DOORHAN®

Control Unit for High-Speed Door of HSSD Series

Owner's Manual

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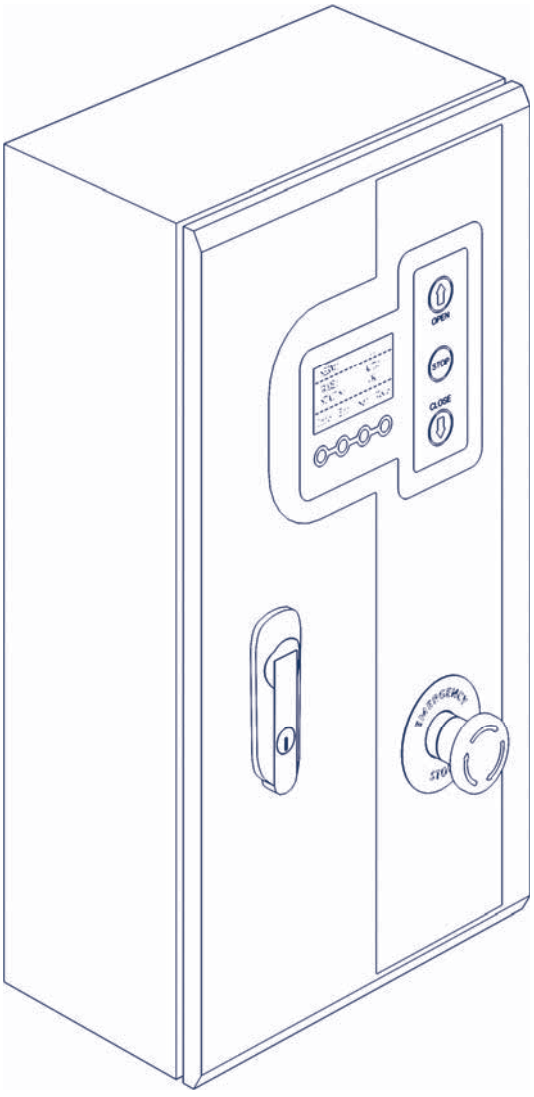


DOORHAN®

1. GENERAL INFORMATION

Control unit of PE500CU (HSSD) series is designed to operate high-speed spiral doors.

Table 1. Specifications

Parameters	Value
Supply voltage	220 V
Power supply current frequency	50 Hz
Frequency converter power	0,75–2,2 kW
Control voltage	24 V
Opearting temperature	-25…+55 °C
Overall dimensions (W × H × D)	250 × 370 × 136 mm
Protection class	IP 54

1.1. SAFETY RULES

- Use the control unit only for its intended purpose, any other use is prohibited.
- The manufacturer assumes no liability for damage or injury to persons or property which occur as a result of failure to observe safety rules specified herein or incorrect use of the control panel.
- Only trained personnel should install, operate or service this equipment.
- Correct operation of the control unit can only be guaranteed if the supply voltage complies with the specified in the instructions.
- Prior to control unit installation verify that spiral door and its safety devices are in working order.
- Prior to first actuation of the control unit, make sure that all electrical connections are securely fastened and insulated, safety devices are installed and ready for use.

⚠ WARNING!

Carefully follow all the instructions specified herein. Failure to do so could cause equipment damage and/or personal injury!.

2. DESIGN

Fig. 1. Closed view

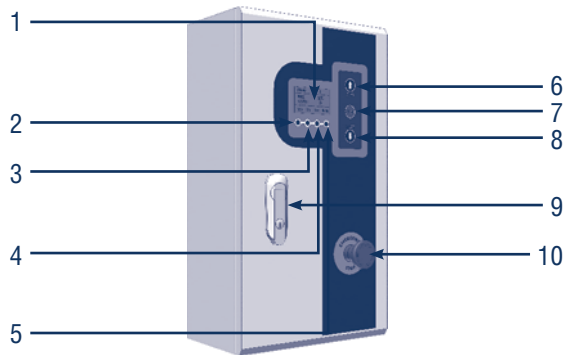


Fig. 2. Open view

1. Menu screen (LCD display)
2. INFO display button
3. ERROR display button
4. SETTINGS display button
5. MODE display button
6. Door OPEN button
7. STOP button
8. Door CLOSE button
9. Lock
10. Emergency stop button

3. INSTALLATION

Mount the control unit so the distance between control unit bottom and dock floor is approximately 1,2–1,5 m. Choose the fasteners corresponding to the type of wall.

4. ELECTRICAL CONNECTIONS

Table 1. Electrical connections (1,5 kW drive)

Port	Function	Description
1	PE	AC 220 V, input
2	N	
3	L	
4	Braking resistor, output +	
5	Braking resistor, input -	
6	Drive brake +	DC 24 V
7	Drive brake -	
8	Reserved	
9	Safety device 1	NO (safety edge, photocells, etc.), stop
10	Safety device 2	NO (safety edge, photocells, etc.), opening
11	Com/Gnd	
12	DC24V+	
13	Automatic opening, input	NO (connection of radar or other equiupment)
14	Partial opening, input	NO
15	Start, input	NO
16	Com/Gnd	
17	Automatic opening, input	NO
18	Partial opening, Input	NO
19	Lock	NO
20	Com/Gnd	
21	DC24V+	
22	Output 1A	By default 1A-1B is NO; change «Output 1 parameters» and 1A-1B will change to NC
23	Output 1B	
24	Output 2A	By default 2A-2B is NO, change «Output 2 parameters» and 2A-2B will change to NC
25	Output 2B	
26	Output 3A	By default 3A-3B is NO, change «Output 3 parameters» and 3A-3B will change to NC
27	Output 3B	
28	Output 4A	By default 4A-4B is NO, change «Output 4 parameters» and 4A-4B will change to NC
29	Output 4B	
30	RS485+	
31	RS485-	
32	Com/Gnd	
33	Manual opening, input	NO
34	Manual closing, input	NO
35	Manual stop, input	NO
36	Emergency stop, input	NC

4.1. ELECTRICAL CONNECTIONS DIAGRAMS

Fig. 1. Connection of proximity sensor

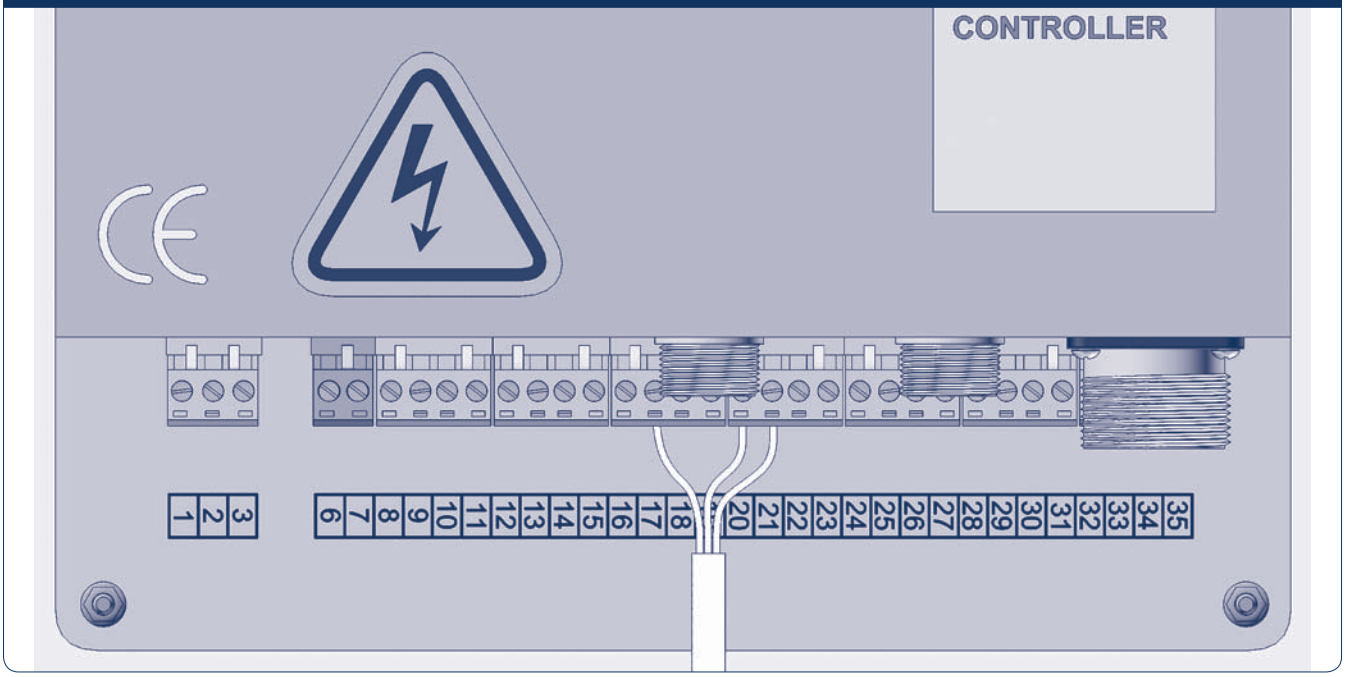


Table 2. Connection of proximity sensor

Port	Function	Wire colour
17	Connection of proximity sensor	black
20	Com/Gnd	blue
21	DC 24 B +	brown

Fig. 2. Connection of photocells (optical grid)

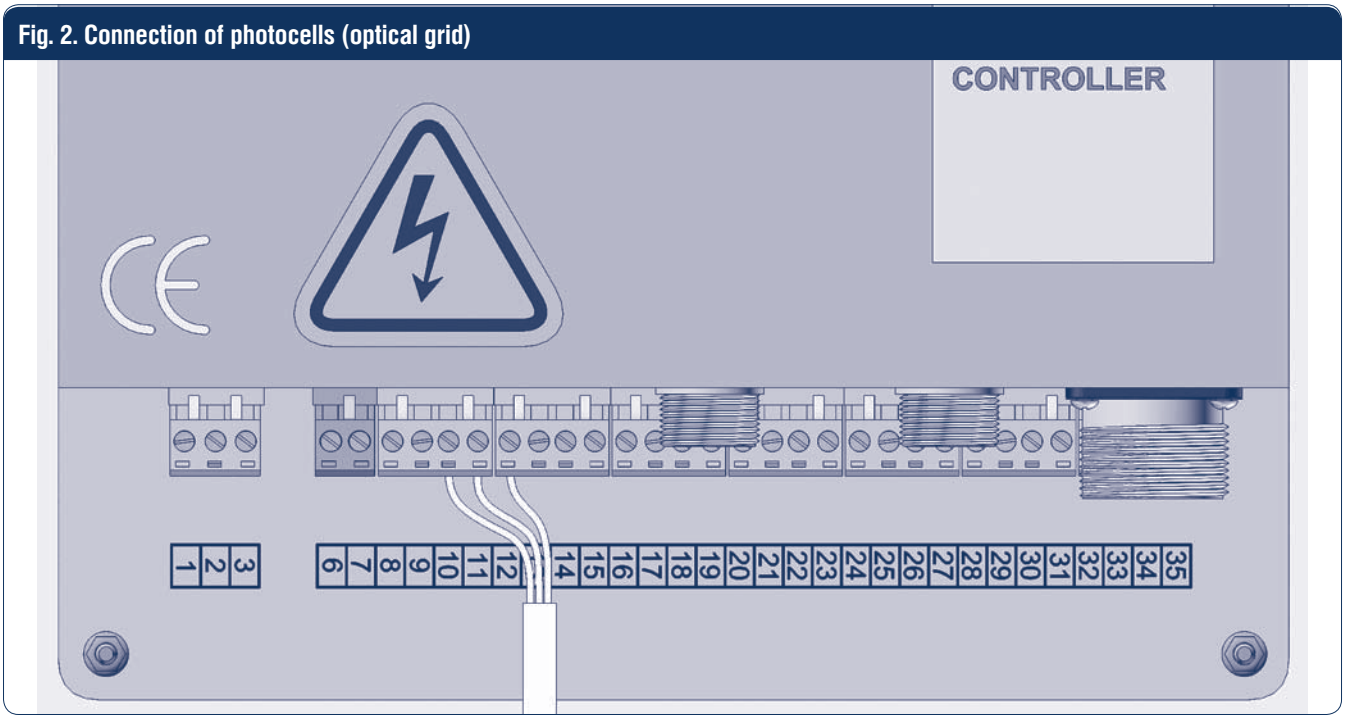


Table 3. Connection of photocells (optical grid)

Port	Function	Wire colour
10	Safety device 2	black
11	Com	blue
12	DC 24 B +	white and brown

Fig. 3. Motor cable connection

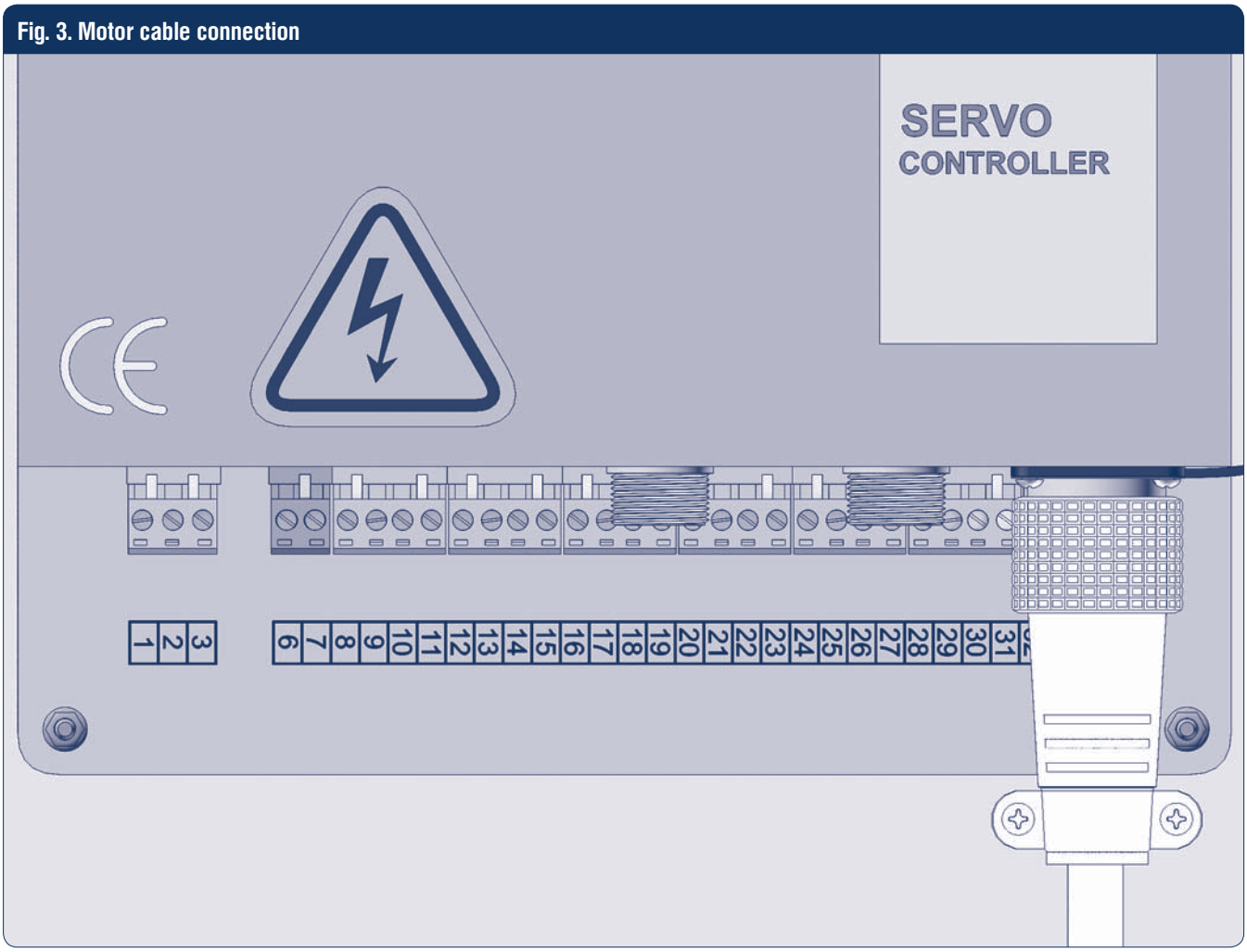


Fig. 4. Motor cable connection

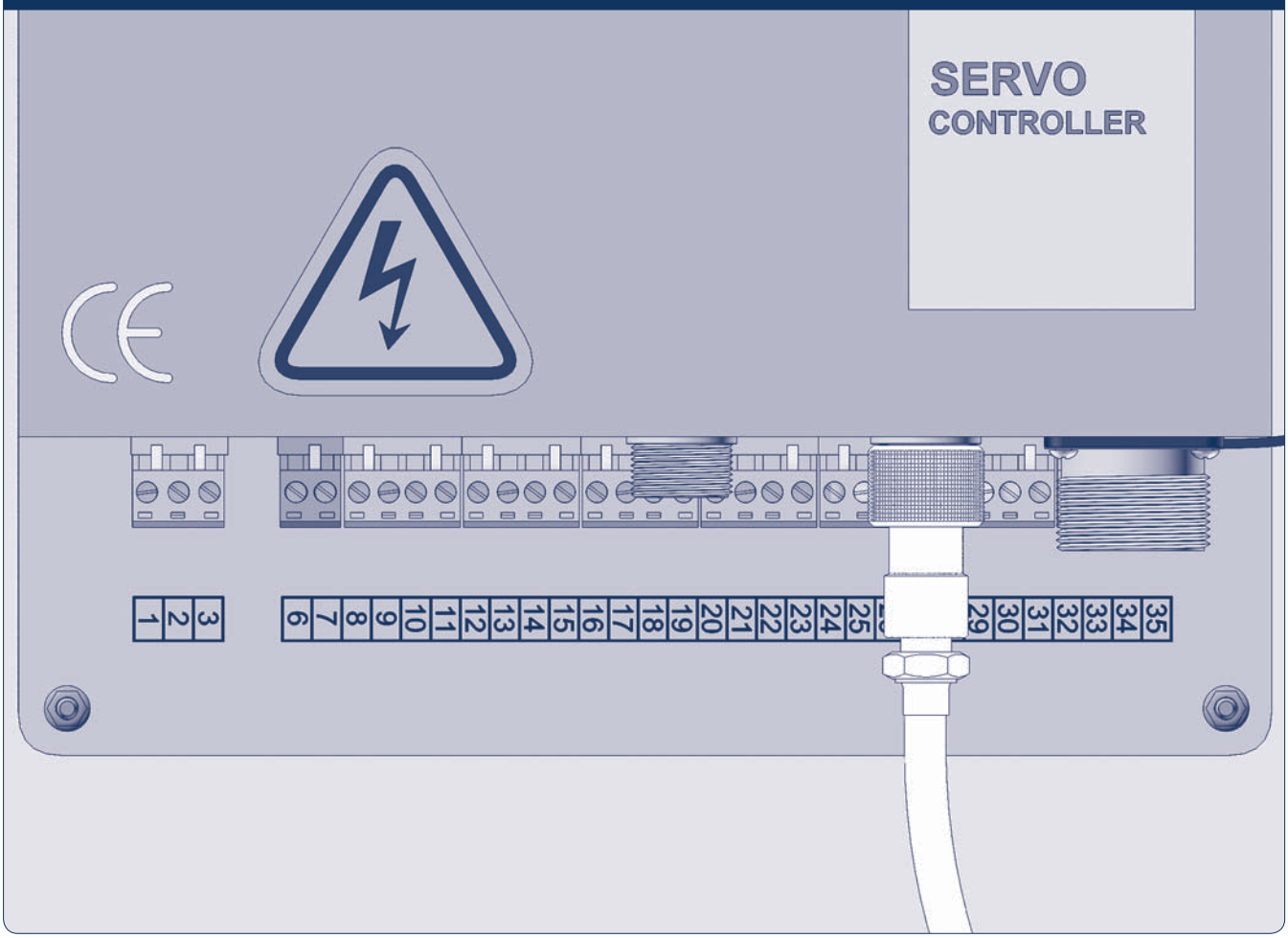


Fig. 5. 220 V mains connection

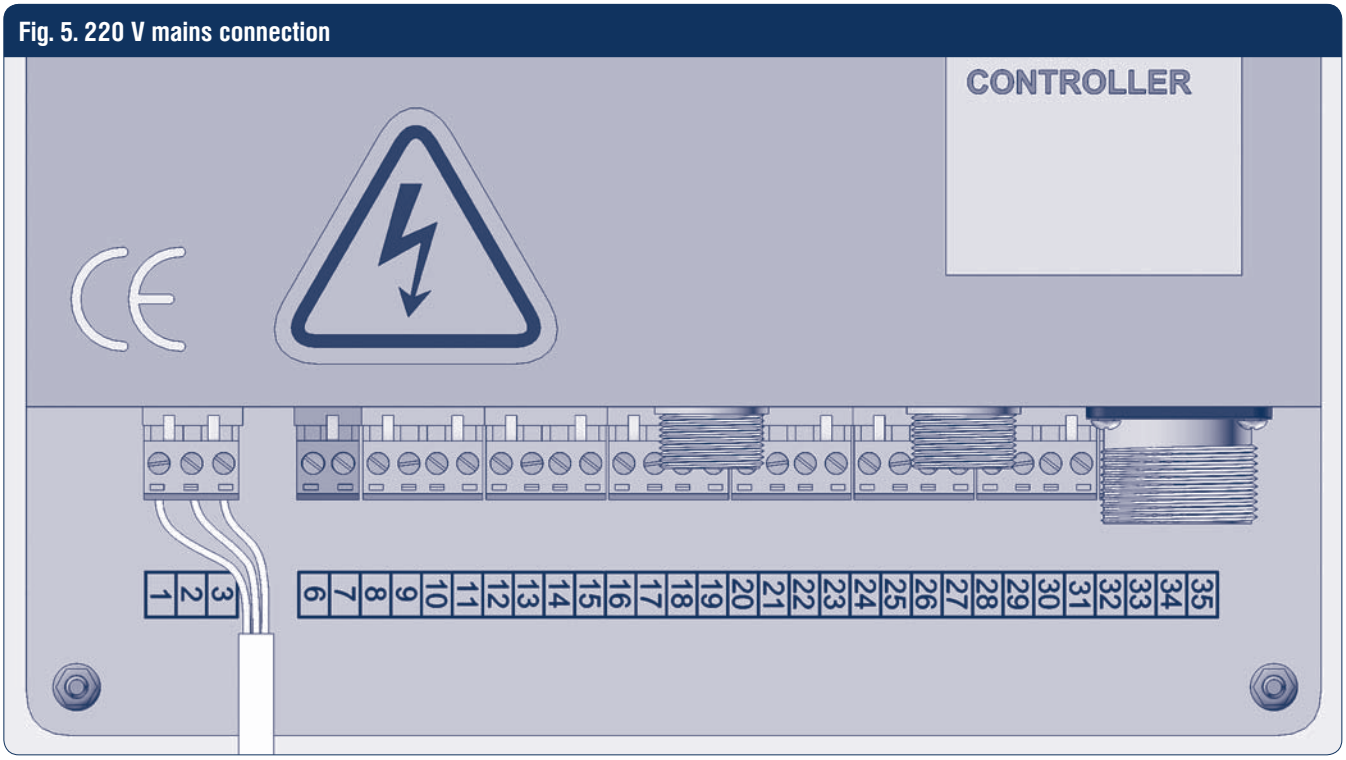


Table 4. 220 V mains connection

Port	Function	Wire colour
1	PE	yellow-green
2	N	blue
3	L	brown

Fig. 6. Connection of motor brake

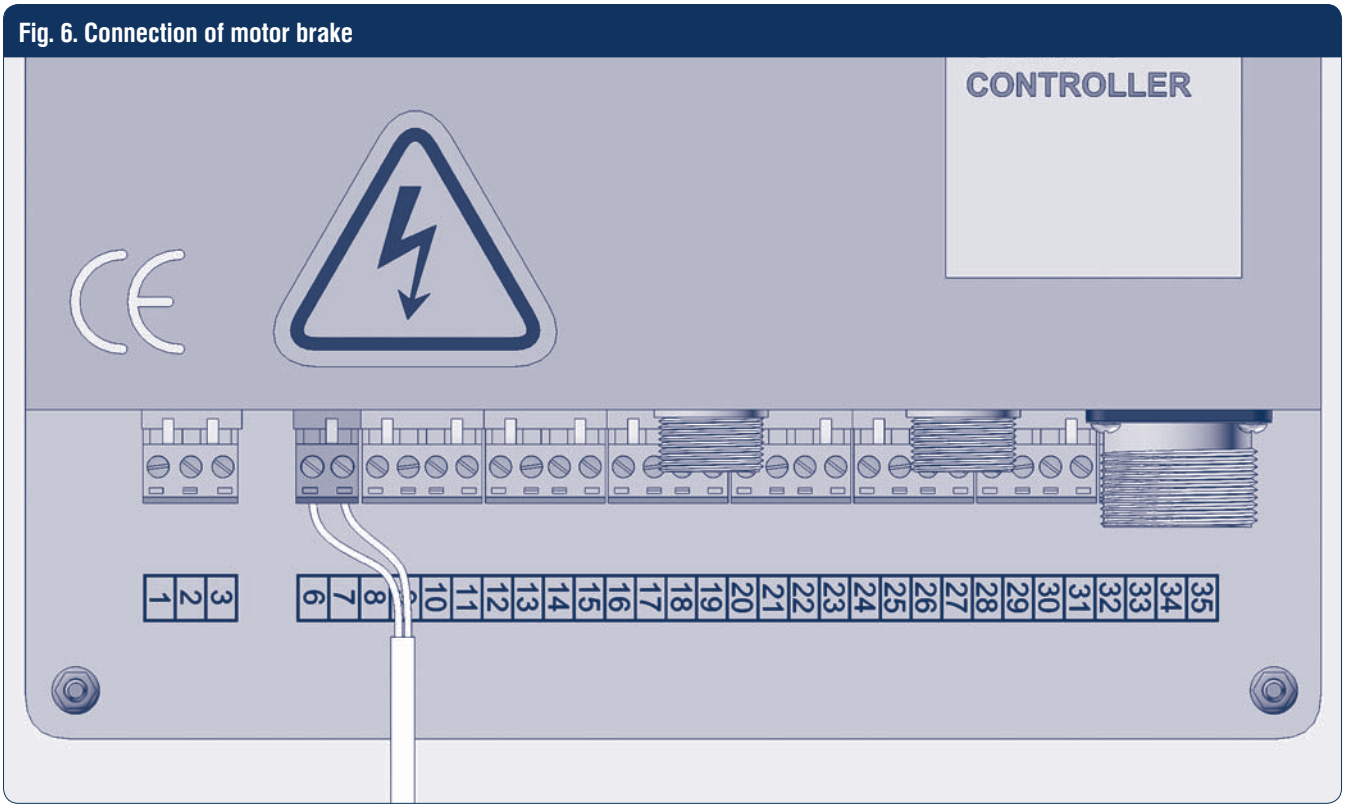


Table 5. Connection of motor brake

Port	Function	Wire colour
6	+	red
7	-	blue

4.2. ELECTRICAL CONNECTION DIAGRAMS OF OPTIONAL DEVICES TO CONTROL UNIT

⚠ WARNING!
Prior to connection of signal lamp or siren perform control unit setting in accordance with section 5.10 of the Manual.

Fig. 7. Signal lamp connection

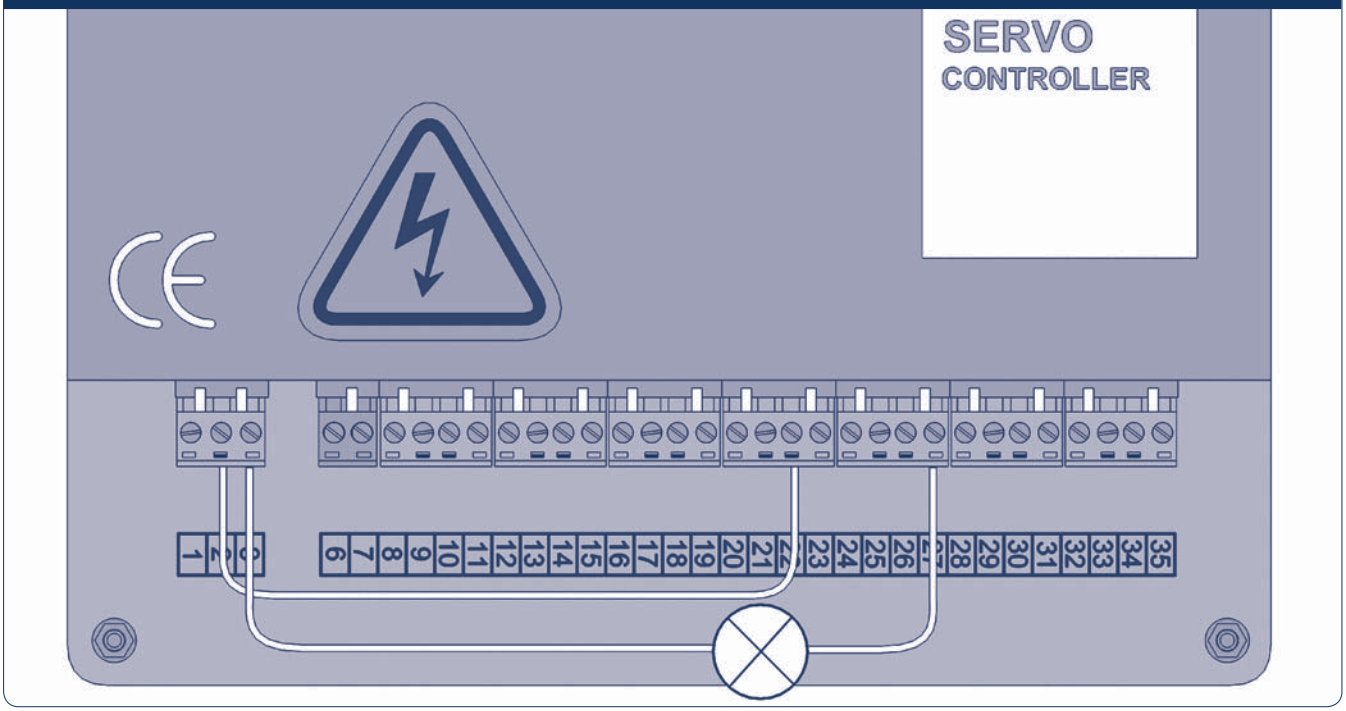
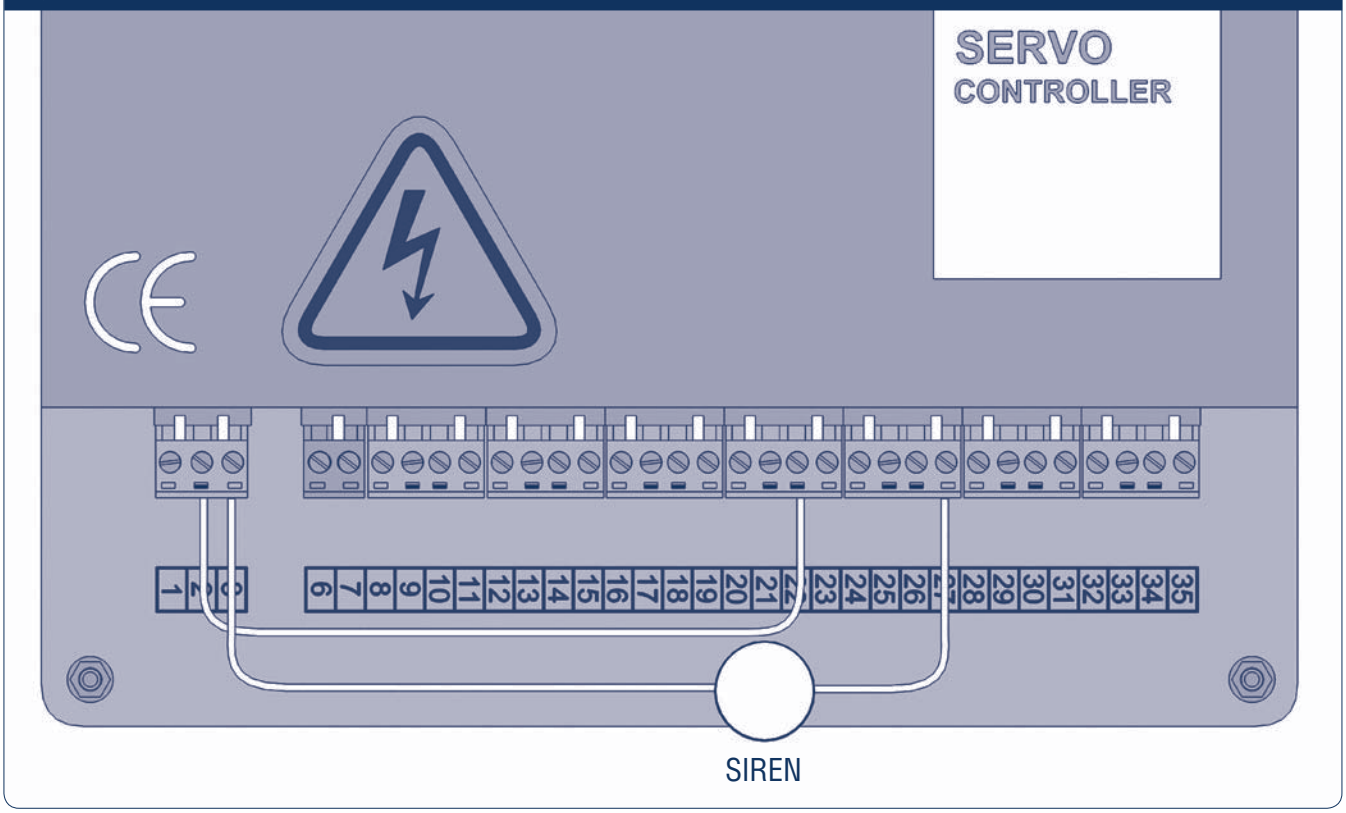


Table 6 to fig. 7, 8. Connection of signal lamp or siren

#	Description
1	Install a jumper on terminals 2 and 22
2	Connect lamp (siren) to terminals 3 and 27

Fig. 8. Siren connection



5. CONTROL UNIT SETTING

5.1. TO CHOOSE MANUAL MODE

SERVO MODE STATUS			
info	Err	Set	Mode

1.1. Press [Mode]

1.2. The display will show

Password 6666			
+	-	Ok	Esc

1.3. Press [+] [-]

to choose 6668

1.4. Press [Ok]

1.5. The display will show

Mode Setting MANUAL			
Adj		Save	Esc

1.6. Press [Adj] to choose MANUAL

1.7. Press [Save]

5.2. TO CHOOSE ENCODER TYPE

SERVO MODE STATUS			
info	Err	Set	Mode

1.1. Press [Set]

1.2. The display will show

Password 6666			
+	-	Ok	Esc

1.3. Press [+] [-]

to choose 6668

1.4. Press [Ok]

1.5. The display will show

1. Parameter **2. Limit Switch set** 3. RTC Config 4. Advanced Setting			
5. Language			
6. Default			
↑	↓	Ok	Esc

1.6. Press [↑] [↓]

to choose **Limit Switch set**

1.7. Press [Ok]

1.8. The display will show

Limit Switch **Proximity Switch** or Absolute Encoder			
Adj			Ok

1.9. Press [Adj]

to choose **Proximity Switch**

1.10. Press [Ok]

5.3. TO CHECK DIRECTION OF DOOR CURTAIN ROTATION

1.1. The display will show

Press Open-Key Direction			
Yes			No

1.2. Press door OPEN button on the control unit.

1.3. If the curtain moves UP, press

Yes

If the curtain moves DOWN, press

No

5.4. TO ADJUST PROXIMITY SENSOR

1.1. The display will show

Origin Position Lift the door			
Ok			Esc

1.2. Press door OPEN button on the control unit

and raise the door curtain to UPPER travel limit.

1.3. Press Ok

When the door curtain reaches UPPER travel limit the proximity sensor is activated.

5.5. TO ADJUST DOOR TRAVEL LIMITS

1.1. The display will show

Open Position Drop the door			
Ok			Esc

To adjust door UPPER travel limit:

1.2. Press door CLOSE button on the control unit.

1.3. Lower the door curtain by 2 cm.

1.4. Press Ok

1.5. The display will show

Close limit Drop the door			
Ok			Esc

To adjust door BOTTOM travel limit:

1.6. Press door CLOSE button on the control unit.

1.7. Lower the door curtain to floor level.

1.8. Press Ok

The display will show

Calibrate **Programmed** (travel limits are set)			
			Esc

Or

Calibrate **Failure** (travel limits are NOT set)			
			Esc

5.6. TO ADJUST OPENING SPEED

SERVO MODE STATUS			
info	Err	Set	Mode

1.1. Press Set

1.2. The display will show

Password 6666			
+	-	Ok	Esc

1.3. Press + -

to choose 6668

1.4. Press Ok

1.5. The display will show

1. Parameter 2. Limit Switch set 3. RTC Config			
↑	↓	Ok	Esc

1.6. Press ↑ ↓

to choose Parameter

1.7. Press Ok

1.8. The display will show

1. Opening speed 2. Closing speed 3.Open slowdown			
↑	↓	Ok	Esc

1.9. Press ↑ ↓

to choose Opening speed

1.10. Press Ok

1.11. The display will show

1. Opening speed 100			
↑	↓	Save	Esc

1.12. Press ↑ ↓

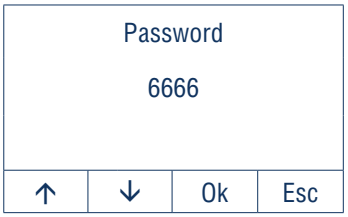
to choose the desired value.

1.13. Press Save

5.7. TO ADJUST CLOSING SPEED

1.1. Press Set

The display will show

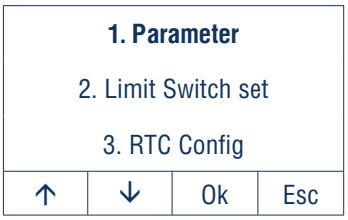


1.2. Press + -

to choose 6668

1.3. Press Ok

The display will show

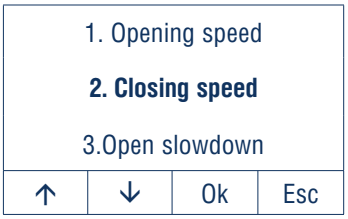


1.4. Press ↑ ↓

to choose Parameter

1.5. Press Ok

The display will show



1.6. Press ↑ ↓

to choose Closing speed

1.7. Press Ok

The display will show

1.8. Press ↑ ↓

to set the desired value.

1.9. Press Save

5.8. TO SWITCH BETWEEN DOOR OPERATION MODES

The customer may choose between two operational modes:

MANUAL

or

AUTO

SERVO MODE STATUS			
info	Err	Set	Mode

1.1. Press Mode

1.2. The display will show

Password 6666			
+	-	Ok	Esc

1.3. Press + -

to choose 6668

1.4. Press Ok

1.5. The display will show

Mode Setting MANUAL			
Adj		Save	Esc

1.6. Press Adj

to choose MANUAL or AUTO

1.7. Press Save

5.9. TO RESET TO FACTORY SETTINGS

SERVO MODE STATUS			
info	Err	Set	Mode

1.1. Press Set

1.2. The display will show

Password 6666			
+	-	Ok	Esc

1.3. Press + -

to choose 6668

1.4. Press Ok

1.5. The display will show

1. Parameter 2. Limit Switch set 3. RTC Config			
4. Advanced Setting			
5. Language			
6. Default			
↑	↓	Ok	Esc

1.6. Press ↑ ↓

to choose Default

1.7. Press Ok

Factory settings are restored.

5.10. TO CONNECT SIGNAL LAMP AND SIREN

To connect a signal lamp or a siren

SERVO MODE STATUS			
info	Err	Set	Mode

1.1. Press [Set]

1.2. The display will show

Password 6666			
+	-	Ok	Esc

1.3. Press [+] [-]

to choose 6668

1.4. Press [Ok]

1.5. The display will show

1. Parameter 2. Limit Switch set 3. RTC Config			
↑	↓	Ok	Esc

1.6. Press [↑] [↓]

to choose Parameter

1.7. Press [Ok]

1.8. The display will show

1.Opening speed 2.Closing speed 3.Open slowdown 4. Close Slowdown 5. Auto Closing 6. Output 1 Config			
↑	↓	Ok	Esc

1.9. Press [↑] [↓]

to choose Output 1 Config

1.10. Press [Ok]

1.11. The display will show

Output 1 config Running			
Adj		Save	Esc

1.12. Press [Adj]

to choose Running

1.13. Press [Save]

1.14. The display will show

1.Opening speed 2.Closing speed 3.Open slowdown			
↑	↓	Ok	Esc

1.15. Press [Esc]

1.16. The display will show

1.Parameter 2.Limit Switch set 3.RTC Config			
↑	↓	Ok	Esc

1.17. Press [Esc]

5.11. DOOR OPERATIONAL CHARACTERISTICS

#	Parameter	Value	Factory settings
1	Opening speed	10–125	100
2	Closing speed	10–125	80
3	Slow down when door opens	30–70	50
4	Slow down when door closes	30–70	50
5	Automatic closing time	▪ OFF ▪ 1–120 sec	5 sec
6	Output 1 parameter	▪ No closed position ▪ Closed position ▪ No open positio ▪ Open position ▪ Open ▪ Close ▪ No travel limit ▪ Travel limit ▪ Find travel limit ▪ Connection error ▪ OFF ▪ Double auto-open interlock ▪ Operation ▪ Stop	OFF
7	Output 2 parameter		OFF
8	Output 3 parameter		OFF
9	Output 4 parameters		OFF
10	Partial opening	10–100 %	100
11	LCD-display	▪ Position ▪ Speed ▪ Moment	Moment
12	Lamp settings	▪ Turned off in 60 sec ▪ Always turned on	▪ Turned off in 60 sec
13	Automatic opening	▪ OFF ▪ 1–999 min	OFF

5.12. FAULT CODES

Code	Description
ERR01	Overcurrent
ERR03	Low voltage
ERR04	Low voltage
ERR05	Overvoltage
ERR06	Rotor locked
ERR07	Travel limits output sensor
ERR08	Memory failure
ERR09	Overspeed
ERR10	Motor reverse
ERR11	Overload
ERR12	Current error
ERR13	Drive encoder fault
ERR14	Rotor initial position error
ERR15	Connection error
ERR18	Brake error
ERR19	Absolute encoder error
ERR20	Execution time exceeded
ERR21	Safety device 1 error during the cycle
ERR22	Safety device 2 error during the cycle
ERR23	Travel limits are not set
ERR24	DC 24 V error
ERR26	Mechanical end switches error
ERR27	Overheating
ERR28	Electromagnetic brake error
ERR29	Absolute encoder settings reset

DoorHan®

We very much appreciate that you have chosen the product manufactured by our company and believe that you will be satisfied with its quality.

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