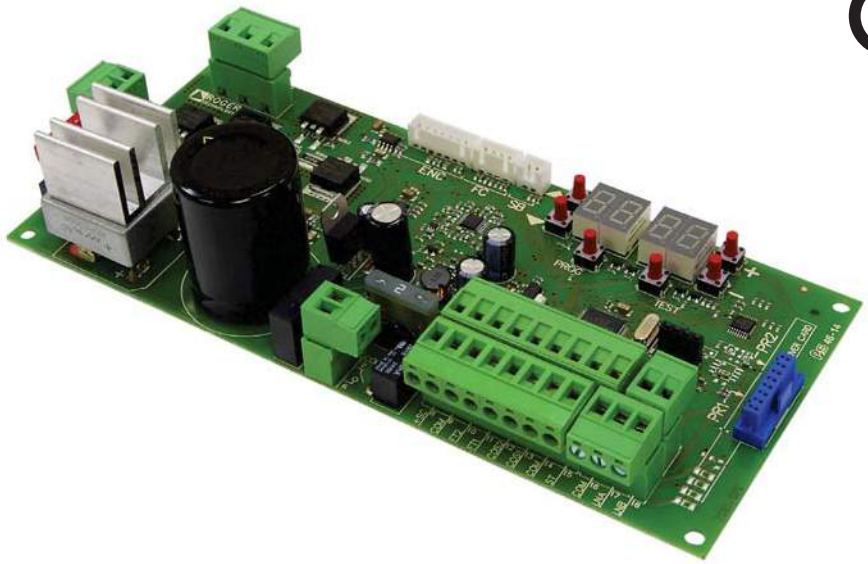


IS117 Rev.09 12/04/2017

B70/1DC

centrale di comando per cancelli scorrevoli

Istruzioni originali

ROGER BRUSHLESS

ROGER TECHNOLOGY

IT

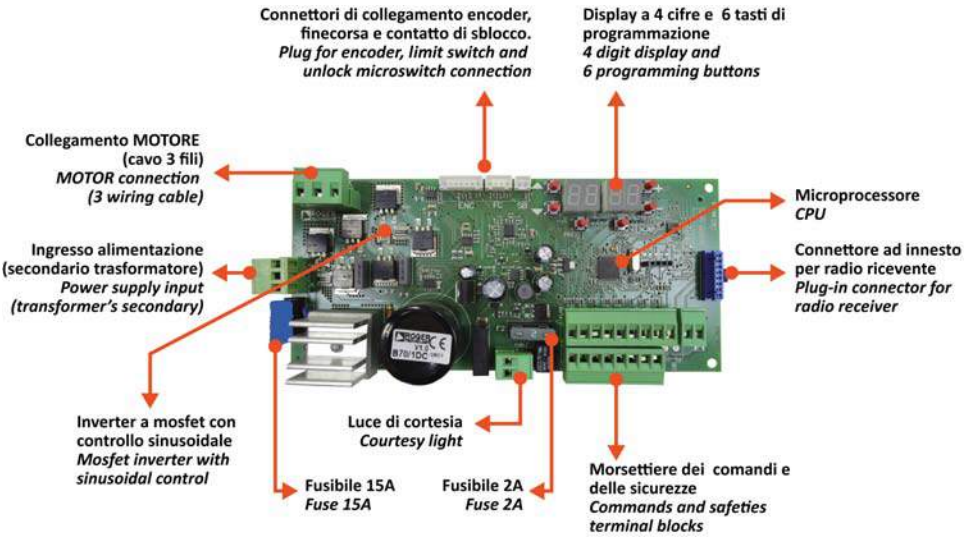
EN

DE

FR

ES

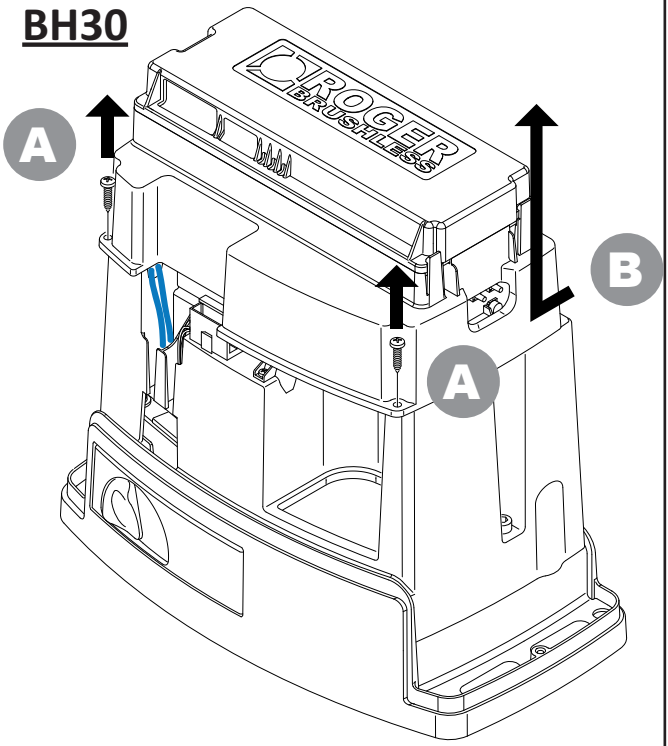
PT



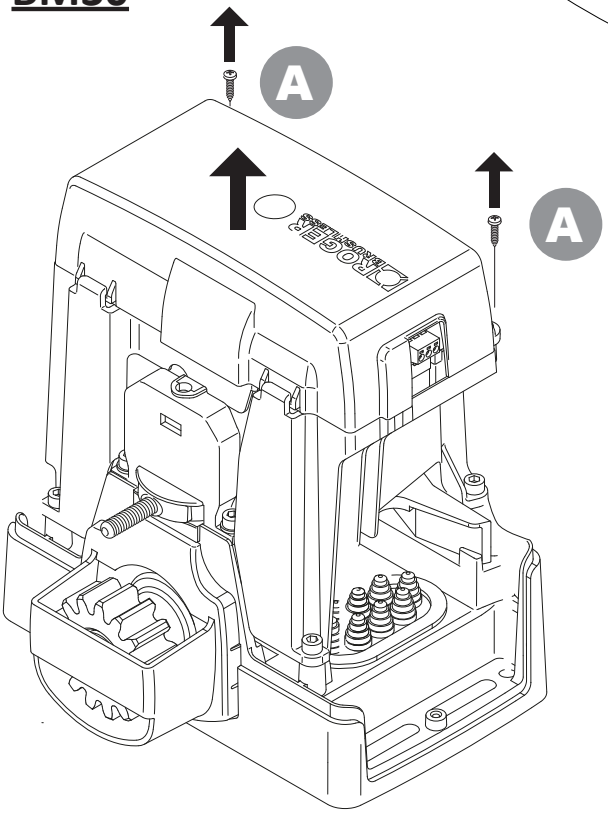
Firmware Rev r1.47

1

BH30

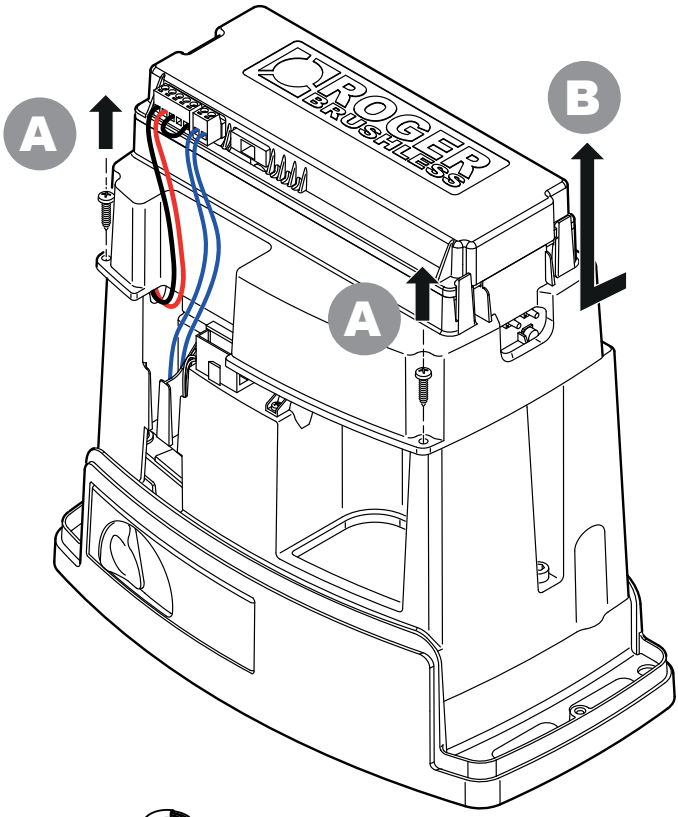


BM30

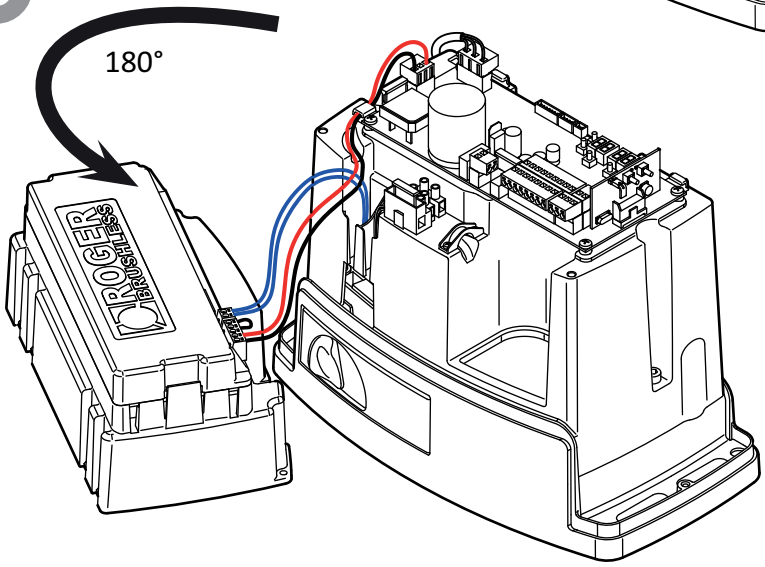


2 Con scheda ricarica batteria **B71/BC** · With **B71/BC** battery charger

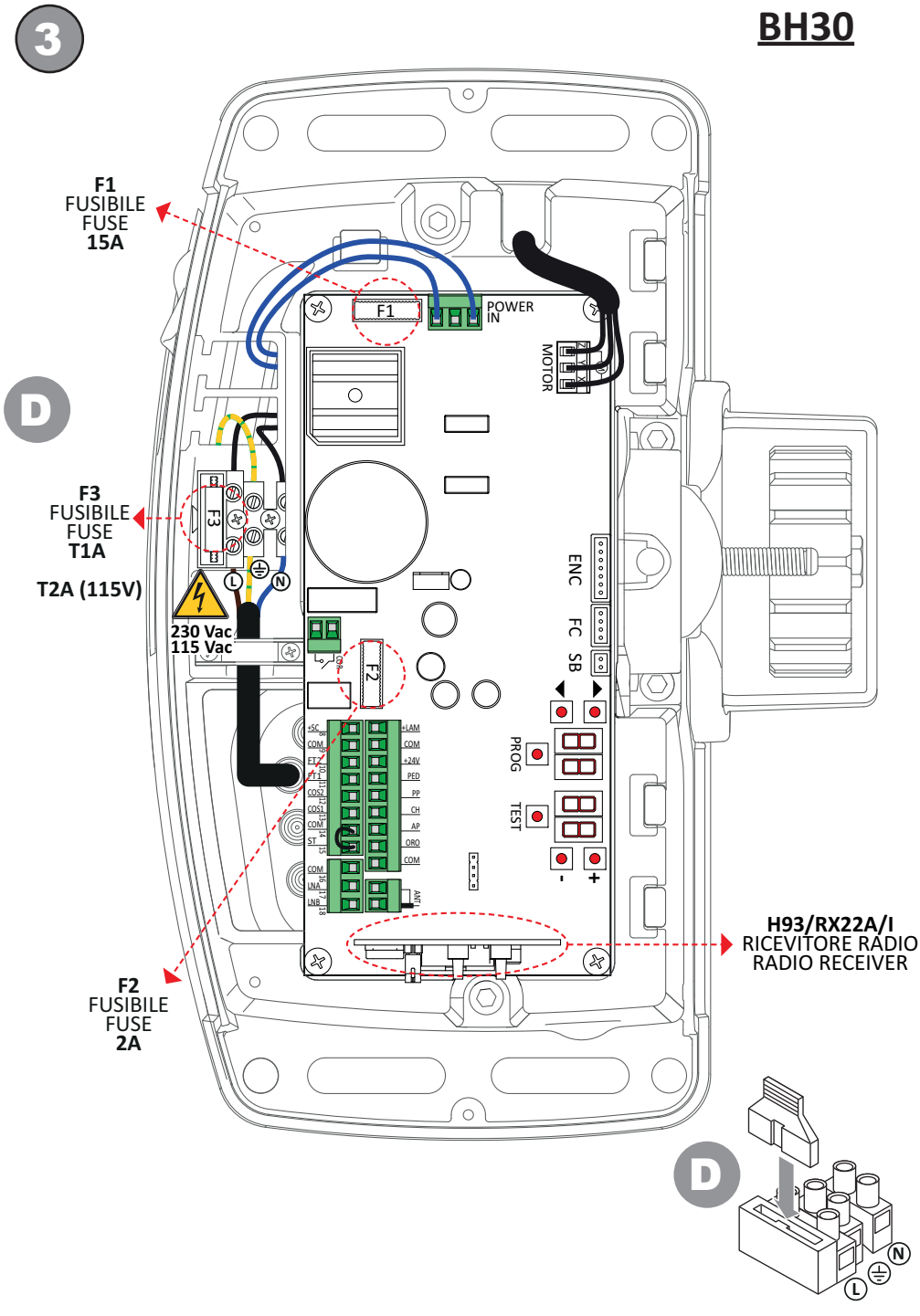
SOLO Serie BH30
BH30 Series ONLY



C

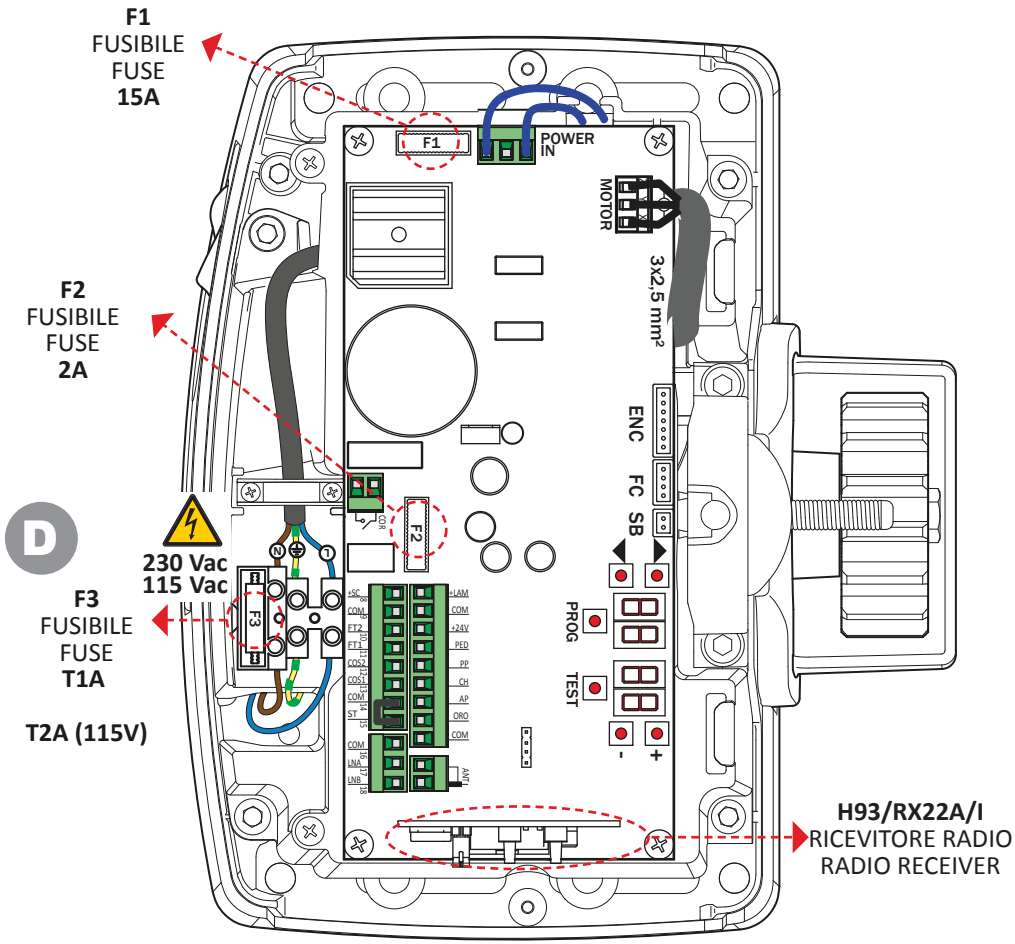


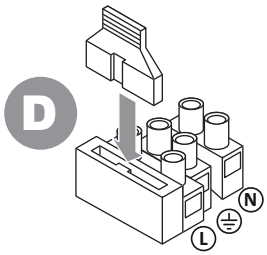
BH30


3
F1
FUSIBILE
FUSE
15A
D
F3
FUSIBILE
FUSE
T1A
T2A (115V)
230 Vac
115 Vac
F2
FUSIBILE
FUSE
2A
F1
POWER IN
MOTOR
ENC
FC
SB
PROG
TEST
F2
F3
H93/RX22A/I
RICEVITORE RADIO
RADIO RECEIVER
D
N
L

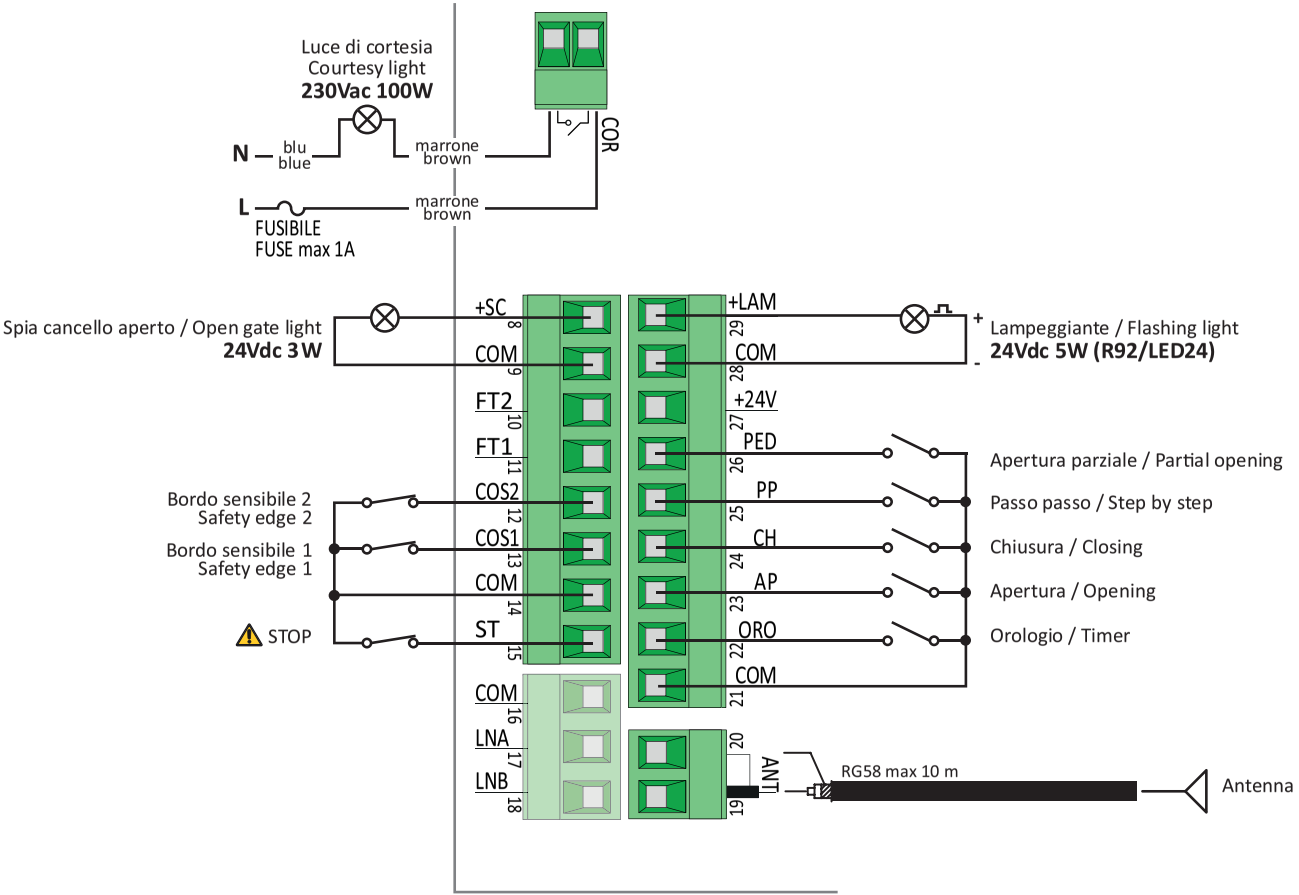
BM30

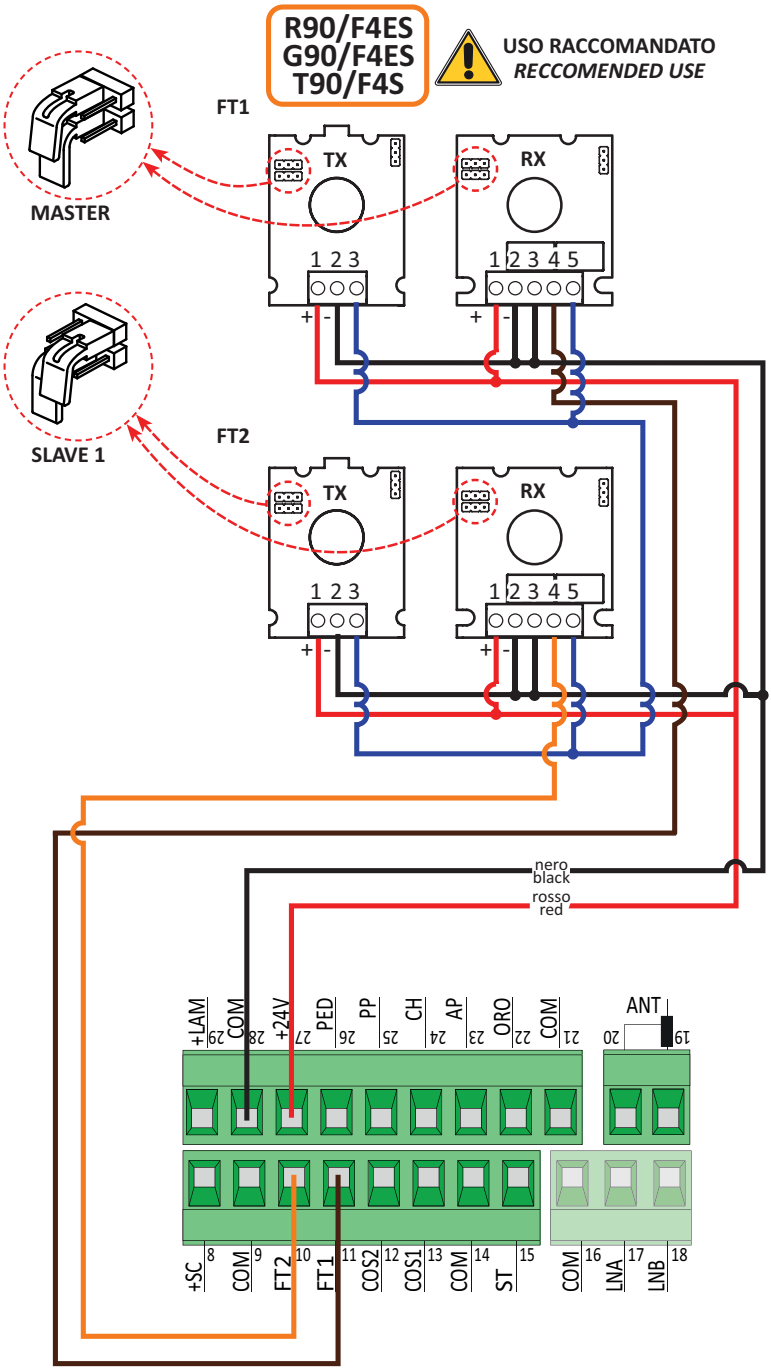
4


F1
FUSIBILE
FUSE
15A
F2
FUSIBILE
FUSE
2A
D
230 Vac
115 Vac
F3
FUSIBILE
FUSE
T1A
T2A (115V)
POWER IN
MOTOR
3x2,5 mm²
ENC
FC
SB
PROG
TEST
H93/RX22A/I
RICEVITORE RADIO
RADIO RECEIVER


D
N
L

5

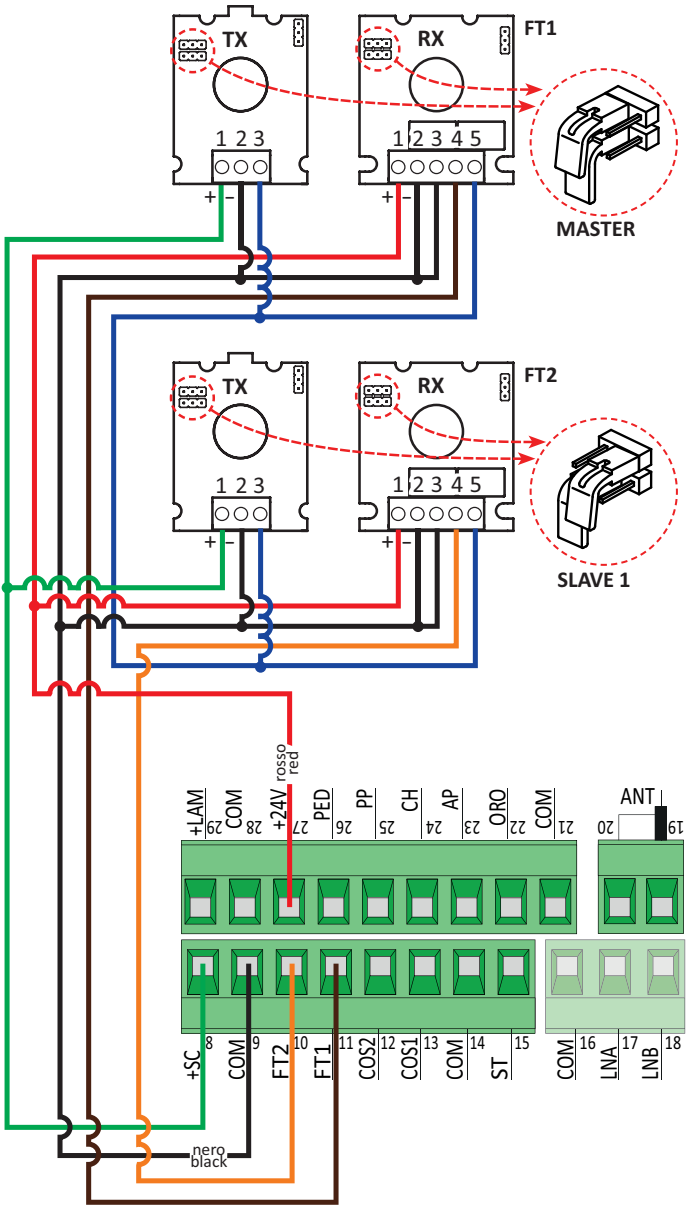

Luce di cortesia
Courtesy light
230Vac 100W
N
blu
blue
marrone
brown
COR
L
marrone
brown
FUSIBILE
FUSE max 1A
Spia cancello aperto / Open gate light
24Vdc 3W
+SC
8
COM
9
FT2
10
FT1
11
COS2
12
COS1
13
COM
14
ST
15
COM
16
LNA
17
LNB
18
+LAM
29
COM
28
+24V
27
PED
26
PP
25
CH
24
AP
23
ORO
22
COM
21
ANT
20
19
+
-
Lampeggiante / Flashing light
24Vdc 5W (R92/LED24)
Apertura parziale / Partial opening
Passo passo / Step by step
Chiusura / Closing
Apertura / Opening
Orologio / Timer
Bordo sensibile 2
Safety edge 2
Bordo sensibile 1
Safety edge 1
STOP
RG58 max 10 m
Antenna


R90/F4ES
G90/F4ES
T90/F4S
USO RACCOMANDATO
RECCOMENDED USE
FT1
MASTER
TX
RX
1 2 3
1 2 3 4 5
+ -
FT2
SLAVE 1
nero
black
rosso
red
+LAM 29
COM 28
+24V 27
PED 26
PP 25
CH 24
AP 23
ORO 22
COM 21
ANT
20 19
+SC 8
COM 9
FT2 10
FT1 11
COS2 12
COS1 13
COM 14
ST 15
COM 16
LNA 17
LNB 18

7 TEST FOTOCELLULE · PHOTOCELLS TEST (impostare · set A8 02)

R90/F4ES
G90/F4ES
T90/F4S

USO RACCOMANDATO
RECCOMENDED USE

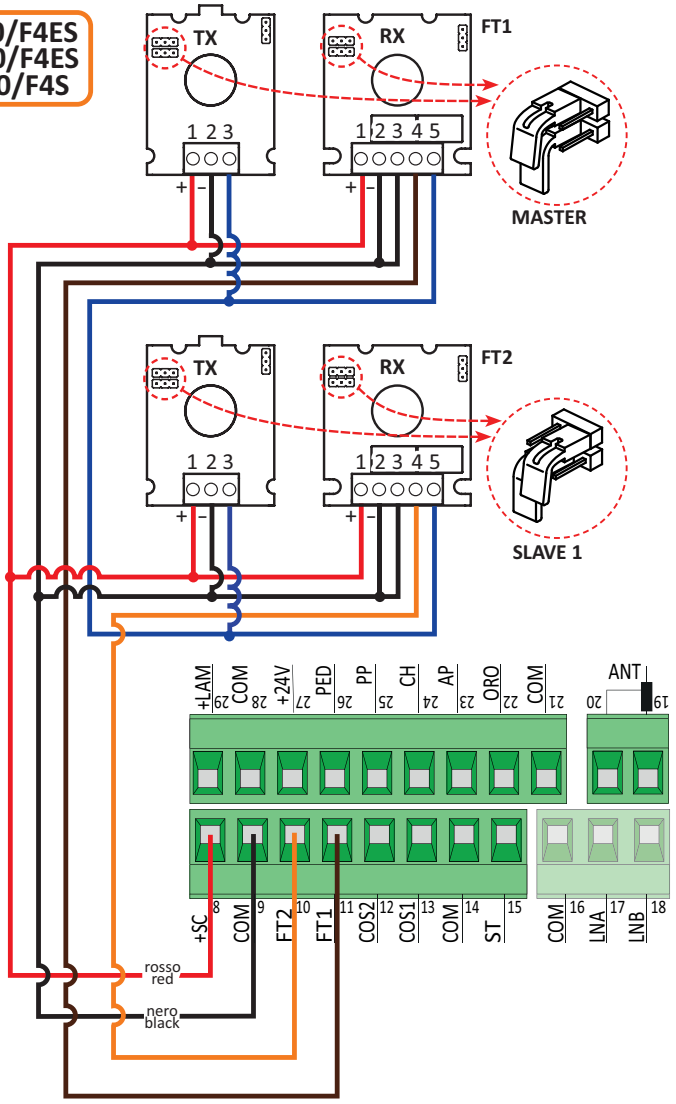


BATTERY SAVING (impostare · set A8 03)
BATTERY SAVING + TEST FOTOCELLULE · PHOTOCELLS TEST
(impostare · set A8 04)

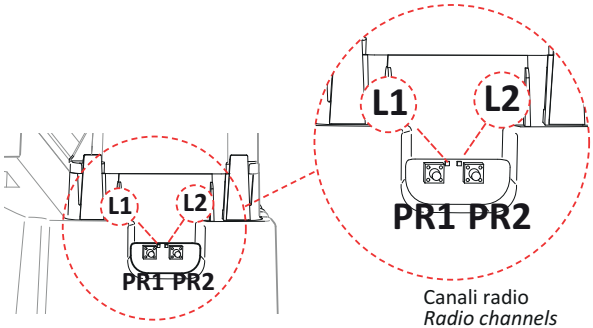
8

USO RACCOMANDATO
RECCOMENDED USE

R90/F4ES
G90/F4ES
T90/F4S



9

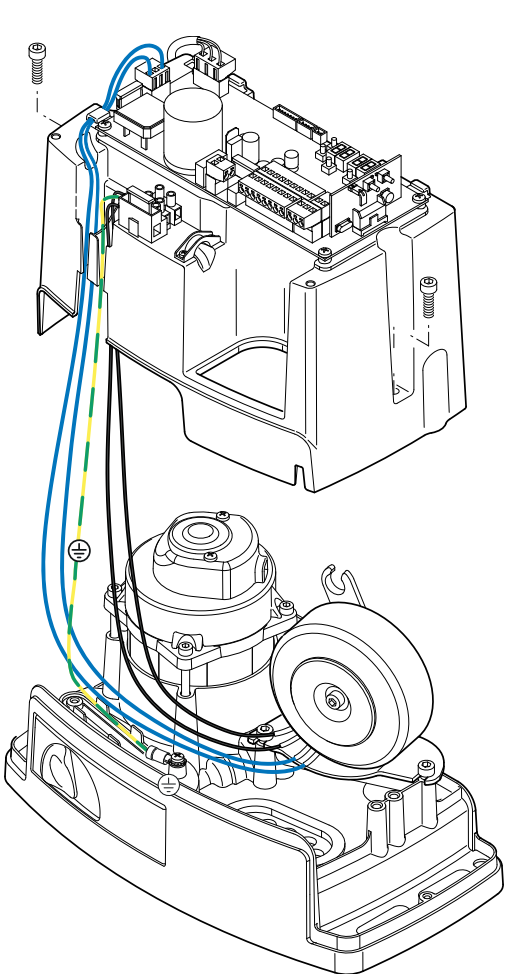


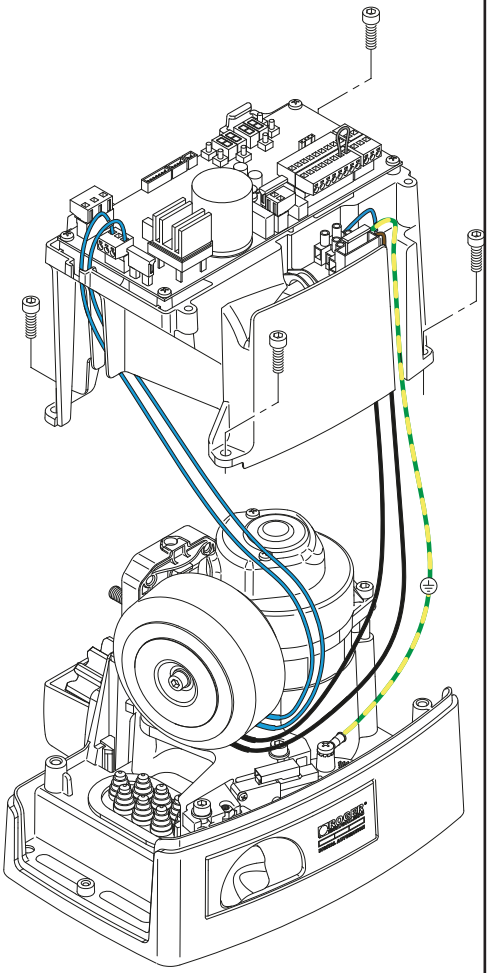
Canali radio
Radio channels

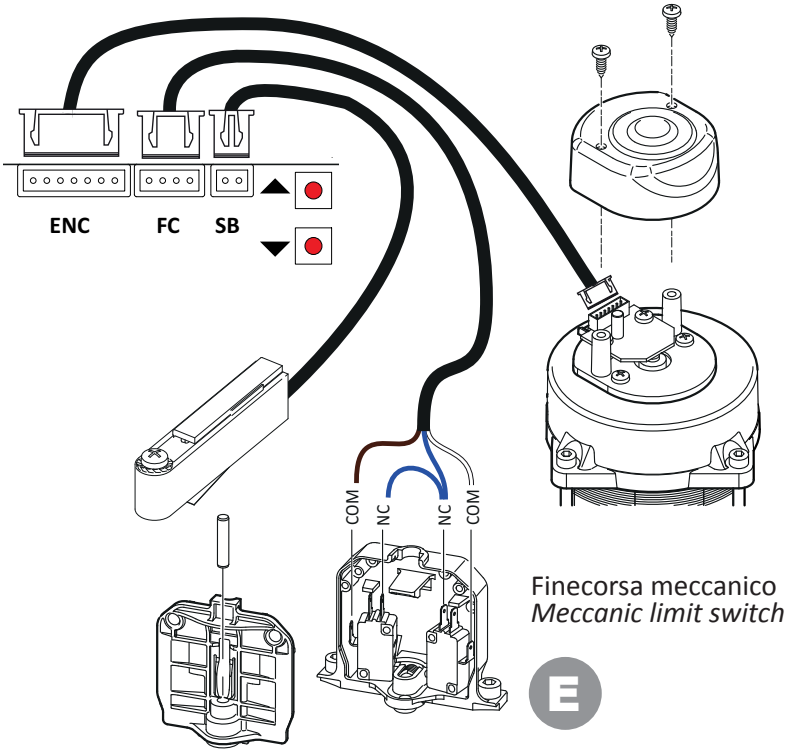
BH30

10

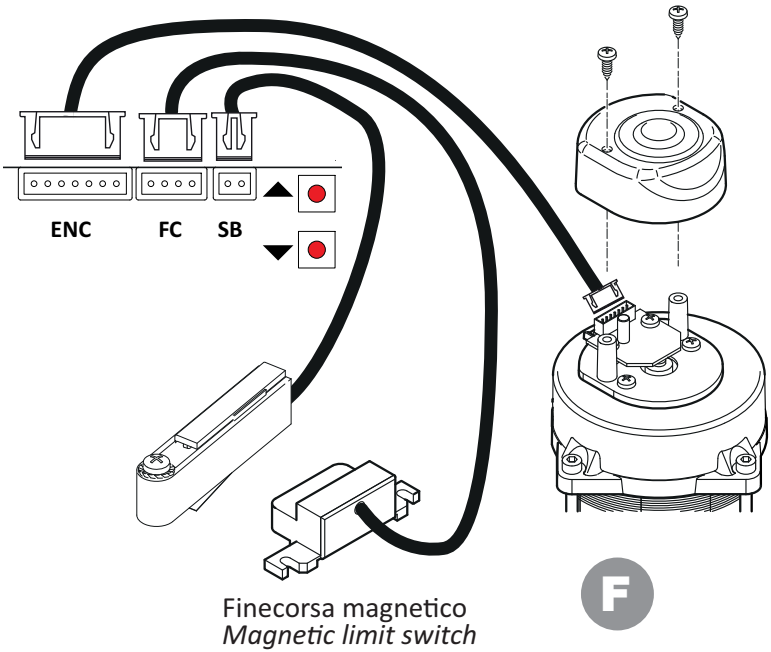
BM30







Finecorsa meccanico
Meccanic limit switch



Finecorsa magnetico
Magnetic limit switch

1 General safety precautions

Warning: incorrect installation may cause severe damage or injury.
Read the instructions carefully before installing the product.

This installation manual is intended for qualified personnel only.
ROGER TECHNOLOGY cannot be held responsible for any damage or injury due to improper use or any use other the intended usage indicated in this manual.
Installation, electrical connections and adjustments must be performed by qualified personnel, in accordance with best practices and in compliance with applicable regulations.

Before installing the product, make sure it is in perfect condition.
A switch or an omnipolar cut-off switch with a contact opening of at least 3 mm must be installed on the mains power line.

Ensure that an adequate residual current circuit breaker and a suitable overcurrent cut-out are installed ahead of the electrical installation in accordance with best practices and in compliance with applicable legislation.
The European standards EN 12453 and EN 12455 define the minimum safety requirements for the operation of automatic doors and gates. In particular, these standards require the use of force limiting and safety devices (sensing ground plates, photocell barriers, operator detection function etc.) intended to detect persons or objects in the operating area and prevent collisions in all circumstances.
Where the safety of the installation is based on an impact force limiting system, it is necessary to verify that the characteristics and performance of the automation system are compliant with the requisites of applicable standards and legislation.
The installer is required to measure impact forces and programme the control unit with appropriate speed and torque values to ensure that the door or gate remains within the limits defined by the standards EN 12453 and EN 12455.
When requested, connect the automation to an effective earthing system that complies with current safety standards.
Disconnect the mains electrical power before performing any work. Also disconnect any buffer batteries used.
Only use original spare parts when repairing or replacing products.
The packaging materials (plastic, polystyrene, etc.) should not be discarded in the environment or left within reach of children, as they are a potential source of danger.

2 Product description

The **B70/1DC** controller is a unit for the sensored control, with a high resolution encoder, of a ROGER brushless motor for automated sliding gates.
Ensure that the parameter A1 is set correctly. If this parameter is not set correctly, the automation system may not function properly.
We recommend using only ROGER TECHNOLOGY accessories and control and safety devices. Specifically, we recommend installing **R90/F4ES**, **G90/F4ES** or **T90/F4S** series photocells.

3 Technical characteristics of product

	BH30/600	BH30/800	BH30/500/HS	BM30/400	BM30/300/HS
MAINS POWER VOLTAGE	230 Vac ± 10% 50 Hz (**B70/1DC/115**: 115 Vac ± 10% 60 Hz)				
MAXIMUM MAINS POWER ABSORPTION	160 W	250 W	380 W	140 W	320 W
FUSES	**F1** = 15A (ATO257) motor power circuit protection **F2** = 2A (ATO257) accessories power supply protection **F3** = T1A (5x20 mm) (**B70/1DC/115**: T2A (5x20 mm))				
CONNECTABLE MOTORS	1				
MOTOR POWER SUPPLY	24 Vac, with self-protected inverter				
MOTOR TYPE	sinusoidal drive brushless (ROGER BRUSHLESS)				
MOTOR CONTROL TYPE	sensored field oriented control (FOC)				
RATED MOTOR POWER	45 W	75 W	120 W	45 W	100 W
MAXIMUM MOTOR POWER	125 W	200 W	350 W	110 W	320 W
MAXIMUM POWER, FLASHING LIGHT	13 W (24 Vdc)	25 W (24 Vdc)	25 W (24 Vdc)	13 W (24 Vdc)	25 W (24 Vdc)
FLASHING LIGHT DUTY CYCLE	50%				
MAXIMUM POWER	100 W 230 Vac - 40 W 24 Vac/dc (potential free contact)				
GATE OPEN LIGHT POWER	3 W (24 Vdc)				
MAXIMUM ACCESSORY CURRENT ABSORPTION	7 W (24 Vdc)	10 W (24 Vdc)	10 W (24 Vdc)	7 W (24 Vdc)	10 W (24 Vdc)
OPERATING TEMPERATURE	-20°C +55°C				
PRODUCT DIMENSIONS	dimensions in mm 200x90x45 Weight: 0,244 kg				

4 Description of connections

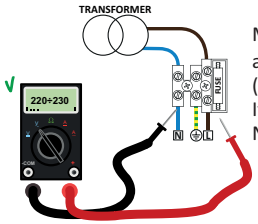
To access the control connection terminal board, remove the motor cover as shown in figure 1:
- remove the two screws **A**;
- **BH30**: push the cover in from the side, then lift it up (arrow **B**).

See figure 2 if the battery charger **B71/BC (BH30 Series only)** is installed:
- remove the two screws **A**;
- push the cover in from the side, then lift it up (arrow **B**).
- turn the cover around by 180° and set it down in front of the automation system. **Warning**! Lift the cover slowly and carefully to prevent damaging the wires.

Figure 3-4 shows connection diagrams for connecting mains voltage to the motor control unit (**B70/1DC**).

4.1 Electrical connections

Strip the insulation from the ends of the power cable wires which will be connected to the terminal (see **D**, **fig. 3-4**), and secure the cable with the cable clamp.



Measure the voltage on the primary mains power connection with a tester. For the brushless automation system to function correctly, the mains power voltage must be at least 230Vac (115 Vac) ± 10%.
If the voltage measured is not as indicated above or is unstable, the automation system may NOT work correctly.

CONNECTING CONTROL UNIT TO MAINS ELECTRICITY
Power supply 230 Vac ±10% (115 Vac ±10%)

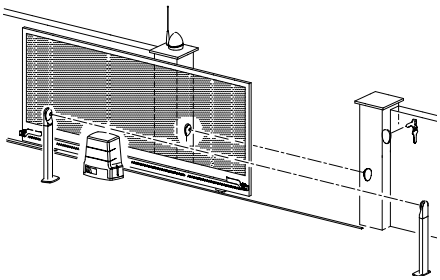
CONNECTING CONTROL PANEL TO ACCESSORIES	Lcable = 1÷20 m
Photocells - Receiver	4x0,5 mm²
Photocells - Transmitter	2x0,5 mm²
Keypad **H85/TDS** - **H85/TTD** (connecting to control panel to decoder board **H85/DEC - H85/DEC2**)	3x0,5 mm²
Key selector **R85/60**	3x0,5 mm²

CONNECTING CONTROL PANEL TO FLASHING LIGHT	
Power supply 24 Vdc LED (25 W max, power consumption 50%)	2x1 mm² (max 10 m)

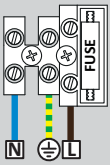
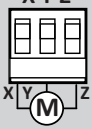
CONNECTING CONTROL PANEL TO GATE OPEN INDICATOR	Lcable 1÷20 m
Power supply 24 Vdc (3 W max)	2x0,5 mm²

CONNECTING CONTROL PANEL TO COURTESY LIGHT	Lcable 1÷20 m
Power supply 230 Vac (100 W power consumption)	2x1 mm²

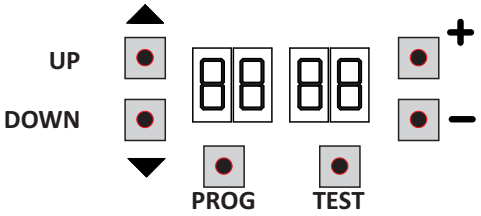
CONNECTING CONTROL PANEL TO ANTENNA	
Cable type RG58	max 10 m



SUGGESTIONS: with existing installations, we recommend checking the cross section of the cables and that the cables themselves are in good condition.

	DESCRIPTION
	Mains power supply 230 Vac ±10% (115 Vac ±10%) connection. Fuse 5x20 T1A. **B70/1DC/115**: Fuse 5x20 T2A.
POWER IN 	Power feed input from transformer (or from **B71/BC** battery charger, if used). **N.B.**: Ready wired in factory by ROGER TECHNOLOGY.
X-Y-Z 	Connection to ROGER brushless motor. Connecting **B72/BRAKE** controller for **BH30** and **BM30** High Speed versions. **N.B.**: Ready wired in factory by ROGER TECHNOLOGY. **Warning!** If the motor wires become disconnected from the terminal board, after reconnecting correctly, the gate travel must be acquired again as described in chapter 8.

5 Function buttons and display

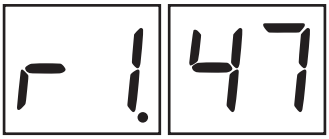


BUTTON	DESCRIPTION
UP ▲	Next parameter
DOWN ▼	Previous parameter
+	Increase value of parameter by 1
-	Decrease value of parameter by 1
PROG	Programme travel
TEST	Activate TEST mode

- Press the UP ▲ and/or DOWN ▼ buttons to view the parameter you intend to modify.
- Use the + and - buttons to modify the value of the parameter. The value starts to flash.
- Press and hold the **+** or **–** button to scroll quickly through values, to modify the parameter more quickly.
- To save the new value, wait a few seconds or move onto another parameter with the UP ▲ or DOWN ▼ button. The display flashes rapidly to indicate that the new value has been saved.
- Parameters can only be modified while the motor is not running. Parameters can be viewed at any time.

6 Switching on or commissioning

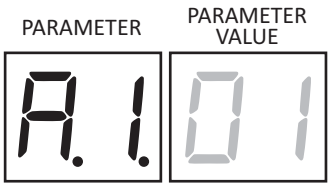
Power the control unit.
The firmware version of the control unit is displayed briefly.
Version installed r1.47.



Immediately afterwards, the displays enters the commands and safety device status mode. See chapter 7.

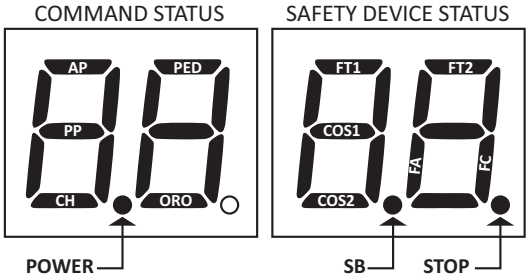
7 Display function modes

- **Parameter display mode**



See chapter 10 for detailed descriptions of the parameters.

- **Command and safety device status display mode**



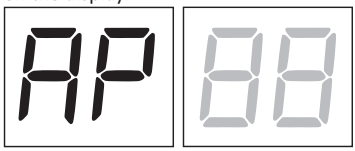
COMMAND STATUS:
The command status indicators on the display (segments AP = open, PP = step mode, CH = close, PED = partial opening, ORO= clock) are normally off. They illuminate when a command is received (e.g.: when a step mode command is received, the segment PP illuminates).

SAFETY DEVICE STATUS:
The safety device status indicators on the display (segments FT1/FT2 = photocells, COS1/COS2 = sensing edge, FA = gate open limit switch, FC = gate closed limit switch, SB= release handle open) are normally on. If an indicator is off, the relative device is in alarm state or is not connected.
The an indicator is flashing, the relative device has been disabled with a specific parameter.

- **TEST mode**

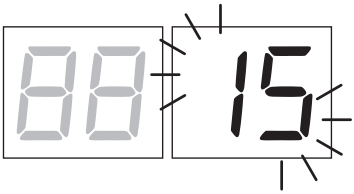
The TEST mode is used to test activation of the commands and safety devices with visual confirmation.
To activate the mode, press the TEST button with the automatic door system at rest. If the gate is moving, pressing TEST stops the gate. Pressing the button again enables TEST mode.
If the flashing light and the gate open indicator lamp illuminate for one second each time a control is used or a safety device is activated.

The command signal status is shown on the left hand side of the display for 5 seconds, ONLY when the respective command signal is active (AP, CH, PP, PE, OR). For example, if the gate open command is activated, the letters AP appear on the display.



The status of the safety devices/inputs is shown on the right hand side of the display. The number of the terminal relative to the safety device in alarm state flashes.
When the gate is completely open or completely closed, FA or FC is shown on the display to indicate that the gate has reached the gate open limit switch FA or gate closed limit switch FC.

Example: STOP contact in alarm state

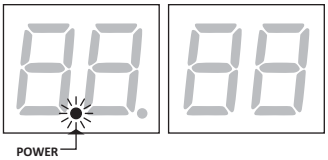


00	No safety device in alarm state, and no limit switch activated
5b (Sb)	Release handle or lock open.
15	STOP.
13	Sensing edge COS1.
12	Sensing edge COS2.
11	Photocell FT1.
10	Photocell FT2.
FE	Both limit switches
FA	Gate open limit switch
FC	Gate closed limit switch

NOTA: If one or more contacts are open, the gate will not open or close. This does not apply for the limit switch signal state, however, which is shown on the display but does not prevent normal operation of the gate.
If more than one safety device is in alarm state, once the problem relative to the first device is resolved, the alarm for the next device is displayed. Any further alarm states are also displayed with the same logic.
Press the TEST button again to exit test mode.
After 10 seconds with no user input, the display returns to command and safety device state display mode.

- **Standby mode**

This mode is activated after 30 minutes with no user input. The POWER LED flashes slowly.
Press UP ▲, DOWN ▼, **+** , **-** to reactivate the control unit.

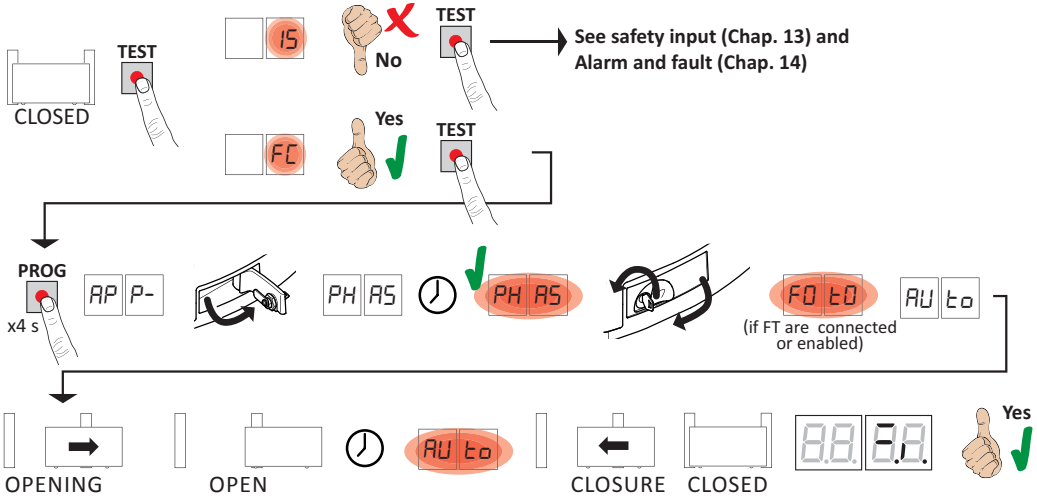


8 Travel acquisition

For the system to function correctly, the gate travel must be acquired by the control.

Before starting:
1. Select the position of the motor relative to the gate with the parameter 7 1. The default setting for this parameter is with the motor installed on the right hand side of the gate (seen from interior side).
2. Select the automation system model installed with the parameter A 1. The default setting for this parameter is motor type BH30/600 or BH30/500/HS.
3. Check that the operator present function is not enabled (A7 00).
4. Move the gate into the closed position.
5. Press **TEST** (see TEST mode in chapter 7) and check the command signal and safety device states. If any safety devices are not installed, jumper the relative contact or disable the device from the relative parameter (50, 5 1, 53, 54, 73 and 74).

ACQUISITION PROCEDURE:



- Press and hold **PROG** for 4 seconds. AP P- is shown on the display.
- Open the release handle. The message PH A5 appears on the display after a few seconds. The controller unit launches a calibration procedure. The operating parameters of the motor are determined during calibration.
- If the motor calibration procedure is successful, the message PH A5 flashes on the display.
- Close the release handle. The acquisition procedure now starts.
- FOtO is shown on the display (only if parameters 50, 5 1, 53, 54 are not disabled). Keep away from the photocell beam within 5 s, to prevent interrupting the procedure.
- AUto is shown on the display and the gate starts opening at low speed.
- The gate stops briefly when it reaches the gate open limit switch. AUto flashes on the display.
- The gate closes until it reaches the gate closed limit switch.

If the acquisition procedure is completed successfully, the display enters the command and safety device state display mode.

If the following error messages are shown on the display, repeat the acquisition procedure:
- no PH: calibration procedure failed.
- AP PE: acquisition error. Press the TEST button to clear the error, and check the safety device in alarm state.
- AP PL: travel length error. Press the TEST button to clear the error, and check that both gate leaves are completely closed.

ⓘ **For more information, see chapter 14 “Alarms and faults”.**

9 Parameter's index

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A4	00	Selecting step mode control function (PP)	50
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A8	00	Gate open indicator / photocell test function and “battery saving”	51
I1	04	Setting deceleration during opening (and closing for **BH30/600 - BH30/800 - BM30/400**)	51
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33	04	Setting start acceleration during opening (and closing for **BH30/600-BH30/800-BM30/400**)	52
34	04	Setting start acceleration during closing (**BH30/500/HS** - **BM30/300/HS** only)	58
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P3	00		57
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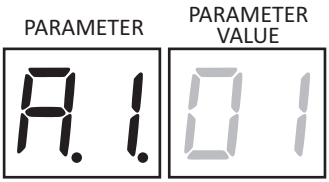
10 Parameter menu



A101	**Selecting automation system model** **WARNING!** If this parameter is not set correctly, the automation system may not function properly. **N.B.:** in the event of a reset to restore the default parameters, this parameter must be set again manually.
01	BH30/600
02	BH30/800
03	BH30/500/HS (chapter 11 "Special parameters for High Speed series")
04	BM30/400
05	BM30/300/HS (chapter 11 "Special parameters for High Speed series")

A200	**Automatic closure after pause time (from gate completely open)**
00	Disabled.
01-15	From 1 to 15 of gate closure attempts after photocell is triggered. Once the number of attempts set is reached, the gate remains open.
99	The gate tries to close indefinitely.

A300	**Automatic gate closing after mains power outage**
00	Disabled. The gate does not close automatically when mains power is restored.
01	Enabled. If the gate is NOT completely open, when mains power is restored, the gate closes after a 5 second warning signalled with the flashing light (independently of the value set with the parameter A5). The gate closes in “position recovery” mode (see chapter 17).

A400	**Selecting step mode control function (PP)**
00	Open-stop-close-stop-open-stop-close...
01	Condominium function: the gate opens and closes after the set automatic closing time. The automatic closing timer restarts if a new step mode command is received. Step mode commands are ignored while the gate is opening. This allows the gate to open completely and prevents the gate from closing when not required. If automatic closing is disabled (A200), the condominium function automatically attempts a closing manoeuvre A201.
02	Condominium function: the gate opens and closes after the set automatic closing time. The automatic closing timer does NOT restart if a new step mode command is received. Step mode commands are ignored while the gate is opening. This allows the gate to open completely and prevents the gate from closing when not required. If automatic closing is disabled (A200), the condominium function automatically attempts a closing manoeuvre A201.
03	Open-close-open-close.
04	Open-close-stop-open.

A500	**Pre-flashing**
00	Disabled. The flashing light is activated during opening and closing manoeuvres.
01-10	Flashing warning signal for 1 to 10 seconds prior to every manoeuvre.
99	5 second flashing warning signal prior to closing manoeuvre.

A6 00	**Condominium function for partial open command (PED)**
00	Disabled. The gate opens partially in step mode: open-stop-close-stop-open...
01	Enabled. Partial commands are ignored during gate opening.

A7 00	**Enabling operator present function.**
00	Disabled.
01	Enabled. The open (AP) or close (CH) button must be pressed continuously to operate the gate. The gate stops when the button is released.

A8 00	**Gate open indicator / photocell test function and "battery saving"**
00	The indicator is off when the gate is closed, and steadily lit during manoeuvres and when the gate is open.
01	The indicator flashes slowly during opening manoeuvres, and is lit steadily when the gate is completely open. It flashes quickly during closing manoeuvres. If the gate is stopped in an intermediate position, the lamp extinguishes twice every 15 seconds.
02	Set 02 if the output **SC** is used for the photocell test. See fig. 7.
03	Set to 03 if the output **SC** is used for the "battery saving" function. See fig. 8. When the gate is completely open or closed, the controller unit deactivates any accessories connected to terminal **SC** to reduce battery consumption.
04	Set to 04 if the output **SC** is used for the "battery saving" function and photocell test function. See fig. 8.

11 04	**Setting deceleration during opening and closing**
12 04	See chapter 11 "Special parameters for High Speed series"
01-05	01= the gate decelerates near the limit switch ... 05= the gate decelerates long before the limit switch.

1302	**Setting gate open limit switch constant speed approach distance** **N.B.:** the manoeuvre speed is set with parameter 42. After decelerating, the gate completes the distance to the limit switch at constant speed.
1402	**Setting gate closed limit switch constant speed approach distance** **N.B.:** the manoeuvre speed is set with parameter 42. After decelerating, the gate completes the distance to the limit switch at constant speed.
01-40	01 = last 4 motor revolutions; 02 = last 8 motor revolutions; ... 40 = last 160 motor revolutions. Example: 100 cm distance = value 35.

15 50	**Partial opening adjustment (%)** **N.B.**: This parameter is set to 50% (half of total gate travel) by default.
10-99	From 10% to 99% of total gate travel.

2130	**Setting automatic closing time** The timer starts from the gate open state and continues for the set time. Once the set time is reached, the gate closes automatically. The timer count restarts if a photocell is triggered.
00-90	Pause time settable from 00 to 90 s.
92-99	Pause time settable from 2 to 9 min.

27 03	**Setting reverse time after activation of sensing edge or obstacle detection (crush prevention).** This sets the reverse manoeuvre time after activation of the sensing edge or the obstacle detection system.
00-60	From 0 to 60 s.

30 05	**Setting motor torque** Increasing or decreasing the value of the parameter increases or decreases motor torque and, as a result, adjusts obstacle detection sensitivity. Use values below 03 ONLY for particularly lightweight installations not exposed to severe weather conditions (strong winds or very cold temperatures).
01-09	01= -35%; 02= -25%; 03= -16%; 04= -8% (reduced motor torque = increased sensitivity). 05= default motor torque setting. 06= +8%; 07= +16%; 08= +25%; 09= +35% (increased motor torque = reduced sensitivity).

31 15	**Setting obstacle impact force sensitivity** If the reaction time to obstacle impact force is too long, reduce the value of the parameter. If the impact force exerted on obstacles is too high, reduce the value of parameter 30.
01-10	Low motor torque: 01 = minimum obstacle impact force ... 10 = maximum obstacle impact force **N.B.**: only use these settings if the medium motor torque values are not suitable for the installation.
11-16	Medium motor torque. **Recommended setting for adjusting force settings correctly.** 11 = minimum obstacle impact force ... 19 = maximum obstacle impact force.
17	70% of maximum motor torque, 1 s of reaction time. Sensing edge is compulsory.
18	80% of maximum motor torque, 2 s of reaction time. Sensing edge is compulsory.
19	Maximum motor torque, 3 s of reaction time. Sensing edge is compulsory.
20	Maximum motor torque, 5 s of reaction time. Sensing edge is compulsory.

33 04	**Setting start acceleration during opening and closing**
34 04	See chapter 11 "Special parameters for High Speed series"
01-05	01= the gate accelerates rapidly at start of manoeuvre ... 05= the gate accelerates slowly and progressively at start of manoeuvre.

36 00	**Enabling maximum torque boost at start of manoeuvre** If this parameter is enabled, each time the motor starts a manoeuvre, maximum torque is produced for a maximum of 5 seconds, or for the time necessary for the gate to open by approximately 65 cm.
00	Disabled.
01	Enabled at start of opening manoeuvre only (including position recovery). The motor starting current function is only enabled for closing manoeuvres if the gate position is known and the gate is at least 2 metres from the completely closed position.
02	Enabled for all starts (including position recovery).

37 00	**Setting motor torque during position recovery** Adjust motor torque with parameter 37 if, during position recovery, the values set with parameters 30 and 31 are insufficient to allow the gate to complete the manoeuvre. If position recovery is not completed, normal gate operation will not be resumed.
00	The response of the obstacle detection system depends solely on the values set for parameters 30 and 31.
01	The response of the obstacle detection system depends on the values set for parameters 30 and 31 and on the maximum current value stored during travel acquisition.
02	The response of the obstacle detection system is a 70% reduction in maximum torque for a period of 1 s.
03	The response of the obstacle detection system is a 80% reduction in maximum torque for a period of 2 s.
04	The response of the obstacle detection system is a 100% reduction in maximum torque for a period of 3 s.
05	The response of the obstacle detection system is a 100% reduction in maximum torque for a period of 5 s.

40 05	**Setting opening and closing speed (%)**
41 05	See chapter 11 "Special parameters for High Speed series"
01-05	01= 60% minimum speed, 02= 70%, 03= 80%, 04=90%, 05= 100% maximum speed.

42 03	**Setting end of manoeuvre constant approach speed** Once deceleration is complete, the gate continues to the limit switch at constant speed. The distance is set with the parameters 13 and 14.
01- 10	01= 250 RPM 02= 300 RPM 03= 350 RPM 04= 400 RPM 05= 450 RPM 06= 500 RPM 07= 550 RPM 08= 600 RPM 09= 650 RPM 10= 700 RPM

49 01	**Setting number of automatic closure attempts after activation of sensing edge or obstacle detection (crush protection)**
00	No automatic closure attempts.
01-03	From 1 to 3 automatic closure attempts. We recommend setting a value equal to or lower than the value set for parameter A2. Automatic closure is only performed if the gate is completely open.

50 00	**Setting photocell mode during gate opening (FT1)**
00	DISABLED. Photocell is not active or not installed.
01	STOP. The gate stops and remains stationary until the next command is received.
02	IMMEDIATE REVERSE. The gate reverses immediately if the photocell is activated during gate opening.
03	TEMPORARY STOP. The gate stops as long as the photocell is obstructed. The gate resumed opening when the photocell is cleared.
04	DELAYED REVERSE. The gate stops if the photocell is obstructed. The gate closes when the photocell is cleared.

51 02	**Setting photocell mode during gate closing (FT1)**
00	DISABLED. Photocell is not active or not installed.
01	STOP. The gate stops and remains stationary until the next command is received.
02	IMMEDIATE REVERSE. The gate reverses immediately if the photocell is activated during gate closure.
03	TEMPORARY STOP. The gate stops as long as the photocell is obstructed. The gate resumed closing when the photocell is cleared.
04	DELAYED REVERSE. The gate stops if the photocell is obstructed. The gate opens when the photocell is cleared.

52 01	**Photocell (FT1) mode with gate closed** This parameter is not visible if A8 02, A8 03 or A8 04 is set.
00	If the photocell is obstructed, the gate cannot open.
01	The gate opens when an open command is received, even if the photocell is obstructed.
02	The photocell sends the gate open command when obstructed.

53 00	**Setting photocell mode during gate opening (FT2)**
00	DISABLED. Photocell is not active or not installed.
01	STOP. The gate stops and remains stationary until the next command is received.
02	IMMEDIATE REVERSE. The gate reverses immediately if the photocell is activated during gate opening.
03	TEMPORARY STOP. The gate stops as long as the photocell is obstructed. The gate resumed opening when the photocell is cleared.
04	DELAYED REVERSE. The gate stops if the photocell is obstructed. The gate closes when the photocell is cleared.

54 00	**Setting photocell mode during gate closing (FT2)**
00	DISABLED. Photocell is not active or not installed.
01	STOP. The gate stops and remains stationary until the next command is received.
02	IMMEDIATE REVERSE. The gate reverses immediately if the photocell is activated during gate closure.
03	TEMPORARY STOP. The gate stops as long as the photocell is obstructed. The gate resumed closing when the photocell is cleared.
04	DELAYED REVERSE. The gate stops if the photocell is obstructed. The gate opens when the photocell is cleared.

55 01	**Photocell (FT2) mode with gate closed** This parameter is not visible if A8 02, A8 03 or A8 04 is set.
00	If the photocell is obstructed, the gate cannot open.
01	The gate opens when an open command is received, even if the photocell is obstructed.
02	The photocell sends the gate open command when obstructed.

56 00	**Enable close command 6 s after activation of photocell (FT1-FT2)** This parameter is not visible if A8 03 or A8 04 is set.
00	Disabled.
01	Enabled. When the photocell barrier FT1 is crossed, a close command is sent 6 seconds later.
02	Enabled. When the photocell barrier FT2 is crossed, a close command is sent 6 seconds later.

65 05	**Setting motor stop distance**
01-05	01= faster deceleration/shorter stop distance ... 05= slower deceleration/longer stop distance.

71 01	**Selecting installation position of motor relative to gate (seen from interior side)** **N.B.:** The error message dAtA is shown on the display whenever this parameter is modified. Disconnect from mains power and reconnect. Press **PRG** button and repeat the travel acquisition procedure. **N.B.:** in the event of a reset to restore the default parameters, this parameter must be set again manually.
00	Motor installed on left.
01	Motor installed on right.

73 00	**Configuring sensing edge COS1**
00	Sensing edge NOT INSTALLED.
01	NC contact (normally closed). The gate reverses only when opening.
02	Contact with 8k2 resistor. The gate reverses only when opening.
03	NC contact (normally closed). The gate always reverses.
04	Contact with 8k2 resistor. The gate always reverses.

74 00	**Configuring sensing edge COS2**
00	Sensing edge NOT INSTALLED.
01	NC contact (normally closed). The gate reverses only when closing.
02	Contact with 8k2 resistor. The gate reverses only when closing.
03	NC contact (normally closed). The gate always reverses.
04	Contact with 8k2 resistor. The gate always reverses.

76 00	**Configuring radio channel 1 (PR1)** N.B.: With ROGER TECHNOLOGY plug-in radio receiver board.
77 01	**Configuring radio channel 2 (PR2)** N.B.: With ROGER TECHNOLOGY plug-in radio receiver board.
00	STEP MODE.
01	PARTIAL OPENING
02	OPENING
03	CLOSING.
04	STOP.
05	Courtesy light. The output COR is managed from the remote control. The light remains lit as long as the remote control is active. The parameter 79 is ignored.
06	Courtesy light in step mode (PP). The output COR is managed from the remote control. The remote control turns the courtesy light on and off. The parameter 79 is ignored.
07	STEP MODE with confirmation for safety. (1)
08	PARTIAL OPENING with confirmation for safety. (1)
09	OPENING with confirmation for safety. (1)
10	CLOSURE with confirmation for safety. (1)

(1) To prevent gate manoeuvres caused by accidentally pressing a remote control button, confirmation is required to enable the command. Example: parameters 76 07 and 77 01 set:

- Pressing the CHA button on the remote control selects the step mode function, which must be confirmed within 2 seconds by pressing CHB on the remote control. Press CHB to activate partial opening.

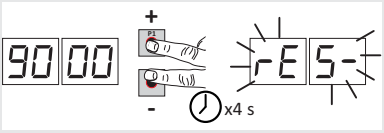
78 00	**Configuring flashing light frequency**
00	The frequency is set electronically from the flashing light unit.
01	Slow flash.
02	Light flashes slowly when gate opens, rapidly when gate closes.

79 60	**Selecting courtesy light mode**
00	Disabled.
01	PULSE. The courtesy light illuminates briefly at the start of each manoeuvre.
02	ACTIVE. The light remains lit for the entire duration of the manoeuvre.
03-90	From 3 to 90 s. The light remains lit for the time period set after the manoeuvre is completed.
92-99	From 2 to 9 minutes. The light remains lit for the time period set after the manoeuvre is completed.

80 00	**Clock contact configuration.** When the clock function is active, the gate opens and remains open. At the end of the programmed time set with the external device (clock), the gate closes.
00	When the clock function is active, the gate opens and remains open. Any command signal received is ignored.
01	When the clock function is active, the gate opens and remains open. Any command signal received is accepted. When the gate returns to the completely open position, the clock function is reactivated.

81 00	**Enable safeguarded gate closure/opening.** Enabling this parameter ensures that the gate is not left open due to an incorrect and/or accidental command. This function is NOT enabled if: • the gate receives a STOP command; • the sensing edge is activated; • the number of closure attempts set by parameter A2 has been reached; • the acquired position is lost (perform position recovery, see chapter 17).
00	Disabled. The parameter 82 is not displayed.
01	Enabled. After a period of time set with parameter 82, the control unit signals a 5 second warning with the flashing light, regardless of the parameter A5, and then closes the gate.
02	Enabled. If the gate is closed as a result of a step mode command, after a period of time set with parameter 82, the control unit signals a 5 second warning with the flashing light (regardless of the parameter A5), and then the gate closes. If the gate is stopped by the obstacle detection system during a closure manoeuvre, the gate closes after a period of time set with parameter 82. If the gate is stopped by the obstacle detection system during an opening manoeuvre, the gate closes after a period of time set with parameter 82.

82 03	**Setting safeguarded closure/opening activation time** **N.B.:** this parameter is not visible if the value of parameter 81 = 00.
02-90	Wait time settable from 2 to 90 s.
92-99	Wait time settable from 2 to 9 min.

90 00	**Restoring factory default values** **NOTE** This procedure is only possible is NO data protection password is set.
	 **Warning!** Restoring default settings cancels all settings made previously except for parameter A1 : after restore, check that all parameters are suitable for the installation. The default factory settings may also be restored using the PLUS + and/or MINUS - buttons as follows: • Turn off the power. • Press and hold the PLUS + and/or MINUS - button until the unit switches on. • The display flashes after 4 s rES-. • The default factory settings have now been restored.

	Identification number The identification number consists of the values of the parameters from n0 to n6. **N.B.**: The values shown in the table are indicative only.	
n0 01	**HW version.**	Example: 01 23 45 67 89 01 23
n1 23	**Year of manufacture.**	
n2 45	**Week of manufacture.**	
n3 67	**Serial number.**	
n4 89		
n5 01		
n6 23	**FW version.**	

	View manoeuvre counter The number consists of the values of the parameters from oN to o1 multiplied by 100. **N.B.**: The values shown in the table are indicative only.
oN 01 o0 23 o1 45	**Manoeuvres performed.** Example: 01 23 45 x100 = 1.234.500 manoeuvres.

	View manoeuvre hour counter The number consists of the values of the parameters from h0 to h1. **N.B.**: The values shown in the table are indicative only.
h0 01 h1 23	**Manoeuvre hours.** Example: 01 23 = 123 hours.

	View control unit days on counter The number consists of the values of the parameters from d0 to d1. **N.B.**: The values shown in the table are indicative only.
d0 01 d1 23	**Days with unit switched on.** Example: 01 23 = 123 days.

	Password Setting a password prevents unauthorised persons from accessing the settings. With password protection active (CP=01), parameters may be viewed, but the values CANNOT be modified. Only a single password is used to control access to the gate automation system. **WARNING:** Contact the Technical Support Service if you lose your password.
P1 00 P2 00 P3 00 P4 00	**Password activation procedure:** • Enter the desired values for parameters P1, P2, P3 and P4. • Use the UP ▲ and/or DOWN ▼ buttons to view the parameter CP. • Press and hold the + and - buttons for 4 seconds. • The display flashes to confirm that the password has been saved. • Switch the control unit off and on again. Check that password protection is activated (CP=01). **Temporary unlock procedure:** • Enter the password. • Check that CP=00 . **Password cancellation procedure:** • Enter the password (CP=00). • Save the values P1, P2, P3, P4 = 00 • Use the UP ▲ and/or DOWN ▼ buttons to view the parameter CP. • Press and hold the **+** and **-** buttons for 4 seconds. • The display flashes to confirm that the password has been cancelled (the values P1 00, P2 00, P3 00 and P4 00 indicate that no password is set). • Switch the control unit off and on again.

CP 00	**Changing password**
00	Protection deactivated.
01	Protection activated.

11 Special parameters for BH30/500/HS - BM30/300/HS series

The High Speed series is a family of digital brushless high speed sliding motor units for sliding gates weighing up to 500 kg (BH30/500/HS) and up to 300 kg (BM30/300/HS) and dedicated exclusively to residential applications.
High Speed technology makes it possible for the automation system to operate 100% faster than a conventional system, and allows independent management of speed, acceleration, deceleration and the safety devices used in the system.

Note: As the mechanics of the gate is unknown, to guarantee the maximum safety of the installation, we recommended to use sensitive edges.

The additional parameters for enabling High Speed technology are indicated as follows.

A103	**Selecting automation system model** This parameter is factory configured by ROGER TECHNOLOGY. **WARNING!** The parameter is already configured by default to enable use of the of motor in high speed mode. If this parameter is modified, all the specific motor functions relative to high speed mode will no longer be available. The automation system will no longer function effectively and it will not be possible to diagnose faults. **N.B.:** in the event of a reset to restore the default parameters, this parameter must be set again manually.
01	BH30/600
02	BH30/800
03	BH30/500/HS
04	BM30/400
05	BM30/300/HS

1104	**Setting deceleration during opening**
1204	**Setting deceleration during closing**
01-05	01= the gate decelerates near the limit switch ... 05= the gate decelerates long before the limit switch.

3304	**Setting start acceleration during opening**
3404	**Setting start acceleration during closing**
01-05	01= the gate accelerates rapidly at start of manoeuvre ... 05= the gate accelerates slowly and progressively at start of manoeuvre.

4005	**Setting opening speed (%)**
4105	**Setting closure speed (%)**
01-05	01= 60% minimum speed 02= 70% 03= 80% 04= 90% 05= 100% maximum speed.

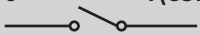
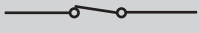
N.B.: to set the constant speed deceleration space, see parameters 13 and 14 on chapter 10.

12 Commands and Accessories

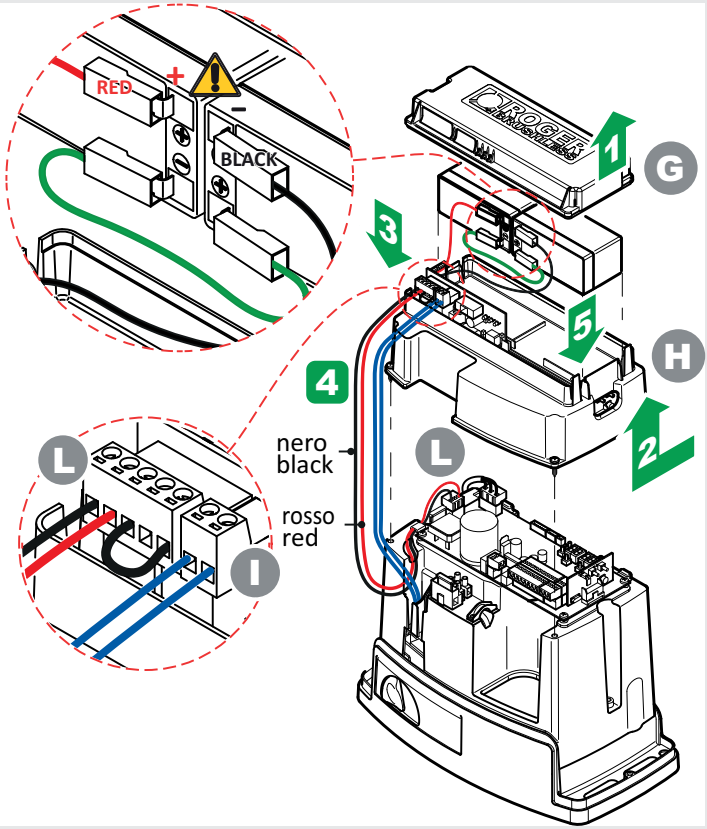
If not installed, safety devices with NC contacts must be jumpered at the COM terminals, or disabled by modifying the parameters 50, 51, 53, 54, 73 and 74.

KEY:

N.A. (Normally Open) .
N.C. (Normally Closed).

CONTACT	DESCRIPTION
6 **7(COR)** 	Output (potential free contact) for connecting courtesy light. 230 Vac 100 W - 24 Vac/dc 40 W (fig. 5).
8(+SC) **9(COM)** 	Connection for gate open indicator lamp. 24 Vdc 3 W. The function of the indicator lamp is determined by parameter A8.
8(+SC) **9(COM)**	Photocell test connection and/or battery saving. The power feed for the photocell transmitters (TX) may be connected to this. Set the parameter A8 02 to enable the test function. Each time a command is received, the control unit switches the photocells off and on to check that the contact changes state correctly. Power feeds for all external devices may be connected to reduce battery consumption (if batteries are used). Set A8 03 or A8 04. **WARNING!** If contact **8-SC** is used for the photocell test function or battery saving function, a gate open indicator lamp cannot be connected.
10(FT2) **28(COM)** 	Input (NC) for connecting photocells **FT2** (fig. 6, 7 and 8). The photocells **FT2** are configured by default with the following settings: – 53 00 . Photocell **FT2** disabled when gate is opening. – 54 00 . Photocell **FT2** disabled when gate is closing. – 55 01 . The gate opens when an open command is received if photocell **FT2** is obstructed. If the photocells are not installed, jumper the terminals **28(COM) - 10(FT2)** or set the parameters 53 00 and 54 00. **WARNING**! Use **R90/F4ES**, **G90/F4ES** or **T90/F4S** series photocells.
11(FT1) **28(COM)** 	Input (NC) for connecting photocells **FT1** (fig. 6, 7 and 8). The photocells **FT1** are configured by default with the following settings: – 50 00 . Photocell triggers only during gate closure. Photocell is ignored during gate opening. – 51 02 . Movement is reversed if the photocell is triggered during gate closure. – 52 01 . The gate opens when an open command is received if photocell **FT1** is obstructed. If the photocells are not installed, jumper the terminals **28(COM) - 11(FT1)** or set the parameters 50 00 and 51 00. **WARNING**! Use **R90/F4ES**, **G90/F4ES** or **T90/F4S** series photocells.
12(COS2) **14(COM)** 	Input (NC or 8 kOhm) for connecting sensing edge **COS2**. The sensing edge is configured by default with the following settings: – 74 00. The sensing edge **COS2** (NC contact) is disabled. If the sensing edge is not installed, jumper the terminals **12(COS2) - 14(COM)** or set the parameter 74 00.
13(COS1) **14(COM)** 	Input (NC or 8 kOhm) for connecting sensing edge **COS1**. The sensing edge is configured by default with the following settings: – 73 00. The sensing edge **COS1** (NC contact) is disabled. If the sensing edge is not installed, jumper the terminals **13(COS1) - 14(COM)** or set the parameter 73 00.
15(ST) **14(COM)** 	STOP command input (NC). The current manoeuvre is arrested if the safety contact opens. **N.B.:** the controller is supplied with this contact already jumpered by ROGER TECHNOLOGY.
20 **19(ANT)** 	Antenna connector for slot-in radio receiver board. Use RG58 if an external antenna is used; maximum recommended length: 10 m. **N.B.**: do not make joints in cable.

CONTACT	DESCRIPTION
22(ORO) 21(COM) 	Clock timer contact input (N.O.). When the clock function is active, the gate opens and remains open. At the end of the programmed time set with the external device (clock), the gate closes.
23(AP) 21(COM) 	Open control signal input (N.O.).
24(CH) 21(COM) 	Close command input (N.O.).
25(PP) 21(COM) 	Step by step mode command input (N.O.). The function of the control is determined by parameter A4.
26(PED) 21(COM) 	Partial open control signal input (N.O.). Set by default to 50% of completely open position.
27(+24V) 28(COM)	Power feed for external devices. See technical characteristics. Connecting **B72/BRAKE** power unit for **BH30** and **BM30** High Speed versions.
29(LAM) 28(COM) 	Connection for flashing light (24 Vdc - duty cycle 50%). The settings for the pre-manoeuvre flashing warning signal may be selected with parameter A5, while the flashing mode is set with parameter 18.
ENC	Connector for connecting to encoder installed on motor. **WARNING**! Always disconnect from electrical power before disconnecting or connecting the encoder cable. **N.B.**: Ready wired in factory by ROGER TECHNOLOGY.
FC	Connector (N.C. contacts) for connecting mechanical limit switch (see **figure 11** - **detail E**) or magnetic limit switch (see **figure 11** - **detail F**). The gate stops when the limit switch is activated. **N.B.**: Ready wired in factory by ROGER TECHNOLOGY.
SB	Connector (N.C.) for connecting release contact. If the motor release handle is opened, the gate stops and no command signals are accepted. Once the release handle is closed again, if the gate is in an intermediate position, the controller unit initiates the position recovery procedure (see chapter 17). **N.B.**: Ready wired in factory by ROGER TECHNOLOGY.
RECEIVER CARD	Connector for plug-in radio receiver board. The control unit has two radio remote control functions by default: – **PR1** - step mode command (modifiable with parameter 16). – **PR2** - partial opening command (modifiable with parameter 17). The programming buttons **PR1** and **PR2** are also accessible with the cover closed (see figure 9).
BATTERY CHARGER B71/BC **BH30 ONLY** 2x12 Vdc 1,2 Ah. **or** 2x12 Vdc 4,5 Ah Only **AGM** type	In the event of a mains power loss, the controller unit is powered by the batteries. When battery power is used, bAtt is shown on the display and the flashing light flashes briefly at intervals until mains power is restored or until the battery voltage drops below the minimum permissible limit. In this case, btLO (Battery Low) is shown on the display and the controller unit accepts no commands. WARNING! the batteries must always be connected to the electronic controller unit in order to charge. Periodically (at least every 6 months), check that the battery is in good working order. Two battery kits are available: • Two 12 V DC, 1.2 Ah batteries installed in the automation system itself. • Two 12 V DC, 4.5 Ah batteries installed in an external case. For more information, refer to the installation manual for the **B71/BC** battery charger.

CONTACT	DESCRIPTION
BATTERY CHARGER B71/BC **<u>BH30 ONLY</u>** 2x12 Vdc 1,2 Ah.	To install the battery charger and the 12 V DC, 1,2 Ah batteries: • Remove the upper cover **G**. • Remove the cover **H**. • Install the **B71/BC** battery charger board in the relative seat. • Disconnect the wires from the transformer and from the POWER IN terminal of the controller unit, and connect them to terminal **I** of the battery charger. • Connect the red-black wires of cable **L** included with the battery to the POWER IN terminal of the controller unit. • Close the cover **H** and fasten with the screws. • Fit the 12 V DC 1.2 Ah batteries in the relative compartment, ensuring that the polarity is correct. • Close the upper cover **G**.  To reduce battery consumption, the positive power feed wire of the photocell transmitters may be connected to terminal **SC** (see fig. 6-7). Set A8 03 or A8 04. In this configuration, the controller unit disconnects power from the accessory devices when the gate is completely open or completely closed.

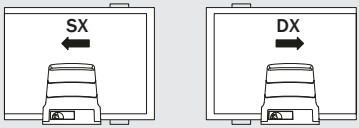
13 Safety input and command status (TEST mode)

With no currently active commands, press the TEST button and check the following:

DISPLAY	POSSIBLE CAUSE	ACTION BY SOFTWARE	PHYSICAL CORRECTIVE ACTION
88 Sb(Sb)	The release handle is open.	-	Close the release handle and turn the key to the close position. Check that the release contact is connected correctly.
88 15	The safety STOP contact is open.	-	Install a STOP button (NC) or jumper the ST contact with the COM contact.
88 13	Sensing edge COS1 not connected or incorrectly connected.	Set the parameter 73 00 if not used or to disable	Jumper contact COS1 with contact COM, if not used or to disable
88 12	Sensing edge COS2 not connected or incorrectly connected.	Set the parameter 74 00 if not used or to disable	Jumper contact COS2 with contact COM, if not used or to disable
88 11	Photocell FT1 not connected or incorrectly connected.	Set the parameter 50 00 e 51 00 if not used or to disable	Jumper contact FT1 with contact COM, if not used or to disable. Check connection referring to relative connection diagram (figures 7-8).
88 10	Photocell FT2 not connected or incorrectly connected.	Set the parameter 53 00 e 54 00 if not used or to disable	Jumper contact FT2 with contact COM, if not used or to disable. Check connection referring to relative connection diagram (figures 7-8).
88 FE	Both limit switches in open contact state or not connected.	-	Check connection of limit switches.
88 FA	Gate is at gate closed limit switch.	If the limit switch state indicated is incorrect, check the setting of parameter 71.	-
	Gate open limit switch absent or not connected.	-	Check connection of limit switches.
88 FC	Gate is at gate closed limit switch.	If the limit switch state indicated is incorrect, check the setting of parameter 71.	-
	Gate closed limit switch absent or not connected.	-	Check connection of limit switches.
PP 00	If occurs with no voluntary command, the contact (N.O.) may be faulty or one of the buttons may be incorrectly connected.	-	Check PP - COM contacts and connections to buttons.
CH 00		-	Check CH - COM contacts and connections to buttons.
AP 00		-	Check AP - COM contacts and connections to buttons.
PE 00		-	Check PED - COM contacts and connections to buttons.
Or 00	If occurs with no voluntary command, the contact (N.O.) may be faulty or the timer may be incorrectly connected.	-	Check ORO - COM contacts. Contact must not be jumpered if not used.

N.B: press TEST to exit TEST mode.
We recommend troubleshooting safety device and input status errors with “corrective action by software” only.

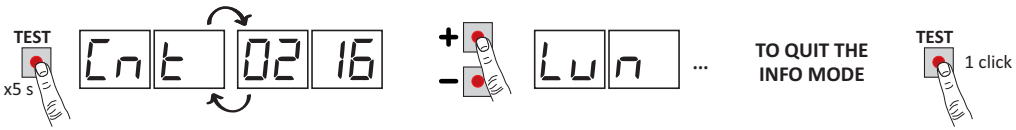
14 Alarms and faults

PROBLEM	ALARM	POSSIBLE CAUSE	ACTION
The gate does not open or close.	**POWER** LED off	No power.	Check power cable.
	POWER LED off	Fuses blown.	Replace fuses. Always disconnect from mains power before removing fuses.
	OF St	Input mains power voltage fault. Control initialisation failed.	Disconnect from mains power, wait 10 seconds then reconnect to the mains and switch on. We recommend replacing the control unit if the problem persists.
	Pr Ot	Overcurrent detected in inverter.	Press the **TEST** button twice or perform 3 command requests in succession.
	dAtA	Travel data acquisition error.	Check that open and closed limit switches are positioned correctly. Press TEST and check if any safety devices are in alarm state. Repeat acquisition procedure.
		Calibration procedure failed.	Allow the indicated calibration times to elapse during self-acquisition. Check that PHAS is shown flashing on the display before closing the release lock cover. Repeat acquisition procedure.
		Automation system position selection modification message with parameter 71.	 Motors for sliding gates are factory configured for right hand opening gates 710 gates (position of motor relative to passage seen from interior side). If the position is changed and message dAtA is displayed: • Move the gate into the closed position. • Disconnect from mains power or remove the main fuse and wait 5 seconds. • Reconnect to mains power or refit the fuse. • Press and hold PROG until dAtA disappears and APP- appears on the display. Repeat acquisition procedure.
	Not	Motor not connected.	Check the motor cable.
	FE	Both limit switches activated.	Check connections of limit switches or check for foreign objects in limit switch blocks.
	Example: 15 EE 21EE	Configuration parameter error.	Set configuration value correctly and save.
	EnE 1	Encoder not connected.	Check connection to encoder. Replacing the encoder is recommended if the problem persists.
	EnE3	Severe encoder malfunction.	Press TEST button. If the error code is displayed again, switch off the controller unit, wait 5 seconds and switch on again. Replace the encoder if the problem persists.
	EnE5 (EnE5)	Encoder malfunction.	Press TEST button. Replace the encoder if the problem persists.
		Insufficient power supply	If the unit contains dirt, moisture, insects or other foreign matter, disconnect from mains power and clean the board and the encoder. Replace the encoder if the problem persists.
		Batteries functioning	The batteries are almost flat.
	EnE8	Encoder calculation error.	Repeat acquisition procedure.
	tEMP	Inverter thermal overload circuit breaker tripped.	Function is restored automatically within 2 min.
	btLO (btLO)	Flat batteries.	Wait for mains power to be restored.

The gate does not open or close.	StoP flashing	Release device open.	Close the release handle and turn the key to the close position. Check that the release contact is connected correctly.
Acquisition procedure does not complete correctly.	no PH	Motor calibration failed.	Repeat acquisition procedure. If the problem persists, check the cable connecting the encoder to the motor.
			Check if release handle is open.
			Check that the motor turns without impediment. Contact technical support in case of any problems.
	AP PE	TEST button pressed accidentally.	Repeat acquisition procedure.
		Safety devices in alarm state.	Check connections of safety devices.
		Excessive voltage drop.	Repeat acquisition procedure. Check mains voltage.
		Incorrect setting of parameters 30 and 31.	Adjust parameters 30 and 31 correctly for the weight and speed of the gate leaf.
	AP PL	Travel length error.	Move gate into completely closed position (FC limit switch signal must be active) and repeat the procedure.
			Check cable of limit switches. Replace the cable if the problem persists.
			Reset default controller unit parameters and repeat the procedure.
Remote control has limited range and does not work while automated gate is moving.	-	The radio transmission is impeded by metal structures and reinforced concrete walls.	Install the antenna outside.
	-	Flat batteries.	Replace the transmitter batteries.
The flashing light is not working.	-	Bulb / LED blown or flashing light wires disconnected.	Check LED circuit and/or connector wires.
Gate open indicator lamp does not work.	-	Bulb blown or wires disconnected.	Check the bulb and/or wires.
Gate does not perform desired manoeuvre.	-	Incorrect setting of parameter 71.	Select the correct installation position with parameter 71.

N.B.: Press the TEST button to temporarily cancel the alarm.
The next time a command is received, the alarm reappears on the display if the problem has not been resolved.

15 Procedural verifications - INFO Mode



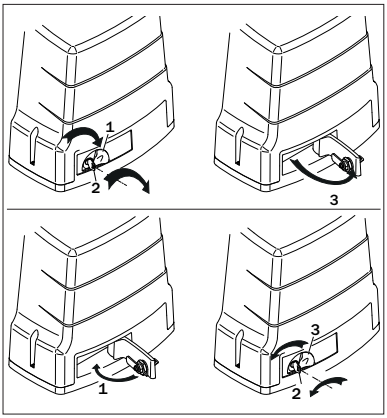
INFO mode may be used to view certain parameters measured by the **B70/1DC** controller.
Press and hold the TEST button for 5 seconds from the "View command signals and safety devices" mode with the motor stationary.
The control unit displays the following parameters and the corresponding measured values in sequence:

Parameter	Function
r 1.47	View for 3 s the firmware version of the control unit.
CnE	Displays the position of MOTOR, expressed in revolutions and relative to total length, at the time of the test. (example: 0.113 = motor installed on the left 7100; 0113 = motor installed on the right 7101).
Lun	View total length of programmed travel of MOTOR, in motor revolutions.
rPM	View motor speed of MOTOR, in revolutions per minute (rPM).
AMP	View current absorption of motor, in Amperes (e.g.: 001.1 = 1,1 A .... 016.5 = 16,5 A). If the MOTOR is stationary, the current absorption value is 0. Activate a command function to test current absorption.
bUS	System OK indicator. To check for overloading (e.g.: too many utilities connected to 24 V output) or if the mains voltage is too low, compare the parameters read with values indicated as follows with the motor stationary: mains voltage = 230 V AC (nominal), bUS= 28.5 mains voltage = 207 V AC (-10%), bUS= 25.5 mains voltage = 253 V AC (+10%), bUS= 31.6
CMP	Display current, expressed in Amperes, used to compensate for strain detected by MOTOR due, for example, to low external temperatures (e.g.: 0 = 0 A ... 4 = +6 A). At the beginning of a manoeuvre from the completely open or completely closed position, if the control unit detects a strain higher than the value stored in its memory during the travel acquisition cycle, the controller automatically increases the current delivered to MOTOR.
ASC	Display current threshold, expressed in Amperes, at which the obstacle detection function (crush prevention) of MOTOR is triggered. This value is calculated automatically by the controller in relation to the settings of parameters 30 and 31. For the motor to function correctly, AMP must always be lower than the value ASC.
tIm	Indicates time taken by MOTOR to detect an obstacle, as set with parameter 31, in seconds. E.g. 1.000 = 1 s / 0.120 = 0.12 s (120 ms). Ensure that the manoeuvre time is more than 0.3 s.
UP	If the control unit is capable of identifying the position of the gate when the test is conducted, the following is shown on the display: UP__ position known, normal operation. UP1_ position unknown, position recovery in progress.
OC	Indicates the state of the automation system (open/closed). OC OP automation system opening (motor active). OP CL automation system closing (motor active). OP -0 automation system completely open (motor not actives). OP -C automation system completely closed (motor not actives).
UF	UF U mains voltage too low or overload. UF H motors overcurrent.

- Use the **+** / **–** buttons to scroll through the parameters. When the last parameter in the sequence is reached, press the **–** button to return through the previous parameters.
- In INFO mode, the automation system may be activated to test operation in real time.
- Press and hold the TEST button for a few seconds to exit INFO mode.

16 Mechanical release

In the event of a power failure, the gate may be released as follows.
If the gate releases with the controller unit powered, the message StoP flashes on the display.



- Flip open the lock cover (1).
- Insert the key included into the lock and turn clockwise by 90° (2).
- Open the release cover completely (3).
- Move the gate manually.

RESTORING AUTOMATIC OPERATION

- Close the release cover with the key inserted, taking care not to trap your fingers (1).
- Turn the key anticlockwise by 90° (2).
- Remove the key and close the lock cover (3).
- When the release system is restored to the normal operating position, if the gate is not completely open or completely closed the next time a command is received, the control initiates a position recovery procedure (see chapter 17).
- Activating one of the two limit switches immediately reacquires the position.

17 Position recovery mode

After a mains power outage or after mechanically releasing the gate, if the gate is not completely open or completely closed the next time a command is received, the control initiates a position recovery procedure:

- The gate starts a low speed manoeuvre.
- The flashing light flashes with a different duty cycle than normal (3 s on, 1.5 s off).
- The control unit recovers the installation data during this procedure. **Warning**! During this procedure, do not use any controls until one of the two limit switches is reached.
- Activating one of the two limit switches immediately reacquires the position.

18 Initial testing

- Turn on the power supply.
- Check that all connected controls are working correctly.
- Check that the release handle works correctly. The message StOP must flash on the display.
- Check travel and deceleration.
- Check that the impact force is correct, in compliance with EN 12453 and EN12445.
- Check that the safety devices are activated correctly.
- If the battery kit is installed, disconnect from mains and check that the batteries are working.
- Disconnect from mains power and disconnect the batteries (if used), then reconnect. Starting with the gate stopped in an intermediate position, check that the position recovery procedure is completed correctly for both the open and closed positions.
- Check that the limit switches are set correctly and function correctly. Adjust the position of installation of the motor if necessary.
- Check that there is a gap of at least 2-3 cm between the gate and the mechanical stop at the end of the manoeuvre.

19 Maintenance

Perform scheduled maintenance every 6 months.
Check cleanliness and function.
If the unit contains dirt, moisture, insects or other foreign matter, disconnect from mains power and clean the board and the housing.
Repeat the initial installation test procedure after cleaning.
If any corrosion is found on the printed circuit board, evaluate if it is necessary to replace the board itself.
Check that the battery is in good working order.

20 Disposal

This product may only be uninstalled by qualified technical personnel, following suitable procedures for removing the product correctly and safely. This product consists of numerous different materials. Some of these materials may be recycled, while others must be disposed of correctly at the specific recycling or waste management facilities indicated by local legislation applicable for this category of product.

Do not dispose of this product as domestic refuse. Observe local legislation for differentiated refuse collection, or hand the product over to the vendor when purchasing an equivalent new product.
Local legislation may envisage severe fines for the incorrect disposal of this product.
Warning! Some parts of this product may contain substances that are harmful to the environment or dangerous and which may cause damage to the environment or health risks if disposed of incorrectly.

21 Additional information and contact details

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This instruction manual and the warnings for the installer are given in printed form and included in the box containing the product.
The digital version of this documentation (in PDF format) and all future revisions are available from the reserved area of our website **www.rogertechnology.com/B2B**, in the section 'Self Service'.

ROGER TECHNOLOGY CUSTOMER SERVICE:

business hours: Monday to Friday
08:00 to 12:00 - 13:30 to 17:30
Telephone no: +39 041 5937023
E-mail: service@rogertechnology.it
Skype: service_rogertechnology

To request support for any problems or for any other queries regarding the automation system, please compile the online form "REPAIRS" in the 'Self Service' area of our website **www.rogertechnology.com/B2B**.

22 Declaration of Conformity

I the undersigned, as acting legal representative of the manufacturer
Roger Technology - Via Botticelli 8, 31021 Bonisiolo di Mogliano V.to (TV)
hereby DECLARE that the appliance described below:
Description: Controller unit for automatic gates
Model: **B70/1DC**
Is conformant with the legal requisites of the following directives:
- 2006/42/EC
- 2004/108/CE
- 2011/65/EC

and that all the standards and/or technical requirements indicated as follows have been applied:
EN 61000-6-3
EN 61000-6-2
Last two figures of year in which marking was applied CE 14.

Place: Mogliano V.to Date: 23-12-2014 Signature

ROGER BRUSHLESS
www.wearebrushless.com

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