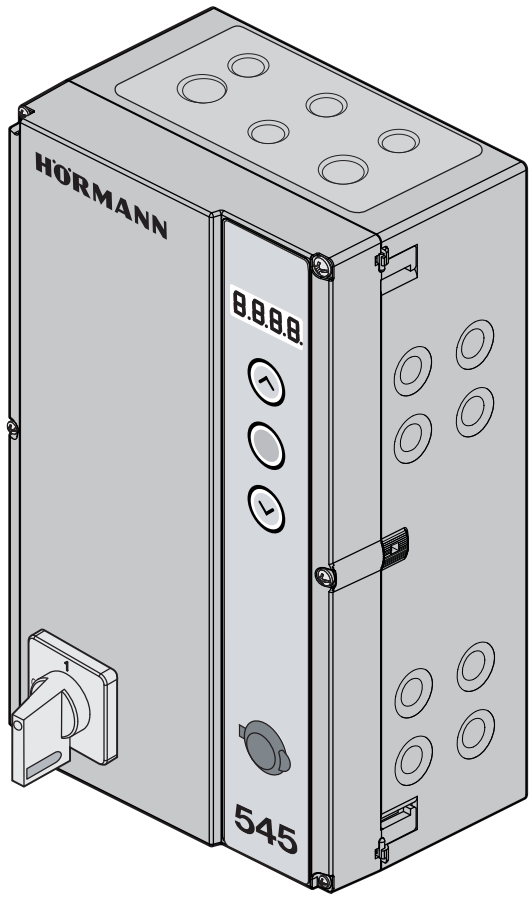


EN

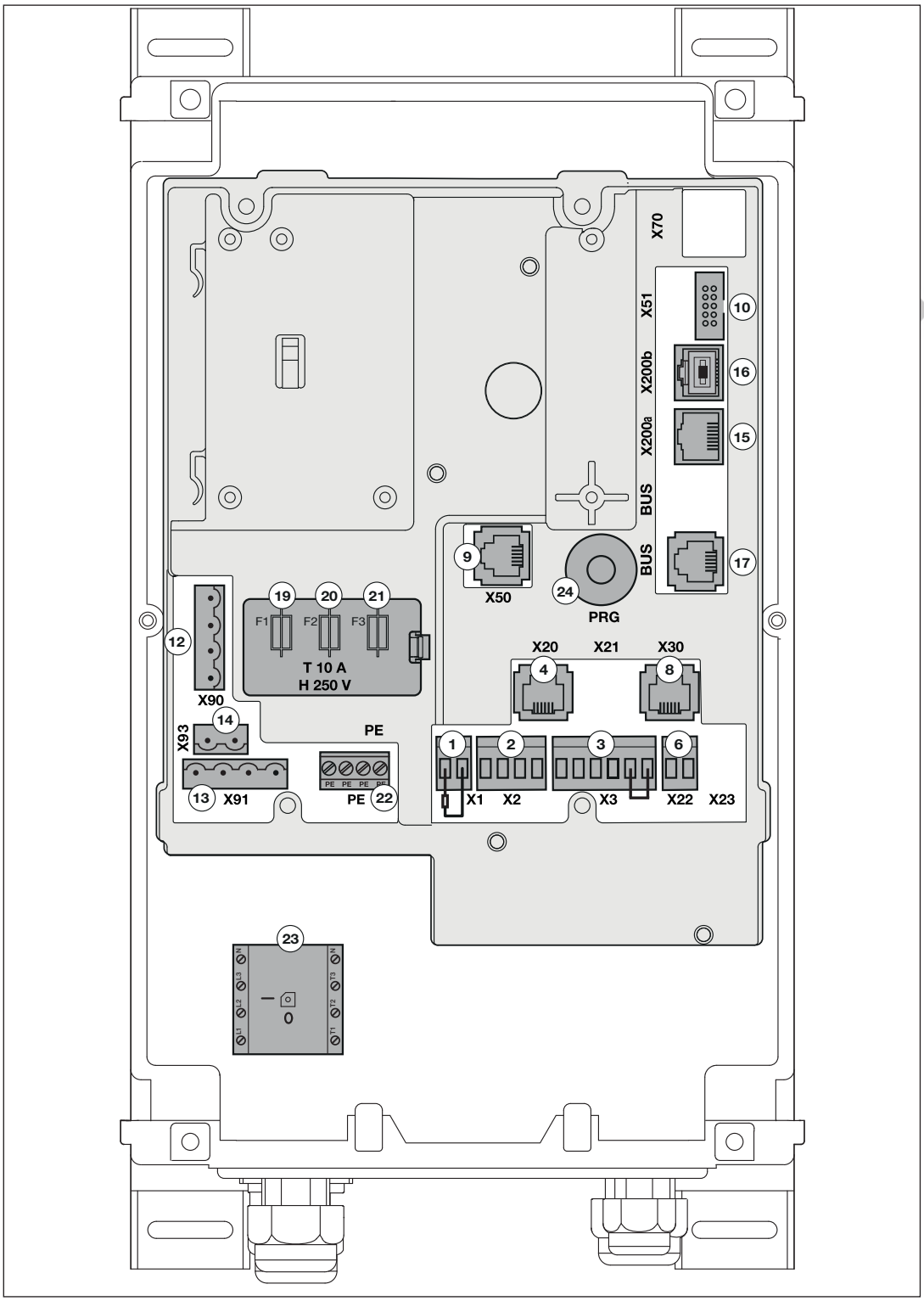
Instructions for fitting, operating and maintenance
Industrial door control **545**
ITO 500 FU (fire sliding door)

4514205 B1 / 45-2023

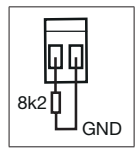
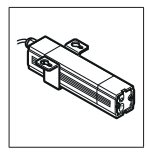
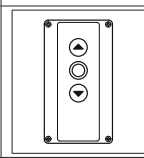
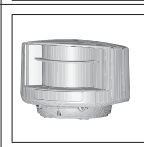
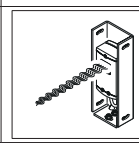
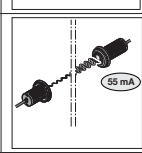
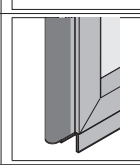
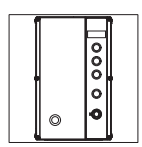
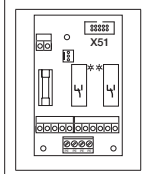
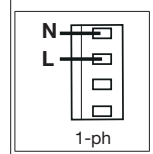
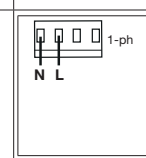
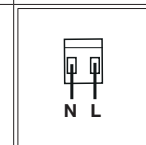
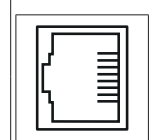
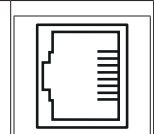
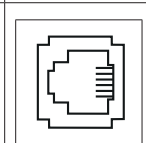
HÖRMANN

Contents

Inside view of control

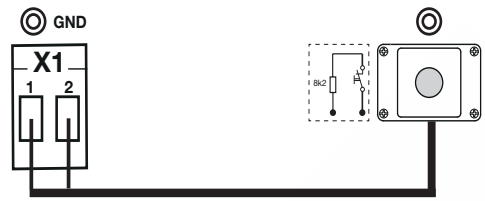
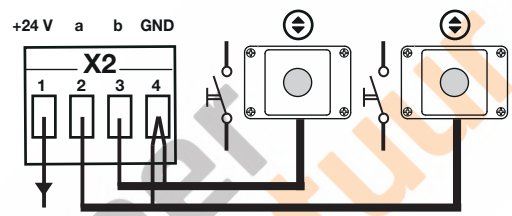
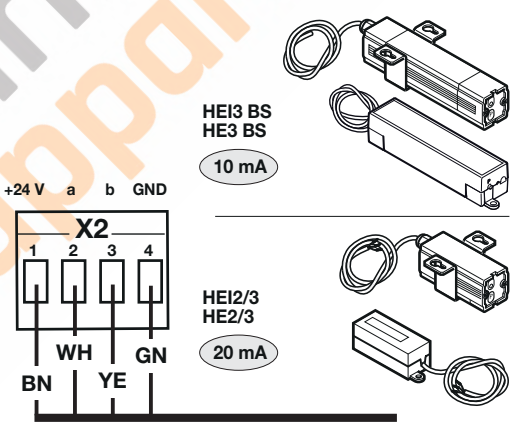


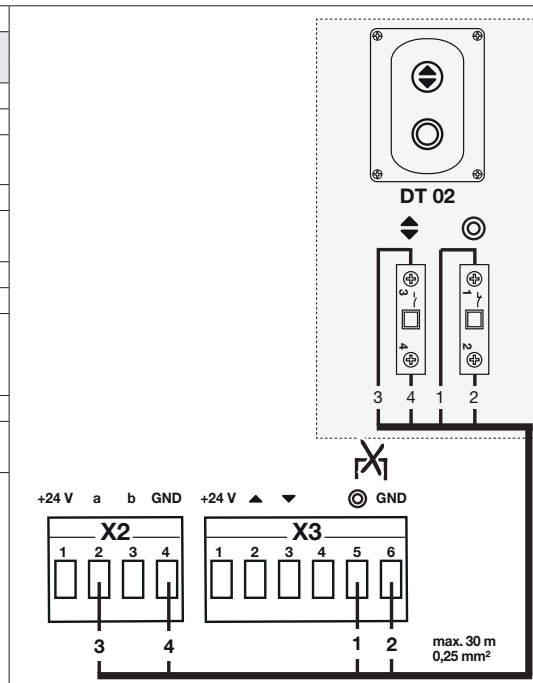
Overview of connections

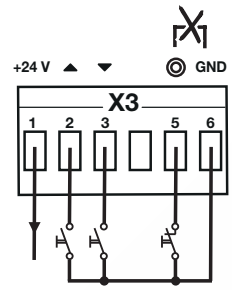
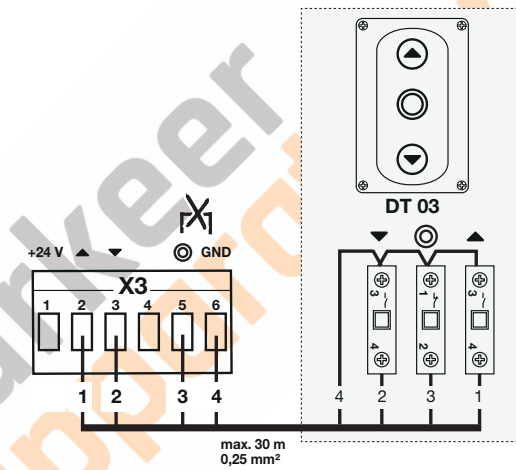
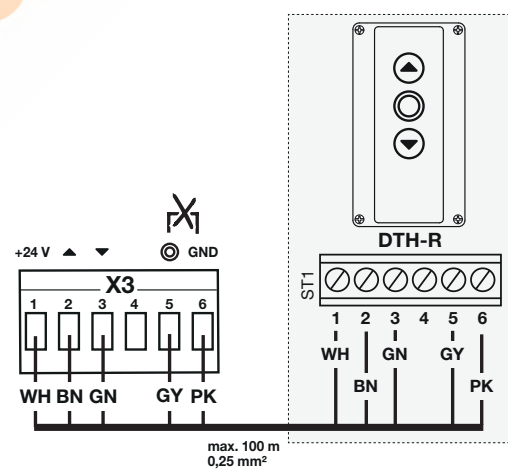
Item / Socket / plug	Connection for	Example	See section
Item 1 **X1**	Static current circuit tested		6.32
Item 2 **X2**	Multi-function input e.g.: Impulse switch, Widescan, radio receiver, external control elements		6.22
Item 3 **X3**	External control elements e.g.: Choice of direction, stop		6.32
Item 4 **X20**	Protective device e.g.: LZR-i100		6.20 6.21
Item 6 **X22**	Protective device e.g.: EL 301 2-wire photocell		6.20 6.21
	EL 401		
Item 8 **X30**	Tested protective devices, e.g.: Optosensors (LE)		6.19
Item 9 **X50**	Cover keypad via the system cable		5.1
Item 10 **X51**	Extension PCBs with relay contacts for error and limit switch reporting, traffic light control, automatic timer, central control, air inlet position command		7.2.1 7.2.1 7.2.2
Item 12 **X90**	Mains voltage 230 V AC-1ph		4.4
Item 13 **X91**	Operator motor 230 V AC-1ph		4.2
Item 14 **X93**	230 V connection for warning lights or other consumers (secured by fuse F1, item 19), max. load = 1500 W		4.3
Item 15 **X200a**	CAN bus For the control of devices via a CAT5e line, e.g.: – Operator motors		4.2
Item 16 **X200b**	CAN bus For the control of devices via a CAT5e line.		4.2
Item 18 **BUS**	HCP bus For controlling devices via 6-wire system cable, e. g.: – SmartControl module		7.3

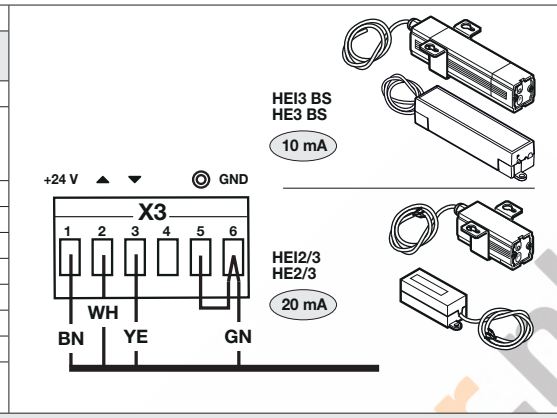
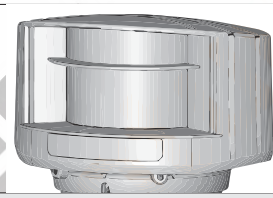
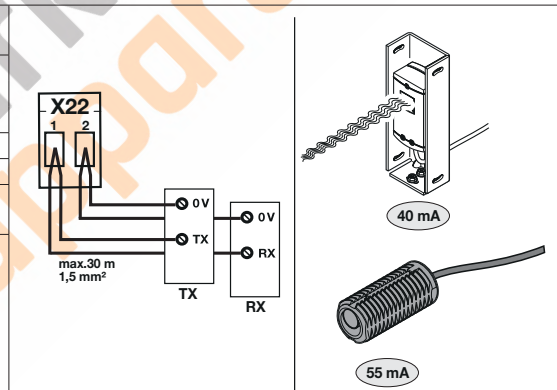
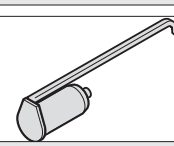
see “Note” on page 13

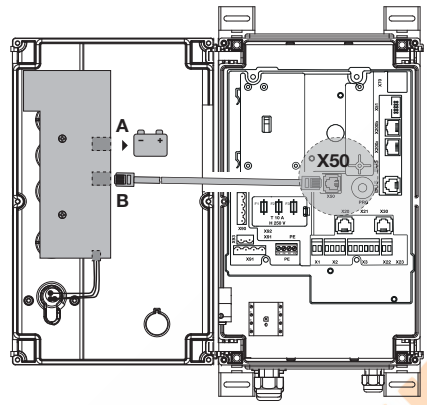
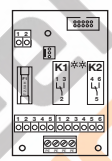
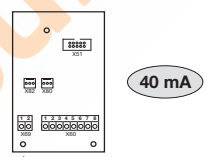
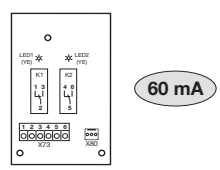
Connection / control element

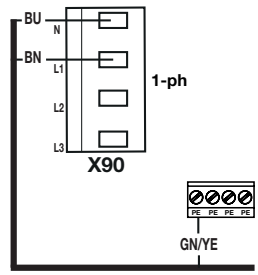
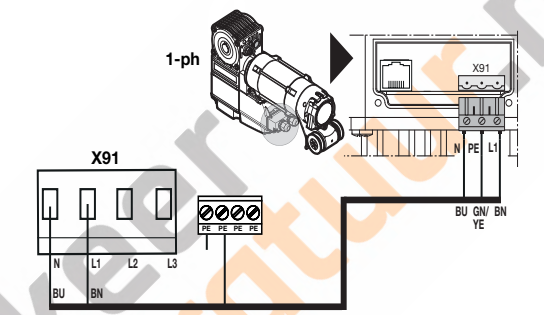
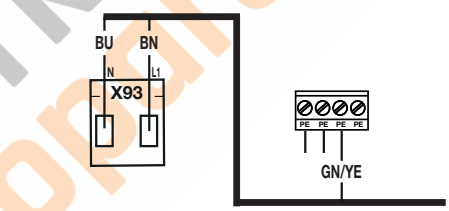
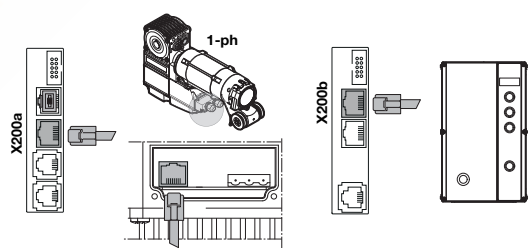
Des.	Item	Connection / control elements	Figure	See section
X1	1	**Static current circuit / stop (as safety function see 2.4)**		6.32
Screw or clamp connection		with external switch		
		1 Normally closed contact **Stop**		
		The 8k2 resistance must be removed when connecting		
		2 GND = 0 V reference potential		
		Functions adjustable in program menu **55**		
X2	2	**Multi-function input**		6.22
Screw or clamp connection		External **impulse** button		
		1 Auxiliary voltage +24 V DC (against terminal 4 = GND)		
		2 Multi-function input **a**		
		3 Multi-function input **b**		
		4 GND = 0 V reference potential		
		Functions adjustable in program menu **40 / 41**		
		External radio receiver		6.22
		1 Wire colour **BN**		
		Auxiliary voltage +24 V DC (against terminal 4 = GND)		
		2 Wire colour **WH**		
		Multi-function input **a**		
		Channel 1		
		3 Wire colour **YE**		
		Multi-function input **b**		
		Channel 2		
		4 Wire colour **GN**		
		GND = 0 V reference potential		
		Functions adjustable in program menu **40 / 41**		

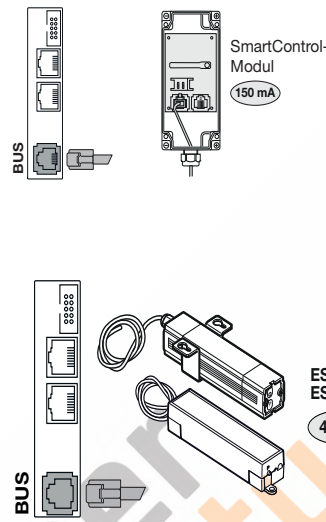
Des.	Item	Connection / control elements	Figure	See section
X2 **X3** Screw or clamp connection	**2** **3**	**External control elements** Impulse function / stop with push button DT 02 **X2** / 2 — Wire number **3**; Impulse function; Multi-function input **a** **X2** / 4 — Wire number **4**; GND = 0 V reference potential **X3** / 5 — Wire number **1**; **Stop** button **NOTE** Remove wire jumper when connecting **X3** / 6 — Wire number **2**; GND = 0 V reference potential		6.22
		Functions adjustable in program menu **40**		

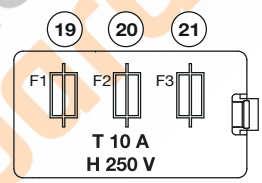
Des.	Item	Connection / control elements	Figure	See section
X3	3	**External control elements**		6.23
Screw or clamp connection		Choice of direction / stop with external buttons		
		1 Auxiliary voltage +24 V DC (against terminal 6 = GND)		
		2 **Open** button		
		3 **Close** button		
		5 **Stop** button		
		NOTE Remove wire jumper when connecting		
		6 GND = 0 V reference potential		
		Functions adjustable in program menu **42**		
		External control elements		6.23
		Choice of direction / stop with push button DT 03		
		2 Wire number **1** / **Open** button		
		3 Wire number **2** / **Close** button		
		5 Wire number **3** / **Stop** button		
		NOTE Remove wire jumper when connecting		
		6 Wire number **4** / GND = 0 V reference potential		
		Functions adjustable in program menu **42**		
X3	3	**External control elements**		6.23
Screw or clamp connection		Choice of direction / stop with push button DTH-R		
		1 Wire colour **WH** / Auxiliary voltage +24 V DC		
		2 Wire colour **BN** / **Open** button		
		3 Wire colour **GN** / **Close** button		
		5 Wire colour **GY** / **Stop** button		
		NOTE Remove wire jumper when connecting		
		6 Wire colour **PK** / GND = 0 V reference potential		
		NOTE Please insulate all other wires		
		Functions adjustable in program menu **42**		

Des.	Item	Connection / control elements		Figure	See section
X3	**3**	**External radio**			6.23
Screw or clamp connection		Choice of direction with external radio receiver			
		1	Wire colour **BN**		
			Auxiliary voltage +24 V DC (against terminal 6 = GND)		
		2	Wire colour **WH**		
			Input *Open*		
			Channel 1		
		3	Wire colour **YE**		
			Input *Close*		
			Channel 2		
		6	Wire colour **GN**		
			GND = 0 V reference potential		
		Functions adjustable in program menu **42**			
X20	**4**	**Protective device (as safety function see 2.4)**			6.20 6.21
System jack					
		Functions adjustable in program menu **35**			
X22	**6**	**Protective device (as safety function see 2.4)**			6.21
Screw or clamp connection		**RL300** **EL 301** **EL 401**	2-wire photocell		
		1	Transmitter signal TX		
			Receiver signal RX		
		2	0 V connection of the transmitter TX		
			0 V connection of the receiver RX		
		Functions adjustable in program menu **37**			
X30	**8**	**Protective device (as safety function see 2.4)**			6.19
System jack					
		Functions adjustable in program menu **10 / 34**			

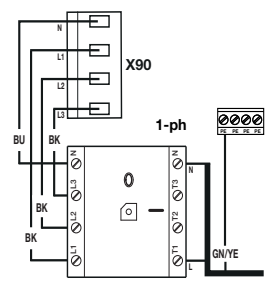
Des.	Item	Connection / control elements	Figure	See section
X50	**9**	**Cover keypad**		5.1.1
System jack		Keypad circuit board connection to the control		
		A Connection of a buffer battery		
		B Connection of the keypad circuit board		
		Functions adjustable in program menu **42**		6.23
X51	**10**	**Extension PCBs for functions**		7.2.1
Box header connector		Multi-function 2 relay contacts, e.g. for limit switch reporting, error message, etc.		
		Functions adjustable in program menu **46 / 47**		6.26
		Central control Central Open / Close, autom. timer Off, air inlet position		7.2.2
		Functions adjustable in program menu **22 / 33 / 48**		6.20 6.16 6.17 6.27
		Limit switch reporting Extension PCB for multi-function / central control circuit boards, e.g. for limit switch reporting		7.2.3
		Functions adjustable in program menu **46 / 47**		6.26

Des.	Item	Connection / control elements	Figure	See section
X90	**12**	**Mains voltage connection to the control** With the “main switch included” option, the connection to socket **X90** is already pre-wired.		4.4
Screw or clamp connection				
X91	**13**	**Motor connection** Connection of the motor connection line to socket **X91** on the operator		4.2
Screw or clamp connection				
X93	**14**	**230 V connection for external consumers** Secured 230 V connection (via F1, item 19) for warning lights or other consumers, max. load = 1500 W		4.3
Screw or clamp connection				
X200a	**15**	**CAN bus**		4.2
X200b	**16**			
RJ45 socket		For the control of devices via a CAT5e line, e.g.: – Operator motors **NOTE** Terminating resistor (120 Ω) must be inserted in free jacks. Only network cables from Hörmann may be used.		

Des.	Item	Connection / control elements	Figure	See section
BUS	**17**	**HCP bus**		7.3
System jack		For controlling devices via 6-wire system cable, e. g.: – Radio receiver ESEI BiSecur / ESE BiSecur – SmartControl module in the housing **NOTE** Max. 10 peripheral devices can be connected; connecting more than 2 devices requires a suitable hub (not included in the scope of delivery) To teach in new BUS participants to the control, a bus scan must be carried out in program menu 99 function number 02. When the BUS scan is completed, the number of detected participants is displayed		
		Functions adjustable in program menu **99 / 02**		6.37

			1-ph	3-ph		
F1	**19**	**10 A** / T	✓	✓		8.7
Fuse		Main circuit **L1**				
F2	**20**	**10 A** / T	–	✓		
Fuse		Main circuit **L2**				
F3	**21**	**10 A** / T	–	✓		
Fuse		Main circuit **L3**				

PE	**22**	**PE earth conductor**		4.4
Screw terminal				

	23	**Mains connection** on the **main switch** (optional)		4.4.2
Main switch		The connection of the main switch to the circuit board connection **X90** is pre-wired		

PRG	**24**	**Button for programming the control**		6.3.2
Button				

NOTE

When connecting accessories to plugs **X1 / X2 / X3 / X20 / X22 / X30 / X50 / X51 / X200a / X200b / HCP bus**, the total current must not exceed **800 mA**!

The signals at the input terminals must be applied for at least 150 ms in order to be processed by the control.

External voltage at the terminals of plugs **X1 / X2 / X3 / X22** will destroy the electronics.

The maximum cable length to connect command units is 30 m with a cable cross-section of at least 1.5 mm² (cable length to button DTH max. 100 m / 0.25 mm²).

SAFETY INSTRUCTIONS FOR ELECTRICAL CONNECTIONS

⚠ DANGER

Mains voltage

Contact with the mains voltage presents the danger of a deadly electric shock.
For that reason, be sure to observe the following instructions:

- Electrical connections may only be made by a qualified electrician.
- The on-site electrical installation must conform to the applicable protective regulations (230 / 400 V AC, 50 / 60 Hz).
- Disconnect the system from the mains supply and prevent it from being switched on again without authorisation.

⚠ WARNING

Danger of injury due to incorrect installation

Incorrect installation of the operator can result in serious injury.

- The on-site electrical installation must conform to the applicable protective regulations.
- Electrical connections may only be made by a qualified electrician!
- Any further processing must ensure that the national regulations governing the operation of electrical equipment are complied with.

ATTENTION

Damage due to incorrect electrical installation

Incorrect installation could result in damage. Therefore, be sure to observe the following instructions.

- External voltage on the connecting terminals of the circuit board will destroy the electronics.
- Never pull on the connecting cables of the electrical components, as this will destroy the electronics.
- Always feed the electrical connecting leads into the control housing from below.
- Use blind plugs to close off unused connections.

Dear customer,
We would like to thank you for choosing a quality product from our company.

Industrial door control

1 About these instructions

These instructions are **original operating instructions** as outlined in the EC Directive 2006/42/EC. Read through all of the instructions carefully, as they contain important information about the product. Pay attention to and follow the provided safety instructions and warnings.

Keep these instructions in a safe place for later reference. Make sure that they are available to the user at all times.

1.1 Further applicable documents

The following documents for safe handling and maintenance of the door system must be placed at the disposal of the end user:

- These instructions
- The operator instructions
- The industrial door instructions
- The enclosed log book

1.2 Warranty

For the warranty, the generally recognised terms and conditions or those agreed in the delivery contract apply. The warranty does not apply for damage resulting from insufficient knowledge of the provided operating instructions. Damage caused by the following is also excluded:

- Improper fitting and connection
- Improper initial start-up and operation
- Structural modifications
- External factors such as fire, water, abnormal environmental conditions
- Mechanical damage caused by accidents, falls, impacts
- Negligent or intentional destruction
- Normal wear or deficient maintenance
- Repairs conducted by unqualified persons
- Use of non-original parts
- Removal or defacing of the data label

Furthermore, we will assume no responsibility for the accidental or careless operation of the operator and accessories, nor for improper maintenance of the door and its counterbalance.

1.3 Colour code for cables, single conductors and components

The abbreviations of the colours for identifying the cables, conductors and components comply with the international colour code according to IEC 60757:

BK	Black	**OG**	Orange
BN	Brown	**PK**	Pink
BU	Blue	**RD**	Red
GN	Green	**WH**	White
GN / YE	Green / Yellow	**YE**	Yellow
GY	Grey	**VT**	Violet

1.4 Definitions used

Start warning

Signal before and during every door run and in every intermediate position. Warns of the movement before the door travel (see also advance warning phase).

Hold-open phase

Waiting phase at the *Open* end-of-travel position before CLOSE door travel with an automatic timer.

Automatic timer

Automatic closing of the door after the end of a phase (hold-open phase and start warning / advance warning phase) from the *Open* end-of-travel position.

BlueControl

The BlueControl application uses Bluetooth as the radio technology for data transmission to the control. This means that the control can be conveniently programmed via a smartphone, tablet or notebook as an alternative to the 7-segment display.

Braking point

At the braking point the door speed is switched from fast to slow.

If the stored position for the braking point corresponds with the end-of-travel position, the frequency converter calculates the braking point automatically.

CAN bus

In this 8-wire bus system (Cat5e line), all components are connected to a common data line. Interfaces serve the transmission of information among the individual components of a system, e.g. controls, operator motors, protective devices. All devices that are accessible at the start of the control are automatically integrated.

Lintel trap guard EZS

Photocell that can limit the hazard of dangerous travel when opening the door as well as reaching into the danger area of the door mechanism during travel in the Open direction.

HCP bus

In this 6-wire bus system (system cable), all components are connected to a common data line. Interfaces serve the transmission of information among the individual components of a system and the control, e.g. radio receivers, GSM interfaces. All devices that are accessible at the start of the control are automatically integrated.

Impulse sequence control / impulse operation

With each one-time push of the button, the door is started or stopped opposite to the last direction of travel (Open – Stop – Close – Stop – ...).

Force learning run

In this learning run, the forces required for door travel are taught in.

Master switch

With the help of the lockable miniature lock / profile half cylinder (optional), specialists / trained persons (who are in possession of the key) can move the door with press-and-hold operation. For this function, the switch must be in position 2 and the function must be activated in program menu **44**.

In switch position 1, specific functions of the cover keypad / control can be blocked, so that only authorised persons (who are in possession of the key) can execute these functions.

Attention: Protective devices such as SKS closing edge safety device, wicket door contact, cable slack device, etc. are not active in switch position 2! Immediately after performing the emergency operation, the miniature lock / profile half cylinder must be returned to position 0 or 1 and the key removed to prevent unintentional switching by non-specialists. Press-and-hold operation with external control elements is only possible with two-button press-and-hold operation (see press-and-hold operation)

Normal travel

Door run with the taught-in travel distances and forces.

Reversal run

Door travel in the opposite direction when the protective device or power limit is activated.

Reversal limit

If a protective device is activated, door travel is triggered in the opposite direction (reversal run) up to the reversal limit (max. 50 mm) shortly before the Close end-of-travel position. If this limit is passed, no reversal occurs to ensure that the door reaches the end-of-travel position without disrupting travel.

Press-and-release operation

When the **Open / Close** button is pressed once, the door automatically travels to the respective end-of-travel position.
To stop the door travel, the **Stop** button or another button must be pushed.

Safety photocell

Safety element in *Close* direction. Depending on the set function, long reversal takes place up to the *Open* end-of-travel position if the photocell is activated, for example.

SmartControl

Interface / device within the HCP bus system for transmitting the door system and control states via the GSM mobile phone standard to a web browser portal. For configuration, reading out errors, reading out messages and diagnosis via the Internet.

Press-and-hold operation

- One-button press-and-hold operation (cover keypad)
  The corresponding button must be pressed and held for the door to travel to the respective end-of-travel position.
  Release the button to stop door travel. (Also possible via X3 if press-and-release operation is set in Open position (menü 11 01 or 02) but SE has not been connected or programmed in Open position.)
- Two-button press-and-hold operation (external control elements at terminal **X3,** programming in program menu **57**)
  The corresponding button and the **Stop** button must be pressed simultaneously and held for the door to travel to the respective end-of-travel position.
  Release one of the buttons to stop door travel.
- Emergency operation in one-button press-and-hold operation via X3
  (cover keypad, miniature lock / profile half cylinder (PHC) to position **2**, program menu **44** must be activated)
  This press-and-hold operation that overrides all safety devices is only intended for opening a door when the lintel trap guard is defective and not for normal operation.
  This operating mode may only be implemented by a specialist / trained person! Remove the key to prevent unintentional switching by non-specialists.

Advance warning

Signal **during** automatic operation (automatic timer control) before the door travels in the Close direction, during every door run and in every intermediate position (see also start warning).

Air inlet position

A command from the RWA system (smoke and heat extraction) on the central control stops door travel. After 1 second the door moves to the programmed air inlet position. The active operator stops upon a Stop command or reacts to activated safety elements (or devices), but subsequently attempts to reach the air inlet position again. After reaching the end-of-travel position, the control is blocked and can only be made ready for operation by switching it off and on (if the air inlet command is no longer active).

1.5 Technical data

Operator type	**1-ph FU**
Operator designation	ITO 500 FU
Mains voltage connection of the control	230 V 50 / 60 Hz
	–15 % / +10 %
Max. overall connected load	2.25 kW
Max. input power of the control (without consumers at terminal X93)	0.75 kW
Max load on terminal X93	1.5 kW
Recommended pre-fuse on site	16 A / T (**C** circuit breaker)
	for FI residual current circuit breaker only use type Use **B** / 0.03 A
Fuse protection in the control	10 A / T
Control voltage	24 V DC, total current for accessories max. 800 mA
Max. humidity	Humidity max. 93%, non-condensing
Temperature range	–20°C to +60°C
Protection class / protection category	– Protection class I (protection class II arrangement) / IP 65 only with lock cover – CEE plug = IP 44

1.6 Excerpt from the manufacturer's declaration

(as defined in EC Machinery Directive 2006/42/EC according to Annex II, Part 1 A for a complete machine or Part 1 B for incorporation of an incomplete machine) Fitting this operator is only permissible in combination with specific door types approved for this purpose. These door types can be found in the complete EC / EU declaration of conformity in the provided log book.

When combining this operator with a door, the fitter is considered a manufacturer of the complete machine.

Therefore fitting may only be done by a fitting company, as only they have knowledge of the relevant safety regulations, valid directives and standards, as well as the required testing and measuring devices. The appropriate manufacturer's declaration can also be found in the provided log book.

2 ⚠ Safety instructions

When used properly and for the intended purpose, the control is reliable and safe to operate. Nevertheless, when used incorrectly or for purposes other than those intended, it can pose a risk. We therefore expressly draw your attention to the safety instructions contained in the individual sections.

2.1 Intended use

The control may only be used together with shaft operator ITO 500 FU / STA 500 FU to operate non-protruding up-and-over doors and sliding doors. The control is not a component designed and tested for use in fire alarm systems.

If this control is to be used for any other application, the manufacturer must be consulted beforehand.

Intended use also includes following all the notes on personal safety and danger to property provided in these operating instructions, and complying with the country-specific standards and safety regulations as well as the test certification of the log book.

Please also read and follow the instructions for fitting, operating and maintaining the door.

2.2 Fitter qualification

Only correct fitting and maintenance in compliance with the instructions by a competent / specialist company or a competent person / specialist ensures safe and flawless operation of the system. According to EN 12635, a specialist is a person with suitable training, specialist knowledge and practical experience sufficient to correctly and safely fit, test and maintain a door system.

2.3 Personal safet

In working with the control, the personal safety of the persons handling it must have the highest priority.

In the following, we have summarised all the safety instructions that appear in the individual sections. Every person operating the control must be familiar with this summary. You should have these persons provide their personal signature confirming that they are acquainted with these safety instructions.

At the start of each section, we draw attention to the potential dangers. If necessary, we once again draw attention to the danger at the corresponding point in the text.

2.4 Protective devices

According to section 5.1.2 of EN 12453:2017, safety functions must include processing of the signal. Therefore, for a complete assessment of the respective protective device, all requirements according to EN ISO 13849-1:2015 must be applied to the complete safety function (chain).

2.5 Warnings used

⚠ The general warning symbol indicates a danger that can lead to **injury** or **death**. In the text, the general warning symbol will be used in connection with the caution levels described below. In the illustrated section, an additional instruction refers back to the explanation in the text.

⚠ DANGER

Indicates a danger that immediately leads to death or serious injuries.

⚠ WARNING

Indicates a danger that can lead to death or serious injuries.

⚠ CAUTION

Indicates a danger that can lead to minor or moderate injuries.

ATTENTION

Indicates a danger that can lead to **damage** or **destruction of the product**.

2.6 Safety instructions

ATTENTION:

IMPORTANT SAFETY INSTRUCTIONS.

FOR THE SAFETY OF PERSONS, IT IS IMPORTANT TO COMPLY WITH THE FOLLOWING INSTRUCTIONS. THESE INSTRUCTIONS MUST BE KEPT.

2.6.1 Safety instructions for fitting / dismantling

⚠ CAUTION

Unsupervised door run

▶ See warning in section 3.2

2.6.2 Safety instructions for installation

⚠ DANGER

Mains voltage

Danger of a deadly electric shock

▶ See warning in section 4.1

⚠ WARNING

Danger of injuries due to protective devices without self-testing

▶ See warning in section 4.3.1

2.6.3 Safety instructions for operation

⚠ WARNING

Unsupervised door run

▶ See warning in section 5

2.6.4 Safety instructions for Initial start-up

⚠ WARNING

Danger of injury due to uncontrolled door travel

▶ See warning in section 6.2

Danger of injury due to incorrectly set power limit

▶ See warning in section 6.10

Danger of injuries due to faulty protective devices

▶ See warning in section 6.19, 6.20, 6.21

2.6.5 Safety instructions for fitting Accessories and extensions

⚠ DANGER

Mains voltage

Danger of a deadly electric shock

▶ See warning in section 7.1

2.6.6 Safety instructions for maintenance / service

⚠ DANGER

Mains voltage

Danger of a deadly electric shock

▶ See warning in section 8.1, 8.7

⚠ WARNING

Danger of injury due to uncontrolled door travel

▶ See warning in section 8.1, 8.4.1

3 Fitting / dismantling

3.1 Standards and regulations

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

European standards	
EN 60204-1	Electrical and electronic equipment and systems for machines

3.2 Fitting information

- The standard version of the control housing must not be operated in potentially explosive areas.
- The control housing must be fastened on an even, vibration-free base.
- If possible, the control housing should be fastened using the supplied fitting supports.
- According to the standard EN 60335, the control buttons must be at a height of at least 1500 mm.
- The maximum cable length between the operator and the control must not exceed 30 m.
- Fitting types:
  a. Wall fitting with the supplied plugs and screws.
  b. Fitting of the control housing with fitting supports on sheet steel using the screws (C) and plain washers supplied (pre-drill at 3.5 mm).
  c. Fitting of the control housing with fitting supports, e.g. on steel girders, is done using M5 threaded bolts and plain washers (not included in the scope of delivery).

ATTENTION

Malfunction due to extreme temperatures

Operating the control outside of the permissible temperature range can result in malfunctions.

▶ The control must be fitted so that a temperature range of –20°C to +60°C is guaranteed.

⚠ WARNING

Unsupervised door run

Persons within the door's danger area may be injured during an unsupervised door run.

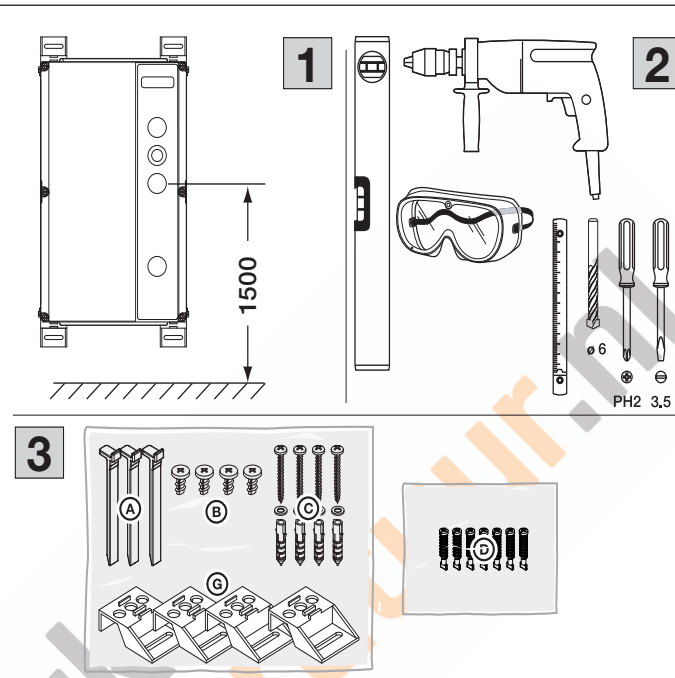
▶ The control housing must be fitted so that the entire door system is visible at all times during operation.

3.3 Fitting

3.3.1 Fitting of control housing

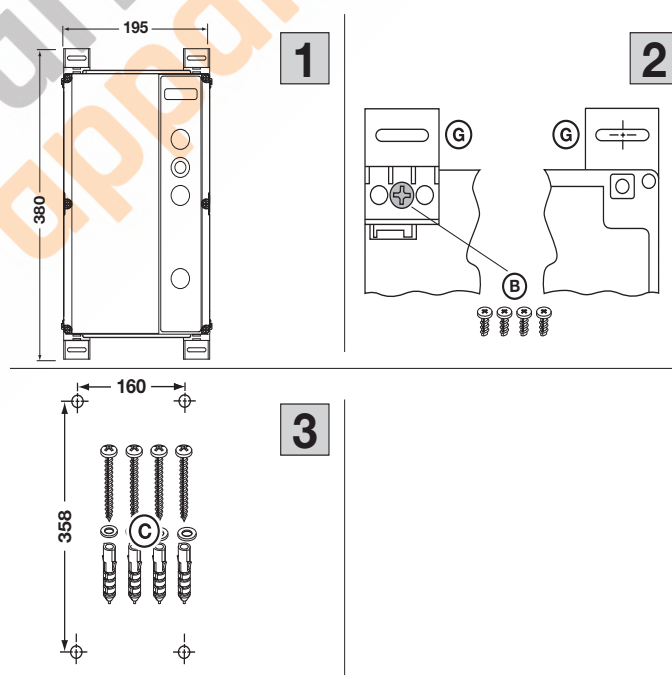
General information

1. Fitting height
2. Required tools
3. Accessory bag for control housing



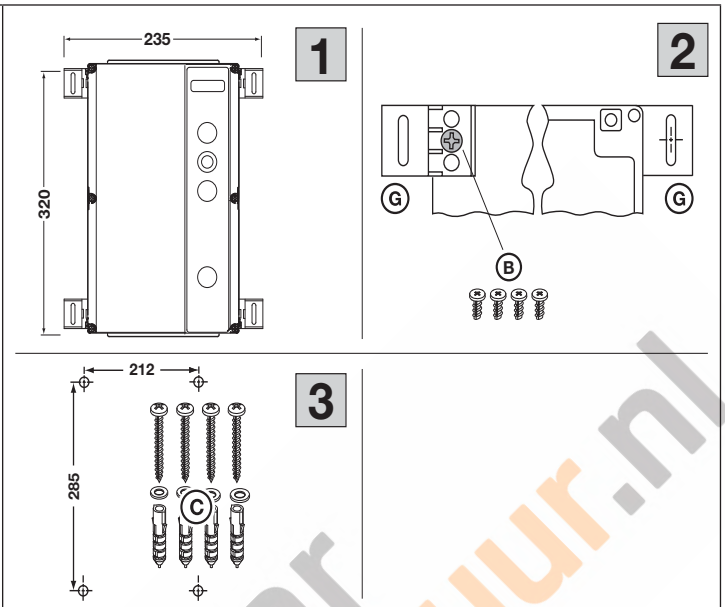
Vertical fitting supports

1. Control housing with vertically fixed fitting supports
2. Fixing the fitting supports, view from back and front
3. Hole pattern of the fastening holes, required fixing material



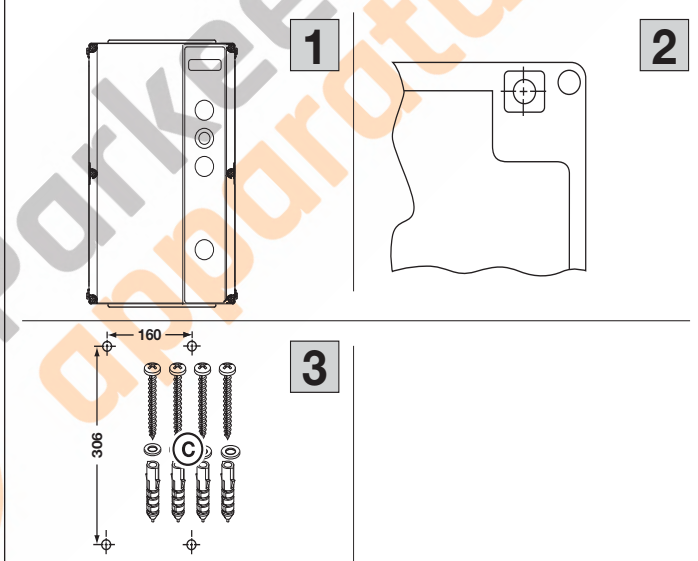
Horizontal fitting supports

1. Control housing with horizontally fixed fitting supports
2. Fixing the fitting supports, view from back and front
3. Hole pattern of the fastening holes, required fixing material



Fitting directly on the wall or on surfaces

1. Control housing without fitting supports, fitted directly to the wall
2. Use the fastening holes of the control housing
3. Hole pattern of the fastening holes, required fixing material

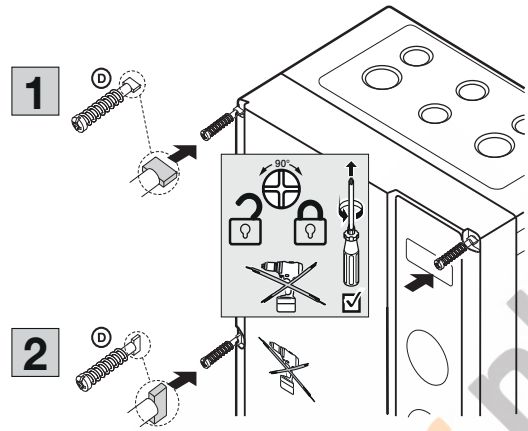


Cover fixing

1. Insert the quick-release fastener on top and on bottom (4 ×). To lock the quick-release fastener, push it with a screwdriver towards the control housing and turn it 90° to the right.
2. Insert the quick-release fastener in the middle (2 ×). To lock the quick-release fastener, push it with a screwdriver towards the control housing and turn it 90° to the right.

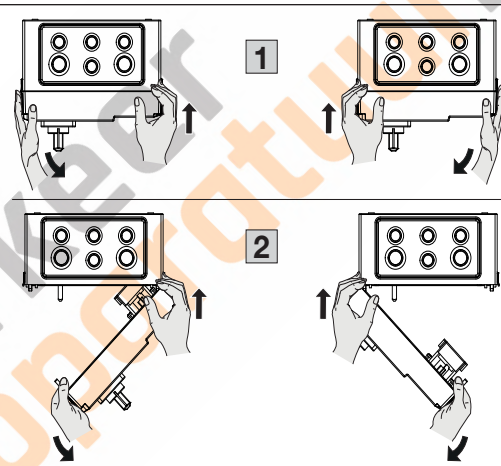
NOTE

When locking, please observe that using excessive force or a battery-powered screwdriver will damage the control housing.



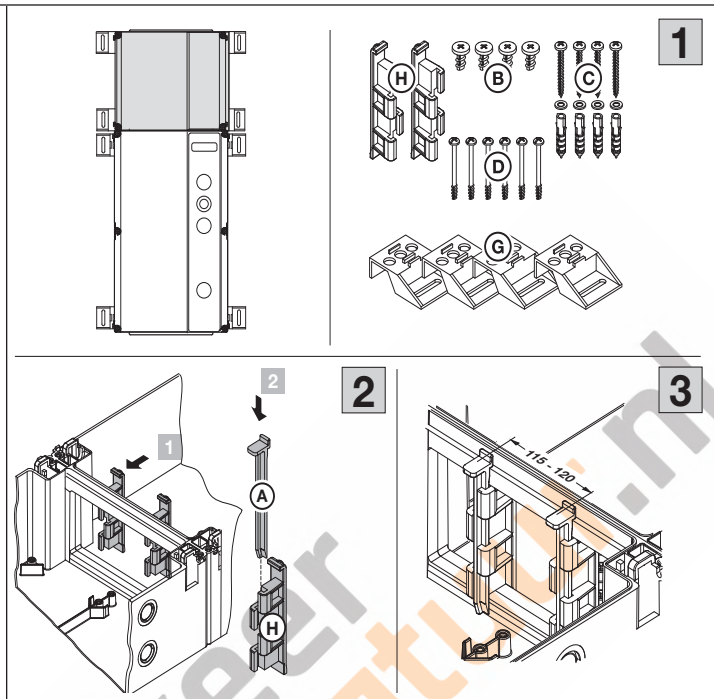
Opening the cover

1. Unlock all quick-release fasteners (6 ×). Push them with a screwdriver towards the control housing and turn them 90° to the left.
   On the desired swivelling side of the cover, push the cover against the control housing. Pull the opposite side from the control housing.
2. If you continue to open the control housing, the cover will be retained.



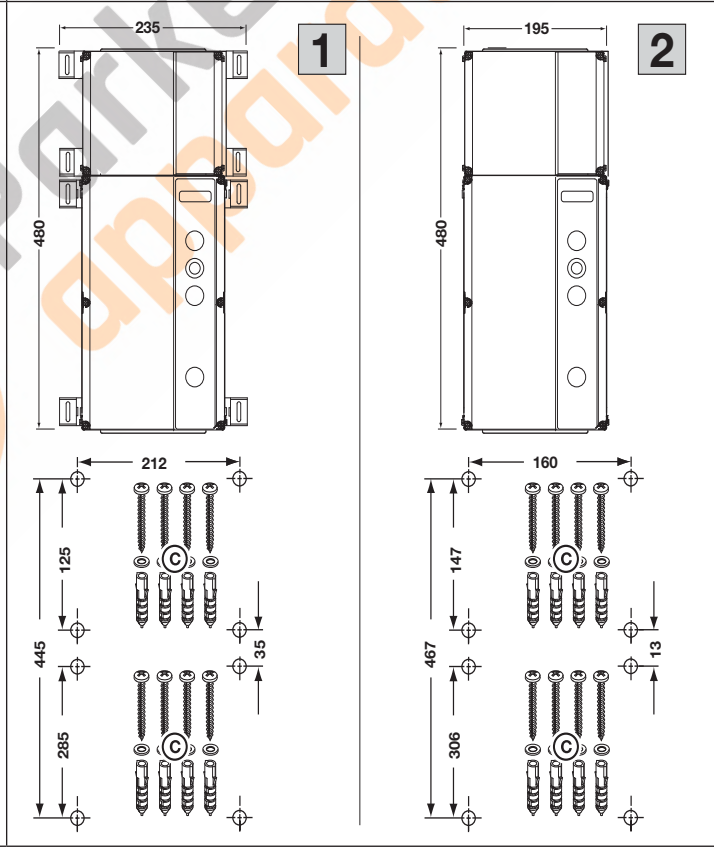
Fitting the extension housing

1. Contents of accessory bag for extension housing
2. Assembly
3. Checking the correct position of the housing connectors



Hole pattern for fitting of control housing combinations

1. Control housing and extension housing with horizontally fixed fitting supports
2. Control housing and extension housing without fitting supports, fitted directly to the wall



3.4 Dismantling

Have a specialist dismantle the control in the reverse order of these instructions.

3.5 Disposal

Dispose of the packaging sorted by materials

Electrical and electronic devices

must be disposed of at the appropriate recycling facilities.

Dispose of the batteries separately

Each consumer is legally required to leave batteries with a collection point in their community, their district, or with a trader.

4 Installation

4.1 General

⚠ DANGER

Mains voltage

Contact with the mains voltage presents the danger of a deadly electric shock.

- Connection may only be carried out by qualified and authorised personnel in accordance with the local / country-specific electrical safety regulations.
- The control is designed to be connected to the public low-voltage mains.
- The power supply voltage must be within ±10% of the operator's nominal working voltage (see data label).
- The maximum cable length to connect command units to the control is 30 m with a cable cross-section of at least 1.5 mm^2.
- The maximum cable length between operator and control is 30 m with a cable cross-section of at least 1.5 mm^2.

▶ Before connecting to the mains, check whether the permissible mains voltage range of the control is compatible with the local mains voltage.
▶ If the control is permanently connected to the mains, an all-pole mains isolator switch with corresponding pre-fuse must be installed (according to EN 12453).
▶ For frequency converter operators only use all-main sensitive residual current circuit breaker type B.
▶ Always feed the electrical connecting leads into the control housing from below.
▶ To prevent malfunctions, lay the operator connection cables in an installation system that is separate from other supply cables with mains voltage. This will prevent malfunctions.
▶ As part of each door inspection, live cables must be checked for insulation faults and breakage points. If a fault is detected, switch off the voltage immediately and replace the defective cable.
▶ In the case of control housings with a main switch (optional), the main switch must be switched to **0** before the control housing is opened.

NOTE

CEE plug

The mains connection cable plug (protection category IP 44) acts as an all-pole mains isolator switch. The socket for this plug must be at a child-safe height that is easy to reach (between 1.5 m and 1.9 m) so that the device can be disconnected from the power supply, if necessary.
If this is not possible, the connecting lead for this socket must be provided with a lockable, all-pole isolator switch that also fulfils the above-listed criteria.

Permanent mains connection

With a permanent connection, a lockable all-pole main isolator switch must be fitted at a child-safe height that is easy to reach (between 1.5 m and 1.9 m) so that it can be used to disconnect the device from the mains, if needed.

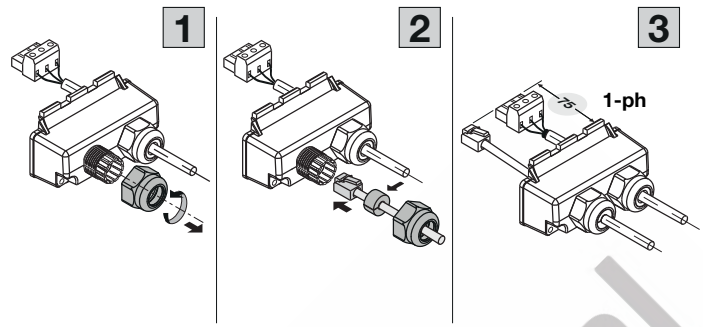
Mains connection cable

If the mains connection cable must be exchanged due to damage and the like, an equivalent replacement must be installed by personnel who are trained and authorised in accordance with the local / national electrical safety regulations.

4.2 Connecting the operator connection cables

Fitting the CAN bus cable (CAT5e, operator side):

1. Open the cable gland.
2. Pass the cable through the cable gland. Push the slotted seal (from the accessory bag) between the plug and the screw fitting over the cable. Guide the cable through the gland bushing, position the seal and cable gland. Select a cable length of 75 mm. Do **not** tighten the cable glands.
3. Prepared motor connection junction box cover.

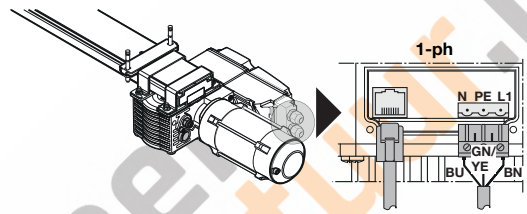


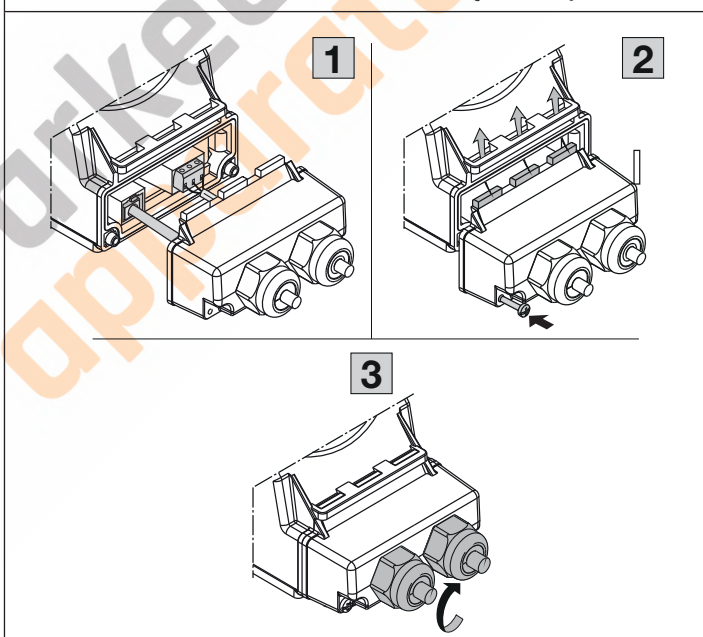
Connecting the motor cables (operator side):

1. Insert the plug of the operator bus cable (CAT5e) into the corresponding socket.
   Insert the plug of the motor connecting lead into the corresponding socket.
2. Guide the retaining lugs of the housing cover into the corresponding recesses of the motor housing.
   Attach the cover using the screws from the accessory bag.
3. Firmly tighten the cable glands.

NOTE

Tighten the fitting screws for the cover at a maximum of 1.5 Nm.



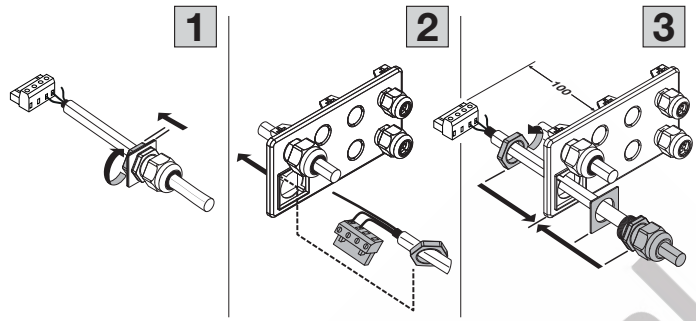


Fitting the motor cable (control side):

1. Slide the cable gland and the seal plate onto the cable.
2. Insert the cable through the flange plate.
   Adjust the cable length to the corresponding socket **X91**.
   Tighten the cable gland with the fastening nut.
3. Final assembly of the screw-on flange plate.

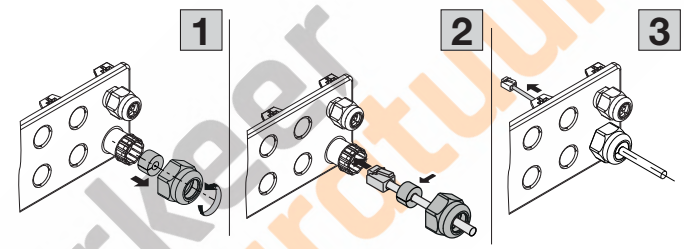
NOTE

If the cable of the motor cable is too long, shorten it as needed at the connection plug.



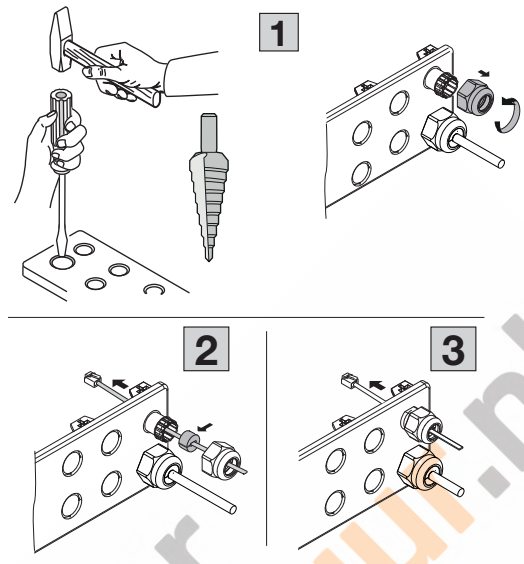
Fitting the CAN bus cable (CAT5e, control side):

1. Open the cable gland (M20).
2. Pass the cable through the cable gland. Push the slotted seal between the plug and the screw fitting over the cable. Guide the cable through the gland bushing, position the seal and cable gland. Adjust the cable length to the corresponding jack **X200a**. Firmly tighten the cable gland.
3. Final assembly of the screw fitting.



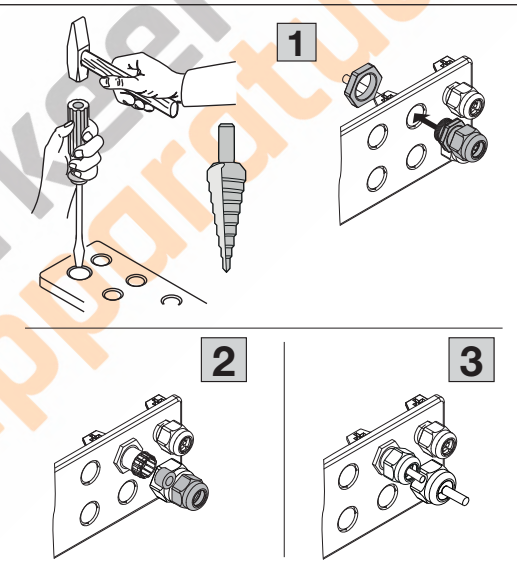
Fitting of HCP bus leads and system cables:
(control side):

1. Open the cable gland (M16) or fit an additional cable gland, if necessary. For this purpose, carefully break the predetermined break points with the cover closed or use a step drill.
1. Pass the cable through the cable gland. Push the slotted seal (from the accessory bag) between the plug and the screw fitting over the cable. Guide the cable through the gland bushing, position the seal and cable gland. Adjust the cable length to the corresponding socket. Firmly tighten the cable gland.
2. Final assembly of the screw fitting.



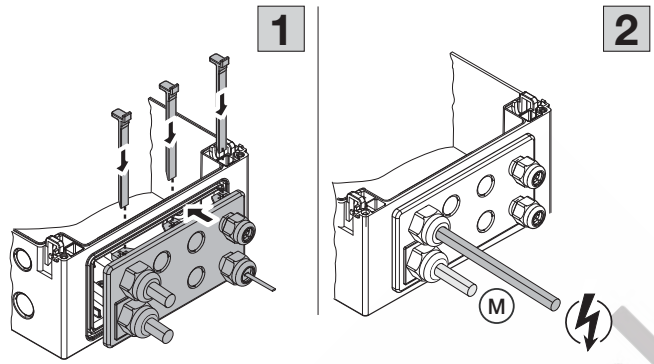
Fitting of additional round cables (control side):

1. For this purpose, carefully break the predetermined break points with the cover closed or use a step drill.
2. Prepare the cable gland for the round cable by using the according seal from the accessory bag.
3. Guide the cable through the gland bushing, position the seal and cable gland. Adjust the cable length to the corresponding socket. Firmly tighten the cable gland

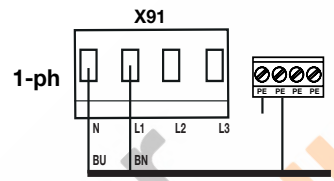


Fitting the flange plate (control side):

1. Fit the flange plate:
   a. Position the flange plate
   b. Lock with the wedges
2. Completely fitted flange plate



Connecting the motor cable (control side):

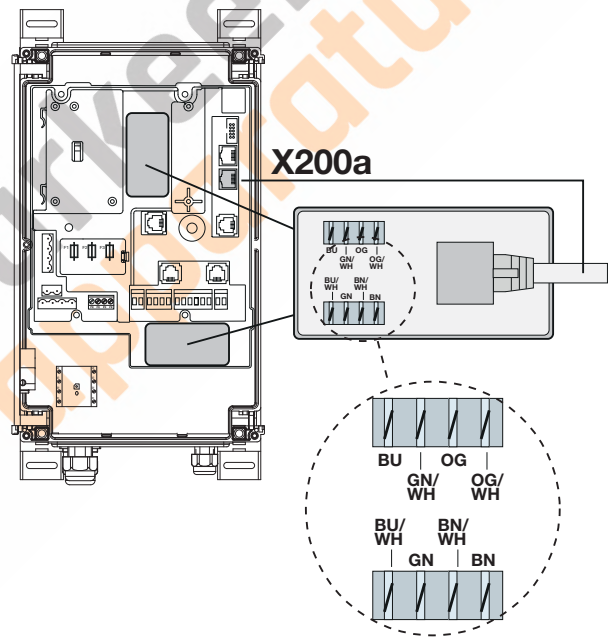


Connecting the CAN bus cable (CAT5e) to socket X200a (control side):

NOTE

In case of excessive cable length

1. Roll the CAT5e cable up and stack the roll behind the control housing (only possible for control housings **with** fitting supports).
2. Insert the plug into socket **X200a**.
3. Use the CAT adapter box (not included in the scope of delivery). This can be fitted to two places on the control.
4. Shorten the CAT5e cable to the correct length.
5. Connect the cable in the CAT adapter box according to the colour code. (LSA insulation displacement connection method).
6. Insert the plug of the adapter box into socket **X200a**.

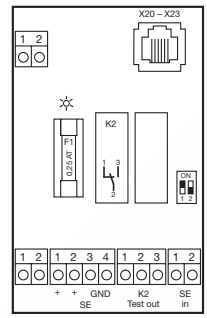


4.3 Connection of protective devices / accessories

4.3.1 Protective devices without self-testing

Protective device without self-testing (e.g. light curtains, photocells) can be connected to a **connection adapter for protective devices using a cable connection**.
The connection to the control is established via jack **X20**.
Self-testing can be optionally activated.
The operator response to these protective devices can be set in program menu **35**.

Connecting voltage	24 V DC ±15%
Max. load current	250 mA



⚠ WARNING

Protective devices without self-testing
Persons may be injured if protective devices without self-testing are used.
- ▶ For personal safety purposes, only use protective devices with self-testing.
- ▶ Use protective devices without self-testing for property protection only.

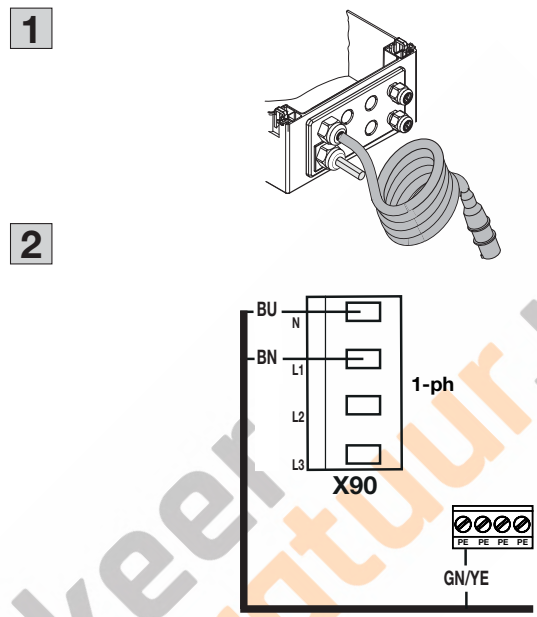
4.3.2 Accessories

Connect all required protective devices, buttons and additional prints in compliance with the overview pages and section 7.

4.4 Mains connection

4.4.1 Mains connection without main switch

1. Flange plate with mains connection cable.
2. Connect the earth conductor of the mains connection cable to the PE terminal.
   Insert the mains connection cable plug into socket **X90**.

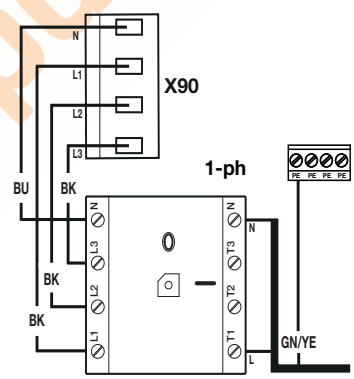


4.4.2 Mains connection via the main switch

If the control is to be used under IP 65 conditions, do not use the supplied CEE plug. The voltage is supplied in this case via direct wiring at the main switch.
Select pre-fuses that comply with local / country-specific regulations.

NOTE

With the “main switch included” option, the connection to the **X90** plug is already pre-wired.

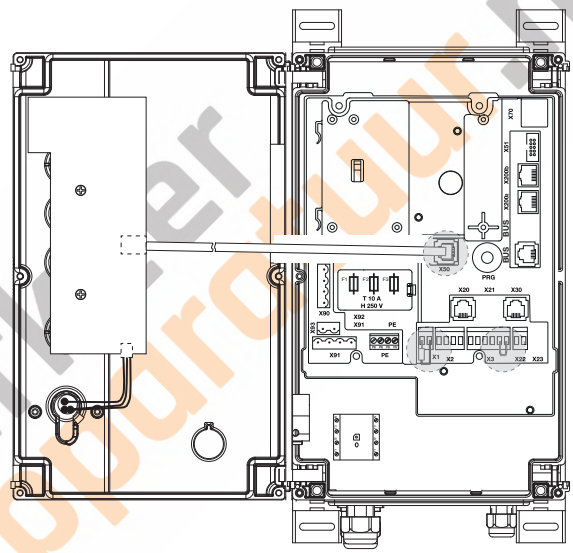


4.5 Preparations before switching on the control

▶ Before switching on the control, check the following:
On the control:
– All electrical connections
– A plug **X1** with resistance (8k2) is plugged to the circuit board
or
a tested end device is connected to plug **X1**
Notice
Initial start-up with an end device without self-testing connected to **X1** is not possible.
After the initial start-up, an end device without self-testing can be connected to plug **X1**, the self-test in program menu **55** must be switched off.
– Plug **X3** with bridge (contact 5 – 6) is plugged to the circuit board if no additional accessories are connected here.
– The plug of the cover keypad is inserted in socket **X50**

On the operator and electrical installation:
– Pre-fuse of the CEE electric socket in accordance with the local / country-specific regulations.
– Voltage applied to the electric socket.
– Precaution on site to prevent an operator control that (potentially) cannot be switched off and becomes a hazard.
– Correct mechanical fitting of the operator.
– Proper fixing of the motor connection housing cover.

NOTE
▶ For safety reasons, open door manually to a height of approx. 1000 mm (see sec. 8.3).



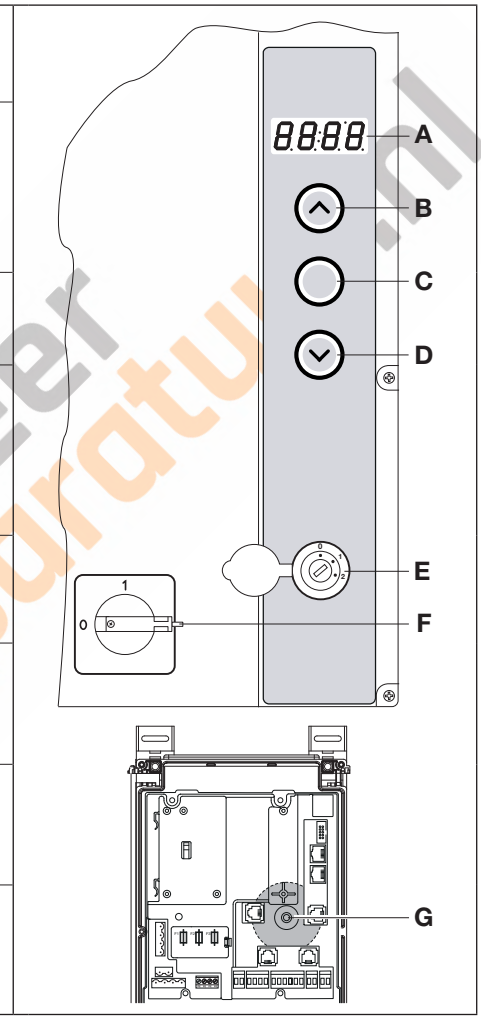
5 Control elements

⚠ WARNING

Unsupervised door run
Persons within the door's danger area may be injured during an unsupervised door run.
▶ The entire door must be visible at all times during operation.

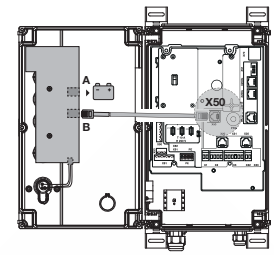
5.1 Control elements of control 545

A	**7-segment display** Four digits indicate the various operating states (see section 5.2).	
B	**Open** button For door travel in the *Open* direction ▶ In press-and-release operation, press 1 ×. ▶ In press-and-hold operation, press and hold.	
C	**Stop** button To interrupt door travel, press 1 ×.	
D	**Close** button For door travel in the *Close* direction ▶ In press-and-release operation, press 1 ×. ▶ In press-and-hold operation, press and hold.	
E	**Miniature lock** To switch off all connected control elements und special functions, it can be replaced by a profile half cylinder (PHC, optional) (see sect. 5.1.2). **NOTE** The indicated protection category IP 65 is only provided if the lock cover is installed.	 
F	**Main switch** (optional) For an all-pole switch-off of the operating voltage. It can be locked with a padlock for maintenance and service work.	
G	**PRG** button To initiate and end menu programming (see section 6. 4.2 / 6.4.5).	



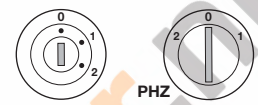
5.1.1 Cover keypad

- **A**: Connection of a buffer battery.
  If the control is **switched off**, the times for timers, timestamps and the current time are stored for approximately 60 hours. A battery can be inserted here for a longer buffer period (optionally available).
- **B**: Connecting the keypad circuit boards X50 to the control

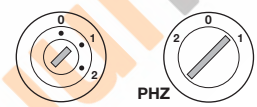


1.1.1 Miniature lock / profile half cylinder

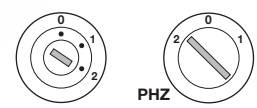
- Miniature lock / profile half cylinder (PHC) in position **0**
  – Functions deactivated



- Miniature lock / profile half cylinder (PHC) in position **1**
  – Different functions adjustable, see program menu **43**
  – Slow travel for fine adjustment of the end-of-travel positions in learning runs, see program menu **12**



- Miniature lock / profile half cylinder (PHC) in position **2** (function can be set in program menu **44**)
  – Emergency operation with one-button press-and-hold operation (cover keypad) or two-button press-and-hold operation (external control elements connected to X3)



NOTE

This press-and-hold operation that overrides all safety devices is only intended for door travel in emergency operation (defective protective device) and not in normal operation.
This operating mode may only be implemented by a specialist!
Immediately after performing the emergency operation, the miniature lock / profile half cylinder must be returned to position **0** or **1**. This automatically sets menu 57 to function 00 (two-button press-and-hold operation) and resets it to the previously selected function.

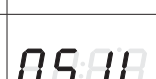
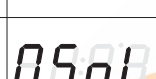
5.2 7-segment display

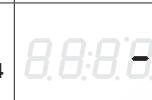
The 7-segment display shows door positions, operating states and error messages.

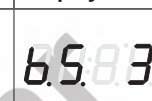
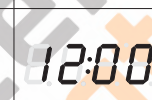
5.2.1 General definition of terms

No.	Display	Description	No.	Display	Description
A 1		Dot lights up	A 2		Dot flashes
A 3		Number lights up	A 4		Number flashes
A 5		Display off			

5.2.2 Display of status / door position / operating messages

No.	Display	Description	Sec.	No.	Display	Description	Sec.
B 1		Control not taught in The control is being used for the very first time and has not yet been taught in.	6.3.2	B 2		Power Control taught in	6.3.2
B 3		Fitting type **horizontal** is set	6.3.2	B 4		Fitting type **horizontal** can be set	6.3.2
B 5		Fitting type **vertical** is set	6.3.2	B 6		Fitting type **vertical** can be set	6.3.2
B 7		Fitting type **interior left** is set	6.3.2	B 8		Fitting type **interior left** can be set	6.3.2
B 9		Fitting type **interior right** is set	6.3.2	B 10		Fitting type **interior right** can be set	6.3.2
B 11		Learning run to the *Open* end-of-travel position	6.3.2	B 12		Learning run to the *Open* braking point	6.3.2
B 13		Learning run to the *Close* braking point	6.3.2	B 14		Learning run to the *Close* end-of-travel position	6.3.2
B 15		Power limit learning run in the *Open* direction	6.3.2	B 16		Learning run for masked photocells	
B 17		Learning run to the *air inlet position*	6.10	B 18		Door in *Open* end-of-travel position	

No.	Display	Description	Sec.	No.	Display	Description	Sec.
B 19		Door run in *Open* direction		B 20		Door in *Close* end-of-travel position	6.3.2
B 21		Door run in *Close* direction		B 22		Door in the *air inlet position*	
B 23		Door run in the direction of the *air inlet position*		B 24		Door in intermediate position	6.3.3
B 25		Door outside the end-of-travel position (door position not known)		B 26		Standby operation active	

No.	Display	Description	Sec.	No.	Display	Description	Sec.
C 1		BUS reset / BUS scan for HCP BUS is implemented, then display with number of participants, see no. **C2**	6.3.2	C 2		Number of determined participants for the HCP BUS, in this example 3 participants	
C 3		Bluetooth active (connection to smartphone / app)	6.3.2	C 4		Time of day, in this example 12 o'clock	6.3.2
C 5		Inspection is due. Number of cycles in a maintenance interval has been reached	6.26	C 6		Inspection is due. Time interval reached	6.26

5.2.3 Display during automatic operation

In the *automatic timer* operating mode, tripping of the protective devices on **X20 / X22** (= photocell interrupted) is shown as follows when the door is open:

The numbers **12.00 / 14.00** are displayed with a flashing dot on the 7-segment display for one second. The end of the hold-open phase is then displayed again.

Display	Photocell tripped at
	X20
	X22

5.2.4 Display of actuated command units

Signal changes at the associated inputs are indicated on the 7-segment display for a period of **1 second**

Command units	Display	Button actuated	Terminal	Display	Button actuated	Terminal
Buttons on the control housing were actuated		Door travel stop	–		Open	–
		Close	–			–
		Miniature lock in pos. 1	–		Miniature lock in pos. 2 (emergency press-and-hold operation)	–
Buttons externally connected to X2 / X3 were actuated		Door travel stop	X3 5/6		Open	X3 2/6
		Close	X3 3/6			
		Multi-function input **a**	X2 2/4		Multi-function input **b**	X2 3/4
Buttons in the control housing were actuated		PRG button	–			
Signals at the inputs of the central control circuit board		Central Open	E1 X60 1/2		Central Close	E2 X60 3/4
		Automatic timer Off	E3 X60 5/6		Smoke and heat extraction system command	E4 X60 7/8
Signals at the inputs of the multi-function circuit board		Automatic timer Off	E1 X61 1/2			
Signals via the HCP BUS X210a / X210b		Stop			Open	
		Close				
		Impulse			Central Open	
		Central Close				

6 Initial start-up

6.1 Instructing users

- This control may be used by
  - Children over 8 years of age
  - Persons with limited physical, sensory or mental capabilities
  - persons with a lack of experience or knowledge
- The condition for use of the operator is that the above-mentioned children / persons
  - Are supervised
  - Instructed on safe use
  - understand the resulting dangers

Children must not play with the operator.

Do not allow children to clean or maintain this control without supervision.

6.2 Establishing the power supply

⚠ WARNING

Danger of injury due to uncontrolled door travel

While programming the control, the door may move and trap persons or objects.

- Make sure that no persons or objects are within the danger area of the door.

6.3 Initial start-up

6.3.1 Initial start-up via the BlueControl app with the smartphone / tablet

1. Install the “BlueControl” app on your smartphone / tablet (download from: Google Play Store, Apple App Store, Microsoft Store).

2. Establish the electrical supply to the control.
3. Turn the main switch (optional) to position 1.
4. After switching on the untaught control, the 7-segment display shows the flashing symbol **U** for 5 minutes for untaught control alternating with the symbol **bt** for an active Bluetooth module.
5. Start the app and follow the instructions.

NOTE

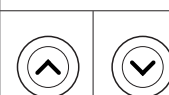
The following open source software is contained in this product: “
mbed TLS 2.16.1 (https://tls.mbed.org),
Copyright 2006 – 2018, ARM Limited,
All rights reserved
This software is licensed under Apache license version 2.0 (the “license”); you may only use this file in accordance with the license. You will find a copy of the license at http://www.apache.org/licenses/LICENSE-2.0
Unless required by law or agreed in writing, the software is used under the license “as is” or “as available” without any promises, guarantees or conditions, neither explicit nor implicit.
You will find information on specific language-relevant rights and restrictions in the license, whose complete text you will find in the corresponding “BlueControl” app.

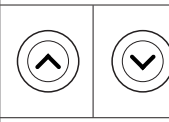
6.3.2 Initial start-up directly on the control

In case of an untaught control, menu-guided programming from program menu **01** to **12** is performed. If during this guided initial start-up no setting is made within a period of 60 seconds, the programming mode is abandoned and the 7-segment display shows the illuminated symbol **U**. All settings carried out until that point, with the exception of the time / date, are stored. The flashing symbols **U** and **bt** appear alternately only once the power is switched off and then on again.

Initial start-up		
After switching on the untaught control, the display shows the flashing symbol **U** for untaught control alternating with the symbol **bt** for an active Bluetooth module. Press the **PRG** button for 5 seconds to start programming. The left segments of the display show **12** flashing. The time must be adjusted.		

NOTE
Connect the HCP participants prior to the initial start-up as an automatic BUS scan is performed when the power is switched on.

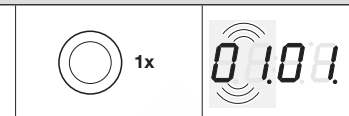
Program menu 01: setting the current time		
In this menu, you can configure or change the time in hours and minutes. It is used for timer and timestamp functions. This time is saved for approximately 60 hours when the control is switched off. An additional battery unit can be installed for an extended buffer time.		
1. Set the hour using the **Open** button / **Close** button. In this example **13.**		
2. Push the **Stop** button. The display shows the most recently set minute or **00** flashing on the right segments.		
3. Set the minute using the **Open** button / **Close** button. In this example **26.**		
4. Push the **Stop** button. The display shows program menu **02** illuminated.		

Program menu 02: Setting the year		
In this menu, you can configure or change the year (factory setting is the year of production).		
1. Push the **Stop** button. The most recently set year is displayed flashing**.** In this example **2021**		
2. Set the current year using the **Open** button / **Close** button. In this example **2022.**		
3. Push the **Stop** button. The display shows program menu **03** illuminated.		

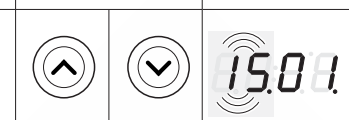
Program menu 03: Setting the day / month

In this menu, you can configure or change the day and the month.

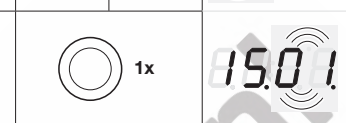
1. Push the Stop button.
The most recently set day is displayed flashing**.** In this example **01.**



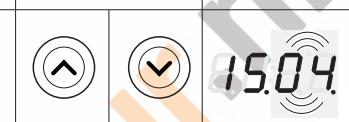
2. Set the current ***day*** using the **Open** button / **Close** button.
In this example **15.**



3. Push the **Stop** button.
The most recently set month is displayed flashing**.** In this example **01.**



4. Set the current month using the **Open** button / **Close** button.
In this example **04.**



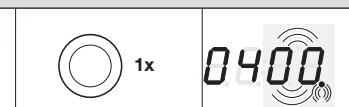
5. Push the **Stop** button.
The display shows program menu **04** illuminated.

NOTE
If the entered day does not match the month (e.g. 31 June), the display jumps back to the entry of the day.

Program menu 04: setting the door type

In this menu, you can configure or change the applicable door type.

1. Push the **Stop** button.
The set function number flashes on the display together with the right dot on the right segments. In this example **00.**



2. Use the **Open** button / **Close** button to select the function number to be changed according to the **table**. In this example **03.**
The changed function number flashes; the right dot is deactivated.

Function numbers for setting the door type

	ITO 500 FU
00	Sectional door
01	—
02	—
03	Non-protruding up-and-over door ET 500
04	Sliding door ST 500 Fire sliding door
05	—
06	—

3.

a. Initial start-up
Push the **Stop** button.
The display shows program menu **05** with the fitting type == illuminated.

b. Change
Press the **Stop** button for **5** seconds.
The program guidance changes to menu **12** to perform forced learning runs.

The display then shows the changed function number illuminated.
Here **04 / 03.**
You may now leave the menu level.

Program menu 05: setting the fitting type

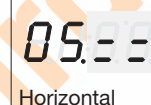
In this menu, you can configure or change the fitting type of the operator.

1. Push the **Stop** button.
The currently set fitting type flashes together with the right dot on the right segments of the display.

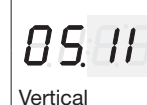
2. Select the new fitting type with the **Open** button / **Close** button.
In this example the vertical fitting type.
The newly set fitting type flashes on the right segments of the display.
In this example the vertical fitting type; the right dot is deactivated.

Setting the fitting type

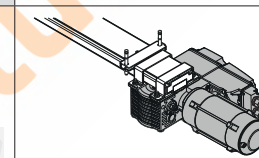
Select the desired fitting type using the **Open / Close** buttons

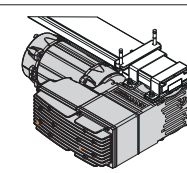


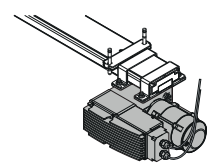
Horizontal

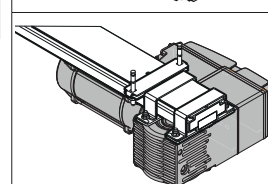


Vertical









3.

a. Initial start-up
Push the **Stop** button.
The display shows program menu **06** illuminated.

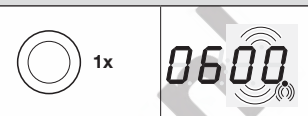
b. Change
Press the **Stop** button for **5** seconds.
The program guidance changes to menu **12** to perform forced learning runs.

The display then shows the changed function number illuminated.
In this example the vertical fitting type.
You may now leave the menu level.

Program menu 06: carriage speed / door properties

In this program menu, the carriage speed / door properties used for the door type selected in program menu 04 must be set (for specifications, see the log book / the data data label of the door).

1. Push the **Stop** button.
The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**



2. Use the **Open** button / **Close** button to select the function number to be changed according to the **tables 1** and **2**. In this example **06**:
The changed function number flashes, the right dot is deactivated.

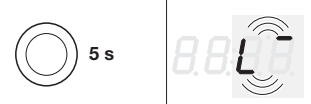
Function numbers for carriage speed ITO 500 FU fire sliding door

	Brake ramp in the **Close direction** (x mm in front of one-way photocell)	Brake ramp in the **Open direction** (x mm in front of one-way photocell)	Fast open (mm/s)	Slow open (mm/s)	Fast close (mm/s)	Slow close (mm/s)
00	500	500	125	100	125	100
01	500	500	160	100	160	100

3.

a. Initial start-up
Push the **Stop** button.
The display shows program menu **08** illuminated.

b. Change
Press the **Stop** button for **5** seconds.
The program guidance changes to menu **12** to perform forced learning runs.



The display then shows the changed function number illuminated.
Here **06**.
You may now leave the menu level.

Program menu 08: setting the door leaf weight

In this menu, you can configure or change the door leaf weight (specifications on the door data label).

NOTE
Required input: door leaf weight (specifications on the door data label)

1. Push the **Stop** button.
The currently set weight flashes on the right segments of the display.
In this example **125** kg.

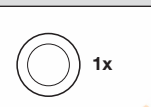
2. Use the **Open** button / **Close** button to select the weight to be changed according to the data label of the door. In this example **435** kg:
The changed weight flashes, the right dot is deactivated.

Setting the door leaf weight			
Set the door leaf weight in **kg** using the **Open / Close** buttons			**Possible setting range (1 kg increments):** 0 kg – 3000 kg 

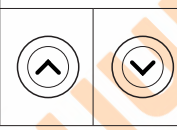
3. Push the **Stop** button.
The display shows program menu **10** illuminated.

Program menu 10: selecting the protective devices
In this menu, you can configure or change the protective devices.

1. Push the **Stop** button.
The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**



2. Use the **Open** button / **Close** button to select the function number to be changed according to the **table**. In this example **05.**
The changed function number flashes; the right dot is deactivated.

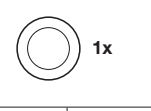


Function numbers for setting the protective device	
00	No SKS (press-and-hold-operation in the *Close* direction, blue bridge plug must be plugged in)
01	Optosensors LE
02	8k2

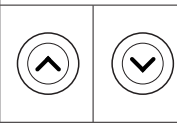
3. Push the **Stop** button.
The display shows program menu **11** illuminated.

Program menu 11: selecting the operating mode
In this menu, you can configure or change the operating mode.

1. Push the **Stop** button.
The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**



2. Use the **Open** button / **Close** button to select the function number to be changed according to the **table**. In this example **02.**
The changed function number flashes; the right dot is deactivated.



Function numbers for setting the operating mode	
00	Press-and-hold-operation in the *Open* / *Close* direction
01	Press-and-release in the *Open* direction (only with connected photocell and parameter set in menu 35) Press-and-hold operation in *Close* direction
02	Press-and-release in the *Open* / *Close* direction (only with connected photocell and parameter set in menu 35)

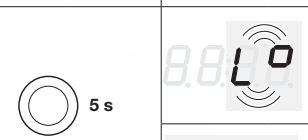
NOTE
Press-and-hold operation is not possible when peripheral devices are connected to the HCP bus.
The function **02** is only displayed if function **01 – 06** is set in the program menu 10 (configuration of the protective device).

3.

a. Initial start-up
Push the **Stop** button.
The display shows program menu **12** illuminated.

b. Change
Press the **Stop** button for **5** seconds.
The program guidance changes to menu **12** to perform forced learning runs.

The display then shows the changed function number illuminated.
Here **11 / 02.**
You may now leave the menu level.

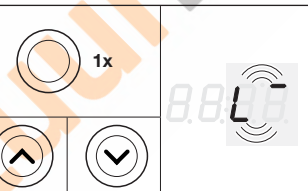


Program menu 12: learning end-of-travel positions and braking points
In this menu, you can configure or change the end-of-travel positions, braking points and reversal limits.
⚠ WARNING
This menu is only carried out in **press-and-hold operation** and **without power limit.**

Teaching in Open end-of-travel position

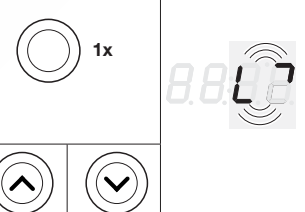
1. Push the **Stop** button.
On the right segments of the display, **L** and the top line are flashing (*Open end-of-travel position)*

2. Use the **Open** button / **Close** button to move the door with press-and-hold operation to the desired *Open end-of-travel position*. To ensure as precise positioning as possible, set the miniature lock / the profile half cylinder to position 1 (decreased speed during learning runs).



NOTE
A fine adjustment of the *Open* end-of-travel position can be carried out later in program menu **14**.

3. Confirm the position by pushing the **Stop** button. The next position to be configured (*Open braking point*) is displayed.

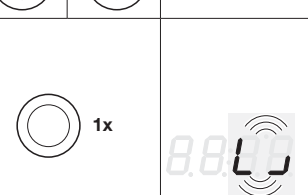


Teaching in Open braking point

4. Use the **Open** button / **Close** button to move the door with press-and-hold operation to approx. 500 mm in front of the *Open end-of-travel position*.

NOTE
If the Open braking point is programmed on the Open end-of-travel position, there will still be a soft stop before the Open end-of-travel position is reached.

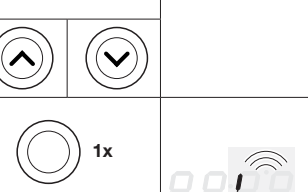
5. Confirm the position by pushing the **Stop** button. The next position to be configured (*Close braking point*) is displayed.



Teaching in Close braking point

6. Use the **Open** button / **Close** button to move the door with press-and-hold operation to approx. 1500 mm in front of the *Close end-of-travel position*:

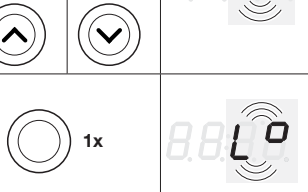
7. Confirm the position by pushing the **Stop** button. The next position to be configured (*Close end-of-travel position*)



Teaching in Close end-of-travel position

8. Use the **Open** button / **Close** button to move the door with press-and-hold operation to the desired *Close end-of-travel position*. To ensure as precise positioning as possible, set the miniature lock / the profile half cylinder to position 1 (decreased speed during learning runs).

9. Confirm the position by pushing the **Stop** button.



The display then shows the flashing symbol for the force learning run.

10. Force learning runs: Push the **Open** button once.

⚠ WARNING

Force learning runs in the *OPEN* direction followed by the *CLOSE* direction are performed automatically. The protective devices are **not** active during this process.

The door stops in the *Close* end-of-travel position.
The display then shows program menu **12** illuminated,

or **99 00,** if the reversal limit has been newly taught in under menu **99/11**.

Conclusion of the menu-guided initial start-up

If an EL 401 and / or EL 501 (fitting in the door frame) is connected, then it must be set in menu 37 / 38 and the override function must be taught in (program menu 39).
If at this time no additional configurations are to be performed on the control, the initial start-up can be completed by ending programming and checking the reversal limit.

▶ Use the **Open** button / **Close** button to select the program menu **00** and push the **Stop** button to end the programming

▶ **or** press the **PRG** button for 5 seconds to end the programming.
The current door position is then displayed illuminated.
In this example _.

⚠ WARNING

After the conclusion of the programming perform a check of the reversal limit according to section 6.3.3!

6.3.3 Checking the reversal limit

NOTE

This check is mandatory!

After exiting the programming mode:

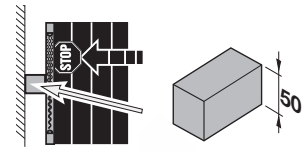
1. Open the door,
2. Position the specimen (height: 50 mm)
3. Activate door travel with press-and-release operation in the Close end-of-travel position.

The protective device must detect a test body before it is deactivated by the SKS / optosensor stop, and interrupt door travel in the *Close* end-of-travel position.

Optosensors / 8k2: The protective device must detect the test body and the door must reverse.

If the specimen is not detected, please proceed as follows:

▶ Set the reversal limit lower in program menu **18** and repeat the test.



6.3.4 Additional programming and change of values directly on the control

Subsequent changes to settings of the menu-guided programming of program menu **01** to **12** as well as configuration of additional functions in the program menus **13** to **99** are described from sect. 6.4.5.

NOTE

In case of subsequent changes to the menu setting of menus 04 – 06, end-of-travel positions must always be taught in again (program menu 12), otherwise the control will automatically set itself to untaught operation (U). New force learning runs are required in case of changes in menu 11. End-of-travel positions do not have to be taught in again.

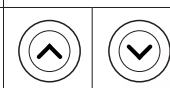
6.3.5 General programming steps in all program menus

This section describes the general work steps for programming the control. If no button is pressed within 60 seconds, the changed settings are rejected and the control automatically exits the programming mode.

Initiating programming **1.** Open the control housing. **2.** Press the **PRG** button for 5 seconds. The display shows **00** illuminated		
Selecting the program menu **3.** Use the **Open** button / **Close** button to select the required program menu. In this example **14.**		
Selecting a change of function **4.** Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**		
In the menus **12**, **13**, **22** press and hold the stop button for 5 seconds to be able to make a change.		
Changing the function number **5.** Use the **Open** button / **Close** button to select the function number to be changed according to the tables mentioned. In this example **03.** The changed function number flashes; the right dot is deactivated.		
Confirming the changed function **6.** Push the **Stop** button. The display shows the illuminated program menu with the changed function. In this example program number **14** with function number **03**, the right dot is illuminated.		
In the menus **4, 5, 6, 11, 39, 96** and **99**, press and hold the stop button for 5 seconds		
Continuing programming **7.** Use the **Open** button / **Close** button to select the required program menu. In this example **15.**		
Ending programming **8.** Terminate programming **8.1** Proceed to program menu 00 and press the Stop button to end programming		
		
or **8.2** Push the **PRG** button for 5 seconds to end programming. The current door position is displayed illuminated. In this example **—.**		

6.4 Program menu 13: performing force learning and control runs

After adjustment work on the door, you have to perform a force learning and control run.

1. Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2. Use the **Open** button / **Close** button to select program menu **13**.	
3. Press the **Stop** button for 5 seconds. On the right segments of the display, **L** with the **o** at the top are flashing**.**	 
Should the door not be closed, **L** and the bottom dash will flash on the right segments (*Close end-of-travel position*) as an indication that the door must be closed first. **3.1** Push the **Close button to close the door.** The door will move to the *Close end-of-travel position.*	 
4. Press the **Open** button. Force learning runs in the *Open* direction followed by the *Close* direction are performed automatically. The display then shows program menu **13** illuminated.	
5. Continue programming in other program menus or terminate programming according to section 6.3.5.	

6.5 Program menu 14: fine adjustment of the Open end-of-travel position

In this menu, you can move the actual *Open* end-of-travel position in 9 steps in both directions in relation to the taught-in end-of-travel position from program menu **12**. This process can be repeated indefinitely.

1.	Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2.	Use the **Open** button / **Close** button to select program menu **14**.	
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4.	Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example **03.** The changed function number flashes; the right dot is deactivated.	

Function numbers for the fine adjustment of the Open end-of-travel position

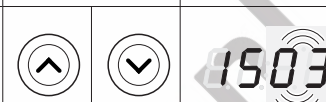
	x mm further than the previous *Open* end-of-travel position				x mm back in the *Close* direction			
09	30	**04**	8		**-01**	2	**-06**	15
08	25	**03**	6		**-02**	4	**-07**	20
07	20	**02**	4		**-03**	6	**-08**	25
06	15	**01**	2		**-04**	8	**-09**	30
05	10	**00**	± 0		**-05**	10		

NOTE
With the **ITO** operator, the mm information refers to the boom path.

5.	Push the **Stop** button. The display shows the illuminated program menu **14** with the changed function. In this example **03**; the right dot is illuminated.	
6.	Continue programming in other program menus or terminate programming according to section 6.3.5.	

6.6 Program menu 15: fine adjustment of the Close end-of-travel position

In this menu, you can move the actual *Close* end-of-travel position in 9 steps in both directions in relation to the taught-in end-of-travel position from program menu **12**. This process can be repeated indefinitely.

1. Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2. Use the **Open** button / **Close** button to select program menu **15**.	
3. Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4. Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example **03.** The changed function number flashes; the right dot is deactivated.	

Function numbers for the fine adjustment of the Close end-of-travel position

	x mm back in the *Open* direction				x mm further than the previous *Close* end-of-travel position			
09	30	**04**	8		**-01**	2	**-06**	15
08	25	**03**	6		**-02**	4	**-07**	20
07	20	**02**	4		**-03**	6	**-08**	25
06	15	**01**	2		**-04**	8	**-09**	30
05	10	**00**	± 0		**-05**	10		

NOTE
With the **ITO** operator, the mm information refers to the boom path.

5. Push the **Stop** button. The display shows the illuminated program menu **15** with the changed function. In this example **03**; the right dot is illuminated.	
6. Continue programming in other program menus or terminate programming according to section 6.3.5.	

6.7 Program menu 16: fine adjustment of the Open braking point

In this menu, you can move the actual *Open* braking point (switching between fast / slow) in 9 steps in both directions in relation to the taught-in braking point from program menu **12**. This process can be repeated indefinitely.

1. Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2. Use the **Open** button / **Close** button to select program menu **16**.	
3. Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4. Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example **03.** The changed function number flashes; the right dot is deactivated.	

Function numbers for the fine adjustment of the Open braking point

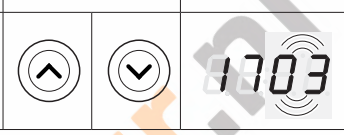
	x mm further in the *Open* direction				x mm back in the *Close* direction		
09	1500	**04**	400	**-01**	100	**-06**	800
08	1250	**03**	300	**-02**	200	**-07**	1000
07	1000	**02**	200	**-03**	300	**-08**	1250
06	800	**01**	100	**-04**	400	**-09**	1500
05	600	**00**	± 0	**-05**	600		

NOTE
With the **ITO** operator, the mm information refers to the boom path.

5. Push the **Stop** button. The display shows the illuminated program menu **16** with the changed function. In this example **03**; the right dot is illuminated.	
6. Continue programming in other program menus or terminate programming according to section 6.3.5.	

6.8 Program menu 17: fine adjustment of the Close braking point

In this menu, you can move the actual *Close* braking point (switching between fast / slow) in 9 steps in both directions in relation to the taught-in braking point from program menu **12**. This process can be repeated indefinitely.

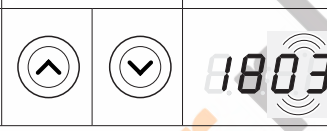
1.	Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2.	Use the **Open** button / **Close** button to select program menu **17**.	
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4.	Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example **03.** The changed function number flashes; the right dot is deactivated.	

Function numbers for the fine adjustment of the Close braking point							
	x mm further in the *Open* direction				x mm back in the *Close* direction		
09	1500	**04**	400	**-01**	100	**-06**	800
08	1250	**03**	300	**-02**	200	**-07**	1000
07	1000	**02**	200	**-03**	300	**-08**	1250
06	800	**01**	100	**-04**	400	**-09**	1500
05	600	**00**	± 0	**-05**	600		
NOTE With the **ITO** operator, the mm information refers to the boom path.							

5.	Push the **Stop** button. The display shows the illuminated program menu **17** with the changed function. In this example **03**; the right dot is illuminated.	
6.	Continue programming in other program menus or terminate programming according to section 6.3.5.	

6.9 Program menu 18: fine adjustment of the reversal limit

In this menu, you can move the actual reversal limit in 9 steps in both directions in relation to the taught-in reversal limit from program menu **12**. This process can be repeated indefinitely.

1.	Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2.	Use the **Open** button / **Close** button to select program menu **18**.	
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4.	Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example **03.** The changed function number flashes; the right dot is deactivated.	

Function numbers for the fine adjustment of the reversal limit

	x mm further in the *Open* direction				x mm further in the *Close* direction			
09	30	**04**	8		**-01**	2	**-06**	15
08	25	**03**	6		**-02**	4	**-07**	20
07	20	**02**	4		**-03**	6	**-08**	25
06	15	**01**	2		**-04**	8	**-09**	30
05	10	**00**	± 0		**-05**	10		

NOTE

After adjusting the reversal limit, this must be checked (see section 6.3.3).

With the **ITO** operator, the mm information refers to the boom path.

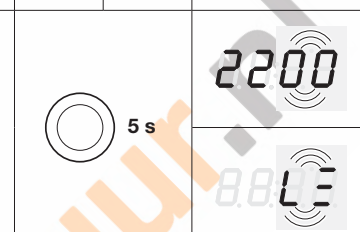
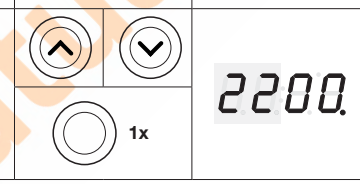
5.	Push the **Stop** button. The display shows the illuminated program menu **18** with the changed function. In this example **03**; the right dot is illuminated.	
6.	Continue programming in other program menus or terminate programming according to section 6.3.5.	

6.10 Program menu 22: teaching in the air inlet position

In this menu, you can program the *air inlet position*. An impulse from the fire alarm system (smoke and heat extraction) on the control input (**E4** of the central control circuit board) will open the door to a pre-defined, taught-in height. Programming only in press-and-hold operation.

NOTE

Factory setting: CLOSE end-of-travel position. The air inlet position can be configured between the Open and Close end-of-travel positions.

1. Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2. Use the **Open** button / **Close** button to select program menu **22**	
3. Press the **Stop** button for 5 seconds. On the right segments of the display, **00** is shown flashing Then ***L*** flashes along with the ***top, central, bottom*** bars on the right segments while the displayed **22** goes off.	
4. Use the **Open** button / **Close** button to move the door with press-and-hold operation to the desired air inlet position. **5.** Confirm the position by pushing the **Stop** button. The display shows program menu **22** illuminated.	

Teaching in the air inlet position	
Use the **Open / Close** buttons to set the air inlet position between the Open and Close end-of-travel positions	
NOTE The program menu is only displayed if the function **02** (press-and-release operation in the *Open / Close* direction) has been set in menu **11** (operating mode).	

6. Continue programming in other program menus or terminate programming according to section 6.3.5.	

⚠ WARNING

This control is not a component designed and tested for use in fire alarm systems

The fire alarm system command described here only provides the basic functionality for this and must not be used without having been inspected previously for effectiveness and operational safety as part a fire protection and smoke extraction concept.

- ▶ An inspection by a recognised expert in construction must take place before the building is initially used, immediately after substantial changes have been made to the smoke and heat extraction system and on a regular basis in accordance with applicable national regulations.

6.11 Program menu 23: acceleration in the Open direction

In this menu, you can configure the ratio of acceleration when starting to move a door with FU operator. This also indirectly allows controlling the power consumption of the motor during start-up (see also error **29.06** section 8.5.1).

1. Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2. Use the **Open** button / **Close** button to select program menu **23**	
3. Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4. Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example **02.** The changed function number flashes; the right dot is deactivated.	

Function numbers for acceleration in the Open direction	
02	Fast level 2 (02 = +20%)
01	Fast level 1 (01 = +10%)
00	± 0
–01	Slow level 1 (–1 = –10%)
–02	Slow level 2 (–2 = –20%)

5. Push the **Stop** button. The display shows the illuminated program menu **23** with the changed function. In this example **02**; the right dot is illuminated.	
6. Continue programming in other program menus or end programming according to section 6.3.5	

6.12 Program menu 24: acceleration in the Close direction

In this menu, you can configure the ratio of acceleration when starting to move a door with FU operator. This also indirectly allows controlling the power consumption of the motor during start-up (see also error **29.06** section 8.5.1).

1.	Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2.	Use the **Open** button / **Close** button to select program menu **24**	
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4.	Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example **02.** The changed function number flashes; the right dot is deactivated.	

Function numbers for acceleration in the Close direction	
02	Fast level 2 (02 = +20%)
01	Fast level 1 (01 = +10%)
00	± 0
–01	Slow level 1 (–1 = –10%)
–02	Slow level 2 (–2 = –20%)

5.	Push the **Stop** button. The display shows the illuminated program menu **24** with the changed function. In this example **02**; the right dot is illuminated.	
6.	Continue programming in other program menus or terminate programming according to section 6.3.5.	

6.13 Program menu 25: speed in the Open direction

In this menu, the speed of the door during opening with an FU operator is configured. This allows reduction of the speed, for example of poorly adjusted doors.

1.	Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2.	Use the **Open** button / **Close** button to select program menu **25**	
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4.	Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. **In this example –2**. The changed function number flashes; the right dot is deactivated.	

Function numbers for speed in the Open direction		
00	Max. speed	
–01	Slow level 1 (–1 = –20%)	
–02	Slow level 2 (–2 = –40%)	

5.	Push the **Stop** button. The display shows the illuminated program menu **25** with the changed function. In this example **-2**; the right dot is illuminated.	
6.	Continue programming in other program menus or terminate programming according to section 6.3.5.	

6.14 Program menu 26: speed in the Close direction

In this menu, the speed of the door during opening with an FU operator is configured. This allows reduction of the speed, for example of poorly adjusted doors.

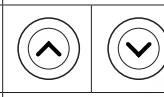
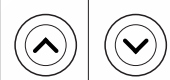
1.	Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2.	Use the **Open** button / **Close** button to select program menu **26**	
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4.	Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. **In this example –2**. The changed function number flashes; the right dot is deactivated.	

Function numbers for speed in the Open direction		
00	Max. speed	
–01	Slow level 1 (–1 = –20%)	
–02	Slow level 2 (–2 = –40%)	

5.	Push the **Stop** button. The display shows the illuminated program menu **26** with the changed function. In this example **-2**; the right dot is illuminated.	
6.	Continue programming in other program menus or terminate programming according to section 6.3.5.	

6.15 Program menu 27: frequency converter operating modes in the Close direction

In this menu, the operating mode of the frequency converter can be set in the Close direction.

1.	Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2.	Use the **Open** button / **Close** button to select program menu **27**	
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4.	Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example **03.** The changed function number flashes; the right dot is deactivated.	

Function numbers for frequency converter operating modes in the Close direction		
00	Adaptive door action check active. If uneven door travel is detected, automatic switching to the temporary protection mode takes place (function 03).	
01	Permanent protection mode in Close direction without event message 28.00 at the end of each Close door run.	
02	Adaptive door action check deactivated. Automatic switching to the temporary protection mode does not take place	
03	Temporary protection mode active with event message 28.00 at the end of each Close door run.	

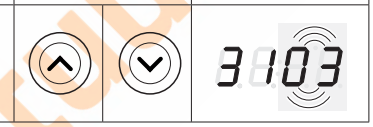
5.	Push the **Stop** button. The display shows the illuminated program menu **27** with the changed function. In this example **03**; the right dot is illuminated.	
6.	Continue programming in other program menus or terminate programming according to section 6.3.5.	

6.16 Program menu 31: time for start warning / advance warning

- From the Open end-of-travel position

In this menu the applicable times for the start warning / advance warning from the Open end-of-travel position are programmed. Warning lights potentially connected to the relays (K1 and / or K2) are switched / clocked as follows (function adjustable in program menu 46 / 47):

- Start warning = signal for operation without **automatic timer** prior to the door run from the Open end-of-travel position, during each door run and in every intermediate position.
- Advance warning = signal for operation with **automatic timer** prior to the door run from the Open end-of-travel position, during each door run and in every intermediate position.
- The configured times run down, shown flashing on the display.

1.	Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2.	Use the **Open** button / **Close** button to select program menu **31**	
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4.	Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example **03.** The changed function number flashes; the right dot is deactivated.	

Function numbers for setting the start warning / advance warning times

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

5.	Push the **Stop** button. The display shows the illuminated program menu **31** with the changed function. In this example **03**; the right dot is illuminated.	
6.	Continue programming in other program menus or terminate programming according to section 6.3.5.	

6.17 Program menu 32: time for start warning / advance warning

- From the Close end-of-travel position and each intermediate position

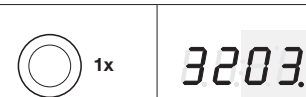
In this menu the applicable times for the start warning / advance warning from the Close end-of-travel position and every intermediate position are programmed.

Warning lights potentially connected to the relays (K1 and / or K2) are switched / clocked as follows (function adjustable in program menu 46 / 47):

- Start warning = signal for operation without **automatic timer** prior to every door run except the Open end-of-travel position.
- Advance warning = signal for operation with **automatic timer** prior to every door run except the Open end-of-travel position.
- The configured times run down, shown flashing on the display.

1. Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2. Use the **Open** button / **Close** button to select program menu **32**	
3. Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4. Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example **03.** The changed function number flashes; the right dot is deactivated.	

Function numbers for setting the start warning / advance warning times											
	Time in seconds										
00	—		**04**	4	**08**	8	**12**	15	**16**	40
01	1		**05**	5	**09**	9	**13**	20	**17**	50
02	2		**06**	6	**10**	10	**14**	25	**18**	60
03	3		**07**	7	**11**	12	**15**	30	**19**	70

5. Push the **Stop** button. The display shows the illuminated program menu **32** with the changed function. In this example **03**; the right dot is illuminated.	
6. Continue programming in other program menus or terminate programming according to section 6.3.5.	

6.18 Program menu 33: hold-open phase for automatic timer

In this menu the hold-open phase is set during which the door remains open for passage after reaching the *Open* end-of-travel position. After the hold-open phase and the warning phase (program menu **31**) have elapsed, the door closes automatically.

- The configured times run down, shown illuminated on the display.

1. Launch the programming mode according to section 6.3.5 or continue the ongoing programming.		
2. Use the **Open** button / **Close** button to select program menu **33**		
3. Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	 1x	
4. Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example **03.** The changed function number flashes; the right dot is deactivated.		

Function numbers to set the hold-open phase times

	Time in seconds								
00	—	**04**	20	**08**	40	**12**	120 (2 minutes)	**16**	360 (6 minutes)
01	5	**05**	25	**09**	50	**13**	180 (3 minutes)	**17**	420 (7 minutes)
02	10	**06**	30	**10**	60	**14**	240 (4 minutes)	**18**	480 (8 minutes)
03	15	**07**	35	**11**	90 (1 minute 30)	**15**	300 (5 minutes)		

NOTE

The program menu is only displayed if the function **02** (press-and-release operation in the *Open* / *Close* direction) has been set in menu **11** (operating mode).

5. Push the **Stop** button. The display shows the illuminated program menu **33** with the changed function. In this example **03**; the right dot is illuminated.	 1x	
6. Continue programming in other program menus or terminate programming according to section 6.3.5.		

6.19 Program menu 34: protective devices on socket X30

In this menu you define the response of the operator in the **Close direction** after triggering of the protective devices (closing edge safety device **SKS**) connected at jack **X30**.

1.	Launch the programming mode according to section 6.3.5 or continue the ongoing programming.		
2.	Use the **Open** button / **Close** button to select program menu **34**		
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**		
4.	Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example **02.** The changed function number flashes; the right dot is deactivated.		

Function numbers for setting the response of the operator after triggering of the protective devices connected at socket X30		
00	Release when the door encounters an obstacle	
01	Short reversing when door encounters an obstacle	
02	Long reversing when door encounters an obstacle	

⚠ WARNING

Danger of injuries due to faulty protective devices

In the event of a malfunction, there is a danger of injuries due to faulty protective devices.

- ▶ The person commissioning the system must check the function(s) of the protective device(s).

The system is only ready for operation after the function check.

NOTE

When a safety element is connected and the operating mode (program menu **11**) is set to function **01** or **02,** then function **00** is automatically set in program menu **34**.

5.	Push the **Stop** button. The display shows the illuminated program menu **34** with the changed function. In this example **02**; the right dot is illuminated.		
6.	Continue programming in other program menus or terminate programming according to section 6.3.5.		

6.20 Program menu 35: protective devices on socket X20

In this menu you define the response of the operator after the protective device (e.g. a photocell) connected to socket X20 has been triggered.

1. Launch the programming mode according to section 6.3.5 or continue the ongoing programming.		
2. Use the **Open** button / **Close** button to select program menu **35**		
3. Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	 1x	
4. Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example **03.** The changed function number flashes; the right dot is deactivated.		

Function numbers for setting the response of the operator after triggering of the protective devices connected to socket X20		
00	Safety device (SE) not present	Fire sliding door
04	• SE in the *Close* direction: no reaction • SE in the *Open* direction: stop	
05	• SE in the *Close* direction: no reaction • SE in the *Open* direction: relief	
06	• SE in the *Close* direction: no reaction • SE in the *Open* direction: short reversing	
07	• SE in the *Close* direction: stop • SE in the *Open* direction: stop	
08	• SE in the *Close* direction: short reversing • SE in the *Open* direction: stop	
09	• SE in the *Close* direction: short reversing • SE in the *Open* direction: relief	

⚠ WARNING

Danger of injuries due to faulty protective devices

In the event of a malfunction, there is a danger of injuries due to faulty protective devices.

▶ The person commissioning the system must check the function(s) of the protective device(s).

The system is only ready for operation after the function check.

NOTE

When a safety device is connected and only when the operating mode (menu 11) is set from **02** to **01** or **00**, then function **07** is automatically set in program menu **35.**

Function **06** is only displayed if the operating mode (menu 11) has been set to **02**.

Function **08, 09** is only displayed if the operating mode (menu 11) has been set to **01** or **02**.

5. Push the **Stop** button. The display shows the illuminated program menu **35** with the changed function. In this example **03**; the right dot is illuminated.	 1x	
6. Continue programming in other program menus or terminate programming according to section 6.3.5.		

6.21 Program menu 37: protective devices on jack X22

In these menus you define the response of the operator after triggering the protective device (e.g. a photocell) connected to jack **X22.**

1. Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2. Use the **Open** button / **Close** button to select program menu **37**	
3. Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4. Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example number **03**: The changed function number flashes, the right dot is deactivated.	

Function numbers for setting the response of the operator after triggering of the protective devices connected to jack X22	
00	Safety device (SE) not present
01	• SE in the *Close* direction: stop • SE in the *Open* direction: no reaction
02	• SE in the *Close* direction: short reversing • SE in the *Open* direction: no reaction
03	• SE in the *Close* direction: long reversing • SE in the *Open* direction: no reaction
04	• SE in the *Close* direction: no reaction • SE in the *Open* direction: stop
05	• SE in the *Close* direction: no reaction • SE in the *Open* direction: short reversing
06	• SE in the *Close* direction: long reversing • SE in the *Open* direction: no reaction • In case of interruptions during the hold-open phase: abandon the hold-open phase • In case of interruptions during the set advance warning phase: advance warning phase is restarted
07	• SE in the *Close* direction: no reaction • SE in the *Open* direction: no reaction • In case of interruptions during the hold-open phase: abandon the hold-open phase • In case of interruptions during the set advance warning phase: advance warning phase is restarted
08	• SE in the *Close* direction: long reversing • SE in the *Open* direction: no reaction • In case of interruptions during the hold-open phase: hold-open phase is restarted • In case of interruptions during the set advance warning phase: advance warning phase is restarted
09	• SE in the *Close* direction: long reversing • SE in the *Open* direction: no reaction • Interruptions during the hold-open phase: hold-open phase is restarted • In case of interruptions during a set advance warning phase: hold-open phase is restarted
10	• SE in the *Close* direction: long reversing • SE in the *Open* direction: no reaction • In case of interruptions during the hold-open phase: no reaction • In case of interruptions during the set advance warning phase: advance warning phase is restarted
11	• SE in the *Close* direction: long reversing • SE in the *Open* direction: no reaction • In case of interruptions during the hold-open phase: no reaction • In case of interruptions during a set advance warning phase: hold-open phase is restarted

⚠ WARNING

Danger of injuries due to faulty protective devices

In the event of a malfunction, there is a danger of injuries due to faulty protective devices.

- The person commissioning the system must check the function(s) of the protective device(s).

The system is only ready for operation after the function check.

NOTE

When a safety device is connected and only when the operating mode is set from **02** to **01** or **00**, then function **01** is automatically set in program menu **37**.

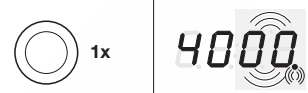
Function **05** is only displayed if **02** has been set in the operating mode.

The function **06 – 11** is only displayed if a time and operating mode **02** has been set in program menu **33** (set hold-open phase with automatic timer) and / or in program menu **31** and / or **32** (time for start warning / advance warning).

5. Push the **Stop** button. The display shows the illuminated program menu **37** with the changed function. In this example **03**; the right dot is illuminated.	1x	3703.
6. Continue programming in other program menus or terminate programming according to section 6.3.5.		

6.22 Program menu 40 / 41: multi-function input X2a / X2b

In this menu, you can configure how a signal on input X2a / X2b affects door travel.

1.	Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2.	Use the **Open** button / **Close** button to select program menu **40 / 41**.	
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4.	Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example **03.** The changed function number flashes; the right dot is deactivated.	

Function numbers for configuring the response of the operator to the elements connected to multi-function input X2a / X2b	
00	Impulse function (sequence control for manually operated elements, e.g. button, hand transmitters, pull switches): *Open – Stop – Close – Stop – Open – Stop ...* • Restart of the hold-open or advance warning phase.
01	• Impulse function: *Open* (up to *Open* end-of-travel position) – *Close* (up to *Close* end-of-travel position) • Restart of the hold-open or advance warning phase.
02	Impulse function: • *Open door* direction: *Open – Stop – Open – Stop – Open ...* • *Close door* direction: *Close – Stop – Open – Stop – Open ...* • Restart of the hold-open or advance warning phase.
03	Impulse function with reversal of direction during Close door travel when automatic timer is set
04	SKS / LS function – Door must not close (for separate accessories such as Widescan, for example) if the normally closed contact is open. – Door must perform a long reversal if the normally closed contact is opened during a Close run.
08	An impulse extends the hold-open phase
09	An impulse interrupts the hold-open phase

NOTE

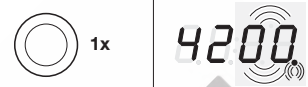
The function **04** is only displayed if function **02** has been set in the program menu **11** (configuration of the operating mode).

The function **03 / 08 / 09** is only displayed if a time has been set in program menu **33** (hold-open phase with automatic timer).

5.	Push the **Stop** button. The display shows the illuminated program menu **40 / 41** with the changed function. In this example **03** (input **X2a**); the right dot is illuminated.	
6.	Continue programming in other program menus or terminate programming according to section 6.3.5.	

6.23 Program menu 42: command elements on the cover keypad / on plug X3

In this menu, you can configure the function of the command elements connected to the control housing cover / plug **X3**.

1.	Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2.	Use the **Open** button / **Close** button to select program menu **42**	
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4.	Use the **Open** button / **Close** button to select the function number to be changed according to the **table**. In this example **03.** The changed function number flashes; the right dot is deactivated.	

Function numbers for setting the response of the operator to the command elements connected to the cover keypad or plug X3		
00	Button function alternating 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 to the 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 reversal of direction via Stop during *Close* door run *(for LZR Widescan)* • The **Open** button stops the door. OPEN door travel then takes place automatically	
03	Button function with reversal of direction during *Open* door run • The **Close** button stops the door. CLOSE door travel then takes place automatically	
04	Button function with reversal of direction via Stop in both directions • The **Open** button stops the CLOSE door travel. OPEN door travel then takes place automatically • The **Close** button stops the OPEN door travel. CLOSE door travel then takes place automatically	

5.	Push the **Stop** button. The display shows the illuminated program menu **42** with the changed function. In this example **03**; the right dot is illuminated.	
6.	Continue programming in other program menus or terminate programming according to section 6.3.5.	

NOTE

In switch position 2 of the miniature lock or the profile half cylinder, the door can be moved in press-and-hold operation independently of the setting in menu **42** (only if menu 44 has been activated).

6.24 Program menu 43: miniature lock alters the response of the command elements

In this menu you define the response of the command elements after the miniature lock on the control housing is actuated. The miniature lock acts as a master switch.

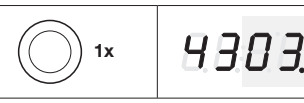
1.	Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2.	Use the **Open** button / **Close** button to select program menu **43**	
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4.	Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example number **03**: The changed function number flashes, the right dot is deactivated.	

Function numbers for configuring the miniature lock on the cover keypad		
00	Without function	
01	Miniature lock in position **1** locks the buttons on the control housing cover (except **Stop** button)	
02	Miniature lock in position **1** locks all external control signals (except **Stop** signal)	
03	Miniature lock in position **1** locks the buttons on the control housing cover and all external control signals (except **Stop** button)	

NOTE

Some special functions are exempted for function **02** and **03**, (e.g. travel in the *Close* direction with Widescan or travel to the air inlet position).

Functions for position 2: Emergency operation with one-button press-and-hold operation (cover keypad) or two-button press-and-hold operation (external control elements connected to X3) only possible with activated menu **44**.

5.	Push the **Stop** button. The display shows the illuminated program menu **43** with the changed function. In this example **03**; the right dot is illuminated.	
6.	Continue programming in other program menus or terminate programming according to section 6.3.5.	

6.25 Program menu 44: master switch function (miniature lock position 2)

In this menu, you can configure the master switch function. With the help of the lockable miniature lock / profile half cylinder (optional), specialists / trained persons (who are in possession of the key) can move the door with press-and-hold operation. For this function, the switch must be in position 2 and the function must be activated in this program menu.

NOTE

Protective devices such as SKS closing edge safety device, photocells, wicket door contact, cable slack device, etc. are not active in switch position 2! Immediately after performing the emergency operation, the miniature lock / profile half cylinder must be returned to position 0 or 1 and the key removed to prevent unintentional switching by non-specialists. The press-and-hold operation with external control elements is only possible with two-button press-and-hold operation (see press-and-hold operation).

1. Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2. Use the **Open** button / **Close** button to select program menu **44**	
3. Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4. Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example number **01**: The changed function number flashes, the right dot is deactivated.	

Function numbers for setting the master switch function		
00	Deactivated	
01	Activated	

NOTE

If the key switch is in position 2, an RWA run is still performed in press-and-release operation.

5. Push the **Stop** button. The display shows the illuminated program menu **44** with the changed function. In this example **01**; the right dot is illuminated.	
6. Continue programming in other program menus or terminate programming according to section 6.3.5.	

6.26 Program menu 46 / 47: relays K1 / K2 on the multi-function circuit board

In this menu, the relay is switched to permanent, momentary or timed operation to suit specific operating states. Connection of the circuit board to control plug **X51** (see section 7.2.1).

1. Launch the programming mode according to section 6.3.5 or continue the ongoing programming.		
2. Use the **Open** button / **Close** button to select the respective program menu. The following assignment is valid: • Program menu **46** = relay **K1** • Program menu **47** = relay **K2**.		
3. Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	 1x	
4. Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example number **03** **(**relay **K1)**: The changed function number flashes, the right dot is deactivated.		

Function numbers for configuring the response of relay K1 (plugs X70-1 / 2 / 3) / K2 (plugs X70-4 / 5 / 6) on the multi-function circuit board			
00	Relay off	**08**	Message; an error message is shown on the 7-segment display
01	Operator running message	**09**	Inspection due message
02	Door run in *Close* direction	**12**	Start / advance warning: Permanent signal in the advance warning phase, during each door run and in every intermediate position
03	Door run in *Open* direction	**13**	Start / advance warning: Clocks a connected warning light in the advance warning phase, during each door run and in every intermediate position
04	*Open* end-of-travel position message	**14**	Door run to the *air inlet position*
05	*Close* end-of-travel position message	**15**	*Air inlet position* is reached.
07	Momentary signal on receiving the Open command or entrance request signal (e.g. Control of illumination via a staircase lighting timer / time relay)	**16**	Door locking (ETV1-HCP) locked

NOTE

The function **12 – 13** is only displayed, if a time has been set in program menu **31 / 32** (time for start warning / advance warning).

Function **14 – 15** is only displayed if function **02** (press-and-release operation in the *Open* / *Close* direction) has been set in menu **11** (operating mode).

5. Push the **Stop** button. The display shows the illuminated program menu **46 / 47** with the changed function. In this example **03** (relay **K1**), the right dot is illuminated.	 1x	
6. Continue programming in other program menus or terminate programming according to section 6.3.5.		

6.27 Program menu 48: signal type at the RWA control input

In this menu, the signal type from the RWA system to the respective control input (E4 circuit board central control) is configured. This is set in program menu **22**.

1. Launch the programming mode according to section 6.3.5 or continue the ongoing programming.		
2. Use the **Open** button / **Close** button to select program menu **48**		
3. Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**		
4. Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example number **03**: The changed function number flashes, the right dot is deactivated.		

Function numbers for setting the signal type at the RWA input (E4 of the central control circuit board)		
00	Normally open contact, impulse	
01	Normally open contact, permanent contact	
02	Normally closed contact, impulse	
03	Normally closed contact, permanent contact	

NOTE

The program menu is only displayed if the function **02** (press-and-release operation in the *Open* / *Close* direction) has been set in menu **11** (operating mode).

Factory setting of the air inlet position: Open end-of-travel position. The air inlet position can be configured between the Open and Close end-of-travel positions in menu 22.

5. Push the **Stop** button. The display shows the illuminated program menu **48** with the changed function. In this example **03**; the right dot is illuminated.		
6. Continue programming in other program menus or terminate programming according to section 6.3.5.		

⚠ WARNING

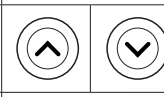
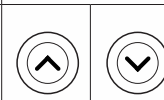
This control is not a component designed and tested for use in fire alarm systems

The fire alarm system command described here only provides the basic functionality for this and must not be used without having been inspected previously for effectiveness and operational safety as part a fire protection and smoke extraction concept.

- ▶ An inspection by a recognised expert in construction must take place before the building is initially used, immediately after substantial changes have been made to the smoke and heat extraction system and on a regular basis in accordance with applicable national regulations.

6.28 Program menu 49: monitoring a self-testing wicket door contact

In this menu, you can activate or deactivate monitoring of a wicket door contact with self-testing connected to socket **X31** of the SKS closing edge safety device circuit board.

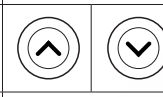
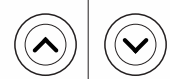
1.	Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2.	Use the **Open** button / **Close** button to select program menu **49**	
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	 
4.	Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example number **01**: The changed function number flashes, the right dot is deactivated.	 

Function numbers for monitoring a tested wicket door contact		
00	Monitoring of self-testing switched off	
01	Monitoring of self-testing switched on In the event of negative self-testing, door travel is prevented and error message 16.00 displayed.	

5.	Push the **Stop** button. The display shows the illuminated program menu **49** with the changed function. In this example **01**; the right dot is illuminated.	 
6.	Continue programming in other program menus or terminate programming according to section 6.3.5.	

6.29 Program menu 51: Bluetooth

In this menu, you can activate a Bluetooth module installed in the keypad circuit board.

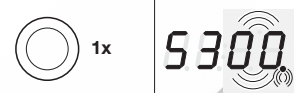
1.	Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2.	Use the **Open** button / **Close** button to select program menu **51**	
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	 
4.	Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example number **01**: The changed function number flashes, the right dot is deactivated.	 

Function numbers for the Bluetooth module		
00	Bluetooth module deactivated	
01	BlueControl (visible for 5 minutes after activation for the connection mode and visible for 30 min in case of the loss of connection to a connected device). Bluetooth can be activated via the service menu (see sect. **8.5**).	
02	Without function	

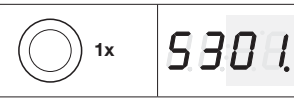
5.	Push the **Stop** button. The display shows the illuminated program menu **51** with the changed function. In this example **01**; the right dot is illuminated.	 
6.	Continue programming in other program menus or terminate programming according to section 6.3.5.	

6.30 Program menu 53: standby

In this menu, you can configure switch-off of the photocells, the closing edge safety device, the CAN, the button illumination and the display of the time on the 7-segment display.

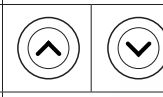
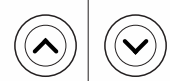
1.	Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2.	Use the **Open** button / **Close** button to select program menu **53**	
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4.	Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example number **01**: The changed function number flashes, the right dot is deactivated	

Function numbers for control standby		
00	Standby deactivated: • Time is shown after control is idle for 1 minute.	
01	Standby activated: • Only the dot of the right digit flashes after the control is idle for 1 minute in the Close end-of-travel position. • The photocells (X20-X22), SKS (X30) and the FU (CAN X200a, X200b) are switched off.	
NOTE Standby operation is only active when the door is in the Close end-of-travel position without error messages. **Function 01** is only displayed if **function 00-02** is set in **menu 10** (closing edge safety device).		

5.	Push the **Stop** button. The display shows the illuminated program menu **53** with the changed function. In this example **01**; the right dot is illuminated.	
6.	Continue programming in other program menus or terminate programming according to section 6.3.5.	

6.31 Program menu 54: switching to daylight savings / standard time

In this menu, you can configure the automatic time change.

1. Launch the programming mode according to section 6.3.5 or continue the ongoing programming.		
2. Use the **Open** button / **Close** button to select program menu **54**		
3. Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**		
4. Use the **Open** button / **Close** button to select the function number to be changed. ▶ See example: The changed function number **01** flashes, the right dot is deactivated.		

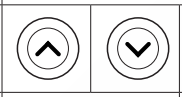
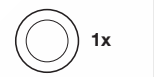
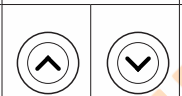
Function numbers for automatic switching between daylight savings and standard time		
00	Deactivated	
01	Activated – Daylight savings time from 2 am Sunday morning of the last weekend in March, 1 hour ahead – Standard time from 2 am Sunday morning of the last weekend in October, 1 hour back	

5. Push the **Stop** button. The display shows the illuminated program menu **54** with the changed function. In this example **01**; the right dot is illuminated.		
6. Continue programming in other program menus or terminate programming according to section 6.3.5.		

6.32 Program menu 55: self-testing static current circuit on plug X1

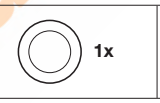
In this menu, you can configure self-testing for the static current circuit on plug **X1**. Protective devices connected to **X1** must comply with the requirements of EN 12453:2017.

NOTICE:
If a safety device is connected on initial start-up, it must be fitted with an 8k2 resistor.

1. Launch the programming mode according to section 6.3.5 beginnen or continue the ongoing programming.		
2. Use the **Open** button / **Close** button to select program menu **55**		
3. Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**		
4. Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example number **01**: The changed function number flashes, the right dot is deactivated.		

Function numbers for the self-testing static current circuit on socket X1	
00	8k2 self-testing deactivated
01	8k2 self-testing activated

NOTE
If 8K2 self-testing is deactivated, a bridge or a normally closed contact must be connected to X1.

5. Push the **Stop** button. The display shows the illuminated program menu **55** with the changed function. In this example **01**; the right dot is illuminated.		
6. Continue programming in other program menus or end programming according to section 6.3.5.		

6.33 Program menu 57: two-button / one-button press-and-hold operation

In this menu, you can select two-button press-and-hold operation or one-button press-and-hold operation for **external** control elements connected to plug **X3**.
For Europe, compliance with safety requirements in press-and-hold operation requires operation with two buttons; for countries where these requirements do not apply, press-and-hold operation with one button can be used.

1.	Launch the programming mode according to section 6.3.5 beginnen or continue the ongoing programming.	
2.	Use the **Open** button / **Close** button to select program menu **57**	
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4.	Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example number **01**: The changed function number flashes, the right dot is deactivated.	

Function numbers for two-button / one-button press-and-hold operation for external control elements on plug X3		
00	Two-button press-and-hold operation (the corresponding button **and** the **Stop** button must be pressed simultaneously and held for the door to travel to the respective end-of-travel position)	
01	One-button press-and-hold operation (the corresponding button must be pressed and held for the door to travel to the respective end-of-travel position)	

5.	Push the **Stop** button. The display shows the illuminated program menu **57** with the changed function. In this example **01**; the right dot is illuminated.	
6.	Continue programming in other program menus or end programming according to section 6.3.5.	

6.34 Program menu 96: Enabling menu programming via SmartControl

In this menu, you can enable the SmartControl gateway to read and change program menu settings in the control. The changed menu settings are sent to the SmartControl gateway via a web browser portal.

1.	Launch the programming mode according to section 6.3.5 or continue the ongoing programming.		
2.	Use the **Open** button / **Close** button to select program menu **96**		
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	 1x	
4.	Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example number **01**: The changed function number flashes, the right dot is deactivated.		

Function numbers for menu programming via the SmartControl gateway	
00	Do not copy data
01	Copy menu settings via the SmartControl gateway
02	Reset to previous menu setting

NOTE

The program menu is only displayed if a SmartControl gateway has been connected.

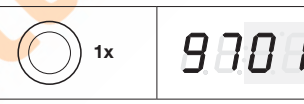
5.	Press the **Stop** button for **5** seconds. The display shows the flashing program menu **96** with the changed function as long as the scan is running. In this example **01.**	 5 s	
5.1	If there are no changed menus available, error **44 03** is displayed		
5.2	If there are any changed menus, the program menu **96** is displayed again		
6.	Continue programming in other program menus or terminate programming according to section 6.3.5.		

6.35 Program menu 97: configuring the maintenance interval period

In this menu, you can configure the maintenance interval period until the display **IN02** of the necessary maintenance is shown according to operational requirements.

1.	Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2.	Use the **Open** button / **Close** button to select program menu **97**	
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4.	Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example number **01**: The changed function number flashes, the right dot is deactivated.	

Function numbers for configuring the maintenance interval time periods		
00	1 year	
01	½ year	
02	¼ year	

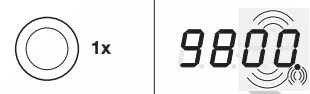
5.	Push the **Stop** button. The display shows the illuminated program menu **97** with the changed function. In this example **01**; the right dot is illuminated.	
6.	Continue programming in other program menus or terminate programming according to section 6.3.5.	

NOTE

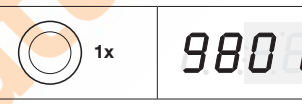
Display **IN02** is shown after every door run when it is due. The date of initial start-up is decisive. It can be reset / deleted in program menu **99** parameter **01**.

6.36 Program menu 98: configuring the number of cycles for the maintenance interval

In this menu, you can configure the maintenance interval period until the display **IN01** of the necessary maintenance is shown according to operational requirements.

1.	Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2.	Use the **Open** button / **Close** button to select program menu **98**	
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4.	Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example number **01**: The changed function number flashes, the right dot is deactivated.	

Function numbers for configuring the number of cycles for the maintenance interval					
00	10,000	**03**	25,000	**06**	40,000
01	15,000	**04**	30,000	**07**	45,000
02	20,000	**05**	35,000	**08**	50,000

5.	Push the **Stop** button. The display shows the illuminated program menu **98** with the changed function. In this example **01**; the right dot is illuminated.	
6.	Continue programming in other program menus or terminate programming according to section 6.3.5.	

NOTE

Display **IN01** is shown after every door run when it is due. It can be reset / deleted in program menu **99** parameter **01**. The cycles can be read under **A6** (total) or **A9** (since last maintenance)

6.37 Program menu 99: resetting data

In this menu, various data of the control program can be reset.

1.	Launch the programming mode according to section 6.3.5 or continue the ongoing programming.	
2.	Use the **Open** button / **Close** button to select program menu **99**	
3.	Push the **Stop** button. The currently set function number flashes on the display together with the right dot on the right segments. In this example **00.**	
4.	Use the **Open** button / **Close** button to select the function number to be changed according to **the table**. In this example number **01**: The changed function number flashes, the right dot is deactivated.	

Function numbers for data reset		
	ITO 500 FU	
00	No data reset	
01	Reset maintenance intervals	
02	Reset / BUS scan HCP2 BUS	
03	Reset the functions to the factory setting from program menu **31**	
04	Reset the functions of all menus to factory setting	
06	Reset an air inlet position to factory setting	
09	Without function	
10	Delete taught-in force	
11	Teach in reversal limit again	

NOTE

After resetting the functions to the factory settings (03 and 04), the protective devices must be checked.

Deleting the taught-in force (function **10**) requires new force learning runs to be performed. These are forcibly guided.

5.	Press the **Stop** button for 5 seconds. The changed function number and the right dot flash. In this example **01.**	
	The display shows **99 00**. The concerned function is reset.	
6.	Continue programming in other program menus or terminate programming according to section 6.3.5.	

7 Accessories and extensions

7.1 General

⚠ DANGER

Life-threatening mains voltage

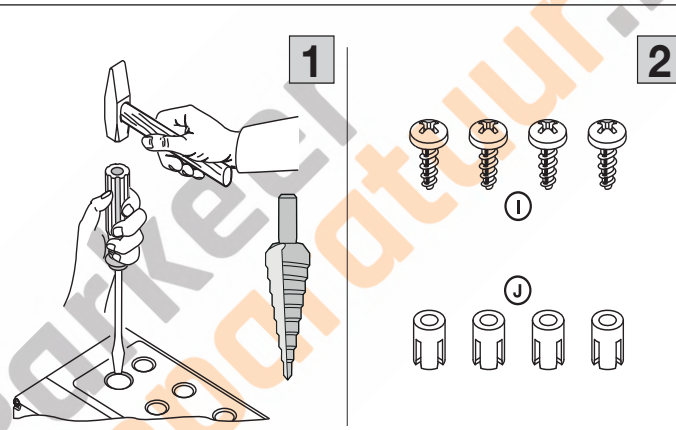
Contact with the mains voltage presents the danger of a deadly electric shock.

- ▶ Before fitting accessories and extensions, the system must be switched off at the mains and safeguarded against being switched on again, in accordance with the safety regulations.
- ▶ Only install accessories and extensions authorised by the manufacturer for use with this control.
- ▶ Observe the local safety requirements.
- ▶ Be sure to lay the mains and connection cables in separate installation systems.

7.2 Retrofitting the extension PCBs

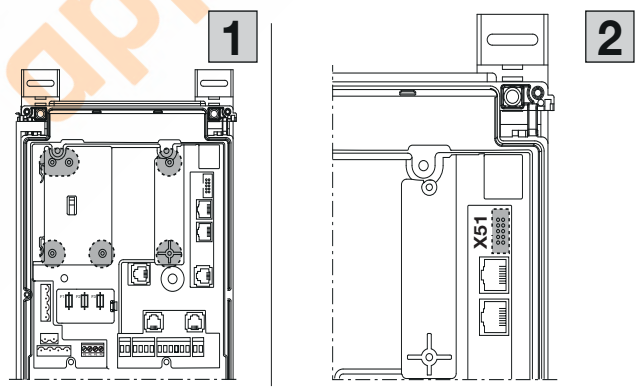
Preparations

1. To retrofit cable glands,
   - **a.** punch through the pre-stamped break points only if the cover is closed
   - **c.** or use a step drill.
2. Contents of the accessory bag for fastening the extension PCBs



Fitting extension PCBs

1. Fixing points for the circuit boards
2. Connection of extension PCBs to the control via the collective socket X51



7.2.1 Multi-function circuit board

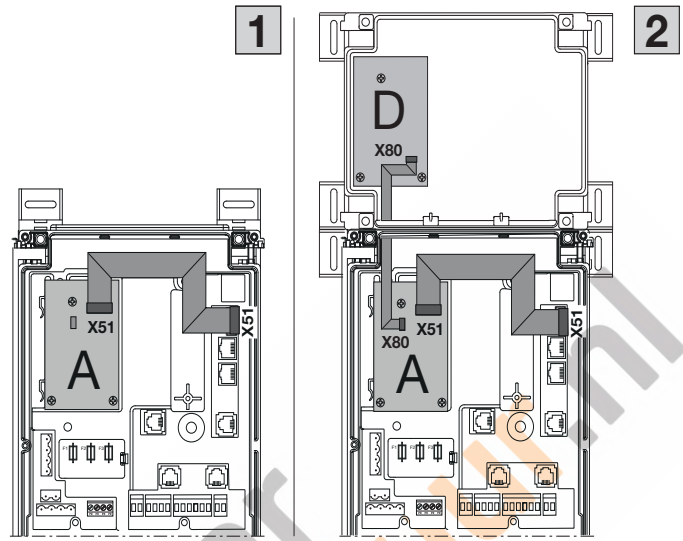
Multi-function circuit board A
(power consumption 60 mA)

There are 2 relay contacts available for limit switch reporting, momentary signal with *Open* door signal, *automatic timer Off* signal, error message and start warning / advance warning.

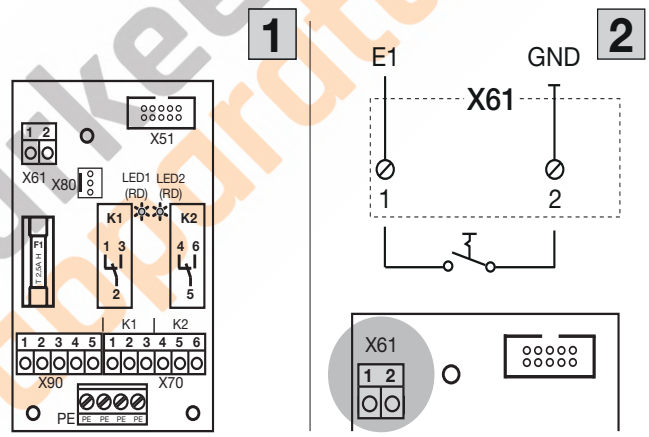
1. Connection to collective socket **X51** of the control.
2. In additional extension housing: Connecting a travel limit circuit board **D** to **X80** of the multi-function circuit board. For limit switch reporting.

NOTE

Programming is done in program menu **46 / 47**.

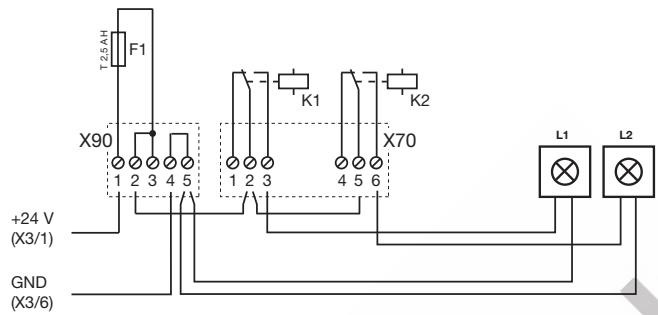


1. Circuit board layout
2. Connection of input **E1** to X61

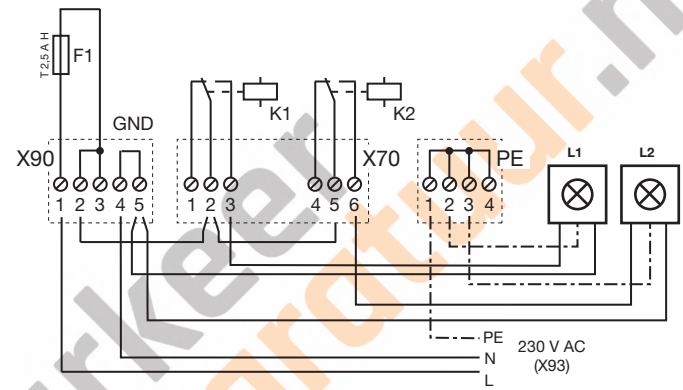


Multi-function circuit board pin assignment	
X51	Connection to the control, signals and supply voltage.
X61	Command input **E1** / **automatic timer Off** (only for controls with automatic timer) In case of a closed contact (switch, timer) at this input, the door remains open in the *Open* end-of-travel position until the input is enabled again. **NOTE** External voltage at the terminal strip **X61** will destroy the electronics.
X70	The relay contacts (max. contact load: 500 W) of relays K1 / K2 can be protected via the **F1** fuse (T 2.5 A H 250 V) to terminal **X90**-2/3. Red LEDs indicate the actuated relay.
X80	Connection of a travel limit circuit board (see sect. 7.2.4) for limit switch reporting. Volt-free contacts for the *Open* and *Close* message are available.
X90	Connection of the 230 V AC supply voltage to terminal 1 or 5 for the 230 V AC warning lights **L1** to **L2** via the mains voltage plug of the control **X93**, terminal N or L. Connection of supply voltage 24 V DC to terminal 1 or 5 for 24 V DC warning lights **L1** and **L2** via terminal **X3/1** (+24 V DC) or **X3/6** (GND) of the circuit board

Wiring diagram and cabling	24 V DC warning lights



230 V AC warning lights



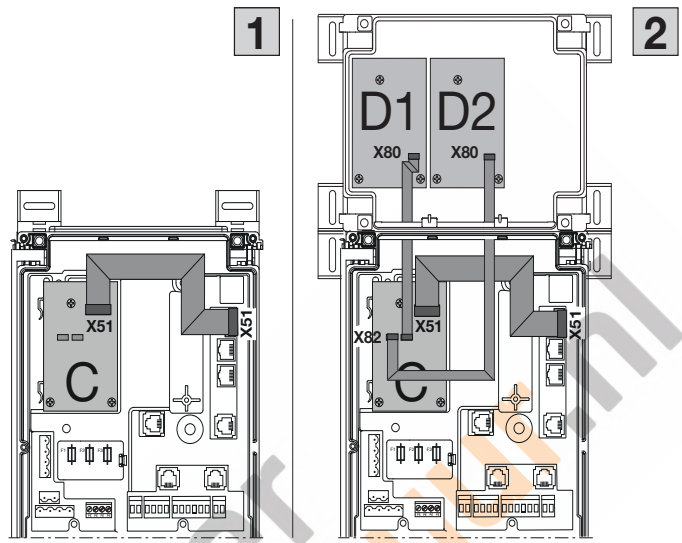
7.2.2 Central control circuit board

Central control circuit board **C** (power consumption 40 mA)

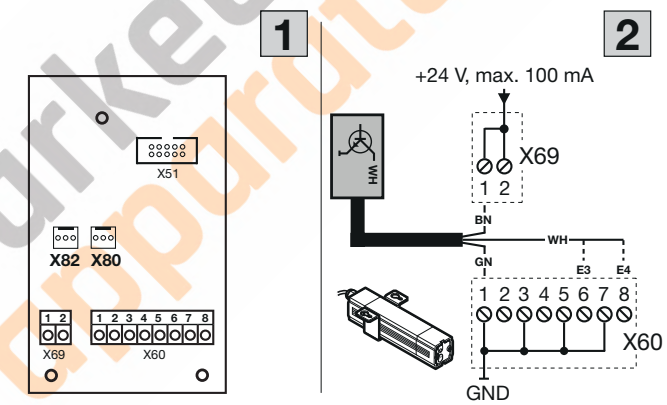
1. Connection to collective socket **X51** of the control. For central Open / Close, automatic timer Off and RWA (smoke and heat extraction).
2. In additional extension housing: Connecting a travel limit circuit board **D1** to **X80** of the central control circuit board. For limit switch reporting.
   Optional:
   Second travel limit circuit board **D2** to **X82** of the central control circuit board. As a programmable relay via program menu **46 / 47**.

NOTE

Programming is done in program menu **22 / 48**.

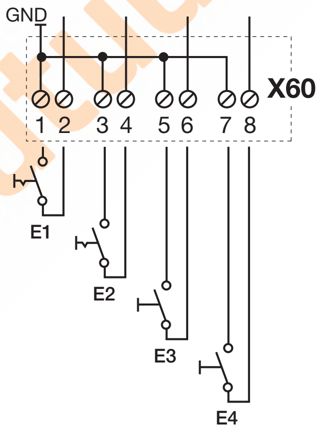


1. Circuit board layout
2. Connection of a radio receiver for entrance / exit request to X60 / X69.



Central control circuit board pin assignment	
X51	Connection to the control, signals and supply voltage.
X60	Command inputs
	ATTENTION **External voltage** External voltage at the terminal strip **X60** will destroy the electronics. ▶ Avoid external voltage at the terminal strips.
X69	+24 V / max. 100 mA, to supply power to e.g. a radio receiver.
X80	Connection of a travel limit circuit board (see sect. 7.2.4) for limit switch reporting. Volt-free contacts for the *Open* and *Close* message are available.
X82	Connection of a travel limit circuit board (see sect. 7.2.4) that acts like a multi-function circuit board in this case. The corresponding functions for the volt-free contacts are configured in program menu **46 / 47**.

Central circuit board – configuration of the inputs at X60	
E1 **X60** **1/2**	**Central Open** • A command to this input – stops a *closing* door and moves the door to the *Open* end-of-travel position after one second. This process can only be terminated by issuing a *central Close* or *Stop* command. After reaching the end-of-travel position, the control is ready for operation again. – opens a stationary door. • A switch (permanent contact) connected to this input deactivates the automatic timer.
E2 **X60** **3/4**	**Central Close** • A command to this input – stops an *opening* door and moves the door to the *Close* end-of-travel position after one second. This process can only be terminated by giving a *central Open* or *Stop* command. After reaching the end-of-travel position, the control is ready for operation again. – closes a stationary door. • A switch (permanent contact) connected to this input closes the door and locks it (display: 56.00).
E3 **X60** **5/6**	**Automatic timer Off** (only for controls with automatic timer) In case of a closed contact (switch, timer) at this input, the door remains open in the *Open* end-of-travel position until the input is enabled again (display 57.00). **Note** In addition, the door can also be closed with the *Central close* command.
E4 **X60** **7/8**	**RWA system (smoke and heat extraction)** A command to this input moves the door to the position programmed in the program menu after 1 second; a moving door is stopped and travels to the air inlet position programmed in program menu **22** after 1 second. After reaching the air inlet position, the control is blocked and can only be reactivated by turning the control off and on. **NOTICE** – After the power returns, the operator waits for a travel command. The display shows the current operator position. (e.g. Open end-of-travel position) "−". With a stop command (cover keypad, terminal strip **X3**) during the door run, the door stops for a moment and then proceeds to the *air inlet position*. – If the static current circuit (terminal strip **X1** / **X30**) is activated during the door run, the door is stopped. After closing the static current circuit, the door will attempt to reach the air inlet position again. – If the **SKS** (**X30**) is activated, the door reverses as programmed in menu **34**. Continued attempts will be made to reach the air inlet position. – If the **photocell** (**X20, X22**) is activated, the door reverses as programmed in menus **35, 37**. Continued attempts will be made to reach the air inlet position. – If the key switch is in position 2, an RWA run is still performed in press-and-release operation.



7.2.3 Travel limit circuit board

Travel limit circuit board **D**
(power consumption 60 mA)

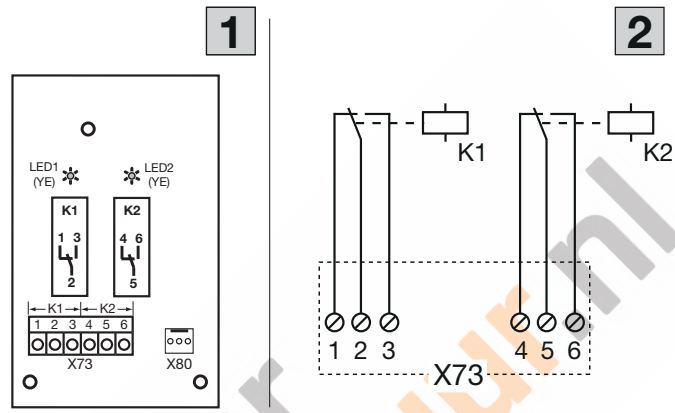
Travel limit circuit board with potential-free contacts.

- The multi-function circuit board / central control circuit board is enhanced by limit switch reporting if the travel limit circuit board is connected to jack **X80**
- The central control circuit board is enhanced by programmable messages if the travel limit circuit board is connected to jack **X82** (program menu **46** for relay **K1** and program menu **47** for relay **K2**).

1. Circuit board layout
2. Wiring diagram of the relays

NOTE

The LED **YE** (yellow) indicates which relay is actuated.
The information on the end-of-travel position is lost after a power failure.



Central control circuit board pin assignment

X73	Connecting relay **K1** (*Open* end-of-travel position message)		
	Terminal 1	Normally closed contact	Max. contact load: 500 W / 250 V AC 2.5 A / 30 V DC
	Terminal 2	Shared contact	
	Terminal 3	Normally open contact	
	Connecting relay **K2** (*Close* end-of-travel position message)		
	Terminal 1	Normally closed contact	Max. contact load: 500 W / 250 V AC 2.5 A / 30 V DC
	Terminal 2	Shared contact	
	Terminal 3	Normally open contact	

7.3 HCP-BUS

NOTE

Max. 10 peripheral devices can be connected; connecting more than 2 devices requires a suitable hub (not included in the scope of delivery)

To teach in new BUS participants to the control, a bus scan must be carried out in program menu 99 function number 02. When the BUS scan is completed, the number of detected participants is displayed.

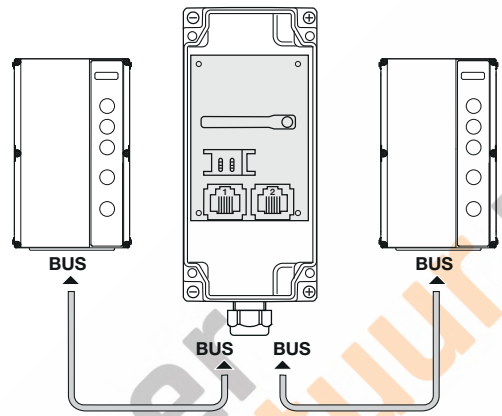
Functions adjustable in program menu **99 / 02 (**press and hold the **Stop** button for 5 seconds)

SmartControl in the housing (power consumption 150 mA)

Interface / device within the HCP bus system for transmitting the door system and control states to a web browser portal (for configuring, reading out errors, reading out messages, and online diagnosis).

There is the option of simultaneously connecting a second control.

Functions adjustable in program menu **96**



8 Maintenance / service

8.1 General maintenance / service information

⚠ DANGER

Mains voltage and danger of injury

Performing maintenance and service work can be dangerous. Therefore, be sure to observe the following notices:

- Maintenance and service work may only be carried out by qualified and authorised personnel in accordance with the local/country-specific safety regulations.
- Before carrying out the following work, the system must be switched off at the mains and safeguarded against being switched on again, in accordance with the safety regulations:
  - Maintenance and service work
  - Troubleshooting
  - Exchanging fuses
- The maintenance release / secured quick release may only be actuated when the door is closed.

8.2 Inspection of the protective devices

As the operator of a machine is also responsible for ensuring its safety, regular inspection and maintenance of a power-driven door and the overall door system is strongly recommended. In doing so, safety requirements must take precedence over economic considerations. Always observe all country-specific safety requirements, standards and regulations.

Inspection and necessary repairs may only be carried out by a specialist (see also the supplied log book).
A visual inspection may be carried out by the operator.

Monthly:

- Check emergency release (see section 8.3).

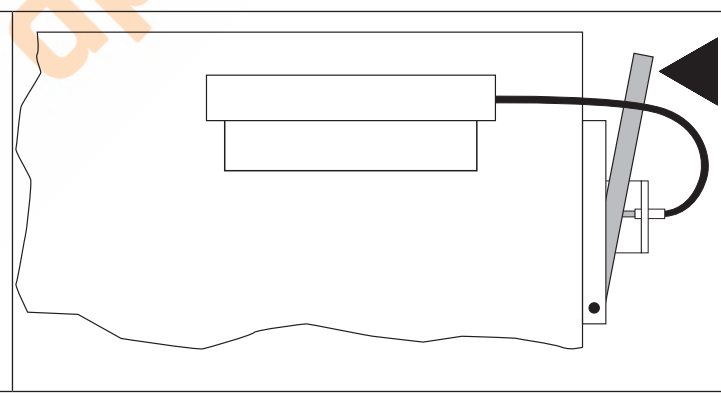
At least every six months:

- Inspection of all protective devices without self-testing.
- Check the reversal limit (see section 6.3.3).

8.3 Zero-current actuation of the door during maintenance / service work / malfunctions

8.3.1 For maintenance / service work

1. Switch off the system at the mains.
   With the door closed, actuate the maintenance release.
2. Push the door manually in the desired direction.



8.4 Service menu

8.4.1 General

⚠ WARNING

Danger of injury due to uncontrolled door travel

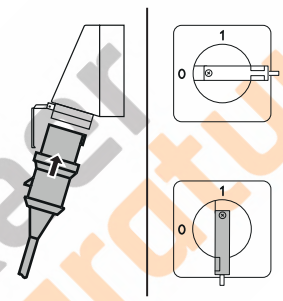
While querying the service menu, the door may move and trap persons or objects.

▶ Make sure that no persons or objects are within the danger area of the door.

The service menu is structured as follows:

- Query of the configured functions in the program menus with quick access
- Query of the accumulated error messages
- Query of the counter for operating hours and cycles
- Display of the software version of the control

8.4.2 Establishing the electrical supply

Insert the CEE plug into the electric socket **or** Turn the main switch (optional) to position **1**.	

8.5 Reading out the service menu via the BlueControl app with the smartphone / tablet

NOTE

The connection between the smartphone / tablet and control is only possible if function 01 is set in program menu 51.

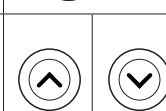
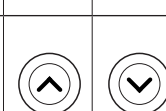
1. Install the “BlueControl” app on your smartphone / tablet (download from: Google Play Store, Apple App Store, Microsoft Store).
2. Press the **Stop** button for 5 seconds.
   The display shows the illuminated bt symbol indicating an active Bluetooth module.
3. Press the **Stop** button 1 ×.
   The display shows the flashing **bt** symbol. The Bluetooth module is in connection mode.
   If bt is permanently illuminated, a connection is established.
4. Start the app and follow the instructions.

NOTE

The following open source software is contained in this product: “
mbed TLS 2.16.1 (https://tls.mbed.org),
Copyright 2006 – 2018, ARM Limited,
All rights reserved
This software is licensed under Apache license version 2.0 (the “license”); you may only use this file in accordance with the license. You will find a copy of the license at http://www.apache.org/licenses/LICENSE-2.0
Unless required by law or agreed in writing, the software is used under the license “as is” or “as available” without any promises, guarantees or conditions, neither explicit nor implicit.
You will find information on specific language-relevant rights and restrictions in the license, whose complete text you will find in the corresponding “BlueControl” app.

8.5.1 Reading out service menu directly on the control

This section describes the general work steps for querying the service menu. If no button is pressed within 30 seconds, the control automatically exits the service mode.

1. Press the **Stop** button for 5 seconds. The display shows the illuminated **bt** symbol indicating an active Bluetooth module.		
2. Press the **Open** button once. The display shows **0000** illuminated.		
3. Use the **Open** button / **Close** button to select the desired service menu, in this example **05**. The service menu number **05** corresponds to the program menu number **05** and maps the function set there (configuring the fitting type), in this example the ***horizontal fitting type***.		
4. Exit the service menu **4.3** Do not press any button for 30 seconds **or** **4.4** Use the **Open** button / **Close** button to select the desired service menu **0000**.		
5. Push the **Stop** button. The current door position is then displayed illuminated, in this example —.		

8.5.2 Query of the configured functions in the program menus

The set functions of the program menu can be called up and controlled via the service menu. The service menu number corresponds to the program menu number and maps the function set there.

1. Launch the query mode according to section 8.5.1 or continue the ongoing querying.	

2. Use the **Open** button / **Close** button to select the desired service menu that is identical to the program menu number. It is shown on the two left displays, in this example **09**. The function set there is displayed on the two right displays, in this example **04**.

Table 1					Program menu numbers that can be depicted in the service menu															
00	—	10	✓	20	—	30	—	40	✓	50	—	60	—	70	—	80	—	90	—
01	✓	11	✓	21	—	31	✓	41	✓	51	✓	61	—	71	—	81	✓	91	—
02	✓	12	✓	22	✓	32	✓	42	✓	52	—	62	—	72	—	82	—	92	—
03	✓	13	✓	23	✓	33	✓	43	✓	53	✓	63	—	73	—	83	—	93	—
04	✓	14	✓	24	✓	34	✓	44	✓	54	✓	64	—	74	—	84	—	94	—
05	✓	15	✓	25	✓	35	✓	45	—	55	✓	65	—	75	—	85	—	95	—
06	✓	16	✓	26	✓	36	—	46	✓	56	—	66	—	76	—	86	—	96	✓
07	—	17	✓	27	✓	37	✓	47	✓	57	✓	67	—	77	—	87	—	97	✓
08	✓	18	✓	28	—	38	—	48	✓	58	—	68	—	78	—	88	—	98	✓
09	—	19	—	29	—	39	—	49	✓	59	—	69	—	79	—	89	—	99	✓

3. Continue the query in other service menus or end the query according to section 8.5.1.

8.5.3 Querying the software version of the control

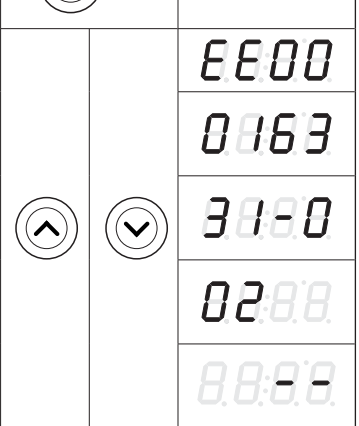
The software version of the control program is issued via this service menu.

1. Launch the query mode according to section 8.5.1 or continue the ongoing querying.

2. Use the **Open** button / **Close** button to select the desired service menu **99**.

3. Push the **Stop** button.
The **start** of the software version is shown, in this example **EE001631-02**.

4. You can use the **Open** button / **Close** button to scroll back and forth through the entire character string to display the full text, each push moves by 4 character.



5. Push the **Stop** button.
Service menu **99** is displayed.

6. Continue the query in other service menus or end the query according to section 8.5.1.

8.5.4 Querying the stored error messages (A1) / messages (A2)

With this service menu you can query **A1** (error messages) and **A2** (messages).

1. Launch the query mode according to section 8.5.1 or continue the ongoing query.

2. Use the **Open** button / **Close** button to select the desired service menu for the query, in this example **A1**

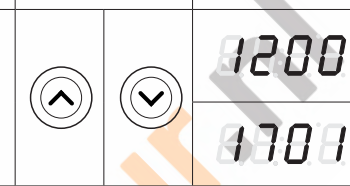
NOTE

See the detailed error messages in section 8.6.

3. Push the **Stop** button.
The two yellow dashes on the left are illuminated as a virtual division line between the current time and the thus 20 older and more recent error messages.

4. Press the **Open** button / **Close** button

4.1 Use the **Close** button to display the most recent error messages, in this example error **1701** (the *Open* power limit has been actuated).



5. Push the **Stop** button.
The service menu **A1**, **A2** is displayed, in this example **A1**.

6. Continue the query in other service menus or end the query according to section 8.5.1.

8.5.5 Querying and approaching the position of the last force error (A3)

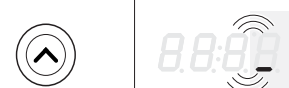
With this service menu you can query the stored error messages **A3**. You can approach the door position of the last force error here.

1. Launch the query mode according to section 8.5.1 or continue the ongoing query.

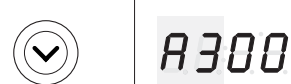
2. Use the **Open** button / **Close** button to select the desired service menu **A3**.

3. Push the **Stop** button.
Should the door not be open, the top dash (*Open end-of-travel position*) flashes on the right segment as an indication that the door must be opened first.

3.1 Push the **Open** button **to open the door.**
Otherwise, the bottom dash **flashes** on the right segment (*Close end-of-travel position*) to indicate that the door can be closed.



4. Press the **Close** button**.** The door stops at the indicated position during travel in the *Close* direction. The display shows **A3 00** illuminated.



NOTE

If there is no force error and the **Close** button is actuated in the Open end-of-travel position, the display shows **93.03**

5. Push the **Stop button**.
If A3 00 has been displayed in step 4, the query starts again.
If 93.03 has been displayed in step 4, A3 00 is displayed.

6. Continue the query in other service menus or end the query according to section 8.5.1.

8.5.6 Querying the operating hours and cycles

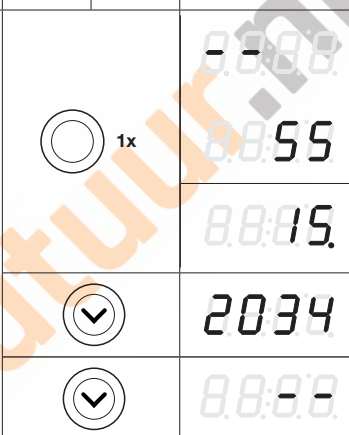
Use these service menus to query the different operating hour and door cycle counters:

- **A4 Operator ON time** – total (in minutes)
- **A5 Control operating hours** – total (in hours)
- **A6 Door travel cycles** – total (in increments of thousands)
- **A7 Operator ON time** – since the last maintenance (in minutes)
- **A8 Operating hours** of the control – since the last maintenance (in hours)
- **A9 Door run cycles** – since the last maintenance (in increments of thousands)

1. Launch the query mode according to section 8.5.1 or continue the ongoing query.

2. Use the **Open** button / **Close** button to select the desired service menu for the query **A4** – **A8**, in this example **A8**.

3. Push the **Stop** button.
The start is indicated by -- on the left display. The display shows up to 4 digits of the string of numbers, in this example **55**.
For larger numbers a decimal point follows the increments of thousands and you can use the **Close** button to scroll back through the entire number string, in this example **152034**, until the end of the string is indicated by -- on the right display.



4. Push the **Stop button**.
The service menu **A4** – **A8** is displayed, in this example **A8**.

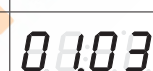
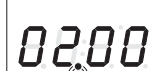
5. Continue the query in other service menus or end the query according to section 8.5.1.

8.6 Error / message display via the 7-segment display

Errors are represented by a corresponding number appearing in the display. At the same time, the point on the display flashes to indicate an error message / general message.

Errors **(1)** and messages (**2**) are differentiated.

8.6.1 Error messages / troubleshooting

Error 01 – 05 = RSK (static current circuit)				
Error description	**Sub-error**	**1 = error 2 = message**	**Cause of error / troubleshooting**	**Display**
RSK (static current circuit) generally open	**X1** open	**1**	**Control housing** ▶ Check bridge in connection plug **X1**.	
	X3 open	**1**	**Control housing** ▶ Check bridge in connection plug **X3**.	
	BUS open	**1**	**Connected BUS participants** ▶ Check the BUS participants. ▶ Perform BUS reset / BUS scan.	
Static current circuit of the closing edge safety device **SKS** on socket **X30** open (cable slack device, wicket door contact, night lock, coiled cable, radio transmission battery empty)	–	**1**	**SKS connection housing** LED yellow **On**: ▶ correct functioning LED yellow **Off**: ▶ All sockets **X31** must be assigned. Check cable slack device, wicket door contact, shootbolt, coiled cable or radio transmission. ▶ If an 8k2 resistance contract strip is connected to **X33**, a bridge plug must be inserted in **X34**. ▶ Turn the key to position 2 (observe program menu **44**) to allow press-and-hold operation **(This function may only be performed by specialists as the protective devices are bypassed!)**.	
Static current circuit of operator on jack **X200** (CAN BUS) open	Operator emergency operation equipment in use (emergency crank handle, emergency hand chain)	**2**	**Operator** – Operator emergency operation equipment in use. ▶ Bring the emergency hand chain to the central position and lock it to the door frame. ▶ Remove the emergency crank handle.	
	Operator temperature too high	**1**	**Operator** – Operator is overheated. ▶ Wait until the operator has cooled down.	

Error 07				
Error description	**Sub-error**	**1 = error 2 = message**	**Cause of error / troubleshooting**	**Display**
Interface COM **X50** (display circuit board / communication with display circuit board)	—	**1**	**Control** Cable (cover keypad) not plugged in or inserted incorrectly to socket X50. ▶ Perform power offset: – Switch off mains voltage for 120 seconds and check if the plugs on X50 or on the display circuit board are inserted properly. ▶ If the error occurs again, the control and display circuit board must be replaced.	

Error 11 – 19 = active safety devices				
Error description	**Sub-error**	**1 = error 2 = message**	**Cause of error / troubleshooting**	**Display**
Self-testing of the protective device on socket **X30** not successful or the protective device has been activated	Optosensors	**2**	**General** – Obstacle detected. – Optical equipment of the protective device soiled. – Transmitter and receiver are not aligned to each other. **SKS connection housing** • Red LED **On**: ▶ Check optosensors. ▶ Check connecting cable **X34**. ▶ **X33** must not be assigned. • Red LED **Off**: ▶ Check the colour order of the coiled cable. **The door only closes with press-and-hold operation:** ▶ See the press-and-hold operation prerequisites. ▶ Turn the key to position 2 (observe program menu **44**) **(This function may only be performed by specialists as the protective devices are bypassed!)**.	

Error 11 – 19 = active safety devices				
Error description	**Sub-error**	**1 = error 2 = message**	**Cause of error / troubleshooting**	**Display**
Self-testing of the protective device on socket **X30** not successful or the protective device has been activated	8K2	**2**	**SKS connection housing** • Red LED **On**: ▶ Check 8k2. ▶ **X32 must** not be assigned. • Red LED **Off**: ▶ Check the colour order of the coiled cable. ▶ Turn the key to position 2 (observe program menu **44**) **(This function may only be performed by specialists as the protective devices are bypassed!)**.	
Self-testing of the protective device on socket **X30** not successful or the protective device has been activated	Optosensors / 8k2 radio transmission	**2**	**Frame housing receiver unit** • LED (SKS) red (optosensors): ▶ Check optosensors. ▶ Check connecting cable **X34**. ▶ **X33** must not be assigned. • LED (SKS) red **ON** (8k2): ▶ Check 8k2. ▶ **X32** must not be assigned. ▶ For more information, refer to the instructions for the radio activating kit. ▶ Turn the key to position 2 (observe program menu **44**) **(This function may only be performed by specialists as the protective devices are bypassed!)**.	
Self-testing of the protective device on socket **X20** not successful or the protective device has been activated	–	**2**	▶ In case of photocells, check the orientation. ▶ In case of photocells, the connection between the transmitter and receiver must be a black Y-piece, version **P**. ▶ Turn the key to position 2 (observe program menu **44**) **(This function may only be performed by specialists as the protective devices are bypassed!)**.	
Self-testing of the protective device on socket **X22** not successful or the protective device has been activated	–	**2**	▶ In case of photocells, check the orientation. ▶ Turn the key to position 2 (observe program menu **44**) **(This function may only be performed by specialists as the protective devices are bypassed!)**.	

Error 11 – 19 = active safety devices				
Error description	**Sub-error**	**1 = error 2 = message**	**Cause of error / troubleshooting**	**Display**
The self-testing result is negative. The door can no longer be moved.	—	**2**	**Wicket door** – Contact magnet contorted. – Wicket door contact defective. ▶ Turn the key to position 2 (observe program menu **44**) **(This function may only be performed by specialists as the protective devices are bypassed!)**.	
The *Open* power limit has been activated	Sluggish door / travelling object	**1**	**Door** – Door movement is sluggish. – Travelling object. ▶ Check door. ▶ Check the force setting (see menu 19). – Force setting too sensitive.	
	Decreasing spring tension	**1**	**Door** – Springs have settled. ▶ Check the spring tension.	
	Spring break	**1**	**Door** – Torsion spring fractured. ▶ Replace torsion springs.	
The *Close* power limit has been activated	Sluggish door / obstacle in door frame	**1**	**Door** – Door movement is sluggish. – Obstacle in the door frame. ▶ Check door. ▶ Check the force setting (see menu 20). – Force setting too sensitive.	

Error 21 – 29 = door travel				
Error description	**Sub-error**	**1 = error 2 = message**	**Cause of error / troubleshooting**	**Display**
Motor rotational direction reversed	—	**1**	• Control ▶ Programmed fitting type does not match the actual fitting type.	

Error 21 – 29 = door travel				
Error description	**Sub-error**	**1 = error 2 = message**	**Cause of error / troubleshooting**	**Display**
Communication with the frequency converter / power unit (CAN communication)	Incompatibility between operator and control	**1**	**Operator** ▶ Check / replace the operator. **Control** ▶ Reset the control to the factory setting. ▶ Replace the circuit board.	25.01
	CAN error FU	**1**	**Operator** ▶ Check the system cable (CAT5E) / connection. ▶ Check the power supply to the operator.	25.02
	Safety protocol	**1**	**Operator** ▶ Check the operator system cable (CAT5E). ▶ Replace the system cable (CAT5E). ▶ Replace the operator. ▶ Switch the power on and off.	25.03
	Control CAN error	**1**	**Control** ▶ Restart the control. ▶ Replace the circuit board.	25.04
Operator temperature	Temperature warning threshold of the operator reached	**2**	**Operator** ▶ Temporarily reduce the operator ON time. – If frequently occurring: program the automatic timer Off (if available / programmed). **Note** With FU the operator continues running at reduced speed.	27.00
Protection mode frequency converter activated in the Close direction		**2**	**Door** – Poor door travel, springs have settled. ▶ Check the spring tension (see menu **27**).	28.00

Error 21 – 29 = door travel				
Error description	**Sub-error**	**1 = error 2 = message**	**Cause of error / troubleshooting**	**Display**
Frequency converter	General error	**1**	▶ Perform power offset: – Switch the mains voltage off for 120 seconds. ▶ If the defect occurs again, the operator has to be replaced.	
	FPU error	**1**	▶ Perform power offset: – Switch the mains voltage off for 120 seconds. ▶ If the defect occurs again, the operator has to be replaced.	
	Power stage error	**1**	▶ Perform power offset: – Switch the mains voltage off for 120 seconds. ▶ If the defect occurs again, the operator has to be replaced.	
	I2T communication	**1**	▶ Perform power offset: – Switch the mains voltage off for 120 seconds. ▶ If the defect occurs again, the operator has to be replaced.	
	Supply voltage error	**1**	▶ Perform power offset: – Switch the mains voltage off for 120 seconds. ▶ If the defect occurs again, the operator has to be replaced.	
	Overcurrent	**1**	**Control** ▶ Reduce the acceleration in the settings (see menu 23/24). ▶ Perform power offset: – Switch the mains voltage off for 120 seconds. ▶ If the defect occurs again, the operator has to be replaced.	

Error 21 – 29 = door travel				
Error description	**Sub-error**	**1 = error 2 = message**	**Cause of error / troubleshooting**	**Display**
Frequency converter	CPU overload	1	▶ Perform power offset: – Switch the mains voltage off for 120 seconds. ▶ If the defect occurs again, the operator has to be replaced.	29.07
	Top emergency limit	1	**Operator / door** – The OPEN end-of-travel position was exceeded. ▶ Move the door to the OPEN end-of-travel position or the intermediate position using the emergency operation equipment. ▶ Adjust the OPEN end-of-travel position if necessary. ▶ Check the door stops. ▶ Perform power offset: – Switch the mains voltage off for 120 seconds.	29.08
	Bottom emergency limit	1	**Operator / door** – The CLOSE end-of-travel position was exceeded. ▶ Move the door to the CLOSE end-of-travel position or the intermediate position using the emergency operation equipment. ▶ Adjust the CLOSE end-of-travel position if necessary. ▶ Perform power offset: – Switch the mains voltage off for 120 seconds.	29.09
	DC Link overvoltage	1	▶ Check fuse F1 (T 10 A, H 250 V) and replace it, if necessary. ▶ If the defect occurs again, the operator has to be replaced.	29.10
	Speed error	1	▶ Perform power offset: – Switch the mains voltage off for 120 seconds. ▶ If the defect occurs again, the operator has to be replaced.	29.11

Error 31 – 36 = Hardware components				
Error description	**Sub-error**	**1 = error 2 = message**	**Cause of error / troubleshooting**	**Display**
General power circuit board malfunction	—	1	**Control** ▶ Power circuit board has to be replaced.	31.00

Error 31 – 36 = Hardware components				
Error description	**Sub-error**	**1 = error 2 = message**	**Cause of error / troubleshooting**	**Display**
Travel time: Door travel exceeds permissible time	—	**1**	**Door** – Door height and door ratio do not match the operator.	

Error 41 – 49 = system error / communication				
Error description	**Sub-error**	**1 = error 2 = message**	**Cause of error / troubleshooting**	**Display**
Absolute encoder communication	Internal	**1**	▶ Perform power offset: – Switch the mains voltage off for 120 seconds ▶ If the defect occurs again, the operator has to be replaced.	
COM X51 **interface (extension card)**	—	**1**	**Control** Cables (extension PCBs) not connected or not connected properly to socket **X51**, or the extension PCB was removed. ▶ Reset all menu settings of the circuit board. ▶ Then switch the control off and on again.	
Peripherals bus (BUS)	Communication error	**1**	**Control** ▶ Perform BUS reset / BUS scan (see menu 99 / 02).	
	BUS scan failed	**1**	**Peripherals** ▶ Check the BUS participants cable connection. ▶ Repeat BUS reset / BUS scan (see menu 99 / 02).	
	Transmission error. Menu settings failed	**1**	**Control** ▶ Menu settings were not transferred correctly or they are inconsistent.	
System error		**1**	System start error	
		1	Display / control software version incompatible	

Error 51 – 69 = Lock in the control program				
Error description	**Sub-error**	**1 = error 2 = message**	**Cause of error / troubleshooting**	**Display**
Locking in Close end-of-travel position activated	—	**2**	Contact to terminal **X60-1/2** (E1) central control circuit board or **X2a / X2b** closed. ▶ Open contact. **For instructed personnel:** ▶ Set the miniature lock / PHC to position **2** and temporarily move the door with press-and-hold operation.	S600
Automatic timer off activated	—	**2**	Contact to terminal **X60-3/4** (E2) central control circuit board or **X2a / X2b** closed. ▶ Open contact. **For instructed personnel:** ▶ Set the miniature lock / PHC to position **2** and temporarily move the door with press-and-hold operation.	S700
Automatic timer Off activated	—	**2**	**For instructed personnel:** ▶ Set the miniature lock / PHC to position **2** and temporarily move the door with press-and-hold operation.	S801
Locking in Close position activated	—	**2**	**For instructed personnel:** ▶ Set the miniature lock / PHC to position **2** and temporarily move the door with press-and-hold operation.	S802
Automatic timer Off activated	—	**2**	**For instructed personnel:** ▶ Set the miniature lock / PHC to position **2** and temporarily move the door with press-and-hold operation.	S901
Locking in Close position activated	—	**2**	**For instructed personnel:** ▶ Set the miniature lock / PHC to position **2** and temporarily move the door with press-and-hold operation.	S902
Widescan at X2a tripped	—	**2**	▶ Check the area in front of the door. ▶ Remove the obstacle. ▶ Clean the Widescan optical system. **Note** Further details are provided in the Widescan instructions.	6400
Widescan at X2b tripped	—	**2**	▶ Check the area in front of the door. ▶ Remove the obstacle. ▶ Clean the Widescan optical system. **Note** Further details are provided in the Widescan instructions.	6500
Miniature lock of cover keypad locked message	—	**2**	▶ Set the miniature lock to position 0.	6700

Error 51 – 69 = Lock in the control program				
Error description	**Sub-error**	**1 = error 2 = message**	**Cause of error / troubleshooting**	**Display**
Miniature lock external control elements locked message	—	**2**	▶ Set the miniature lock to position 0. ▶ Or, a travel command was triggered e.g. via HCP-Bus that is not permitted in press-and-hold operation.	
Miniature lock on position 2 message and menu 44 deactivated. Door run not possible.	—	**2**	▶ Set the miniature lock to position 0 or 1 or activate the function in menu 44 (observe the safety instructions).	

Error 70 – 80 = Hardware components				
Error description	**Sub-error**	**1 = error 2 = message**	**Cause of error / troubleshooting**	**Display**
Permanent entrance message	—		▶ Remove contact on X61-5/6 (E7) (FBR) for permanent entrance.	

Error 91 – 99 = Error during teaching in				
Error description	**Sub-error**	**1 = error 2 = message**	**Cause of error / troubleshooting**	**Display**
Position learning runs error	Faulty end-of-travel positions / faulty reversal limit	**1**	Permitted travel path exceeded. ▶ Repeat learning run.	
	Faulty partial opening / RWA (smoke and heat extraction) position	**1**	Permitted travel path exceeded. ▶ Repeat learning run.	
	Error while saving the position	**1**	Position was not saved correctly. ▶ Repeat learning run. ▶ If the defect occurs again, the operator has to be replaced.	
Force learning run	Cancelled by operator	**2**	▶ Repeat force learning run.	
	No force data learned	**2**	▶ Repeat force learning run.	
	Last force error door run aborted	**2**	No force error	

Error 91 – 99 = Error during teaching in				
Error description	**Sub-error**	**1 = error 2 = message**	**Cause of error / troubleshooting**	**Display**
Photocells learning run failed	Intelligent light grille	**1**		
	Photocell **X20**	**1**	▶ Perform another learning run and keep the door area and detection range of the photocell clear during the learning runs.	
	Photocell **X22**	**1**	▶ Perform another learning run and keep the door area and detection range of the photocell clear during the learning runs.	
Photocells learning run failed	–	**1**	Photocell permanently occupied during learning run / defective or no photocell was masked ▶ Check the photocell(s).	
Timeout of locking elements	–	**1**	▶ No feedback from the locking element.	
No production data available		**1**	▶ The control must be replaced.	

Error = rapid flashing of all display elements on the cover keypad				
Error description	**Sub-error**	**1 = error 2 = message**	**Cause of error / troubleshooting**	**Display**
No entry possible anymore	Defective (sticky) buttons on the cover keypad	**1**	▶ Restart or exchange the display circuit board.	

8.7 Safety elements in the control housing

⚠ DANGER

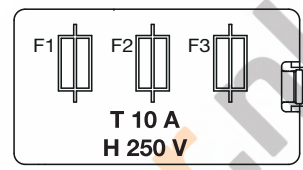
Mains voltage

Contact with the mains voltage poses mortal danger.

- ▶ Switch off the system at the mains before troubleshooting.
- ▶ Safeguard the system against being switched on again without authorisation.

8.7.1 Fuses

	Value	Phase	1-ph	3-ph
F1	10 A / T	Main circuit **L1**	✓	✓
F2	10 A / T	Main circuit **L2**	–	✓
F3	10 A / T	Main circuit **L3**	–	✓



NOTE

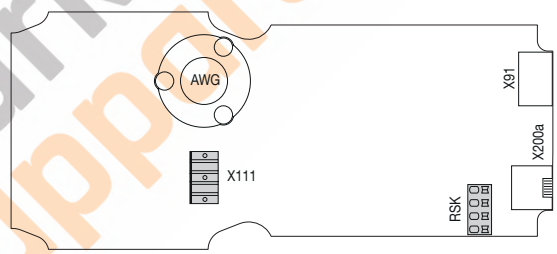
All fuses are glass-tube fuses in accordance with IEC 60127, 5 × 20 mm, with rated cut-off capacity H (1500 A).

9 Technical information

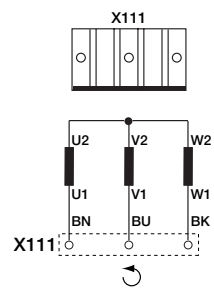
9.1 Motor wiring

9.1.1 Motor with frequency converter control

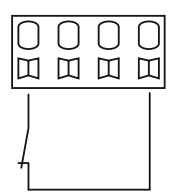
Motor connection circuit board



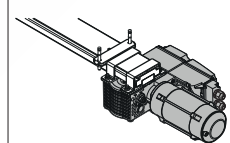
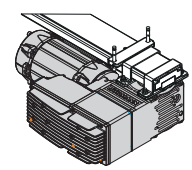
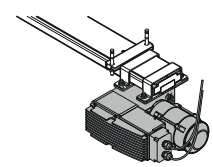
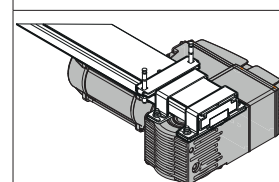
Wiring 230 V AC-1-ph



Wiring of the static current circuit RSK switch of the emergency hand chain



10 Overview of the program menus

Program menu	Settings for Function and function numbers			Information in section
01	**Setting the time**			6.3.2
02	**Setting the year**			6.3.2
03	**Setting the day / month**			6.3.2
04	**Setting the door type**			6.3.2
	00	Sectional door		
	01	—		
	02	—		
	03	Non-protruding up-and-over door ET 500		
	04	Sliding door ST 500		
		Fire sliding door		
	05	—		
	06	—		
05	**Setting the fitting type**			6.3.2
			ITO 500 FU	
	05.-- Horizontal			
				
	05.11 Vertical			
				

06	Function numbers for carriage speed ITO 500 FU fire sliding door							6.3.2
		Brake ramp in the **Close direction** (x mm in front of one-way photocell)	Brake ramp in the **Open direction** (x mm in front of one-way photocell)	Fast open (mm/s)	Slow open (mm/s)	Fast close (mm/s)	Slow close (mm/s)	
	00	500	500	125	80	125	80	
	01	500	500	160	100	160	100	

08	Door leaf weight	6.3.2
	Possible setting range (1 kg increments): 0 kg – 3000 kg **125 kg**	

10	Selecting protective devices		6.3.2
	00	No SKS (press-and-hold-operation in the *Close* direction)	
	01	Optosensors LE, ASO decoder unit (sliding door)	
	02	8k2	
	06	Optosensors LE / 8k2 with radio transmission	

11	Selection of the operating mode		6.3.2
	00	Press-and-hold operation in the *Open* / *Close* direction (only with connected photocell and parameter set in menu 35*)*	
	01	• Press-and-release in the Open direction (only with connected photocell and parameter set in menu 35*)* • Press-and-hold operation in the *Close* direction	
	02	Press-and-release operation	

12	Learning end-of-travel positions and braking points	6.3.2

13	Perform force learning and control runs	6.4

14	Fine adjustment of the Open end-of-travel position (**ITO** operator mm = boom path)								6.5
		x mm further than the previous *Open* end-of-travel position				x mm back in the *Close* direction			
	09	30	**04**	8		**-01**	2	**-06**	15
	08	25	**03**	6		**-02**	4	**-07**	20
	07	20	**02**	4		**-03**	6	**-08**	25
	06	15	**01**	2		**-04**	8	**-09**	30
	05	10	**00**	± 0		**-05**	10		

15	Fine adjustment of the Close end-of-travel position (**ITO** operator mm = boom path)								6.6
		x mm back in the *Open* direction				x mm further than the previous *Close* end-of-travel position			
	09	30	**04**	8		**-01**	2	**-06**	15
	08	25	**03**	6		**-02**	4	**-07**	20
	07	20	**02**	4		**-03**	6	**-08**	25
	06	15	**01**	2		**-04**	8	**-09**	30
	05	10	**00**	± 0		**-05**	10		

16	**Fine adjustment of the Open braking point** (ITO 500 mm = boom path)								6.7
		x mm further in the *Open* direction				x mm back in the *Close* direction			
	09	1500	**04**	400		**-01**	100	**-06**	800
	08	1250	**03**	300		**-02**	200	**-07**	1000
	07	1000	**02**	200		**-03**	300	**-08**	1250
	06	800	**01**	100		**-04**	400	**-09**	1500
	05	600	**00**	± 0		**-05**	600		

17	**Fine adjustment of the Close braking point** (ITO 500 mm = boom path)								6.8
		x mm further in the *Open* direction				x mm back in the *Close* direction			
	09	1500	**04**	400		**-01**	100	**-06**	800
	08	1250	**03**	300		**-02**	200	**-70**	1000
	07	1000	**02**	200		**-03**	300	**-08**	1250
	06	800	**01**	100		**-04**	400	**-09**	1500
	05	600	**00**	± 0		**-05**	600		

18	**Fine adjustment of the reversal limit (ITO** operator mm = boom path**)**								6.9
		x mm further in the *Open* direction				x mm further in the *Close* direction			
	09	30	**04**	8		**-01**	2	**-06**	15
	08	25	**03**	6		**-02**	4	**-07**	20
	07	20	**02**	4		**-03**	6	**-08**	25
	06	15	**01**	2		**-04**	8	**-09**	30
	05	10	**00**	± 0		**-05**	10		

22	**Teaching in the air inlet position**	6.10

23	**Acceleration in the Open direction**	6.11
	02 Fast level 2	
	01 Fast level 1	
	00 ± 0	
	–1 Slow level 1	
	–2 Slow level 2	

24	**Acceleration in the Close direction**	6.12
	02 Fast level 2	
	01 Fast level 1	
	00 ± 0	
	–01 Slow level 1	
	–02 Slow level 2	

25	**Speed in the Open direction**	6.13
	00 ± 0	
	–01 Slow level 1	
	–20 Slow level 2	

26	**Speed in the Close direction**	6.14
	00 ± 0	
	–01 Slow level 1	
	–02 Slow level 2	

27	**Frequency converter operating modes in the Close direction**		6.14
	00	Adaptive door action check active. If uneven door travel is detected (e.g. loss of spring tension), automatic switching to the temporary protection mode takes place (function 03).	
	01	Permanent protection mode in Close direction without event message 28.00 at the end of each Close door run.	
	02	Adaptive door action check deactivated. Automatic switching to the temporary protection mode does not take place	
	03	Temporary protection mode active with event message 28.00 at the end of each Close door run.	

31	**Time for start warning / advance warning** (from the Close end-of-travel position)										6.16
		Time in seconds									
	00	—	**04**	4	**08**	8	**12**	15	**16**	40	
	01	1	**05**	5	**09**	9	**13**	20	**17**	50	
	02	2	**06**	6	**10**	10	**14**	25	**18**	60	
	03	3	**07**	7	**11**	12	**15**	30	**19**	70	

32	**Time for start warning / advance warning** (from the Close end-of-travel position and every intermediate position)										6.17
		Time in seconds									
	00	—	**04**	4	**08**	8	**12**	15	**16**	40	
	01	1	**05**	5	**09**	9	**13**	20	**17**	50	
	02	2	**06**	6	**10**	10	**14**	25	**18**	60	
	03	3	**07**	7	**11**	12	**15**	30	**19**	70	

33	**Hold-open phase for automatic timer**										6.18
		Time in seconds									
	00	—	**04**	20	**08**	40	**12**	120 (2 minutes)	**16**	360 (6 minutes)	
	01	5	**05**	25	**09**	50	**13**	180 (3 minutes)	**17**	420 (7 minutes)	
	02	10	**06**	30	**10**	60	**14**	240 (4 minutes)	**18**	480 (8 minutes)	
	03	15	**07**	35	**11**	90 (1 minute 30)	**15**	300 (5 minutes)			

34	**Protective devices on socket X30**	6.19
	00 Release when the door encounters an obstacle	
	01 Short reversing when door encounters an obstacle	
	02 Long reversing when door encounters an obstacle	
	⚠ **WARNING**	
	Danger of injuries due to faulty protective devices In the event of a malfunction, there is a danger of injuries due to faulty protective devices. ▶ The person commissioning the system must check the function(s) of the protective device(s). The system is only ready for operation after the function check.	

35	**Protective devices on socket X20**		6.20
	00	Safety device (SE) not present	
	04	• SE in the *Close* direction: no reaction • SE in the *Open* direction: stop	
	05	• SE in the *Close* direction: no reaction • SE in the *Open* direction: relief	
	06	• SE in the *Close* direction: no reaction • SE in the *Open* direction: short reversing	
	07	• SE in the *Close* direction: stop • SE in the *Open* direction: stop	
	08	• SE in the *Close* direction: short reversing • SE in the *Open* direction: stop	
	09	• SE in the *Close* direction: short reversing SE in the *Open* direction: release	
	⚠ WARNING		
	Danger of injuries due to faulty protective devices In the event of a malfunction, there is a danger of injuries due to faulty protective devices. ▶ The person commissioning the system must check the function(s) of the protective device(s). **The system is only ready for operation after the function check.**		

37	**Protective devices on socket X21 / X22 / X23**		6.21
	00	Safety device (SE) not present	
	01	• SE in the *Close* direction: stop • SE in the *Open* direction: no reaction	
	02	• SE in the *Close* direction: short reversing • SE in the *Open* direction: no reaction	
	03	• SE in the *Close* direction: long reversing • SE in the *Open* direction: no reaction	
	04	• SE in the *Close* direction: no reaction • SE in the *Open* direction: stop	
	05	• SE in the *Close* direction: no reaction • SE in the *Open* direction: short reversing	
	06	• SE in the *Close* direction: long reversing • SE in the *Open* direction: no reaction • In case of interruptions during the hold-open phase: abandon the hold-open phase • In case of interruptions during the set advance warning phase: advance warning phase is restarted	
	07	• SE in the *Close* direction: no reaction • SE in the *Open* direction: no reaction • In case of interruptions during the hold-open phase: abandon the hold-open phase • In case of interruptions during the set advance warning phase: advance warning phase is restarted	
	08	• SE in the *Close* direction: long reversing • SE in the *Open* direction: no reaction • In case of interruptions during the hold-open phase: hold-open phase is restarted • In case of interruptions during the set advance warning phase: advance warning phase is restarted	
	09	• SE in the *Close* direction: long reversing • SE in the *Open* direction: no reaction • Interruptions during the hold-open phase: hold-open phase is restarted • In case of interruptions during a set advance warning phase: hold-open phase is restarted	
	10	• SE in the *Close* direction: long reversing • SE in the *Open* direction: no reaction • In case of interruptions during the hold-open phase: no reaction • In case of interruptions during the set advance warning phase: advance warning phase is restarted	
	11	• SE in the *Close* direction: long reversing • SE in the *Open* direction: no reaction • In case of interruptions during the hold-open phase: no reaction • In case of interruptions during a set advance warning phase: hold-open phase is restarted	
	⚠ **WARNING**		
	Danger of injuries due to faulty protective devices In the event of a malfunction, there is a danger of injuries due to faulty protective devices. ▶ The person commissioning the system must check the function(s) of the protective device(s). **The system is only ready for operation after the function check**		

40 41	**Multi-function input X2a / X2b**		6.22
	00	• Impulse function (sequence control for manually-operated elements, e.g. button, hand transmitter, pull switch): *Open – Stop – Close – Stop – Open – Stop ...* • Restart of the hold-open or advance warning phase.	
	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) • Restart of the hold-open or advance warning phase.	
	02	Impulse function (for electrically-operated elements, e.g. induction loops): • *Open door* direction: *Open – Stop – Open – Stop ...* (up to *Open* end-of-travel position) • *Close* door direction: *Close (*up to *Close* end-of-travel position*)* – *Stop – Open – Stop – Open ...* (up to *Open* end-of-travel position) • Restart of the hold-open or advance warning phase.	
	03	Impulse function with reversal of direction during Close door run when automatic timer is set	
	04	SKS / LS function (for Widescan) – Door must not close if the normally closed contact is open – Door must perform a long reversal if the normally closed contact is opened during a Close run.	
	08	An impulse extends the hold-open phase	
	09	An impulse interrupts the hold-open phase	

42	**Command elements on the cover keypad / on plug X3**		6.23
	00	Button function alternating 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 to the end-of-travel position, the **Close** button stops the door. • **Close** button: Close to the end-of-travel position, the **Open** button stops the door.	
	02	Button function with reversal of direction via Stop during Close door run • The **Open** button stops the door. OPEN door travel then takes place automatically	
	03	Button function with reversal of direction during Open door run • The **Close** button stops the door. CLOSE door travel then takes place automatically	
	04	Button function with reversal of direction via Stop in both directions • The **Open** button stops the CLOSE door travel. OPEN door travel then takes place automatically • The **Close** button stops the OPEN door travel. CLOSE door travel then takes place automatically	

43	**Miniature lock alters the response of the command elements**		6.24
	00	No function	
	01	Miniature lock in position **1** locks the buttons on the control housing cover (except **Stop** button)	
	02	Miniature lock in position **1** locks all external control signals (except **Stop** signal)	
	03	Miniature lock in position **1** locks the buttons on the control housing cover and all external control signals (except **Stop** button)	

44	**Master switch function (miniature lock position 2)**		6.25
	00	Deactivated	
	01	Activated	

46 47	**Relay K1 / K2 on the multi-function circuit board**				6.26
	00	Relay off	**08**	Message; an error message is shown on the 7-segment display	
	01	Operator running message	**09**	Message, inspection due	
	02	Door run in *Close* direction	**12**	Start / advance warning: Permanent signal in the advance warning phase, during each door run and in every intermediate position	
	03	Door run in *Open* direction	**13**	Start / advance warning: Clocks a connected warning light in the advance warning phase, during each door run and in every intermediate position	
	04	*Open* end-of-travel position message	**14**	Door run to the *air inlet position*	
	05	*Close* end-of-travel position message	**15**	*Air inlet position* is reached.	
	07	Momentary signal on receiving the Open command or entrance request signal (e.g. Control of illumination via a staircase lighting timer / time relay)			

48	**Signal type at the RWA control input**		6.27
	00	Normally open contact, impulse	
	01	Normally open contact, permanent contact	
	02	Normally closed contact, impulse	
	03	Normally closed contact, permanent contact	

49	**Monitoring a self-testing wicket door contact**		6.28
	00	Monitoring of self-testing switched off	
	01	Monitoring of self-testing switched on. In the event of negative self-testing, door travel is prevented and error message 16 displayed.	

51	**Bluetooth**		6.29
	00	Bluetooth module deactivated	
	01	Bluetooth module temporarily activated (5 minutes for the connection mode with the smartphone / tablet). Bluetooth can be activated via the service menu (see sect. **8.5**).	
	02	Without function	

53	**Standby**		6.30
	00	Standby deactivated: • Time is shown after control is idle for 1 minute. • Depending on the settings in program menu **52**, the keypad illumination is switched on.	
	01	Standby activated: • Only the dot of the right digit flashes after the control is idle for 1 minute. • The keypad illumination is switched off independent of the settings in program menu **52.** • The photocells (X20-X23), SKS (X30) and the FU (CAN X200a, X200b) are switched off.	

54	**Switching to daylight savings / standard time**		6.31
	00	Deactivated	
	02	Activated – Daylight savings time from 2 am Sunday morning of the last weekend in March, 1 hour ahead – Standard time from 2 am Sunday morning of the last weekend in October, 1 hour back	

55	**Self-testing static current circuit on plug X1**		6.32
	00	8k2 self-testing deactivated	
	01	8k2 self-testing activated	

57	**Two-button / one-button press-and-hold operation**		6.33
	00	Two-button press-and-hold operation for external control elements at plug **X3** (the corresponding button **and** the **Stop** button must be pressed simultaneously and held for the door to travel to the respective end-of-travel position)	
	01	One-button press-and-hold operation (the corresponding button must be pressed and held for the door to travel to the respective end-of-travel position)	

96	**Enabling menu programming via SmartControl**		6.34
	00	Do not copy data	
	01	Copy menu settings via the SmartControl gateway	
	02	Reset to previous menu setting	

97	**Configuring the maintenance interval periods**		6.35
	00	1 year	
	01	½ year	
	02	¼ year	

98	**Configuring the cycles of the maintenance interval period**				6.36
	00	10,000	**05**	35,000	
	01	15,000	**06**	40,000	
	02	20,000	**07**	45,000	
	03	25,000	**08**	50,000	
	04	30,000			

99	**Resetting data**		6.37
	00	No data reset	
	01	Reset maintenance intervals	
	02	Reset / BUS scan HCP2 BUS	
	03	Reset the functions to the factory setting from program menu **31**	
	04	Reset the functions of all menus to factory setting	
	06	Reset an air inlet position to factory setting	
	09	Without function	
	10	Delete taught-in force	
	11	Teach in reversal limit again	

Control 545 (ITO 500 FU)

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