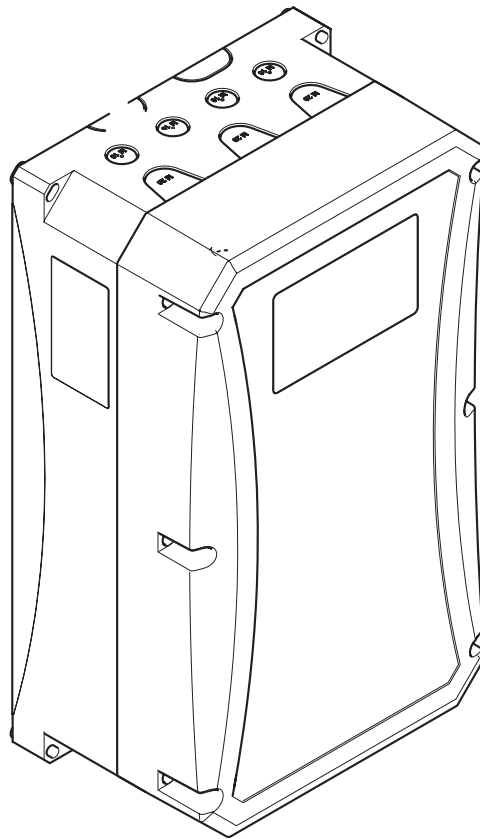


SOMMER



GIGAcontrol A

EN Translation of the Original Installation and Operating Manual



 **HomeLink[®]**
compatible

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General information

Symbols



CAUTION SYMBOL:

Important safety instructions!

Caution – to ensure the safety of personnel, it is important to observe all instructions. Save these instructions!



IMPORTANT INFORMATION SYMBOL:

Information, useful advice!

1 (1) Refers to a respective picture in the introduction or main text.

Safety instructions

General

- This installation and operating manual must be read, understood and complied with by persons who install, use or perform maintenance on the control unit.
- Installation, connection and initial commissioning of the control unit may only be carried out by a trained electrician.
- The system manufacturer is responsible for the complete system. The system manufacturer must ensure that all applicable standards, directives and regulations applicable at the installation site are observed. In addition to other items, the system manufacturer must test and maintain the maximum approved closing forces in accordance with EN12445 (Safety in use of power-operated doors, test methods) and EN12453 (Safety in use of power-operated doors, requirements). The system manufacturer is responsible for preparation of technical documentation for the complete system, and the documentation must accompany the system.
- All electrical wires must be fitted tightly and secured against shifting.
- The manufacturer accepts no liability for damage or malfunctions resulting from non-observance of the installation and operating manual.
- Before commissioning, ensure that the mains connection matches the specifications on the type plate. If this is not the case, the control unit must not be operated.
- In case of a three-phase current connection, make sure that the direction of rotation is clockwise.
- Installations with a fixed mains connection require an all-phase mains circuit breaker with appropriate fuses.
- Keep the installation instructions within reach.
- Always ensure compliance with accident prevention regulations and current standards in each respective country.
- Read and comply with the 'ASR A1.7 Technical Regulations for Workplaces' of the committee for workplaces (ASTA). (Applicable for the operator in Germany, observe and comply with the applicable regulations in other countries).
- Before working on the control unit, always disconnect the power plug or disconnect the mains voltage at a main switch (lock to prevent reactivation).
- Regularly check power cables and wires for insulation defects or cracks. If a wiring fault is found, switch off the power immediately and repair the faulty cable or wire.
- Before switching on the power supply for the first time, make sure that the plug-in terminals are in their correct positions, otherwise the control unit may malfunction or be damaged.
- Observe the requirements of the local power supplier.
- Only use permissible mounting materials appropriate for the supporting surface.
- Only use original spare parts from the manufacturer.

Storage

- The control unit must be stored in an enclosed, dry area at a room temperature of -25° to $+65^{\circ}$ °C at a maximum relative humidity of 90 % (non-condensing).

Operation

- When using the automatic close function, ensure compliance with EN12453 (e.g. install safety devices such as photocell).
- After installation and commissioning, all users must be instructed in the function and operation of the system. All users must be informed of the hazards and risks inherent in the system.
- Open and close the door only if there are no persons, animals or objects within its area of movement.
- Continuously monitor the door while it is in motion and keep all persons away from it until the door is completely opened or closed.
- Do not drive through the door until it has been fully opened.
- The control unit must be adjusted to ensure safe operation in conformity with the standards.

Radio remote control

- The remote control may only be used for equipment and / or systems where interference in the transmitter or radio receiver does not pose a risk to humans, animals or objects, or where the risk is covered by other safety devices.
- The radio remote control may only be used if the movement of the door can be watched and no persons or objects are within the range of movement.
- Store the handheld transmitter so that unintended operation, e.g., by children or animals, is impossible.
- The operator of the radio system is not protected from faults due to other telecommunications equipment or devices (e.g. radio-controlled systems that are licensed to operate in the same frequency range). If substantial interference occurs, please contact your appropriate telecommunications office which has radio interference measuring equipment (radio location)!
- Do not operate the handheld transmitter in areas with sensitive radio technology or systems (e.g. airports, hospitals).

General information

Type plate

- The type plate is attached to the control unit housing.
- The type plate shows the exact type designation and the date of manufacture (month / year) of the control unit.

Intended use

CAUTION! RISK OF DEATH!
Remove all cords or straps necessary to operate the door by hand.

- The GIGAcontrol A control unit is intended exclusively for opening and closing industrial doors, such as sectional, roller, folding, fast membrane and roll-up grille doors. Any other use does not constitute intended use. The manufacturer accepts no liability for damage resulting from use other than intended use. The user bears the sole responsibility for any risk involved. It also voids the warranty.
- Only command devices and sensors in perfect technical condition may be connected, and they must be used for the intended purpose, with an awareness of the hazards involved and in accordance with the instructions in the installation and operating manual.
- Doors automated with an operator must comply with all currently valid standards and directives: e.g. EN13241-1, EN12604, EN12605.
- The door must be stable and torsionally stiff, i.e. it must not bend or twist during opening or closing.
- Only use the control unit in dry, non-explosive areas.
- The control unit conforms to the requirements of protection class IP54 (optionally IP65). The control unit must not be operated in areas with a corrosive atmosphere (e.g. salty air).

Types

The GIGAcontrol A control unit is available in the following types:

- GIGAcontrol A R1
with one relay up to 1.1 kW (only suitable for operation with a SOMMER frequency converter)
- GIGAcontrol A R3
with three relays up to 1.1 kW (universal control unit, reversing mechanism with 2nd shut-off path. Also suitable for operation with a SOMMER frequency converter)
- GIGAcontrol A C3
With mechanically locked reversing contactor and mains relay up to 2.2 kW (universal control unit, reversing mechanism with 2nd shut-off path. Also suitable for operation with a SOMMER frequency converter)

All control unit types can be (optionally) fitted with

- a radio receiver
- a traffic light module (two way traffic control)
- an induction loop module (2 loops) with direction recognition.

The following optional control unit types are available:

- Triplex sensing device with conventional buttons
- Key switch
- Emergency STOP switch
- Main switch

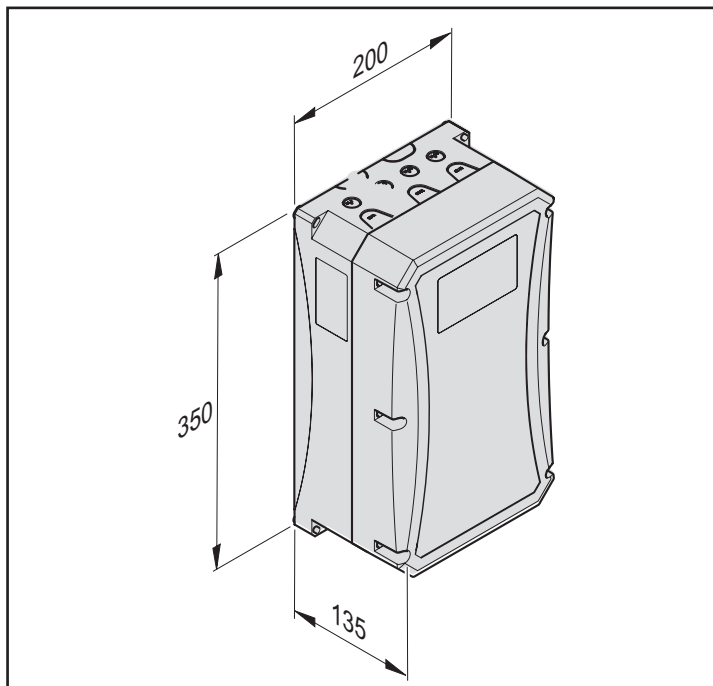
Scope of delivery

The actual scope of supply may vary depending on the control unit version.

Dimensions of housing (W x H x D)

Approx. 200 x 350 x 135 mm

GIGAcontrol A



EU Declaration of Conformity

(for the SOMMER Radio Control System)

www.sommer.eu/mrl

General information

GIGAcontrol A R1, R3 control unit

(Relay)

Dimensions	350 x 200 x 135 mm (H x W x D)
Operating voltage	1 / 3 ~ 230 V AC; 3 ~ 400 V AC
Mains feed fuse	10A T (internal)
Control voltage	24 V DC max. load 250 mA* 12 V DC max. load 100 mA* 5 V DC only for internal expansion modules *(including all additional modules)
Control voltage fuse	125 mA T
Temperature range	-25 °C to +65 °C
Connection cross-section	1.5 mm ²
Switching capacity	1.5 kW / 2 kVA max.
Protection class	IP54 / optionally IP65

GIGAcontrol A C3 control unit

(Contactor)

Dimensions	350 x 200 x 135 mm (H x W x D)
Operating voltage	1 / 3 ~ 230 V AC; 3 ~ 400 V AC
Mains feed fuse	10A T (internal)
Control voltage	24 V DC max. load 250 mA* 12 V DC max. load 100 mA* 5 V DC only for internal expansion modules *(including all additional modules)
Control voltage fuse	125 mA T
Temperature range	-25 °C to +65 °C
Connection cross-section	1.5 mm ²
Switching capacity	2.2 kW / 3 kVA max.
Protection class	IP54 / optionally IP65

General information

Declaration of Conformity

for the installation of an incomplete machine
in accordance with the Machinery Directive 2006/42/EC, Annex II, Section 1 A

SOMMER Antriebs- und Funktechnik GmbH
Hans - Böckler - Straße 21 - 27
73230 Kirchheim unter Teck
Germany

hereby declares that the industrial gate control unit

GIGAcontrol A

has been developed, designed and manufactured in conformity with the

- Machinery Directive 2006/42/EC
- Low Voltage Directive 2014/35/EU
- Electromagnetic Compatibility Directive 2014/30/EU
- RoHS Directive 2011/65/EU

The following standards were applied:

- | | |
|---------------------------------|--|
| • EN ISO 13849-1, PL "C" Cat. 2 | Safety of machines - safety-related parts of controls
- Part 1: General design guidelines |
| • EN 60335-1, where applicable | Safety of electrical appliances |
| • EN 61000-6-3 | Electromagnetic compatibility (EMC) - interference |
| • EN 61000-6-2 | Electromagnetic compatibility (EMC) - interference resistance |

The following requirements of Annex 1 of the Machinery Directive 2006/42/EC are met:

1.1.2, 1.1.3, 1.1.5, 1.2.1, 1.2.2, 1.2.3, 1.2.4, 1.2.6, 1.3.2, 1.3.4, 1.3.7, 1.5.1, 1.5.4, 1.5.6, 1.5.14, 1.6.1, 1.6.2, 1.6.3, 1.7.1, 1.7.3, 1.7.4

The special technical documentation was prepared in accordance with Annex VII Part B and will be submitted to regulators electronically on request.

The incomplete machine is intended for installation in a door system only to form a complete machine as defined by the Machinery Directive 2006/42/EC. The door system may only be put into operation after it has been established that the complete system complies with the regulations of the above EC Directive.

The undersigned is responsible for compilation of the technical documents.

Kirchheim, 20-04-2016



i.V.

A handwritten signature in blue ink, appearing to read 'Jochen Lude', written over a faint blue line.

Jochen Lude
Responsible for documents

Installation preparations

Safety instructions



CAUTION!

Important instructions for safe installation. Observe all installation instructions – improper installation can lead to serious injuries!

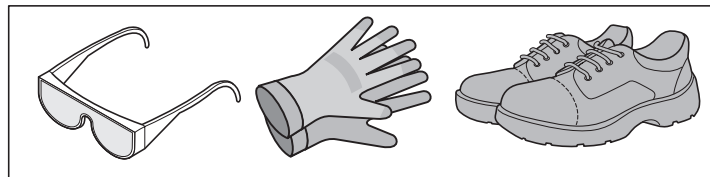


CAUTION! RISK OF DEATH!

Remove all cords or straps necessary to operate the door by hand.

- Use only suitable tools.
- The mains supply line that has been provided may not be shortened or extended.
- Before commissioning, ensure that the mains connection matches the specifications on the type plate. If this is not the case, the control unit must not be operated.
- The contacts of all devices to be connected externally must be safely isolated from the mains voltage supply in accordance with IEC 60364-4-41.
- Wiring for external devices must be installed in accordance with IEC 60364-4-41.
- Live parts of the control unit must not be connected to earth or to live parts or protective earthing conductors of other electrical circuits.
- The control unit should be mounted on a low-vibration surface (e.g., a brick wall) to eliminate vibrations that could have a negative effect on it over time.

Personal protective equipment



- Safety glasses (for drilling)
- Work gloves
- Safety shoes

Installation preparations

Safety instructions



CAUTION!

Important instructions for safe installation. Observe all installation instructions – improper installation can lead to serious injuries!



CAUTION!

Control or regulating units (buttons) in a fixed position must be mounted within sight of the door. However, they must not be mounted close to moving parts and must be at least 1.6 m above the ground.



CAUTION!

After installation, it is imperative that you check that the operator has been correctly adjusted and that it reverses at the specified measuring points.

- The operator must be installed, connected and commissioned by competent personnel.
- Do not move the door if there are persons, animals or objects in the area of movement.
- Keep disabled persons and animals away from the door.
- Wear safety glasses when drilling the fastening holes.
- When drilling, cover all openings to prevent the ingress of dirt.
- Before opening the housing, make sure that drilling chips or other material cannot fall into the housing.
- All electrical wires must be fitted tightly and secured against shifting.
- Before installing the control unit, inspect it for transport damage and any other damage.
 - ⇒ Never install a damaged control unit! Serious injuries may result!
- Keep the system disconnected from the power supply when installing the control unit.
- Electronic components may be damaged by electrostatic discharge when touched.
 - ⇒ Do not touch the electronic components of the control unit (boards etc.)!
- Close off unused cable inserts with suitable material to maintain protection class IP 54 and / or IP 65!

Information on installation

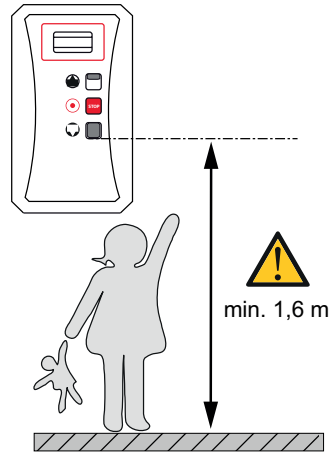


CAUTION!

Before working on the control unit, always disconnect the power plug or disconnect the mains voltage at a main switch (lock to prevent reactivation).



CAUTION!

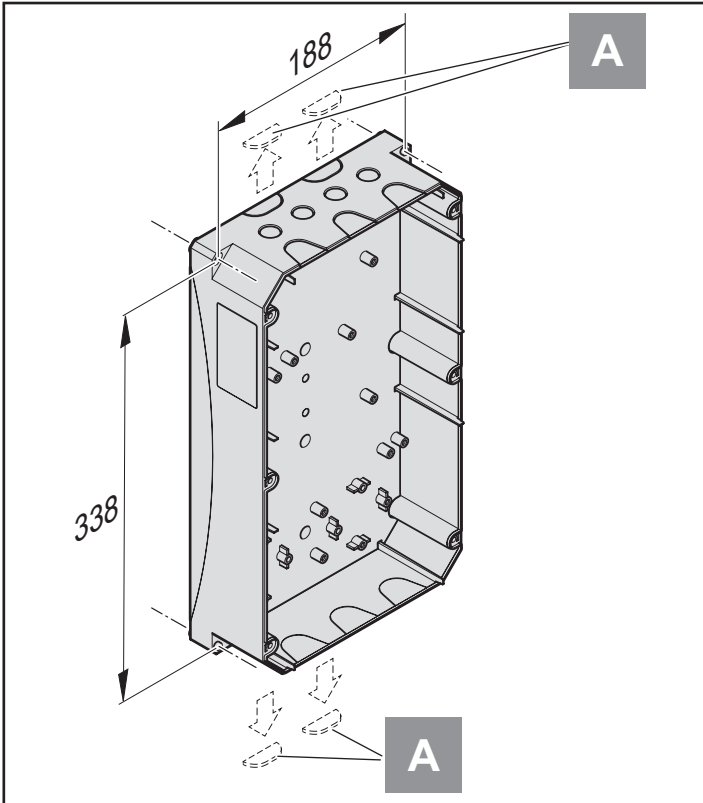


- For indoor use (see data regarding temperature and IP protection class).
- The supporting surface must be flat and low-vibration.
- Mount the control unit housing vertically.

Installation preparations



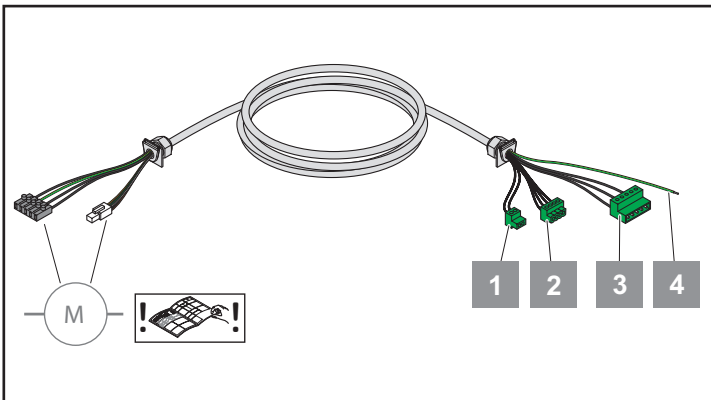
NOTE:
The dimensions specified here are the dimensions for drilling the fastening holes.
Housing dimensions: See the "Dimensions" section.



NOTE:
The cable feedthroughs (A) can be easily opened without damaging the housing! This allows cables to be routed behind the control unit housing and fed in from below!

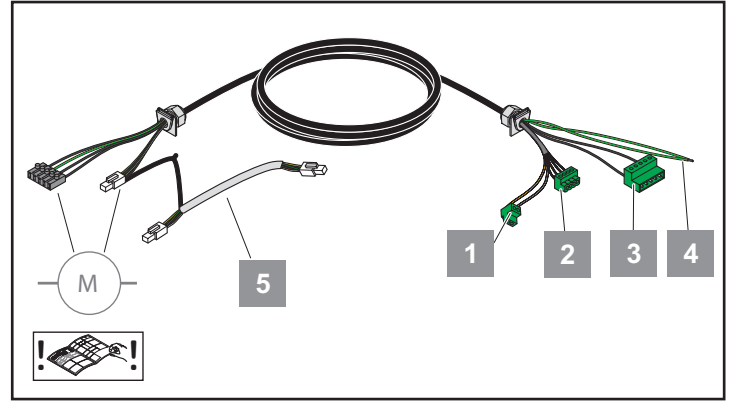
- Only use permissible mounting materials appropriate for the supporting surface.
- Attach housing to the supporting surface correctly.
- Use suitable tools.

Cable – standard model:



1. Safety chain "Door stop 1" (2-pole terminal)
2. Encoder "RS485" (+/-A/B; absolute value encoder; 4-pole terminal)
3. Motor (1~ 230 V / 3 ~ 230 V / 3 ~ 400 V; 5-pole terminal)
4. Protective earthing conductor (PE)

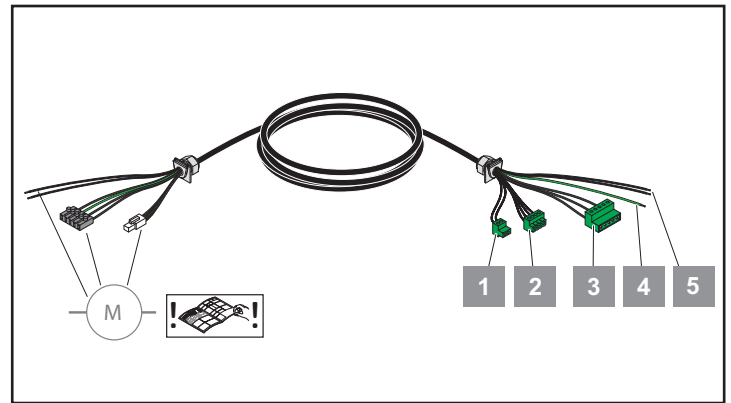
Cable – frequency converter version:



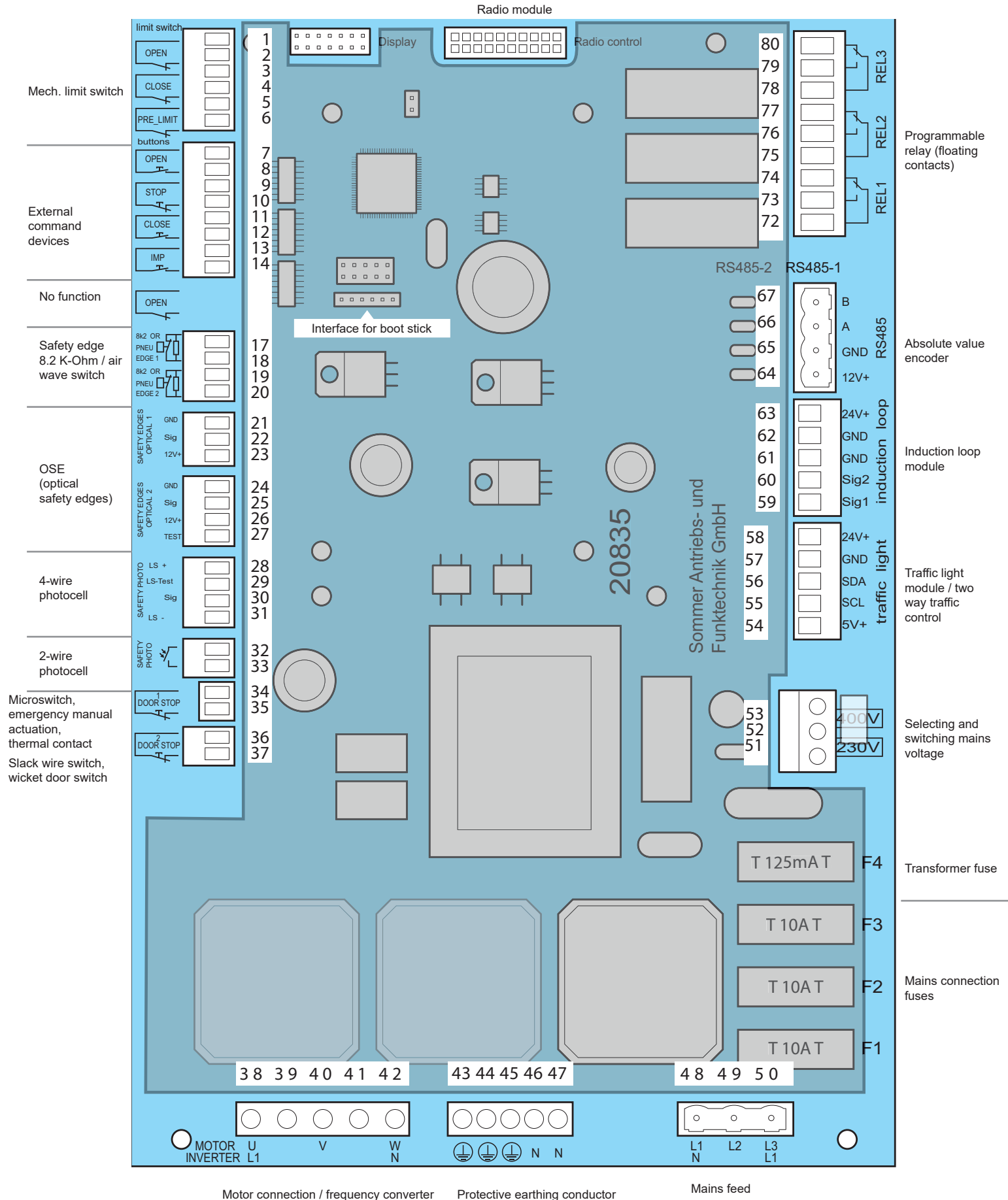
Plug – frequency converter version:

1. Safety chain "Door stop 1" (2-pole terminal)
2. Encoder "RS485" (+/-A/B; absolute value encoder; 4-pole terminal)
3. Motor (1~ 230 V / 3 ~ 230 V / 3 ~ 400 V; 5-pole terminal)
4. Protective earthing conductor (PE)
5. Connection cable for frequency converter

Cable – with brake line:




Electrical installation




Electrical installation


Electrical installation

 **CAUTION!**
Electrical work must be performed by qualified electricians only!


 **CAUTION!**
Observe the requirements of the local power supplier.

 **CAUTION!**
The mains cable may only be replaced by the manufacturer, customer service or other qualified electrician!

Mains connection

 **NOTE:**
The connection depends on the mains and the operator with which the control unit will be used!

The control unit is suitable for the following mains voltages:
1~230V, 3~230V or 3~400V!

 **NOTE:**
Caution! Check the jumper on the board before switching mains voltage. An incorrectly positioned jumper may destroy the control unit!

The control unit must be protected from short-circuit and overload by a nominal fuse value of max. 10 A per phase.

- A 3-pole automatic circuit breaker must be used with three-phase mains.
- A 1-pole automatic circuit breaker must be used with AC power supplies.


The control unit must have an all-phase mains circuit breaker conforming to EN12453!

This can be:

- a plug connection (max. 1.5 m cable length)

or

- a main switch

 **NOTE:**
The mains circuit breaker must be easily accessible at a height of between 0.6 m and 1.7 m!

The following fuses are required depending on the as-delivered condition:

Control unit without mains plug:

Main switch, automatic circuit breaker on mains side, all poles (max. 10 A).

Control unit with 5-pole CEE plug (16 A):


16A socket (fuse-protected with 3-pole three-phase automatic circuit breaker 3 x 10A).

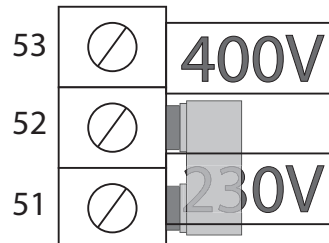
Control unit with 3-pole CEE plug:

16A socket (fuse-protected with 1-pole automatic circuit breaker 1 x 10A).

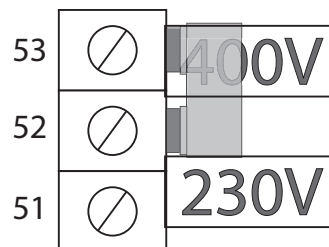
Selecting and switching mains voltage

 **CAUTION!**
When setting the control unit for frequency converter operation, the mains voltage must not be set to 400 V.

 **NOTE:**
It is essential to ensure that the jumper on the board conforms to the actual voltage used. Otherwise the board may be destroyed!



For 1 ~ 230 V
and 3 ~ 230 V



For 3 ~ 400 V

Electrical installation

Mains feed



NOTE:

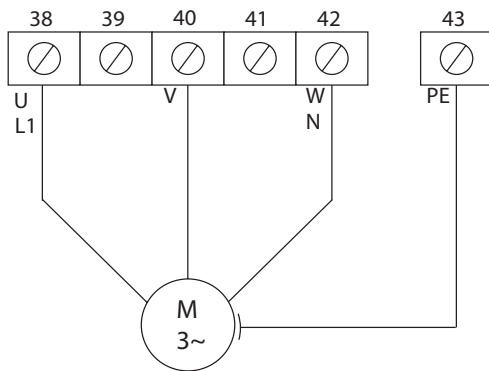
If ground fault interrupters are integrated into the building installation, the control unit must not be connected unless the ground fault interrupters are class B devices (all-current-sensitive ground fault interrupters). If other ground fault interrupters are used, circuits may be interrupted incorrectly or not at all!

3-phase operation

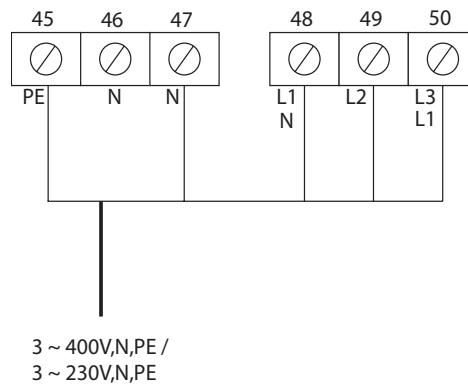
3 ~ 400 V / Y

3 ~ 230 V / Δ

Motor connection



Mains connection



Operation with frequency converter

1 ~ 230 V / Δ



NOTE:

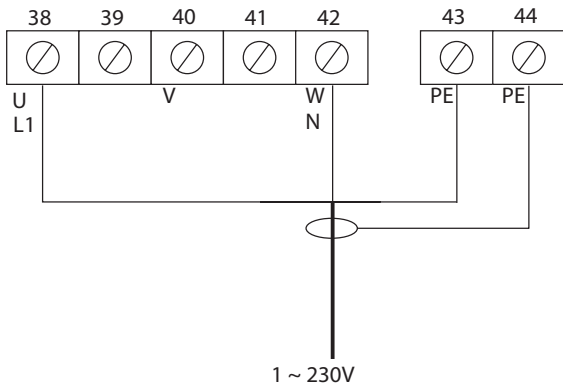
If a frequency converter is used, the entry "Frequency converter" must be set under menu item "MOTOR CONTROLLER" (2533) in the Service menu! see ("Service (2500)" on page 41)



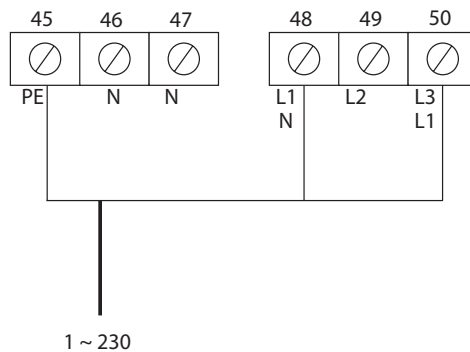
NOTE:

Use only the cable provided!

Frequency converter connection



Mains connection



Electrical installation

Operation with Steinmetz circuit (capacitor)

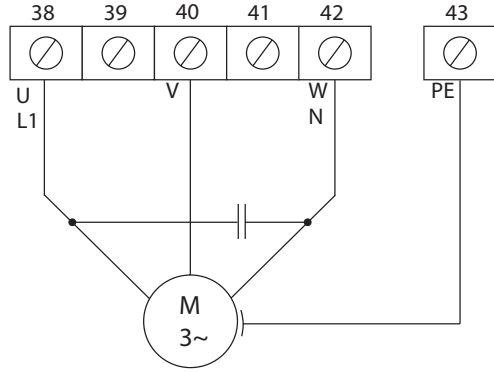
1 ~ 230 V / Δ



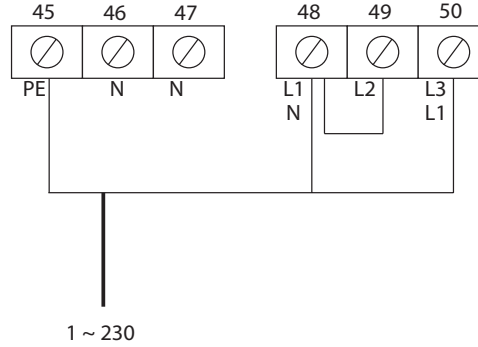
NOTE:

If a motor with a capacitor is used, the F1 fuse must be removed!

Motor connection

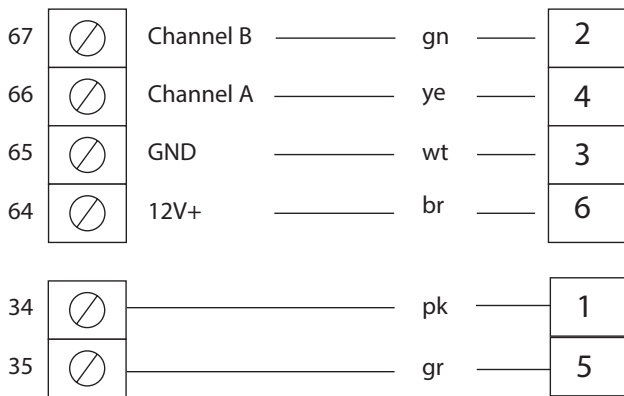


Mains connection



Absolute value encoder

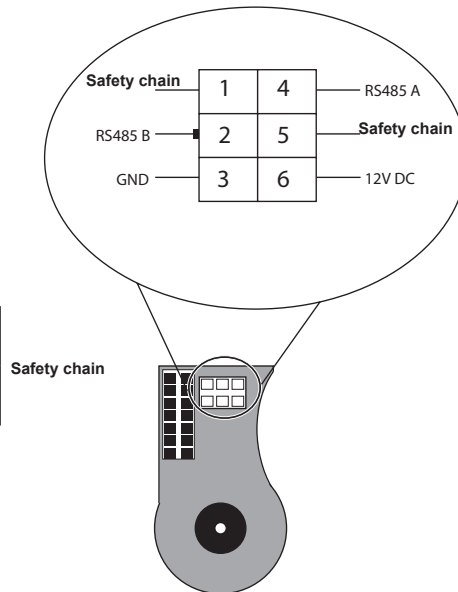
RS485



Leads in pairs!

A/B --- GND/+12V---Safety chain

Absolute value encoder (encoder)



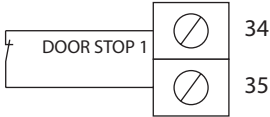
Electrical installation

Safety chain

Emergency manual actuation, thermal contact and slack wire switch, brake

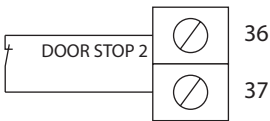
i **NOTE:**
If one of the devices connected to DOOR STOP 1 has triggered, the following error message appears on the display: Security Chain. See the "Error messages" section.

DOOR STOP 1 = Manual microswitch emergency actuation and thermal contact (connection with pink + grey motor cable).

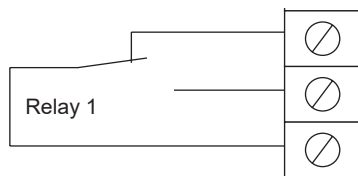


i **NOTE:**
If one of the devices connected to DOOR STOP 2 has triggered, the following error message appears on the display: Slack rope switch. See the "Error messages" section.

Door STOP 2 = Slack wire switch (connection with spiral cable / door socket) and wicket door contact.



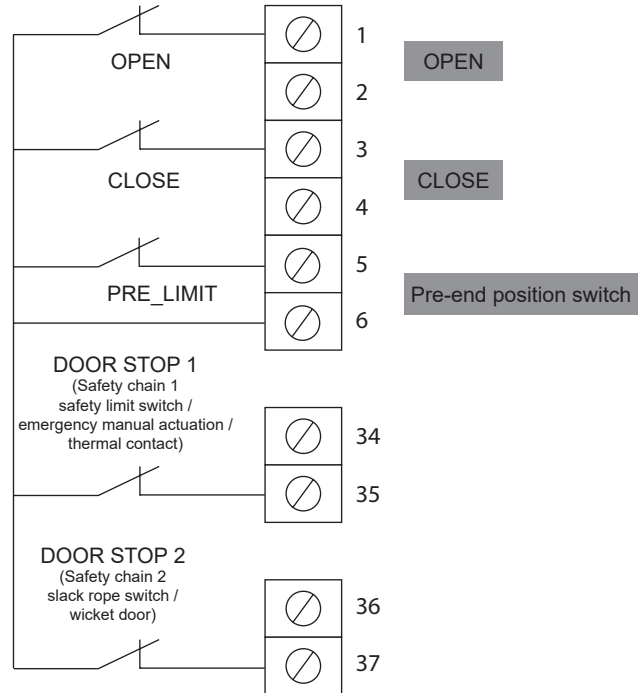
Brake via relay 1



Mechanical limit switches

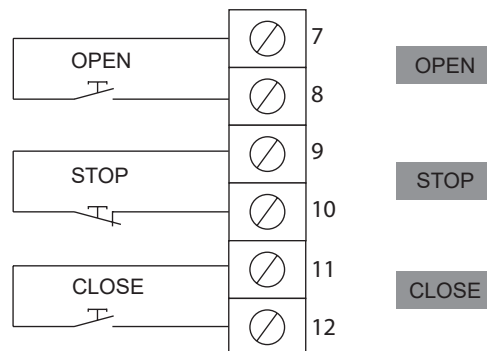
! **CAUTION!**
Incorrect adjustment work could lead to injuries!
All settings must be carried out according to the current installation instructions for the GIGAcontrol A!

! **CAUTION!**
If no pre-end position switch can be connected, terminals 5 + 6 must be jumpered so that the safety device works properly.



External command devices

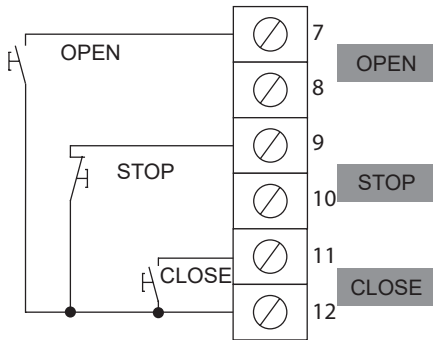
Multiple button with 6 wires



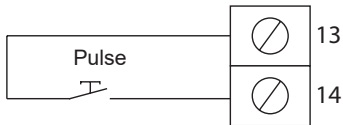
Electrical installation

Multiple button with 4 wires

Also available from SOMMER.



Pulse button



NOTE:

If the traffic light module (two way traffic control) is used, the external buttons have the following effect:

"OPEN" button (terminals 7 + 8): Request for the traffic light signal "Green Outside."

Pulse button (terminals 13+14): Request for the traffic light signal "Green Inside."



NOTE:

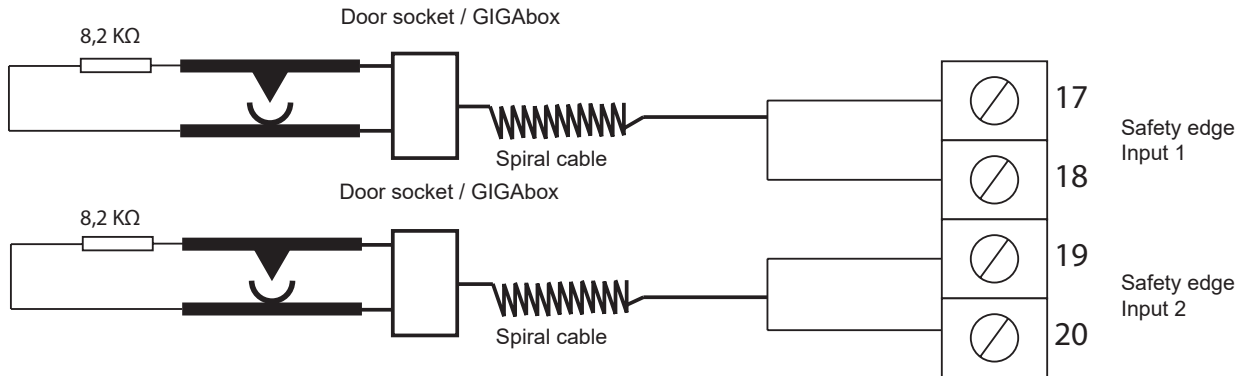
"TWO WAY TRAFFIC" can only be selected if the traffic light module is connected. If the connection to the traffic light module is severed, the control unit automatically switches to pulse mode.

Electrical installation

Closing edge safety device

Safety edge – 8.2 K-Ohm

Programming from menu item 1240 et seq.; 1260 et seq.



Air wave switch

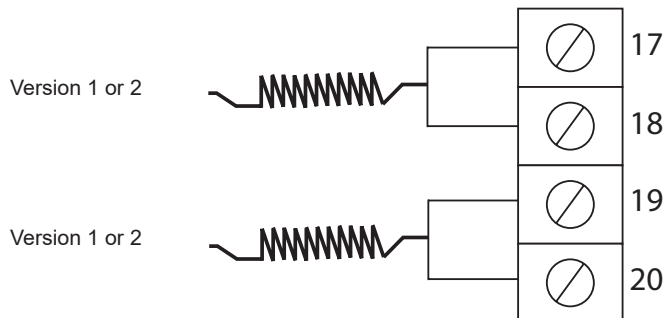
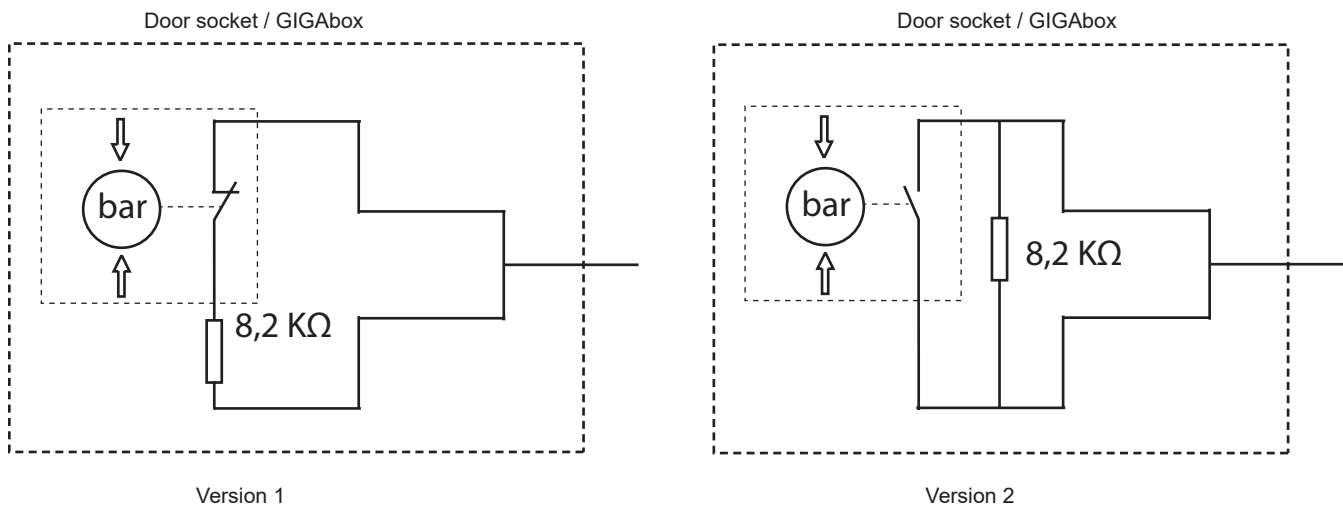
Programming from menu item 1240 et seq.; 1260 et seq.



NOTE:

The air wave switch is available in two different versions. Both versions can be connected to connections 17 + 18 and 19 + 20. A combination of both versions is possible!

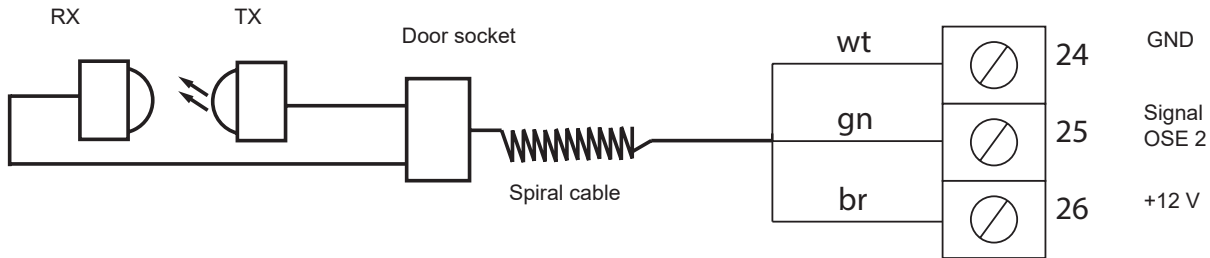
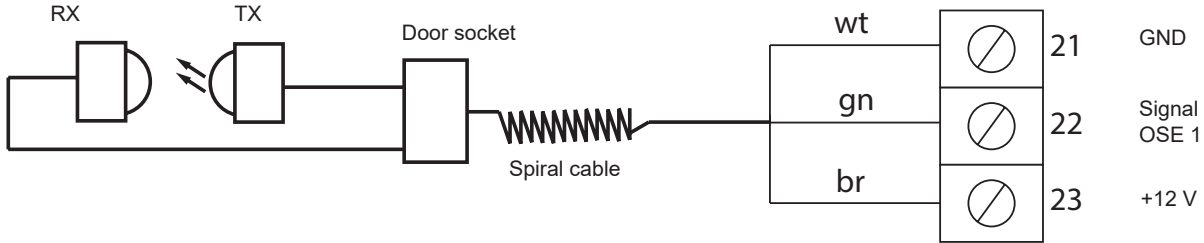
To test the air wave switch, it must be triggered in door DOWN end position.



Electrical installation

Optical safety edge (OSE), light curtain or leading photocell

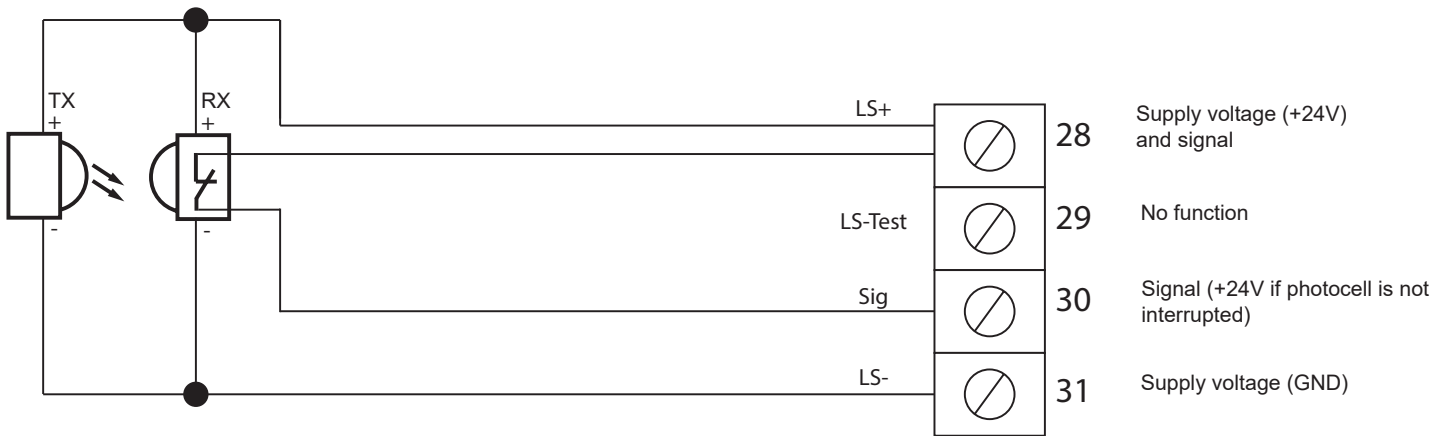
Programming from menu item 1200 et seq.; 1220 et seq.



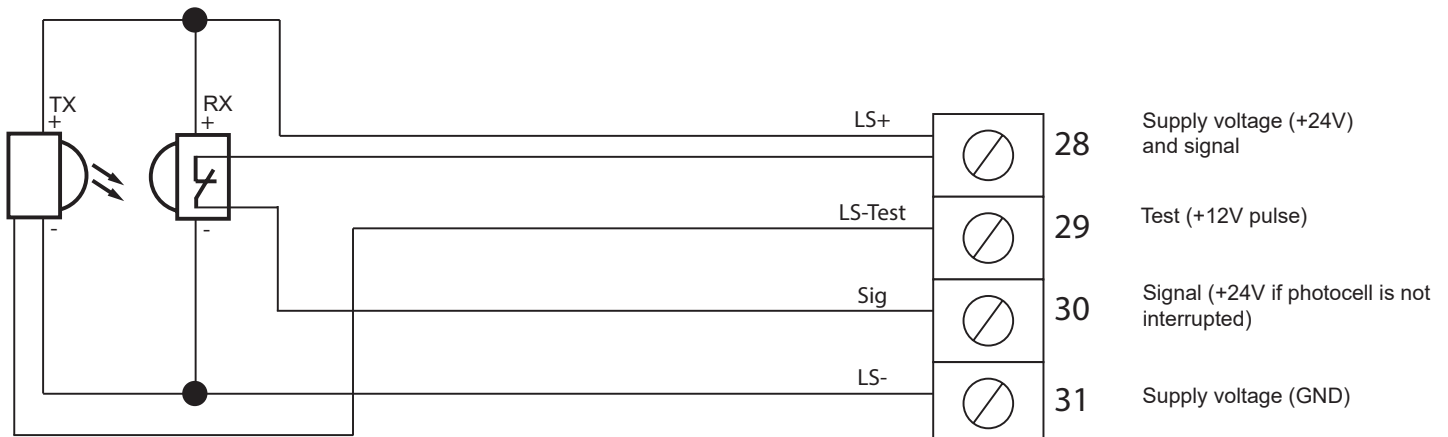
4-wire photocell without testing

Programming from menu item 1111 et seq.

CAUTION!
The maximum mounting height for photocells is 20 cm!



4-wire photocell with testing (retraction safety)



Electrical installation

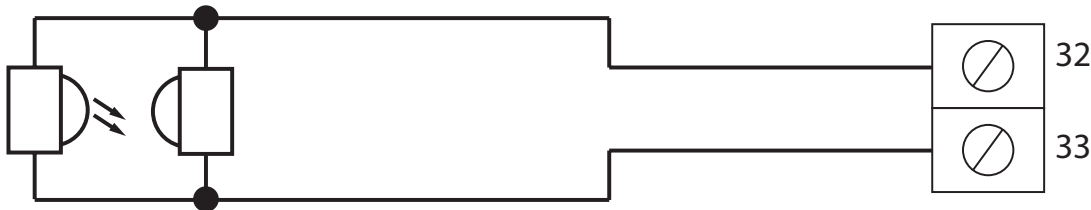
2-wire photocell or frame photocell (only the SOMMER product)

Programming from menu item 1115 et seq.



CAUTION!

The maximum mounting height for photocells is 20 cm!



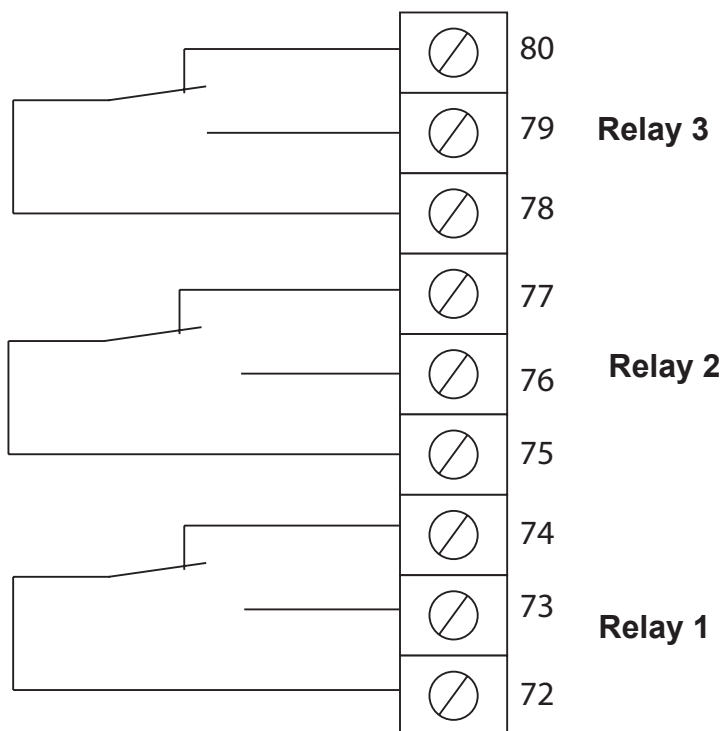
Programmable relays

Programming from menu item 1600 et seq.



NOTE:

Relay 1 is available only if it is not being used to control the brake (factory setting: brake active).



NOTE:

Allowable contact load:

max. 8 A 250 V AC 30 V DC
max. 3 A 250 V AC $\cos \phi = 0.4$
max. 2000 VA / 300 W

The relays can be programmed as required for the following functions:

- Not active (every relay)
- Message when end positions reached (Pos.: top / bottom / both + permanent / pulse) (every relay)
- Active during movement up / down / both + permanent / flash + 1 -5 s early warning time (every relay)
- Switch brake (relay 1 only)
- Switch electric lock (every relay)
⇒ For further information, see the parameter settings
- Radio commands (relay 3 only)

Commissioning

* These are display examples. They are intended to help explain the individual areas of the display and its function.

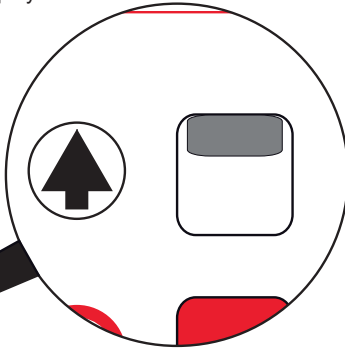
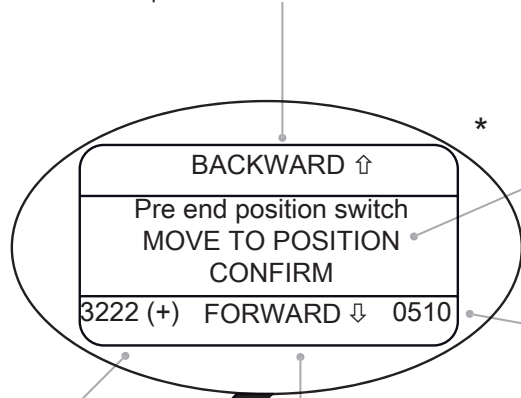
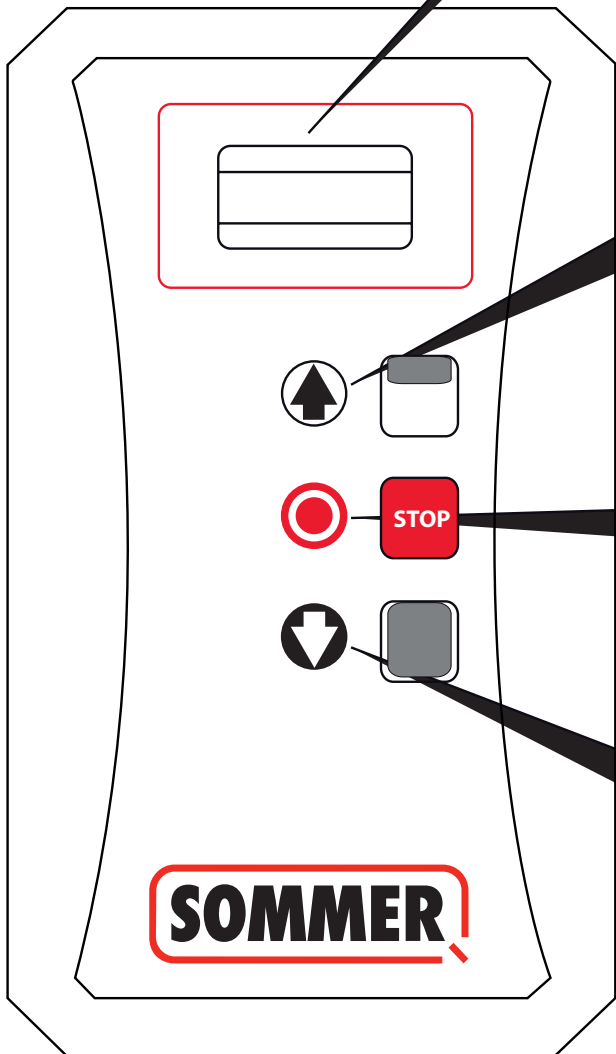
Depending on context, the upper line shows the possibility to page back in the menu, change a value or parameter upwards using the \uparrow key or select an option

The middle line contains information (such as the date, mode of operation, etc.) and instructions (e.g. confirm end position, abort current procedure, etc.)

Here, the current position in the menu is shown. This display serves as an orientation aid. By means of a comparison with the instructions, you can quickly find out where you are in the menu at the moment

Here, the position of the door is shown in increments. If there is a plus sign (+) after the number, this means that the door is in the pre-end position switch area.

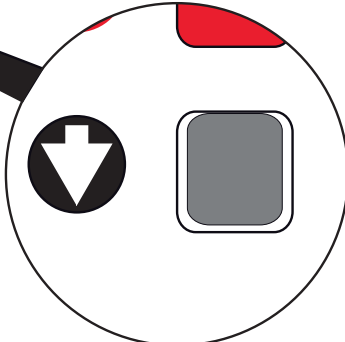
Depending on the context, the possibility to page forward in the menu, change a value or parameter downwards using the \downarrow key, or selecting an option is displayed here.



- Door UP
- Door STOP while the door is moving DOWN
- "Back" in main menu
- "Change parameters / values" in submenus



- STOP door
- Select from parameters in the menu and confirm values / settings



- Door DOWN
- Door STOP while the door is moving UP
- "Forward" in main menu
- "Change parameters / values" in submenus

Commissioning

Starting commissioning



NOTE:

The door must be moved manually to approximately the centre position before starting commissioning so that a detection of the motor direction is possible.



NOTE:

If the error message "Security Chain" appears during activation, check whether the manual emergency actuation is enabled.

1. Switch on control unit

GIGAcontrol A SOFTWARE P-1.8.3-w
--



STUTTER MODE ADJUST ENDPOSITIONS/CHECK DIRECTION
4840



NOTE:

After a few seconds, the display of the software version disappears and the system switches automatically to the display of the currently set mode of operation.



NOTE:

During commissioning, the set mode of operation is displayed.

Enter password (0110)

1. Press STOP button for approx. 5 seconds.
⇒ The display becomes blank.
2. Then keep pressing the STOP button and press in addition ↑ or ↓ for 4 seconds.
⇒ ↑ appears on the display.
3. Release all buttons.



NOTE:

The factory-set main password is 0000.

For security reasons, it should always be changed by a trained person (Menu 2570: "Service -> Passwords")

PASSWORD ENTRY
0***
↓ 0110

- ⇒ The prompt to enter the password appears on the display.
⇒ The active position flashes.
4. Select the applicable digit with ↑ or ↓ and confirm with "STOP."
⇒ The next position is automatically selected.

Commissioning

Menu level 1 (from software version d7.9)



NOTE:

For a clearer display, this overview shows level 1 of the menu. The pages listed next to the menu items contain precise information and setting options.



NOTE:

If the error message "Security Chain" appears during activation, check whether the manual emergency actuation is enabled.



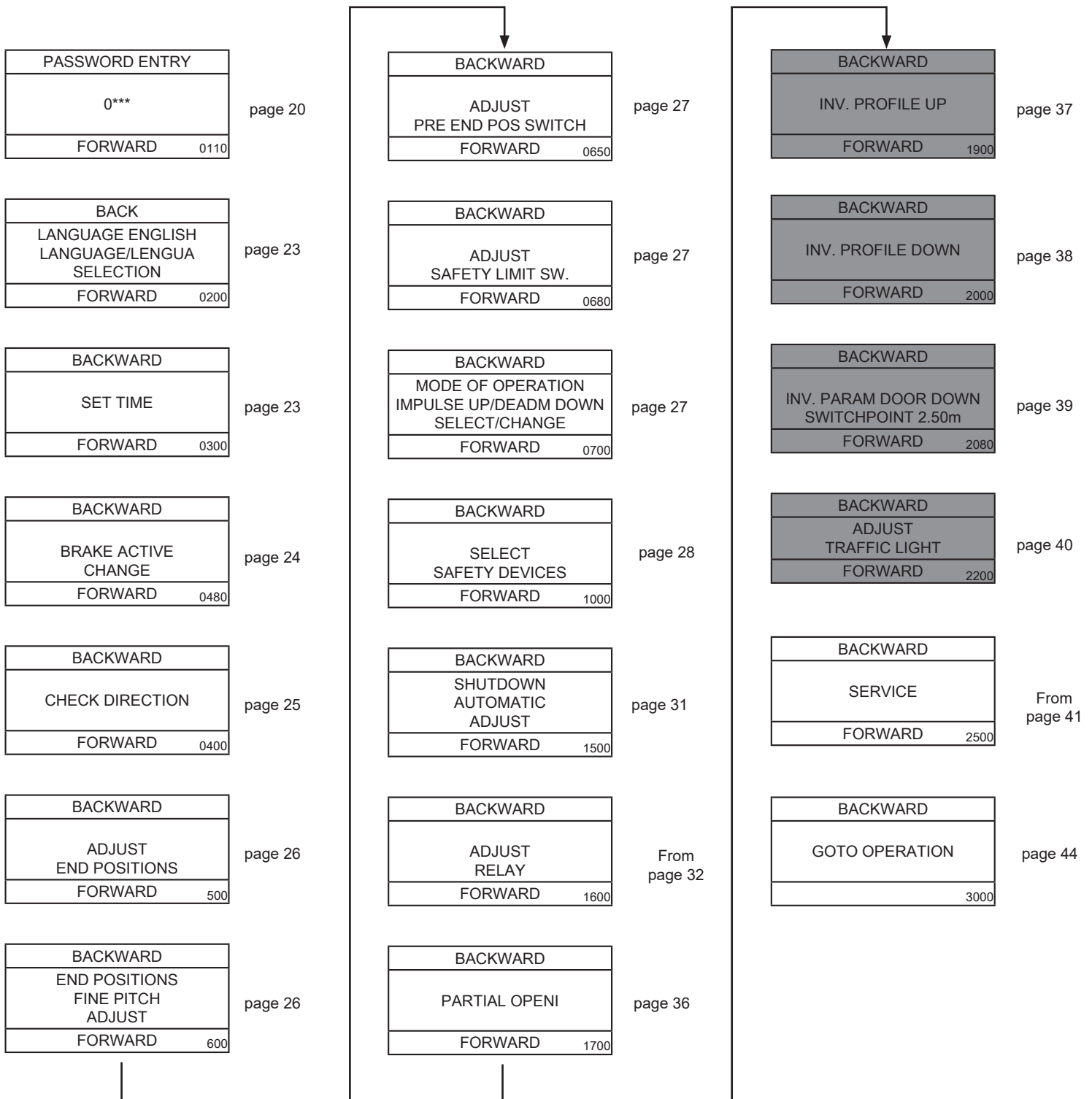
NOTE:

The door must be moved manually to approximately the centre position before starting commissioning so that a detection of the motor direction is possible.



NOTE:

The menu structure is dynamic. Menus of unused components are hidden (e.g., functions that are not available when mechanical limit switches, frequency converters, and traffic light modules are used).



Commissioning

Menu level 1 for mechanical limit switches (from software version d7.9)



NOTE:

For a clearer display, this overview shows level 1 of the menu. The pages listed next to the menu items contain precise information and setting options.



NOTE:

If the error message "Security Chain" appears during activation, check whether the manual emergency actuation is enabled.



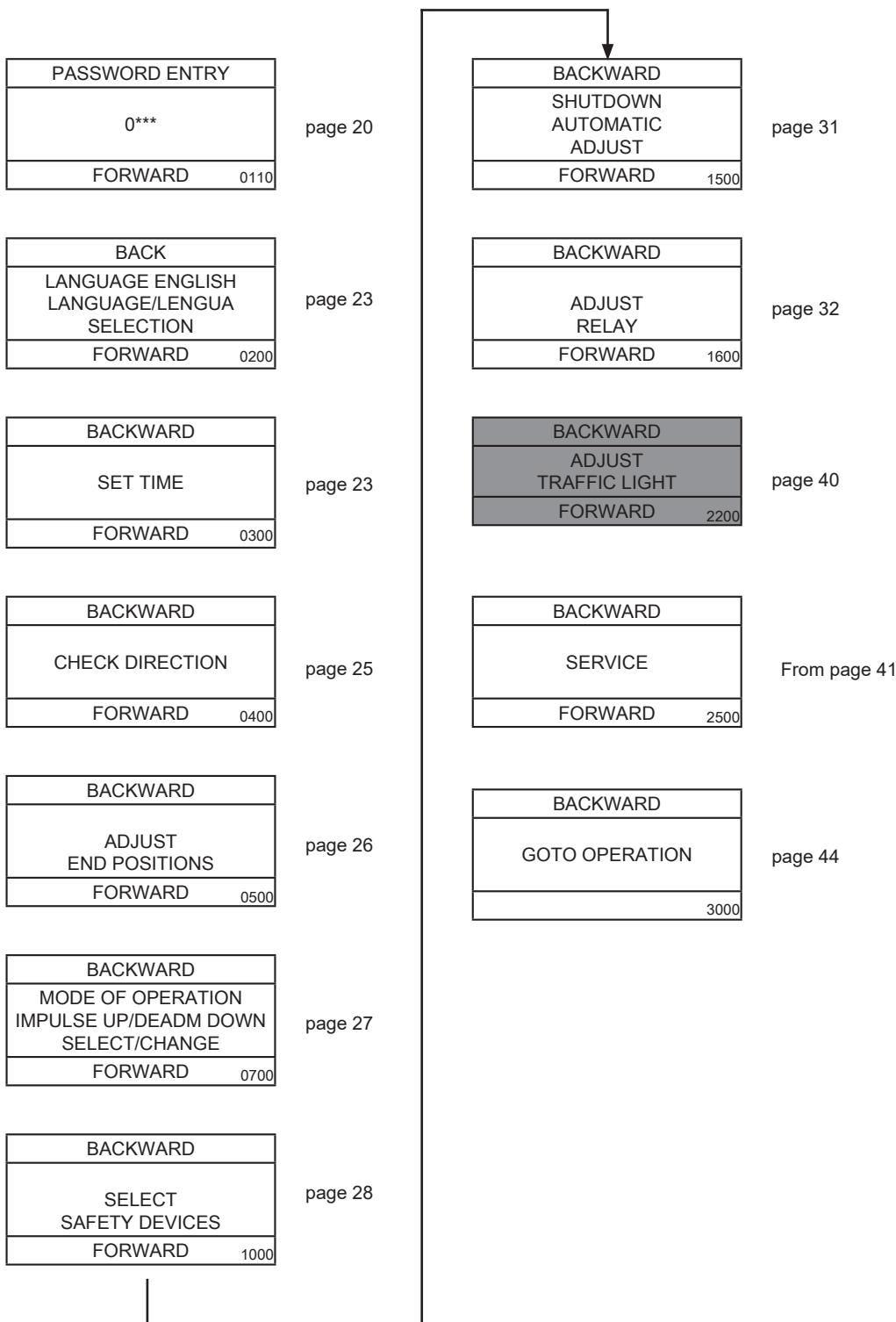
NOTE:

The door must be moved manually to approximately the centre position before starting commissioning so that a detection of the motor direction is possible.



NOTE:

The menu structure is dynamic. Menus of unused components are hidden (e.g., functions that are not available when mechanical limit switches, frequency converters, and traffic light modules are used).



Commissioning

Select language (0200)

SELECT LANGUAGE	
ENGLISH CONFIRM	
↓	0200

Select the language using ↑↓

Confirm with STOP button

Set date and time (300)



NOTE:

The date and time are retained for a maximum of 10 days in the event of a power failure and are correctly displayed when the power supply is restored.

↑	
2013-08-03 10:20:30	
↓	0300

Select the numbers using ↑↓

Confirm with STOP button



NOTE:

YYYY-MM-DD HH:MM:SS

The active number flashes!

Commissioning

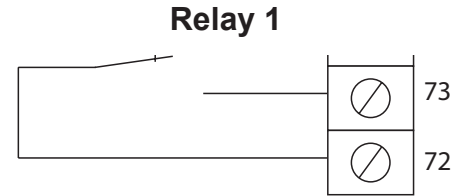
Switch brake via relay 1 (0480)

i NOTE:
In the following cases, relay 1 is not required for the brake function:

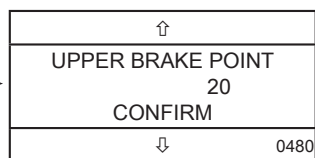
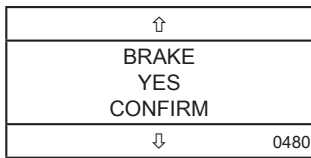
- If no brake is present
- If the brake is switched beyond the neutral point
- If the control unit is operated with the frequency converter

If one of these points applies, "INACTIVE" should be selected in the first window.

i NOTE:
Relay 1 is available only if it is not being used to control the brake (factory setting: brake active).

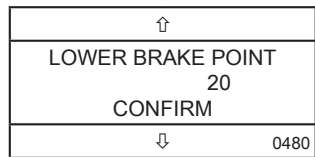


Select / change the values using ↑↓
Confirm with STOP button



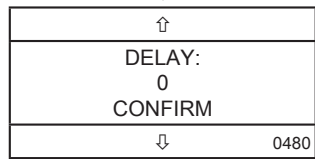
Setting range:
0 to 500 inc.

i NOTE:
The value set here is the difference from the upper end position (Figure A).



Setting range:
0 to 500 inc.

i NOTE:
The value set here is the difference from the lower end position (Figure A).



Setting range:
0 to 500 ms.

i NOTE:
The value set here is the difference between the motor startup and release of the brake (Figure A).

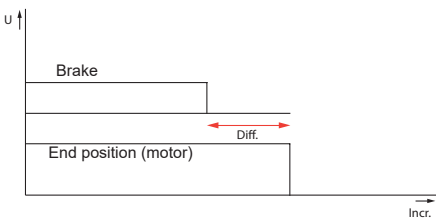


Figure A

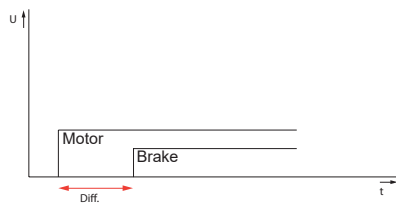


Figure B

Commissioning

Check direction (0400)



NOTE:

The motor direction must be checked during initial commissioning to allow the OPEN / CLOSE buttons to be correctly assigned.

This step is an important part of initial commissioning. All following steps are based on this.

If mechanical limit switches are used, they must be enabled in menu item 2550 before checking the motor direction.

This requires the door to be in an approximately central position between the end positions to allow sufficient travel distance for checking the motor direction. If this menu item is selected, the door can only be moved with the \uparrow button in the housing cover. The \uparrow button must be pressed and held pressed until the movement is automatically limited by the control unit (approx. 1 sec.). If the direction of movement of the door is in the OPEN direction, this must be confirmed with the STOP button. If the direction of movement of the door is in the CLOSE direction, the \downarrow button for incorrect motor direction must be pressed. The control unit again offers the option of moving the door in the OPEN direction with the \uparrow button and changed door direction. Confirm with the STOP button.

\uparrow => Door OPEN
OK
NOT OK 0400

If direction of movement was OK:
Confirm with STOP button

If the direction of movement was NOT OK: Press \downarrow

Adjust end positions (0500)

(via mechanical limit switches)



NOTE:

Mechanical limit switches must be enabled in the Service menu (menu item 2500).



NOTE:

Control unit automatically moves to "ENDPOSITION BOTTOM."



NOTE:

The settings of the limit switches can now only be confirmed on the control unit if the mechanical limit switches for the respective end position have tripped.

\uparrow
Endposition TOP
CONFIRM
4027 \downarrow 0505

1. Move to positions using $\uparrow\downarrow$
2. Adjust the mechanical limit switch and security limit switch at the top
3. Confirm with STOP button

\uparrow
Endposition BOTTOM
CONFIRM
3222 \downarrow 0510

1. Move to positions using $\uparrow\downarrow$
2. Adjust the mechanical limit switch and security limit switch at the bottom
3. Confirm with STOP button

Commissioning

Adjust end positions (0500)

(via encoder)



NOTE:
The end positions can also be corrected later using the fine pitch (menu item 600).



NOTE:
Control unit automatically moves to "ENDPOSITION BOTTOM."

↑		
Endposition TOP		
CONFIRM		
4027	↓	0505

Move to the desired position using ↑↓

Confirm with STOP button

↓

↑		
Endposition BOTTOM		
CONFIRM		
3222	↓	0510

Adjust fine pitch of end positions (0600)

(via encoder)



NOTE:
After commissioning of the system, the end positions can be more finely adjusted using this item.



NOTE:
A maximum of only 50 increments can be finely adjusted in both directions.



NOTE:
The door does not move during adjustment of the fine pitch of the end positions!

↑		
FINE - PITCH -TOP		
5110*		
CONFIRM		
F1=5100**	↓	0610

Change values using ↑↓

Confirm with STOP button

↓

↑		
FINE - PITCH -BOTTOM		
1480*		
CONFIRM		
F1=1500**	↓	0620

* New position

** Current position

Commissioning

Adjust pre end position switch (0650)



CAUTION!

DIN EN12453 allows the closing edge to be blanked in an area max. 50 mm above the ground or switching from "Stop Emergency Reverse" to "Stop only." It is essential to comply with the requirements of this standard.

The optical safety edges are blanked in this area, whilst the 8.2 K Ω safety edges are switched to "STOP ONLY." The test is enabled for the safety edges with air wave switches. After crossing the pre-end position switch, the control unit expects a signal from the air wave switch within a specified time window. This requires the door with the safety edge to be in contact with the ground.

↑
PRE END POS SWITCH MOVE TO POSITION CONFIRM
↓ 0655

Move to the position using ↑↓

Confirm with STOP button

Adjust security limit switch (0680)



NOTE:

The security limit switches are a redundant safety device for the standard limit and end position switches. If the standard limit and end position switches are crossed, the system is stopped by the security limit switches.



NOTE:

If the security limit switches have tripped, the door stops. The system must be moved back to the normal limit and end position switch area in stutter mode. The error is then automatically corrected.

↑
SECU LIMIT SWITCH 100 CONFIRM
↓ 0685

Move to the position using ↑↓

Confirm with STOP button

Setting range:

50 to 300 increments

Select mode of operation (0700)



CAUTION!

The safety edges and photocells are not active in dead man mode.

Danger of serious injury!

Always ensure that there are no persons, animals or objects in the area of movement of the door.



NOTE:

- This menu item is used for fast selection of dead man or pulse mode. If dead man mode is selected, all other menu items are skipped because they are only relevant for pulse mode (with the exception of "Inv. Parametrisation").

- In dead man mode, the buttons must be pressed as long as the door is to move.

Selection using ↑↓

Confirm with STOP button

↑
IMPULSE UP/DEADM DOWN
↓ 0700

Selection options:

- Impulse UP / Deadman DOWN
- Deadman UP / DOWN
- Impulse UP / DOWN
- Two way traffic

↓

BACKWARD
GOTO OPERATION
3000



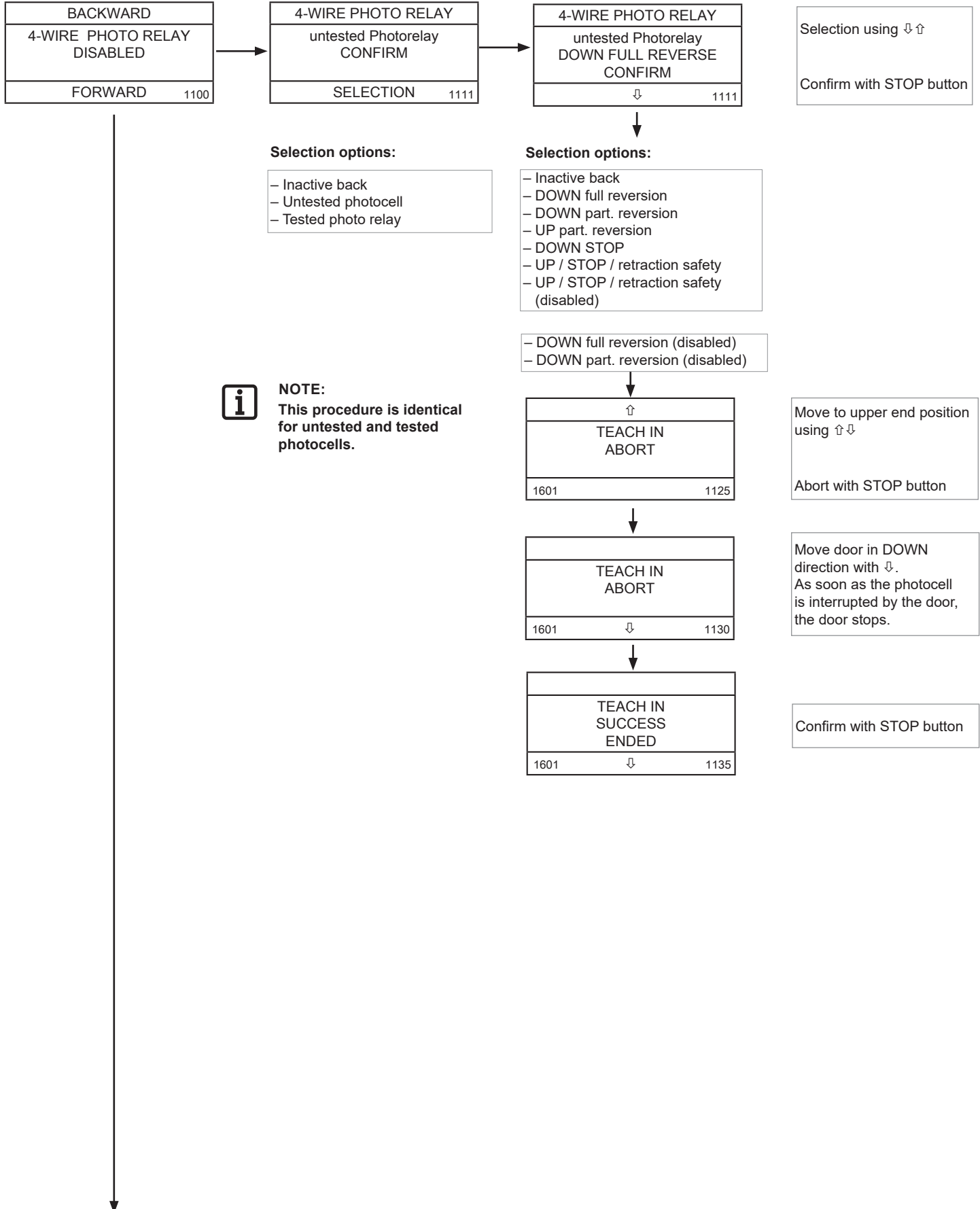
NOTE:

If "Deadman" is selected as the mode of operation, the system will jump directly to the last menu item, "Goto operation (3000)."

Commissioning

Select safety device (1000)

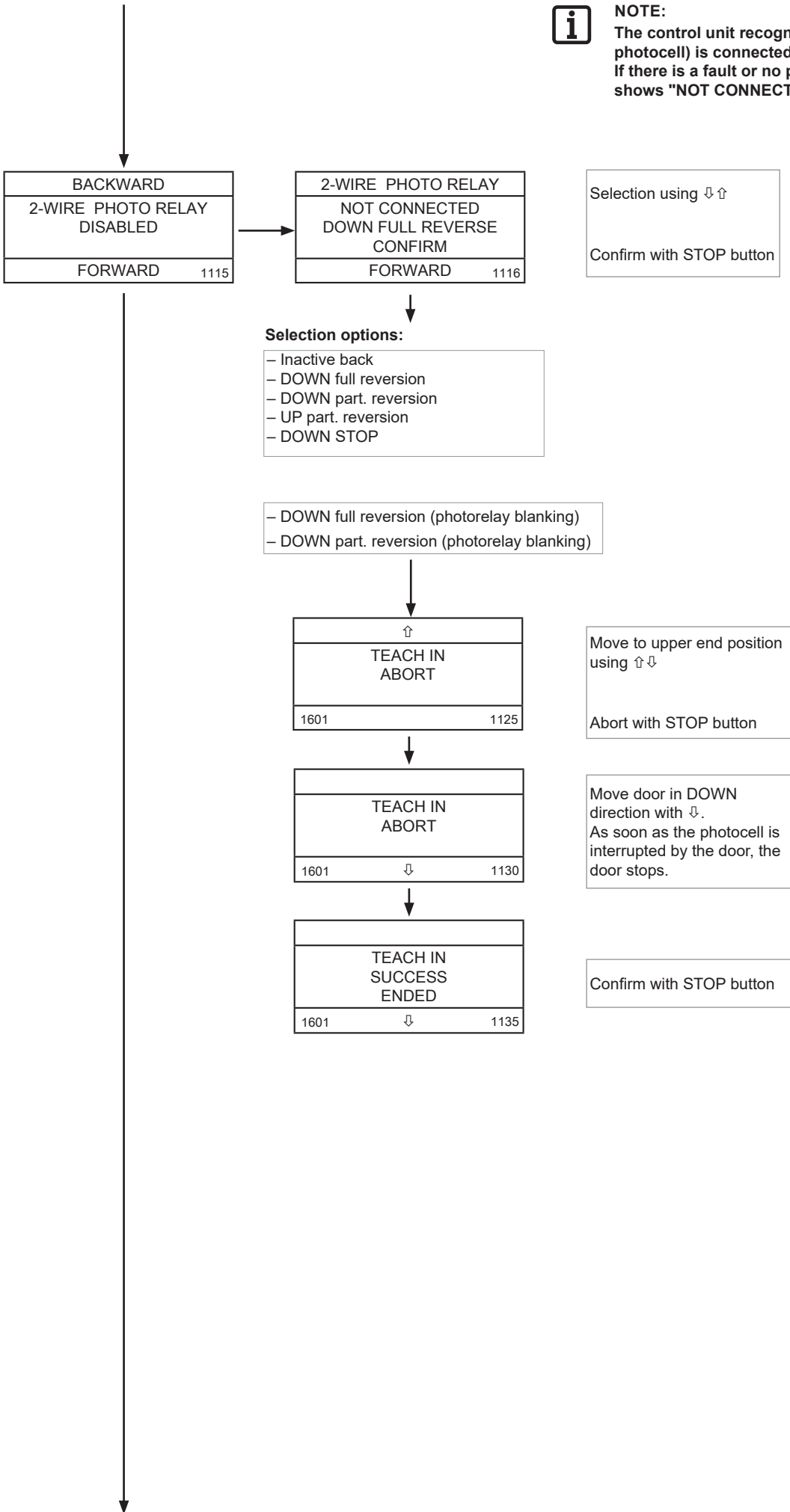
CAUTION!
The maximum mounting height for photocells is 20 cm.



Commissioning



NOTE:
The control unit recognises whether a 2-wire photocell (frame photocell) is connected and displays "CONNECTED."
If there is a fault or no photocell is connected, the display shows "NOT CONNECTED."



Commissioning



NOTE:
The optical safety edges are blanked in the pre-end position switch area.



NOTE:
The control unit recognises at the respective inputs whether optical 8.2 K Ω safety edges or an air wave switch are connected and displays "CONNECTED."

BACKWARD
OSE 1 DISABLED SELECT/CHANGE
FORWARD 1200

OSE 1
CONNECTED INACTIVE/BACK CONFIRM
↓ 1205

Selection using ↓↑

Confirm with STOP button

- Selection options:**
- Inactive back
 - DOWN full reversion
 - DOWN part. reversion
 - UP part. reversion
 - DOWN STOP
 - UP / STOP / retraction safety

BACKWARD
OSE 2 DISABLED SELECT/CHANGE
FORWARD 1220

OSE 2 SETTINGS
CONNECTED INACTIVE/BACK CONFIRM
↓ 1225



CAUTION!
*When using the automatic closing function, the safety device connected at the OSE 2 input has no limitation for the closing attempts after detection of an obstacle! For this reason, we recommend that it is used in this mode of operation exclusively for approved, contactless safety devices (light curtains)!

- Selection options:**
- Inactive back
 - DOWN full reversion*
 - DOWN part. reversion*
 - DOWN STOP
 - UP part. reversion
 - UP / STOP retraction safety

BACKWARD
8K2/PNEU 1 SETUP CONNECTED SELECT/CHANGE
FORWARD 1240

8K2/PNEU 1
CONNECTED INACTIVE/BACK CONFIRM
↓ 1245

8K2/PNEU 1
CONNECTED INACTIVE/BACK CONFIRM
↓ 1250



NOTE:
the 8.2 K Ω safety edges are switched to "STOP ONLY" in the pre-end position switch area.

- Selection options:**
- Inactive back
 - 8K2
 - Air wave switch (PNEU)

- Selection options:**
- Inactive back
 - DOWN full reversion
 - DOWN part. reversion
 - DOWN STOP
 - UP part. reversion
 - UP STOP / retraction safety

The test is enabled for the safety edges with air wave switches. After crossing the pre-end position switch, the control unit expects a signal from the air wave switch within a specified time window. This requires the DOOR with the safety edge to be in contact with the ground (pulse).

BACKWARD
8K2/PNEU 2 SETUP CONNECTED SELECT/CHANGE
FORWARD 1260

8K2/PNEU 2
CONNECTED INACTIVE/BACK CONFIRM
↓ 1265

8K2/PNEU 2
CONNECTED INACTIVE/BACK CONFIRM
↓ 1270

- Selection options:**
- Inactive back
 - 8K2
 - Air wave switch (PNEU)

- Selection options:**
- Inactive back
 - DOWN full reversion
 - DOWN part. reversion
 - DOWN STOP
 - UP part. reversion
 - UP STOP / retraction safety

Commissioning



CAUTION!
The obstacle detection (force detection) is effective only in the UP direction of travel and must be adapted to the respective door!
No obstacle detection is effective in the door DOWN direction!



CAUTION!
After the activation of obstacle detection (force detection), at least one complete teach-in run must be performed without interruption in the UP and DOWN directions in goto operation!
Only when this has been done is the obstacle detection active and effective!



NOTE:
The "Obstacle detection during UP" function is only available from software version P - 21d7.8 (May 2015)!

BACKWARD
FORCE DETECTION UP
FORWARD 1280

↑
SENSITIVITY (0)-
↓ 1280

Select the sensitivity using ↓↑

Confirm with STOP button

Setting range:
0 (disabled) to 10 (maximum sensitivity)

Automatic close (1500)



NOTE:
This function is possible only if a photocell is used and it is active for the CLOSE direction of movement (menu item 1100 or 1115).

Change the value / selection using ↑↓

Confirm with STOP button

↑
CLOSE AFTER TIME 0 s CONFIRM
↓ 1510

Setting range:
0 to 999 seconds



NOTE:
When using a light curtain, no additional photocell is required.
This input (terminals 28 + 30) can be jumpered.



NOTE:
The setting 0 s means that automatic closing after time is disabled.

↑
PREMATURE CLOSE INACTIVE CONFIRM
↓ 1520

↑
PREMATURE CLOSE PHOTO RELAY CONFIRM
↓ 1520



NOTE:
The effect of this function is that the door closes again immediately after an interruption of the photocell (without the hold open time running out).
This function is disabled by default.

Commissioning

Adjust relay (1600)



NOTE:
Relay 1 is available only if it is not being used to control the brake (factory setting: brake active).

Selection options:

- Inactive
- End position
- Movement
- El. lock



NOTE:
Function field:

RELAY 1 INACTIVE
1620
(0) -> CHANGE

Select / proceed to next or previous relay via ↑↓

Confirm with STOP button

"INACTIVE" flashes!

RELAY 1 INACTIVE
(0) -> CHANGE 1620

RELAY 1 INACTIVE
STOP (0): SAVE CHANGES OTHER KEY: CANCEL
(0) -> CHANGE

RELAY 1 END POSITION
POS: ___ MODE : PERMANENT
(0) -> CHANGE 1620

RELAY 1 END POSITION
POS: ___ MODE : PERMANENT
(0) -> CHANGE 1620

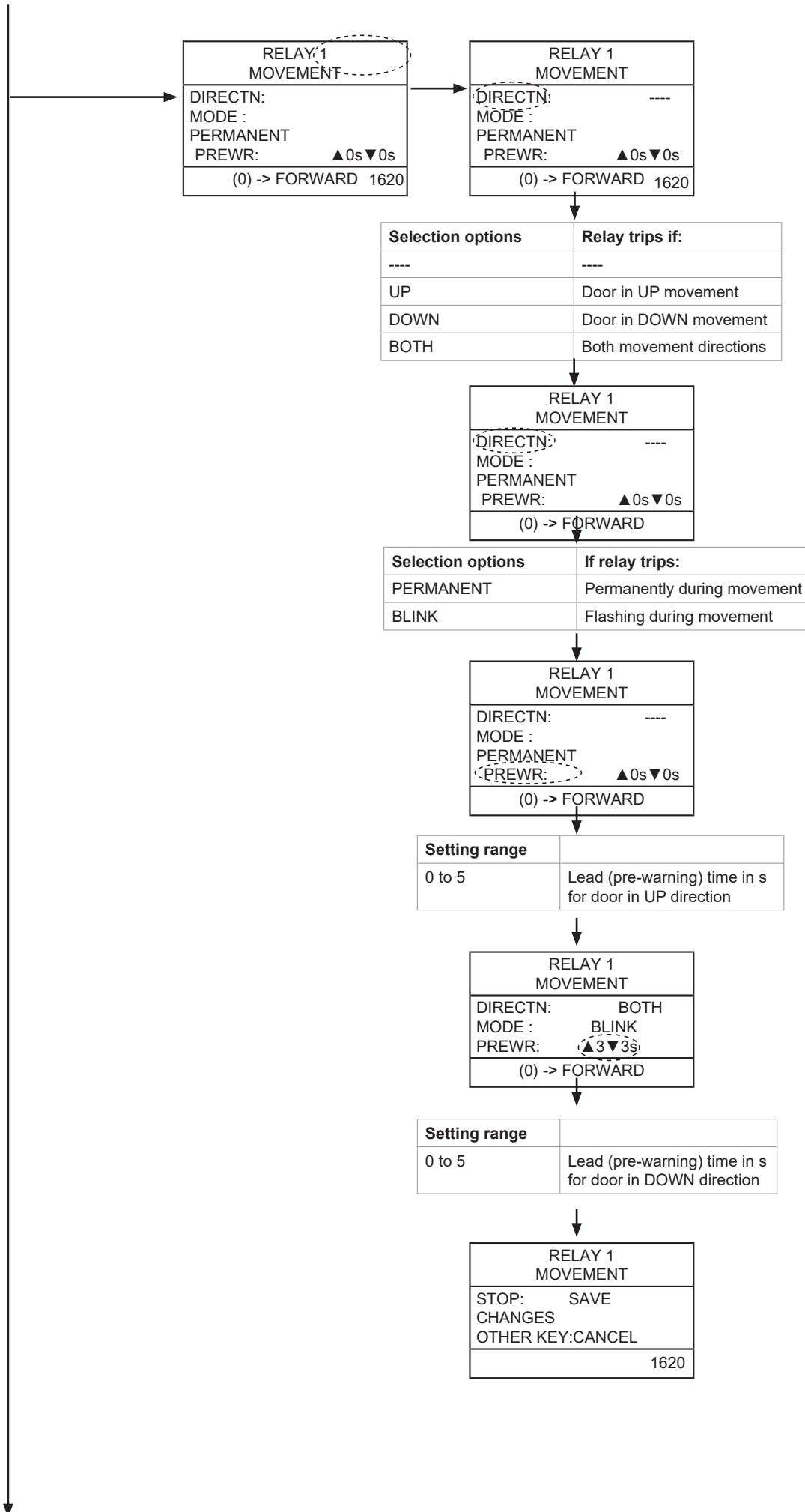
Selection options	Relay trips if:
----	----
TOP	End position top is reached
BOTTOM	End position bottom is reached
BOTH	One of the two end positions is reached

RELAY 1 END POSITION
POS: ___ MODE : PERMANENT
(0) -> FORWARD 1620

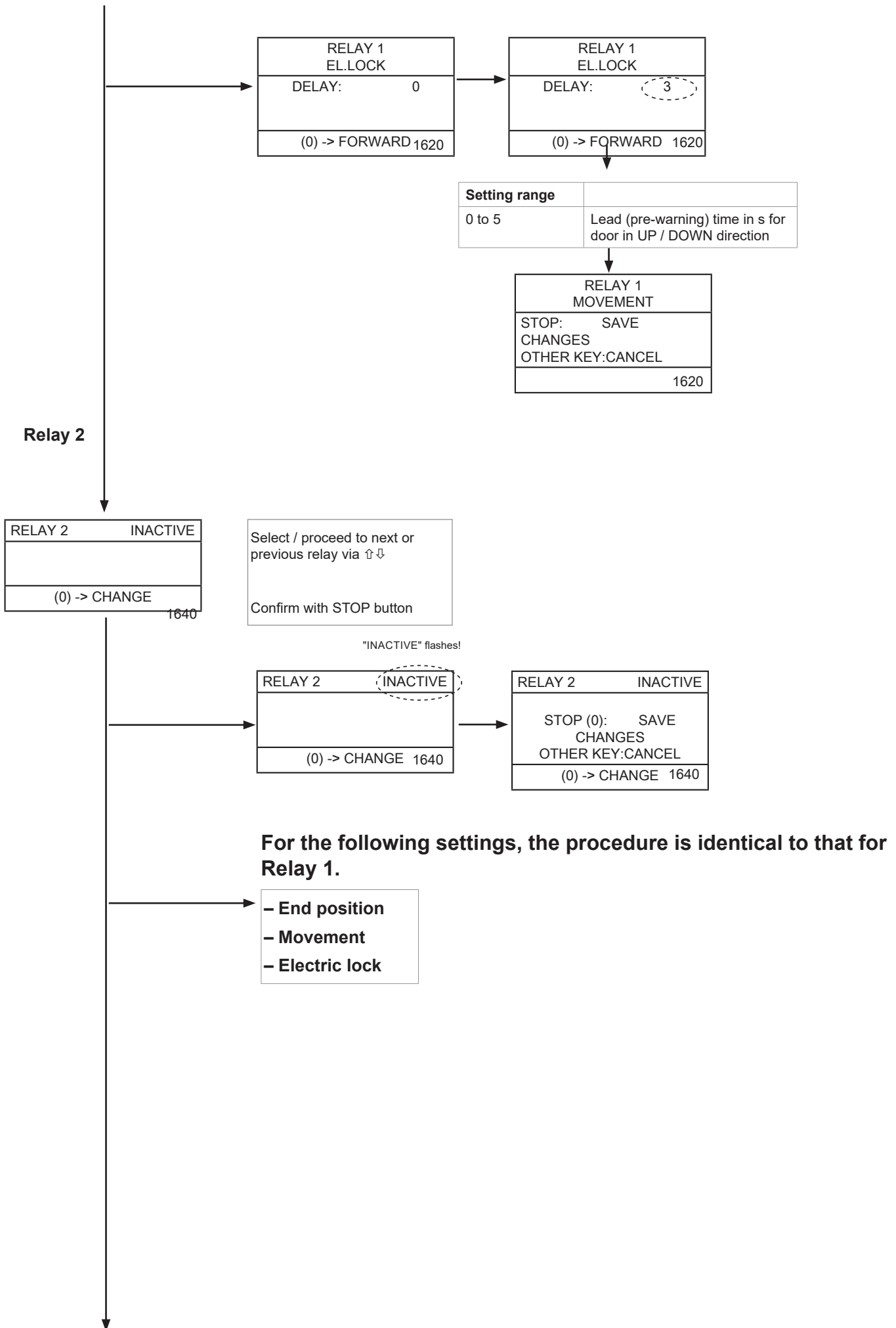
Selection options	If relay trips:
Permanent	Permanently in end position
Pulse	Pulse in end position / pulse duration approx. s

RELAY 1 END POSITION
STOP: (0) SAVE CHANGES OTHER KEY: CANCEL
(0) -> FORWARD 1620

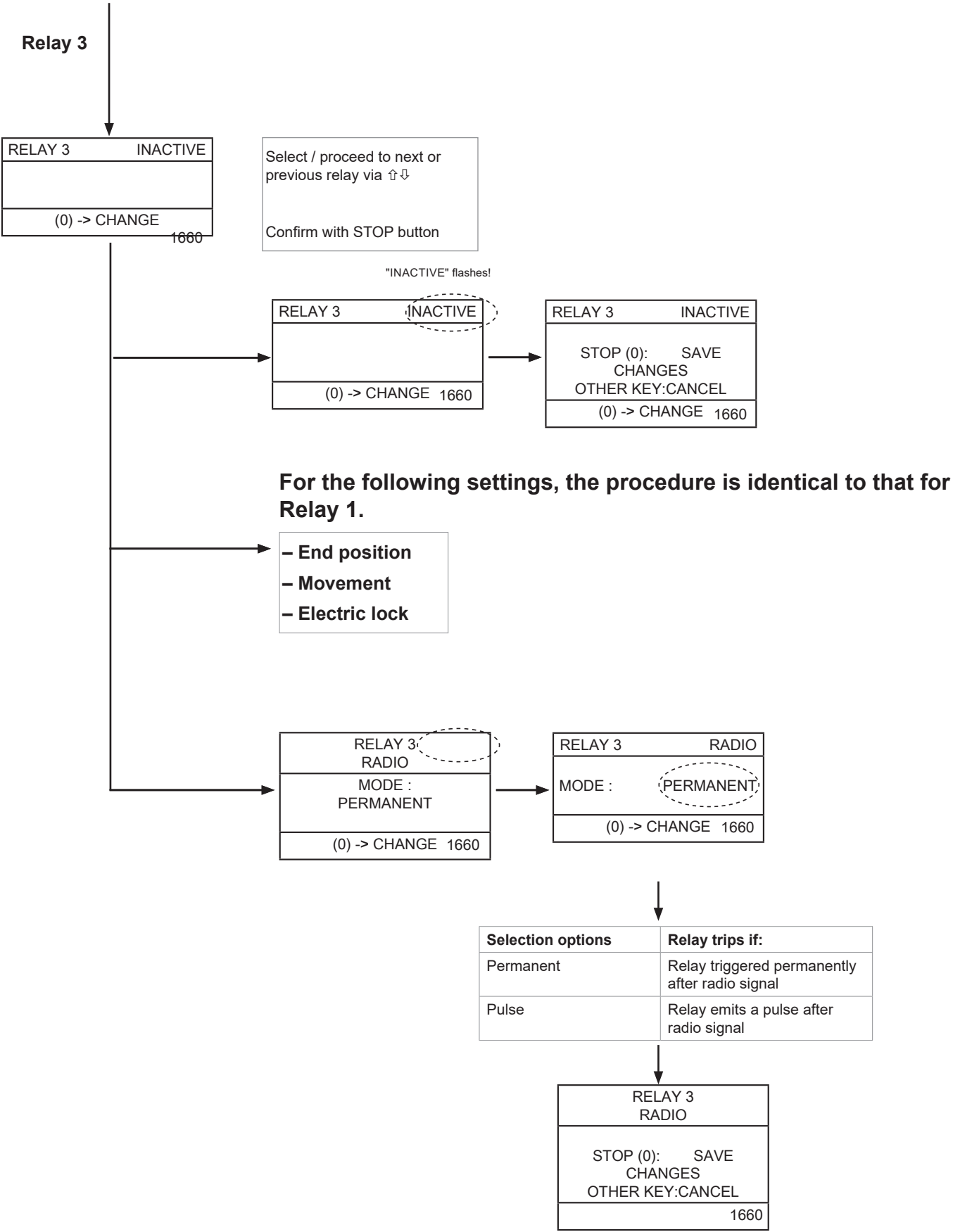
Commissioning



Commissioning



Commissioning



Commissioning

Partial opening (1700)



NOTE:

Partial opening does not function in "TWO WAY TRAFFIC" mode of operation!



NOTE:

If the partial opening function is used, the control unit behaves as follows:

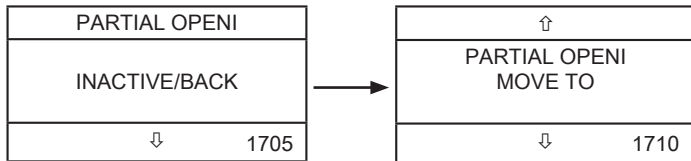
Press button once = partial opening

Press button twice = door opens completely



NOTE:

The behaviour of an external command device (terminals 7 + 8 "OPEN") or a handheld transmitter can be defined under the menu item "Service (2500)" – "MODE EXT. KEY UP (2565)."



Move to the desired partial opening height via ↑↓
Confirm with STOP button

Selection options:

- Inactive back
- Enabled



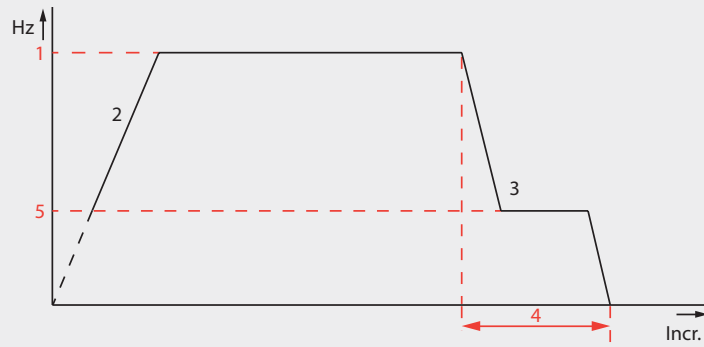
NOTE:

The menu items shown on the following pages on a grey background (frequency converter (inverter) and traffic light settings) are only available if a frequency converter or traffic light module is connected! Otherwise, these menu items are not available!

Commissioning

Inverter profile UP (1900)

1. Max. speed (Hz)
2. Startslope (ms)
3. Stopslope (ms)
4. Stopslope (inc.)
5. Slow gear (Hz)



↑
MAX VELOCITY UP 80 HZ CONFIRM
↓ 1910

Select the frequency for the desired speed via ↑↓
Confirm with STOP button

Setting range:

20 Hz to 120 Hz

↑
STARTSLOPE UP 700 MS CONFIRM
↓ 1920

Select the desired time via ↑↓

Confirm with STOP button

Setting range:

512 ms to 2000 ms



NOTE:

The steepness of the acceleration slope changes with the change in frequency.

↑
STOPSLOPE UP 700 MS CONFIRM
↓ 1930

Select the desired time via ↑↓

Confirm with STOP button

Setting range:

512 ms to 2000 ms



NOTE:

The steepness of the stopslope changes with the speed adjustment.

↑
STOPSLOPE UP POS: 400 INCR. CONFIRM
↓ 1950

Select the desired position via ↑↓

Confirm with STOP button

Setting range:

0 incr. to 1000 incr.



NOTE:

This value is the difference to the end position at which the stopslope (ms) is initiated to switch to the slow gear.

↑
SLOW GEAR UP 40 HZ CONFIRM
↓ 1960

Select the desired time via ↑↓

Confirm with STOP button

Setting range:

20 Hz to 50 Hz

< Max. velocity



NOTE:

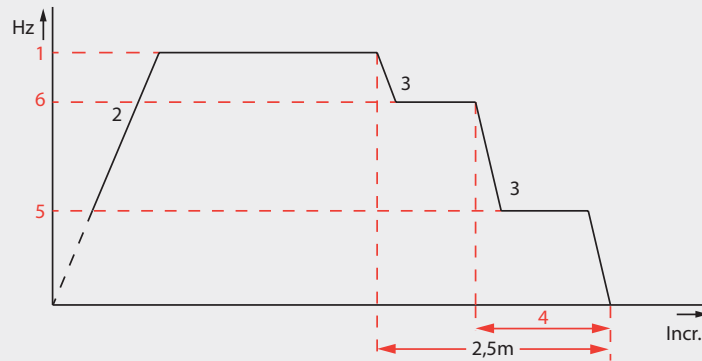
This value is the frequency for the desired speed from which the door is stopped at the end position.

↑
SENDING PARAMETERS PARAMETER 3/14
↓ 2095

Commissioning

Inverter profile DOWN (2000)

1. Max. speed (Hz)
2. Startslope (ms)
3. Stopslope (ms)
4. Stopslope (incr.)
5. Slow gear (Hz)
6. Medium gear (Hz)



↑
MAX VELOCITY DOWN 50 HZ CONFIRM
↓
2010

Select the frequency for the desired speed via ↑↓
Confirm with STOP button

Setting range:

20 Hz to 120 Hz

↑
STARTSLOPE DOWN 700 MS CONFIRM
↓
2020

Select the desired time via ↑↓

Confirm with STOP button

Setting range:

512 ms to 2000 ms



NOTE:

The steepness of the acceleration slope changes with the change in frequency.

↑
STOPSLOPE DOWN 700 MS CONFIRM
↓
2030

Select the desired time via ↑↓

Confirm with STOP button

Setting range:

512 ms to 2000 ms



NOTE:

The steepness of the stopslope changes with the adjustment of the speed.

↑
STOPSLOPE DOWN POS: 400 INCR. CONFIRM
↓
2050

Select the desired position via ↑↓

Confirm with STOP button

Setting range:

0 incr. to 1000 incr.



NOTE:

This value is the difference to the end position at which the stopslope (ms) is initiated to switch to the slow gear.

↑
SLOW GEAR DOWN 40 HZ CONFIRM
↓
2060

Select the desired time via ↑↓

Confirm with STOP button

Setting range:

20 Hz to 50 Hz

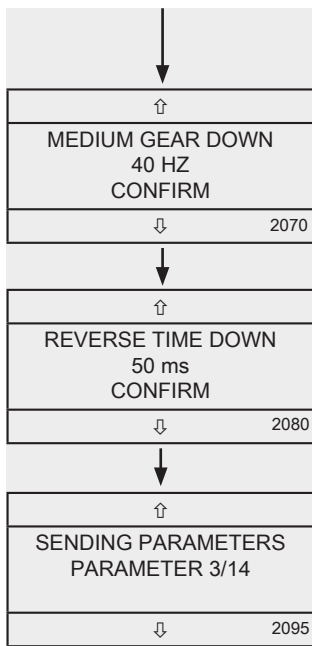
< Max. velocity



NOTE:

This value is the frequency for the desired speed from which the door is stopped at the end position.

Commissioning



Select the frequency for the desired speed via ↑↓
Confirm with STOP button

Setting range:
Limited by slow gear and max. speed



NOTE:
This value is the frequency for the desired speed from which the door is stopped at the end position from 2.5 m in the DOWN direction in order to comply with the closing forces.

Select the desired time via ↑↓
Confirm with STOP button

Setting range:
100 ms to 1000 ms

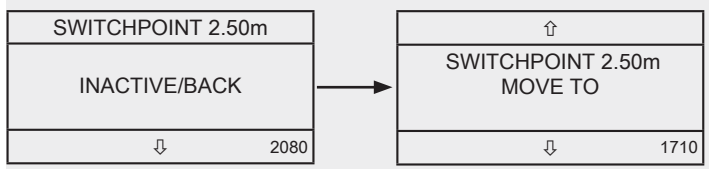
Inverter parameter door DOWN switchpoint 2.5 m (2080)

(medium gear)

CAUTION!
It is essential to ensure that the set speed is reduced from the switchpoint to such an extent that the required closing forces are observed!



NOTE:
Movement to the switchpoint takes place during the adjustment in deadman mode and slow gear!



Enable / move to the desired position using ↑↓
Confirm with STOP button

Selection options:

- Inactive back
- Enabled

Commissioning

Adjust traffic light control (2200)

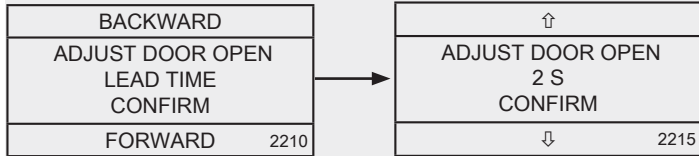


NOTE:

The individual times can be selected separately!

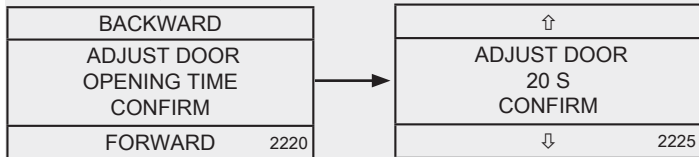
Select the desired time
via ↑↓

Confirm with STOP button



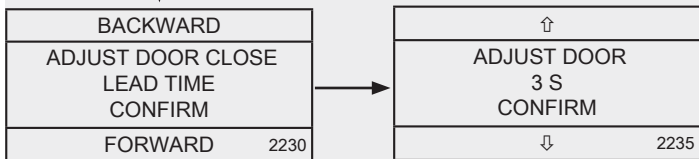
Setting range:

0 s to 255 s



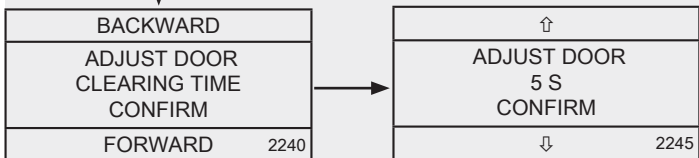
Setting range:

0 s to 255 s



Setting range:

0 s to 255 s



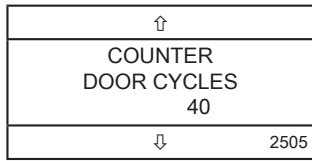
Setting range:

0 s to 255 s

Adjustable times	Meaning
Door OPEN lead time	Lead time before the door starts in UP direction
Opening time	Time after which the door closes automatically
Door CLOSE lead time	Lead time before the door starts in DOWN direction
Clearing time	Time for clearing the roadway before the traffic lights switch

Commissioning

Service (2500)

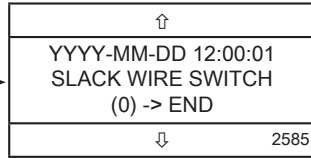
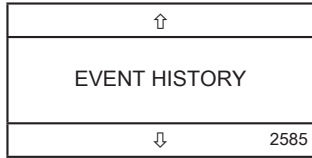


View the events / change the selection using ↑↓

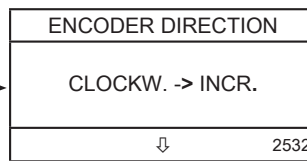
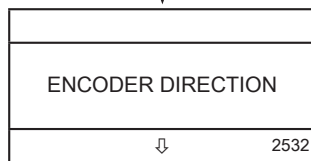
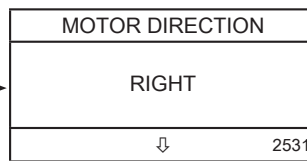
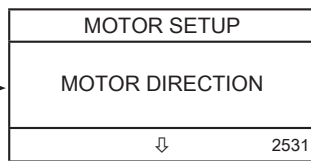
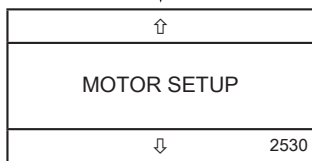
Confirm with STOP button



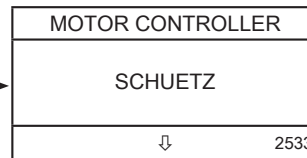
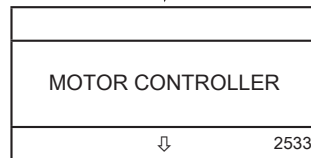
NOTE:
1 door cycle = door UP
+ door DOWN



CAUTION!
In the case of a motor change from frequency converter to 400 V, the motor plug must not be connected.



Abbreviation	Meaning
Clockw.	clockwise
Incr.	increasing
Decr.	decreasing



Selection options:

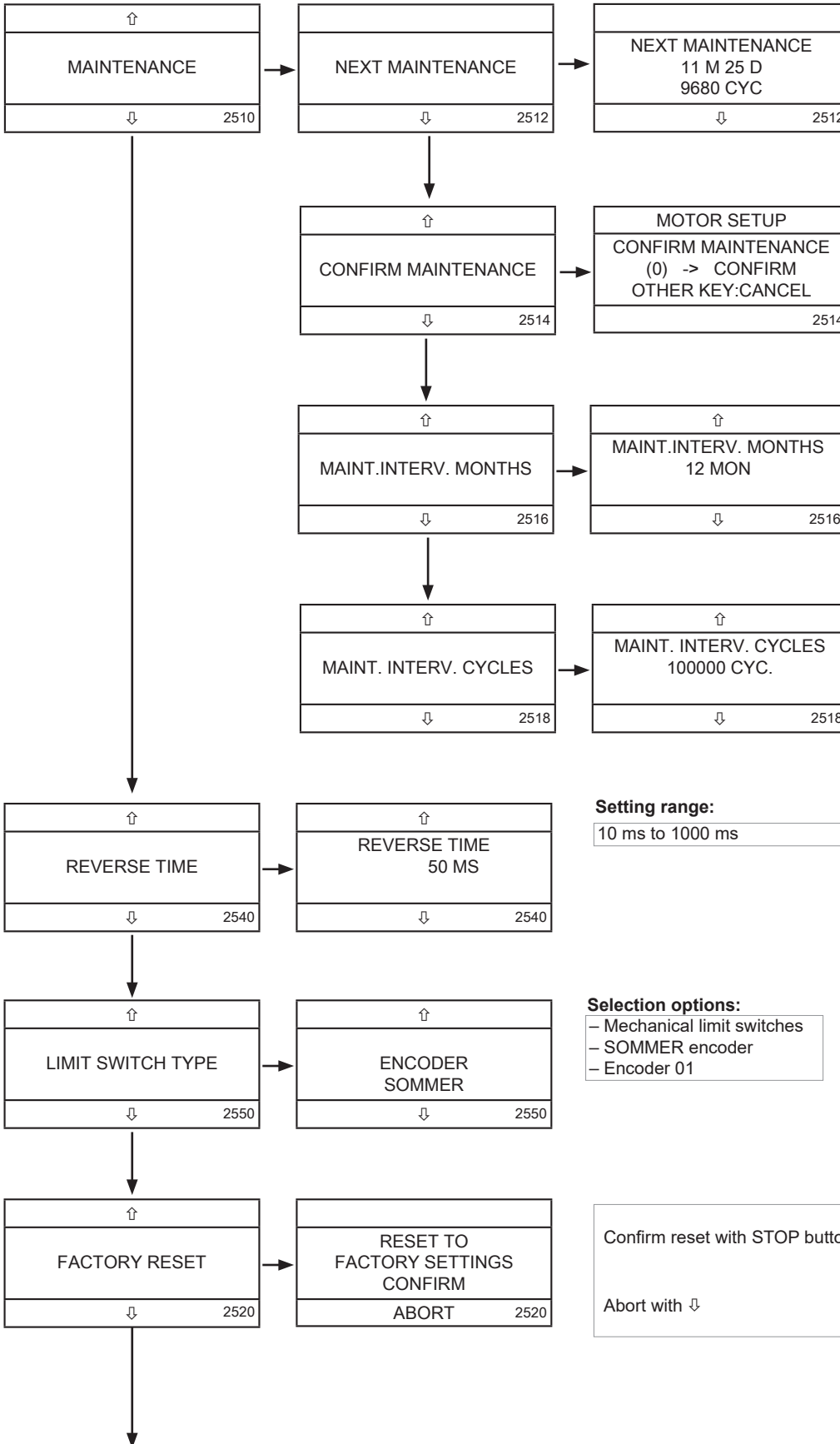
- Contactor
- Frequency converter



Commissioning

View the events / change the selection using ↑↓

Confirm / select with the STOP button



NOTE:
Display next maintenance

M = months
D = days
CYC = cycles

On completion of maintenance, confirm with STOP button

Setting range:

3 months to 24 months

Setting range:

1000 cycles to 100000 cycles

Setting range:

10 ms to 1000 ms

Selection options:

- Mechanical limit switches
- SOMMER encoder
- Encoder 01

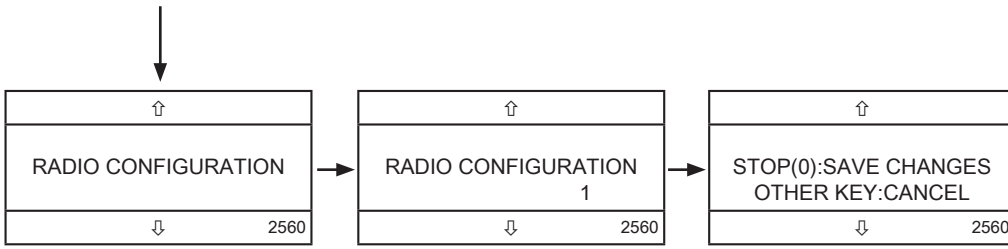


NOTE:
When mechanical limit switches are used, this setting must be made accordingly.

Confirm reset with STOP button

Abort with ↓

Commissioning



Selection options:
Configuration 1 to 4

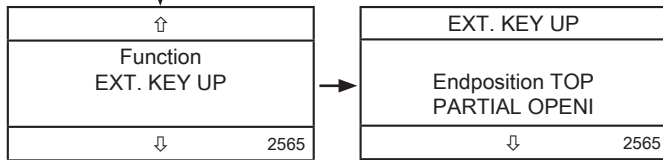
	Channel 1	Channel 2	Channel 3	Channel 4
Configuration 1	Pulse control	Partial opening	UP	DOWN
Configuration 2	Pulse control	OPEN	CLOSE	Relay
Configuration 3	OPEN internal	OPEN external	CLOSE	Relay
Configuration 4	OPEN	Partial opening	CLOSE	Relay



NOTE:
See menu item 1660 (relay 3).

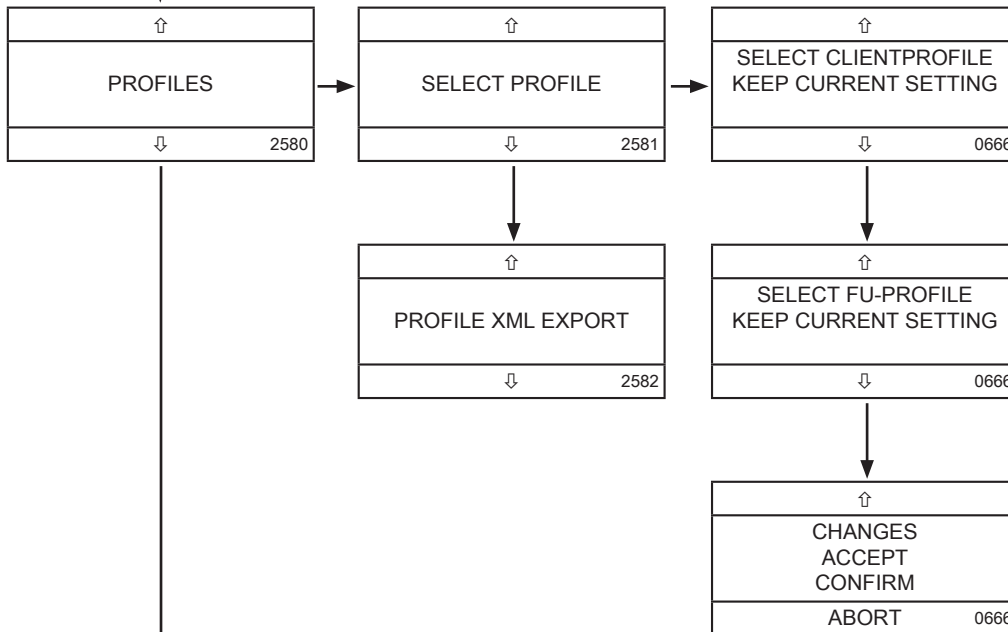


NOTE:
The radio command OPEN corresponds to the setting of the EXT. KEY UP in menu item 2565!



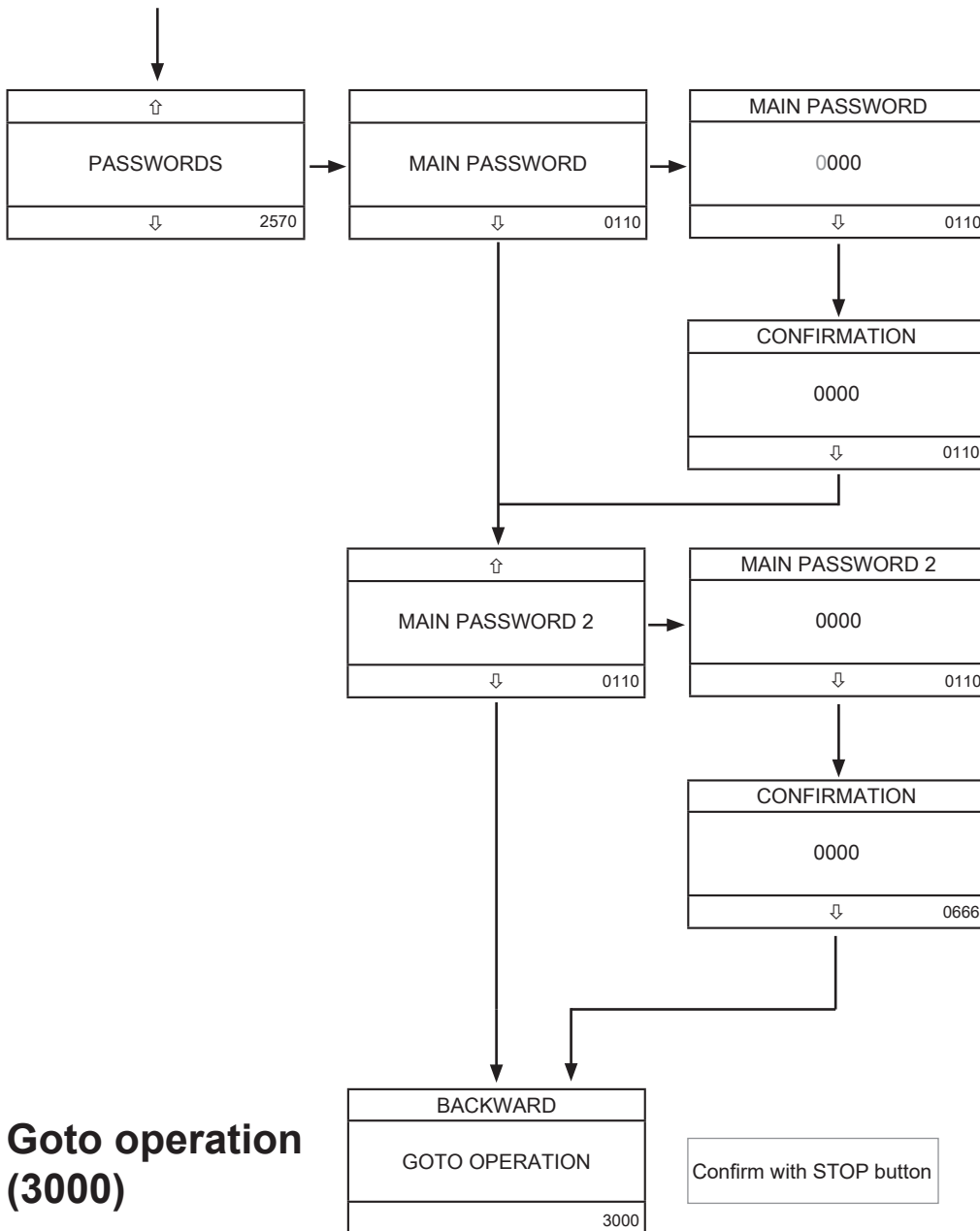
Selection options:

End position top partial opening	Both positions can be moved to
End position TOP	Only the upper end position is moved to
Partial opening	Only the partial opening position is moved to



NOTE:
Customer profiles are presets for safety devices and modes of operation set at the factory.

Commissioning



Select the respective digit with ↑↓ and confirm with "STOP."
 ⇒ The active position flashes.
 ⇒ The next position is automatically selected.

i **NOTE:**
 The passwords must be entered a second time for confirmation.

Goto operation (3000)

Commissioning

Error messages

The control unit is self-monitoring and partially self-healing. This means that it detects errors (including errors in connected devices) and shows them on the LCD display.

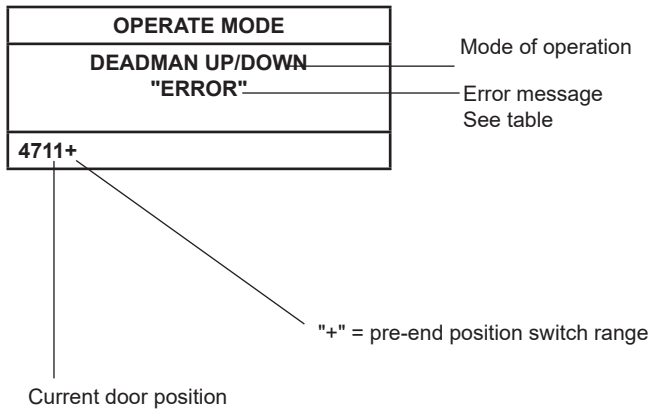
Depending on the severity of the error, the display is automatically reset after correction of the error or must be manually reset as directed.

All errors and events that affect the safety of the system are logged with date and time. They can be viewed in the Service menu under "Event history".



NOTE:

Self-healing means that the control unit automatically resets the error display as soon as the error has been corrected.



* Error classes:

F = fatal error
S = serious error
D = defect
E = safety event

** Event is logged in the service menu (parameter menu)

	Error message	Error class*	Log**	Self-healing
1	Security Chain Safety chain 1 triggered	S	Yes	Yes
2	Slack rope switch Safety chain 2 triggered	S	Yes	Yes
3	Inverter error Communication error in inverter	S	Yes	No
4	Encoder Communication error with absolute value encoder	F	Yes	Yes
5	Inv. thermal (Inverter has signalled overheating via RS485)	S	Yes	Yes
6	Inverter overcurrent Inverter has signalled overcurrent	F	Yes	No
7	Inverter overvoltage (Inverter has signalled overvoltage)	F	Yes	No
8	Inverter safety shutdown	S	Yes	Yes
9	OSE 1 triggered	E / D	No	---
10	OSE 2 triggered	E / D	No	---
11	SW.RAIL 1 ERROR	D	Yes	Yes
12	SW.RAIL 1 TRIGGERED	E	No	---
13	SW.RAIL 2 ERROR	D	Yes	Yes
14	SW.RAIL 2 TRIGGERED	E	No	---
15	2-W PHOTOCCELL ERROR	D	No	---
16	4-W PHOTOCCELL ERROR Only with tested photocell	D	Yes	Yes
17	4-W PHOTOCCELL TRIGG. Only with tested photocell	E	No	---
18	DOOR TOO SLOW Increments per second	S	Yes	Yes (with switch to deadman)
19	DOOR TOO FAST Increments per second	S	No	Yes
20	WRONG DIRECTION Door moves in the opposite direction to that expected by the control unit	S	No	Yes
21	Error in configuration Error in configuration data	F	Yes	No
22	Safety limit switch End position TOP or BOTTOM was overrun	S	Yes	Yes
23	Check motor Check encoder Despite the start command of the control unit, the encoder values are not changed	F	Yes	No

Factory settings

Factory settings:

Language:		English
Date / time		Unchanged
Brake		Active
Upper brake point		20
Lower brake point		20
Brake delay		0
End positions		Position retained
Pre end position switch		Position retained
Safety limit switch		100 increments
Mode of operation		Impulse UP / Deadman DOWN
Safety devices	Safety input tested / untested	Disabled
	2-wire photocell	Disabled
	OSE 1	Disabled
	OSE 2	Disabled
	Safety edge 1	Disabled
	Safety edge 2	Disabled
Automatic close		0 sec. (disabled)
Relay 1		Brake
Relay 2		Inactive
Relay 3		Inactive
Partial opening		Pos. deleted
Inverter profile UP	Max. speed	50 Hz
	Startslope (ms)	700 MS
	Stopslope (ms)	700 MS
	Stopslope (inc.)	400 inc.
	Slow gear	40 Hz
Inverter profile DOWN	Max. speed	50 Hz
	Startslope (ms)	700 MS
	Stopslope (ms)	700 MS
	Stopslope (inc.)	400 inc.
	Slow gear	40 Hz
	Medium gear	40 Hz
	Emergency reverse time	50 ms
Switchpoint 2.5 m		Pos. deleted
Traffic light control	Door UP lead time	3 sec.
	Opening time	20 sec.
	Door DOWN lead time	3 sec.
	Clearing time	5 sec.
Door cycles		Unchanged
Event history		Unchanged
Motor setup	Motor direction	Unchanged
	Encoder direction	Unchanged
	Motor controller	Unchanged
Service interval	Time	12 months
	Cycles	10,000 cycles
Emergency reverse time		50 MS
Limit / end position switch type		Unchanged
Password		0000



NOTE:

These factory settings are applicable for standard control units only. There may be differences with personalised control units. See Factory settings (Menu 2520) page 42.

Accessories

Radio (optional)

Programming from menu item 2560 et seq.

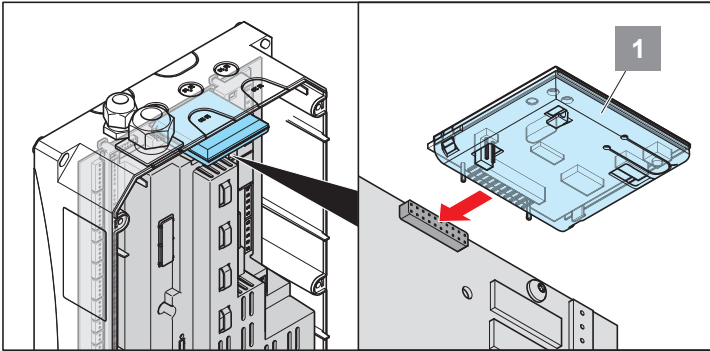
Four radio channels are available when using the 868.8 MHz or 434.42 MHz radio receiver.

Every radio channel has a preset function which can be changed manually in the radio configuration menu.



NOTE!

See separate instructions for the radio receiver!



Radio channels

	Channel 1	Channel 2	Channel 3	Channel 4
Radio mode 1	Pulse control	Partial opening	OPEN	CLOSE
Radio mode 2	Pulse control	OPEN	CLOSE	Relay
Radio mode 3	OPEN internal	OPEN external	CLOSE	Relay
Radio mode 4	OPEN	Partial opening	CLOSE	Relay

Accessories

Traffic light module / two way traffic control (optional)

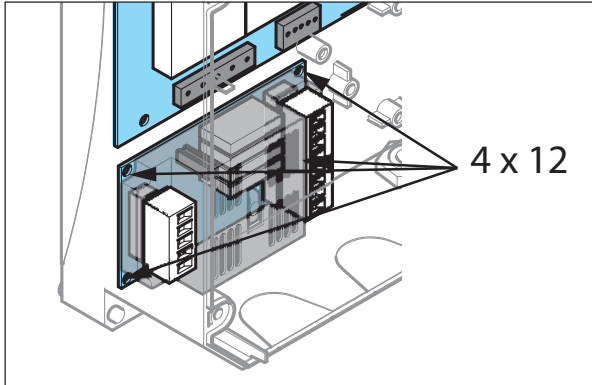
Programming from menu item 2200 et seq.

Mechanical installation



CAUTION

Before working on the control unit, always disconnect the power plug or disconnect the mains voltage at a main switch (lock to prevent reactivation).



1. Open control unit housing
2. Install traffic light module in the control unit housing with the four 12 mm bolts

Electrical installation



NOTE:

The traffic lights require an external power source!



NOTE:

The output contacts of the traffic light module are floating!

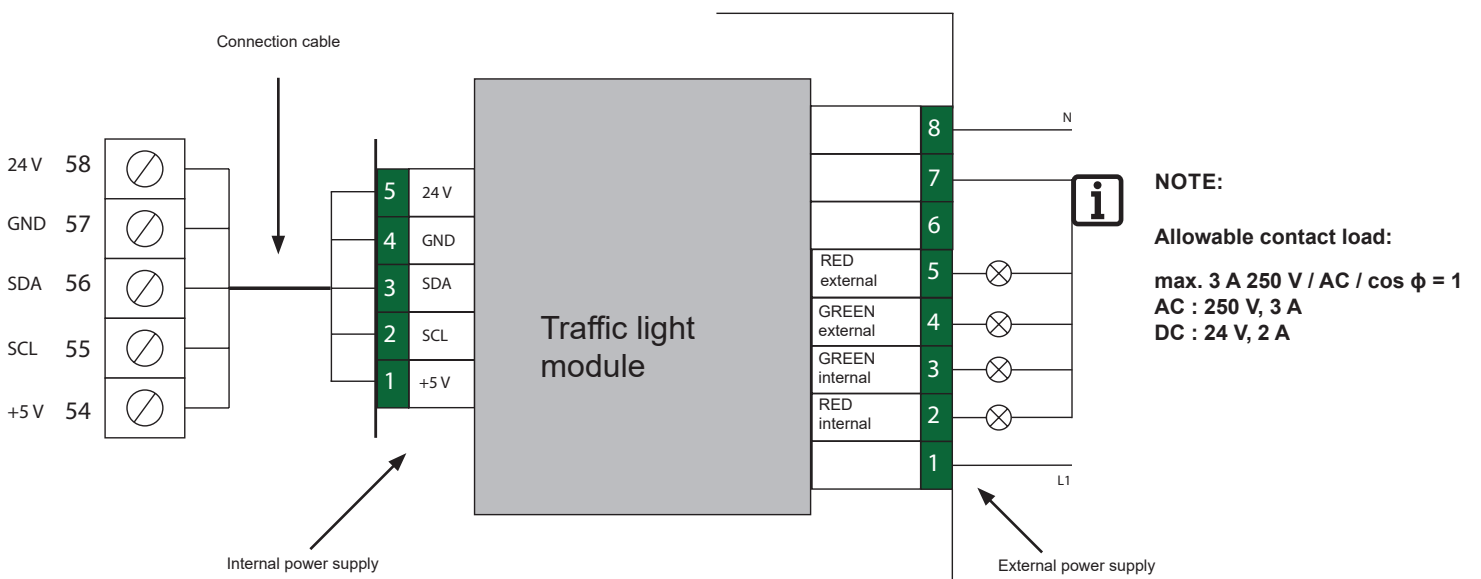


NOTE:

If the traffic light module (two way traffic control) is used, the button assignment for the door UP command is as follows:

From the inside: Internal button on control unit or external pulse button

From the outside: External button of multiple button



Accessories

Induction loop module (optional)

Technical data:

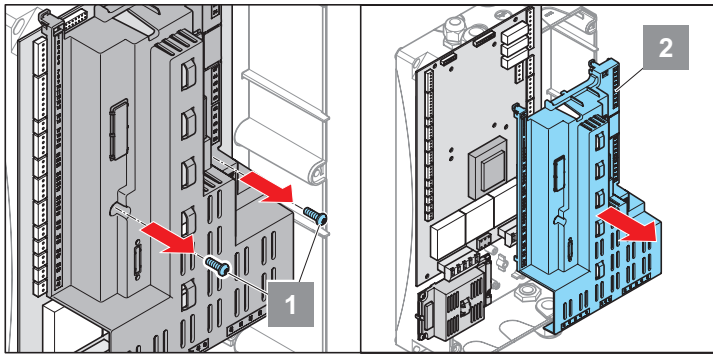
Power consumption	1 VA
Response time	200 ms
Loop inductance	100 – 1000 μ H
Loop frequency range	20 to 120 KHz



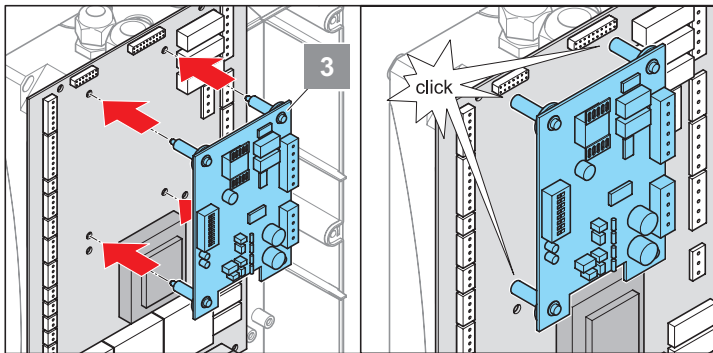
CAUTION!

Before working on the control unit, always disconnect the power plug or disconnect the mains voltage at a main switch (lock to prevent reactivation).

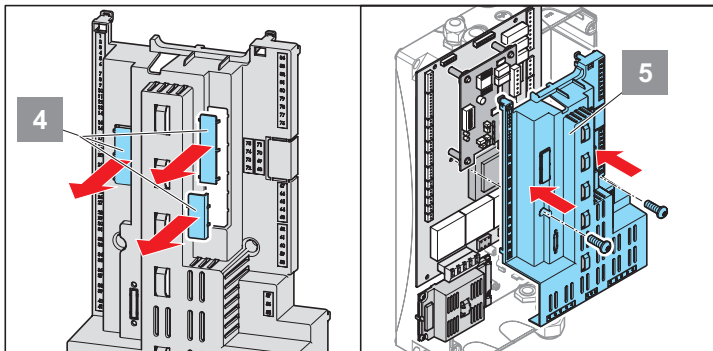
Retrofit:



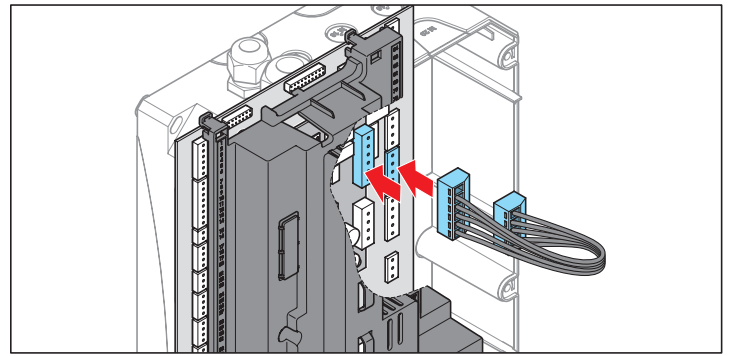
1. Unscrew bolts
2. Remove cover



3. Fit induction loop module
⇒ Spacers lock



4. Break out openings for terminal area from cover
5. Replace the cover



6. Connect the control unit and the induction loop module with the connection cable
⇒ Plug-in terminal (top terminal strip) on the induction loop module
⇒ Plug-in terminals: 59 – 63 on the control unit



CAUTION!

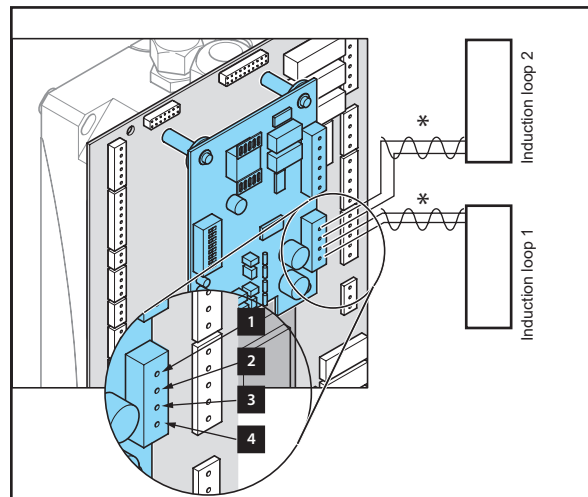
No electrical isolation between loop and operating voltage!



NOTE:

Do not install these cables in the same duct as high-voltage cables!

Connecting induction loops:

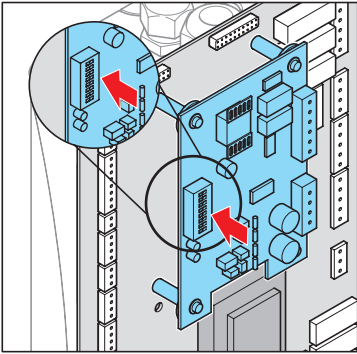


7. Connect induction loops
⇒ Terminals 1 + 2 = induction loop 2
⇒ Terminals 3 + 4 = induction loop 1

*Twist wires (20 x / metre line length)

Accessories

DIP switches 1 + 2 (frequency adjustment for loop 1)



Switch 1	Switch 2	Frequency
OFF	OFF	Standard frequency f
ON	OFF	f – 10 %
OFF	ON	f – 15 %
ON	ON	f – 20 %

Switches 1+2 can be used to change the loop frequency for loop 1 in 4 steps. This prevents the loops from interfering with each other.

When the frequency switch is actuated, loop 1 must be recalibrated with the OFF / OFF position.

DIP switches 3, 4, 5, 6 (sensitivity)

Loop 1

Switch 3	Switch 4	Sensitivity
OFF	ON	Low (1)
ON	OFF	Medium (2)
ON	ON	High (3)
OFF	OFF	Loop disabled

Loop 2

Switch 5	Switch 6	Sensitivity
OFF	ON	Low (1)
ON	OFF	Medium (2)
ON	ON	High (3)
OFF	OFF	Loop disabled

i NOTE:
Recommended setting: medium

DIP switch 7 (direction detection)

Switch	Effect
OFF	Goto operation – the assignment states of the loops are output independently over the channels
ON	Direction detection enabled The signal is sent depending on the assignment sequence

Special features:

If loop 1 is actuated before loop 2, the signal output for loop 2 is blocked until both loops are free again.

If loop 2 is actuated before loop 1, the signal output for loop 1 is blocked until both loops are free again.

DIP switch 8 (sensitivity increase)

Switch	Effect
OFF	Normal sensitivity
ON	Loop sensitivity is increased. This mode of operation allows high vehicles (lorries) to be correctly recognised over their entire length

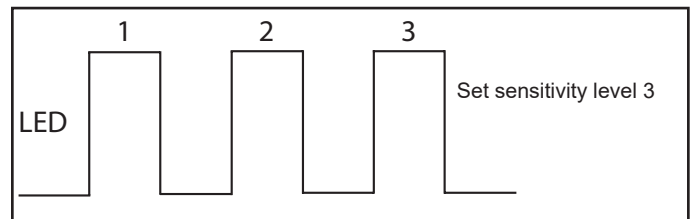
Testing sensitivity

The recommended sensitivity can be displayed using the LED display

i NOTE:
After the second step, one of the LEDs starts flashing.
The frequency of the flashing must be counted. The sensitivity is set manually based on the calculated value.

1. Drive a high vehicle, e.g. a lorry, over the induction loop
⇒ The induction loop module evaluates the values generated by the vehicle
2. Set DIP switches 3+4 and 5+6 to the "OFF" position
⇒ The recommended sensitivity setting is displayed by the flash frequency of the LED

e.g.:



Measuring the loop frequency

The recommended sensitivity can be displayed using the LED display



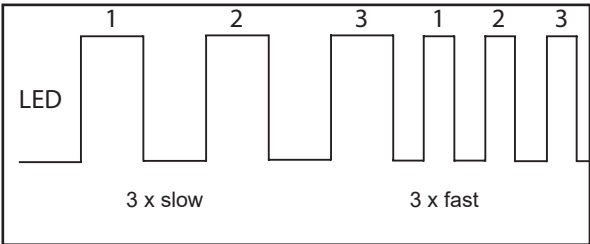
NOTE:

When the DIP switches (sensitivity switches) have been switched from OFF position to ON position, the LED belonging to the loop flashes.

The following items are important for measuring the loop frequency:

- 1. How often the LED flashes.
- 2. The frequency of flashing.

The loop frequency can be calculated based on the measured values.



Loop frequency = 33 KHz