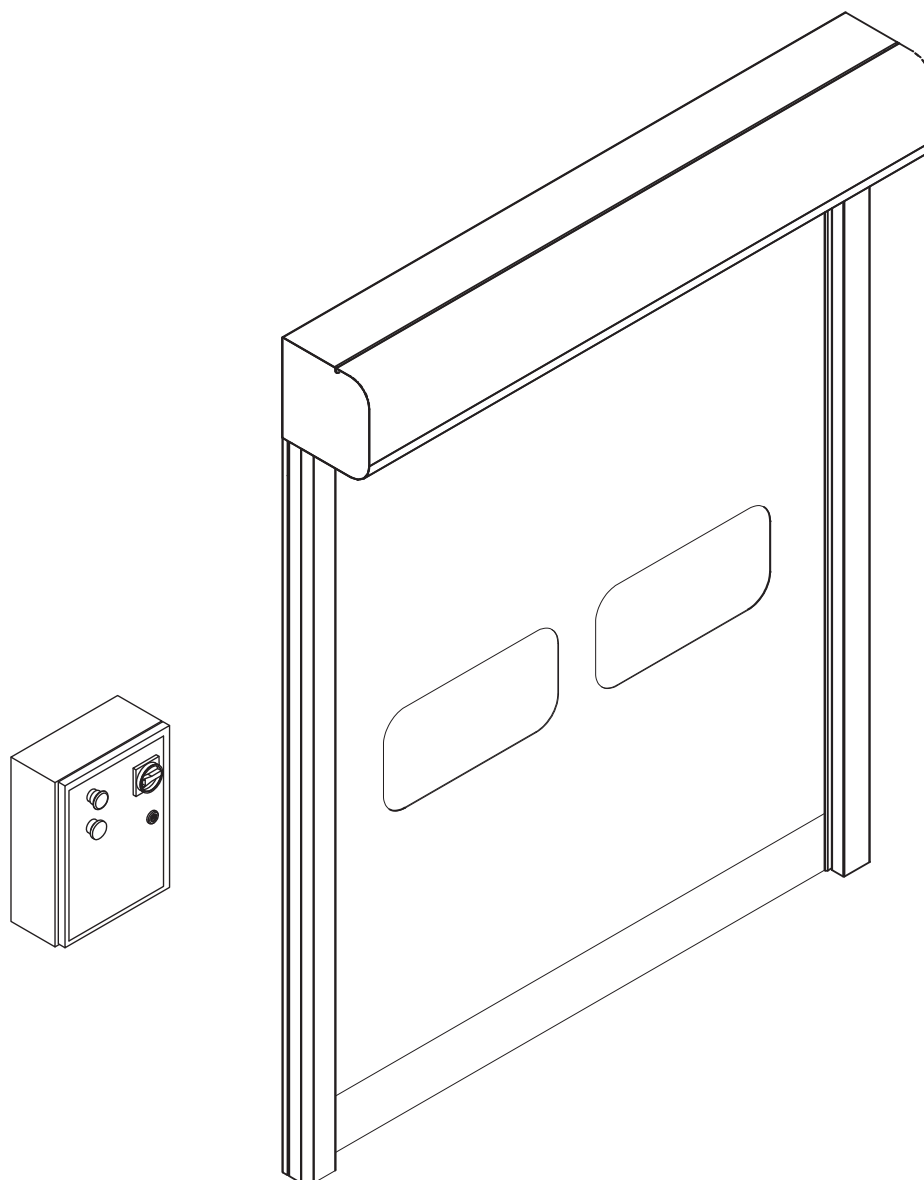




B.M.P. Europe
High Performace Doors



TIM-DCB rev. 06/2016

Dynamicroll® CB Basic

Installation, Use and Maintenance Manual – EN

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1 General Safety precautions

This manual is aimed exclusively at installers and technicians professionally competent. All operations of mechanical installation, electrical connections and adjustments must be made respecting the good workmanship and applying all the safety rule in force, even if their indications were not explicit in the text of the instructions.

Before starting the installation of the door read the instructions carefully. Incorrect installation can be dangerous. Before beginning the installation check perfect condition of the product.

Before installing the door, Ensure that the floor, the walls or the existing support structure have the necessary strength, capable of supporting the weight of the door, also considering the dynamic forces due to normal operation and the eventual impacts. If necessary make modification to the structures before the door installation. Verify that the structure is suitable to protect or isolate all the areas affected by the danger of crushing, trimming, trapping and general danger.

Automation is equipped with the necessary safety devices to ensure compliance with product standards. These devices (photocells, safety edges, emergency stop, etc.) Must be connected according to current regulations and directives in force, good workmanship criteria, the installation environment, the operating logic of the system and forces developed by the door. Display the signs required by law to identify danger areas. Each installation must clearly show the identification data of the door.

Before connecting the power supply, check that the data on the label correspond to the electricity distribution network. A mains power switch properly sized must be installed before the control board inlet. Check that the power

line is protected by RCD and overcurrent protection. Connect the door to an efficient grounding system.

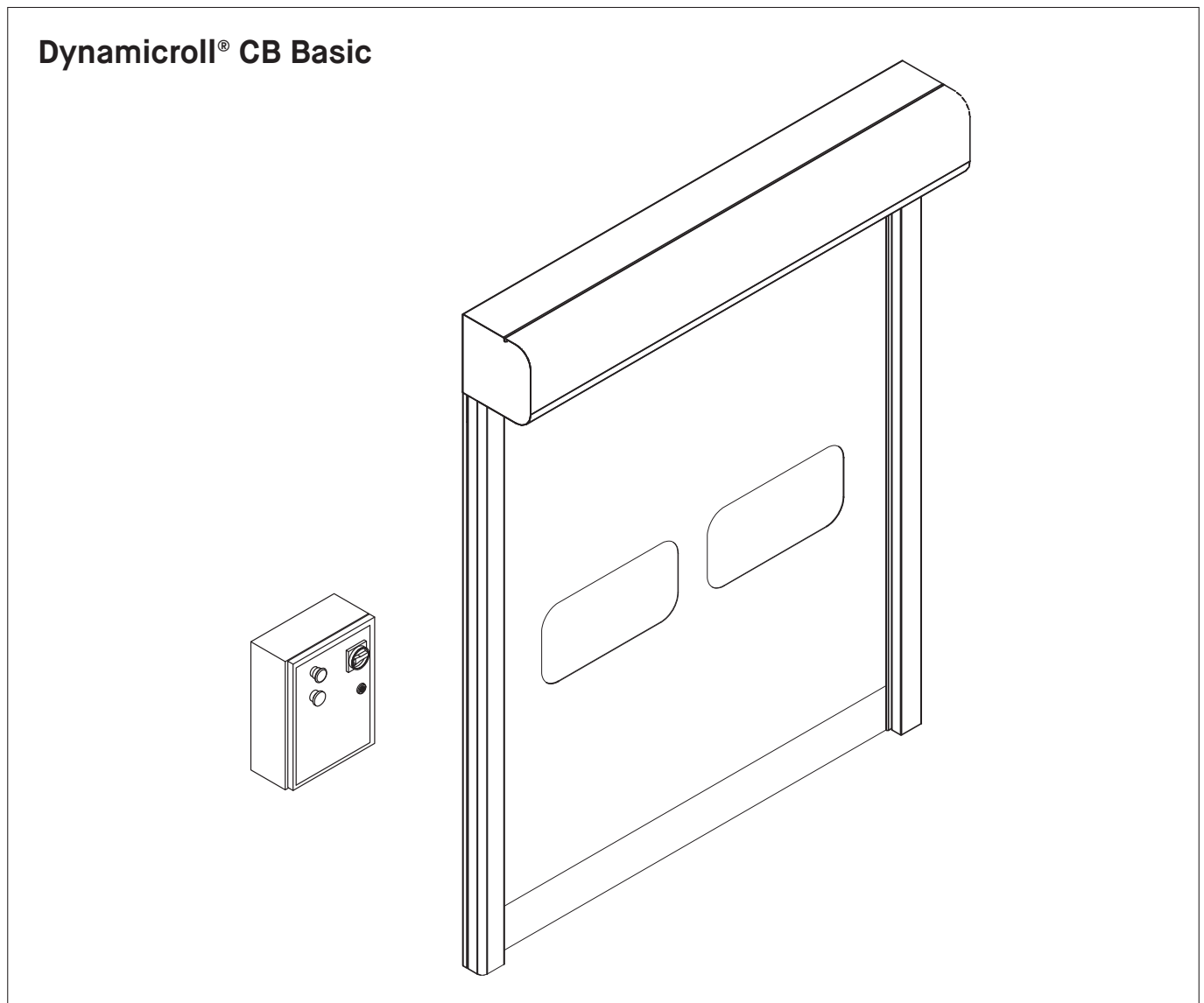
The manufacturer of the door declines all responsibility if components which are incompatible with the safe and correct operation or when changes are made of any kind without the specific permission of the manufacturer. Only original spare parts shall be used for repairs or replacement of components during maintenance or service.

The installer must supply all information relating to automation concerning manual and emergency operations and provide the user the Instructions for Use.

After installation, packaging materials (plastic, cardboard, etc.) must not be allowed to litter the environment.

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2 Installation drawing and technical features



Inverter automation	230V – BMP1 V3	400V – BMP2 V3
Main supply	230V AC single phase	400 V AC threephase
Frequency	50/60Hz	50/60Hz
Current absorption main supply	16A	10A
Motor power	0,75 - 1,5kW	0,75 - 1,5kW
Control board protection degree	IP65	IP65
Motor protection degree	IP54	IP54
Functioning temperature range	from -20°C to +50°C	from -20°C to +50°C

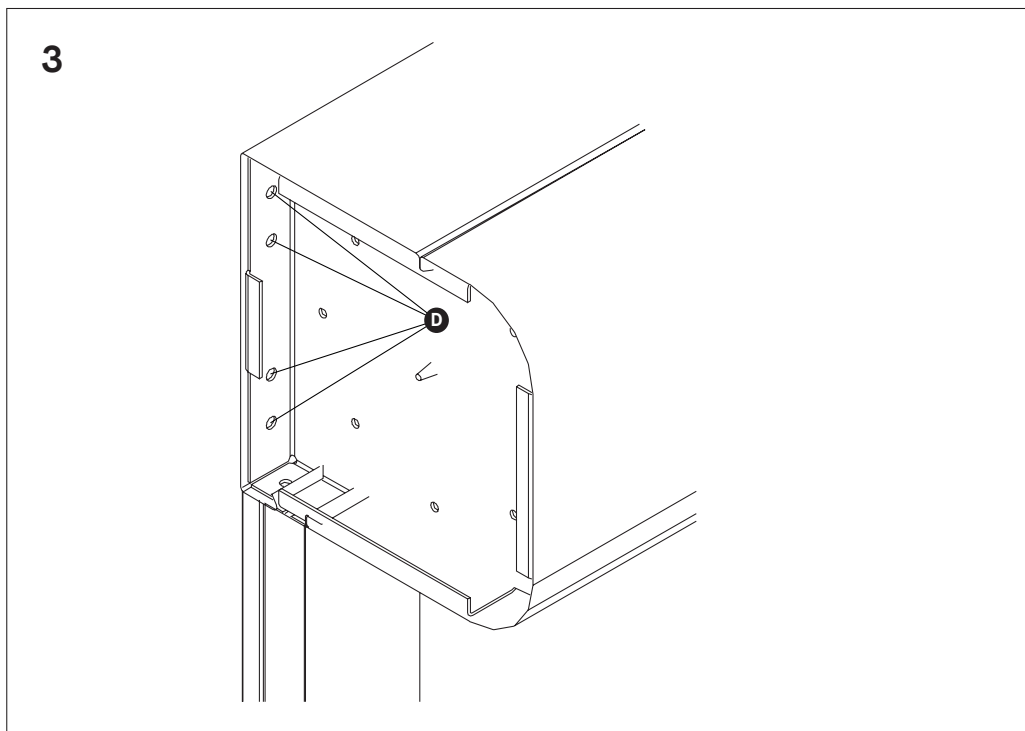
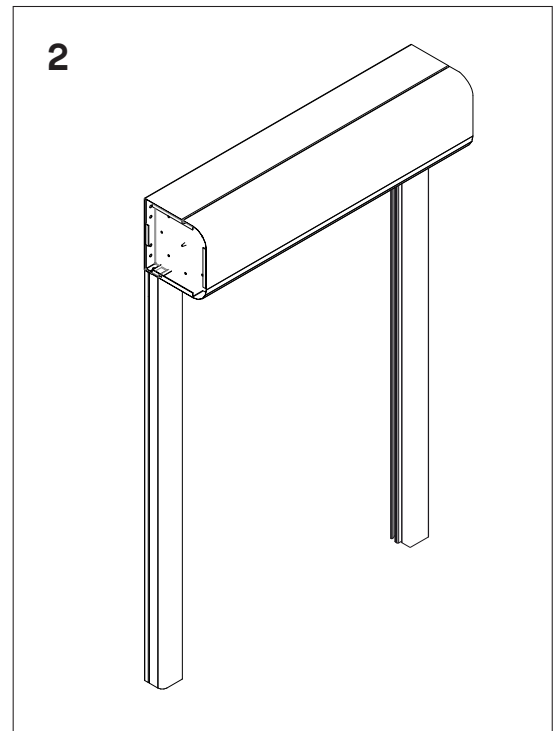
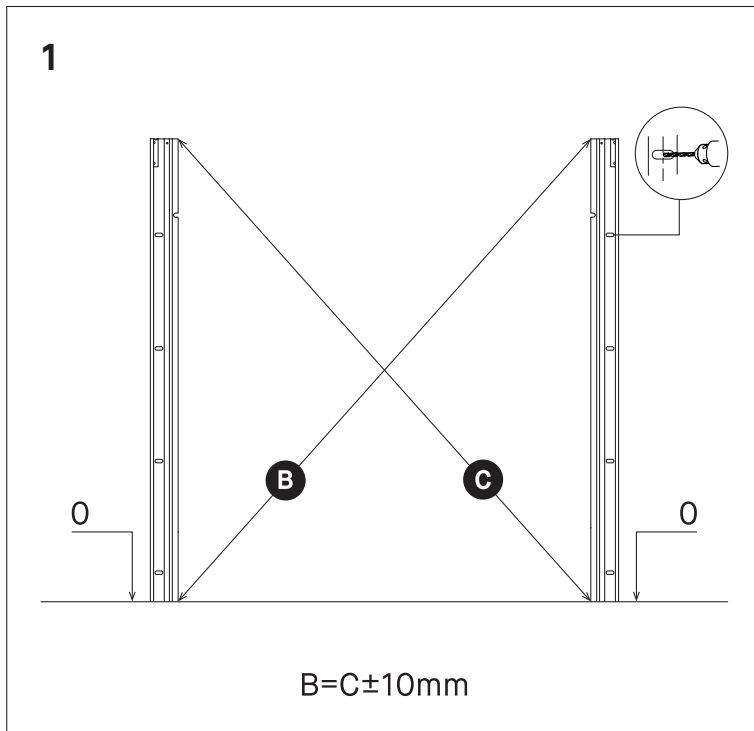
* in case of environment artificially refrigerated, with negative temperature, use heating system for guides and geared motor.



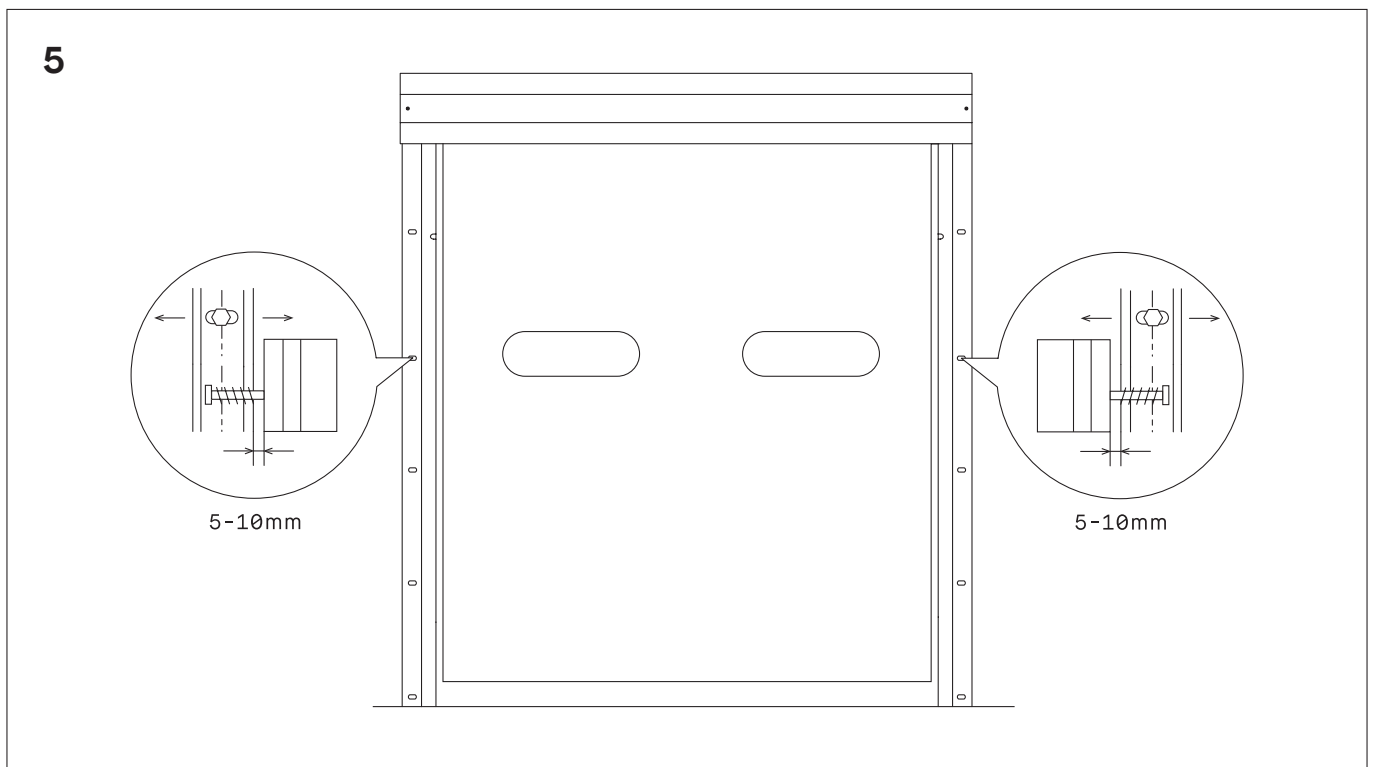
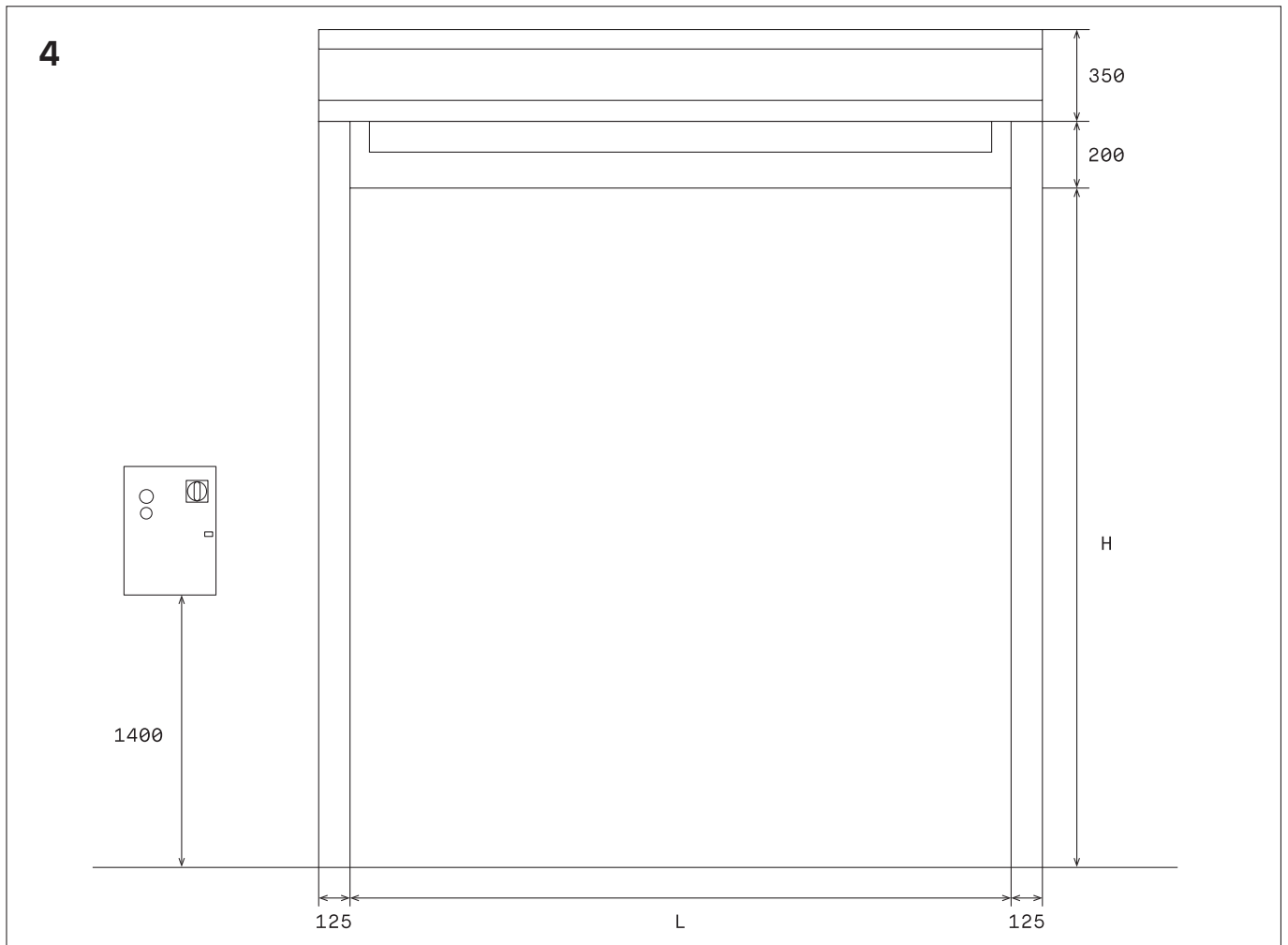
Design main supply lines respecting the correct sizing criteria, considering the expected maximum absorption: 16A for single phase control panels and 10 A for those three-phase.

The sections used must be chosen according to the length of the lines and their installation condition, to avoid voltage dropping and consequent improper functioning.

3 Mechanical installation



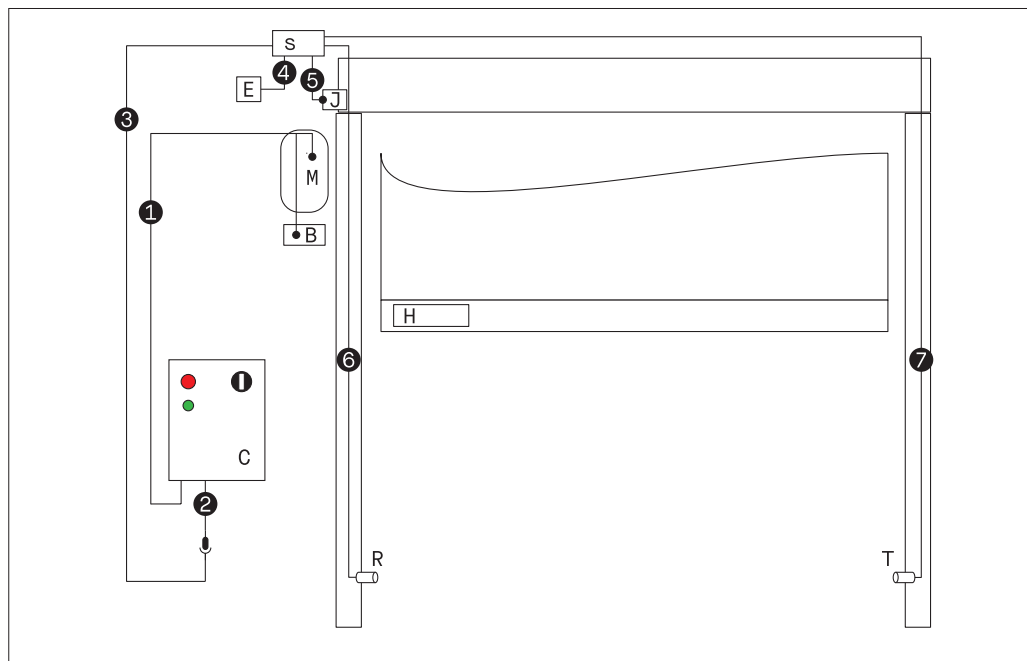
- 1 Fix the columns to heading through the brackets. **A**
When the doors are larger than 4000×4000 fit before the posts to the wall, and then install the crosspiece.
- 2 Take care the level between the support and after fixing of the posts control the geometry (diagonal). **B C**
- 3 Complete the mounting by the supplied brackets **D** and any additional anchorages where necessary. When $L > 4000$ fit additional supports every 2m.



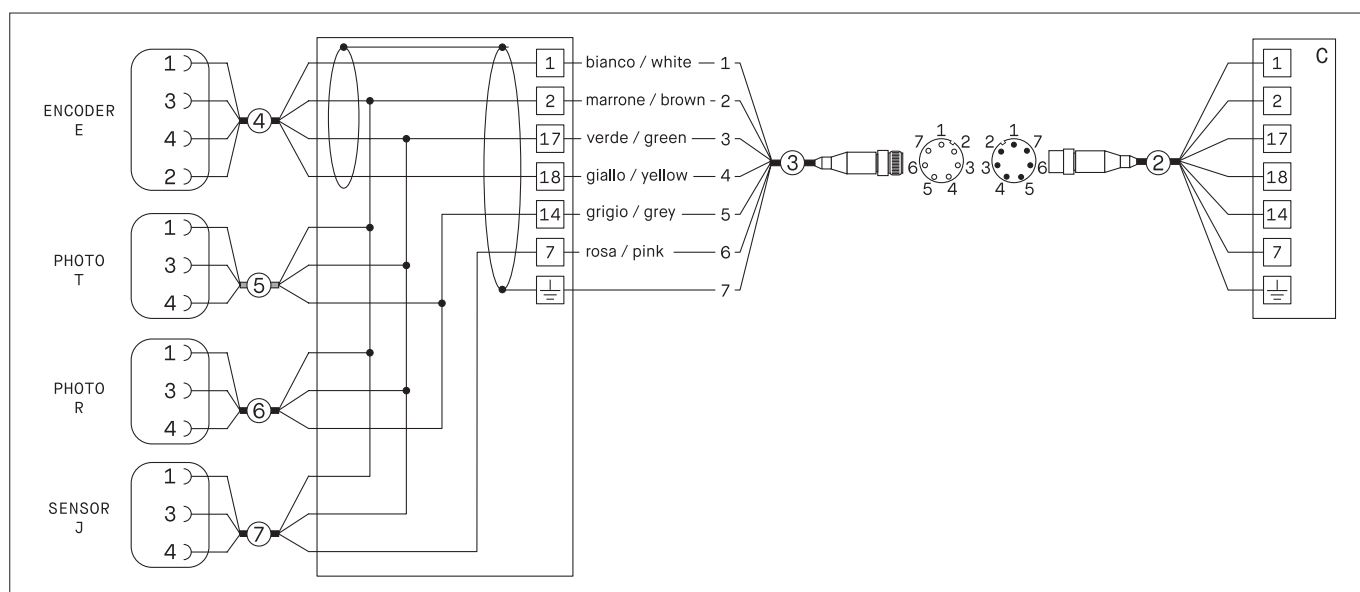
4 Drill the holes in the axis of the slots, so then perform the necessary final adjustments.

5 Fit the counterweight (optional) and adjust the fitting at 50mm from the floor at opened door.

4 Electric diagram – Components layout

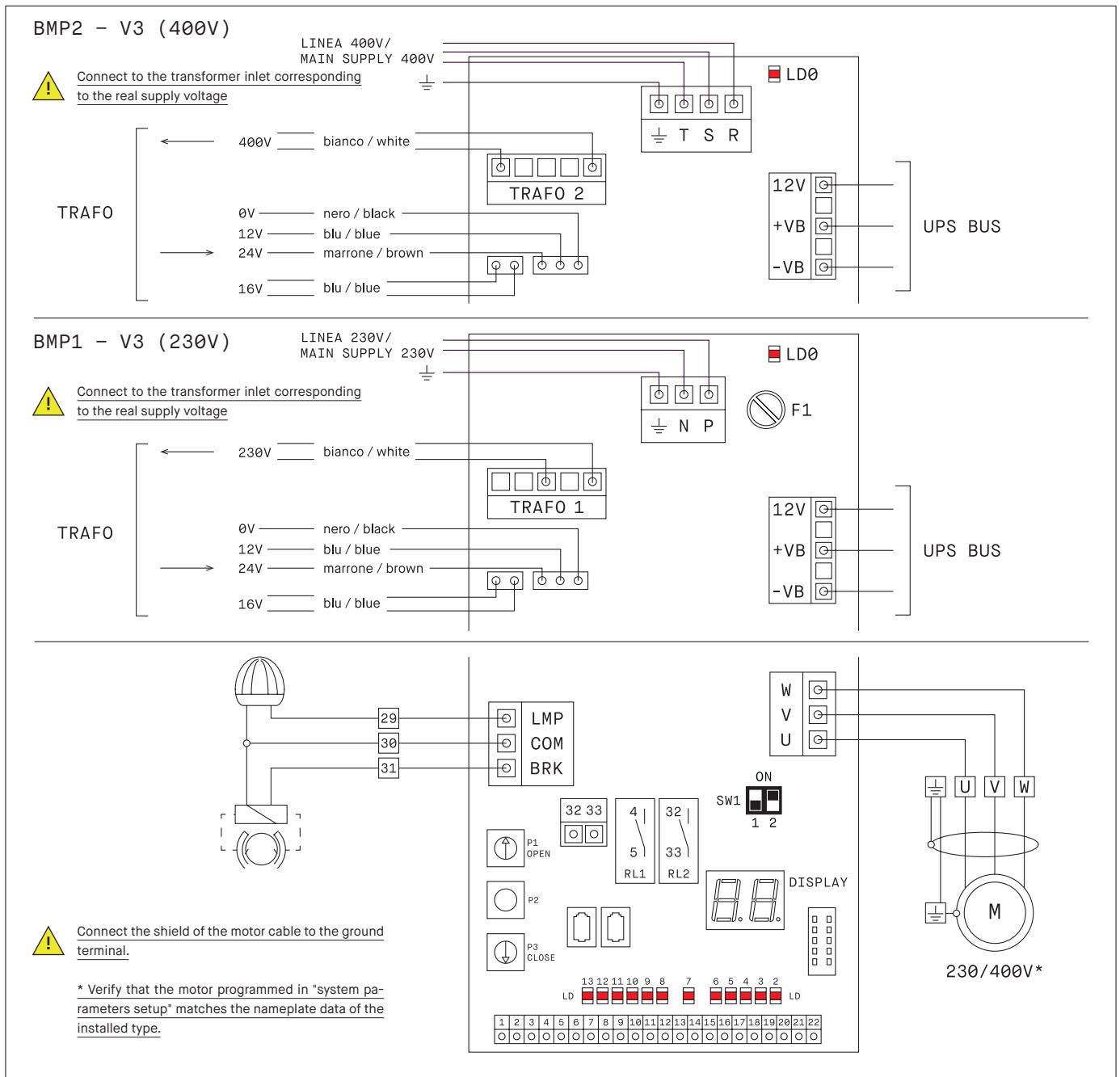


Components list		Cabling	Sections	
C	Control board	1	Motor and brake supply cabling	4×1,5mm ²
M	Three phase geared motor	2	Control board/Mobile connector cable	7×0,5mm ²
S	Signals distributor connection (spider)	3	Mobile connector/Distribution connection	7×0,34mm ²
B	Electro-brake	4	Encoder cable	4×0,34mm ²
J	Curtain jamming sensor	5	Curtain jamming sensor cable	3×0,34mm ²
R	Infrared photocell receiver	6	Photocell receiver cable	3×0,34mm ²
T	Infrared photocell transmitter	7	Photocell transmitter cable	3×0,34mm ²
H	Safety edge radio band transmitter			



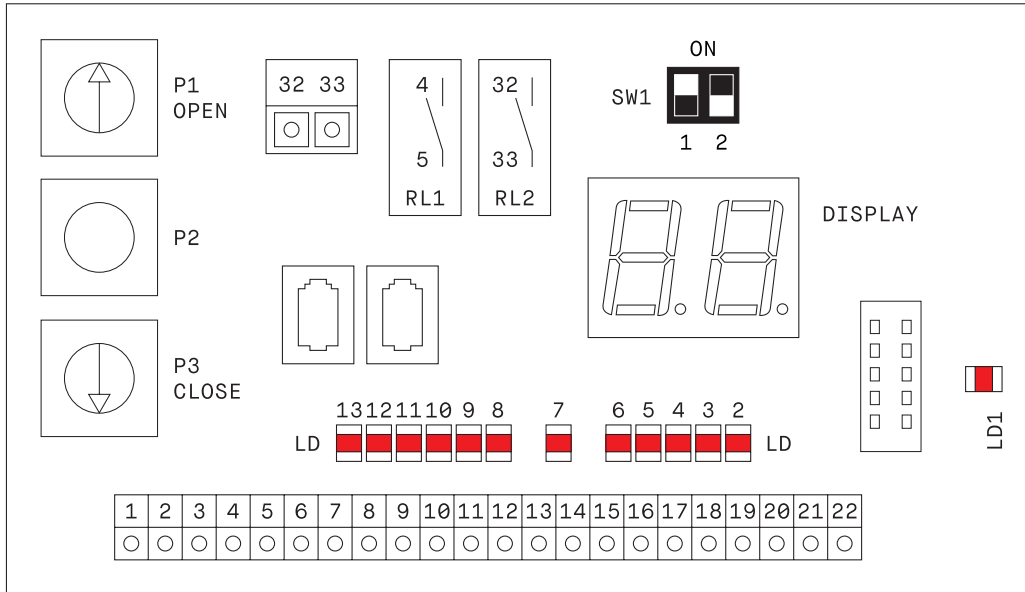
5 Electronic board

5.1 Supply and power connections
















Terminal	Description	BMP1 V3	BMP2 V3
P-N / R-S-T	Main supply	230V AC	400V AC
12V	Signal SUPPLY FROM UPS	12V DC	12V DC
+VB -VB	Supply bus from UPS (optional)	320V DC	560V DC
U - V - W	Three-phase motor	230V – 0,75 / 1,5kW	400V – 0,75 / 1,5kW
LMP - 29 30	Flashing lamp	230V AC [RMS]	230V AC [RMS]
BRK - 30 31	Brake	110V DC [RMS]	110V DC [RMS]
F1	Fuse	10A (230V)	-
LD0	Capacitor discharging signaling	-	-

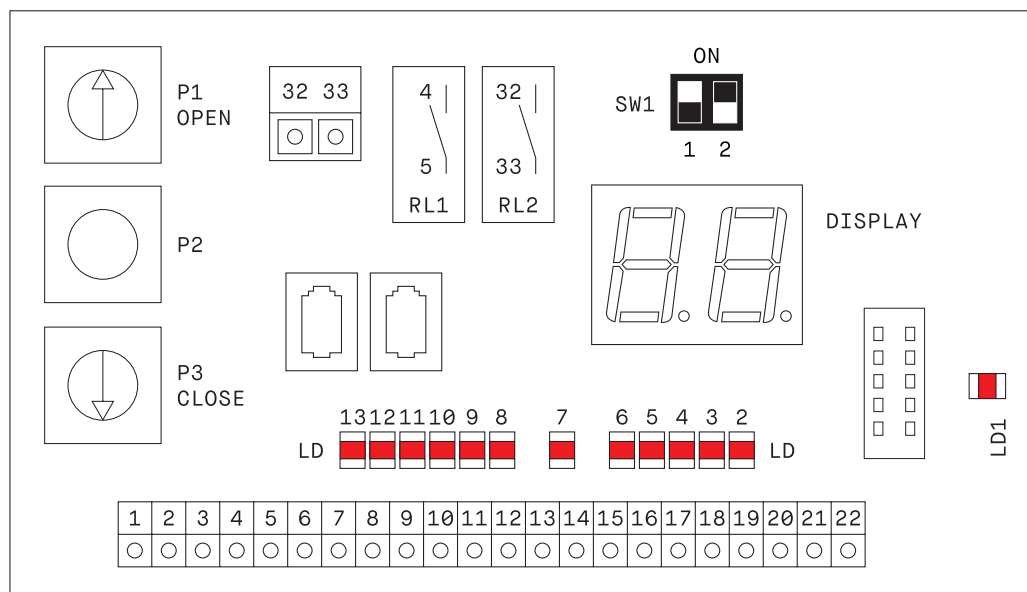
5.2 Controls and safety inputs



DIP-Switch SW1	DIP 1 Control type	DIP 2 Brake type
	Automatic closing	Active brake (only with counterweight)
	Control step by step	Standard brake (negative)

Terminal	Description	Signalling LED
1	+12V common	
2	0V common  12V for safety devices and encoder. Do not use to supply optional accessories.	
3	Not used (serial com)	
4-5	Output: Close Contact at closed door (voltage free contact RL1)	
6	+12V common	
7	 Curtain jamming Sensor	LD13
8	 Open command (external command by accessories)	LD12
9	 Safety edge or light curtain (photocell barrier)	LD11
10	 Opening command from UPS	LD10
11	 Start command (push button)	LD9
12	 Pedestrian opening command	LD8
13	+12V common	
14	 Photocell Signal	LD7
15	+12V common	
16	 Stop	LD6
17	 Encoder channel A or Opening approaching limit switch	LD5
18	 Encoder channel B or Closing approaching limit switch	LD4
19	 Opening limit switch (if limit switches set)	LD3
20	 Closing limit switch (if limit switches set)	LD2
21	24V AC Accessories supply	
22	24V AC Accessories supply	
32-33	Output: Close Contact at opened door (voltage free contact RL2)	

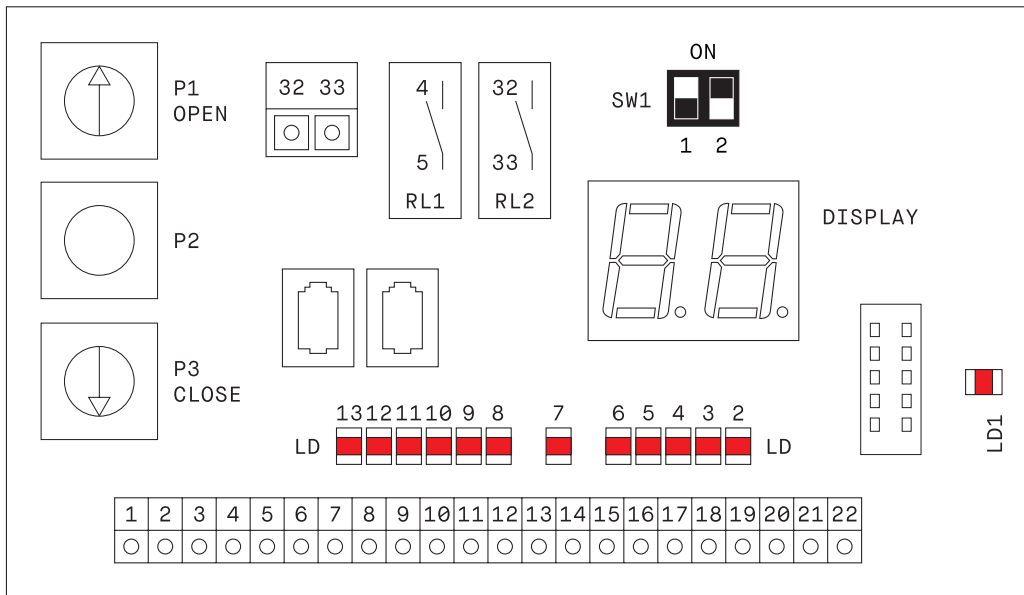
5.3 Manual JOG and Display



Button	Action	Description
P1	Jog OPEN	SERVICE command in opening
P2	Program mode command	Programming mode pushing for 5 seconds (until LD1 flashes quickly)
P3	Jog CLOSE	Service command in closing

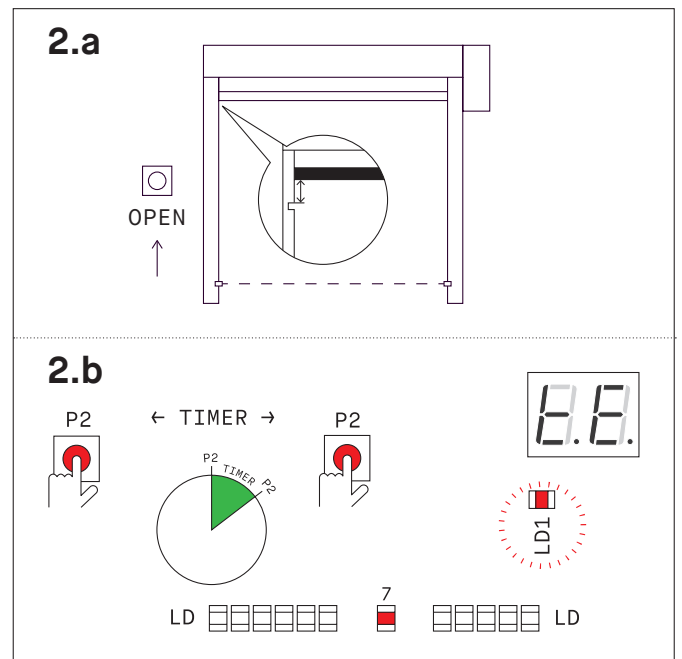
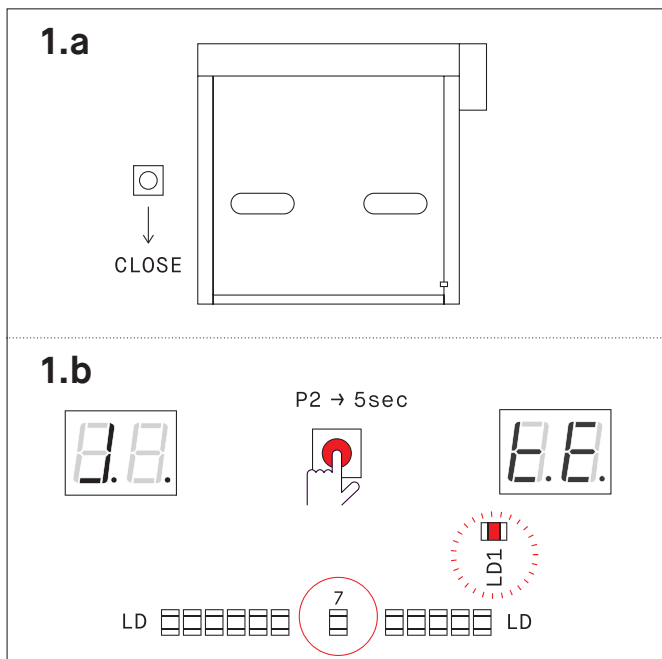
I digit	II digit	Description
AL	00 00	Door in standby, waiting Jog command
J		Jog mode activated
Jo		Manual open (Jog open)
Jc		Manual close (Jog close)
CL		Door in closing (CLosing)
OP		Door in opening (OPening)
C		Door closed (Closed)
O		Door opened (Opened)
tE		Encoder programming activated (teaching Encoder)
tS		Electromechanical switches programming (teaching Switch)
tP		Pedestrian opening programming (teaching Pedestrian)
to		Opening time (timing opened)
PE		Pedestrian opening position (PEdestrian)
St		Stop button activated (Stop)
EA		Encoder in alignment (Encoder Alignment)
AL		Alarm (ALarm) list at page 14
UPS		Emergency supply activated (UPS)
0...99		Break timing (count down)
-		Pausa 0 time (start the closing)
HH		Incorrect encoder alignment after a shutdown

5.4 Adjustment and programming (Encoder)

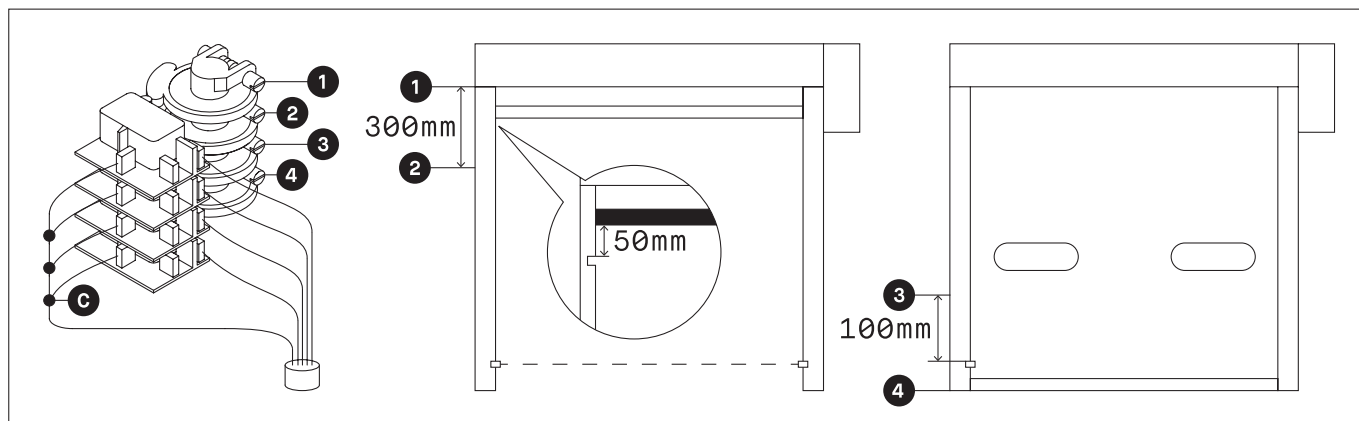


⚠ Check the correct rotation direction of the door, eventually adjust it with the supply sequence (U V W).

Action	Display	LD1	LD7
1 Programming of the closed door position			
1.a Drive the curtain in closed door by P3	Jc	OFF	OFF
1.b Check the photocell engagement by led LD7 OFF	J	OFF	OFF
Push P2 for 5 second until LD1 flashes quickly	tE	Flashing	OFF
2 Programming of the opened door position and break time			
2.a Drive the curtain in opened door by P1. Check the bottom edge, it must be at least 50mm over the reinserting cut into the guide	Jo	Flashing	OFF
2.b Push P2 (impulsive)	tE	Flashing	ON
Wait the needed break time	tE	Flashing	ON
Push P2 (impulsive) giving the closing command	tE	Flashing	ON
The door will close up to the photocell engagement	C	Flashing	OFF
Give a command OPEN/START to check the complete cycle	OP		



5.5 Adjustment and programming (Limit switches)



Ref.	Wires color	Description	Terminal	Led
1	Green	Opened door	19	LD3
2	White	Slowing in opening	17	LD5
3	Grey	Slowing in closing	18	LD4
4	Brown	Closed door	20	LD2
C	Yellow	Common (+12V)	15	-

1 Limit switches adjustment

- Check the right door movement (up/down) and in case correct by the phase sequence (U V W)
- Adjust the cams position as per the indication into the drawing

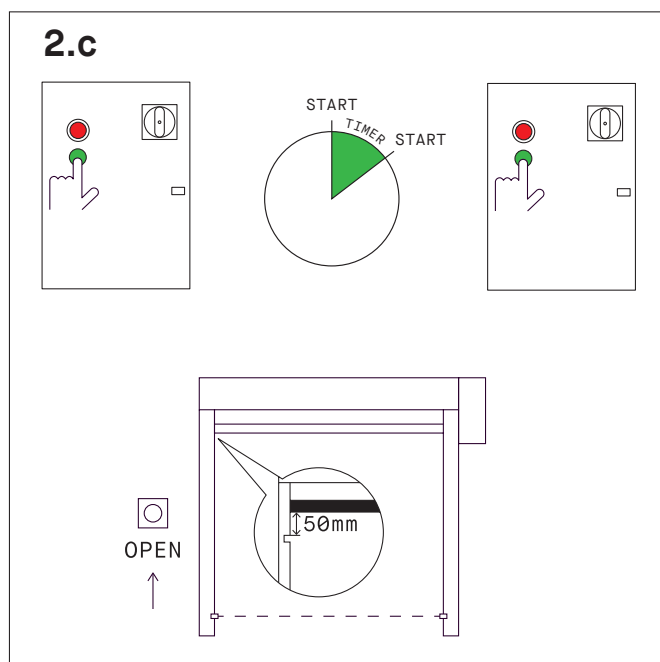
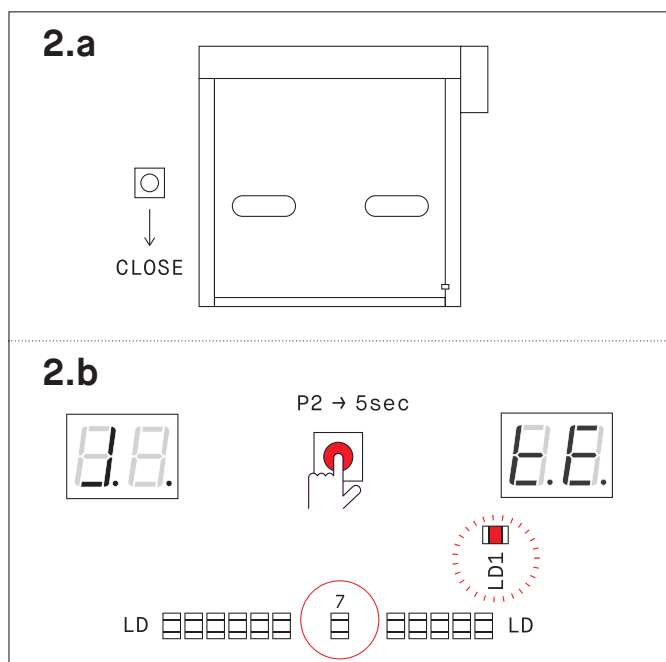
2 Programming the break time

2.a Drive the door at closed door by P3

2.b Push P2 for 5 seconds until LD1 flashes quickly

2.c Push Start to open the door

- Check the bottom edge, it must be at least 50mm over the reinserting cut into the guide
- Wait the needed break time
- Push Start to close
- The door close completely
- Give a command OPEN/START to check the complete cycle



5.6 Pedestrian opening adjustment

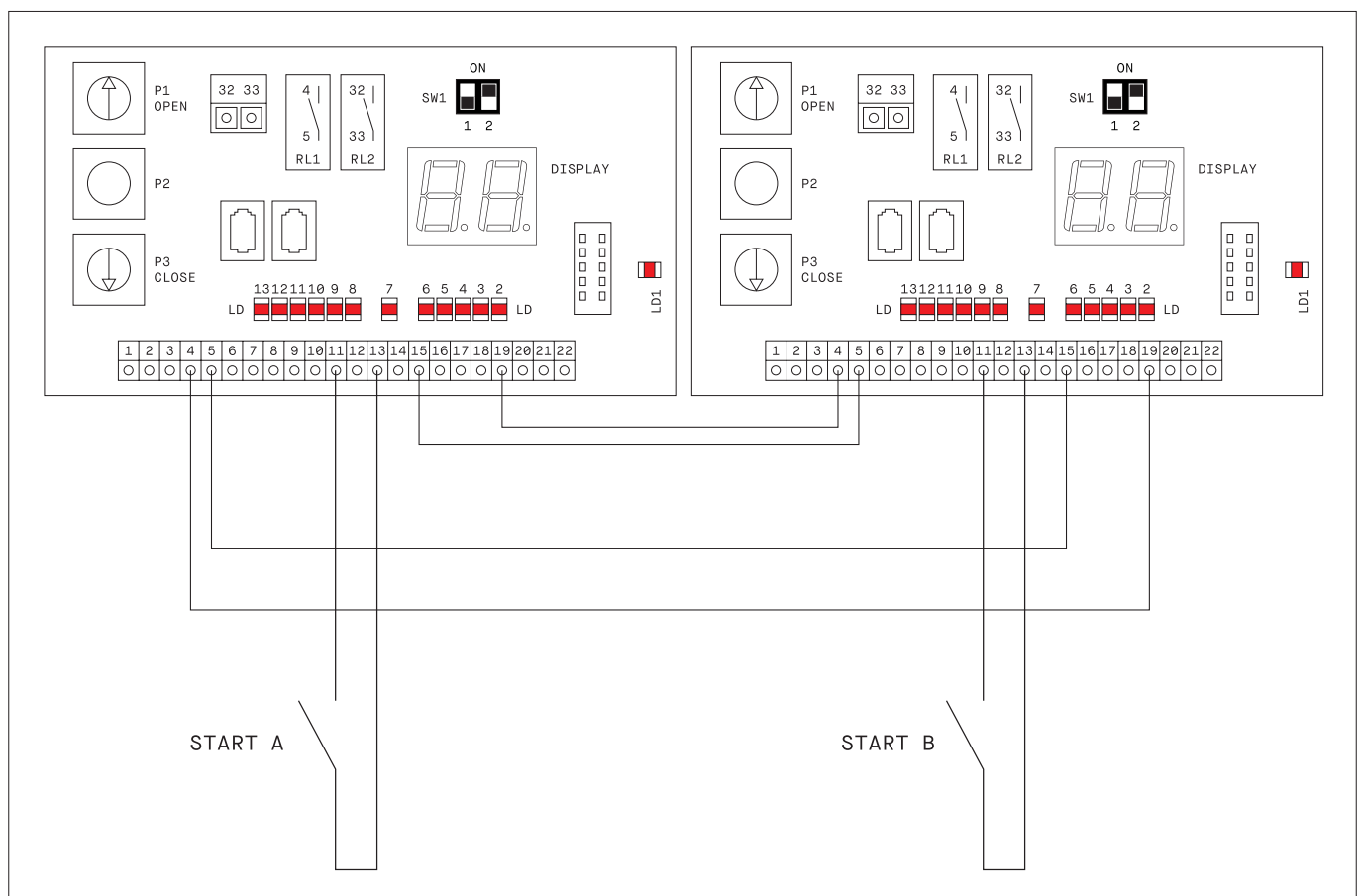
A Pedestrian opening with Encoder system

- Connect the pedestrian command between the terminals 13-12
- Drive the door in closed door position by P3
- Open the door by P1 up to the needed pedestrian passage position
- Start the programming, pushing P2 for 5s (LD1 flashes quickly)
- Give a command for pedestrian opening (13-12)
- Wait the needed break time
- Give a command for pedestrian pasSage (13-12) to save the timing

B Pedestrian opening with limit switches system

- Connect the pedestrian command between the terminals 13-12
- Drive the door in closed door position by P1
- Start the programming pusing P2 for 5 s (LD2 flashes quickly)
- Open the door by P1 up to the needed pedestrian passage position
- Give a command for pedestrian opening (13-12)
- At the needed position give a pedestrian opening command (13-12)
- Wait the needed break time
- Give a command for pedestrian passage (13-12) to save the timing

5.7 Interlock



By the LCD programmer:

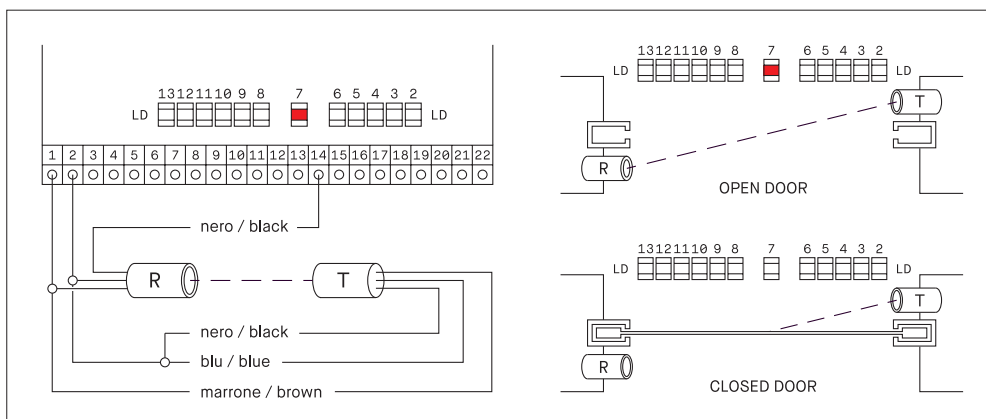
- go into the menu INPUTS STATUS DISPLAY
- modify the parameter REMOTE START TERMINAL from 00 to 19

To have the automatic command of the second door:

- go into the menu SYSTEM PARAMETERS SETUP
- modify the parameter RUNNING OPTION adding 80.000 (e.g. if the value was 4200→84200)

6 Safety devices

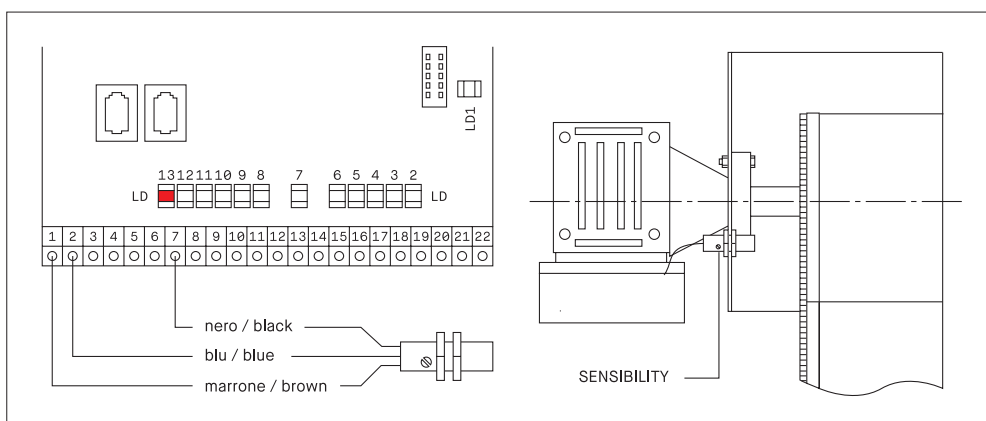
6.1 Infrared photocell



The photocell sensors must be fitted as per the drawing, so when the curtain is closed the photocell will be engaged. Signalling by LD7.

⚠ ATTENTION In case of Encoder system, the photocell makes the alignment. It cannot be disconnected.

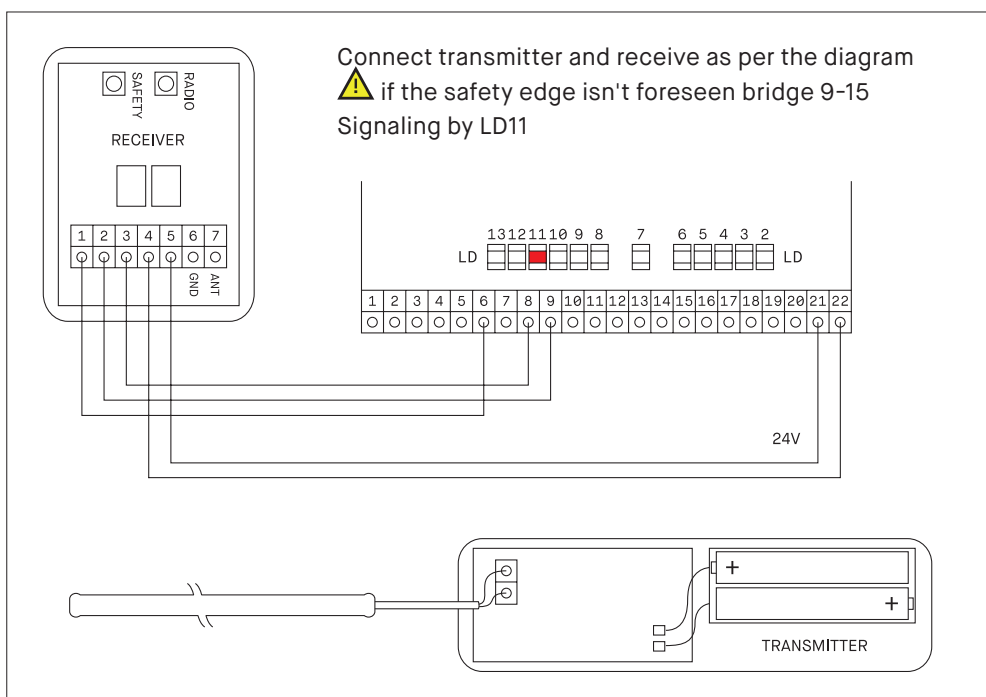
6.2 Curtain jamming sensor (optional)



The curtain jamming sensor detects the mis-unrolling of the curtaining in closing. Adjust the positioning into the oval slot and the sensibility by the relevant trimmer. Signaling by LD13.

⚠ If the sensor isn't foreseen bridge 7-13.

6.3 Wire-less safety edge



1. Supply the receiver (green led ON) and insert the batteries into the transmitter
2. The pre-coupled system is active. Test the correct functioning pushing the edge. If necessary program the transmission:
 - a. Push the button SAFETY on the receiver. The memory remains open for 10s (red led ON)
 - b. push the safety bar to memorize the transmitter code
 - c. the red led flash for 3seconds for right programming
 Insert the transmitter into the bottom edge pocket.

7 Use instructions

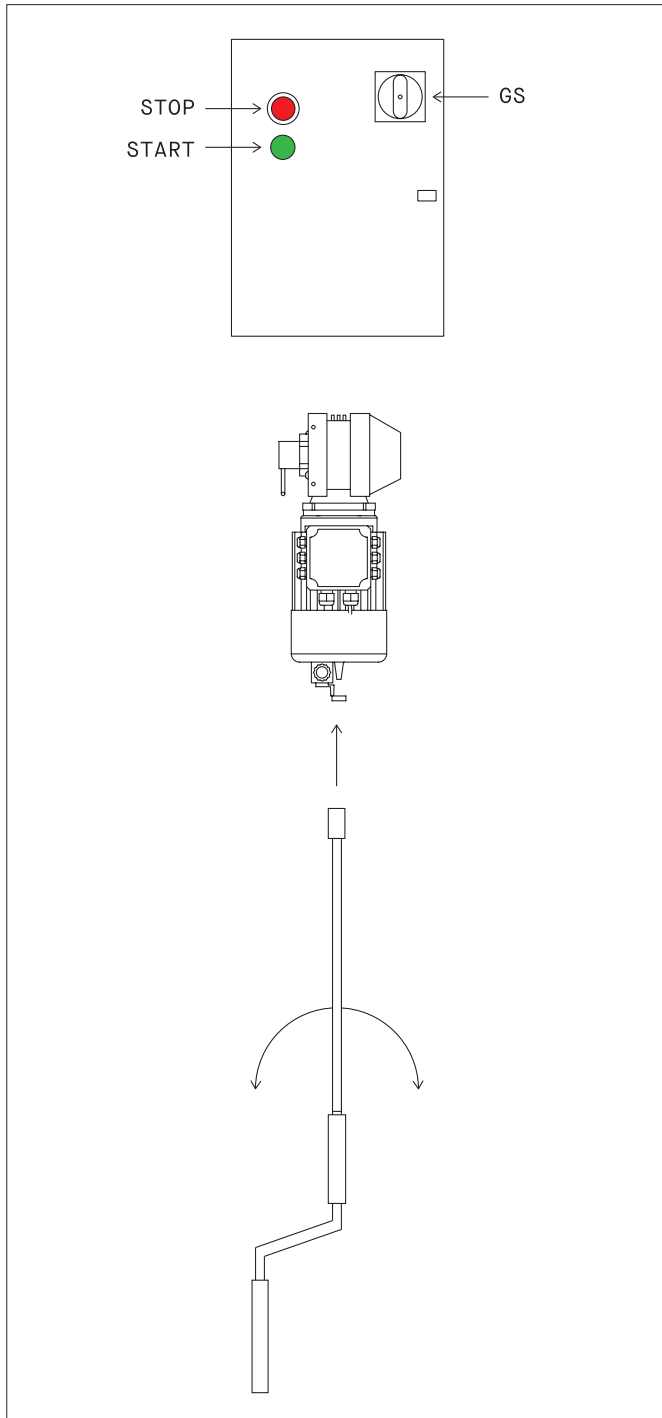
GENERAL SAFETY PRECAUTION

This manual is an integral and essential part of the product and must be delivered to the final user. The owner must keep this document and pass on to subsequent users of the system. The automation in question is a door with vertical movement, will be used for the purposes for which it was designed. Any other use is considered improper and dangerous.

The manufacturer is not responsible for damage caused by improper, incorrect or unreasonable use.

USE PRECAUTIONS

- Do not enter the operating range of the door during movement.
- In case of breakdown or malfunction switch off the main switch. Maintenance, adjustment and repair must be performed only by trained and authorized personnel.
- Each automation is accompanied by "Installation and maintenance", in which among other things shows the periodical maintenance plan, in particular, it is recommended to check all the safety devices.



Controls on the control panel

- GS: General switch of the main supply, disconnects the power equipment. Operate only in case of need for maintenance or repair.
- Stop: Stop immediately each movement of the drive. Button with restraint: turn to the right to free
- Start: Opening control and start the cycle of automatic door.

Manual operation

To operate the curtain in case of power failure or breakdown:

- Switch the GS to disconnect the main supply
- Insert the rod coupling in the lower side of the motor, thereby actuating the micro switch that prevents electrical operation of the door.
- Turn the handle until you reach the desired position of the curtain.

8 Maintenance instructions

Operations to be carried out every six months during the maintenance inspections:

Safety devices:

- Check the proper functioning of the safety edge (where provided)
- Check the functioning of the curtain jamming sensor (where provided)
- Check the functioning of the safety photocell

Automation:

- Check the functioning of all the control devices installed (push buttons, radar, magnetic loop etc.)
- Check the electric connections on plugs and terminals, verify that there are no water leaks or dust.
- Check the wear of the electrical components and their insulation

Side guides, curtain and frame:

- Check the wear of the side guides.

Do not lubricate: guides and zippers are made of self-lubricating materials.

The use of oil, grease or other lubricants creates with time the jam of the sliding.

- Check the tension of the curtain (see instructions on p23)
- Check tightness of the coupling screws of the uprights with transom
- Check the anchor of the door to the building/structure

Motorization:

- Check the tightness of the motor fitting
- Check the operation of the encoder or limit switches (check the wear of the cams)
- Check the wear of the brake disc and verify the braking efficiency.

Winding barrel:

- Check the fixing of the rolling bearings
- Check the bearing lubrication
- Check the alignment of the winding barrel



It is necessary to perform periodic inspections by qualified technicians. All operations must be carried out in full compliance with safety regulations, defining and highlighting the area of operations. Before any operation disconnect the electrical supply line by means of the main switch and prevent it can be restored by third persons.

9 Alarms list*

* The Following list is valid from firmware version 1.15.0408, for earlier issues see previous instructions manuals.

AL display	Alarm description	Solution
St	Stop Engaged	Disengage the STOP push button (red mushroom)
HH	Incorrect encoder alignment	Make the position alignment
00 01	Short circuit on the control board	Check or replace the control board
00 02	Failure initial setup	Check or replace the control board
00 03	Failure to main capacitor charging	Check or replace the control board
00 04	Over-temperature threshold exceeded	Check motor absorptions and duty cycle
00 05	Instant current threshold exceeded	Check motor absorptions and parameters adjustment
00 11	Overload current (brake/flashing lamp)	Check brake/flashing lamp and relevant connections
00 12	Overload current (motor)	Check motor current, winding and relevant connections
00 50	Brake circuit opened, current = 0	Check brake, connections or manual rod safety switch
00 71	Opening slowdown limit missing	Move the door by jog button P1-P3 (encoder) or check the limit switches
0072	Closing slowdown limit missing	
00 73	Jog buttons ON together	Check push button P1 and P3
00 74	Curtain jamming failure	Check curtain sliding and adjustment of jamming sensor
00 75	Slowing limit switch engaged together	Check slowing limit switches
00 76	Main supply undervoltage	Check main supply voltage and line section dimension
00 77	Stop engaged	Disengage the STOP push button (red mushroom)
00 78	Manual rod safety switch engaged	Check the manual rod safety switch
00 79	Safety edge engaged	Check the devices and relevant connection
00 80	System failure	Update the firmware or replace the electronic board
00 87	Over voltage during closing movement	Decrease the speed in closing (frequency)
00 88	Motor over-current	Check value RUN MODE = 60, remake alignment
00 89	Brake or flashing lamp over-current	Check value RUN MODE = 60, remake alignment
00 8B	Brake or flashing lamp over-current	Check value RUN MODE = 60, remake alignment
00 8D	Over-temperature	Decrease the duty cycle, increase the breaking time
00 8F	System failure	Update the firmware or replace the electronic board
00 91	System failure	Update the firmware or replace the electronic board
01 00	Gear box reduction ratio incoherent	Gear box incorrect or encoder resolution problem
01 02	Encoder connection failure	Check the encoder and its connections
01 03	Alignment started with photocell not engaged	Check the photocell at closed curtain (led LD7 OFF)
01 05	Photocell disengaged at once in alignment	Check eventual disturb or photocell low positioned
01 08	Opened position set with engaged photocell	Remake the alignment
01 09	Opened position too low	Remake the alignment
01 0D	Pedestrian opening position = 0	Remake the alignment

AL display	Alarm description	Solution
01 0E	Encoder counting failure or motor stalling	Check the functioning of encoder, motor and brake (decrease speed or increase acceler. ramp open)
01 0F	Photocell trouble during alignment	Check the photocell functioning (led LD7)
01 10	Photocell failure during alignment	Check the photocell functioning (led LD7)
01 14	Remote keyboard disconnected (model Easy)	Check the keyboard connection and led status
01 15	Encoder signals failure	Check encoder and connections (led LD4 - LD5)
01 16	Wrong motor parameters	Check the motor parameters matching the label datas

10 Running options

To set the options in use by the programmer enter the menu SETTING PARAMETERS and enter the value of the request parameter RUNNING OPTIONS. The factory default setting = 00000200 In case of encoder system after the first jog movement the value became automatically = 00004200.

Value	Description	Remarks
00000002	Enables UPS (opt) for manual opening in case of supply break-down	Automatic opening after a presetted time
00000004	Enables UPS manual opening by supply break-down	Opening after a START command
00000008	The Start make command CLOSE	Disables the START as command OPEN
00000010	Enables the cycle step by step Pedestrian start	The Start command open/close, during the closing Start give stop to the motion
00000020	Enables the time after a transit	If option 20 disabled only the breaking time
00000040	Move pedestrian opening to command OPEN (8)	To be used in case of pedestrian + UPS
00000100	Disables brake current control before the starting	
00000200	Disables timeout and incherences controls	Default setting
00000400	The pedestrian command set OPEN, but not CLOSE	Only break time reset
00001000	Anti-icing A	Start each 15 minutes
00002000	Anti-icing B	Start each 60 minutes
00003000	Anti-icing C	Adjustable timer in seconds by the time after transit from the photocell
00004000	Encoder automatically recognized by the first jog movement	Automatic setting
00080000	Enables interlocking	Connect the doors as explained at page 12
00100000	Disables automatic alignment after a supply break-down	To get the alignment give a Start
00200000	Enable the motor warming by current	To be used only at low temperatures
00400000	Enables relay was opening door pedestrian	Disable the relay in total opening
01000000	The external control (8) active only during closure	Input 8 disabled at closed door
10000000	Increase engine torque in closing	For use with counterweight

EXAMPLE – to activate the ANTI-ICING A function add +1000 to the number in OPTION IN USE, if the existing number is 4200 (deactivate timeout + encoder control), add +1000: the final value will become 5200

