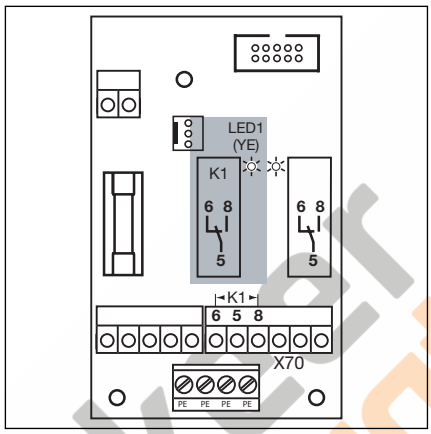
To suit specific operating states, option relay 1 can be switched to permanent, transient or clock pulsing.
Installation see chap. 7.3.

Action to be taken

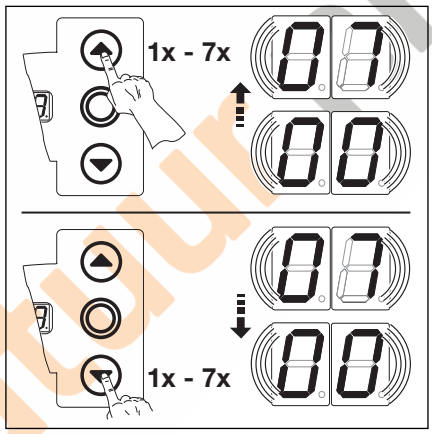
- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once.
  The set function number is displayed flashing.

- Setting the function
  - Press the OPEN button. Each press increases the function number (max. function number **07**).
  or
  - Press the CLOSE button. Each press reduces the function number (min. function number **01**).
  or
  - With function number **00**, the function is switched off.



6–23.1 Option relay 1 on the "option relay" PCB



6–23.2 Selecting the function number

Note on function numbers 06 - 07
Crash warning = signal on non-automatic operation before and during every door cycle.

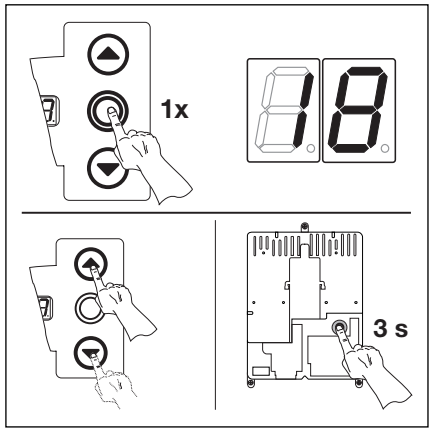
Early warning = signal on non-automatic operation (timer control/traffic lane control) before the door closes and during every door cycle.

00* Option relay OFF
01 "OPEN end-of-travel position" signal
02 "CLOSE end-of-travel position" signal
03 "Intermediate end-of-travel position" (HALF OPEN) signal
04 Impulse signal on receiving the "OPEN" command or the "request to drive in" signal
05 "Error message" signal on the display
06 Crash / early warning permanent signal (time setting menu 9)
07 Crash / early warning flashing (time setting menu 9)

6–23.3 The adjustable functions.
** = Factory setting.*

- Terminating the menu
  - Press the STOP button once.
  - The menu number **18** is displayed.
  - Setting the functions in this menu is thereby completed.

- Setting further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.
  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.



6–23.4 Acknowledging the function number. Terminating the programming

6.21 Programme menu 19 - Settings of the option relay 2

To suit specific operating states, option relay 2 can be switched to permanent, transient or clock pulsing.
Installation see chap. 7.3.

Action to be taken

- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once.
  The set function number is displayed flashing.

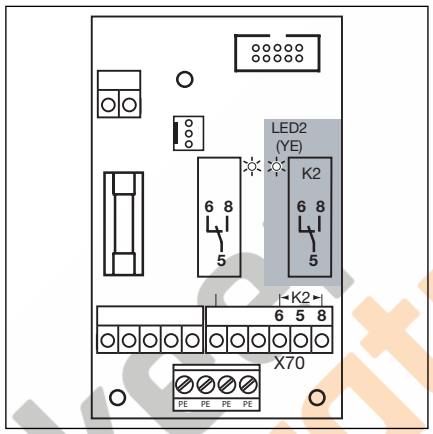
- Setting the function
  - Press the OPEN button. Each press increases the function number (max. function number **07**).

or

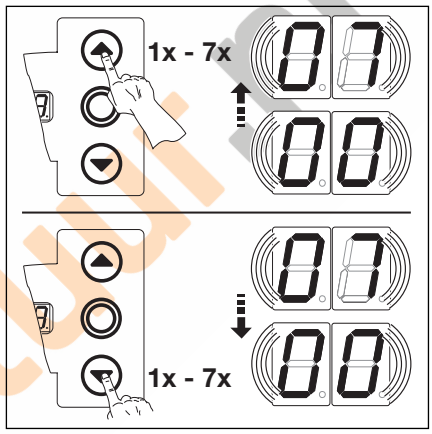
  - Press the CLOSE button. Each press reduces the function number (min. function number **01**).

or

  - With function number **00**, the function is switched off.



6–24.1 Option relay 2 on the "option relay" PCB



6–24.2 Selecting the function number

Note on function numbers 06 - 07
Crash warning = signal on non-automatic operation before and during every door cycle.

Early warning = signal on non-automatic operation (timer control/traffic lane control) before the door closes and during every door cycle.

00* Option relay OFF
01 "OPEN end-of-travel position" signal
02 "CLOSE end-of-travel position" signal
03 "Intermediate end-of-travel position" (HALF OPEN) signal
04 Impulse signal on receiving the "OPEN" command or the "request to drive in" signal
05 "Error message" signal on the display
06 Crash / early warning permanent signal (time setting menu 09)
07 Crash / early warning flashing (time setting menu 09)

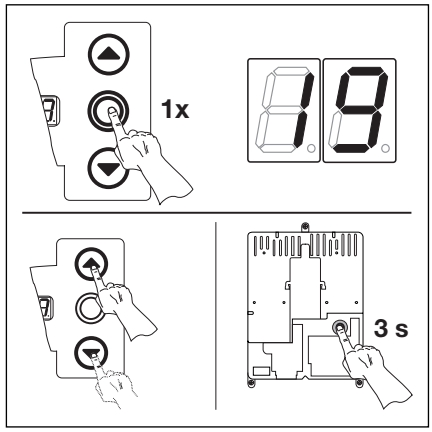
6–24.3 The adjustable functions.
** = Factory setting.*

- Terminating the menu
  - Press the STOP button once.
  - The menu number **19** is displayed.
  - Setting the functions in this menu is thereby completed.

- Setting further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.

  or

- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.



6–24.4 Acknowledging the function number. Terminating the programming

6.22 Programme menu 20 - Setting the operating modes

Here you can set the control for manual or automatic operation (with timer control or traffic lane control).

Action to be taken

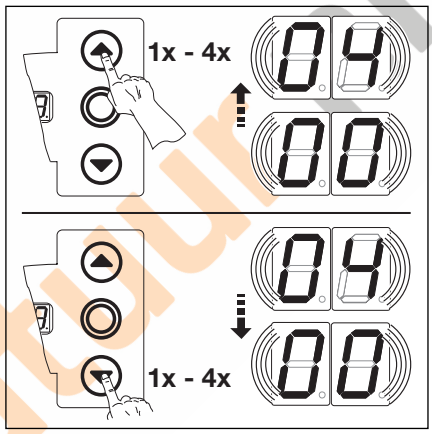
- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once. The set function number is displayed flashing.

- Setting the function
  - Press the OPEN button. Each press increases the function number (max. function number **02**).

  or

  - Press the CLOSE button. Each press reduces the function number (min. function number **00**).



6–25.1 Selecting the function number

Note
For operation with timer control, the option relay must be programmed in menu 18/19.

Operation with traffic lane control pre-supposes proper installation of the corresponding PCB (chapter7).

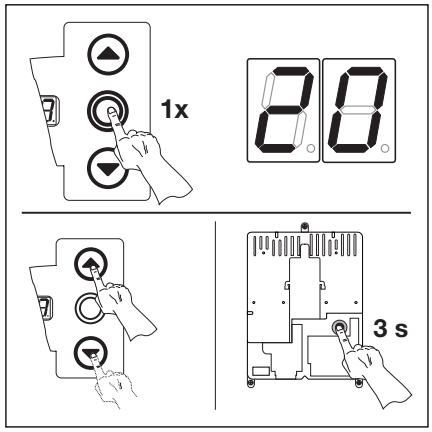
00* Manual operation
01 Timer control
02 Traffic lane control

6–25.2 The adjustable functions.
** = Factory setting.*

- Terminating the menu
  - Press the STOP button once.
  - The menu number **20** is displayed.
  - Setting the functions in this menu is thereby completed.

- Setting further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.

  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.



6–25.3 Acknowledging the function number. Terminating the programming

6.23 Programme menu 21 - Monitoring the self-testing wicket door contact

Here the monitoring of a self-testing wicket door contact connected to socket X31 (SKS PCB) is switched on or off.

Action to be taken

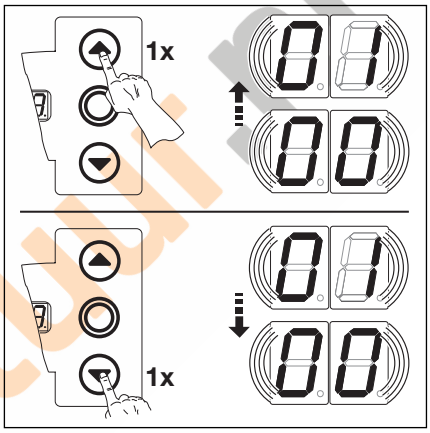
- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once. The set function number is displayed flashing.

- Setting the function
  - Press the OPEN button. Each press increases the function number (max. function number **01**).

or

  - Press the CLOSE button. Each press reduces the function number (min. function number **00**).



6–26.1 Selecting the function number

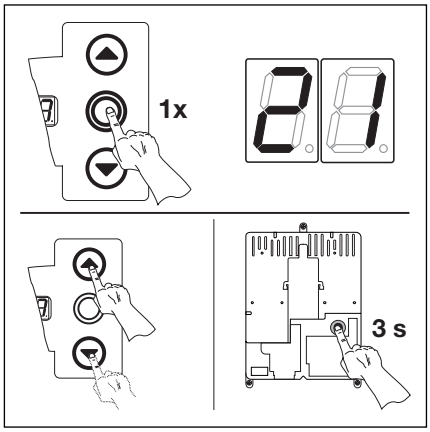
00*	Monitoring of self-testing switched off
01	Monitoring of self-testing switched on - In the event of a negative self-test, door movement is prevented and an error message 16 is issued.

6–26.2 The adjustable functions
** = Factory setting.*

- Terminating the menu
  - Press the STOP button once.
  - The menu number **21** is displayed.
  - Setting the functions in this menu is thereby completed.

- Setting further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.

  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed.



6–26.3 Acknowledging the function number. Terminating the programming

6.24 Programme menu 99 - Resetting data

In this menu it is possible to reset various control programme data.

Action to be taken

- **either**
  If the control system is already in the programming mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 6.2).
  or
  Initiate programming via the programming button (see chapter 6.2) and switch to the corresponding menu.

- Press the STOP button once. The set function number is displayed flashing.

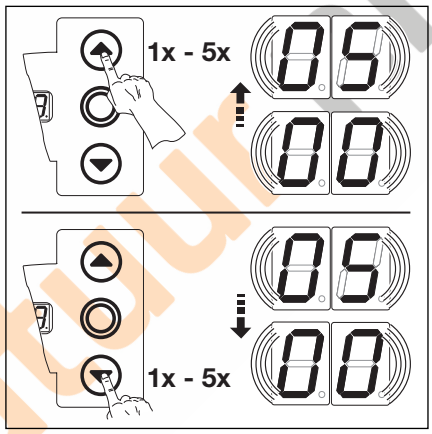
- Setting the function
  - Press the OPEN button. Each press increases the function number (max. function number **05**).

or

  - Press the CLOSE button. Each press reduces the function number (min. function number **01**).

or

  - With function number **00**, the function is switched off.



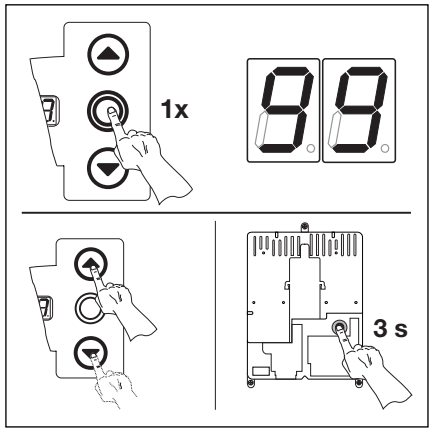
6–27.1 Selecting the function number

00*	No alteration
01	Re-setting the maintenance intervals
02	Deleting the tag in the error messages storage
03	Re-setting the functions of the factory setting from menu 08 onwards
04	Re-setting the functions of the factory setting of all the menus
05	Deleting the intermediate end-of-travel position (HALF-OPEN)

6–27.2 The adjustable functions.
* = Factory setting.

- Terminating the menu
  - Press the STOP button once.
  - The menu number **99** is displayed.
  - Setting the functions in this menu is thereby completed.

- Setting further functions
  - Select the corresponding menu via the OPEN or CLOSE buttons.
  - Alter the functions.
  or
- Terminate the programming
  - Press the programming button for 3 sec.
  - The corresponding door position is displayed



6–27.3 Acknowledging the function number. Terminating the programming

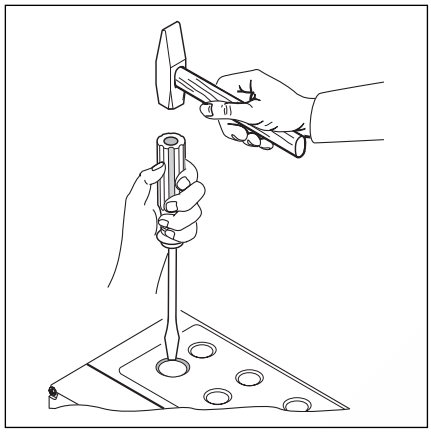
7 Accessories and Extensions

7.1 General notes

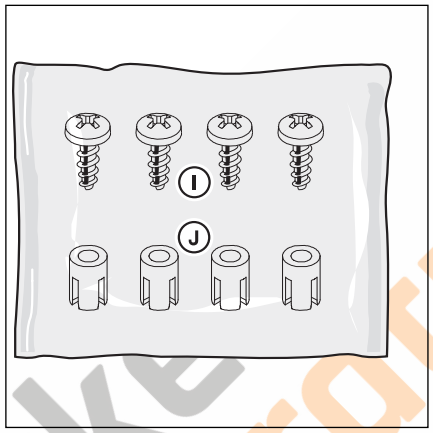
Before installing accessories and extensions, please observe the following:

Before installing accessories and extensions, the system must be switched off at the mains and in accordance with the safety regulations be safeguarded against being switched on again.

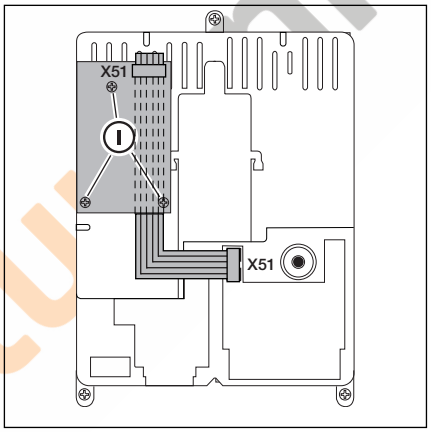
- Only install accessories and extensions authorized by the manufacturer for use with these controls.
- The local safety requirements must be observed.
- It is essential to lay the mains and control cables in separate installation systems.



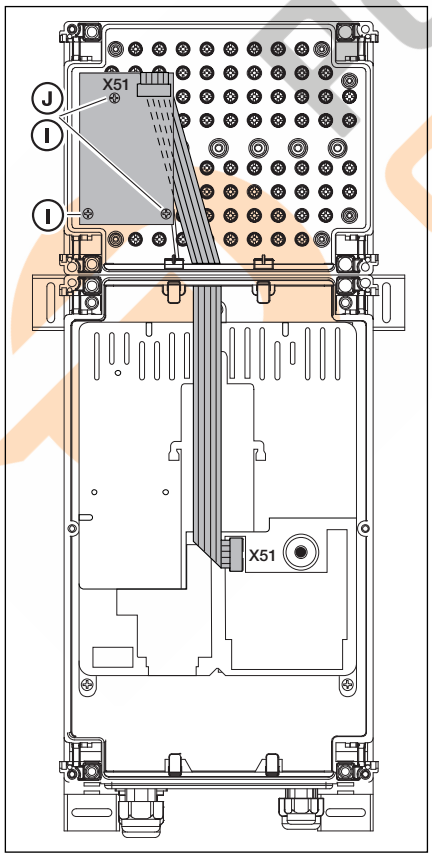
7–1.1 To retrofit screwed cable glands, punch through the pre-stamped break points only with the cover closed.



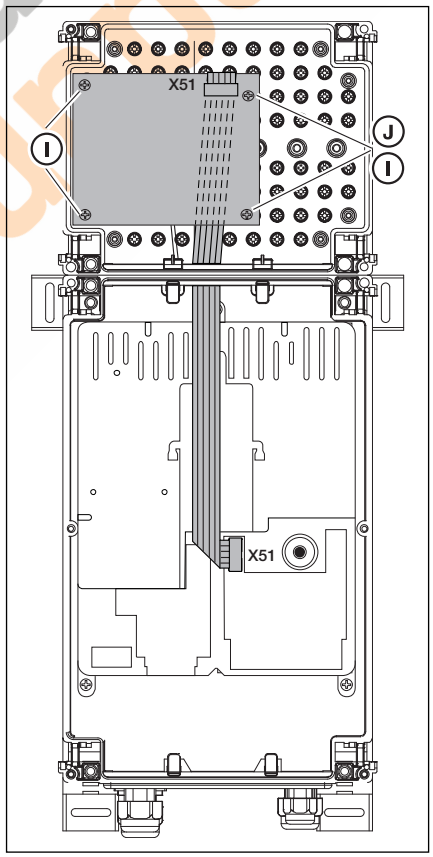
7–1.2 Bag of accessories for the extension PCB



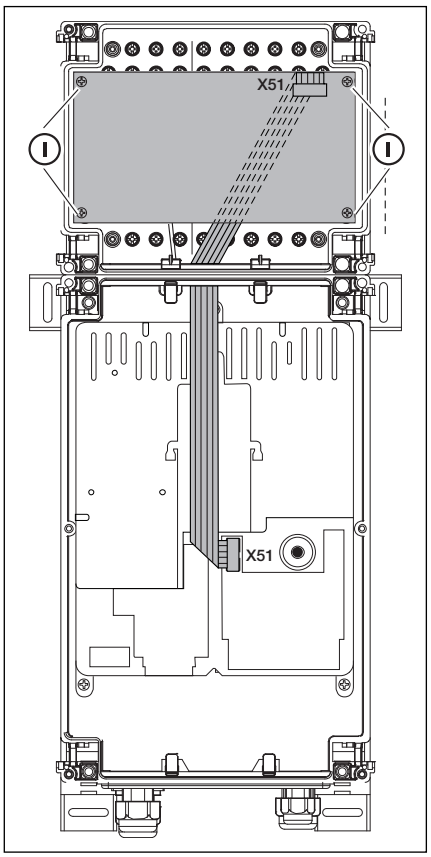
7–1.3 Fitting an extension PCB with a dividing unit in the control unit housing and cable run for X51



7–1.4 Extension PCB with a dividing unit in the extension housing and cable run X51



7–1.5 Extension PCB with two dividing units in the extension housing and cable run X51



7–1.6 Extension PCB with three dividing units in the extension housing and cable run X51

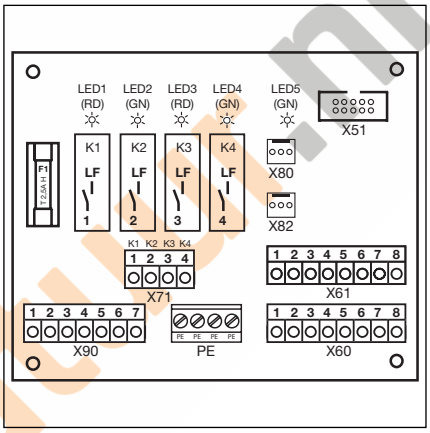
7.2 Traffic lane control PCB

The traffic lane control PCB provides relay contacts for traffic light controls and optional use.

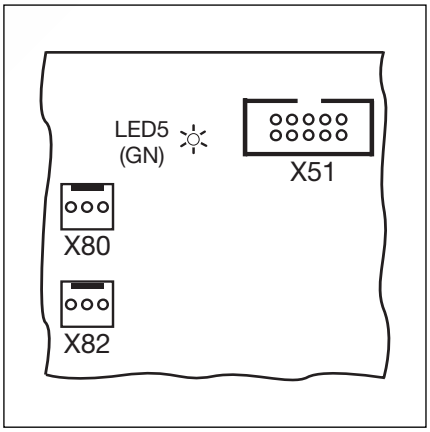
The PCB is directly intended for devices operating on 230 V. Connection to the control unit PCB is made via the plug-in contact X51. Additional PCBs are connected to X80/X82.

Relay K1 - Entrance- red light
Relay K2 - Entrance- green light
Relay K3 - Exit- red light
Relay K4 - Exit- green light
The relay contacts at X71 for the relays K1 - K4 are safeguarded to the terminal 1/X90 via fuse F1.
Max. contact load 500 W.

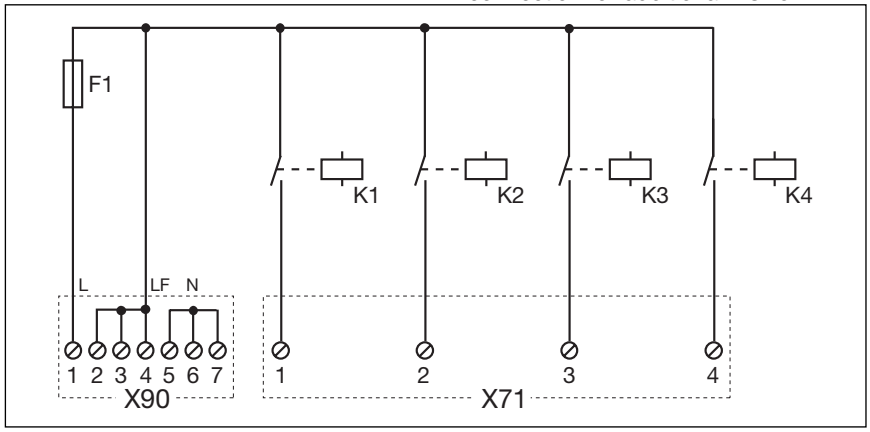
X51 - Connection to the control unit
X80 - Connection of a relay PCB (see chap. 7.3) for the end-of-travel signal. Potential-free contacts are made available for the OPEN and CLOSE signals.
X82 Connection of a relay PCB (see chap. 7.3) for optional functions. Potential-free contacts are made available for the end-of-travel signals, impulse signal on the OPEN command, "automatic timer OFF" signal, error message and crash warning / early warning.



7–2.1 PCB layout



7–2.2 X51 = connection to the control unit, LED5 = operating voltage, X80/82 = connection for additional PCBs.



7–2.3 Wiring diagram of power supply and relay

Establishing the inputs

E1 Central "OPEN":
A command to this input halts a closing door and after one second causes the door to open to the OPEN end-of-travel position.
This process can only be terminated by giving a "central CLOSE" command or by pressing the STOP button. After reaching the end-of-travel position, the control unit is ready to operate again.

E2 Central "CLOSE":
A command to this input halts an opening door and after one second causes the door to close to the CLOSE end-of-travel position.
After reaching the end-of-travel position, the control unit is ready to operate again.

E3 Request to enter

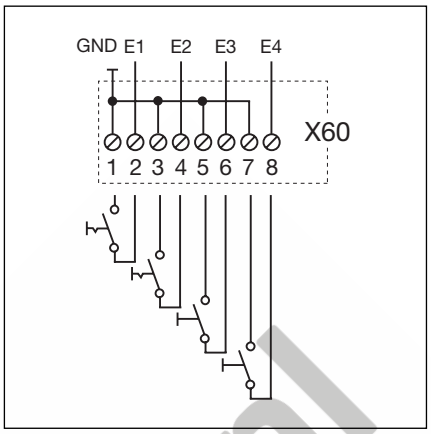
E4 Request to exit

E5 Automatic timer OFF:
A switch connected here can de-activate the automatic timer.

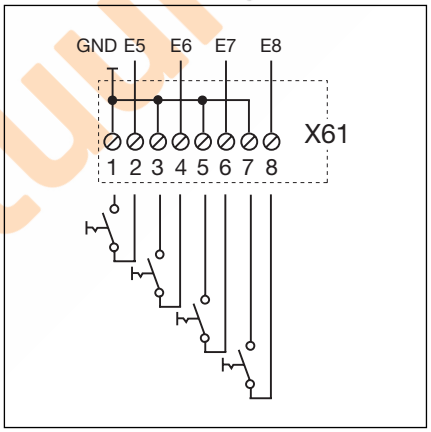
E6 Priority at entrance

E7 Permanent green at entrance:
A closed switch connected here switches the entrance permanently to green. Only on receiving a request to exit does the green phase change direction.

E8 Not used



7–3.1 Connection of inputs E1 - E4



7–3.2 Connection of inputs E5 - E8

External voltage at the terminal strip X60/61 will destroy the electronics.

The operating mode is set in menu 20 (see chapter 6).

7.3 Relay PCB

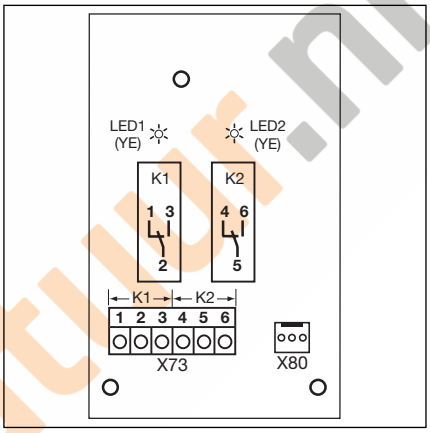
The relay PCB with potential-free relay contacts extends the PCBs, e.g. traffic lane control, by allowing additional functions (e.g. signalling of end-of-travel positions).
Connection to existing PCBs is made via plug-in contact X80.

Terminal strip X 73, relay K1

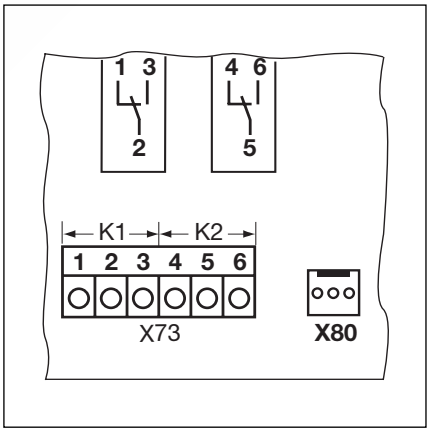
Terminal 1	N.C. contact	max. contact load: 500 W / 250 V AC 2.5 V DC 30
Terminal 2	common contact	
Terminal 3	N.O. contact	

Terminal strip X 73, relay K2

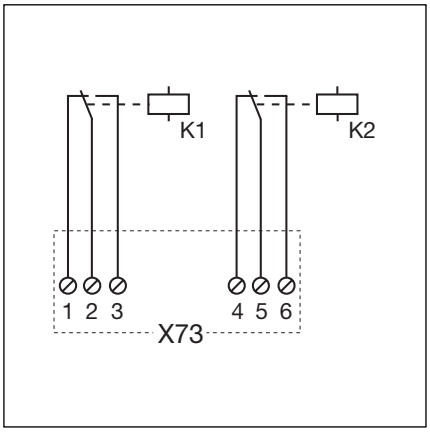
Terminal 4	N.C. contact	max. contact load: 500 W / 250 V AC 2.5 V DC 30
Terminal 5	common contact	
Terminal 6	N.O. contact	



7–4.1 PCB layout



7–4.2 Connection to existing PCBs via X80



7–4.3 Wiring diagram of the relay

7.4 Option relay PCB

With the option relay, contacts are made available for the end-of-travel signals, impulse signal on the "OPEN" command, "automatic timer OFF" signal, error message and crash warning / early warning. The corresponding function is set in menu 18/19.

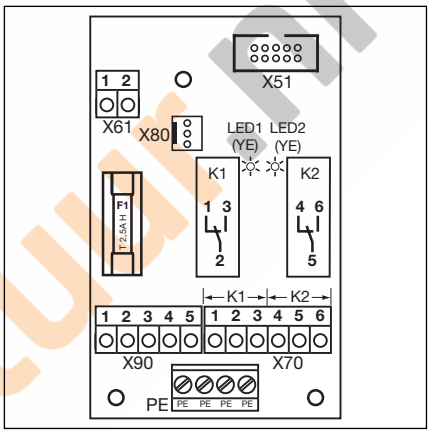
The PCB is directly intended for devices operating on 230 V. Connection to the control unit PCB is made via the plug-in contact X51. Additional PCBs are connected to X80.

Terminal strip X70, relay K1

Terminal 1	N.C. contact	max. contact load: 500 W / 250 V AC 2.5 V DC 30
Terminal 2	common contact	
Terminal 3	N.O. contact	

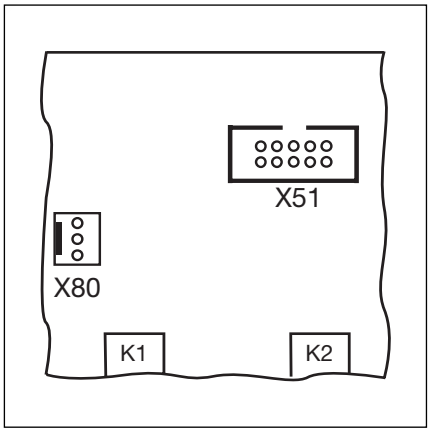
Terminal strip X70, relay K2

Terminal 4	N.C. contact	max. contact load: 500 W / 250 V AC 2.5 V DC 30
Terminal 5	common contact	
Terminal 6	N.O. contact	



7–5.1 PCB layout

Via the F1 fuse (T 2.5A H 250V) a fuse-protected voltage is available at terminal 1-2/X 90.

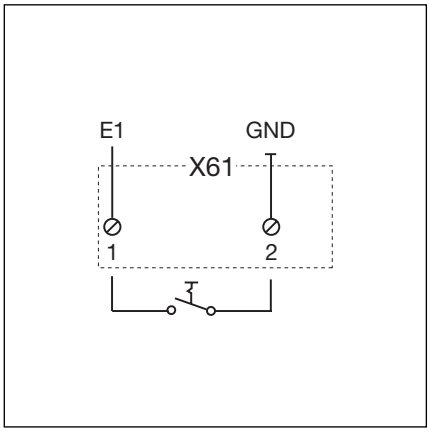


7–5.2 X51 = Connection to the control unit, X80 = Connection for additional PCBs.

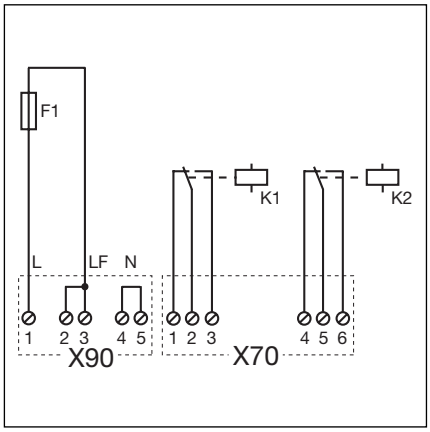
External voltage at terminal strip X61will destroy the electronics.

Establishing the input

E1 Automatic timer "OFF" (only for controls with automatic timer)
If a closed contact (switch, time switch) is connected at this input, the door stays open in the OPEN end-of-travel position until the input is free again.



7–5.3 Connecting input E1



7–5.4 Wiring diagram of power supply and relay

7.5 Closing edge safety device (SKS)

The closing edge safety device comprises a junction box with the SKS PCB (**1**) (connection of the safety devices travelling with the door leaf), junction box with Y-piece and junction box with the coiled cable and system cable of the adapter PCB. The response of the operator to this safety device must be set in **menu 11**.

SKS PCB (1)

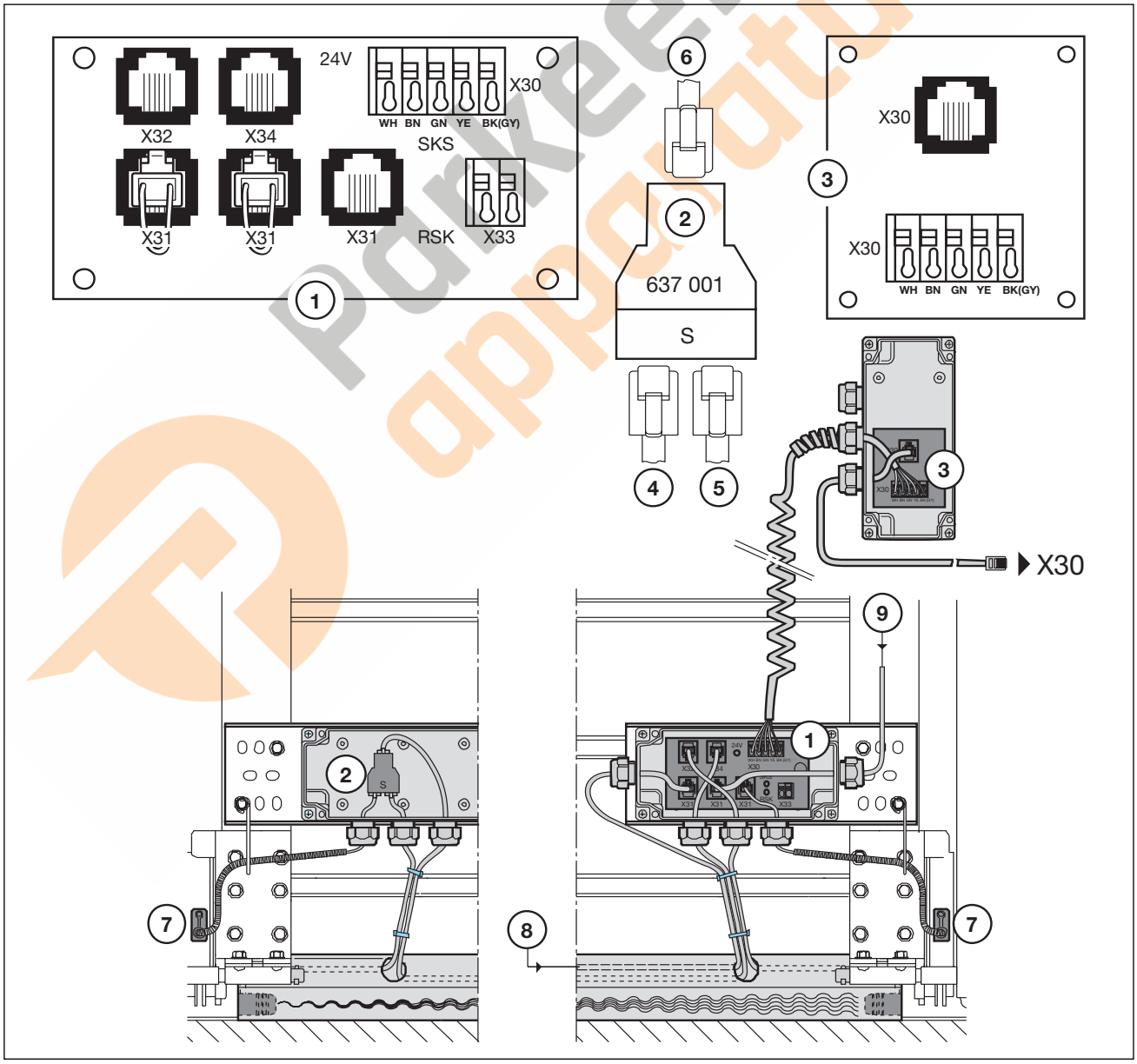
X30 Coiled cable connection as a connection to the adapter PCB.
X31 Connections for e.g. slack cable switch (7), wicket door contact (8), night locking (9)
X32 Connection for optosensor closing edge safety device (do not connect a device to X33 at the same time!)
X33 Connection for optosensor closing edge safety device (do not connect a device to X32 at the same time!)
X34 Connection for the connection cable of the the closing edge safety device's optosensor
24V LED lights up when operating voltage is present (= everything is in order)
SKS LED does not light up when the closing edge is not actuated (= everything is in order)
RSK LED lights up when the static current circuit is closed (= everything is in order)

Y-piece (2)

(4) Connection for the slack cable switch
(5) Connection for the optosensor of the closing edge safety device
(6) Connection X34 - connection cable of the closing edge safety device's optosensor

Adapter PCB coiled cable-system cable (3)

X30 Connection of the coiled cable and system cable connecting to the control unit (colour WH)



7-6.1 Closing edge safety device

8 Service

8.1 General notes on service

Before carrying out any service work, please note the following:

Before carrying out any service work, the system must be switched off at the mains and in accordance with the safety regulations be safeguarded against being switched on again.
The maintenance provision / secured release may only be actuated when the door is closed.

8.2 De-energized operation of the door

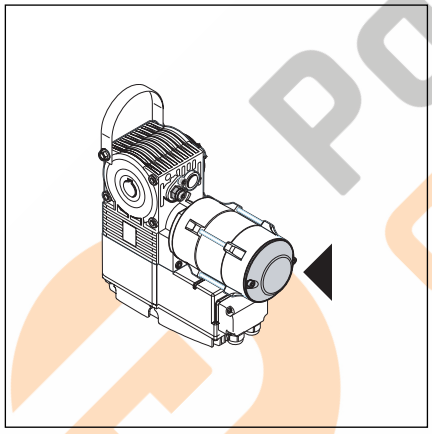
8.2.1 Maintenance work

- Switch off the system at the mains.
- With the door closed, actuate the maintenance provision / secured release. Push the door manually in the desired direction.

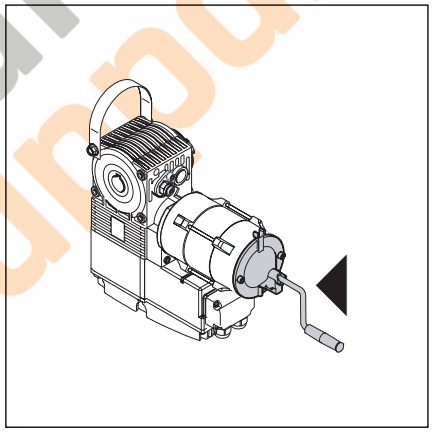
8.2.2 Malfunctions

- Switch off the system at the mains.
- Actuate the door as follows:
  - Shaft drive operator with cover cap: With the door closed, actuate the maintenance provision / secured release. Push the door manually in the desired direction.
  - Shaft drive operator with crank handle: turn the crank handle to move the door in the desired direction.
  - Shaft drive operator with emergency hand chain: pull the hand chain to move the door in the desired direction

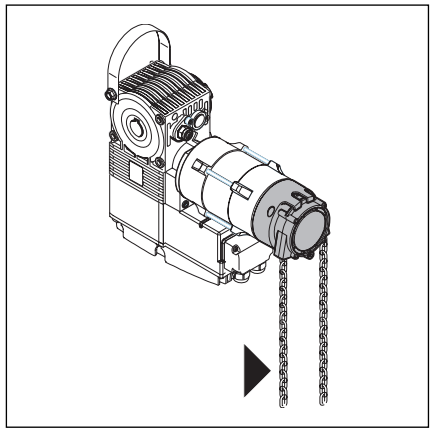
The crank handle or the emergency hand chain are only designed as a means of opening and closing the door when a power failure or malfunction has occurred.



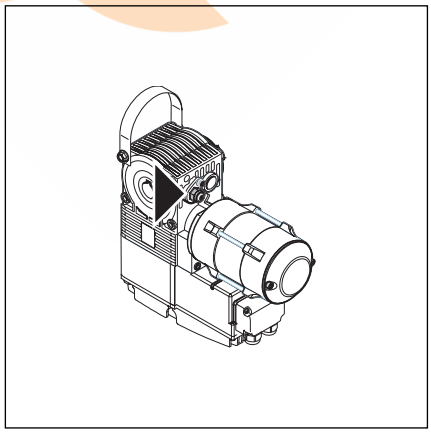
8–1.1 Shaft drive operator with cover cap



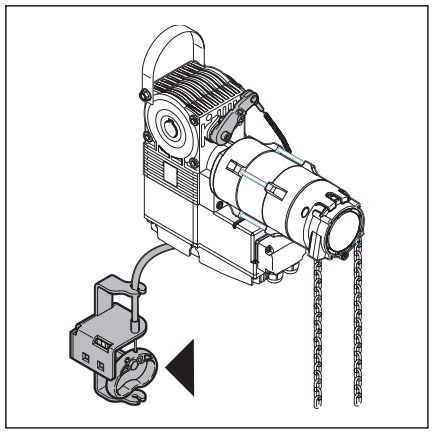
8–1.2 Shaft drive operator with crank handle



8–1.3 Shaft drive operator with emergency hand chain



8–1.4 Maintenance release



8–1.5 Secured release

8.3 Service menu

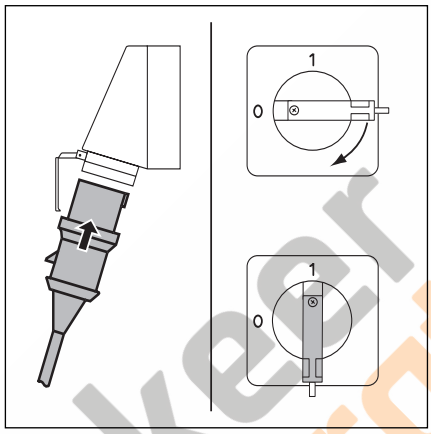
8.3.1 General notes on the service menu

To call up the service menu, please note the following:

> Before calling up the service menu, make sure for safety reasons that there are no persons or objects located in the door's danger zone.

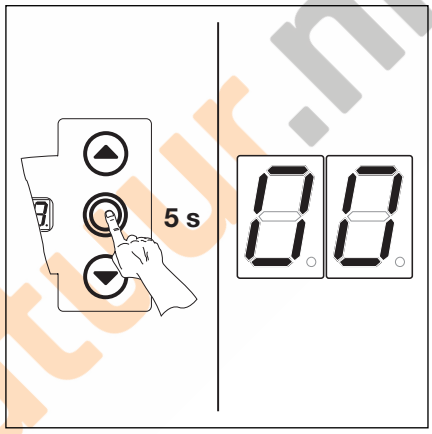
8.3.2 Action to be taken to call up the service menu

- Establishing the power supply
  - Insert the CEE phase-changer plug into the mains socket.
  - Turn main switch (optional) to position 1.



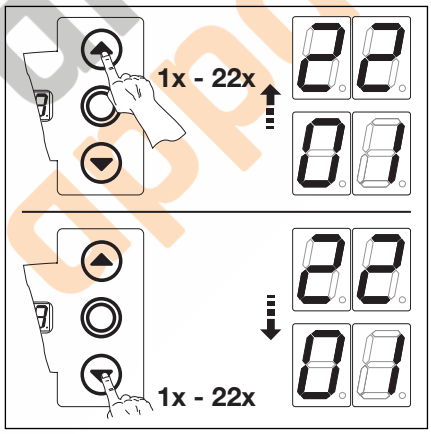
8–2.1 Establishing the power supply. Main switch (optional) at 1.

- Calling up the service menu
  - Press the STOP button for 5 seconds.
  - **00** is displayed.



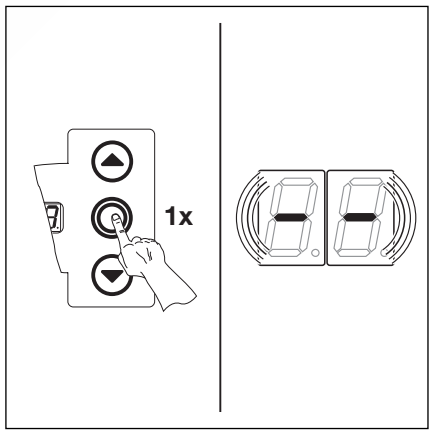
8–2.2 Calling up the service menu

- Selecting the menu numbers
  - Press the OPEN button as frequently as necessary to arrive at the desired menu number.
  - By pressing the CLOSE button a corresponding number of times, you can page back.



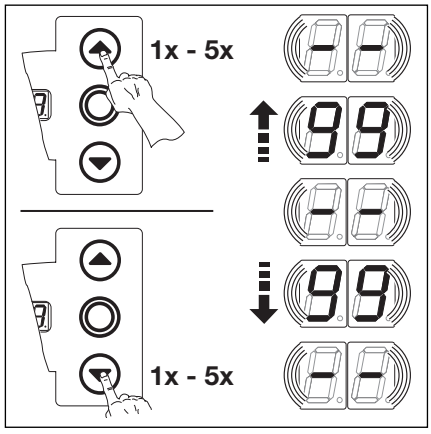
8–2.3 Selecting the menu number

- Acknowledging the service menu number
  - As soon as the desired menu number is displayed, press the STOP button. The symbol for the start of a row of numbers - - is displayed flashing.



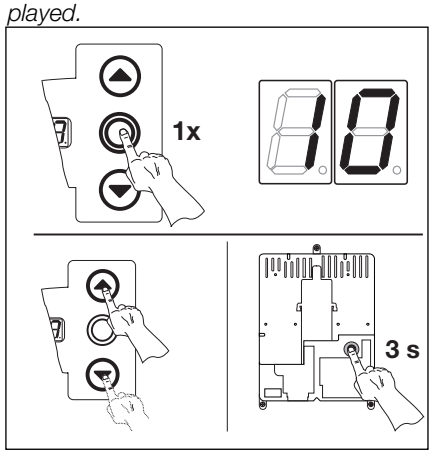
8–2.4 Acknowledging the menu number. The start of the row of numbers is displayed.

- Displaying the complete row of numbers
  - Press the CLOSE button as frequently as necessary to display the complete row of numbers. The end of the row of numbers is indicated by - -. By pressing the CLOSE button further, the beginning of the row of numbers is displayed again.



8–2.5 Displaying the complete row of numbers

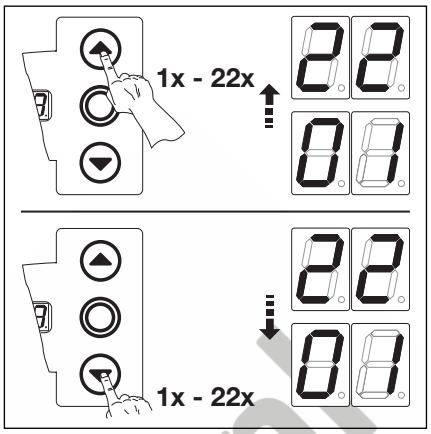
- Exiting the service menu
  - Press the STOP button once.
  - The service menu number originally selected (example **10**) is displayed.



8–2.6 Exiting the menu. The service menu number is displayed.

Either

- Select new service menu numbers and call up the corresponding rows of numbers.

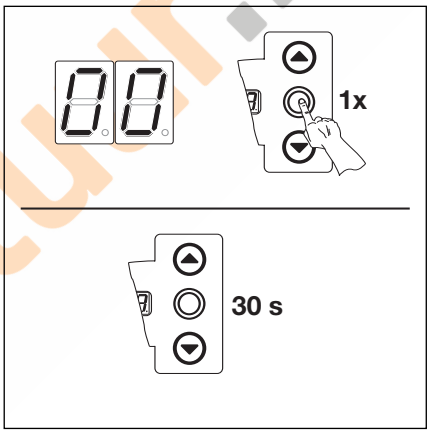


8–3.1 Selecting a new service menu number

or

- Terminate the service menu
  - Select service menu number 00.
  - Press the STOP button for 10 seconds.

  or
  - Do not press any button for 30 seconds.
  - The corresponding door position is displayed.



8–3.2 Terminating the service menu

If no button is pressed within 30 seconds, the service menu is terminated.

8.4 Service menu 01 - Error messages

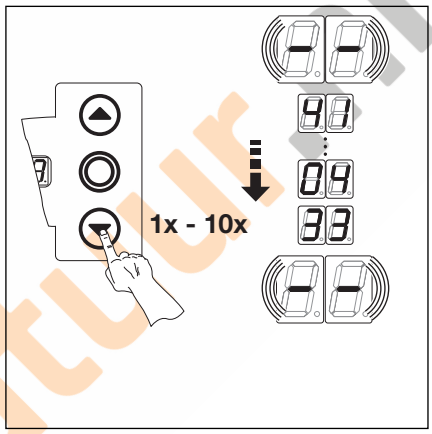
In this menu the last 10 accumulated errors are displayed in the form of a 2-digit number. If a new error has been stored, the oldest error is deleted..

Action to be taken

- **either**
  If the control system is already in the service menu mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 8.3).
  or
  Initiate the service menu mode (see chapter 8.3) and switch to the corresponding service menu.

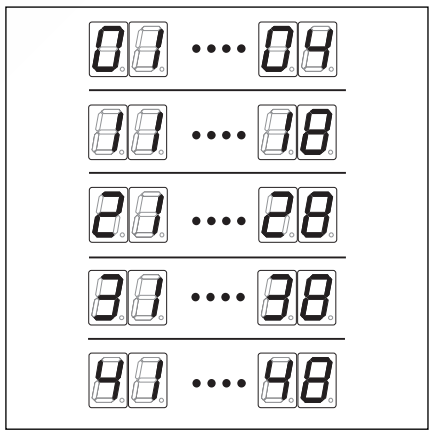
- Press the STOP button once. The start of the row of numbers is displayed flashing.

- Calling up the last 10 errors
  - With the CLOSE button you can call up the last 10 errors, from the start of the row of numbers - - to the end - - , the most recent error being shown first and the oldest last.
  - The errors are displayed in the form of a 2-digit number.



8–4.1 Calling up the last 10 errors. Error number e.g. 33, 04, 41

- Error numbers and their cause
  01...04 Open static current circuit (see chapter 8.10)
  11...18 Active safety elements (see chapter 8.10)
  21...28 Door movements (see chapter 8.10)
  31...38 Hardware components (see chapter 8.10)
  41...48 System errors / Communication (see chapter 8.10)

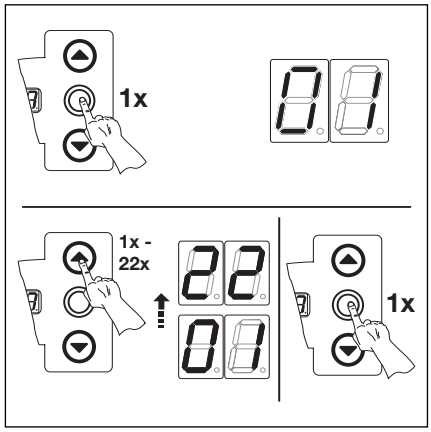


8–4.2 Display of error numbers 01...04 to 41...48.

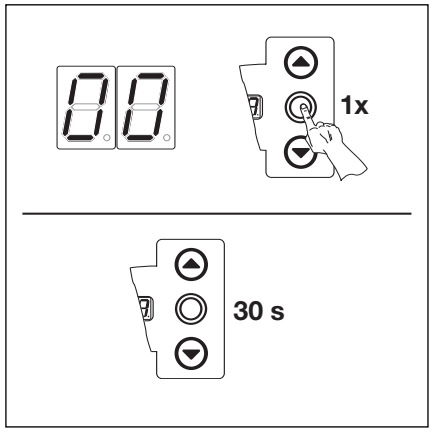
- Switching to another service number
  - Press the STOP button once.
  - Select a new service menu number.

- Terminate the service menu
  - Select service menu number 00.
  - Press the STOP button for 10 seconds.
  or
  - Do not press any button for 30 seconds.

If no button is pressed within 30 seconds, the service menu is automatically terminated.



8–4.3 Switching to another service menu number



8–4.4 Terminating the service menu

8.5 Service menu 02 - Completed door cycles in the maintenance counter

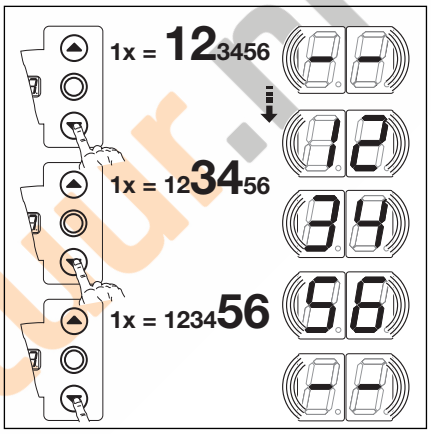
In this menu the completed door cycles in the maintenance counter are displayed. Every time the door reaches the CLOSE end-of-travel position, a door cycle is counted. A maximum of 999999 door cycles can be displayed. The maintenance counter can be reset in the programming menu 99.

Action to be taken

- **either**
  If the control system is already in the service menu mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 8.3).
  or
  Initiate the service menu mode (see chapter 8.3) and switch to the corresponding service menu.

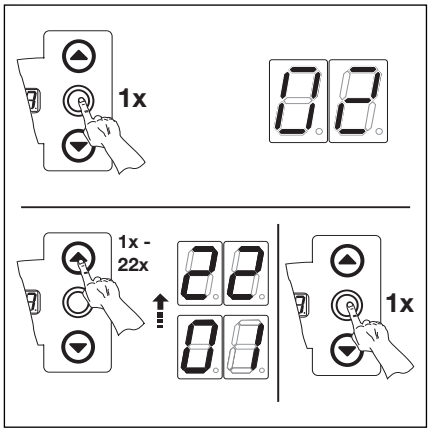
- Press the STOP button once. The start of the row of numbers is displayed flashing.

- Calling up the door cycles (example 123456)
  - With the CLOSE button call up the 100.000th and the 10.000 digit place (example 12).
  - By pressing the CLOSE button again, call up the 1000th and 100th digit place (example 34).
  - By pressing the CLOSE button again, call up the 10th and 1st digit place (example 56).



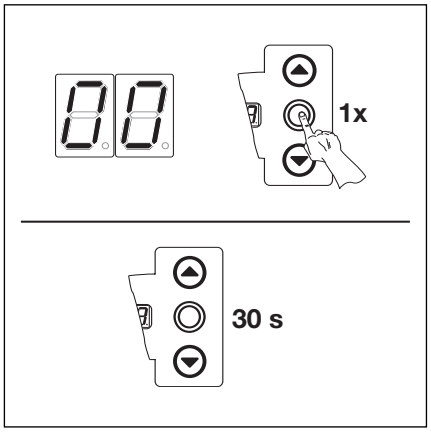
8–5.1 Calling up the number of door cycles

- Switching to another service number
  - Press the STOP button once.
  - Select a new service menu number.



8–5.2 Switching to another service menu number

- Terminate the service menu
  - Select service menu number 00.
  - Press the STOP button for 10 seconds.
  or
  - Do not press any button for 30 seconds.



8–5.3 Terminating the service menu

If no button is pressed within 30 seconds, the service menu is automatically terminated.

8.6 Service menu 03 - Door cycles total

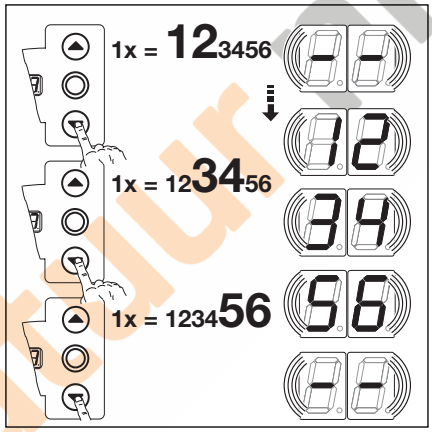
In this menu the number of door cycles is displayed.. Every time the door reaches the CLOSE end-of-travel position, a door cycle is counted. A maximum of 999999 door cycles can be displayed.

Action to be taken

- **either**
  If the control system is already in the service menu mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 8.3).
  or
  Initiate the service menu mode (see chapter 8.3) and switch to the corresponding service menu.

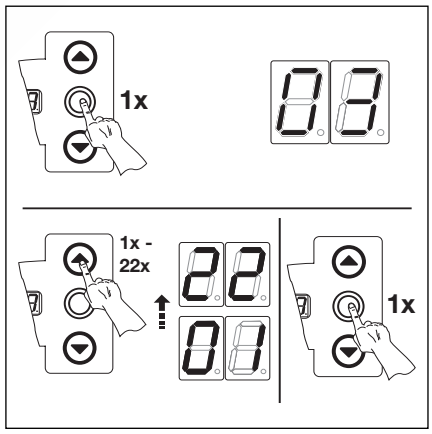
- Press the STOP button once. The start of the row of numbers is displayed flashing.

- Calling up the door cycles (example 123456)
  - With the CLOSE button call up the 100.000th and the 10.000 digit place (example 12).
  - By pressing the CLOSE button again, call up the 1000th and 100th digit place (example 34).
  - By pressing the CLOSE button again, call up the 10th and 1st digit place (example 56).



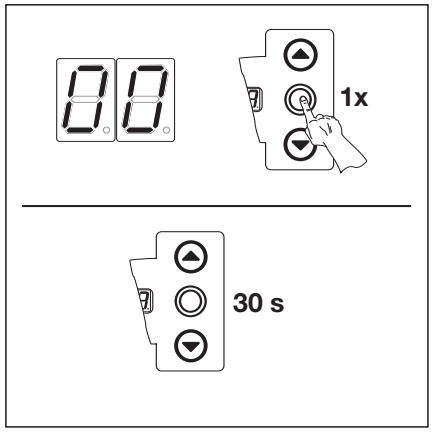
8–6.1 Calling up the number of door cycles

- Switching to another service number
  - Press the STOP button once.
  - Select a new service menu number.



8–6.2 Switching to another service menu number

- Terminate the service menu
  - Select service menu number 00.
  - Press the STOP button for 10 seconds.
  or
  - Do not press any button for 30 seconds.



8–6.3 Terminating the service menu

If no button is pressed within 30 seconds, the service menu is automatically terminated.

8.7 Service menu 04 - Operating Hours

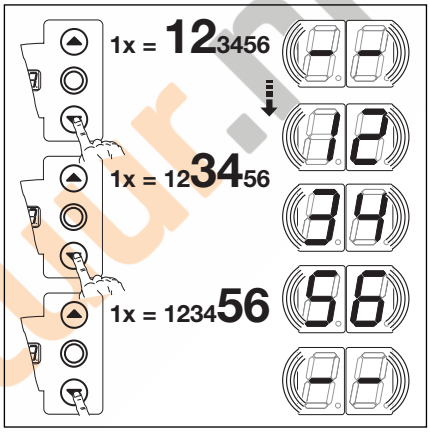
In this menu the accumulated operating hours on the mains are displayed. A maximum of 999999 hours can be displayed.

Action to be taken

- **either**
  If the control system is already in the service menu mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 8.3).
  or
  Initiate the service menu mode (see chapter 8.3) and switch to the corresponding service menu.

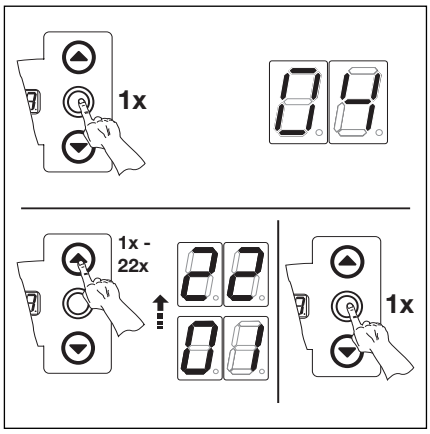
- Press the STOP button once. The start of the row of numbers is displayed flashing.

- Calling up the operating hours (example 123456)
  - With the CLOSE button call up the 100.000th and the 10.000 digit place (example 12).
  - By pressing the CLOSE button again, call up the 1000th and 100th digit place (example 34).
  - By pressing the CLOSE button again, call up the 10th and 1st digit place (example 56).



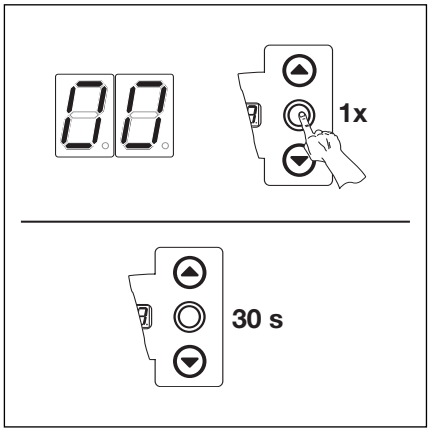
8–7.1 Calling up the operating hours

- Switching to another service number
  - Press the STOP button once.
  - Select a new service menu number.



8–7.2 Switching to another service menu number

- Terminate the service menu
  - Select service menu number 00.
  - Press the STOP button for 10 seconds.
  or
  - Do not press any button for 30 seconds.



8–7.3 Terminating the service menu

If no button is pressed within 30 seconds, the service menu is automatically terminated.

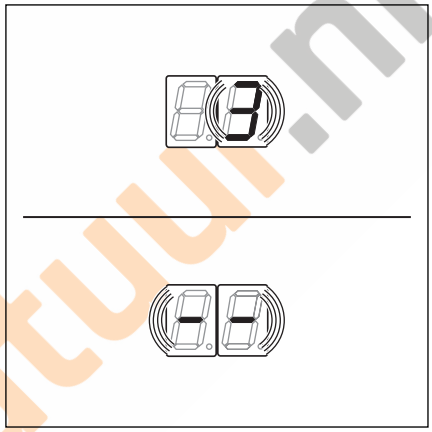
8.8 Service menu 05-22 - Function numbers of the programme menus

In this menu you can view the set function numbers of the programming menus. In doing so, the number of the service menu corresponds to the function number of the programme menu.

Action to be taken

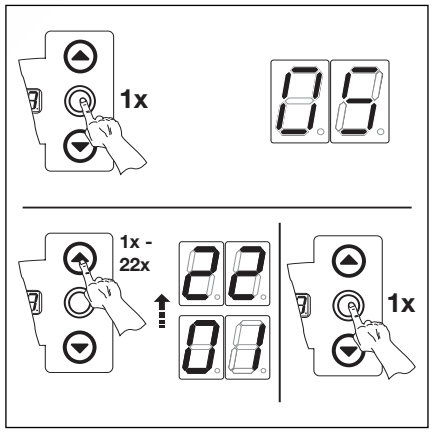
- **either**
  If the control system is already in the service menu mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 8.2).
  or
  Initiate the service menu mode (see chapter 8.2) and switch to the corresponding service menu. In doing so, the service menu number has the same meaning as the programme menu number (e.g. service menu 5 corresponds to programme menu 5).

- Press the STOP button once. The set function number is displayed flashing.
  - If **- -** is displayed flashing, no function is set for the programme menu displayed.



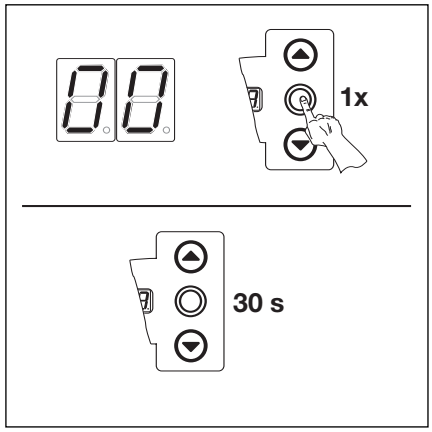
*8–8.1 Display e.g. 3 = function number 3, e.g. **- -** = no function set.*

- Switching to another service number
  - Press the STOP button once.
  - Select a new service menu number.



8–8.2 Switching to another service menu number

- Terminate the service menu
  - Select service menu number 00.
  - Press the STOP button for 10 seconds.
  or
  - Do not press any button for 30 seconds.



8–8.3 Terminating the service menu

If no button is pressed within 30 seconds, the service menu is automatically terminated.

8.9 Service menu 99 - Software version and control system version

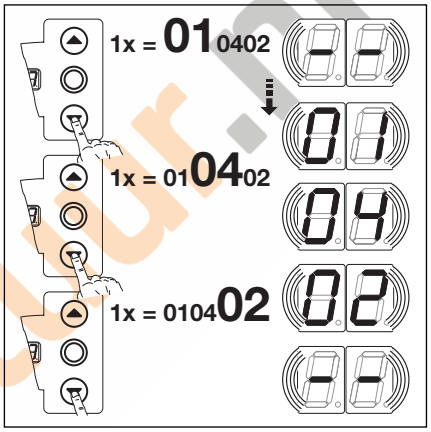
In this menu the software version and the control system version is displayed.

Action to be taken

- **either**
  If the control system is already in the service menu mode, select the corresponding menu via the OPEN or CLOSE buttons (see chapter 8.3).
  or
  Initiate the service menu mode (see chapter 8.3) and switch to the corresponding service menu.

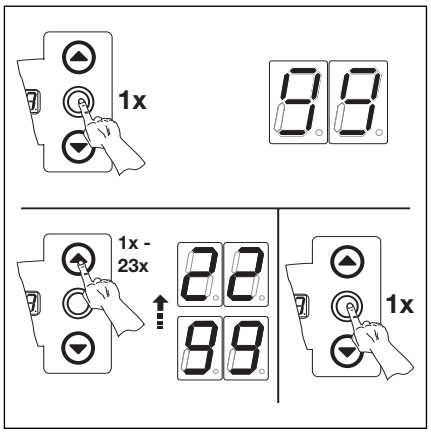
- Press the STOP button once. The start of the row of numbers is displayed flashing.

- Calling up the software version and the control system version (example 01.01-01)
  - With the CLOSE button call up the two first numbers of the software version (example 01).
  - By pressing the CLOSE button again, call up the two last numbers of the software version (example 01).
  - By pressing the CLOSE button again, call up the number of the control system version (example 01).



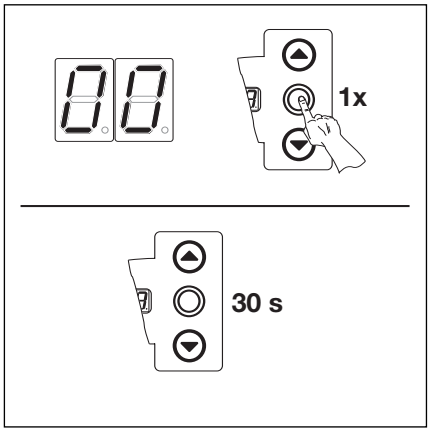
8-9.1 Calling up the software version and control system version

- Switching to another service number
  - Press the STOP button once.
  - Select a new service menu number.



8-9.2 Switching to another service menu number

- Terminate the service menu
  - Select service menu number 00.
  - Press the STOP button for 10 seconds.
  b)
  - Do not press any button for 30 seconds.



8-9.3 Terminating the service menu

If no button is pressed within 30 seconds, the service menu is automatically terminated.

8.10 Error indication via the display

Before trouble-shooting or taking any corrective action, the system must be switched off at the mains and in accordance with the safety regulations be safeguarded against being switched on again.

The errors are represented by a corresponding number appearing in the display. At the same time the dot flashes in the display to indicate that an error message has been received.

8.10.1 Error messages / Error elimination

Error number	Error description	Cause of error / Rectifying the error
Static current circuit (RSK)		
01	RSK generally open	**Control unit housing** Check bridges in the connecting plugs X1, X3 Check bridge plug X10
02	RSK of closing edge safety device open	**SKS connection housing** Yellow LED **on**: check colour sequence of coiled cable in X30 Yellow LED **off**: - All the sockets X31 must be occupied - If a "Y piece" is used, it must be version "S". - Check slack cable switch, wicket door contact, shoot bolt. - If a resistance contact strip 8K2 is connected at X33 a bridge plug must be inserted in X34
03	RSK at socket X40 open	**Operator** - Operator overheated - Emergency actuation device of the operator in use
04	RSK at socket X50 open	**Control unit housing** Miniature lock, connected at X4, at position 0
Active safety elements		
11	Self-testing of SKS at socket X30 unsuccessful or SKS activated.	**SKS Connection housing** Red LED **on**: - Check optosensors - Check connection cable X34 - X33 must not be occupied Red LED **off**: Check colour sequence of coiled cable
12	Self-testing of safety device at socket X20 unsuccessful or safety device activated	- With photocells, check alignment - With photocells the connection between transmitter and receiver must be a "Y" piece version "P"
13	Self-testing of safety device at socket X21 - unsuccessful or safety device activated.	- With photocells, check alignment - With photocells the connection between transmitter and receiver must be a "Y" piece version "P"
14	Self-testing of safety device at socket X22 unsuccessful or safety device activated.	- With photocells, check alignment - With photocells the connection between transmitter and receiver must be a "Y" piece version "P"

Error number	Error description	Cause of error / Rectifying the error
Active safety elements		
15	Self-testing of resistance contact strip 8k2 at socket X30 unsuccessful or 8k2 activated.	**SKS connection housing** Red LED **on**: - check connection of resistance contact strip 8k2 Red LED **off**: - check colour sequence of coiled cable - X32 must not be occupied
16	Wicket door contact defective. Test is negative. Door cannot be moved	**Wicket door** - Magnet of contact wrong way round - Use contact version without test unit
17	OPEN force limit activated	**Door** - Springs have stuck. - Door movement is sluggish **Function number** - Force setting too sensitive. Check force setting in menu 5
18	CLOSE force limit activated	**Door** - Door movement is sluggish **Function number** - Force setting too sensitive. Check force setting in menu 6 (also after changing springs)
Door movements		
21	Operator blocked. - Motor doesn't start -	**Door** - Door movement is sluggish **Operator** - Motor disengaged - Connection cable not connected **Control system** - Fuse defective
22	Rotational direction. - Rotational direction of motor switched -	**Function number** - Programming of the fitting type does not correspond to the actual fitting type used **Mains socket** - Check rotating field direction of the mains lead
23	RPM too slow. - Motor doesn't start or is too slow -	**Door** - Door sluggish
24	Door type. - Operator is not designed for the door type	**Door** - Door height and door transfer do not match the operator
25	Communicating with the frequency inverter	**Controls** - Check the cabling **Operator** - Check the cabling - if faults reoccur once a new travel command has been given, replace the frequency inverter.
Hardware components		
31	General malfunction of the power PCB	**Control unit** - Power PCB must be replaced
32	Running time. - Door takes longer to travel than permitted -	**Door** - Door height and door transfer do not match the operator

Error number	Error description	Cause of error / Rectifying the error
Hardware components		
33	Force measurement	**Control unit** - Power PCB must be replaced
34	Force measurement	**Control unit** - Power PCB must be replaced
35	Undervoltage 24 V	**Control unit** - Short-circuit or overload of the 24 V supply to the control unit - Disconnect any devices possibly connected and supply separately
System error / Communication problems		
41	Interface COM X40	**Control unit** - Cable (door position detector/transmitter) at socket X40 not connected or not properly plugged in.
42	Interface COM X50	**Control unit** - Cable (keyboard on cover) at socket X50 not connected or not properly plugged in.
43	Interface COM X51	**Control unit** - Cable (extension PCBs) at socket X51 not connected or not properly plugged in
46	EEPROM. -Test failed -	**Functions** - Permanently stored data is deleted. After switching back on at the mains, all the functions must be re-programmed.
47	RAM. -Test failed -	**Control programme** - Temporarily stored data is deleted. After switching back on at the mains, this data will be restored.
48	ROM. -Test failed -	**Control programme** - If after switching the control unit back on, this error re-appears, the control unit is defective.

Display-indication	Description of error	Cause of error / Rectifying error
I–I **I_I**		**Control unit** - Cable (door position detector/transmitter) at socket X40 not connected or not properly plugged in **Functions** - Control unit is in the non-learned state - Permanently stored data is deleted. After switching back on at the mains, all menu values must be reprogrammed.

8.11 Safety elements in the control unit housing

8.11.1 General notes

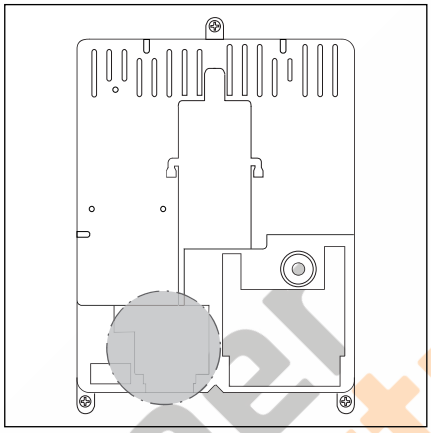
Before changing fuses, the system must be switched off at the mains and in accordance with the safety regulations be safeguarded against being switched on again.

8.11.2 Single-phase control unit

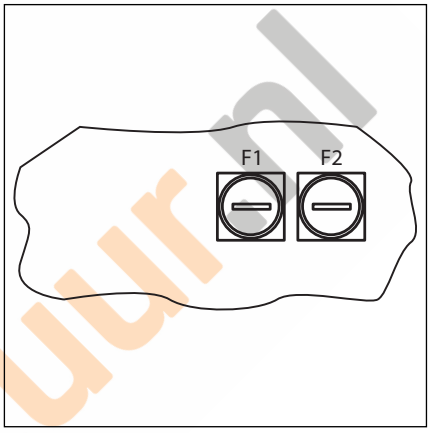
Fuse F1, main circuit
Phase L (T 6.3 A H 250 V)

Fuse F2, control circuit
of Phase L (T 3.15 A H 250 V)

(All the fuses are glass-tube fuses 5x20 with rated cut-off capacity H).



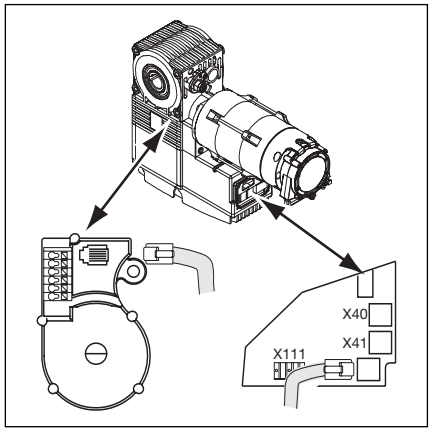
8–13.1 Position of fuses F1 - F2



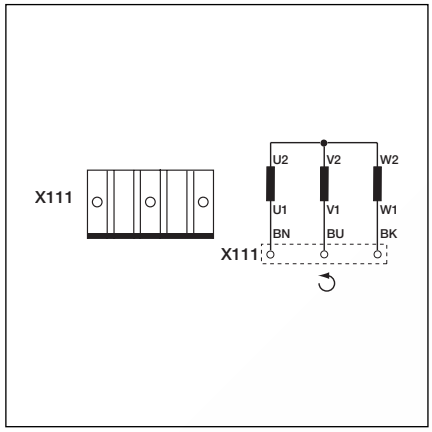
8–13.2 Fuses F1 - F2

9 Technical Information

9.1 Wiring of the motor

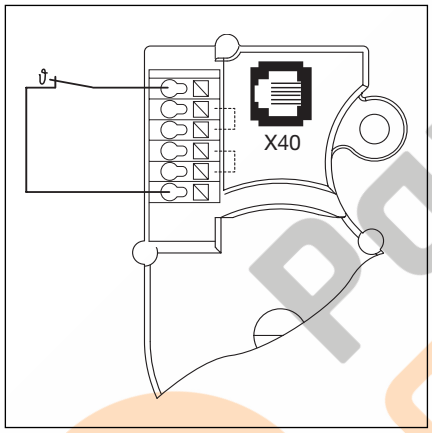


9–1.1 Position of motor connection PCB

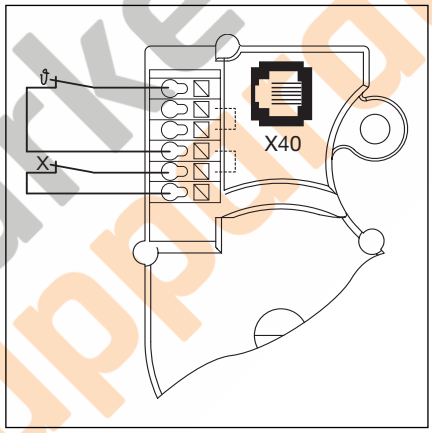


9–1.2 Wiring of the motor

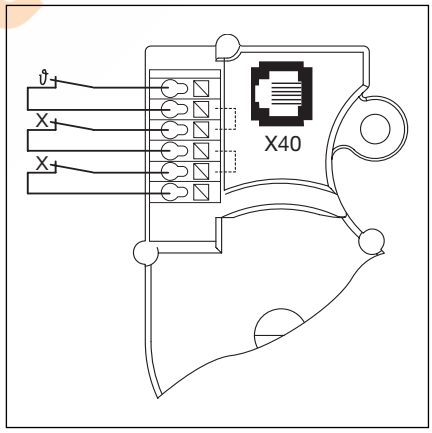
9.2 Wirung of the static current circuit (RSK)



9–1.3 Wiring of static current circuit (RSK) at the door position detector/transmitter:
- Thermoswitch in the motor winding



9–1.4 Wiring of static current circuit (RSK) at the door position detector/transmitter:
- X = Additional protective safety device (e.g. switch of emergency hand chain, crank handle)



9–1.5 Wiring of static current circuit (RSK) at the door position detector/transmitter:
- X = Two additional protective safety devices

Menu number	Settings for	Function number	Function	Factory setting	Chapter
01	Establishing the fitting type / learning the end-of-travel positions				6.3
02	Check cycle for the end-of-travel positions				6.4
03	Fine adjustment of the OPEN end-of-travel position				6.5
04	Fine adjustment of the CLOSE end-of-travel position				6.6
05	Force limit in OPEN direction			1	6.7
06	Force limit in the CLOSE direction			1	6.8
07	Selecting the track application				6.9
08	Learning the intermediate end-of-travel position (HALF-OPEN)				6.10
09	Time for crash / early warning phase (in seconds)	00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19	— 01 02 03 04 05 06 07 08 09 10 12 15 20 25 30 40 50 60 70	x	6.11
10	Open phase with automatic timer or set traffic lane control (in seconds)	00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18	— 5 10 15 20 25 30 35 40 50 60 90 120 180 240 300 360 420 480	x	6.12
11	Response of closing edge safety device (SKS) at X30	00 01 02 03 04 05	Dead man without SKS in CLOSE direction Dead man with SKS in CLOSE direction SKS: Relief when the door encounters an obstruction SKS: Short reverse when door encounters an obstruction SKS: Long reverse when the door encounters an obstruction Dead man with resistance contact strip (8K2) in CLOSE direction	x	6.13

Menu number	Settings for	Function number	Function	Factory setting	Chapter
11	Response of closing edge safety device (SKS) at X30	06 07 08	8K2: Relief when the door encounters an obstruction 8K2: Short reverse when door encounters an obstruction 8K2: Long reverse when the door encounters an obstruction		6.13
12	Response of safety device at X20	00 01 02 03 04 05 06 07	Safety device (SE) not fitted SE in CLOSE direction. Reverse OFF SE in CLOSE direction. Short reverse SE in CLOSE direction. Long reverse SE in OPEN direction. Reverse OFF SE in OPEN direction. Short reverse - Abort the open phase - SE in CLOSE direction. Long reverse Abort the open phase	x	6.14
13	Response of safety device at X21	00 01 02 03 04 05 06 07	Safety device (SE) not fitted SE in CLOSE direction. Reverse OFF SE in CLOSE direction. Short reverse SE in CLOSE direction. Long reverse SE in OPEN direction. Reverse OFF SE in OPEN direction. Short reverse - Abort the open phase - SE in CLOSE direction. Long reverse Abort the open phase	x	6.15
14	Response of safety device at X22	00 01 02 03 04 05 06 07	Safety device (SE) not fitted SE in CLOSE direction. Reverse OFF SE in CLOSE direction. Short reverse SE in CLOSE direction. Long reverse SE in OPEN direction. Reverse OFF SE in OPEN direction. Short reverse - Abort the open phase - SE in CLOSE direction. Long reverse Abort the open phase	x	6.16
15	Response at impulse input X2	00 01 02	Impulse function (follow-up control for manually operated elements, e.g. buttons, hand transmitters, pull switches) OPEN-STOP-CLOSE-STOP-OPEN-STOP ... Impulse function (for electrically operated elements, e.g. induction loops) OPEN (up to OPEN end-of-travel position) -CLOSE (up to CLOSE end-of-travel position) Impulse function (for electrically operated elements, e.g. induction loops) - OPEN direction: OPEN-STOP-OPEN-STOP ... (up to OPEN end-of-travel position) - CLOSE direction: CLOSE (up to CLOSE end-of-travel position)- STOP-OPEN-STOP-OPEN ... (up to the OPEN end-of-travel position)	x	6.17
16	Response of the command elements at X3/X10	00 01 02	Button function alternating with STOP - OPEN button OPEN-STOP-OPEN-STOP-OPEN-STOP ... - CLOSE button CLOSE-STOP-CLOSE-STOP-CLOSE-STOP Button function only - OPEN button OPEN up to end-of-travel position, the CLOSE button stops the door - CLOSE button OPEN up to end-of-travel position, the CLOSE button stops the door Button function with reverse of direction via STOP when door closing - OPEN button stops the door. The door then opens automatically	x	6.18

Menu number	Settings for	Function number	Function	Factory setting	Chapter
16	Response of the command elements at X3/X10	03	Button function with reverse of direction when door opening - CLOSE button stops the door. The door then closes automatically		6.18
		04	Button function with reverse of direction via STOP in both directions - The OPEN button stops a closing door. The door then opens automatically - The CLOSE button stops an opening door. The door then closes automatically		
17	Miniature lock alters the response of the command elements	00	Miniature lock without function	x	6.19
		01	Miniature lock at 1 blocks the buttons on the control unit housing cover (except STOP button)		
		02	Miniature lock on 1 blocks all the external control signals (except the STOP button)		
		03	Miniature lock on 1 blocks the buttons on the control unit housing cover and all the external control signals (except the STOP button)		
		04	Miniature lock on 1 blocks the buttons on the control unit housing (except the STOP button). The external OPEN/CLOSE buttons are master buttons.		
		05	Miniature lock on 1 blocks all the external control signals (except the STOP button) The OPEN/CLOSE buttons on the control unit housing cover are master buttons		
		06	Miniature lock at 0: Miniature lock blocks the buttons on the control unit housing cover (except the STOP button) Miniature lock at 1: Miniature lock blocks the buttons on the control unit housing cover (except the STOP button) The external OPEN/CLOSE buttons are master buttons.		
		07	Miniature lock at 0: HALF-OPEN button assumes the function for OPEN - CLOSE (summer operation) Miniature lock at 1: HALF-OPEN button assumes the function for OPEN to the intermediate end-of-travel position - CLOSE (winter operation)		
		08	Miniature lock at 0: HALF-OPEN button assumes the function for OPEN - CLOSE (summer operation) with the automatic timer function. Miniature lock at 1: HALF-OPEN button assumes the function for OPEN up to the intermediate end-of-travel position - CLOSE (winter operation) with the automatic timer function.		
18	Settings option relay 1	00	Option relay OFF	x	6.20
		01	"OPEN end-of-travel position" signal		
		02	"CLOSE end-of-travel position" signal		
		03	"Intermediate end-of-travel position" (HALF OPEN) signal		
		04	Impulse signal on receiving the "OPEN" command or the "request to drive in" signal		
		05	"Error message" signal on the display		
		06	Crash / early warning permanent signal (time setting menu 9)		
		07	Crash / early warning flashing (time setting menu 9)		
19	Settings option relay 2	00	Option relay OFF	x	6.21
		01	"OPEN end-of-travel position" signal		
		02	"CLOSE end-of-travel position" signal		
		03	"Intermediate end-of-travel position" (HALF OPEN) signal		

Menu number	Settings for	Function number	Function	Factory setting	Chapter
19	Settings option relay 2	04 05 06 07	Impulse signal on receiving the "OPEN" command or the "request to drive in" signal "Error message" signal on the display Crash / early warning permanent signal (time setting menu 9) Crash / early warning flashing (time setting menu 9)		6.21
20	Setting the modes of operation	00 01 02	Manual operation Timer control Traffic lane control	x	6.22
21	Monitoring the self-testing wicket door contact	00 01	Monitoring of self-testing switched off Monitoring of self-testing switched on - In the event of a negative test, movement of the door is prevented and error message 16 is issued	x	6.23
99	Resetting data	00 01 02 03 04 05	No alteration Re-setting the maintenance intervals Deleting the tag in the error messages storage Re-setting the menu values to the factory setting from programme menu 8 onwards Re-setting the menu values to the factory setting of all programme menus Deleting the intermediate end-of-travel positions (HALF-OPEN)	x	6.24