

Installation and Operation Manual
Control units **CU-TR230-868/**CU-TR400-868

English



CONTENTS

1.	Safety rules and warnings	2
1.1.	General	2
1.2.	During installation	2
1.3.	During operation	3
2.	Product description	4
2.1.	Delivery kit	4
2.2.	Specifications	5
3.	Preparation for installation	5
4.	Installation	6
5.	Electrical connections	6
5.1.	Network and electric drive connections	6
5.2.	Connection of switches/drive encoder	7
5.3.	Connection of additional devices	7
6.	Settings	9
6.1.	Setting the end position of doors	10
6.2.	Radio control setting	12
6.3.	Setting operation parameters	19
6.4.	Reset to factory settings	26
6.5.	Cycle counter data	27
7.	Inscription	28
8.	Verification of operation and commissioning	30
9.	Maintenance service	31
10.	Malfunctions and recommendations for their elimination	32
11.	Storage, transportation, disposal	34
12.	Warranty obligations	34
13.	Commissioning certificate	35
14.	Information on the performed works	36
15.	Information on repairs during warranty period	37

1. SAFETY RULES AND WARNINGS

1.1 GENERAL



ATTENTION! This manual contains important safety information. Please read all information below carefully before installation and operation. Keep this manual for future reference!

Follow the safety and labor protection rules regulated by current normative documents and this manual. Failure to comply with the rules can lead to serious damage, serious injury and injury, death. Observe the requirements of standards regarding the design, installation and door operation (EN 12604, EN 12453), as well as other possible local rules and regulations.



ATTENTION! Installation, connections, adjustment, commissioning, maintenance, dismantling and disposal of the product must be carried out by qualified (professional) and trained specialists (EN 12635), competent and specialized organizations. Installation, programming, adjustment and operation of the product in violation of the requirements of this manual is not allowed, as this can lead to damage and personal injury.

Do not start installation and operation of the product if you have any questions or if you do not understand anything. If necessary, contact your nearest ALUTECH service or office.

It is not allowed to make changes to any elements of the product design and use the product for other purposes. The manufacturer is not responsible for any damage caused by unauthorized changes to the product or misuse. When carrying out any work (installation, repair, maintenance, cleaning, etc.) and electrical connections, disconnect the power circuit. If the switching device is out of sight, attach a plate: 'Do not switch on. People are working' and take measures to eliminate the possibility of erroneous voltage supply.

The manufacturer and supplier do not exercise direct control over the installation of the product, and are not responsible for the safety of installation, operation and maintenance of the product.

The company reserves the right to make changes to this manual and product design without prior notice, while maintaining the same functionality and purpose. The contents of this manual can not serve the basis for legal claims.

1.2 DURING INSTALLATION



ATTENTION! The condition of all components and materials must be suitable for use and comply with applicable regulatory documents. The used tools and materials must be in full working order and comply with applicable safety regulations, standards and instructions.

Make sure that the product is used correctly (section '2. Product description'). The installation location of the product must comply with the declared temperature operating range indicated on the product label.

Remove all unnecessary parts (cables, ropes, angles, chains, etc.) before installation and turn off all unnecessary equipment.

Make sure that there is enough space for installation and operation of the product.

Make sure that the drive system devices are protected against accidental impact by passing vehicle. Otherwise, provide protective equipment (fences).

The surfaces of the installation locations of the devices must be durable and must be used as a reliable and rigid support, eliminating vibration. Otherwise, take measures to strengthen the installation locations. The control unit and other stationary control devices must be located

within the visibility of doors at a height of not less than 1.5 meters and at a safe distance from moving elements. Control devices should not be publicly available.

In the case of using radio remote controls, make sure that the installation location of the control unit provides high-quality radio signal reception (there are no shielding and reflective surfaces, other sources of radio emission). Otherwise, take measures to ensure the operation of the radio control (for example, the use of an external antenna).

The electrical network must be equipped with protective earth connection. Make sure that the earth connection system is correctly designed and connected. The section of the electrical network to which the product is connected must be equipped with a suitable short circuit protection device (circuit breaker or other equivalent device) in accordance with the features of the network and the product.

The electrical cables of the control and safety devices must be laid separately from the mains voltage cables. Cables should be protected from contact with any rough and sharp surfaces; use corrugations, pipes and cable entries when laying cables. For electrical connection of drive system components, use double insulated copper multi-strand cable. The features of used electric cables (cross-section, number of wires, length, etc.) must correspond to the connection diagram, device power, laying distance, laying method, and external conditions.

It is necessary to provide protection against crushing, impact, trapping, tightening and other hazards (EN 12604, EN 12453), it could be achieved by the installation of safety devices; installation of protective designs; maintaining safe distances and clearances, setting up the product. The operation of safety devices such as a safety edge or photo line (light curtain) must comply with the requirements of standards (EN 12978, EN 13849). Ensure safe operation of doors with automatic drive.

When operating outside the doors visibility zone or when automatic closing of doors is activated in the settings, photocells (or an equivalent safety device) must be installed.

The product and the entire drive system can be finally put into operation only when it's confirmed that the door and the structure its built-in correspond to the requirements and directives of the existing local rules and regulations.

1.3 DURING OPERATION



ATTENTION! The product should not be used by children or persons with limited physical, sensory or mental abilities, as well as persons with insufficient experience and knowledge, who have not been instructed about the use.

Do not let children play with control devices. Keep remote controls out of the reach of children.

Never grab onto moving doors or moving parts.

Make sure that there are no people, animals, vehicles or objects in the danger area before setting the doors in motion. Observe the movement of doors until they open or close completely. Passage is allowed when the doors are open, have completely stopped and motionless. Passage is forbidden when the doors are moving.

Do not stay (stop) in the zone of door movement. Automatic doors may be set in motion at an unexpected moment!

Inspect the drive system and doors regularly, in particular verify cables, springs, and mounting hardware for signs of wear, damage, or imbalance. It is forbidden to use a product requiring repair or adjustment, as a defect in installation and operation can lead to personal injury or damage to the product.

Monthly verify the operation of safety devices (safety edge, photocells, STOP devices, stopping the movement and others). Malfunction and faulty operation of safety devices can result in injury.

The product is not intended for use in acidic, salty or explosive atmospheres, on evacuation routes and emergency exits.

Foreign objects, materials from construction works, water or other liquid should not be inside the product and other electrical devices of the drive system. Operation of equipment in this condition is prohibited.

Sources of heat and open flames must be removed a sufficient distance from the product. Violation of this requirement can lead to damage to the product, cause its malfunction, lead to dangerous situations.

The product as part of the drive system must be serviced regularly to ensure efficient and safe operation. Maintenance and repairs must be documented by the persons performing them, and the owner must keep these documents.

Do not use the product if repairs are required!

2. PRODUCT DESCRIPTION

Control units CU-TR series are designed to control and manage the devices of the drive system of industrial sectional doors. Direct application is operation control of drives TR series*:

CU-TR230-868: TR-3531-230, TR-5024-230, TR-3531-230E, TR-5020-230E, TR-5024-230E

CU-TR400-868: TR-5024-400, TR-10024-400, TR-13018-400, TR-5013-400E, TR-5020-400E,
TR-5024-400E, TR-10024-400E, TR-13018-400E, TR-13012-400E

The drive system is a set of devices (electric drive, electric control unit, safety, control, alarm devices, sensors) that control the door movement and ensure the safe operation of doors.

2.1 DELIVERY KIT

The delivery kit is shown in *fig. 1*.



After receiving the product, make sure that the kit is complete and that the kit components are not visibly damaged. In case of discrepancies, contact the supplier.

* Drives with encoder are with the designation E.
Drives with mechanical end position switches are without designation E.

2.2 SPECIFICATIONS

Table 1

FEATURE	CU-TR230-868	CU-TR400-868
Supply voltage	230 V ± 10% ~	400 V ± 10% 3 N~
Network frequency, Hz	50	
Maximum drive power, kW	1	1.5
Maximum power consumption in standby mode (without additional devices), W	3	4
Power supply for additional devices	12 V DC/max. 150 mA 24 V DC/max. 250 mA	
Cross section of wires connected to connectors	max. 2.5 mm ²	
Radio control	868.35 MHz±0.15 MHz/dynamic code/ maximum of 32 remotes	
Protection degree	IP65 (professional installation)	
Operating temperature range, °C	-30...+65	
Gross weight, kg	2.7	2.9

Overall and mounting dimensions of the control unit are in *fig. 2, 3*. *Fig. 3* shows the dimensions if installation is on the unit body of external fixings.

Service life is 8 years, but not more than 100,000 full cycles when performing maintenance, installation and operation rules.

3. PREPARATION FOR INSTALLATION

1. Read section '1. Safety rules and warnings'. Make sure that all rules and requirements are followed and fulfilled.
2. Determine the location, where each drive system device will be installed. An example of a typical scheme of automation of sectional balanced industrial doors with a wicket is in *fig. 4*. Determine the installation locations of the control devices together with the user (owner).
3. Determine which devices (for safety, control, signaling, etc.) and accessories (electrical cables, cable channels, connectors, junction boxes, fasteners, etc.) that are not included in the complete kit must be purchased separately. Identify the electrical circuit, according to which all drive devices will be connected.



ATTENTION! Depending on the conditions and doors operational mode, identify corresponding safety devices, which are defined by safety regulations of your country or EN 12453 standard in accordance with safety type (minimal safety level). When delivered, the product is designed for use in manual mode (*tab. 13*, setting **P3-F1**).

4. Lay electrical cables in accordance with current regulations to the locations where the drive system devices are to be installed.
5. Install the required number of cable entries at the bottom of the control unit body (PG13.5 and PG9 entries are included in the complete kit). Previously drill apertures in the indicated places of the unit body (when the cover is closed) according to dimensions of the cable entry or cut them out (for example, with a sharp screwdriver in several places of one aperture). Do it carefully.

4. INSTALLATION

Install the control unit on a vertical surface within the visibility of doors (next to doors) at a height of at least 1.5 m (*fig. 4*) at a safe distance from the moving elements of doors. It is recommended to install the control unit relative to doors on the installation side of drive. The cable entries of the control unit must face down. The installation location of the control unit must ensure the opening (turn to the left) of the cover of the unit body.



Type of fasteners (dowels, self-tapping screws, etc.), install depending on the material and thickness of the surface (wall) on which the control unit is installed. For fixing the unit, there are four dowels with screw **5** in the kit (*fig. 1*). If they do not fit, then purchase the required fasteners yourself.

There are two ways to install the control unit:

OPTION 1. Installation with four hidden mounting apertures of the unit (*fig. 2*). To access the apertures, it is necessary to open the cover of the unit body by unscrewing four screws (*fig. 5*), previously carefully removing the cover frame. To mark apertures on the surface, use template **7** (*fig. 1*) from the unit kit.

OPTION 2. Installation with four external fasteners (*fig. 3*). On the base of the control unit body, use screws **4** (*fig. 1*) to install at the required mounting angle **3** (*fig. 1*). Then mark the fixing points on the mounting surface and fix the unit.

5. ELECTRICAL CONNECTIONS



ATTENTION! For electrical connections make sure that the mains power is disconnected (circuit breaker of the mains power is off)!

Follow electrical safety regulations!



Use a puller to remove the connectors. Gently pull with the puller by the connector (*fig. 6*), if necessary, in several locations along the length of the connector.

The door control buttons and the display window are located on the unit body cover (*fig. 7*). The buttons are connected to the electronic module of the unit by the manufacturer.

5.1 NETWORK AND ELECTRIC DRIVE CONNECTIONS

The network connection is performed to connector **1** of the unit (CU-TR230-868—*fig. 8*, CU-TR400-868—*fig. 9*). **L** is phase (phases), **N** is neutral. Protective earth is connected to connector **2**.



When connecting to the network, there should be provided a device disconnecting all poles from the network (for instance, automatic circuit breaker), which ensures full disconnection under conditions of over-voltage category III. The device should be installed in accordance with Electrical Installations Code and located at easily accessible place, at convenient and safe height (1.5-1.9 m).

The electric drive is connected to connector **10**.

The connection of connectors **4** and **12** is performed by the manufacturer:

- Network and electric drive TP series (230 V~) connection to the CU-TR230-868 control unit is presented in *fig. 10*.
- Network and electric drive TP series (400 V 3~) connection to the CU-TR400-868 control unit is presented in *fig. 11*.



When connecting the electric drive to the control unit, first read the section on electrical connections of the drive manual. Identify the required cable and the wire marking of cable supplied with the drive.

5.2 CONNECTION OF SWITCHES/DRIVE ENCODER

Connection a driver TR series with mechanical switches is shown in *fig. 12*. Limit switches (**B**) of drive are connected to **OP.L** and **CL.L** contacts. Function switches (**A**) of drive are connected to **5.L** and **P.L** contacts, which must be used when switching on in the unit menu the settings **P5-F7** and **P5-F1** (*tab. 13*), respectively. Contact **P.L** is not used in the CU-TR400-868 control unit!



Make sure that connector **18** is installed with a crossbar (is included in complete kit). If there is no connector with a crossbar, connect a crossbar between the **IN_S** and **O_S** contacts of connector **16**. When connecting the electric drive to the control unit, first read the section on electrical connections of the drive manual. Identify the required cable and the wire marking of cable supplied with the drive.

Connection a drive TR series with encoder is shown in *fig. 13*. Connection is performed using the cable provided with the drive.



ATTENTION! When using a drive with encoder, make sure that there are no connections (crossbars, switches) to connector **16** of the unit.

5.3 CONNECTION OF ADDITIONAL DEVICES



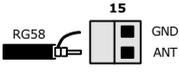
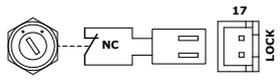
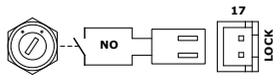
When operating, installing and connecting additional electrical devices (accessories), the manuals supplied with these devices must be observed. Incorrect connection may result in malfunction of the product. Use additional devices (accessories) offered by ALUTECH Company and with the required characteristics. ALUTECH Company is not responsible for the operation of the drive system when using additional devices produced by other manufacturers.

Designation of connectors and connector contacts in *tab. 2*:

CU-TR230-868—*fig. 8*, CU-TR400-868—*fig. 9*.

Table 2

CONNECTOR	CONTACT	DESCRIPTION
20	A	The input of the 'OPEN/CLOSE' control devices (<i>fig. 14</i> , ALARM) with a normally open contact (NO). Depending on the direction selected in the settings (<i>tab. 13</i> , P7-F5), actuation the input will open or close the doors. During the operation (closure) of the input, all other control commands are not executed
	OP	The input of the control devices 'Open' (<i>fig. 14</i> , OPEN) with a normally open contact (NO). The control command OPEN is executed when actuation with the factory settings. The logic of operation depends on the settings (<i>tab. 13</i> , P3-F8)
	GND	General contact
	CL	The input of the control devices 'Close' (<i>fig. 14</i> , CLOSE) with a normally open contact (NO). The control command CLOSE is executed when actuation
	SBS	The input of the control devices 'Step by step' (<i>fig. 14</i> , STEP BY STEP) with a normally open contact (NO). The control command STEP BY STEP is executed when actuation with the factory settings. The logic of operation depends on the settings (<i>tab. 13</i> , P3-F8)
	P	The input of the control devices 'Pedestrian' (<i>fig. 14</i> , PEDESTRIAN) with a normally open contact (NO). With the doors fully closed (in the final closing position), the actuation will open the doors during the time set in the setting (<i>tab. 13</i> , P1-F9)

CONNECTOR	CONTACT	DESCRIPTION	
20	S	The input of the control devices 'Stop' (fig. 14, STOP) with a normally closed contact (NC). Actuation will immediately stop the door movement or block the start of the door movement	
	+24 V	Power output of additional devices. Supply voltage 24 V DC (DC)/max. 250 mA	
	+12 V	Power output of additional devices. Supply voltage 12 V DC (DC)/max. 150 mA	
	SE	Security resistive edge connection input 8.2 kOhm (fig. 14, 8K2) or optical safety edge connection (fig. 15, OSE). In the settings (tab. 13, P7-F4), the type of edge (sensor) is set. Contact of the door leaf with an obstacle when closing (actuation of the installed sensor) will stop the door movement and then open it (tab. 13, P5-F5)	
	PH1	Security device input (photocells, fig. 16) with normally closed contact (NC). Actuation when closing will stop the door movement and then open it (tab. 13, P5-F5), or block the start of closing	
	PHT	An output for automatic verification the operation of photocells (PHOTOTEST) connected to the input PH1 . In the settings (tab. 13, P7-F3), the PHOTOTEST is enabled. Before starting the movement, briefly turning off, then turning on the power of photocells, an automatic verification of the photocell operation is performed. An example of a scheme for connecting photocells with a power off of the photocell transmitter is shown in fig. 16. An example of a scheme for connecting photocells with a transmitter powered by batteries is shown in fig. 17	
7-9	J1.1- J1.3	Normally open (NO) relay contact	Potential-free relay outputs (dry contact). Maximum load: no more than 3 A. The relay operating mode is set in the settings (tab. 13, P3-F4...F6). The relay operating modes are described in tab. 14
	J2.1- J2.3	General relay contact	
	J3.1- J3.3	Normally closed (NC) relay contact	
11	L (L1)	Outputs 230 V/50 Hz for powering additional devices. Maximum load no more than 3 A	
	N		
15	GND	Input connection of shielding antenna conductor	
	ANT	Input connection of signal antenna conductor	
17	LOCK	<p>Switch connector with key (option). The switch is installed on the unit body. Using the key, the switch is transferred to the (NC) position, which blocks the commands of the control devices (unit buttons, control switches, radio remote controls, etc.), or to the (NO) position, in which control is enabled.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Control is blocked</p> </div> <div style="text-align: center;">  <p>Control is enabled</p> </div> </div>	

6. SETTINGS

The setting is performed using the buttons, the setting inscription is displayed on the control panel display 14 (fig. 8/9).

PR./◀ — button to enter the settings menu and exit the menu

ST./▶ — button to enter the setting and confirm the selected value

OP./▲ — button for stepping into the menu with increasing; also used to control opening during setting

CL./▼ — button for stepping into the menu with decreasing; also used to control closing during setting



Table 3 presents a general description of entering the settings menu, selecting and confirming, exiting the settings menu.

Table 3

1	Press and hold PR./◀ within ~5 s, before entering the settings menu	 ≥ 5 s
2	After the inscription P1 appears using OP./▲ or CL./▼ select the desired menu P0...P8	
3	When the desired menu appears, press ST./▶	
4	Using OP./▲ or CL./▼ select the desired setting from the menu F0...F9	
5	When the desired menu appears, press ST./▶	
6	The display shows the set value of the operation parameter setting (tab. 13). The value will be with a dot. Using OP./▲ or CL./▼ select the desired setting value for the operation parameter	
ATTENTION! For menu P1 , see '6.1. Setting the end position of doors'. For the menu P2 , see '6.2. Radio control setting'		
7	When the desired setting appears, press ST./▶ . The inscription will become with a dot, which will mean a change in the setting value	
8	Press the button to exit the settings menu PR./◀ (2-3 times) until a dot appears on the display.  Automatically exit the settings menu is actuated after 10 minutes in the standby mode	 × 2-3

6.1 SETTING THE END POSITION OF DOORS



ATTENTION! The end position setting is different for drive models with mechanical switches and encoder.



ATTENTION! During the settings, control the door movement using the buttons of the unit **OP./▲** or **CL./▼** is performed in manual mode (pressing and holding the button).

When the control unit is supplied, the manual operation mode is set (**P3-F1-on**, tab. 13).

Entering the settings menu is described in tab. 3.

1. In menu **P1** setting **F0**, set (verification) value:
 - **01**—drive with mechanical switches (factory setting);
 - **02**—drive with encoder.
2. In menu **P1** setting **F1**, confirm the direction of the door opening:



ATTENTION! The doors should be in an intermediate position.

1	<p>When inscription UP appears on the display, press and hold OP./▲ for some time to see the direction of door movement. The doors must open!</p> <p>If the doors close, press one more time and hold OP./▲. Make sure that the doors open!</p>	
2	<p>Press ST./▶ to confirm the direction of door movement.</p> <p>After pressing the button, the inscription UP. (with a dot) will appear on the display, then the inscription F1 will appear on the display</p>	

3. Set the end positions for door closing and opening.
 - Menu **P1** setting **F2**, for electric drive **with mechanical switches**:



Adjust the drive cams in accordance with the drive manual. When entering the setting, the inscription '- -' in the middle of the display indicates that the doors are in an intermediate position.

Using **OP./▲** and **CL./▼** move the doors to the desired end position and set the corresponding drive cams. Follow the correct inscription on the unit display:

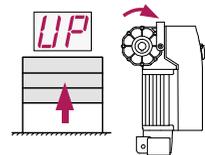
– during the door movement in the opening direction, the inscription **OP** will be displayed. When the drive switch for the closing end position of opening is actuated, the inscription **LO** will be displayed.

– during the door movement in the closing direction, the inscription **CL** will be displayed. When the drive switch for the closing end position is actuated, the inscription **LC** will be displayed.

- Menu **P1** setting **F3**, for drives **with encoder**:



ATTENTION! The location of the drive relative to the door must be in accordance with the drive manual, so that when the door opening, the right direction of rotation of the output shaft is ensured. The direction of opening must be set correctly (item 2). If the direction of rotation is incorrect, the end positions will not be set (**Er** error).



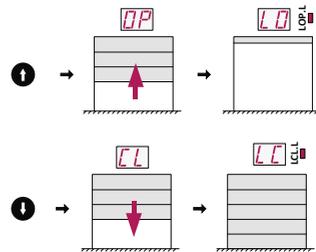
1	When the inscription '--' appears on the bottom of display, using CL./▼ or if necessary OP./▲ set the doors in the position of full closing	
2	Press ST./▶ to confirm the installed position. The inscription '--' will appear with a dot	
3	When the inscription '--' appears on the top of display, using OP./▲ or if necessary CL./▼ set the doors in the position of full opening	
4	Press ST./▶ to confirm the installed position. The inscription '--' will appear with a dot	
5	After appearance, the inscription F3 press twice PR./◀ and exit from setting menu	



To limit the continuous operation of the drive, adjust the operating time. Settings **P5-F3** and **P5-F4** (tab. 13).

4. Verify the end position settings.

Use the unit buttons **2** and **4** (fig. 7) to perform several complete cycles of opening and closing. Make sure that the inscription of the direction of movement and the inscription of the end positions of doors are correct on the display. Make sure the doors stop at the desired end positions. The corresponding end position LED is continuously lighting.



If the position adjustment is required, repeat item **3** or go to item **5** for drives with an encoder.

- 5.** Exact adjustment of the end position of doors (only for drives with encoder):
- in menu **P1** setting **F4** a value for adjusting the opening position is selected (tab. 13).
 - in menu **P1** setting **F5** a value for adjusting the closing position is selected.

6.2 RADIO CONTROL SETTING



Before programming the remote controls for the first time, clear the memory of the control unit from the previously recorded radio remote controls. If the remote control is lost, in order to prevent unauthorized access, it is necessary to delete the number of the lost remote control from the memory. If the number of the lost remote control is unknown, then delete all the remote control numbers and re-record all the remote controls.

Settings of menu **P2**:

F1...F3 — remote control command(s) record (*tab. 5, 6*)

F4, F5 — changing the control command(s) of the recorded remote control (*tab. 7, 8*)

F6 — determination of the remote control numbers (*tab. 9*)

F7 — determination of the recorded remote number (*tab. 10*)

F8, F9 — remote control deleting (*tab. 10, 11*)

F0 — deleting all remotes (*tab. 12*)

Table 4 describes the radio control commands and the numbering of control commands is presented in menu **P2**.

Table 4

DESCRIPTION OF RADIO CONTROL COMMANDS		SETTINGS F1-F5	
		CONTROL COMMAND	MEANING
NO	Control command is not set	NO COMMAND	00
STEP BY STEP	Performing actions of opening, stopping movement, closing. The sequence of actions is set by setting P3-F3 (<i>tab. 13</i>). When configuring the outputs of connectors 7-9 (<i>tab. 2</i>) for two-way control operation (settings P3-F4...F6 , <i>tab. 13</i>), the ENTRY or EXIT direction is determined	STEP BY STEP (ENTRY)	01
		STEP BY STEP (EXIT)	07
OPEN	Performing of opening. When setting the outputs of connectors 7-9 (<i>tab. 2</i>) for two-way control operation (settings P3-F4...F6 , <i>tab. 13</i>), the ENTRY or EXIT direction is determined	OPEN (EXIT)	02
		OPEN (ENTRY)	06
PARTIALLY OPEN	From the fully closed door position, the opening is performed within the time set in P1-F9 (<i>tab. 13</i>)	PARTIALLY OPEN	05
CLOSE	Performing of closing	CLOSE	03
STOP	Performing of movement stop	STOP	04

DESCRIPTION OF RADIO CONTROL COMMANDS		SETTINGS F1-F5	
		CONTROL COMMAND	MEANING
LIGHTING	Performing either TURN ON or TURN OFF, or TURN ON/OFF when setting the outputs of connectors 7-9 (<i>tab. 2</i>) for lighting operation (settings P3-F4...F6 , <i>tab. 13</i>). Automatic turn off (operating time) of lighting is set by setting P8-F4	LIGHTING (TURN ON)	08
		LIGHTING (TURN OFF)	09
		LIGHTING (TURN ON/OFF)	10
LOAD	PERFORMING either TURN ON or TURN OFF, or TURN ON/OFF when setting the outputs of connectors 7-9 (<i>tab. 2</i>) to control external load №1 or №2 (settings P3-F4...F6 , <i>tab. 13</i>). Automatic turn off (operating time) of the load is set by the settings P8-F7 (load №1) and P8-F8 (load №2)	LOAD № 1 (TURN ON)	11
		LOAD № 1 (TURN OFF)	12
		LOAD № 1 (TURN ON/OFF)	13
		LOAD № 2 (TURN ON)	14
		LOAD № 2 (TURN OFF)	15
		LOAD № 2 (TURN ON/OFF)	16

6.2.1. REMOTE CONTROL RECORDING



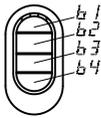
If you record a previously recorded remote control, the remote control button or buttons will be rerecorded with new control commands!

no—when recording remotes, the inscription means that the maximum number of remotes is recorded.

F1—Recording any button of the remote control with the control command STEP BY STEP

By default, the value **01** (tab. 4) is STEP-BY-STEP (ENTRY).

F2—Recording three buttons of the remote control with the control commands:

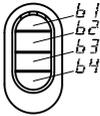


OPEN (button **b1**), STOP (button **b2**), CLOSE (button **b3**). The default for OPEN the value **02** (tab. 4) is OPEN (EXIT).

Table 5

1	Enter the setting menu (tab. 3) and select menu P2 . Select the setting F1 or F2 . After the inscription of desired setting appears, press ST./>	
2	The display will show the inscription rc , which means waiting for the remote control signal	
3	Press on the remote control 3 times (at least): • for setting F1 , the selected control button; • for setting F2 any button	x3
4	The indicator will automatically show: • number without a dot , that is proposed to be assigned to an unrecorded remote in the drive memory (using OP./▲ or CL./▼ the number can be chosen from the available); • number with a dot . The remote control has already been recorded and after confirmation, a complete rerecording of the remote control commands with the specified number will be performed!	
5	Press ST./> to confirm the record; after pressing there will be a number with a dot on the indicator	
6	After ~2 s, an automatic transition to recording the next remote will occur (repeat steps 3 to 5). Press the button 3 times to exit the setting menu PR./<	x3

F3—Record of four buttons of the remote control with any control command selected in the setting



When entering the setting for all buttons of the remote control (**b1–b4**), the default value of the control command is **00**. (tab. 4).

Table 6

1	Enter the setting menu (tab. 3) and select menu P2 . Select the F3 setting. After the desired setting appears, press ST./>	
2	The display for ~2 s will indicate the first button b1 of the remote control, which indicates a further selection of a control command for this remote control button	
3	Using OP./▲ or CL./▼ select the desired control command (tab. 4) ATTENTION! If the button does not need to be assigned a control command, then leave the value 00	
4	Press ST./> to confirm the selected value (for example 01); after pressing the indicator will show the number with a dot	
5	The display for ~2 s will indicate the second button b2 of the remote control, which indicates a further selection of a control command for this remote control button. Then repeat steps 3 and 4 for the control buttons b2, b3, b4	
6	After confirming of selected command of the button b4 with the button ST./> the inscription rc will appear on the display, which means waiting for the remote control signal	
7	Press 3 times any button on the remote control	x3
8	The indicator will automatically show: <ul style="list-style-type: none"> number without a dot, that is proposed to be assigned to an unrecorded remote in the drive memory (using OP./▲ or CL./▼ the number can be chosen from the available) number with a dot. The remote control has already been recorded and after confirmation, a complete rerecording of the remote control commands with the specified number will be performed! 	
9	Press ST./> to confirm the record; after pressing the indicator will show the number with a dot (for example, number 01.)	
10	After ~2 s, an automatic transition to recording the next remote will occur with a given combination of commands buttons b1-b4 of the remote (repeat steps 7–9). To exit the setting menu, press 3 times PR./<	x3

6.2.2. CHANGING RECORDED REMOTE CONTROL COMMANDS

F4—Changing the control commands of all buttons on the remote control by the recording number of the remote



It is necessary to know the remote record number in the control unit!
No remote required.

Table 7

1	<p>Enter the setting menu (tab. 3) and select the P2 menu. Select the F4 setting. After the desired setting appears, press ST./></p>	
2	<p>The first number of the recorded remote in the memory (number with a dot, for example, number '01.') will automatically appear on the indicator. Using OP./▲ or CL./▼ select the desired number of the recorded remote. If there are no recorded remotes, then the inscription no will be displayed</p>	
3	<p>Press ST./> to confirm the number of the recorded remote control (for example, the number 20.)</p>	
4	<p>The display will show the first button b1 of the remote control for ~2 s, which indicates a further change in the control command for this remote control button</p>	
5	<p>The display will indicate the current value of the control command of the recorded remote control (number with a dot, for example, number '00.'). Using OP./▲ or CL./▼ select the desired control command (tab. 4). ATTENTION! If the button does not need to be assigned a different control command, then immediately proceed to the next step</p>	
6	<p>Press ST./> to confirm the selected command (for example, 10.); after pressing on the indicator there will be a number with a dot</p>	
7	<p>The display for ~2 s will show the first button b2 of the remote control, which indicates a further selection of the control command for this remote control button. Then, repeat steps 5 and 6 for the control buttons b2, b3, b4</p>	
8	<p>After confirming, using the button ST./> selected command of the b4 button, the display will show F4. To exit the setting menu, press twice PR./◀</p>	

F5—Changing the control command of a recorded remote control button

 Recorded remote is required!

Table 8

1	Enter the setting menu (tab. 3) and select the P2 menu. Select the F5 setting. After the desired setting appears, press ST./>	
2	The display will show rc , which means waiting for the remote control signal	
3	Press the remote control button 3 times, the command of which you want to change	 x3
4	The display for ~2 s will show the number of the remote control button pressed (b1–b4), after which the current value of the control command of the recorded remote control will be displayed (number with a dot, for example, number 00.). If the remote control is not recorded, the display will show no	
5	Using OP./▲ or CL./▼ select the desired control command (tab. 4)	
6	Press ST./> to confirm the selected command; after pressing there will be a number with a dot on the indicator (for example, 01.)	
7	After ~2 s, an automatic transition to waiting for the remote control signal will occur. If necessary, change the button command of this or another recorded remote (repeat steps 3–6). To exit the setting menu, press 3 times PR./<	 x3

6.2.3. DETERMINING THE NUMBER OF RECORDED REMOTES

F6—Determining the number of recorded remotes

Table 9

1	Enter the setting menu (tab. 3) and select the P2 menu. Select the F6 setting. After the desired setting appears, press ST./>	
2	The display will show a digital value with a dot (for example, 10. means 10 remotes are recorded). If there are no recorded remotes, then the inscription 00. will be displayed	
3	To exit the setting menu, press 3 times PR./<	 x3

6.2.4. DELETING THE REMOTE CONTROL AND DEFINING THE REMOTE RECORD

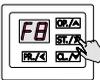
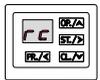
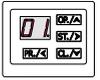
F7—Determining the number of the remote control record in memory

F8—Deleting the remote control by code



Recorded remote is required!

Table 10

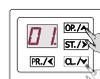
1	Enter the setting menu (<i>tab. 3</i>) and select the P2 menu. Select F7 or F8 . After the desired setting appears, press ST./>	
2	The display will show rc , which means waiting for a signal from the remote	
3	Press any button 3 times on the remote control	 x3
4	The number of the remote control record in the memory (number with a dot, for example, number 01.) will automatically appear on the indicator. If the remote control is not recorded, the display will show no	
5	To set F8 , press ST./> . The dot on the indicator goes out, which will mean the deleting of the remote control. After ~2 s, an automatic transition to waiting for a signal from the remote control will occur. The display will indicate rc . You can delete another remote control (repeat steps 3–5)	
6	To exit the setting menu, press 3 times PR./<	 x3

F9—Deleting the remote control by a known recording number



It is necessary to know the remote record number in the control unit!
No remote required.

Table 11

1	Enter the setting menu (<i>tab. 3</i>) and select the P2 menu. Select the F9 setting. After the desired setting appears, press ST./>	
2	The display will automatically show the number of the first remote recorded (for example, the number 01.). Using OP./▲ or CL./▼ select the desired remote control number to delete. If there are no remote controls recorded, the display will show no	
3	Press ST./> . The dot next to the number goes out on the display, which will mean the deleting of the remote control	
4	After the inscription F9 appears, to exit the setting menu, press twice PR./<	 x2

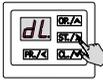
6.2.5. DELETING ALL REMOTES

F0—DELETING ALL REMOTES



Deleting all remotes recorded to the control unit is performed!

Table 12

1	Enter the setting menu (tab. 3) and select the P2 menu. Select the F0 setting. After the desired setting appears, press ST./>	
2	After the inscription dL appears, press ST./> and hold it for ~5 s until a dot appears on the display, which will mean the deleting all remotes	 5 s
3	After the inscription F0 appears, to exit the setting menu, press twice PR./<	 x2

6.3 SETTING OPERATION PARAMETERS

Table 13 provides a description of the settings, setting values, and factory values upon delivery. An example of performing is described in tab. 3.

Table 13

MENU	SETTING	DESCRIPTION	VALUES	FACTORY VALUE
P1	F0	Drive model selection. The drive model with encoder has a letter E	01 —with mechanical switches 02 —with encoder	01.
	F1	Setting the direction of the door opening. See section '6.1. Setting the end position of doors' item 2		
	F2*	Setting the end positions of the drive with switches. See section '6.1. SETTING THE END POSITION OF DOORS', item 3		
	F3**	Setting the end positions of drive with ENCODER. See section '6.1. Setting the end position of doors', item 3		
	F4***	Accurate setting of the end position of opening (LO)	-F ... 0 ... F Values with a '-' sign adjust the position of doors relative to value 0 (set position) in the closing direction, the rest—in the opening direction	0.
	F5***	Accurate setting of the end position of closing (LC)		
	F6***	Accurate setting the shutdown position of the SE input and/or slow speed (LS). It is performed if the setting P5-F7 or P5-F9 is enabled (on)		

MENU	SETTING	DESCRIPTION	VALUES	FACTORY VALUE
P1	F7'	<p>Setting to disable the built-in obstacle detection system when opening (P5–F1). Designed to avoid false positives when using the built-in obstacle detection system (P5–F1) in the unit when opening the doors. The position of the beginning of contact of the damper (springs) of doors located at the end of opening is adjusted. From this position until fully opening, the P5–F1 setting will be disabled.</p> <p>After entering the setting using OP./▲ or CL./▼ set the doors to the desired position and press ST./▶ to confirm the set position. The inscription P will appear with a dot (P.) on the display</p>		
	F9	<p>Time of partially opening. Opening is performed from the end position of the closed doors by the input command P (tab. 2, connector 20) or by the command of the remote control PARTIALLY OPEN (tab. 4)</p>	<p>no—disabled 01, 02, 03 ... 30: 01—1 s 30—30 s</p>	no.
P2	Radio control setting. See section '6.2. Radio control setting'			
P3	F1	<p>Manual operation mode. The movement is performed by pressing and holding the control device: only unit buttons ⬆ and ⬇ (Figure 7), OP./▲ and CL./▼ (Figure 8, 9) connection inputs OP and CL (tab. 2, connector 20). To stop or block the start of movement, only the unit buttons are active ⊙ and ST./▶ input S. The remote controls do not work</p>	<p>no—disabled or 01—disabled on—enabled or 02—enabled</p>	01.
	<p> In manual operation mode the control unit and other control devices must be located in a place that provides a good overview of the door movement. In the case of access by unauthorized persons, control for them should be impossible, for example, by installing a switch with a key (tab. 2, connector 17).</p> <p>ATTENTION! If manual operation mode is disabled, then mandatory use of safety devices (systems) of C and D, or E type (EN 12453) is required. The selection of a solution (safety edge and photocells, photo rulers or another) and execution of works (installation, setting, verification) is carried out by qualified specialists of the competent organization.</p>			
P3	F3	<p>Collective mode of operation. Depending on whether the mode is on or off, the operation logic of the SBS connection input (tab. 2, connector 20) and the STEP BY STEP command of the radio remote control differ (tab. 4).</p> <p>Enabled: with commands there will be a sequence of operation 'Open—Close—Open—Close...'. When opening, the commands are not executed. When closing, the command will cause a stop of movement and subsequent full opening.</p> <p>Disabled: with commands there will be a sequence of work 'Open—Stop—Close—Stop—Open...'</p>	<p>no—disabled on—enabled</p>	no.
	F4	Output Connector 7 Operation (tab. 2)	no —disabled	no.
	F5	Output Connector 8 Operation (tab. 2)	01...16 —are described in tab. 14	
	F6	Output Connector 9 Operation (tab. 2)		

MENU	SETTING	DESCRIPTION	VALUES	FACTORY VALUE							
P3	F8	Operation of the SBS and OP inputs (<i>tab. 2, connector 20</i>). When setting the outputs of connectors 7–9 for two-way control (values 05 and 06 , <i>tab. 14</i>), the input SBS can be used for the direction of ENTRY , the input OP for the direction of EXIT . The STEP BY STEP or OPEN control commands correspond to the commands of the radio remote control (<i>tab. 4</i>)	01 — SBS STEP BY STEP OP OPEN 02 — SBS STEP BY STEP OP STEP BY STEP 03 — SBS OPEN OP OPEN	01.							
		<table border="0"> <tr> <td rowspan="4">P4</td> <td>F1</td> <td>Pause time before automatic closing</td> <td rowspan="4"> no—disabled 01, 02, 03...99: 01 — 1 s 99 — 99 s </td> <td rowspan="4">no.</td> </tr> <tr> <td>F2</td> <td>Pause time before automatic closing after operation of the photocells connected to input PH1 (<i>tab. 2, connector 20</i>)</td> </tr> <tr> <td>F3</td> <td>Pause time before automatic closing from the partial opening position. It is executed if the time for partial opening of doors has been set (P1–F9)</td> </tr> <tr> <td>F4</td> <td>The pause time before automatic closing from the partial opening position after the photocells connected to input PH1 are actuated (<i>tab. 2, connector 20</i>). It is executed if the time for partial opening of doors has been set (P1–F9)</td> </tr> </table>	P4	F1	Pause time before automatic closing	no—disabled 01, 02, 03...99: 01 — 1 s 99 — 99 s	no.	F2	Pause time before automatic closing after operation of the photocells connected to input PH1 (<i>tab. 2, connector 20</i>)	F3	Pause time before automatic closing from the partial opening position. It is executed if the time for partial opening of doors has been set (P1–F9)
P4	F1	Pause time before automatic closing		no—disabled 01, 02, 03...99: 01 — 1 s 99 — 99 s	no.						
	F2	Pause time before automatic closing after operation of the photocells connected to input PH1 (<i>tab. 2, connector 20</i>)									
	F3	Pause time before automatic closing from the partial opening position. It is executed if the time for partial opening of doors has been set (P1–F9)									
	F4	The pause time before automatic closing from the partial opening position after the photocells connected to input PH1 are actuated (<i>tab. 2, connector 20</i>). It is executed if the time for partial opening of doors has been set (P1–F9)									
<p> If automatic closing is enabled (pause time is set), the PHOTOTEST function (P7–F3–on setting) will be automatically enabled. Mandatory connection of photocells is required (<i>fig. 16–18</i>).</p> <p>In the fully open position, when the pause time is counted to automatic closing, the OPEN command (buttons, connection inputs, radio remote controls) will reset the pause time and start the countdown (P4–F1, P4–F3) from the beginning. When input S is activated (<i>tab. 2, connector 20</i>), the countdown to automatic closing will be reset and will start from the beginning (P4–F1, P4–F3) when the input is restored. If the automatic closing is not set after the photocells are activated (P4–F2–no, P4–F4–no), then the continuous operation of the input PH1 will lead to a countdown first after the end of the current pause count (the operation does not interrupt the count). 3 s before the end of the pause time for automatic closing, the traffic signal will be red, the signal lamp will be operated.</p>											
P5	F1*	Sensitivity of obstacle detection when opening. When opening, the detection of an obstacle will stop the movement	no—disabled 01, 02, 03...99: 01 — max. 99 — min.	no.**							
	F2*	Sensitivity of obstacle detection when closing. When closing, the detection of an obstacle will cause it to stop and then open again (opening value is set by P5–F5)									
<p> Settings F1, F2, F6 (menu P5) relate to the operation of the obstacle detection system integrated in the control unit. The decision about the need to adjust and the settings of F1, F6 (when opening) and F2 (when closing) are carried out by qualified specialists (EN 12635) of the competent organization. The settings can be used for added safety, for example, during door closing additionally to safety contact edge or, for example, during door opening in case there are apertures over 50 mm or protruding parts in the door leaf that a person can grab or stand on. In case of use, the settings must ensure the safe and correct operation of the drive system in accordance with the applicable regulatory documents (EN 12453), excluding damage, false alarms. After setting, measurements are required according to the methodology of regulatory documents</p>											

MENU	SETTING	DESCRIPTION	VALUES	FACTORY VALUE
P5	F3	Operating time when opening	01, 02, 03...99: 01—1 s	99.
	F4	Operating time when closing	99—99 s	
	 In P5-F3 and P5-F4 , the time for continuous movement of doors between the end positions is set. The operating time should be sufficient to fully open or close (it is recommended that during setting to set the time more by 3–5 s). If the set operating time is less than the time required to fully open/close the door, then the movement of the door leaf stops after the operating time has expired.			
	F5	Opening time (reverse) after the safety device is activated when closing. It automatically opens after activation the inputs PH1 and SE (<i>tab. 2</i> , connector 20), the built-in obstacle detection system (P5-F2)	01 —opening to end position 02 —opening ~2 s 03 —opening ~1 s	01.
	F6*	Sensitivity of obstacle detection at the beginning of opening. The setting allows the system integrated in the control unit to detect an obstacle at the very beginning of the opening	no —disabled 01, 02, 03...99: 01 —min. 99 —max.	no.**
	F7	Disabling the safety edge near the floor. When the setting is actuated, the operation of the SE input (<i>tab. 2</i> , connector 20) near the floor will be disabled. For drives with switches, the disabling position is set by the switch of the drive connected to input 5.L (<i>Figure 12</i>). For drives with an encoder, the disabling position is set by the unit automatically from the set end position of door closing; position correction is possible (P1-F6)	no —disabled on —enabled	no.
	 The height from the floor, after which the operation of the SE input is disabled should be less than 50 mm. After setting the edge disabling and any change (setting) in the end position of the closed doors, it is necessary to verify to confirm compliance with the requirements of the safety standard (EN 12453). An object 50 mm high located on the floor should be detected by contact with the lower edge of the door leaf (the doors will stop and open). It is verified in the middle and at the edges of the door leaf			
	F8*	Slow speed at the start of closing	no —disabled 01, 02...05: 01 —1 s 05 —5 s	no.
	F9*	Slow speed near the floor. When the setting is enabled the position of slow speed starting is set in the same way as for setting P5-F7 (the starting position of the settings is the same). ATTENTION! When the setting is on, please check up that the door stops in the required end positions (section 6.1 point 4).	no —disabled on —enabled	no.

MENU	SETTING	DESCRIPTION	VALUES	FACTORY VALUE
P7	F3	PHOTOTEST function. When the setting is on, before starting the movement, an automatic verification of the operation of the photocells connected to the input PH1 is performed (<i>tab. 2</i> , connector 20). <i>Fig. 16–18—Examples of connection diagrams of safety devices to input PH1 for performing an automatic verification</i>	no —disabled on —enabled	no.
	 The PHOTOTEST function cannot be disabled (no) if automatic closing is enabled (pause time is set in the settings of menu P4)			
	F4	Safety edge (input SE , <i>tab. 2</i> , connector 20). The type of safety edge is set: resistive edge (8.2 kOhm) or optoelectronic edge (OSE)	01 —8.2 kOhm / 02 —OSE (optosensors)	01.
	F5	Input A operation (<i>tab. 2</i> , connector 20). The control input is operated either in the open direction or in the close direction	OP —opening direction CL —closing direction	OP.
P8	F2	The delay time of the beginning of movement (time of preliminary operation of the light indication). During the countdown of the delay time, the signal lamp will be operated, the traffic light will be red, signaling the upcoming start of movement	no —disabled 01, 02...10: 01 —1 s 10 —10 s	no.
	F3	Lighting operating time after stopping the movement. The operating time of the lighting lamp is set if the outputs of connectors 7–9 are set appropriately (value 02 , <i>tab. 14</i>)	00, 01... 99: 00 —after the end of the movement is disabled (0 s) 01 —10 s 99 —990 s (16.5 min)	00.
	 During movement and during the delay time of the beginning of movement (setting P8–F2) it is impossible to turn off the light lamp using the command of the radio remote control (the value of the LIGHTING OFF command, <i>tab. 4</i>)			
	F4	Lighting operation time after the command of the radio control LIGHTING ON. The operating time of the lighting lamp is set in the case of recording a remote control for lighting control (LIGHTING command, <i>tab. 4</i>)	no —lighting lamp does not turn off according to time (it turns off only at the command of the remote control) 01, 02...99: 01 —1 min 99 —99 min	no.

MENU	SETTING	DESCRIPTION	VALUES	FACTORY VALUE
P8	F7	Operating time LOAD № 1 after the command of the remote control LOAD № 1 ENABLE. The operating time of the outputs of the connectors 7–9 (value 13, tab. 14) is configured in the case of recording the remote for load control (LOAD command № 1, tab. 4)	no—load does not turn off according to time (it turns off only at the command of the remote control) 01, 02...99: 01—1 min 99—99 min	no.
	F8	Operating time LOAD № 2 after the command of the remote control LOAD № 2 ENABLE. The operating time of the outputs of the connectors 7–9 (value 14, tab. 14) is configured in the case of recording the remote for load control (LOAD command № 2, tab. 4)	no—load does not turn off according to time (it turns off only at the command of the remote control) 01, 02...99: 01—1 min 99—99 min	no.
P0	F0	Reset to factory settings. See section '6.4. Reset to factory settings'		
	F1	Cycle counter. See section '6.5. Cycle counter data'		

Tab. 14 describes the operating modes of the outputs of connectors 7–9 (fig. 8/9). When setting the value (P3–F4...F6), the outputs of the connectors (relay contacts of the control unit) will operate in accordance with the specified logic. The figure shows the normal status of the outputs (relay contacts of the control unit).

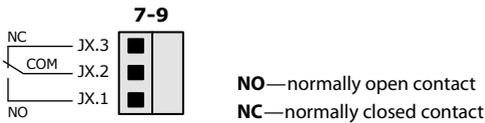


Table 14

VALUE	DESCRIPTION
01	Signal lamp. The activation will occur during movement and during the delay time (P8–F2, tab. 13). <i>Fig. 19 is an example of connecting a signal lamp</i>
02	Lighting lamp. The activation will occur during movement and during the time after the movement stops (P8–F3, tab. 13). In the absence of movement, the lighting lamp can be activated by a command from the radio remote control (control commands LIGHTING, tab. 4) with setting the response time (P8–F4, tab. 13). <i>Fig. 19 is an example of connecting a lighting lamp</i>
03	One-way traffic light (iscription of full opening). Activation will occur after full opening. <i>Fig. 20 is an example of connecting a traffic light</i>

VALUE	DESCRIPTION	
04	<p>No full closing. Activation will always occur, except for full closing in standby mode. <i>Fig. 21 is an example of connecting a traffic light using the second connector (second relay) to turn off the traffic light (red light) when fully closing</i></p>	
05	<p>Traffic light on EXIT with two-way regulation. Activation will occur after full opening by the STEP BY STEP EXIT control commands and OPEN EXIT</p>	<p> ATTENTION! With two-way regulation, the specialist determines the optimal control scheme and requirements for operational safety. <i>Fig. 22, 23 are the examples of connecting two traffic lights with two-way regulation</i></p>
06	<p>Traffic light on ENTRY with two-way regulation. Activation will occur after full opening by the STEP BY STEP ENTRY control commands and OPEN ENTRY</p>	
07	<p>No full closing. Activation will always occur, except for full closing in standby mode. <i>Fig. 23 is an example of connecting two traffic lights using the third connector (third relay) to turn off the traffic lights (red light) when fully closing</i></p>	
08	<p>End position OPEN. Actuation in the position of full opening</p>	
09	<p>End position CLOSE. Actuation in the position of full closing</p>	
10	<p>Signal after the OPEN command. Actuation 1 s after any OPEN control command</p>	
11	<p>Signal after the CLOSE command. Actuation 1 s after any CLOSE control command</p>	
12	<p>Signal after control command. Actuation 1 second after any control command (OPEN, CLOSE, STOP, LIGHTING and others)</p>	
13	<p>Load № 1. The actuation will occur at the command of the radio remote control (control commands LOAD №1, <i>tab. 4</i>) during the set response time (P8-F7, <i>tab. 13</i>)</p>	
14	<p>Load № 2. The actuation will occur at the command of the radio remote control (control commands LOAD №2, <i>tab. 4</i>) during the set response time (P8-F8, <i>tab. 13</i>)</p>	
15	<p>Position PARTIALLY OPEN. Actuation in the partial opening position after the control command PARTIALLY OPEN</p>	
16	<p>PHOTOTEST. Actuation before the doors start to move after any control command CLOSE during the operation verification of the safety device connected to input PH1 (<i>tab. 2</i>, connector 20).</p> <p> ATTENTION! The PHOTOTEST function should be enabled in the settings (P7-F3, <i>tab. 13</i>).</p> <p><i>Fig. 18 is an example of connecting photo rulers with a TEST contact for automatic verification of operation</i></p>	

6.4 RESET TO FACTORY SETTINGS



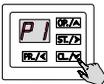
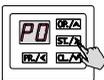
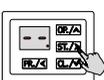
Reset to the factory settings will restore the setting values that are set by default when the control unit has been delivered (tab. 13).



ATTENTION! Door position settings will not be saved. To set the door position, follow the steps in section '6.1. Setting the end position of doors'.

The previously recorded radio remote controls and cycle counter data (tab. 16) will be saved.

Table 15

1	Press and hold PR./< for ~5 s, until entering the setting menu	 5 s
2	After the inscription P1 appears, press CL./v	
3	After the inscription P0 appears, press ST./>	
4	After the inscription F0 appears, press ST./>	
5	After the inscription '--' appears, press ST./> and hold it for ~5 s until a dot appears on the display, which will mean resetting all settings	 5 s
6	After the inscription F0 appears, press twice PR./< to exit the setting menu	 x2

6.5 CYCLE COUNTER DATA



The number of completed cycles in a six-digit form is displayed in the setting when changing the display inscription (maximum 999,999 cycles).

The example shows the counter value 123 456 cycles: **12 34 56**.

Table 16

1	Press and hold PR./< for ~5 s, until entering the setting menu	 5 s
2	After the inscription P1 appears, press CL./v	
3	After the inscription P0 appears, press ST./>	
4	After the inscription F0 appears, press CL./v	
5	After the inscription F1 appears, press ST./>	
6	The display will show two digits with two dots (for example, 1.2.). These are the first two digits of the counter. In order to see the next two digits of the counter (third and fourth) press OP./^	
7	The display will show the next two digits with one dot in the middle (for example, 3.4). In order to see the last two digits of the counter (fifth and sixth) press OP./^	
8	The display will show the last two digits with one dot at the end (for example, 56.). Using OP./^ or CL./v it is possible to see the counter digits again	
9	To exit the setting menu, press 3 times PR./<	 x3

7. INSCRIPTION

Table 17—LEDs 19 (fig. 8, 9)

LED	INSCRIPTION PURPOSE	LIGHT ON	LIGHT OFF
LR	Radio control command (the LED lights up in red if the remote control is not recorded or the control command is not assigned to the control button/lights up in green if the control command is assigned to the control button)	Is supplied	Is not supplied
LOP	Command to open (input OP , connector 20)	Is supplied	Is not supplied
LCL	Command to close (input CL , connector 20)	Is supplied	Is not supplied
LSBS	Command to open, stop, close (input SBS , connector 20)	Is supplied	Is not supplied
LP	Command to partially open (input P , connector 20)	Is supplied	Is not supplied
LS	Safety device in the STOP circuit: <ul style="list-style-type: none"> input S, connector 20 connector 18 or contacts IN_S and O_S of connector 11 (section '5.2. Connection of switches / drive encoder') 	Is activated	Is not activated
LA	Input command A (connector 20)	Is supplied	Is not supplied
LPH1	Photocell safety device (input PH1 , connector 20)	Is activated	Is not activated
LCL.L	End position CLOSED (for drive with switches input CL.L , connector 16)	Closed	Not closed
LOP.L	End position OPEN (for drive with switches input OP.L , connector 16)	Open	Not open
L.P.L.*	Disabling the built-in obstacle detection system P5-F1 (tab. 13). For drive with switches, the releasing of input P.L , connector 16)	Is turned off	Is not turned off
LS.L	Disabling the safety edge P5-F7 (tab. 13) and/or the slow speed starting P5-P9 . For drive with switches, the releasing of input P.L , connector 16)	Is turned off	Is not turned off

Table 18—Control panel inscription 14 (fig. 8, 9)

INSCRIPTION	DESCRIPTION
⋱	Standby mode (display shows one dot)
OP	Opening
CL	Closing
LO	The end position OPEN (for drive with switches, input OP.L is activated connector 20)
LC	The end position CLOSED (for drive with switches, input CL.L is activated connector 20)
LP	Partially open position (by the input command P of the connector 20 or by the command PARTIALLY OPEN of the radio remote control)

INSCRIPTION	DESCRIPTION
<i>cO</i>	Opening command is activated
<i>cC</i>	Closing command is activated
<i>cS</i>	Stop of movement according to the STOP control command
<i>cA</i>	Control command is activated from input A (connector 20)
<i>cP</i>	Control command is activated from input P (connector 20) or PARTIALLY OPEN command of the radio remote control is activated
<i>AL</i>	Input A is activated (connector 20)
<i>L</i>	Operation of control devices is blocked. The pins of connector 17 (LOCK) are closed (<i>tab. 2</i>)
<i>AJ</i>	Counting pause time until automatic closing
<i>EO</i>	End position error. For a drive with switches the following may be: <ul style="list-style-type: none"> • end position switches are open/input OPL and input CL.L are activated (connector 16) • in the setting P1-F0, the value 01 is not set (<i>tab. 13</i>) For a drive with encoder the following may be: end positions are not set (section '6.1. Setting end positions of doors', item 3)
<i>EF</i>	Built-in security obstacle detection
<i>E2</i>	Safety device/photocells are activated (input PH1 , connector 20)
<i>E3</i>	Safety edge is activated (input SE , connector 20)
<i>E4</i>	PHOTOTEST verification error (<i>tab. 13</i> , P7-F3)
<i>ES</i>	Safety device in the STOP circuit is activated: <ul style="list-style-type: none"> • input S, connector 20 • connector 18 or contacts IN_S and O_S of connector 11 (section '5.2. Connection of switches/drive encoder')
<i>Et</i>	Stop of movement at the end of operating hours (settings P5-F3 , P5-F4)
<i>Er</i>	Wrong direction of the drive rotation (section '6.1. Setting the end position of doors' item 2 and item 3)
<i>EE</i>	There is no signal from the drive encoder: incorrect or broken encoder connection, malfunction. In setting P1-F0 , the value 02 (<i>tab. 13</i>) for the drive with encoder is not set
<i>EU</i>	Mains voltage is low or there is a unit malfunction (T1A fuse, <i>tab. 20</i>)

8. VERIFICATION OF OPERATION AND COMMISSIONING

This is an important step in installing a drive system:

- See section '1. Safety rules and warnings'. All rules and requirements must be met.
- Read the manuals of the drive system devices (electric drive, safety devices, controls, etc.). All rules and requirements specified in the manuals must be followed.
- Verify according to turn that when the drive is unlocked and when the drive is switched to emergency manual chain control, the doors do not move when the control commands are given. The unit display shows the corresponding inscription (*tab. 18*).
 - **E0** is for drive with switches,
 - **E5** is for drive with encoder.
- Put the drive and doors into operation. Perform a full 'open-close' cycle using the control device (control buttons, radio remote control). Make sure the doors move in the correct directions and stop at the end positions (section '6.1. Setting the end positions of doors' item 4), the movement of doors is carried out evenly. Perform several complete cycles to identify possible installation defects, incorrect adjustment and setting, to ensure the reliability of the fasteners and the proper operation of doors, drive and control unit.
- Verify the correct execution of the control commands (open, close, stop of movement) of the applied control devices. The operation of the control devices must correspond to the commands of the control inputs (*tab. 2*) and the commands of the recorded remote controls (*tab. 4*), according to the specified settings (section '6.3. Setting operation parameters').
- Verify the correct operation of the applied light inscription devices (signal lamp, traffic light). The operation of the light inscription devices must correspond to the settings (section '6.3. Setting operation parameters').
- Verify the correct operation of each connected safety device (safety edge, photocells, stop of movement devices, etc.). Make sure that the control unit performs the correct operation. For example, when the safety device is activated when closing, the doors stop movement and then open. If the doors are with a wicket, then when the wicket is open, there should be no movement of doors. The operation of the safety devices is indicated by the inscription of the control unit (*tab. 17, 18*).
- Verify the correct operation of the photocells (input **PH1**, *tab. 2*, connector 20) for compliance with the requirements of the standards (EN 12453, EN 12445) and for lack of interaction with other devices using special control samples (sample requirements are specified by EN 12445). Samples shall be detected by photocells over the entire width of the door opening.
- When using safety contact devices (safety edge), the requirements of safety standard EN 12453 for limiting impact force must be met. An object 50 mm high located on the floor should be detected by contact with the lower edge of the door leaf (the doors will stop and open). It is verified in the middle and at the edges of the door leaf.
- When applying the setting of force limit when opening (*tab. 13, P5–F1*), the requirements of safety standard EN 12453 must be met. Verify that manual door stopping will stop the movement.
- At the end of verification make sure that all removed covers, protective and mounting elements of the control unit and other devices removed or opened previously are installed in place.

Commissioning of the drive system can only be carried out after a successful verification. Partial commissioning or temporary operation is not permissible.

- Prepare and store the technical documentation for the automation kit. The documentation should contain: installation and operation instructions, maintenance schedule, diagram of the drive system and laying of electrical cables.
- Pass the completed 'Installation and Operation Manual' to the consumer (owner).
- Prepare a 'Service Schedule' and pass to the consumer (owner). Instruct about maintenance.
- Instruct the owner of possible dangers and risks and the rules for safe operation. Inform the owner of need to inform the door operator of the existing dangers and risks, as well as the rules for safe operation. Door managers must confirm by personal signature that they know the rules for safe operation.

9. MAINTENANCE SERVICE

Perform scheduled maintenance as part of the entire drive system at least once every 6 months or after 6,000 full cycles of operation:

- Read the section '1. Safety Rules and Warnings'. All rules and requirements must be followed.
- Read the manuals of the drive system devices (electric drive, safety devices, controls, etc.). All rules and requirements specified in the manuals must be followed.
- Carry out an external inspection for the integrity and absence of damage to the door, drive, devices of the drive system.
- Clean the control unit and the drive system devices from dust, dirt, moisture. It is forbidden to use water jets, high pressure cleaners, acids or alkalis for cleaning.
- Carry out an external inspection of the drive and control unit parts, paying attention to the corrosion and oxidation of the parts. Establish the need for repairs (replacement of all parts and units that do not provide sufficient reliability).
- Verify the integrity of the electrical cables and the connections.
- Make sure that the threaded connections are properly tightened (bolts, screws, nuts of drive fixing, the control unit fixing, fixing of the drive system devices, etc.).
- Carry out the verification in accordance with the instructions in section '8. Verification of operation and commissioning'.
- Enter information in section '14. Information on the performed works' of the manual. Indicate the current number of completed cycles (section '6.5. Cycle counter data').



After the end of the service life of the product, the specialist should assess the possibility of further operation and the need for repairs (replacement of the most critical units and parts).

10. MALFUNCTIONS AND RECOMMENDATIONS FOR THEIR ELIMINATION



ATTENTION! When looking for the cause of an incorrect operation or malfunction, refer to the description of the control unit inscription: LEDs (*tab. 17*) and display (*tab. 18*).



ATTENTION! In the event of malfunction that cannot be resolved using the information in this manual, you must contact the service department.

Table 19

MALFUNCTION	PROBABLE CAUSE	RECOMMENDATIONS
No inscription of control unit	No mains voltage	Check mains voltage
	No network connection	Check cable connections with mains voltage (section 5.1)
	Fuse has blown	Check control unit mains fuses (<i>tab. 20</i>)
Drive does not operate (there is an inscription of the control unit E0 or E5)	Drive type with switches is incorrectly selected in the settings (with encoder or switches)	Check the drive type in setting P1-F0 (<i>tab. 13</i>)
	Error in electrical connections	Check the connections of the switch/encoder of the drive (section 5.2)
	Stop motion devices are activated (e.g. wicket sensor)	Make sure that the inputs of the normally closed contact devices are closed (input S , <i>tab. 2</i> , connector 20)
	Drive is unlocked	Check that the drive is locked (drive manual)
	Drive in emergency manual control mode	Check the position of the unit handles with the drive chain (drive manual)
	End positions of the drive with encoder are not set	Set the end positions of drive (section 6.1, item 2 and item 3)
Drive with encoder does not operate (there is an inscription of the control unit EE)	Incorrect direction of the drive opening with encoder	Check the opening direction of P1-F1 (section 6.1, item 2)
		Check the correct installation of the drive relative to the doors (section 6.1, item 3)
	There is no signal from the encoder	Check the encoder connection
Doors are not controlled by the radio remote control (the indicator on the remote control 'does not light or does not light brightly', the distance of the remote control operation is small)	Remote control battery is low	Check the battery of the remote control; replace it if necessary (see the manual of the radio remote control)

MALFUNCTION	PROBABLE CAUSE	RECOMMENDATIONS
With frequent use, the doors stop during movement; control commands do not lead to subsequent movement of doors. For drives TR series (400 V 3 ~) there is an inscription E0 (drive with switches) or E5 (drive with encoder)	Motor thermal fuse is activated	Allow the drive motor to cool
When closing, the doors stop to move and then open	Safety device is activated when closing	Remove interference with the movement of the door leaf
		Check the operation of the photocells, safety edge or other devices (inputs PH1 and SE , <i>tab. 2</i> , connector 20)
Control unit does not respond to an obstacle on the optical axis of the photocells when closing	Violation of the operating conditions of photocells, interaction with other devices	Make sure that there is no possible reflection of infrared rays from the photocells, interaction with other photocells, direct sunlight on the photocell receiver
	Photocells are defective	Check the efficiency of the photocells; replace them if necessary

Table 20

UNIT MODEL	FUSE LOCATION	FUSE	QUANTITY
CU-TR230-868	To access, you need to unscrew the two screws 3 , remove the connectors and cover 5 (<i>fig. 8</i>)	T 6.3 A 250 V AC Ø5×20	2
CU-TR400-868	To access, you need to unscrew the two screws 3 , remove the connectors and cover 5 (<i>fig. 9</i>). ATTENTION! Use fuses filled with quartz sand	T 10 A 500 V AC Ø6.3×32	3
CU-TR230-868/ CU-TR400-868	To access, unscrew the four screws 6 , remove the connectors and cover 13 (<i>fig. 8/9</i>)	T 0.8 A 250 V AC (FU1) Ø5×20 for CU-TR230-868	1
		T 1 A 250 V AC (FU2) Ø5×20	1

11. STORAGE, TRANSPORTATION, DISPOSAL

The product shall be stored in its packaging in closed dry spaces at an air temperature of 0...+25°C and relative humidity of air no more than 80%, in the absence of acidic, alkaline and other aggressive impurities in the air. Do not expose to atmospheric precipitation or direct sunlight. Shelf-life is 3 years from the manufacture date. Transportation can be performed using all types of covered ground vehicles, with measures to prevent shock and movement inside the vehicle.



Disposal of the product shall comply with the regulatory and legal requirements on recycling and disposal, valid in the user's country. The spent battery of the radio remote control must be disposed of in special collection containers. The product does not contain substances, posing danger to life and health of people, and environment.

12. WARRANTY OBLIGATIONS

- The operational capacity of the product is guaranteed only when the rules of its storage, transportation, adjustment, operation are followed; when mounting and maintenance (timely and due) is performed by an organisation, specialising in the sphere of automation and authorised to perform mounting and maintenance operations.
- The warranty period is _____ and starts from the date of product delivery to the Customer or from the production date, when the delivery date is not known.
- During the warranty period the defects, caused by the Manufacturer, are repaired by the service department, providing warranty maintenance.

Note: the parts, replaced by the service department, performing the product repair, become the department's property.

- Warranty is not applied in the following cases:
 - violation of storage, transportation, operation and mounting rules;
 - mounting, adjustment, repair, remounting or modification of the product by persons, not authorised to perform such works;
 - damage of the product, resulting from unstable work of the power supply system or noncompliance of the power supply system with the values, established by the Manufacturer;
 - damage of the product, caused by water penetration;
 - force-majeure (fires, lightning, floods, earthquakes and other natural calamities);
 - damage of the product construction by the consumer and third parties;
 - malfunctioning and defects, caused by the absence of scheduled maintenance and inspection of the product;
 - does not apply to a battery;
 - completed manual is not provided.

Information about service is located at:

<http://www.alutech-group.com/feedback/service/>

Documents on confirmation of conformity of the product (certificates/declarations) are located at:

<https://alutech-group.com/product/auto/automatics-promgate/DOCUMENTS/>

15. INFORMATION ON REPAIRS DURING WARRANTY PERIOD

Information about repairing organisation _____

List of repairs _____

Repair date _____

Signature of the person in charge of repair _____
signature full name

Information about repairing organisation _____

List of repairs _____

Repair date _____

Signature of the person in charge of repair _____
signature full name

Information about repairing organisation _____

List of repairs _____

Repair date _____

Signature of the person in charge of repair _____
signature full name

Made in China

Importer to the EU/Authorised representative of the Manufacturer:

ALUTECH Systems s.r.o., 348 02, Czech Republic
Bor u Tachova, CTPark Bor, Nova Hospoda 19, DS-EXIT 128
Phone/fax: + 420 374 6340 01, e-mail: info@cz.alutech-group.com



ATTENTION! Dimensions in manual drawings are in millimeters.

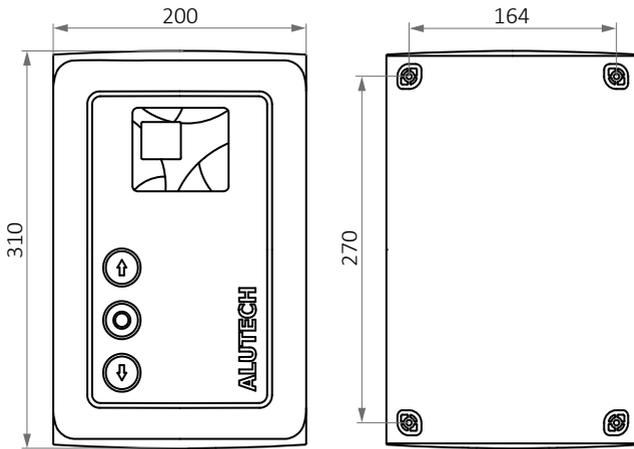
ACHTUNG! Die Abmessungen auf den Abbildungen in der Anleitung sind in Millimetern angegeben.

ATTENTION ! Les dimensions des *figures* dans le présent manuel sont en millimètres.

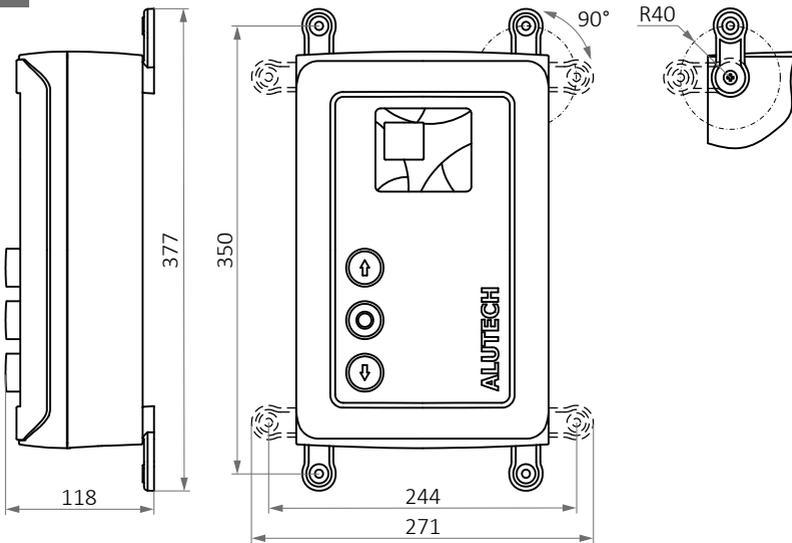
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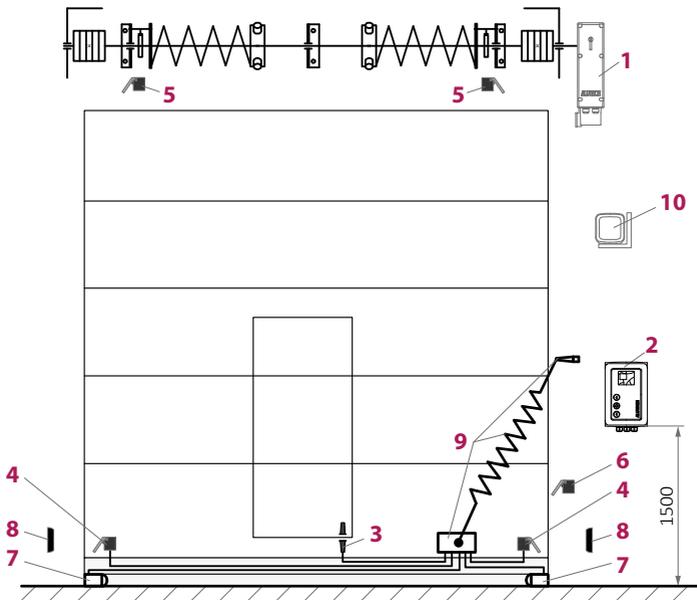
EN	DE	FR
1 Control unit (1 pc.)	Steuergerät (1 Stk.)	Bloc de commande (1 pc.)
2 Cable input: PG13.5 (3 pcs.), PG9 (2 pcs.)	Kabelführung: PG13,5 (3 Stk.), PG9 (2 Stk.)	Entrée de câbles : PG13,5 (3 pcs.), PG9 (2 pcs.)
3 External mount (4 pcs.)	Außenbefestigung (4 Stk.)	Éléments de fixation (4 pcs.)
4 Self-tapping screw 5,5×13 (4 pcs.)	Selbstschneidende Schraube 5,5×13 (4 Stk.)	Vis auto-foreuse 5,5×13 (4 pcs.)
5 Dowel screw 3.5×45 (4 pcs.)	Dübelschraube 3,5×45 (4 Stk.)	Chevilles à vis 3,5×45 (4 pcs.)
6 Connector puller (2 pcs.)	Abziehvorrichtung der Anschlüsse (2 Stk.)	Sertisseur (2 pcs.)
7 Mounting template M1: 1 (1 pc.)	Montageschablone M1:1 (1 Stk.)	Gabarit de montage M 1:1 (1 pc.)
8 Installation and operation manual (1 pc.)	Montage- und Betriebsanleitung (1 Stk.)	Manuel d'installation et d'utilisation (1 pc.)

2



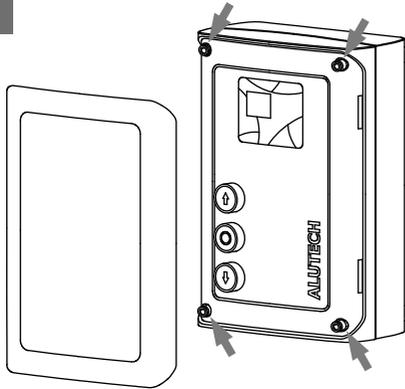
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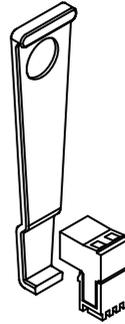
4

EN
DE
FR

1	Electric drive	Elektromechanischer Antrieb	Commande mécanique
2	Control unit	Steuergerät	Bloc de commande
3	Wicket sensor (when installing the wicket)	Schlupftürkontakt (bei der Installation der Schlupftür)	Capteurs de portillon (lors d'installation du portillon)
4	Weakening sensors (breakage) of the cable	Sensoren für Seilabspannung (Seilbruch)	Capteurs d'affaiblissement (rupture) câble
5	Spring breakage sensors	Federbruchsensoren	Capteurs rupture de ressorts
6	Position sensor of the locking device (when installing the device)	Positionsgeber der Verschlussvorrichtung (bei der Montage des Gerätes)	Capteur de position du dispositif de verrouillage (lors de l'installation du dispositif)
7	Optosensors	Optosensoren	Capteurs optiques
8	Photocells	Lichtschraken	Photocellules
9	Kit for connecting to the control unit safety devices installed on the door leaf	Set für den Anschluss an das Steuergerät der Sicherheitseinrichtungen, die am Torblatt eingebaut sind	Kit raccordement du bloc de commande aux dispositifs de sécurité, installés sur le tablier de la porte
10	Signal lamp	Signalleuchte	Feu de signalisation

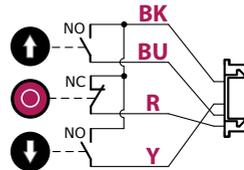
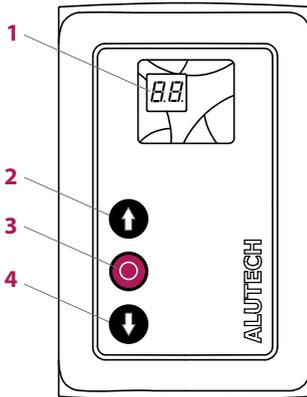
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6



7



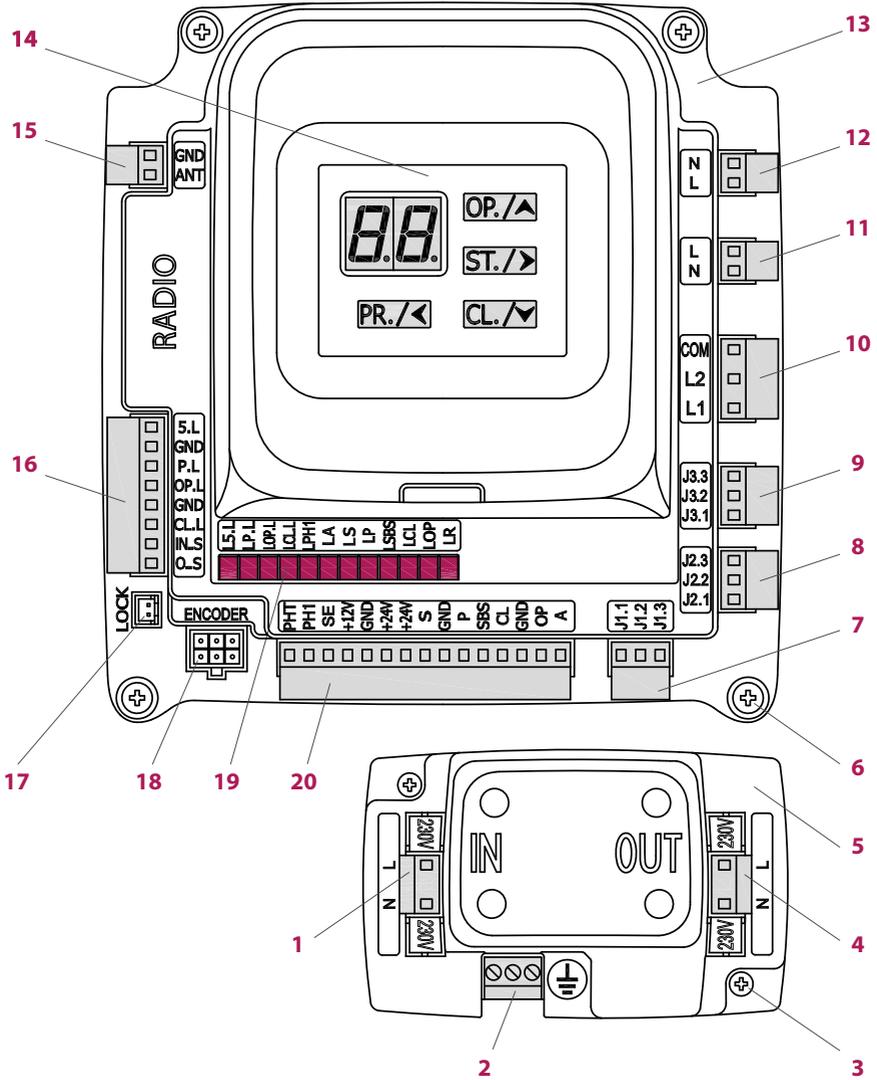
EN

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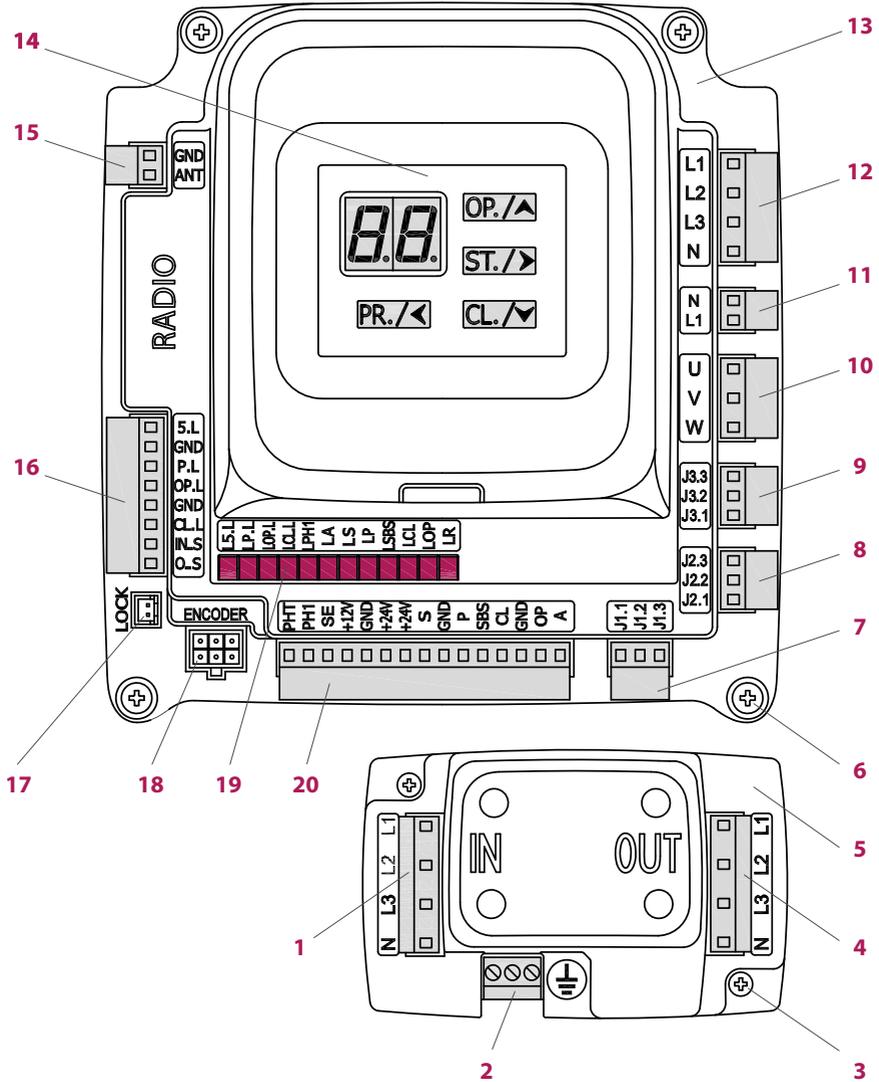
FR

1	display window	Displayfenster	écran de l'afficheur
2	OPEN button	Taste ÖFFNEN	bouton OUVRIR
3	STOP button	Taste STOPP	bouton STOP
4	CLOSE button	Taste SCHLIESSEN	bouton FERMER
BK	black	schwarz	noir
BU	blue	blau	bleu
R	red	rot	rouge
Y	yellow	gelb	jaune

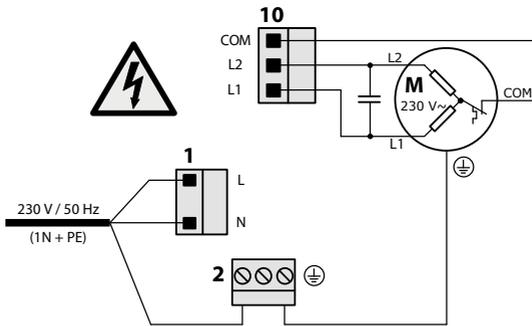
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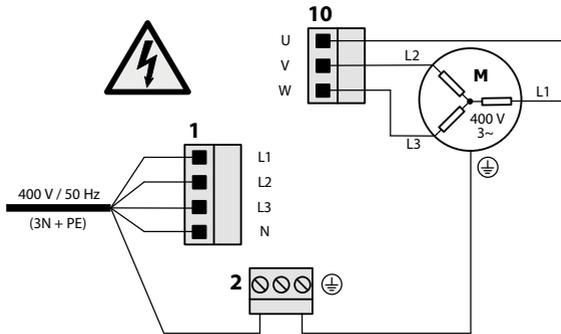
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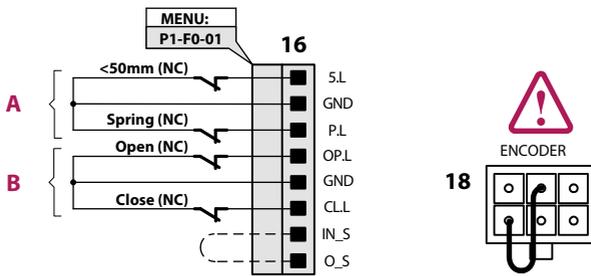
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11



12



EN

DE

FR

A Function switches

Funktionsschalter des Antriebs

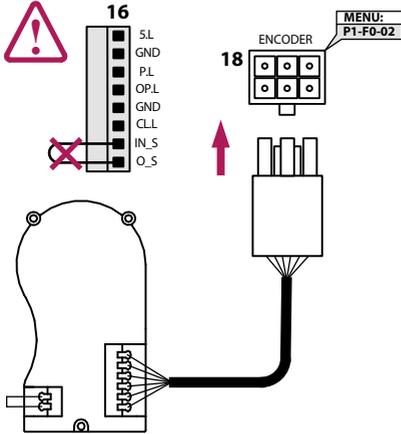
Interrupteurs de fonction

B Limit switches

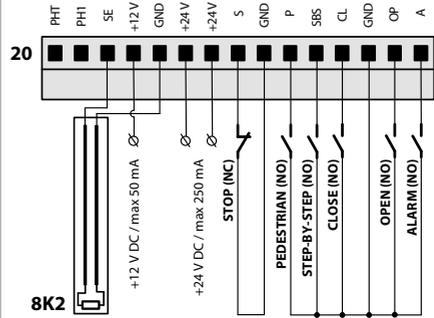
Endschalter

Interrupteurs des positions finales de la commande

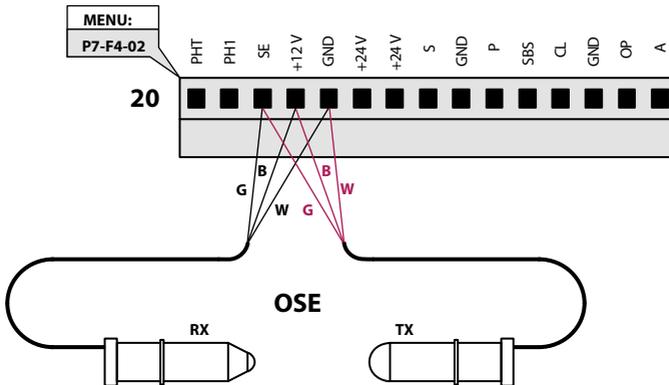
13



14



15



EN

G Green

B Brown

W White

DE

Grün

Braun

Weiß

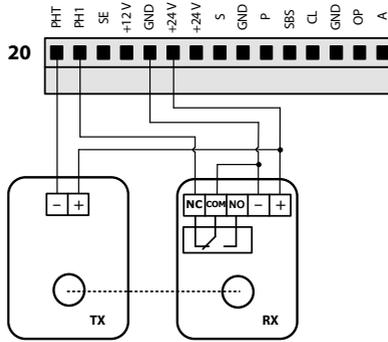
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Vert

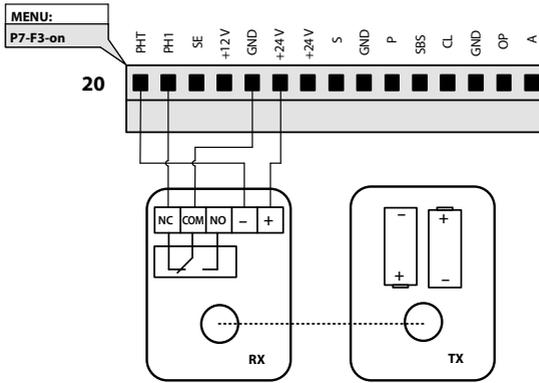
Brun

Blanc

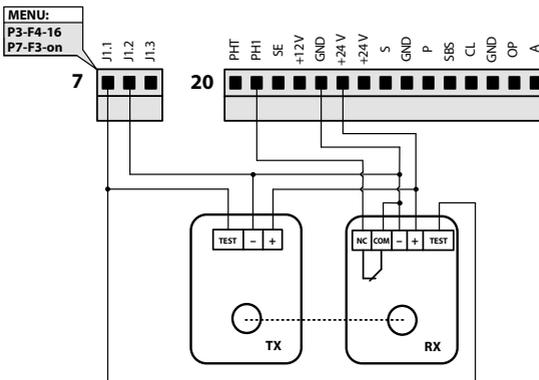
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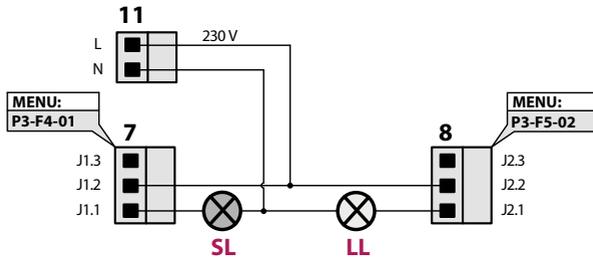
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18



19



EN

SL Signal lamp

DE

Signalleuchte

FR

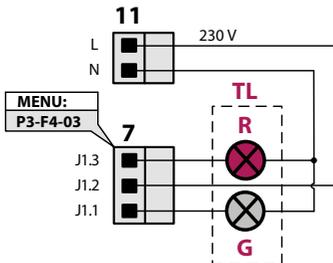
Lampe de signalisation

LL Lighting lamp

Beleuchtungslampe

Lampe d'éclairage

20



EN

TL Traffic light

DE

Ampel

FR

Feu de signalisation

G Green

Grünes Licht

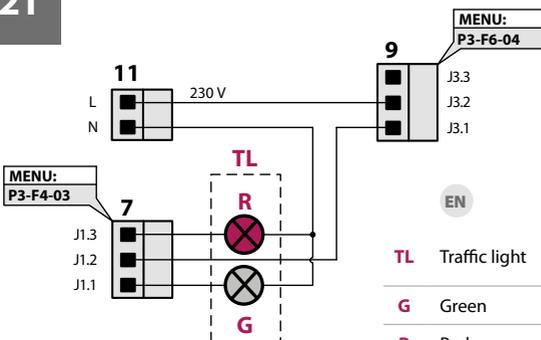
Feu vert

R Red

Rotes Licht

Feu rouge

21



EN

TL Traffic light

DE

Ampel

FR

Feu de signalisation

G Green

Grünes Licht

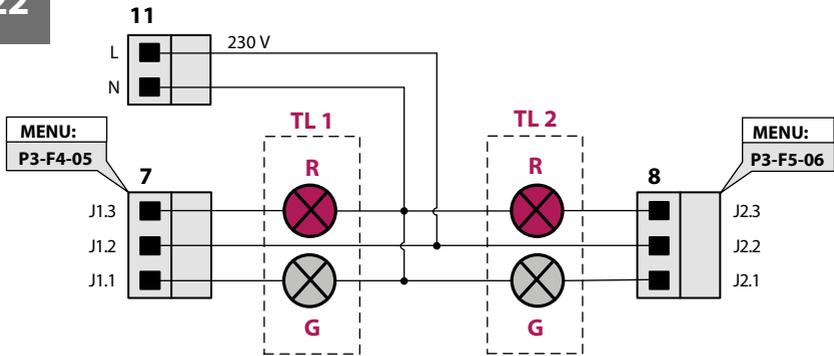
Feu vert

R Red

Rotes Licht

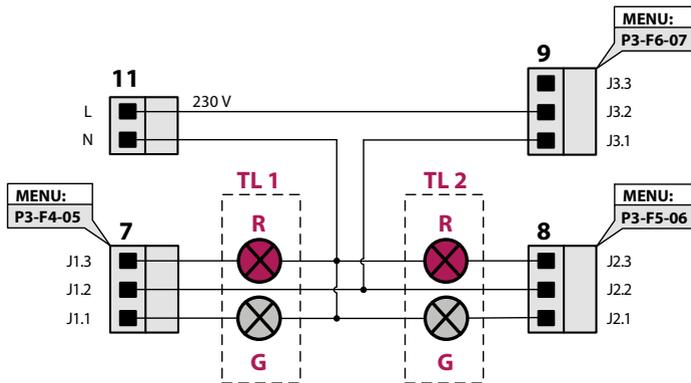
Feu rouge

22



EN	DE	FR
TL Traffic light	Ampel	Feu de signalisation
G Green	Grünes Licht	Feu vert
R Red	Rotes Licht	Feu rouge

23



EN	DE	FR
TL Traffic light	Ampel	Feu de signalisation
G Green	Grünes Licht	Feu vert
R Red	Rotes Licht	Feu rouge