Brief instructions

Door control

TS 971

Automatic control panel with radio

Version: 51171624

-en-

Version: h / 03.2017

0000000 0000 51171624 XXXXX

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Contents

Symbols

Warning - Risk of injury or danger to life!

Warning - Danger to life from electric shock!

Note - Important information!

▶ **Prompt** - Required action!

Illustrations show example products. Differences from the delivered product are possible.

1 General safety information

Specified normal use

The door control is intended for a power-operated door with a drive unit (NES/DES GfA limit switch system).

The safe operation is only guaranteed with specified normal use. The drive unit is to be protected from rain, moisture and aggressive ambient conditions. No liability for damage caused by other applications or non-observance of the information in the manual.

Modifications are only permitted with the agreement of the manufacturer. Otherwise the Manufacturer's Declaration shall be rendered null and void.

Safety information

Installation and commissioning are to be performed by skilled personnel only.

Only trained electrical craftsmen are permitted to work on electrical equipment. They must assess the tasks assigned to them, recognise potential danger zones and be able to take appropriate safety measures.

Installation work is only to be carried out with the supply off.

Observe the applicable regulations and standards.

Coverings and protective devices

Only operate with corresponding coverings and protective devices.

Ensure that gaskets are fitted correctly and that cable glands are correctly tightened.

Spare parts

Only use original spare parts.

2 Technical data

Series	TS 971	
Dimensions W x H x D	155 x 386 x 90	mm
Installation	Vertical, free of vibration	
Operating frequency	50 / 60	Hz
Supply voltage (+/- 10%)	1 N~220-230 V, PE 3 N~220-400 V, PE 3~220-400 V, PE	
Output power for drive unit, maximum	3	kW
Protection per phase, on-site	10-16	A
External supply voltage: (internal electronic protection)	24	V DC
	0.35	A
External supply voltage: X1/L, X1/N (protection via F1 micro-fuse)	1 N~230 V	
	1.6	A time-lag
Control inputs	24	V DC
	Type 10	mA
Relay contacts	2 potential-free changeover contacts	
Loading of relay contacts, ohmic/inductive	230 V AC, 1 A	
	24 V DC, 0,4 A	
Control power consumption	18	W
Temperature range	Operation: -10..+50 Storage: +0..+50	°C
Air humidity	up to 93 % non-condensing	
Protection class of housing	IP54	
Compatible GfA limit switch	NES (mechanical limit switch) DES (digital limit switch)	
Integrated radio receiver WSD (Wireless Safety Device) Handheld transmitter	 2.4 434	 GHz MHz

3 Electrical installation

Warning - Danger to life due to electrical current!

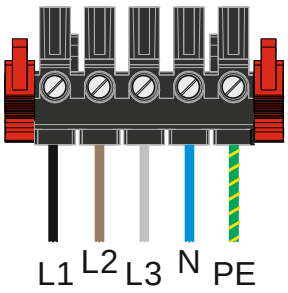
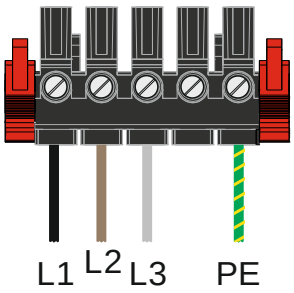
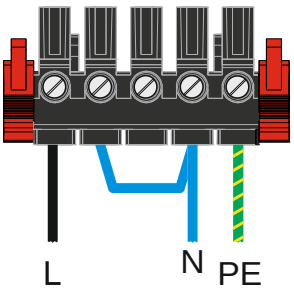
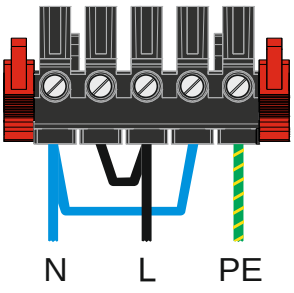
- Disconnect the cables (mains OFF) and check that the supply is off
- Observe the applicable regulations and standards
- Ensure proper electrical connection
- Use suitable tools

On-site backup fuse and disconnector unit!

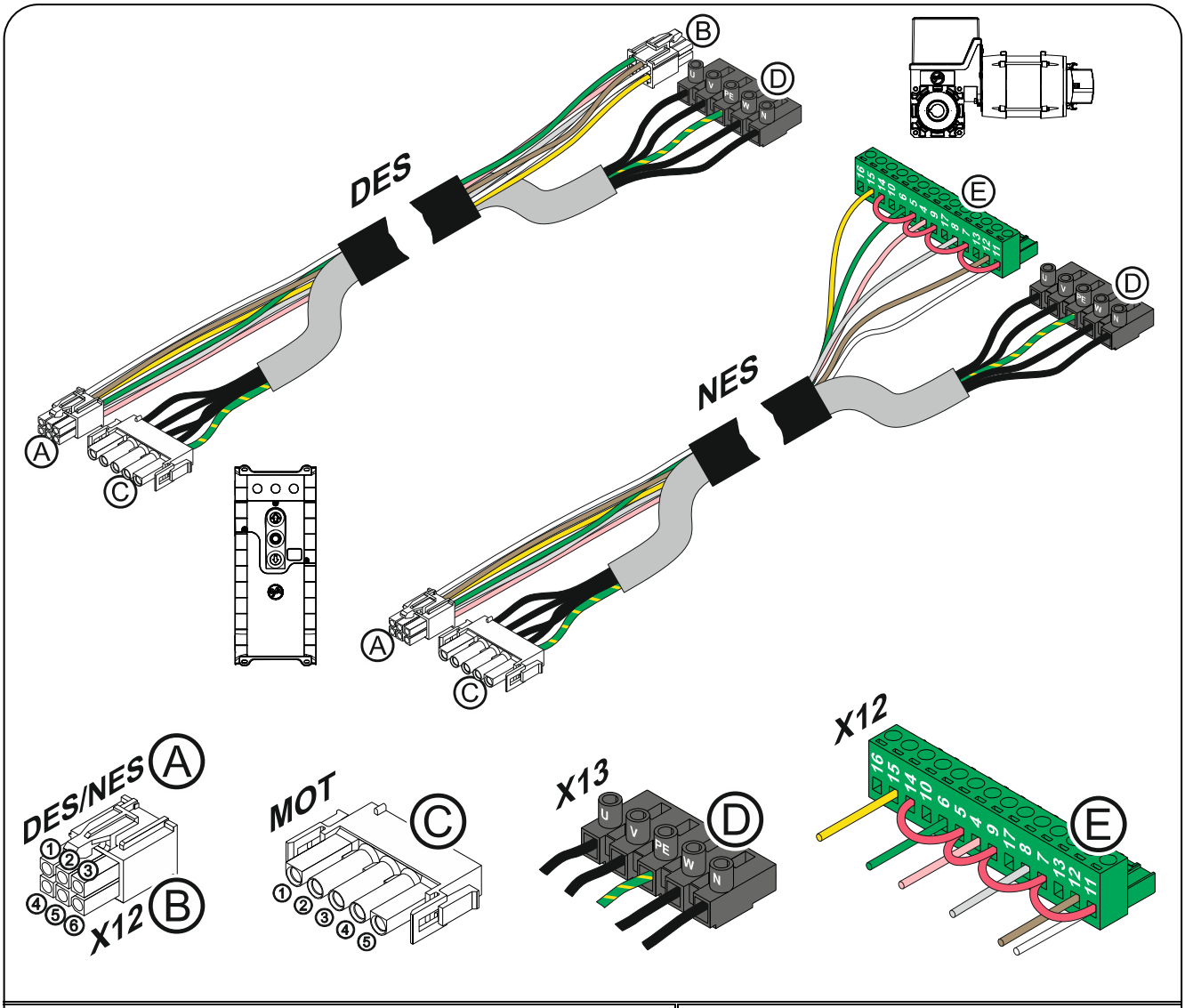
- Only use current sensitive earth leakage circuit breakers type B for FI-drive units
- Connection to the indoor installation via an all-pole disconnector unit, with current ≥ 10 A as per EN 12453 (e.g. CEE plug connector, main switch)

Observe the installation instructions of the drive unit!

Mains supply

3~, N, PE 220 – 400 V 50 - 60 Hz	3~, PE 220 – 400 V 50 - 60 Hz	1~, N, PE, sym. 220 - 230 V 50 - 60 Hz	1~, N, PE, asym. 220 - 230 V 50 - 60 Hz
		 ≠ SI 25.15 WS, SI 45.7 WS	 = SI 25.15 WS, SI 45.7 WS

Connection cable connection overview

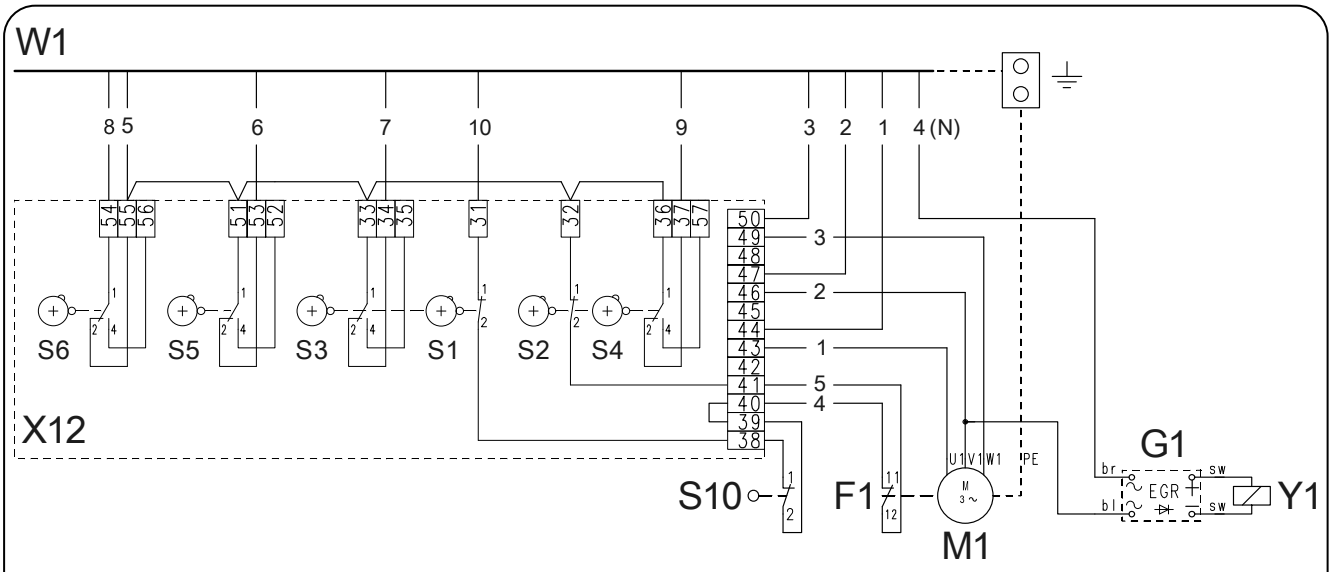


Ⓐ DES →		Ⓑ X12 DES	
Pin	**Core**	**Pin**	**Description:**
①	5/wh	①	+24 V safety circuit
②	6/bn	②	Channel B (RS485)
③	7/gn	③	Ground
④	8/ye	④	Channel A (RS485)
⑤	9/gy	⑤	Safety circuit
⑥	10/pk	⑥	8 V DC supply voltage

Ⓒ MOT →		Ⓓ X13	
Pin	**Core**	**Term.**	**Description:**
①	3	**W**	Phase W
②	2	**V**	Phase V
③	1	**U**	Phase U
④	4	**N**	Neutral conductor (N)
⑤	PE	**PE**	

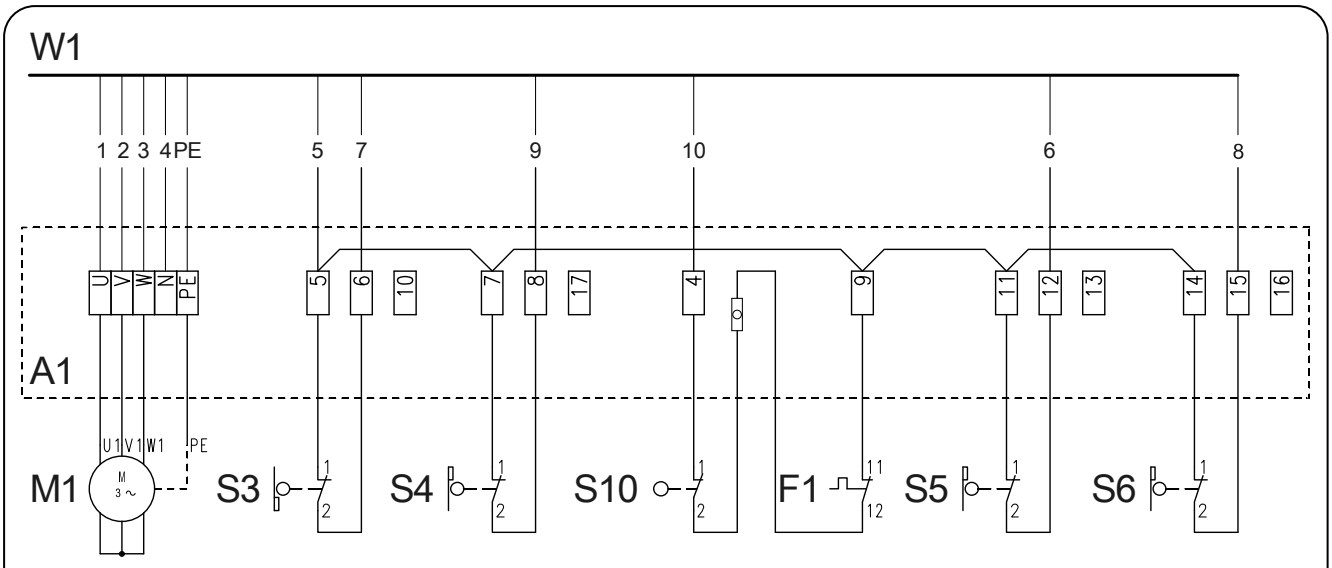
Ⓐ NES →		Ⓔ X12 NES	
Pin	**Core**	**Term.**	**Description:**
①	5/wh	**11**	Limit switch common +24 V, wire link to: 7, 9, 5, 14
②	6/bn	**12**	S5 Auxiliary limit switch
③	7/gn	**6**	S3 Open limit switch
④	8/ye	**15**	S6 Auxiliary limit switch
⑤	9/gy	**8**	S4 CLOSE limit switch
⑥	10/pk	**4**	Safety circuit

Limit switch configuration, screwable version up to year of construction in 1997



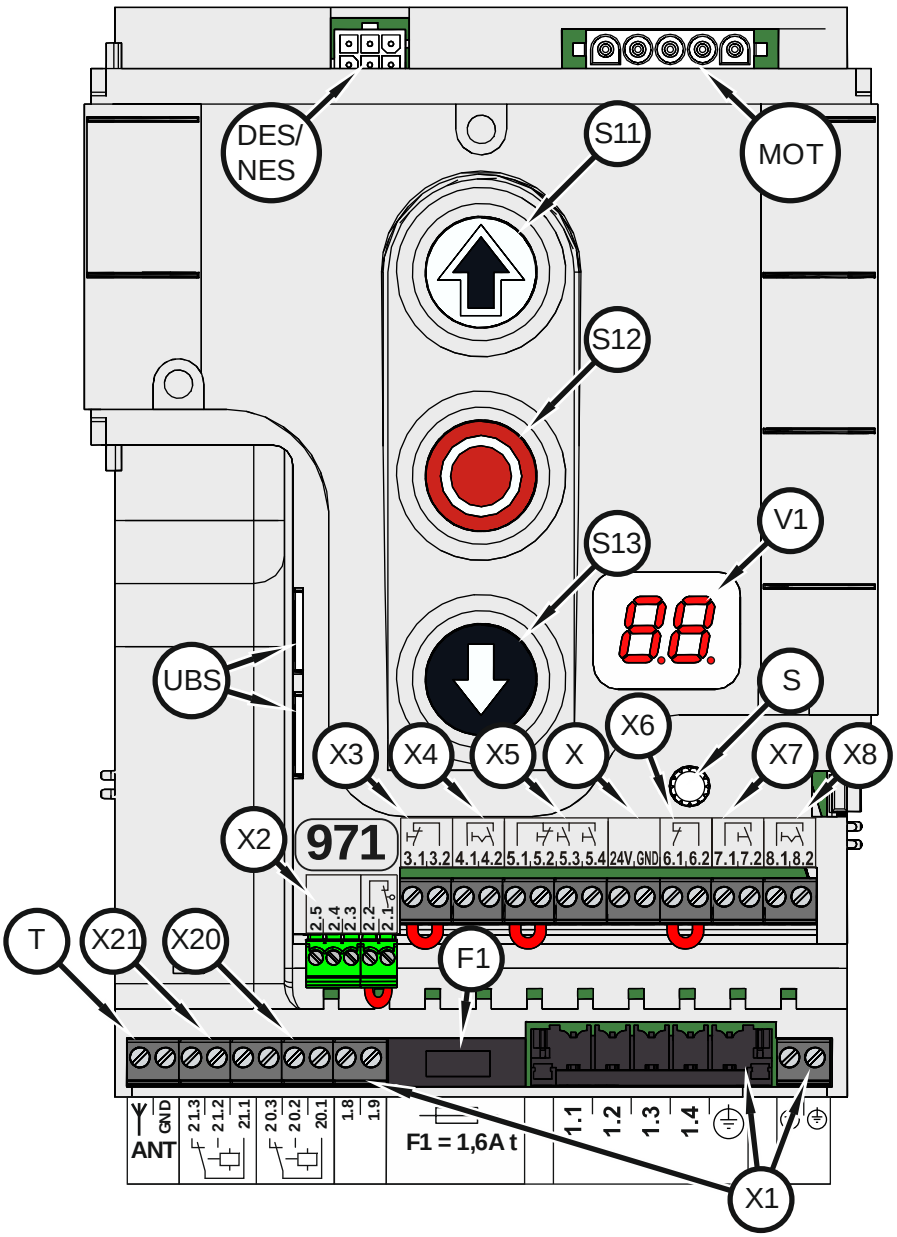
F1	Thermal contact	**X12**	Limit switch board
G1	Rectifier	**S1**	Emergency OPEN limit switch
M1	Motor	**S2**	Emergency CLOSE limit switch
S10	Emergency manual operation	**S3**	OPEN limit switch
W1	Connection cable	**S4**	CLOSE limit switch
Y1	Spring-loaded brake	**S5**	Auxiliary limit switch
		S6	Auxiliary limit switch

Limit switch configuration, single limit switches



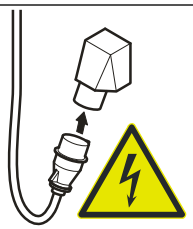
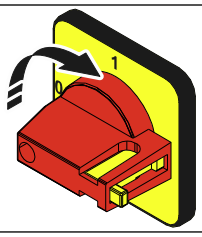
A1	Terminal box	**S3**	OPEN limit switch
F1	Thermal contact	**S4**	CLOSE limit switch
M1	Motor	**S5**	Auxiliary limit switch
S10	Emergency manual operation	**S6**	Auxiliary limit switch
W1	Connection cable		

Overview of control



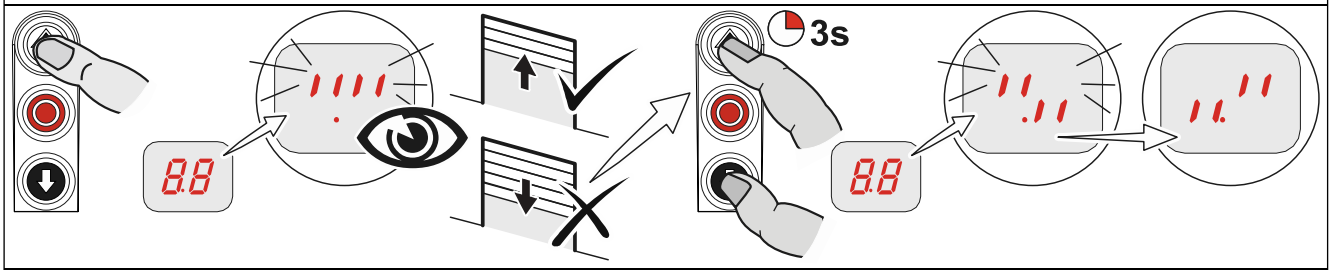
DES/ NES	DES or NES limit switch socket	**X**	24 V mains supply, external devices
		X1	Mains supply
F1	Micro-fuse 1.6 A time-lag	**X2**	Safety edge and door safety switch
MOT	Motor socket		
S	Selector switch	**X3**	Emergency STOP control device
S11	OPEN push-button	**X4**	Automatic closing On/Off
S12	STOP push-button	**X5**	Control device, external three push-button
S13	CLOSE push-button	**X6**	Through / reflective photo cell
T	Internal aerial, 434 MHz	**X7**	Pull switch, external radio receiver
UBS	Universal command sensor socket	**X8**	Intermediate stop On/Off
V1	Display	**X20**	Potential-free relay contact 1
		X21	Potential-free relay contact 2

4 Starting up the control

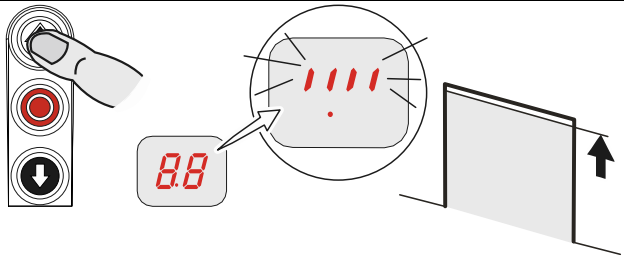
▸ Supply cables Insert / switch on		

DES: Rapid adjustment of final limit positions

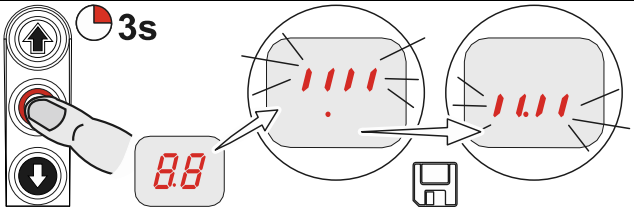
1. Check output rotating direction



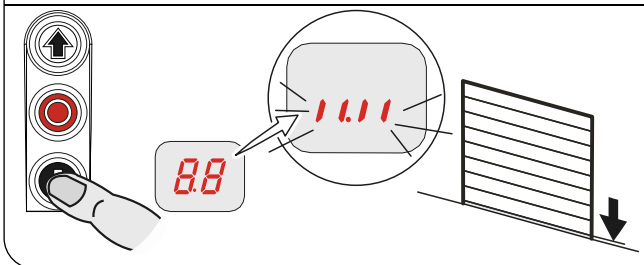
2. Move to OPEN final limit position



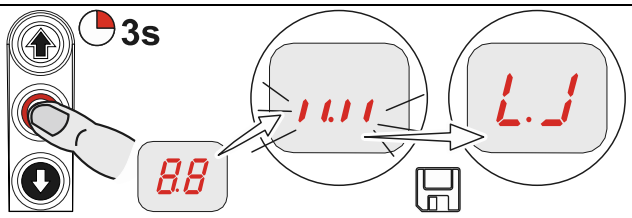
3. Save OPEN final limit position



4. Move to CLOSE final limit position



5. Save CLOSE final limit position



Note!

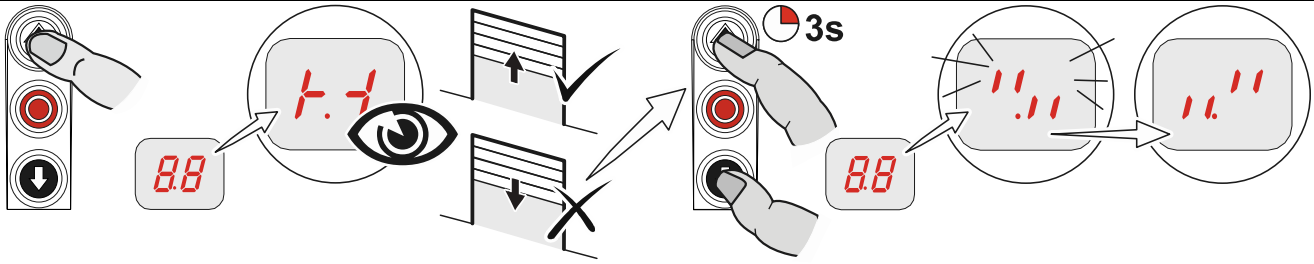
- The rapid adjustment is complete, "Hold-to-run" door operating mode is active
- Change of OPEN/CLOSE final limit positions via menu items "1.1" to "1.4"
- Pre-limit switch safety edge is set automatically
- Changing the pre-limit position is possible via menu "1.5"

Observe the installation instructions of the drive unit!

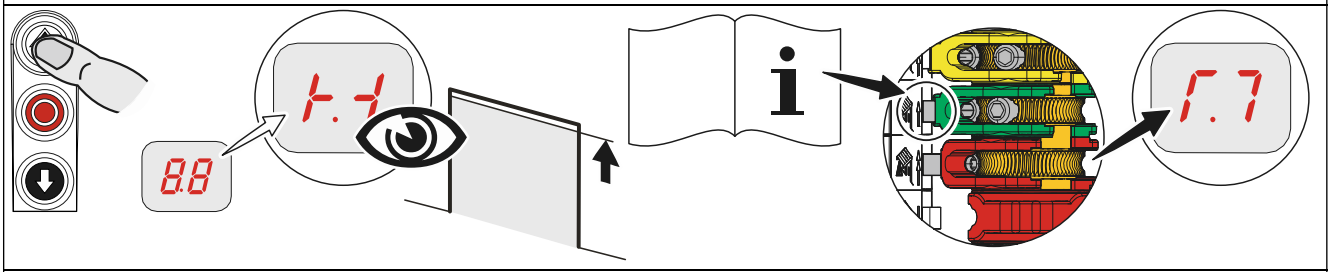
- For adjusting the mechanical limit switch, see the drive unit installation instructions

NES: Rapid adjustment of final limit positions

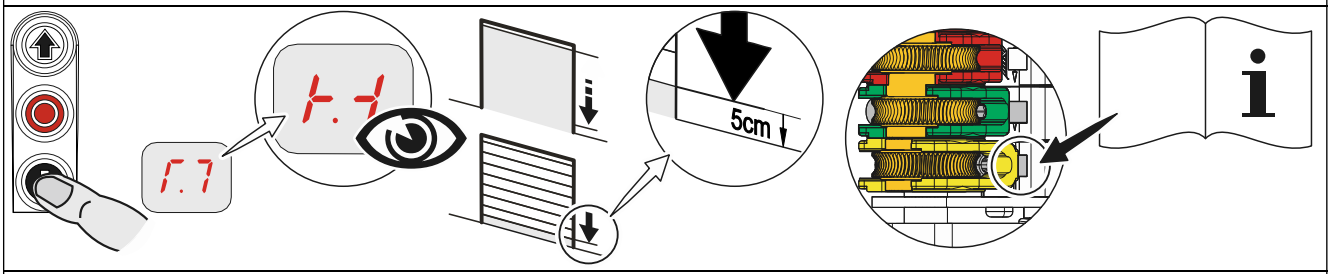
1. Check output rotating direction



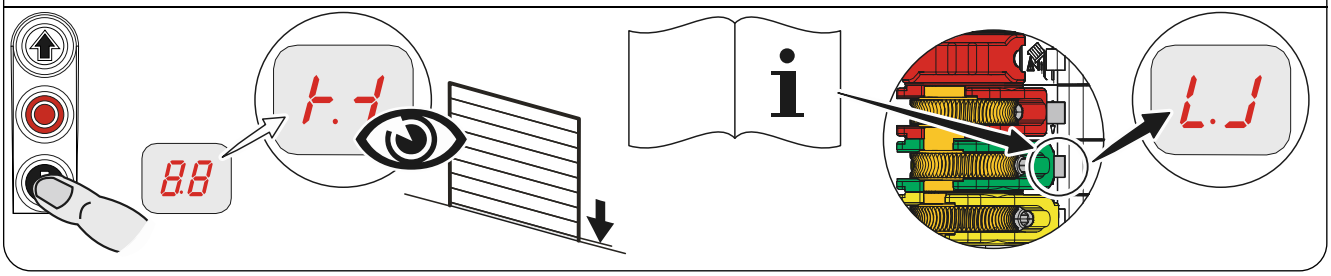
2. Move to OPEN final limit position and adjust S3 OPEN limit switch



3. Move to CLOSE final limit position 5cm above the ground and adjust S5 pre-limit switch

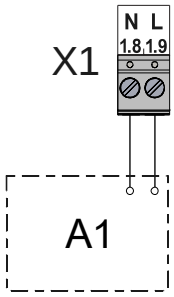


4. Move to CLOSE final limit position and adjust S4 CLOSE limit switch



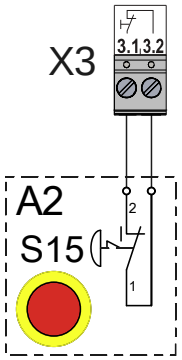
5 Electrical installation – control accessories

External supply X1



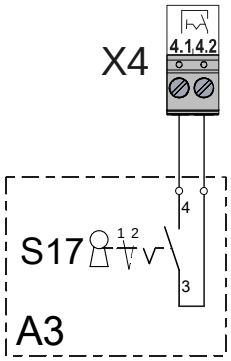
A1	External device

Emergency stop X3



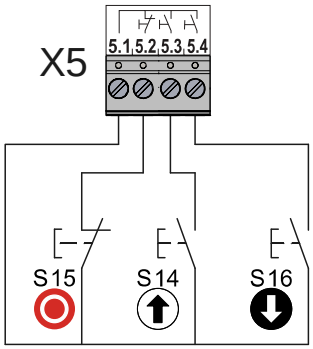
A2	Control device Emergency stop

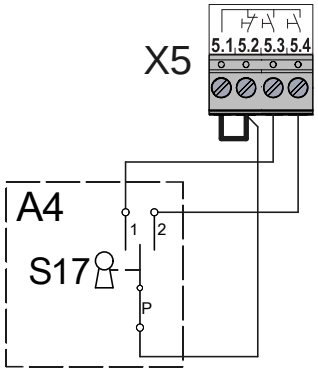
Automatic closing, On/Off X4



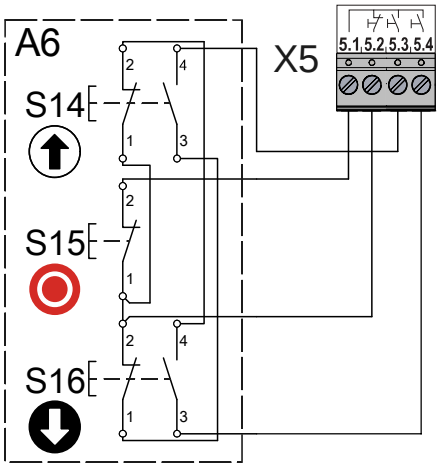
A3	Control device Key switch

External Control device X5



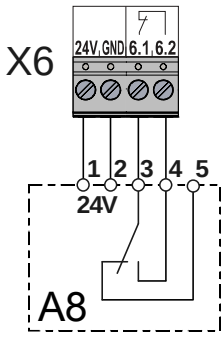


A4	Key push-button

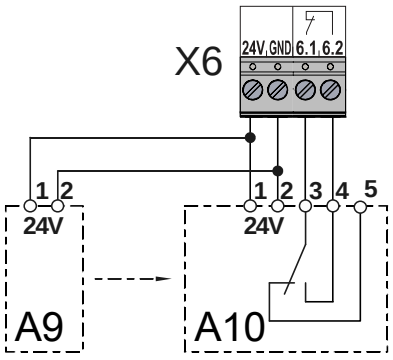


A6	Three push button

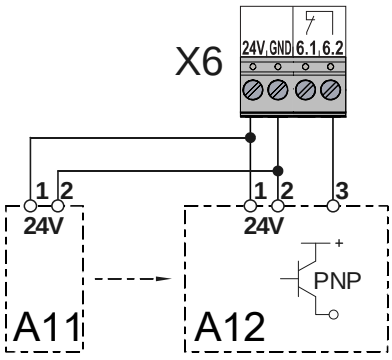
Photo cell X6



A8	Reflective photo cell

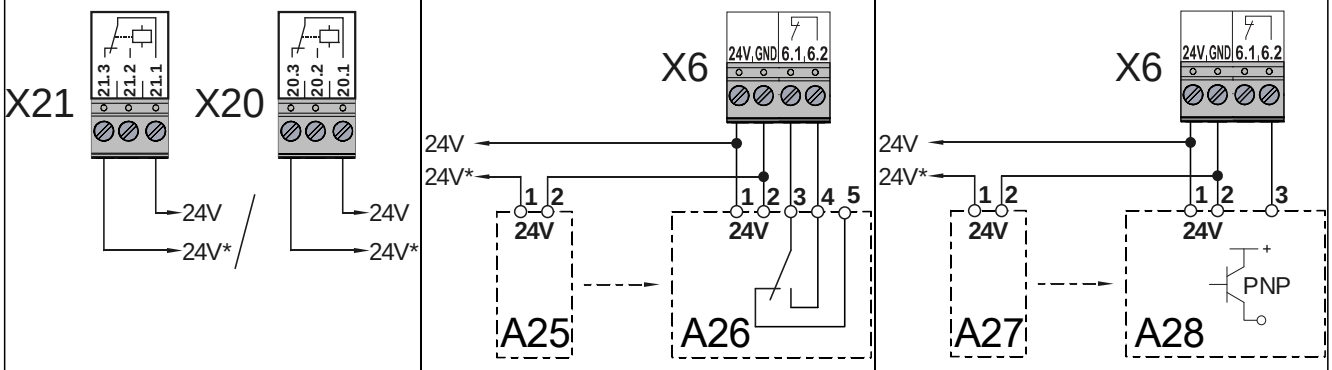


	Through-beam photo cell
A9	Transmitter
A10	Receiver



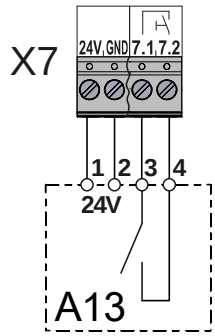
	Through-beam photo cell
A11	Transmitter
A12	Receiver

Light curtain X6

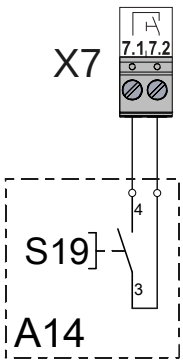


X20	Function relay		Light curtain		Light curtain
X21	Function relay	**A25**	Transmitter	**A27**	Transmitter
	Test light curtain	**A26**	Receiver	**A28**	Receiver

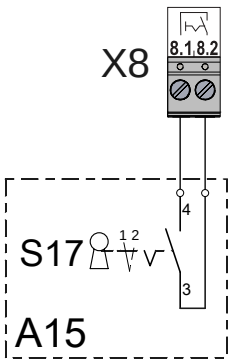
Radio receiver X7



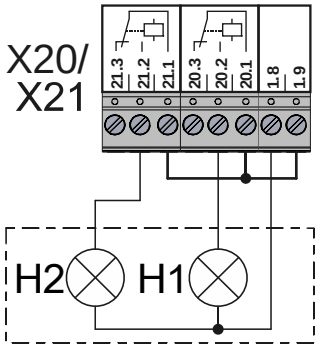
Pull switch X7



Intermediate stop X8

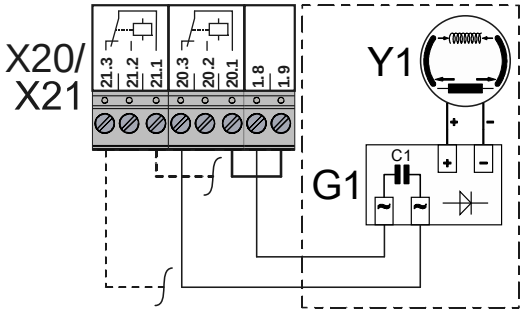


Red/green traffic lights X20 / X21



H1	Traffic light, green
H2	Traffic light, red

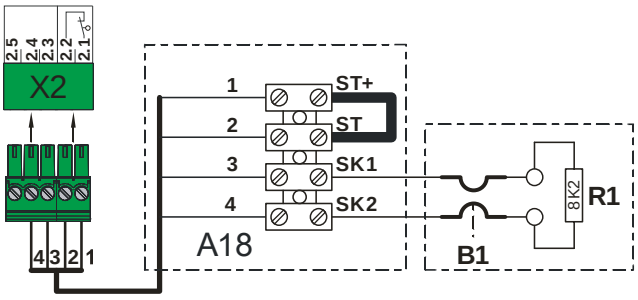
Magnetic brake X20 / X21



G1	Rectifier
Y1	Magnetic brake

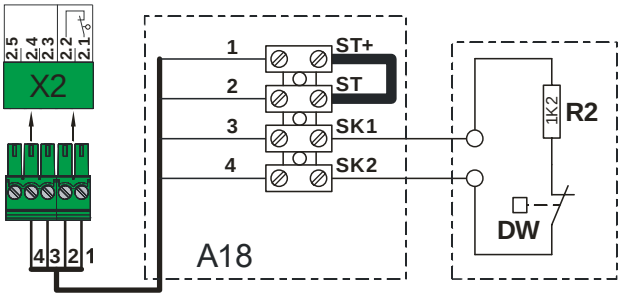
Connection of spiral cable

Electrical safety edge



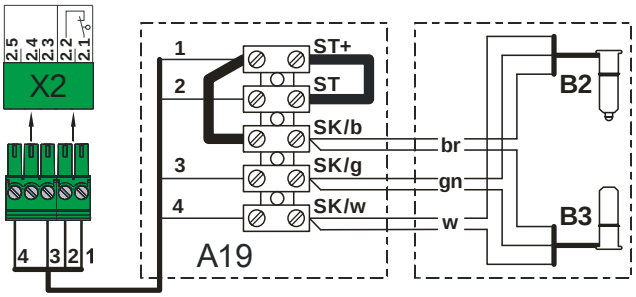
A18 Junction box
ST+ Mains supply
ST Input for door safety switch
SK1, SK2 Input electrical safety edge
B1 Electrical safety edge
R1 End of line resistor (8k2)
X2 Door control socket

Pneumatic safety edge



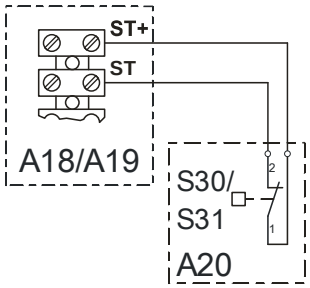
A18 Junction box
ST+ Mains supply
ST Input for door safety switch
SK1, SK2 Input pneumatic safety edge
DW Pneumatic switch
R2 End of line resistor (1k2)
X2 Door control socket

Optical safety edge system



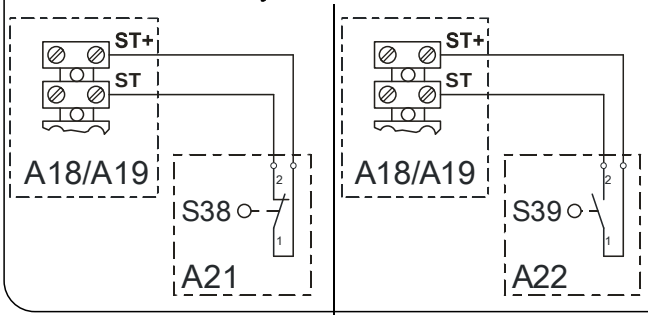
A19 Junction box
ST+ Mains supply
ST Input for door safety switch
SK/b Mains supply (brown)
SK/g Output (green)
SK/w Earth (white)
B2 Optical transmitter
B3 Optical receiver
X2 Door control socket

Door safety switch



A18, **A19** Junction box
A20 Junction box switch
S30 Pass-door switch (NC contact)
S31 slack-rope contact (NC contact)

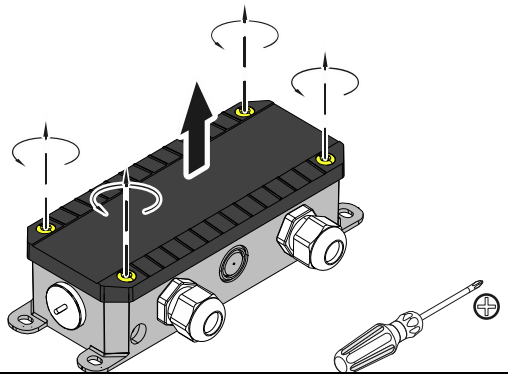
Door safety switch - Crash switch

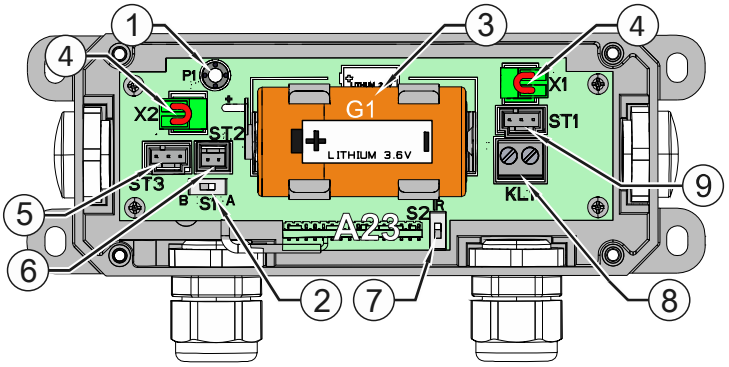


A18, **A19** Junction box
A21 Junction box switch
S38 Crash switch (NC contact)
A22 Junction box switch
S39 Crash switch (NO contact)

WSD door-module (Wireless Safety Device)

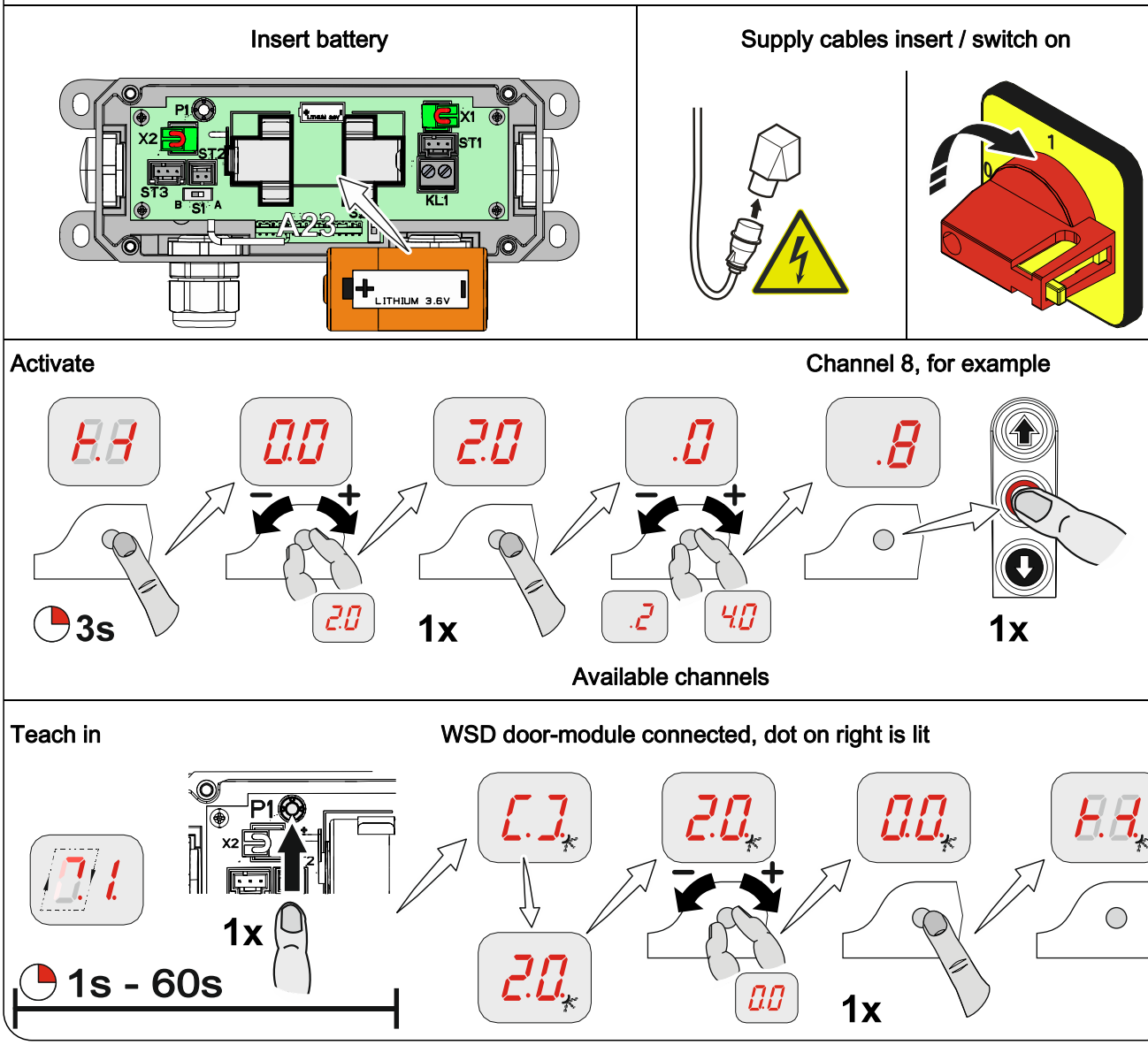
Direction for opening





	A23	WSD door module
①	**P1**	WSD door-module push-button
②	**S1**	Switch “A” for system 1, switch “B” for system 2
③	**G1**	Lithium battery, 9000 mAh
④	**X1/2**	Connection point for door safety switch
⑤	**ST3**	Socket for optical sensor / System-2 connection cable
⑥	**ST2**	Socket for system-2 connection cable
⑦	**S2**	Safety edge evaluation switch: • Optical (upper changeover position, “IR”) • Electrical (lower changeover position)
⑧	**KL1**	Terminal for: • Electrical safety edge
⑨	**ST1**	Socket for optical sensor

Teach-in of WSD door-module



Note!

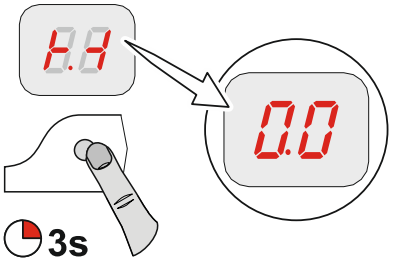
- Use of a safety edge only possible via menu item "0.1", door operating mode “.3”, “.4” or “.6”

Completing the electrical installation

If required, connect other electrical equipment and/or safety devices. Install and tighten cable entries and/or cable glands.

6 Control programming

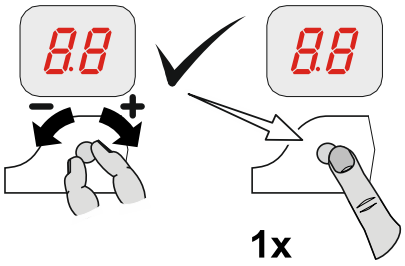
1. Start programming



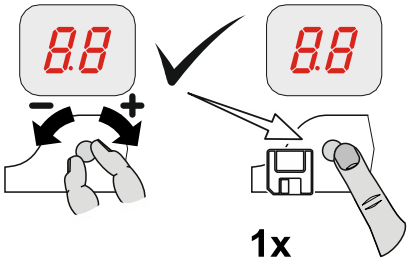
Note!

- Possible after rapid adjustment of final limit positions

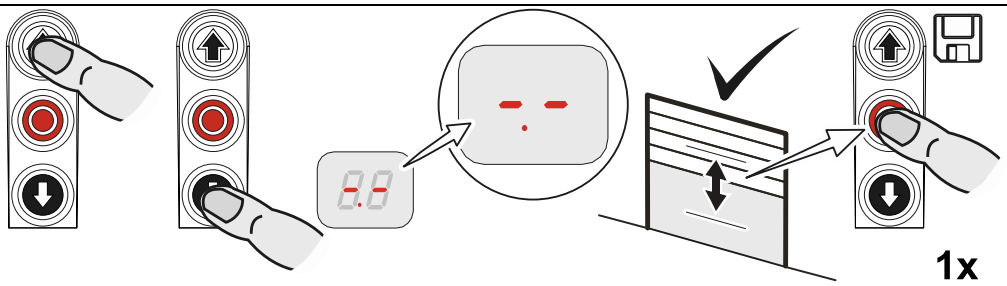
2. Select menu item and confirm



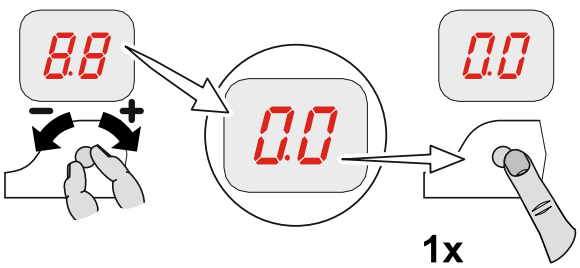
3.a) Set and store functions



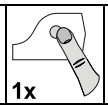
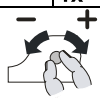
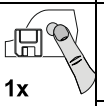
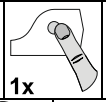
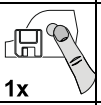
3.b) Set and store positions



4. Exit programming



7 Table menu items

Door operating modes					
0.1		Door operating mode			
	.1	OPEN Hold-to-run CLOSE Hold-to-run			
	.2	OPEN Self-hold CLOSE Hold-to-run			
	.3	OPEN Self-hold CLOSE Self-hold			
	.4	OPEN Self-hold CLOSE Self-hold, CLOSE hold-to-run release via external X5 control device			
	.6	OPEN Hold-to-run CLOSE Hold-to-run with active safety edge			
0.2		Output rotating direction			
	.0	Maintain output rotating direction			
	.1	Change output rotating direction			

Door positions

1.1	1x	OPEN final limit position, coarse correction (DES)
		Approach and store desired door position
1.2	1x	CLOSE final limit position, coarse correction (DES)
		Approach and store desired door position
1.3	1x	OPEN final limit position, fine correction (DES)
	-0 / -9 / -9	Without door movement, [+] OPEN correction [–] CLOSE correction
1.4	1x	CLOSE final limit position, fine correction (DES)
	-0 / -9 / -9	Without door movement, [+] OPEN correction [–] CLOSE correction
1.5	1x	Fine-correction pre-limit switch for safety edge (DES)
	-0 / -9 / -9	Without door movement, [+] OPEN correction [–] CLOSE correction
1.6	1x	Adjust intermediate open X8 (DES)*
		Approach and store desired door position
1.7	1x	Setting for position of relay 1 switching point (DES)* Select relay function via menu item 2.7
		Approach and store desired door position
1.8	1x	Setting for position of relay 2 switching point (DES)* Select relay function via menu item 2.8
		Approach and store desired door position

*) Menu items 1.6 to 1.7 disappear at NES. The switching point must be adjusted via the S6 auxiliary limit switch at the drive unit.

Door functions, part 1

2.0	1x	**Safety device**			
– +	.0	Spiral cable		1x	
	.2	4.0	Teach-in of WSD door-module wireless safety device .2 to 4.0: Manual channel selection		
			• Up to 39 doors: Do not assign any radio channel twice. • If more than 39 doors: Ensure maximum distance between the door controls with the same channels. • Note taught-in channels in the controls housing. Important for service work. Pay attention to the WSD door-module manual	1x	
2.1	1x	**Safety edge function in the pre-limit area**			
– +	.1	Safety edge active		1x	
	.2	Safety edge inactive			
	.3	Ground adjustment (DES) (Activation of safety edge at ground contact)			
	.4	Reversal movement in upwards direction in overrun area (DES)			
2.2	1x	**Overrun correction (DES)**			
– +	.0	Off		1x	
	.1	On (Do not use with ground adjustment)			

Door functions, part 2

2.3	1x	**Automatic closing**	0.0
		0.0 – 2.- – 4.0	0 to 240 seconds
2.4	1x	**Extended photo cell function**	
		.0	Off
		.1	Cancel automatic closing and CLOSE command
		.2	Vessel recognition Cancellation of automatic closing and CLOSE-command if photo cell activation duration > 1.5 seconds
2.5	1x	**Reversing**	0.2
		0.0 – 1.0	0 = Off 1 to 10 safety-device activations
2.6	1x	**Pull switch or radio receiver function X7**	
		.1	Type of impuls 1 Door is in OPEN final limit position CLOSE command Door is not at OPEN final limit position OPEN command
		.2	Pulse type 2 Command sequence OPEN – STOP – CLOSE – STOP – OPEN
		.3	Type of impuls 3 OPEN command only

Door functions, part 3

2.7	1x	Relay function on X20			
2.8		Relay function on X21		X20	X21
		.0	Off		
		.1	Impuls contact* for 1 second		
		.2	Permanent contact*		
		.3	Red lamp, permanently lit during door movement OPEN final limit position Flashing for 3 seconds CLOSE final limit position Flashing for 3 seconds		
		.4	Red lamp, permanently lit during door movement OPEN final limit position Flashing for 3 seconds CLOSE final limit position Off		
		.5	Red lamp, permanently lit during door movement OPEN final limit position Permanently lit for 3 seconds CLOSE final limit position Permanently lit for 3 seconds		
		.6	Red lamp, permanently lit during door movement OPEN final limit position Permanently lit for 3 seconds CLOSE final limit position Off		
		.7	Dock leveller release or permanent green light Active only in OPEN final limit position		
		.8	Permanent contact in CLOSE final limit position		
		1.0	Light sensing device 1-second pulse at each OPEN command		
		1.1	Permanent contact at door position*		
		1.2	Brake control Active during operation Inactive at stop		
		1.4	Light curtain test, etc. Test prior to each closing operation		

*) Previous teach-in of door positions via menu item 1.7 (1.8) relay X20 (only DES) or respectively via the S6 auxiliary limit switch of the drive unit (NES).

Door functions, part 4

2.9	1x	Intermediate open function		
− +	.1	All command inputs	1x	
	.2	Input X7.2 and internal radio receiver		
	.3	Input X5.3 and OPEN push-button of control		

Safety functions

3.1	1x	**Force monitoring (DES)**
.0	.2 ... 1.0	0 = Off Adjustable for 2 % to 10 % overload
3.2	1x	**Interruption of the photo cell function (DES)**
.0		Off
.1		On (single reference position taught-in twice)
3.3	1x	**Travel time monitoring (NES)**
0.0	... 9.0	0 = Off 0 to 90 seconds
3.4	1x	**Door safety switch function** (Input X2.2 / WSD door-module)
.1		Slack-rope or pass-door switch
.2		Crash switch as NC contact After activation: "Hold-to-run" door operating mode
.3		Crash switch as NO contact After activation: "Hold-to-run" door operating mode
.4		Crash switch as NC contact After activation: Reversing in OPEN final limit position. Reset after contact reset otherwise "Hold-to-run" door operating mode
.5		Crash switch as NO contact After activation: Reversing in OPEN final limit position. Reset after contact reset otherwise "Hold-to-run" door operating mode
3.5	1x	**Automatic opening** (Automatic closing menu item 2.3)
0.0	... 9.9	0 = Off 0 to 99 minutes
3.8	1x	**Reversing duration adjustment**
-.0	_.1 ... -.3	[+] slower [–] faster

DI/FI settings

4.1	1x	**OPEN output speed**
	1x	Output speed in rpm
4.2	1x	**CLOSE output speed**
	1x	Output speed in rpm
4.3	1x	**Increased CLOSE output speed** Up to an opening height of 2.5 m
	1x	Output speed in rpm 0 = Off
4.4	1x	**Changeover position to CLOSE output speed** (with adherence to minimum opening height requirement of 2.5 m!)
	1x	Approach and store desired door position
4.5	1x	**OPEN acceleration**
	1x	DI Steps of 1.0 seconds FI Steps of 0.1 seconds
4.6	1x	**CLOSE acceleration**
	1x	DI Steps of 1.0 seconds FI Steps of 0.1 seconds
4.7	1x	**OPEN deceleration**
	1x	DI Steps of 1.0 seconds FI Steps of 0.1 seconds
4.8	1x	**CLOSE deceleration**
	1x	DI Steps of 1.0 seconds FI Steps of 0.1 seconds
4.9	1x	**OPEN/CLOSE crawling speed**
	1x	Output speed in rpm

Extended door functions

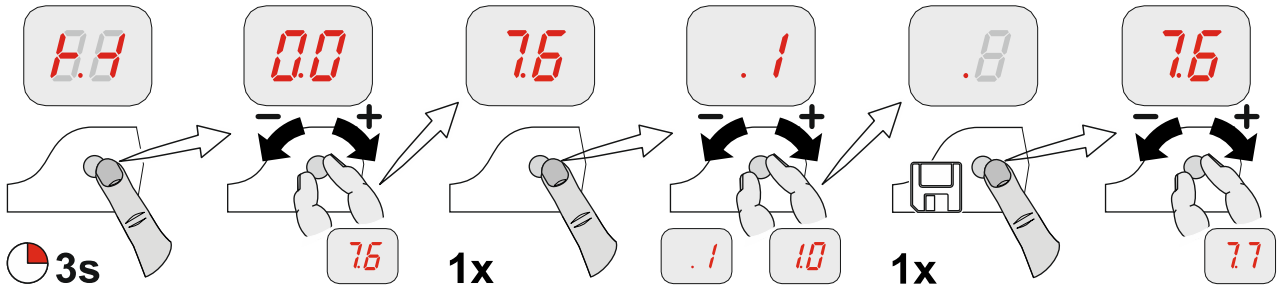
7.6	1x	**Selection of radio transmitters manufacturer** (434 MHz)	
.0		Internal radio receiver deactivated	1x
.1		(Fixcode) GfA, Tedsen	
.2		Teleco "COD1"	
.3		-	
.4		(Rolling code of various providers) GfA UK, JCM, Dickert	
.5		(Fixed code) RDA	
.6		(Fixcode) TRL	
.7		-	
.8		-	
.9		-	
1.0		-	
7.7	1x	**Radio receiver function**	
.1		Teach-in of a handheld transmitter	1x
.2		Cancellation of a taught-in handheld transmitter	
.3		Cancellation of all taught-in handheld transmitter	

Note!

- A combination of different radio transmitter manufacturers is possible
- Only use 434-MHz handheld transmitters
- Up to 64 radio channels can be taught.

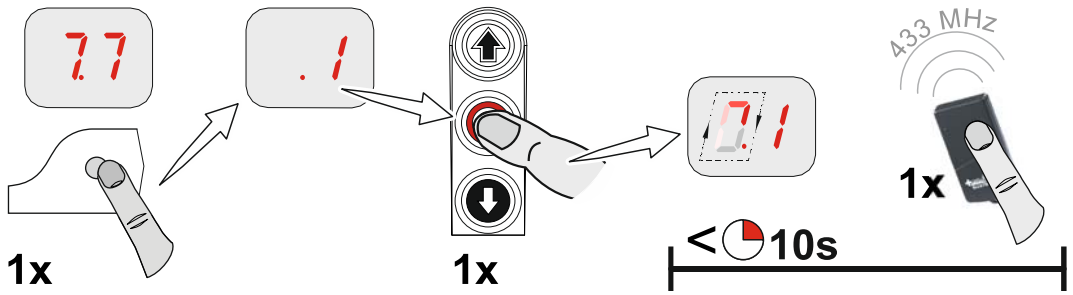
Teach-in of handheld transmitter

1. Select radio transmitter manufacturer's system

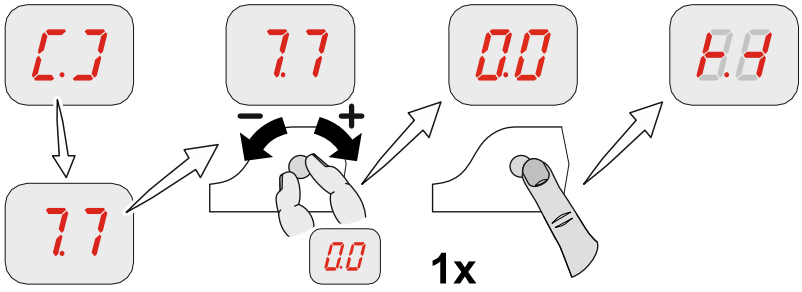


2. Activate radio receiver

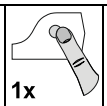
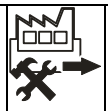
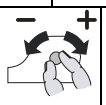
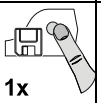
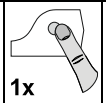
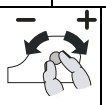
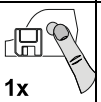
3. Carry out teaching-in



4. Switch to door operation



Maintenance cycle counter

8.5	 1x	Maintenance cycle preselection					0.0	
	0.0		0.1		9.9	01-99 corresponds to 1,000 to 99,000 cycles Cycles are counted down	 1x	
8.6	 1x	Reaction upon reaching zero						
	.1	Status indication "CS" appears in turns with value set by menu item 8.5.					 1x	
	.2	Changeover to "hold-to-run" door operating mode. Status indication "CS" appears in turns with value set by menu item 8.5.						
	.3	Changeover to "hold-to-run" door operating mode. Status indication "CS" appears in turns with value set by menu item 8.5. Option: Press STOP-button for 3 seconds to deactivate changeover and status indications for 500 cycles.						
	.4	Status indication "CS" appears in turns with value set by menu item 8.5 and relay contact X20 switches.						

Readout of Data memory

9.1 — 1x

Cycle counter

7-digit number

M HT ZT T H Z E

Displayed in division of ten consecutively

M = 1,000,000 **ZT** = 10,000 **H** = 100 **E** = 1
HT = 100,000 **T** = 1,000 **Z** = 10

9.2 — 1x

Last faults

Display change of the last 6 faults

9.3 — 1x

Data counter

7-digit number

M HT ZT T H Z E

Displayed in division of ten consecutively

M = 1,000,000 **ZT** = 10,000 **H** = 100 **E** = 1
HT = 100,000 **T** = 1,000 **Z** = 10

.1	Cycle counter of the last change in programming	1x
.2	Number of activations of slack-rope, pass-door and crash switch	

9.4 — 1x

Software version

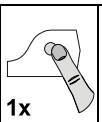
The software version of the control is displayed. For direct inverter or frequency inverter drive units, the software version of the motor is displayed as well.

Deleting / Readout

9.5 — 1x

Deleting of all settings

.0	Activating GfA stick	1x
.1	All settings are set to factory setting! Except for cycle counter	3s

Reading out WSD door-module data		
		**WSD door-module data** (Only activated at taught-in WSD door-module, Displaying of missing data is done by „-.-.“)
	Data indicated alternately 1. Version of master radio module 2. Type of safety edge „0.0.“ = none „0.1.“ = 1k2 „0.2.“ = 8k2 „0.3.“ = optic 3. Door safety switch „0.0.“ = inactive „0.1.“ = active 4. Battery voltage 5. Assigned / selected communication channel 6. Signal quality ranging from 0% - 99%	

8 Safety devices

X2: Input, safety edge

The door control automatically detects three different safety edges to protect the closing movement of the gate wing.

Electrical safety edge,
Pneumatic safety edge,
optical safety edge system.

Important!

- ▸ Connect safety edge systems in accordance with EN 12978
- ▸ Check position of S5 pre-limit switch on the safety edge (only for NES)
- When the door is opened > 5cm, a reversing must be executed if the safety edge has been activated
- "Hold-to-run" door operating mode can always be used should the safety edge be defective

EMERGENCY operation

Warning!

- ▸ For EMERGENCY operation, the door has to be checked (it has to be in a fault-free state)
- “Hold-to-run” door operating mode:
  The door must be fully visible from the operating point

EMERGENCY operation allows for moving the door to a required position by bypassing faults with the signal transmission of the safety device.
EMERGENCY operation is activated after pressing the STOP push-button and holding for 7 seconds, and is indicated by the flashing display.

Note!

- The door cannot be moved in case of “F1.3” and “F1.4” fault indications for reasons of operating safety.
- ▸ Activation of EMERGENCY operation: Use the built in push button of the control to press and hold the STOP-button while simultaneously pressing the OPEN or CLOSE push-button to move the door

X3: Input, emergency stop

Connection of an emergency stop control device as per EN 13850 or an evaluation unit for an anti-trap safety device. The “F1.4” fault indication appears upon activation.

Note!

- Frequency inverter drive unit: The emergency stop switches the supply off. The door control can only be operated again 30 seconds after unlocking the emergency stop. (Display rotates during this time)

9 Status display

Faults		
	Display: "F" and code	
Code	**Fault description**	**Fault causes and fault correction**
	Terminals X2.1 – X2.2 are open. Slack-rope switch/Pass-door contact is open.	Check door safety switch. Check whether the connection cable is connected.
	Open safety circuit (DES) Emergency manual operation has been activated. Thermal protection of the motor has tripped.	Check emergency manual operation. Check for overload or stalling of the drive unit.
	Terminals X3.1 – X3.2 are open. Emergency stop has been activated.	Check emergency stop. Check whether the connection cable is connected.
	Radio transmission of WSD door-module is faulty.	• Radio channel assigned twice: Use menu item 9.6 to read off the radio channel. • Moisture in WSD door-module: Replace WSD door-module und use a splash guard (optional equipment). • Obstacle between WSD door-module and door control: Adapt fitting configuration or use a spiral cable. • Battery voltage too low: Read off voltage value using menu 9.6 and replace battery if this is less than 3.2 V. Red LED in WSD door-module: Press P1 push-button. • Flashing: Faulty radio connection • Lit: Radio connection OK  Pay attention to the WSD door-module manual

Faults

	Display: "F" and code	
Code	**Fault description**	**Fault causes and fault correction**
	Faulty entrysense switch. Contact resistances are too high. Faulty entrysense installation.	Open and close pass door. Check resistance. Check the pass door installation.
	Entrysense input X2.1 – X2.2 is faulty.	Switch control off and on. Replace control if necessary.
	WSD door-module batteries are too low.	Change batteries of the WSD door-module If the battery service life was considerably less than one year, check fault code 1.6 (radio channels assigned twice, obstacles).
	No safety edge detected.	Check the wiring of the safety edge. Check function of WSD door-module.
	Terminals X6.1 – X6.2 are open. Photo cell has been activated.	Check alignment of the photo cell. Check connection cable. Replace photo cell if necessary.
	Maximum number of reversing movements for door through safety edge system activation has been reached. (Only with automatic closing)	Obstacles along the door travel path. Check whether the safety edge system is correctly functioning.
	Activation of safety edge 8k2.	Check whether the safety edge system is correctly functioning. Check whether the connection cable has short-circuited.
	Safety edge 8k2 defective.	Check whether the safety edge system is correctly functioning. Check whether the connection cable is connected.
	Activation of safety edge 1k2.	Check whether the safety edge system is correctly functioning. Check whether the connection cable is connected.
	Safety edge 1k2 defective.	Check whether the safety edge system is correctly functioning. Check whether the connection cable has short-circuited.
	1k2 testing is negative.	Testing is activated in the lower final limit position. Check pre-limit switch (with NES "S5").

Faults

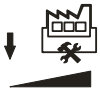
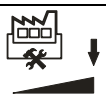
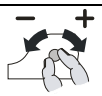
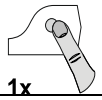
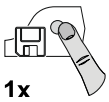
	Display: "F" and code	
Code	**Fault description**	**Fault causes and fault correction**
	Wireles safety device of the WSD door-module or optical safety edge system has been activated or is defective.	Check the WSD door-module. Check whether the safety edge system is correctly functioning.
	(DES) OPEN emergency stop switch reached.	In the voltage-free state, move the door back via emergency manual operation.
	(NES) OPEN or CLOSE emergency stop switch reached. Emergency manual operation has been activated. Thermal protection of the motor has tripped Limit switch system has changed over from NES to DES without the control being reset.	Check OPEN/CLOSE emergency stop switch. Check emergency manual operation. Check drive unit for overload or stalling. Reset of control via menu item "9.5".
	(DES) CLOSE emergency stop switch reached.	In the voltage-free state, move the door back via emergency manual operation.
	(NES) Faulty activation of the “S5” pre-limit switch.	Check the “S5” pre-limit switch for correct functioning and setting.
	No limit switch detected (active at initial start-up).	Connect the limit switch to the control. Check the limit-switch connection cable.
	Limit switch system has changed over from DES to NES without the control being reset.	Reset of control via menu item "9.5".
	Internal plausibility error.	Execute fault clearance trough movement command.
	Internal control temperatur too high.	Switch of control and let it cool down.
	Triggering of force monitoring.	Check the door mechanism for stiffness.
	Crash switch X2.1 – X2.2 is activated.	Check crash switch / connection cable. To reset fault: Press STOP-button and hold for 3 seconds.

Faults

	Display: "F" and code	
Code	**Fault description**	**Fault causes and fault correction**
	Terminals X6.1 – X6.2 are open. Light curtain has been activated.	Check light curtain. Check whether the connection cable is connected.
	Light curtain defective.	Comply with the light curtain manufacturer's specifications. Check connection cable.
	Fault of the controller.	Switch control off and on. Replace control if necessary.
	ROM error.	Switch control off and on. Replace control if necessary.
	CPU error.	Switch control off and on. Replace control if necessary.
	RAM error.	Switch control off and on. Replace control if necessary.
	Internal fault of control.	Switch control off and on. Replace control if necessary.
	Fault of digital limit switch (DES)	Check DES connector and connection cable. Switch control off and on.
	Fault with door movement.	Check the door mechanism for stiffness. Check the limit switches for correct rotational movement. Switch control off and on.
	Fault with rotating direction.	Change rotating direction via menu item "0.2".
	Unacceptable door movement in stopped state.	Execute fault clearance trough movement command. Check brake and drive unit.
	No compliance with specified travel direction at drive unit.	Execute fault clearance trough movement command. Check for overload of the drive.

Faults		
	Display: "F" and code	
Code	**Fault description**	**Fault causes and fault correction**
	DI / FI closing speed is too high.	Switch control off and on. Replace drive unit if necessary.
	Internal FI communication fault.	Switch control off and on. Replace FI drive unit if necessary.
	Low voltage in the DC voltage sink.	Execute fault clearance trough movement command. Check mains input voltage. Change slope durations/speeds.
	Excess voltage in the DC voltage link.	Check mains input voltage. Execute fault clearance trough movement command. Change slope durations/speeds.
	Temperature limit exceeded.	Check for overload of the drive unit. Cool down the drive unit and reduce the number of cycles.
	Permanent current overload.	Check for overload of the drive unit. Check the door mechanism for stiffness or weight.
	Brake / FI fault.	Check brake; replace if necessary. If problem recurs, replace drive unit.
	Collective indication for FI.	Execute fault clearance trough movement command. Replace drive unit if message is continually displayed.
	At initial operation minimum travel distance was not completed.	Move the door for at least 1 second.

10 Explanation of symbols

Symbol	Explanation
	Prompt: Read installation instructions
	Prompt: Check
	Prompt: Note
	Prompt: Note the setting of the menu below
	Factory setting of the menu
	Factory setting of the menu, value on the right
	Factory setting of the minimum limit, dependent on drive unit
	Factory setting of the maximum limit, dependent on drive unit
	Setting range
	Prompt: Select menu item or value, turn selector switch to the left or to the right
 1x	Prompt: View menu item, press selector switch once
 1x	Prompt: Store, press selector switch once

Symbol	Explanation
	Prompt: Setting via OPEN/CLOSE built in push-button; Use OPEN push-button to increase value, CLOSE push-button to decrease value
	Prompt: Press stop button once via built in push-button
	Prompt: Save, press stop button once via built in push-button
	Prompt: Save, press stop button for three seconds via built in push-button
	Prompt: Reset the control, press stop button for three seconds via built in push-button
	Prompt: Move to door position
	Prompt: Move to door position for OPEN final limit position
	Prompt: Move to pre-limit
	Prompt: Move to door position for CLOSE final limit position

Declaration of Incorporation

pursuant to Machinery Directive 2006/42/EC for a partly completed machine Appendix II Part B

Declaration of Conformity

pursuant to EMC Directive 2014/30/EU

GfA ELEKTROMATEN GmbH & Co. KG
Wiesenstraße 81 · 40549 Düsseldorf
Germany

We,

GfA ELEKTROMATEN GmbH & Co. KG

hereby declare that the product specified in the following complies with the above-mentioned EC Directive and is only intended for installation in a door.

TS 971

Applied standards

DIN EN 12453:2014-06	Doors – Safety in use of power operated doors
DIN EN 12978:2009-10	Safety devices for power operated gates and doors
DIN EN 60335-1:2012-10	Safety of electrical devices for the use in the household and similar purposes– Part 1: General requirements
DIN EN 61000-6-2:2016-05	Electromagnetic compatibility (EMC) – Part 6-2 Generic standards – Immunity standard for industrial environments
DIN EN 61000-6-3:2011-09	Electromagnetic compatibility (EMC) – Part 6-3 Generic standards – Emission standard for residential, commercial and light-industrial environments

On reasoned request, we undertake to submit the special documents for this partly completed machine to the supervisory authorities.

Authorised representative for the compilation of the technical documentation

(EU address in the company)
Dipl.-Ing. Bernd Synowsky
Documentation representative

Partly completed machinery according to EC Directive 2006/42/EC is only intended to be installed in, or combined with, other machinery (or other partly completed machinery/systems) to form a completed machine pursuant to the Directive. Therefore, this product may be put into operation only when it has been determined that the complete machine/system in which it has been installed complies with the provisions of the above-mentioned directives.

Düsseldorf, 02.03.2017

Stephan Kleine
Managing Director

Signature