



CE

IS88 Rev.10 02/05/2018

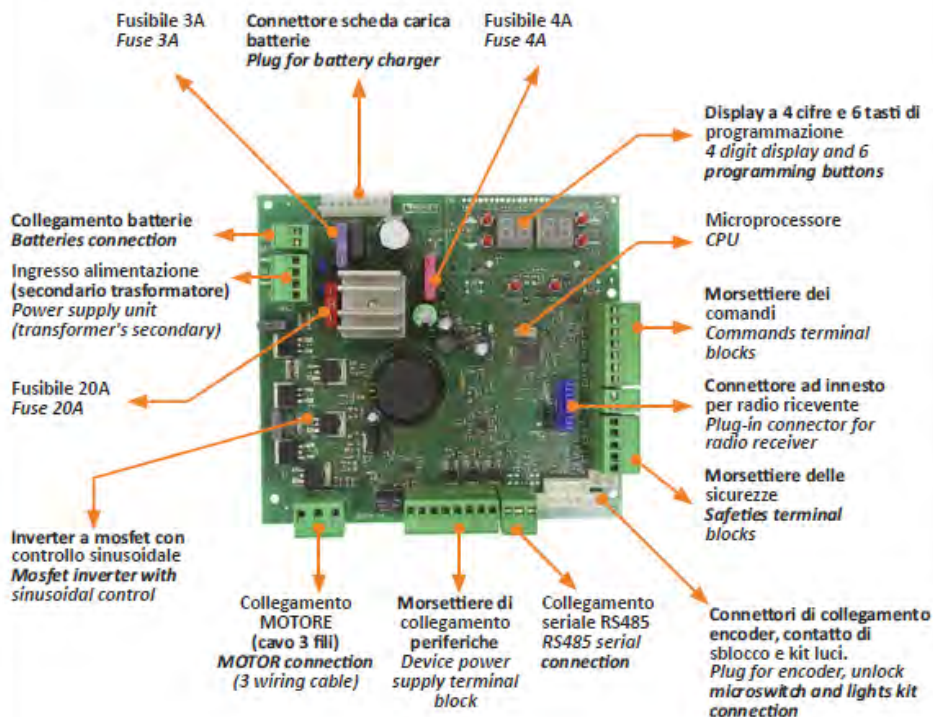
# AG-K/KB Automatic Boom Gate

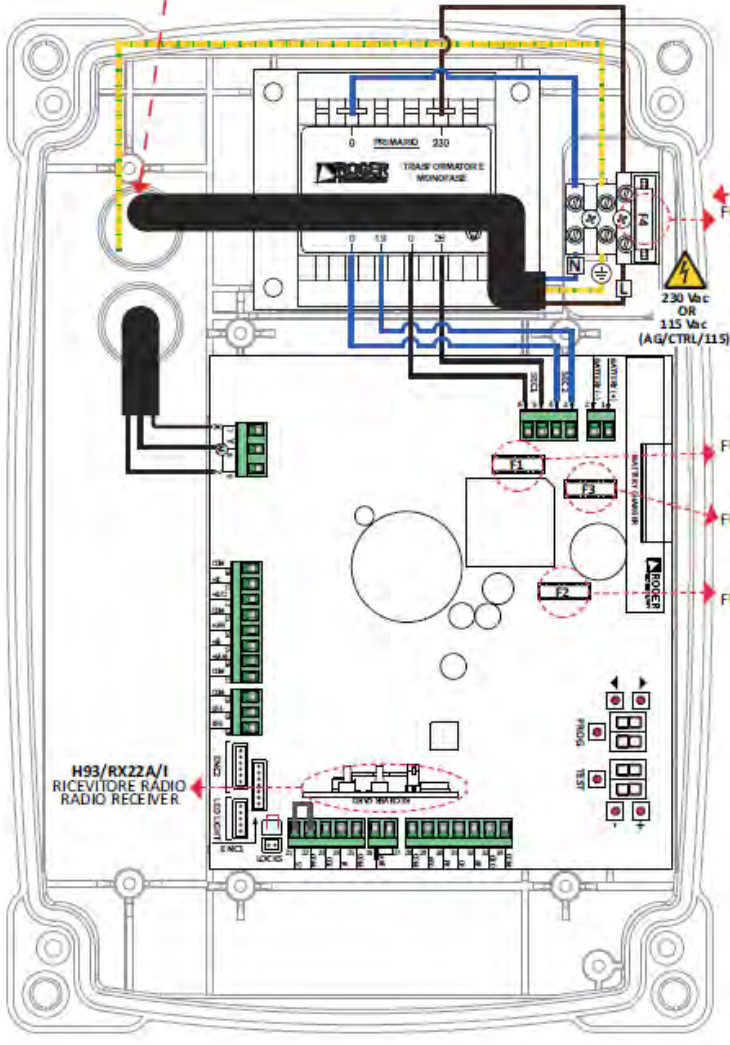
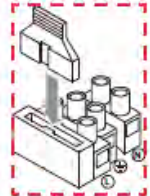
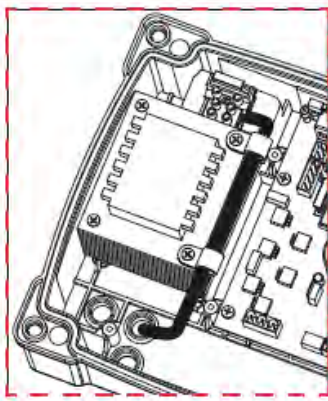
Electrical Instructions and warnings for the installer

**EN**

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**FW**  
**r3.45**





F4  
FUSIBILE  
FUSE  
T1A

230 V ac  
OR  
115 V ac  
(AG/CTRL/115)

F1  
FUSIBILE  
FUSE  
10A

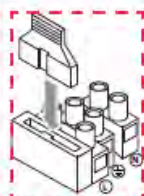
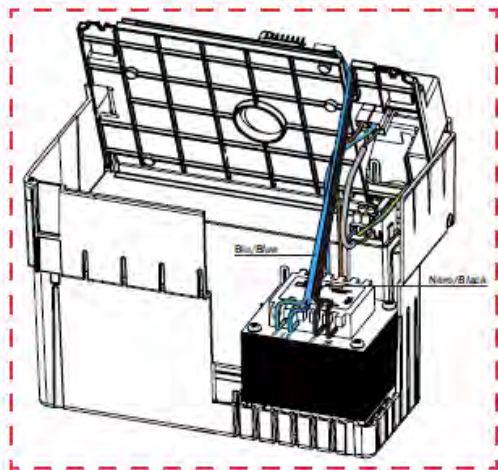
F3  
FUSIBILE  
FUSE  
3A

F2  
FUSIBILE  
FUSE  
4A

H93/RX22A/1  
RICEVITORE RADIO  
RADIO RECEIVER

2

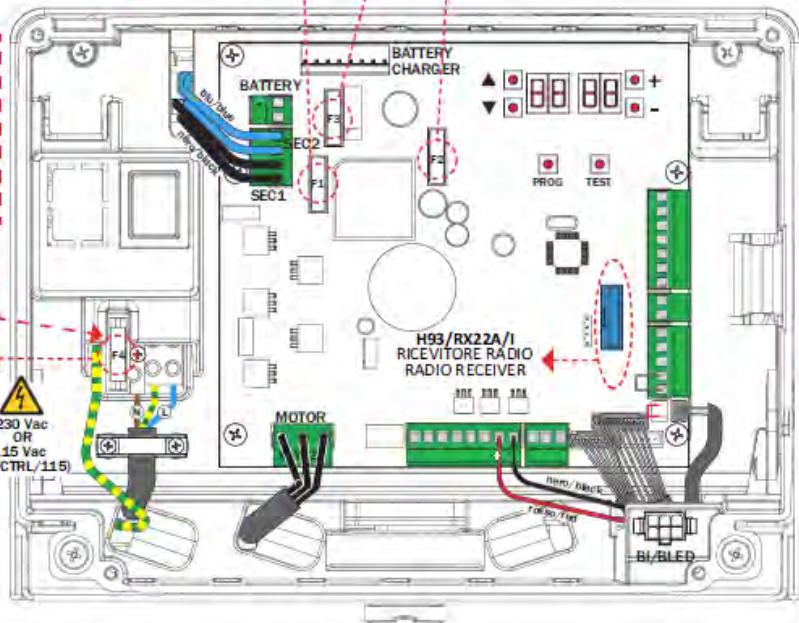
**BIONIK**



F1 FUSIBILE FUSE 10A  
F3 FUSIBILE FUSE 3A  
F2 FUSIBILE FUSE 4A

F4 FUSIBILE FUSE T1A

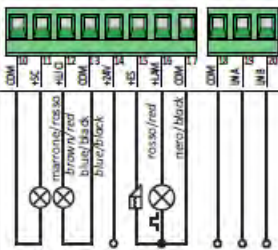
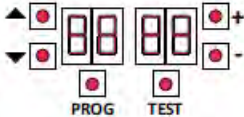
230 Vac  
OR  
115 Vac  
(AG/CTRL/115)



3

ROGER  
TECHNOLOGY

F2



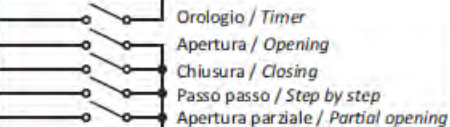
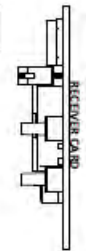
Splia stato barriera / Position barrier light  
24Vdc 3W

Luci asta / Boom arm lights  
24Vdc 12W

Elettroblocco / Electric lock  
12Vdc 10W

Lampeggiante / Flashing light  
24Vdc 5W

Collegamento seriale RS485  
RS485 serial connection



Orologio / Timer

Apertura / Opening

Chiusura / Closing

Passo passo / Step by step

Apertura parziale / Partial opening



Antenna

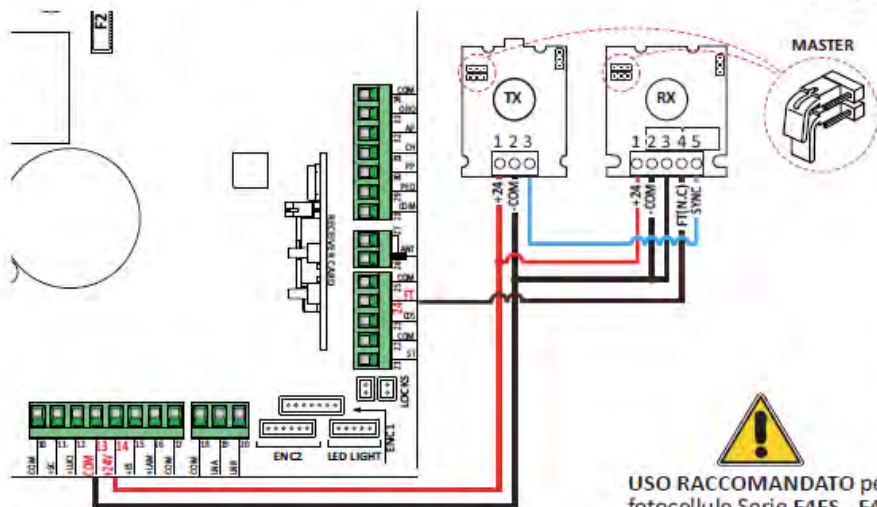


Bordo sensibile / Safety edge

STOP

**COLLEGAMENTO CON 1 COPPIA FOTOCELLULE SINCRONIZZABILI**  
**CONNECTION WITH 1 PAIR OF SYNCHRONOUS PHOCELLS**

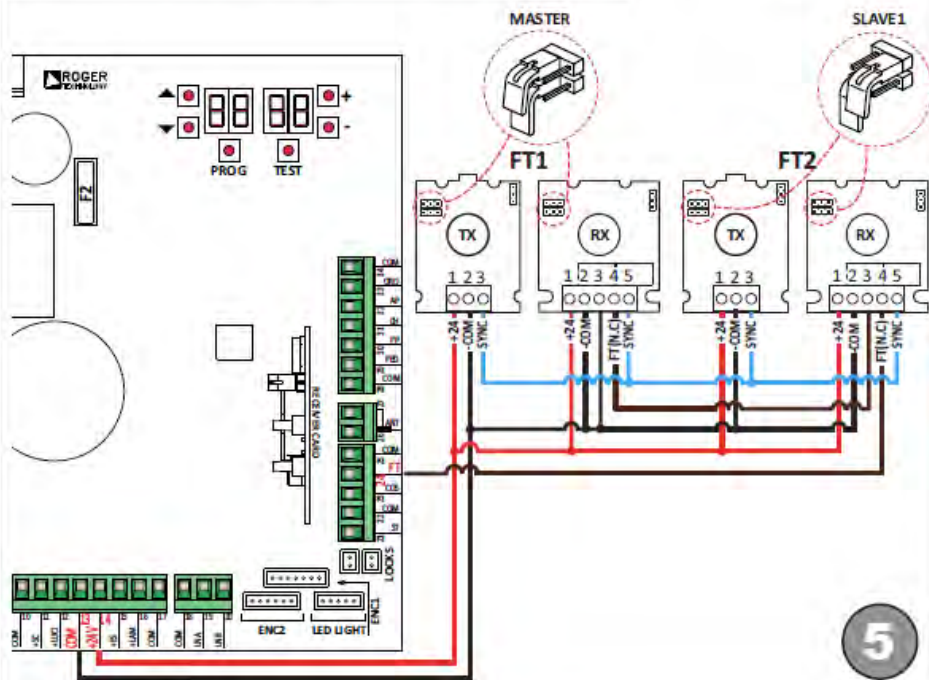
4



**USO RACCOMANDATO** per fotocellule Serie F4ES - F4S

**COLLEGAMENTO CON 2 COPPIE FOTOCELLULE SINCRONIZZABILI**  
**CONNECTION WITH 2 PAIRS OF SYNCHRONOUS PHOCELLS**

**RECOMMENDED USE** for Series F4ES - F4S photocells

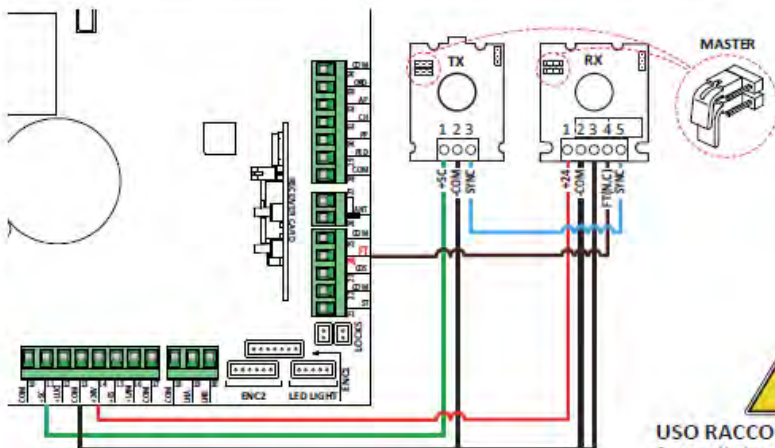


5

6

## TEST FOTOCELLULE · PHOTOCELLS TEST (impostare / set AB 02)

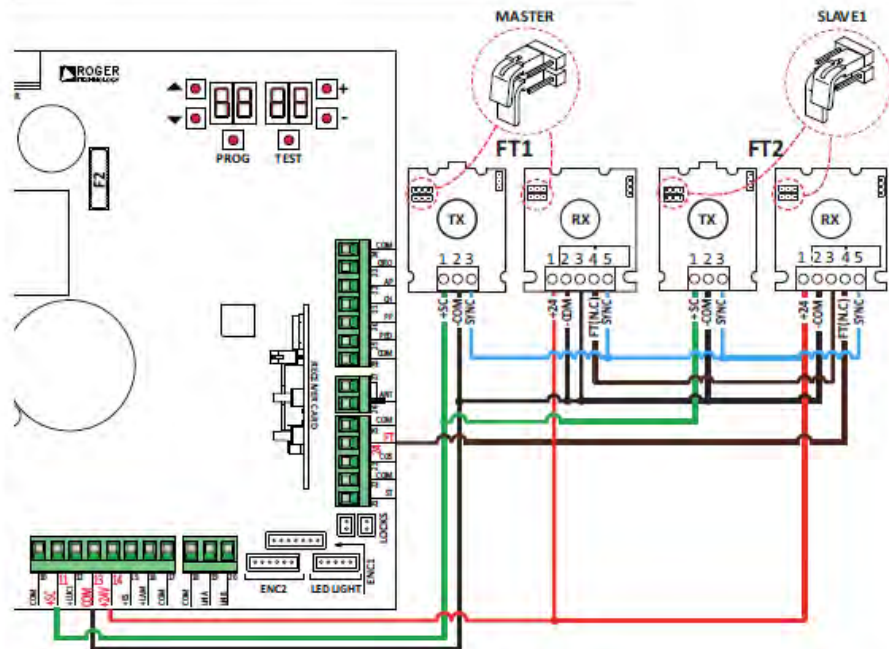
COLLEGAMENTO CON 1 COPPIA FOTOCELLULE SINCRONIZZABILI  
 CONNECTION WITH 1 PAIR OF SYNCHRONOUS PHOCCELLS



**USO RACCOMANDATO** per  
 fotocellule Serie F4ES - F4S

**RECOMMENDED USE** for  
 Series F4ES - F4S photocells

COLLEGAMENTO CON 2 COPPIE FOTOCELLULE SINCRONIZZABILI  
 CONNECTION WITH 2 PAIRS OF SYNCHRONOUS PHOCCELLS



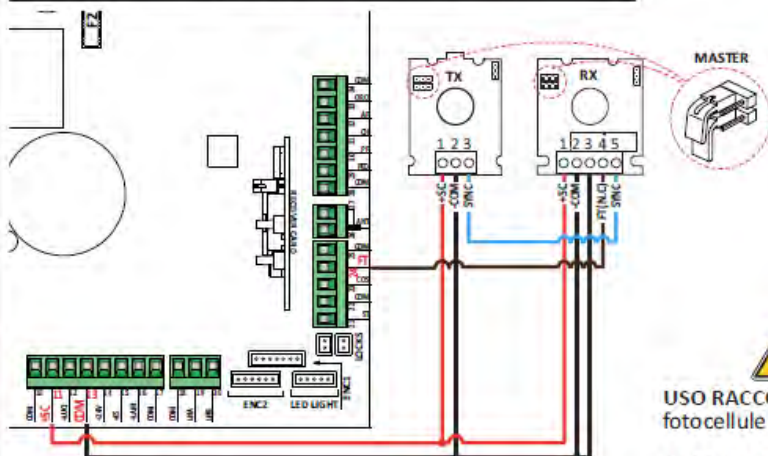


**BATTERY SAVING** (impostare · set *AB 03*)

**BATTERY SAVING + TEST FOTOCELLE · PHOTOCELLS TEST**  
(impostare · set *AB 04*)

7

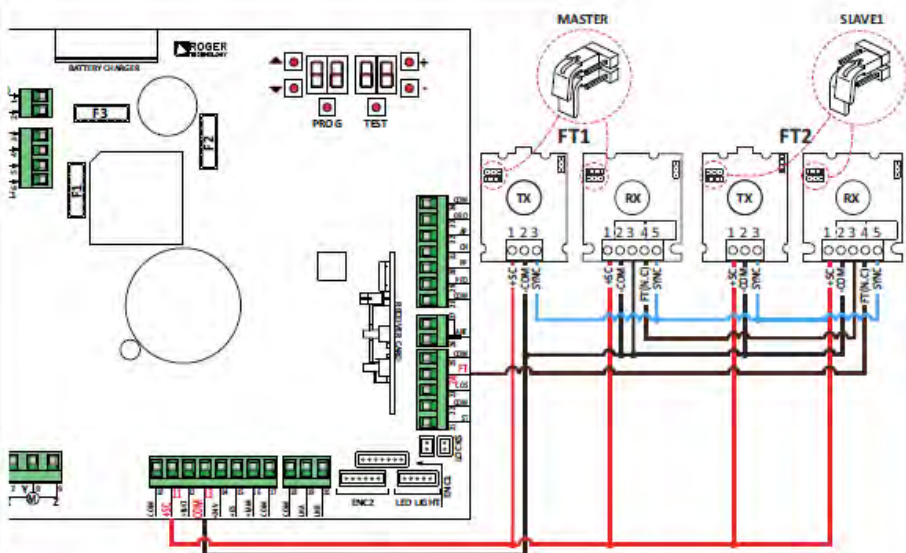
**COLLEGAMENTO CON 1 COPPIA FOTOCELLE SINCRONIZZABILI**  
**CONNECTION WITH 1 PAIR OF SYNCHRONOUS PHOCELLS**



**USO RACCOMANDATO** per  
fotocelle Serie F4ES - F4S

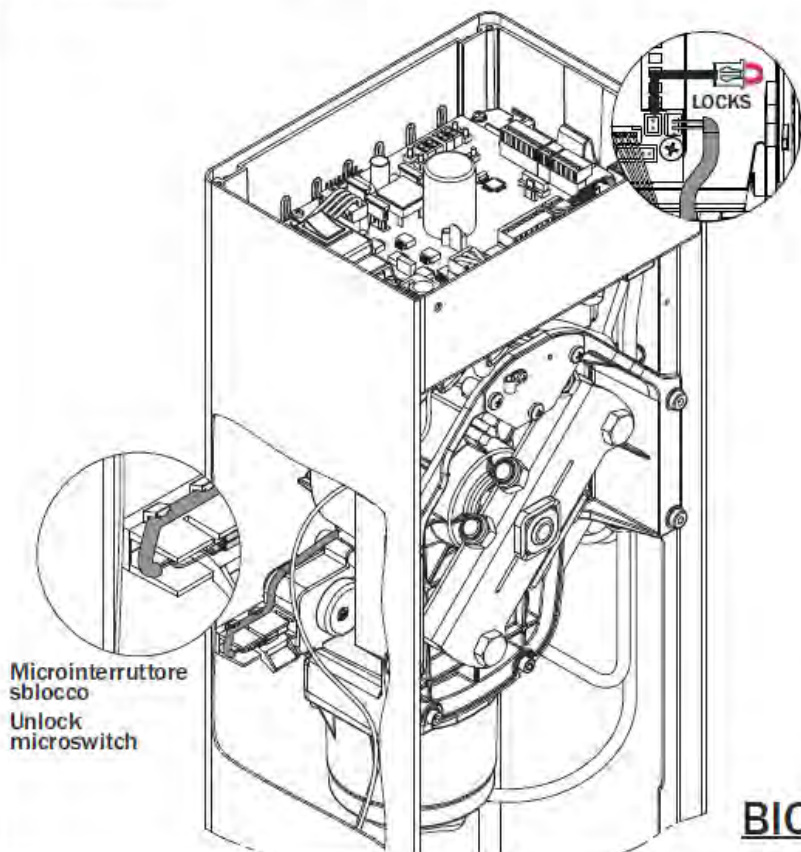
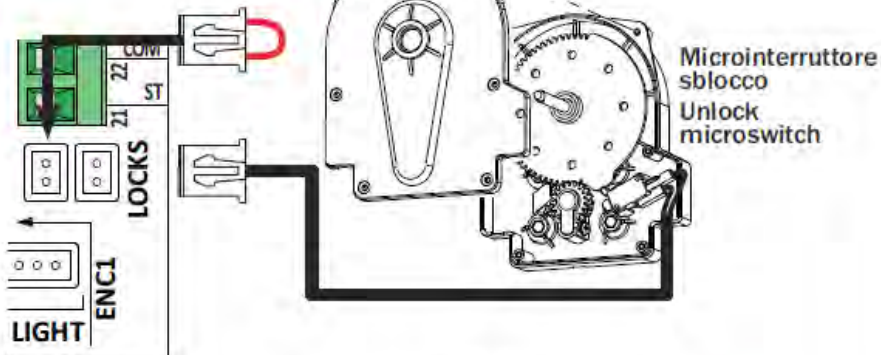
**RECOMMENDED USE** for  
Series F4ES - F4S photocells

**COLLEGAMENTO CON 2 COPPIE FOTOCELLE SINCRONIZZABILI**  
**CONNECTION WITH 2 PAIRS OF SYNCHRONOUS PHOCELLS**

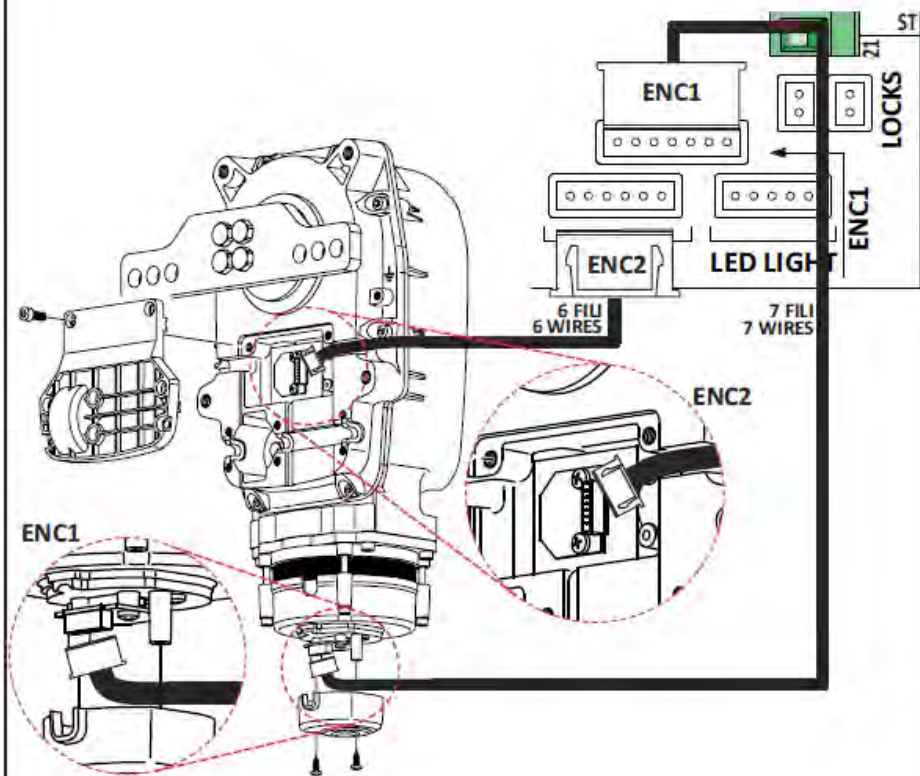


8

**AGILIK/KB**

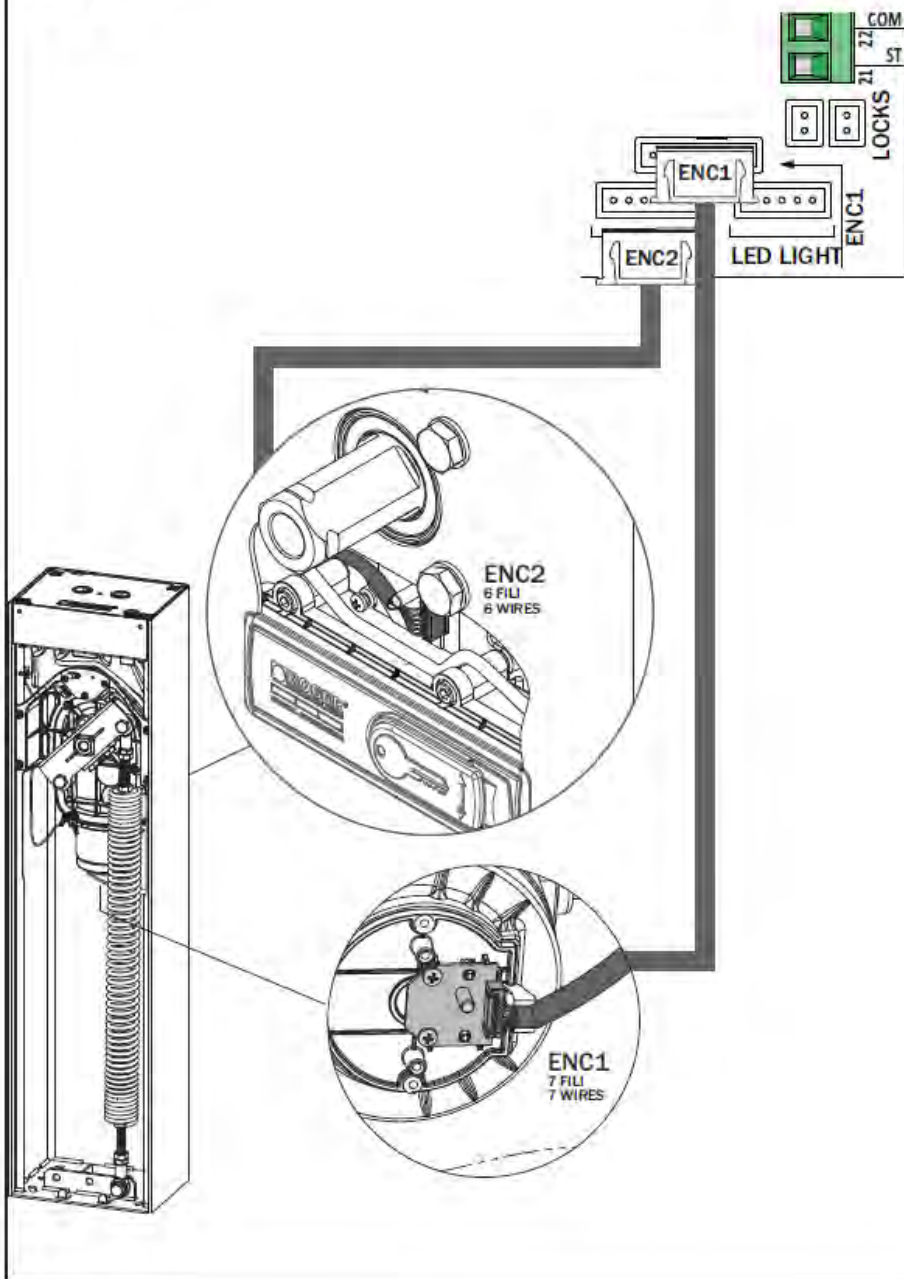


**BIONIK**



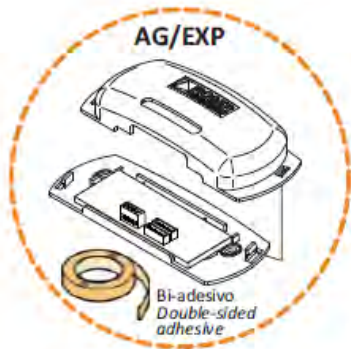
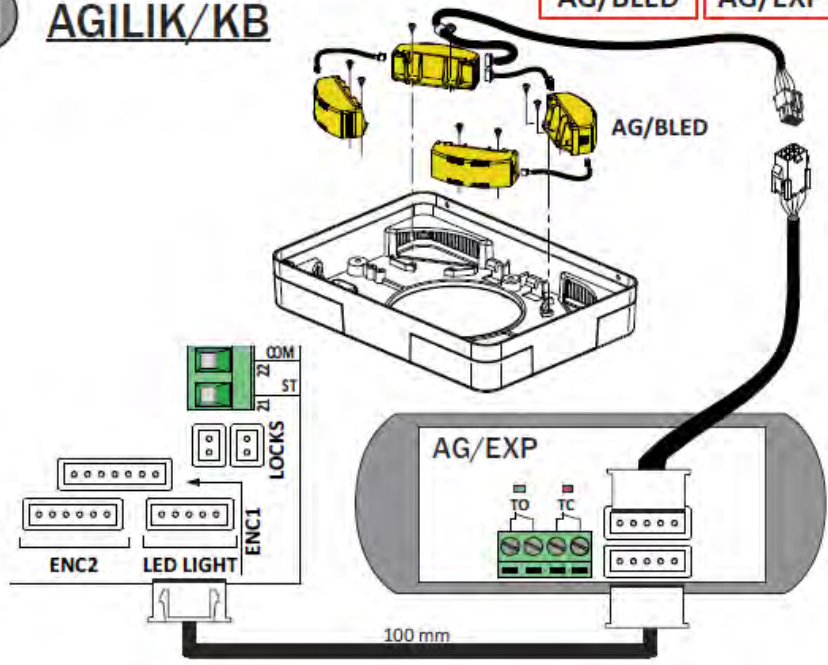
10

**BIONIK**



# 11 AGILIK/KB

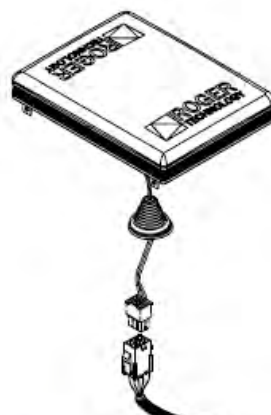
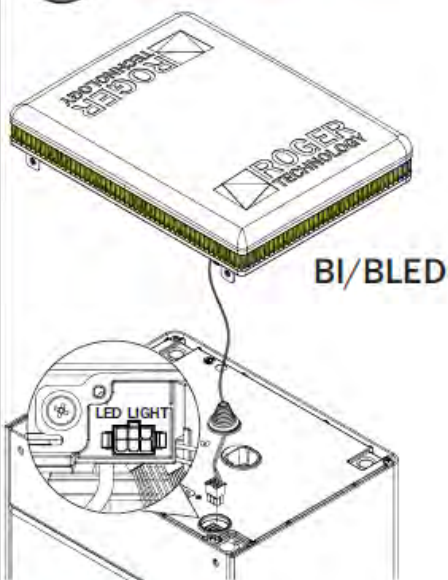
AG/BLED AG/EXP



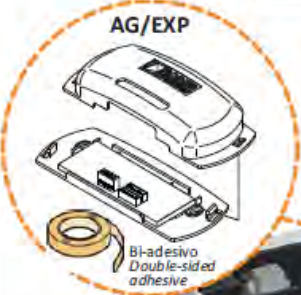
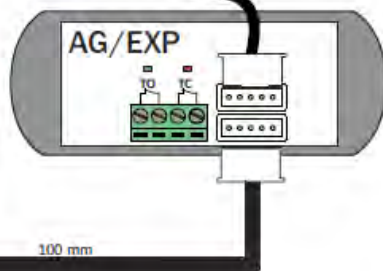
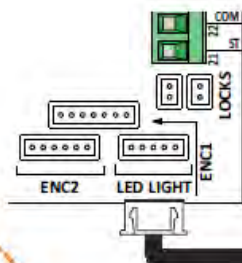
12

BI/BLED

BIONIK



AG/EXP

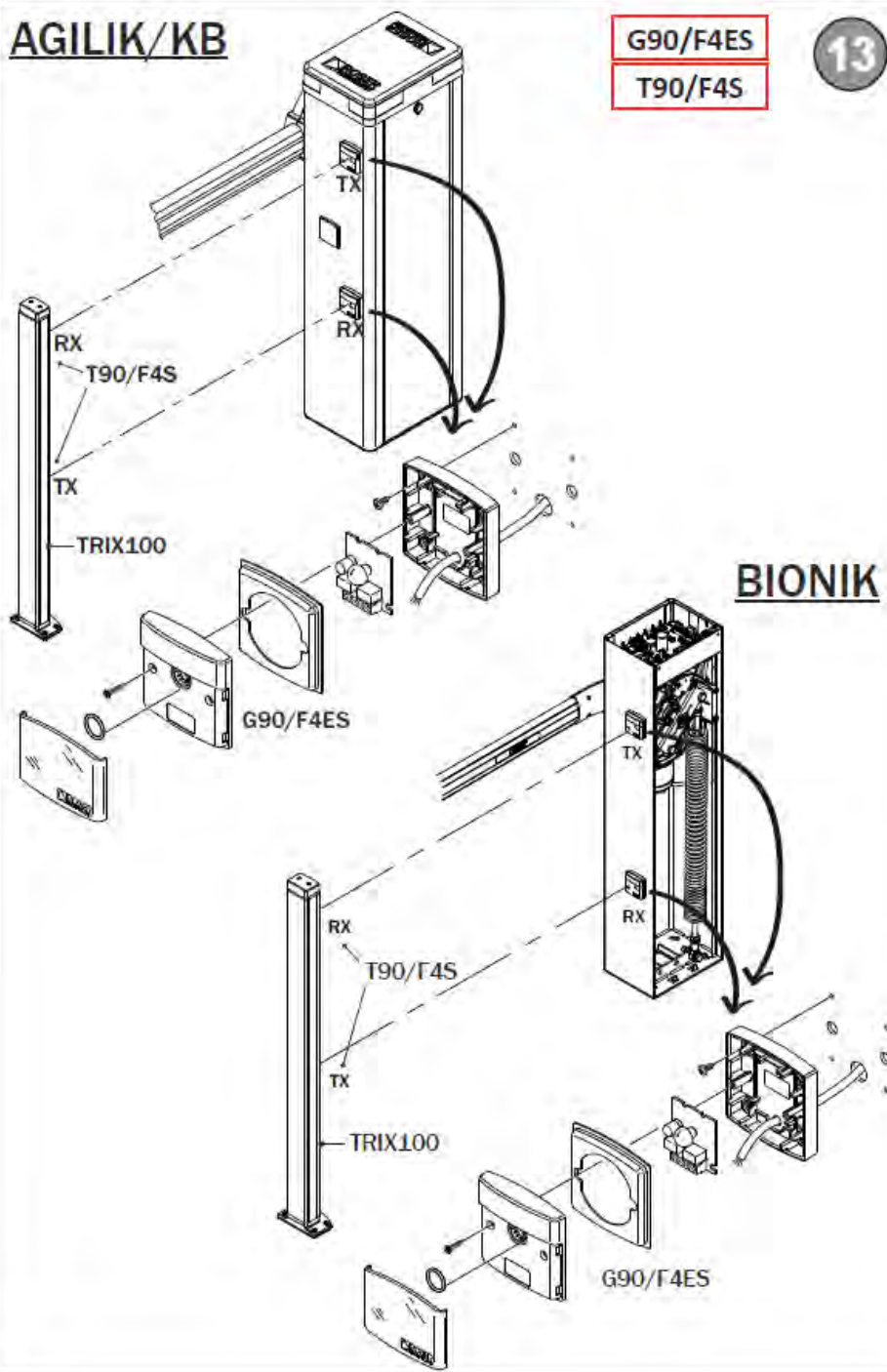


**AGILIK/KB**

**G90/F4ES**

**T90/F4S**

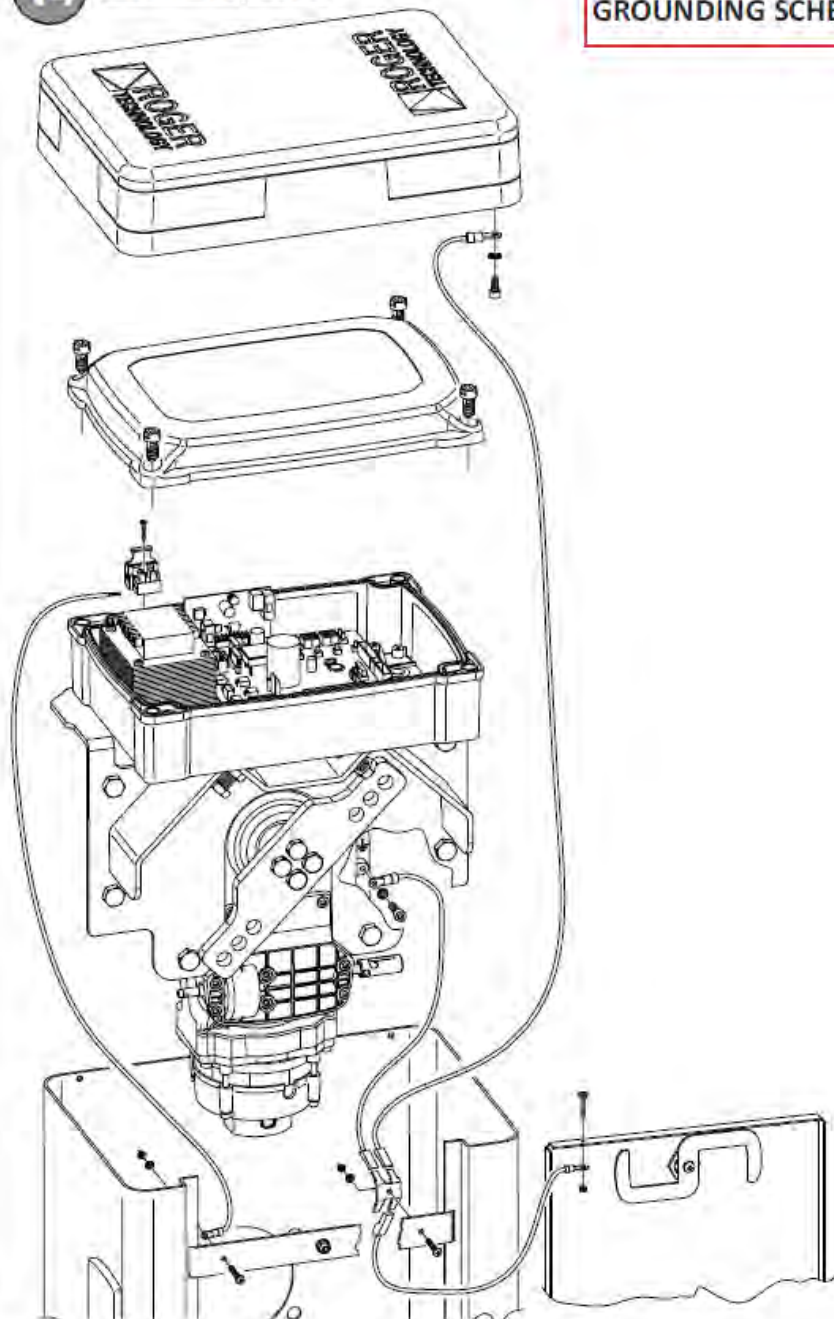
**13**



14

## AGILIK/KB

MESSA A TERRA  
GROUNDING SCHEME

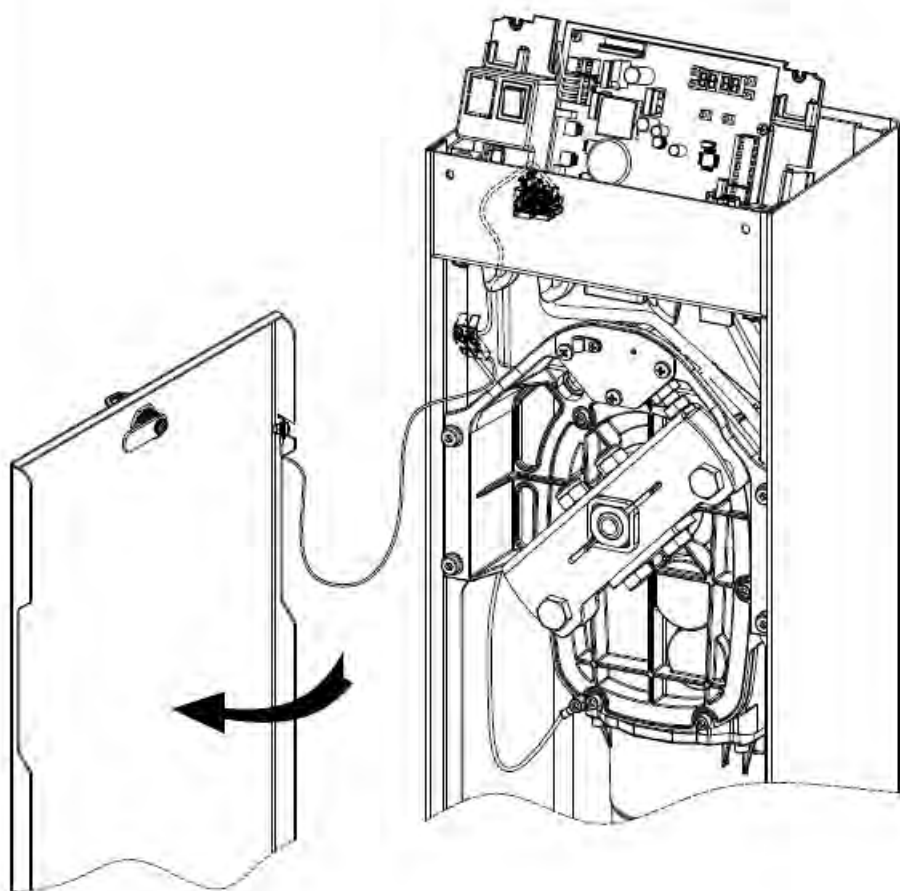




**MESSA A TERRA  
GROUNDING SCHEME**

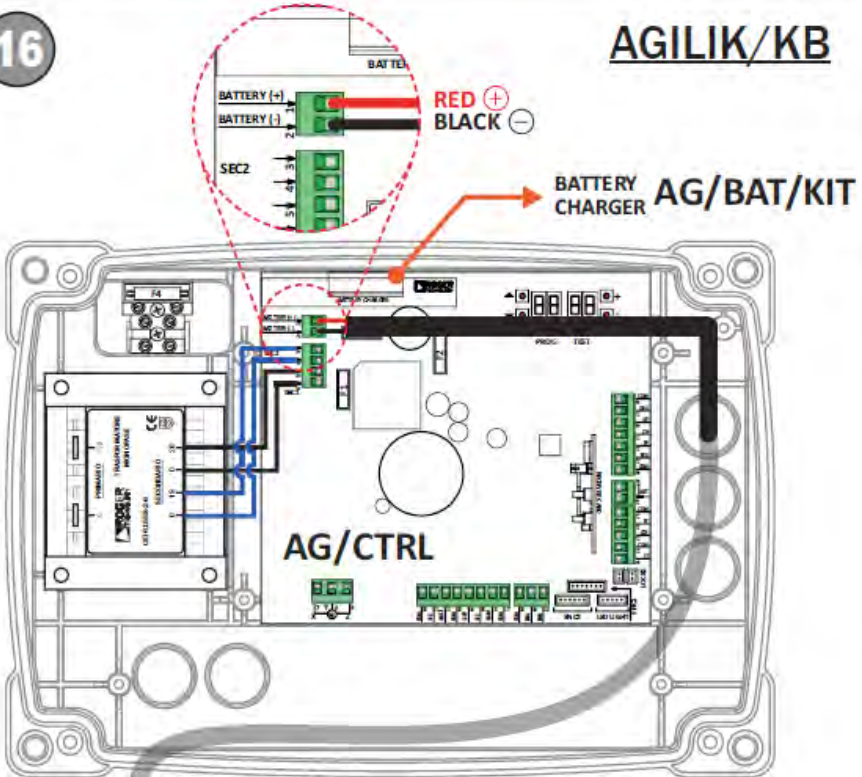
**BIONIK**

**15**

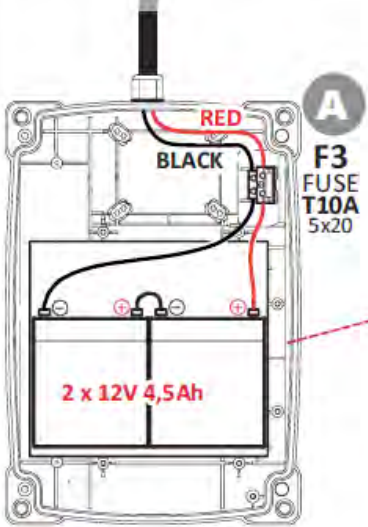


16

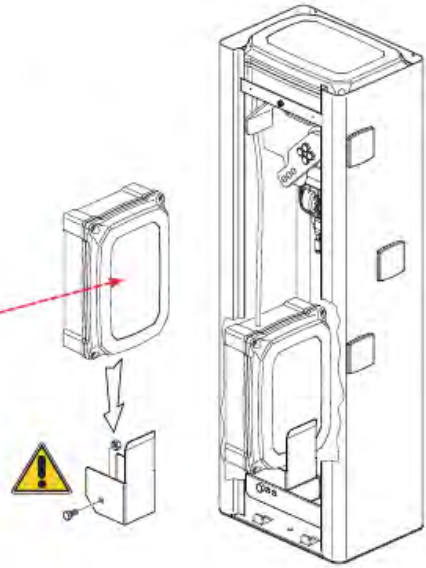
# AGILIK/KB

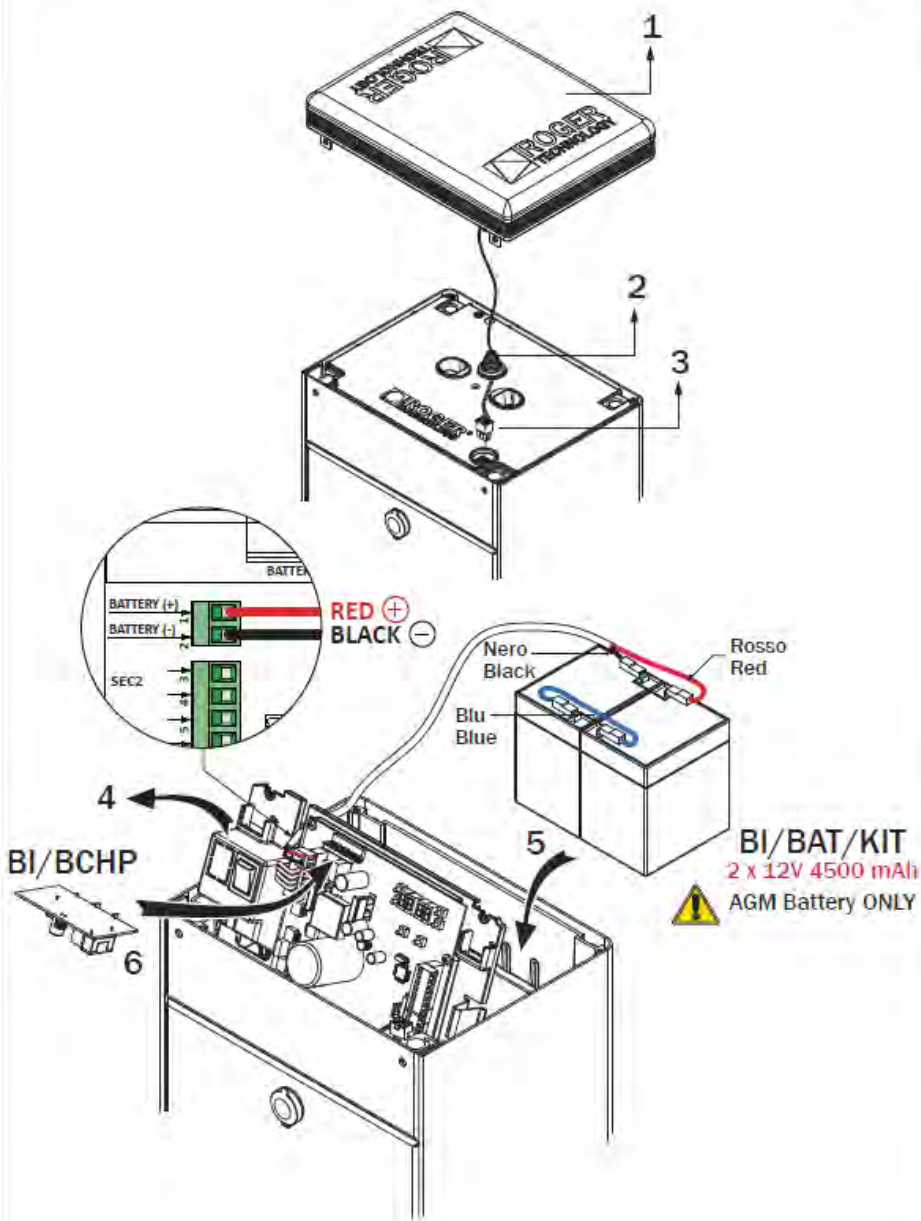


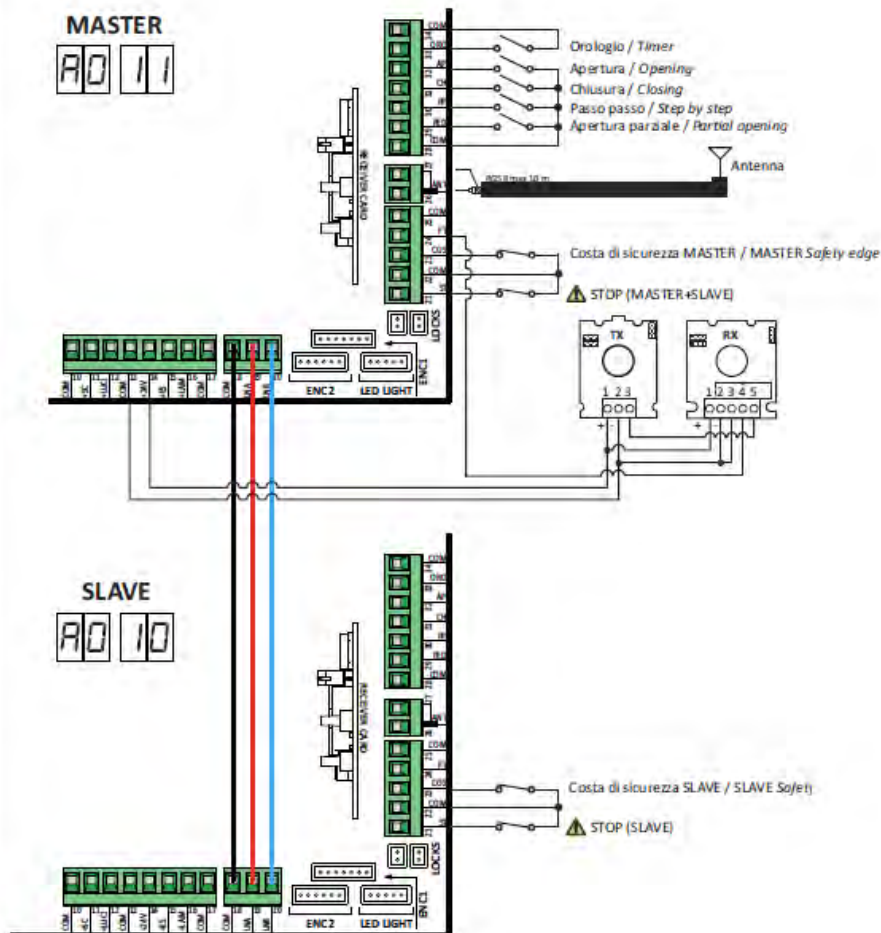
BATTERY CHARGER **AG/BAT/KIT**



**AGM Battery ONLY**





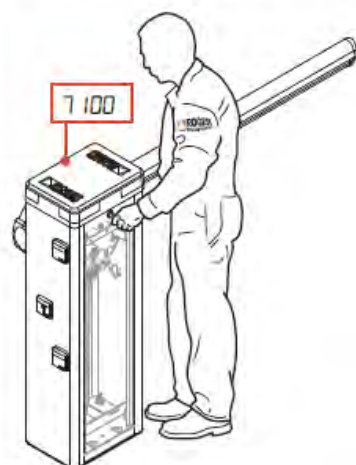


**19**

## SELEZIONE POSIZIONE DI INSTALLAZIONE BARRIERA - PAR. 71 SELECTION OF THE BARRIER INSTALLATION POSITION - PAR. 71

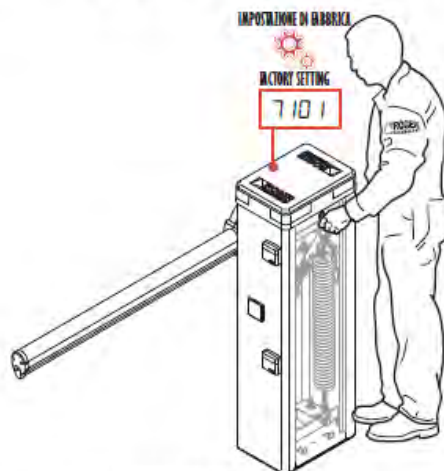
### AGILIK/KB

INSTALLAZIONE CORPO BARRIERA A SINISTRA  
CABINET BARRIER INSTALLED ON THE LEFT



(VANO PASSAGGIO A DESTRA)  
(GATEWAY ON THE RIGHT)

INSTALLAZIONE CORPO BARRIERA A DESTRA  
CABINET BARRIER INSTALLED ON THE LEFT



(VANO PASSAGGIO A SINISTRA)  
(GATEWAY ON THE LEFT)

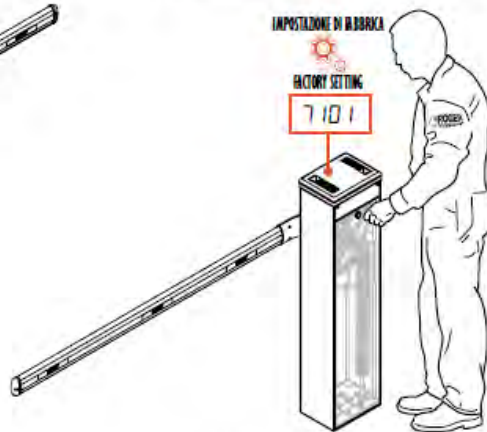
### BIONIK

INSTALLAZIONE CORPO BARRIERA A SINISTRA  
CABINET BARRIER INSTALLED ON THE LEFT



(VANO PASSAGGIO A DESTRA)  
(GATEWAY ON THE RIGHT)

INSTALLAZIONE CORPO BARRIERA A DESTRA  
CABINET BARRIER INSTALLED ON THE LEFT



(VANO PASSAGGIO A SINISTRA)  
(GATEWAY ON THE LEFT)

# 1 General safety precautions

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**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 than 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 12445 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 12445.

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. Packaging materials (plastic, polystyrene, etc.) must be disposed

of correctly and must not be left within reach of children, as they are a potential source of danger.

## 2 Product description

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The **AG/CTRL** controller is a unit for the sensed control of the ROGER brushless motor powering an electromechanical barrier.

The **AG/CTRL** uses two magnetic encoders, with one monitoring the motor and another monitoring the position of the boom, even when it is moved manually.

Two opposing barriers may be connected with a RS485 serial communication cable. This capability is only available with firmware version 1.3 (n5 13) or later.

We recommend using only ROGER TECHNOLOGY accessories and control and safety devices. Specifically, we recommend installing **F4ES** or **F4S** series photocells.



## 3 Updates of version r3.45

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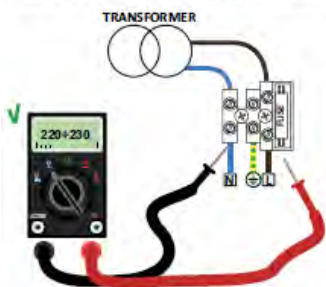
1. Reduced manoeuvring times in case of BIONIK utilisation with 3 m rods. By reducing the slowing down and acceleration times in opening and closing, operating times are reduced by up to 2 s.
2. Added signals in INFO mode for the MASTER/SLAVE operation analysis and good state of the RS485 connection.
3. Improved the MASTER/SLAVE management.

## 4 Technical characteristics of product

	AG/004 AG/006 KB/004 KB/006	BI/004	AG/004/115 AG/006/115 KB/004/115 KB/006/115	BI/004/115
MAINS POWER VOLTAGE	230 Vac ± 10% 50Hz		115Vac ± 10% 60Hz	
MAXIMUM MAINS POWER ABSORPTION	270 W			
FUSES	<b>F1</b> = 10A (ATO257) motor power circuit protection <b>F2</b> = 4A (ATO257) electric lock protection <b>F3</b> = 3A (ATO257) accessories power supply protection <b>F4</b> = T1A (5x20 mm) primary transformer coil protection <b>F4</b> = T2A (5x20 mm) primary transformer coil protection			
NUMBER OF CONNECTABLE MOTORS	1			
MOTOR POWER SUPPLY	36 Vac			
MOTOR TYPE	sinusoidal drive brushless (ROGER BRUSHLESS)			
MOTOR CONTROL TYPE	"sensored", with field oriented control (FOC)			
MAXIMUM MOTOR POWER	220 W			
MAXIMUM POWER, EXTERNAL FLASHING LIGHT	5 W 24 Vdc (model R92/LED24 ROGER)			
MAXIMUM POWER, BARRIER LIGHTS	12 W 24 Vdc			
MAXIMUM POWER, ELECTRIC LOCK	10W 12Vdc (impulse activation, 1.5 seconds) 5W 12Vdc (normally powered electric lock)			
MAXIMUM POWER, INDICATOR LAMP	3 W 24 Vdc			
ACCESSORY OUTPUT POWER	10 W 24 Vdc			
OPERATING TEMPERATURE	 -20°C  +55°C			
PRODUCT DIMENSIONS	Dimensions in mm.: 166x150x48    Weight: 0.254 Kg			
	<b>AG/EXP</b>			
RELAY CONTACT NC	2x 30 Vdc 1A (potential free contact, resistive load)			

## 5 Description of connections

Figure 1-2 shows connection diagrams.



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:

- 230 Vac ± 10% for AG/CTRL control panel.
- 115 Vac ± 10% for AG/CTRL/115 control panel.

If the voltage measured is not as indicated above or is unstable, the automation system may not work correctly.

# 5.1 Electrical connections

EN

## CONNECTING CONTROL UNIT TO MAINS ELECTRICITY

Power supply 230 Vac (115 Vac) ±10%

CONNECTING CONTROL PANEL TO ACCESSORIES	Lcable 1±20 m
Photocells - Receiver	4x0,5 mm <sup>2</sup>
Photocells - Transmitter	2x0,5 mm <sup>2</sup>
Keypad H85/TDS - H85/TTD (connecting to control panel to decoder board)	3x0,5 mm <sup>2</sup>
Key selector R85/60	3x0,5 mm <sup>2</sup>

## CONNECTING CONTROL PANEL TO FLASHING LIGHT

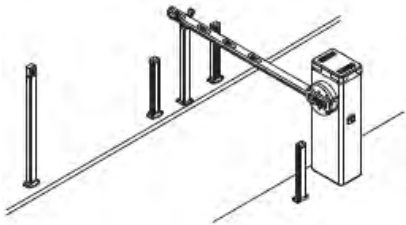
Power supply 24 Vdc LED (5 W max)

CONNECTING CONTROL PANEL TO BARRIER OPEN INDICATOR	Lcable 1±20 m
Power supply 24 Vdc (3 W max)	2x0,5 mm <sup>2</sup>

## CONNECTING CONTROL PANEL TO ANTENNA

Cable type RG58

max 10 m

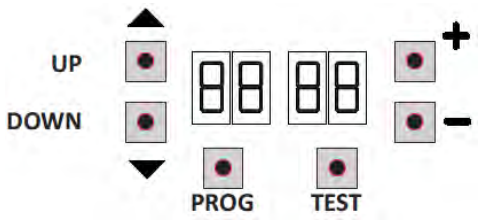


**SUGGESTIONS:** with existing installations, we recommend checking the cross section of the cables and that the cables themselves are in good condition.

	DESCRIPTION
	<p>Connection to mains power, 230 Vac ±10% (115 Vac ±10% 60 Hz).</p> <ul style="list-style-type: none"> <li>- 230 Vac ± 10% for AG/CTRL control panel.</li> <li>- 115 Vac ± 10% for AG/CTRL/115 control panel.</li> </ul> <p>Fuse 5x20 T1A. Fuse 5x20 T2A (mains power 115 Vac).</p>
	<p>Secondary transformer input for 26 V AC motor power (SEC1) and for 19 V power to logical control and peripheral devices (SEC2).</p> <p><b>N.B.:</b> Ready wired in factory by ROGER TECHNOLOGY.</p>
	<p>Connection to ROGER brushless motor.</p> <p><b>N.B.:</b> Ready wired in factory by ROGER TECHNOLOGY.</p> <p><b>Warning!</b> If the motor wires become disconnected from the terminal board, after reconnecting correctly, the travel must be acquired again as described in chapter 8.</p>
	<p>Connection to the battery kit AG/BAT/KIT or BI/BAT/KIT (see fig. 16-17).</p> <p><b>ⓘ See instructions for B71/BCHP or BI/BCHP for further information.</b></p>



## 6 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	Travel acquisition
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.

## 7 Switching on or commissioning

Power the control unit.

The firmware version of the control unit is displayed briefly.

Version installed r3.45.



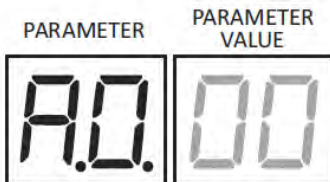
Immediately afterwards, the displays enters the commands and safety device status mode. See chapter 7.

Now set up the installation by configuring the parameters as needed.

For installations with two opposing barriers, settings must be made from the MASTER controller. Only the parameters **A0** and **73** may be modified from the SLAVE controller.

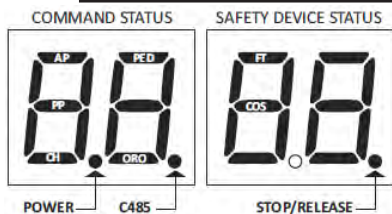
## 8 Display function modes

### 8.1 Parameter display mode



See chapter 10 for detailed descriptions of parameters.

## 8.2 Command and safety device status display mode



### COMMAND STATUS:

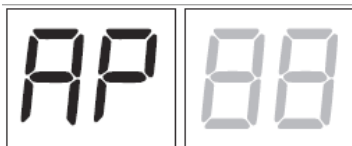
The command status indicators on the display (segments AP = open, PP = step mode, CH = close, PED = partial opening, ORO=clock) are normally off. They illuminate when a command is received (e.g.: when a step mode command is received, the segment PP illuminates).

### SAFETY DEVICE STATUS:

The safety device status indicators on the display (segments FT = photocells, COS = sensing edge or STOP/RELEASE position) are normally on. If an indicator is off, the relative device is in alarm state or is not connected. The indicator is flashing, the relative device has been disabled with a specific parameter.

## 8.3 TEST mode

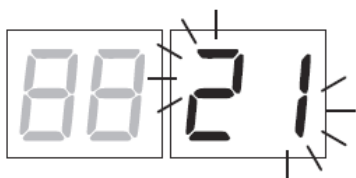
The TEST mode is used to test activation of the commands and safety devices with visual confirmation. To activate the mode, press the TEST button with the automatic barrier system at rest. If the barrier is moving, pressing TEST stops the barrier. Pressing the button again enables TEST mode. The flashing light and the barrier open indicator lamp illuminate for one second. N.B.: For installations with two opposing barriers, if the TEST button is pressed for the SLAVE barrier, the MASTER barrier continues to function normally.



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 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.

Example: STOP contact in alarm state.



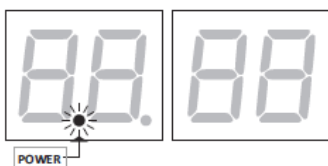
00	No safety device in alarm state or barrier waiting for command.
21	STOP contact active. Release device open. Barrier inspection hatch open.
23	Sensing edge COS not connected or not functioning.
24	Photocell FT (only visible for MASTER barrier) not connected or not functioning.
r5 (rS)	STOP contact active for MASTER barrier (message shown on SLAVE controller displayed).
dRtR	Parameter 71 modified. Press the PROG key until RPP- appears on the display, then repeat the acquisition procedure (see fig. 29 and chapter 9.2).

N.B.: If one or more contacts are open, the barrier will neither open nor close.

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.

## 8.4 Standby mode



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






# 9 Travel acquisition

**i** For the system to function correctly, the barrier travel must be acquired by the controller.

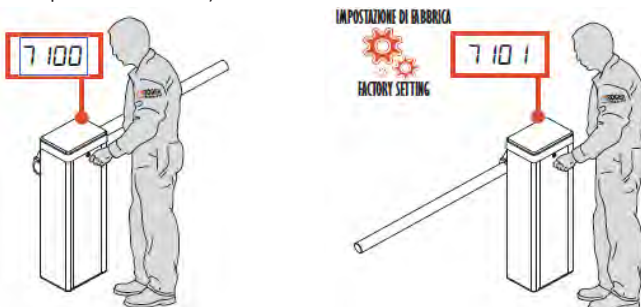
## 9.1 Before starting:

Select the length of the boom with the parameter *R 1*.

**!** It is very important that this parameter is selected correctly. An incorrect setting may cause severe damage or injury.

SELECTION	MODEL	BOOM
<i>R 1 00</i>	AG/004 KB/004	 up to 3 m
<i>R 1 01</i>	AG/004 KB/004	 from 3 m to 4,5 m
<i>R 1 02</i>	AG/006 KB/006	 from 4,5 to 6 m
<i>R 1 03</i>	BI/004	 up to 3 m
<i>R 1 04</i>	BI/004	 from 3 m to 4 m

1. Select the position of the barrier in relation to the gate, using parameter *7 1*. The factory setting of the parameter is with the barrier installed on the right (*7 1 0 1*) and the boom opening/closure gate on the left (seen from the inspection hatch side).



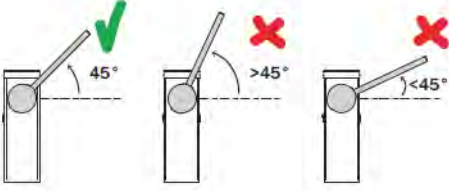
**!** If the installation position is changed from the right to the left, the position of the spring(s) must also be changed. For the correct installation, refer to the AGILIK and/or BIONIK barrier installation manual.

**i** **IMPORTANT!** Lubricate the pivot points with lithium based grease (EP LITIO)

2. Check that the "operator present" function is not enabled (A7 00).



3. Check the spring balance setting and the mechanical stop settings. See the installation manual for the AGILUK, KB or BIONIK barrier.

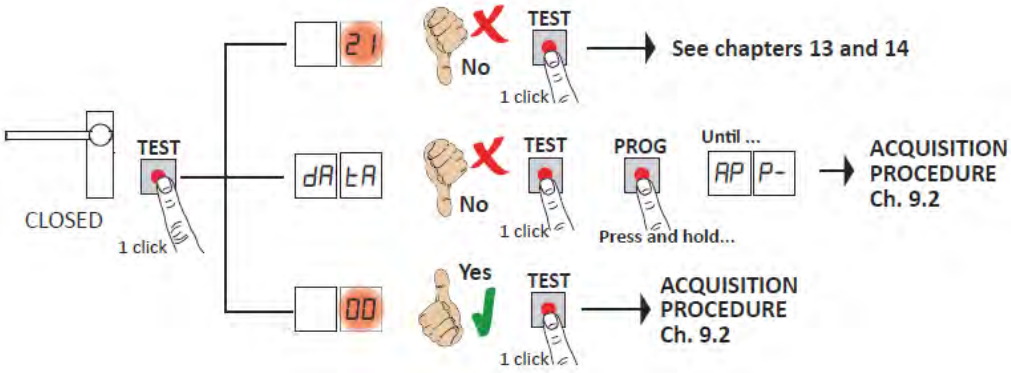


**i** IMPORTANT! Lubricate the pivot points with lithium based grease (EP LITIO)

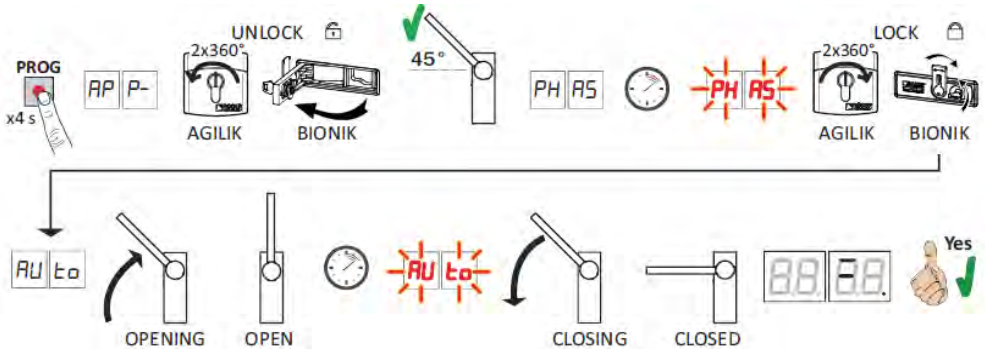
4. For installations with opposed barriers, connect the command signals and safety devices to the MASTER controller. See chapter 11 for further information on installation (see fig. 18).

5. Move the barrier boom into the completely CLOSED position.

6. Press TEST (see TEST mode in chapter 8) and check the command signal and safety device states. If the safety devices are not installed, jumper the contact or disable safety device function from the relative parameter (50, 51 and 73).



## 9.2 Acquisition procedure:



- Press and hold PROG for 4 seconds. *AP P-* is shown on the display.
  - Unlock the barrier.  
**AGILIK/KB.** Turn the key anticlockwise by two full turns.  
**BIONIK.** Open the release cover.
  - The barrier goes to 45° degree.
  - After a few seconds, the message *PH RS* is shown on the display. 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 RS* flashes on the display.
  - To lock the barrier again  
**AGILIK/KB.** Turn the key clockwise by two full turns.  
**BIONIK.** Close the release cover and turn the key.
  - The acquisition procedure now starts. The message *RU Eo* is shown on the display and the barrier starts opening at low speed.
  - Once the barrier open mechanical stop is reached, the barrier stops briefly. The message *RU Eo* flashes on the display.
  - The barrier closes until it reaches the barrier closed mechanical stop.
- 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:

- *r0 PH*: calibration procedure failed.
- *AP P.E*: acquisition error.



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

# 10 Index of parameters

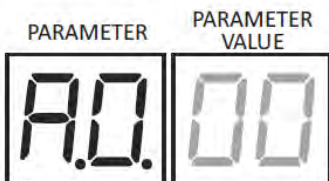
EN

PARAM.	FACTORY DEFAULT	DESCRIPTION	PAGE
A0	00	Enable RS485 serial communication (MASTER-SLAVE)	62
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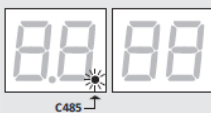
PARAM.	FACTORY DEFAULT	DESCRIPTION	PAGE	
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h0	0 1		Manoeuvre hours	69
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d0	0 1	Days with unit switched on	69	
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P3	00		69	
P4	00		69	
CP	00		Password change protection	69

# 11 Parameters menu

EN



PARAMETER	PARAMETER VALUE
A0 00	<b>Enable RS485 serial communication (MASTER-SLAVE)</b> Enabling serial communication permits the synchronised control of two opposing automation systems. Example: a command signal received by MASTER automation system also opens the SLAVE automation system.
00	Disabled.
10	SLAVE automation system.
11	MASTER automation system. When the MASTER automation is enabled, the message <i>SrCH</i> illuminates on the display for a few seconds. If the SLAVE automation system is detected correctly, C485 illuminates.



PARAMETER	PARAMETER VALUE	Parameter									
		11	12	31	33	34	40	41	43	44	65
00	AG/004-KB/004: boom up to 3 m.	08	06	07	05	07	07	07	10	10	04
01	AG/004-KB/004: boom from 3 m to 4.5 m.	09	09	08	06	08	06	05	10	10	06
02	AG/006-KB/006: boom from 4.5 m to 6 m.	10	10	09	10	10	04	04	15	30	08
03	BI/004: boom up to 3 m.	08	06	07	05	07	07	07	10	10	04
04	BI/004: boom from 3 m or 4 m.	09	09	08	06	08	06	05	10	10	06

A2 00	<b>Automatic closing after time pause (from barrier completely open position).</b> N.B.: This parameter is not visible for the SLAVE barrier, and if the value of parameter B3 = 01, 02 or 03.
00	Disabled.
01-15	From 1 a 15 automatic closure attempts after activation of photocells. Once the number of attempts set is reached, the barrier remains open.
99	The barrier tries to close indefinitely.

A3 00	<b>Automatic closing after mains power outage</b> N.B.: This parameter is not visible for the SLAVE barrier.
00	Disabled. The barrier does NOT close automatically when mains power is restored.
01	Enabled. If the barrier is NOT completely open, when mains power is restored, the barrier closes after a 5 second pre-manoeuve warning signalled with the flashing light (independently of the value set with parameter A5).



<b>A4 00 Step mode control function selection (PP)</b>	
00	Open-stop-close-stop-open-stop-close...
01	Condominium function: the barrier opens and closes after the set automatic closing time. The automatic closing timer restarts if a new step mode command is received with the boom in the completely open position. Step mode commands are ignored while the barrier is opening. This allows the boom to open completely and prevents unintentional closing. If automatic closing is disabled (A2 00), the condominium function automatically attempts a closing manoeuvre A2 01
02	Condominium function: the barrier 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 barrier is opening. This allows the boom to open completely and prevents unintentional closing. If automatic closing is disabled (A2 00), the condominium function automatically attempts a closing manoeuvre A2 01
03	Open-close-open-close.
04	Open-close-stop-open.

<b>A5 00 Pre-manoeuve flashing warning</b>	
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.

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

<b>A7 00 Enable "operator present" function.</b>	
<b>N.B.:</b> this parameter is not visible if the value of parameter B3 = 01, 02 or 03.	
00	Disabled.
01	Enabled. The open (AP) or close (CH) button must be pressed continuously to operate the barrier. The boom stops when the button is released.

<b>A8 00 Barrier open/photocell test function and battery saving mode indicator lamp</b>	
<b>N.B.:</b> This parameter is not visible for the SLAVE barrier, which has a non-modifiable setting of 00.	
00	The indicator is off when the barrier is closed, and steadily lit during manoeuvres and when the barrier is open.
01	The indicator flashes slowly during opening manoeuvres, and is lit steadily when the barrier is completely open. Flashing rapidly during closing manoeuvres. If the barrier is stopped in an intermediate position, the lamp extinguishes twice every 15 s.
02	Set to 02 if the output SC is used for the photocell test. See fig. 6.
03	Set to 03 if the output SC is used for the "battery saving" function. See fig. 7. When the barrier is completely open or closed, the controller unit deactivates any accessories connected to terminal SC to reduce battery consumption. <b>N.B.:</b> setting not available for installations with two opposing barriers. This value is not visible if the value of parameter B3 = 01, 02, 03 or A0 = 10, 11.
04	Set to 04 if the output SC is used for the "battery saving" function and photocell test function. See fig. 7. <b>N.B.:</b> setting not available for installations with two opposing barriers. This value is not visible if the value of parameter B3 = 01, 02 or 03 or A0 = 10, 11.

<b>10 00</b>	<b>Enable the AG/EXP signal device to indicate barrier completely open/closed positions (NC potential free contact)</b>
00	Disabled.
01	Enabled. When the boom is completely open, contact TO (NC) opens and the green LED illuminates on the AG/EXP board. When the boom is completely closed, contact TC (NC) opens and the red LED illuminates on the AG/EXP board.
<b>11 10</b>	<b>Setting deceleration during opening</b>
<b>12 10</b>	<b>Setting deceleration during closure</b>
01-10	01= barrier decelerates near stop ... 10= barrier decelerates long before reaching the stop. <b>N.B.:</b> Available values may be limited by the setting for parameter <i>R l</i> .
<b>21 30</b>	<b>Setting automatic closing time</b>
	The timer starts from the barrier open state and continues for the set time. Once the set time is reached, the barrier 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.
<b>29 00</b>	<b>Enable electric block</b>
00	Disabled.
01	Normally not powered. The electric lock is powered for 1,5 s at the start of the opening manoeuvre to allow the barrier to open.
02	Magnetic "ventouse" electric lock normally powered when the barrier is completely closed. Not powered when the barrier is moving or completely open
<b>31 09</b>	<b>Obstacle detection function setting (crush prevention)</b>
	The barrier reopens if the obstacle detection system is activated during a closing manoeuvre. During opening manoeuvres, the barrier is reversed by the obstacle detection system only if the obstacle is detected within the first 60° of the manoeuvre. The maximum number of automatic closing attempts is set by parameter 49. <b>N.B.:</b> Available values may be limited by the setting for parameter <i>R l</i> .
01-09	01= minimum activation time (maximum sensitivity)... 09= maximum activation time (minimum sensitivity).
10	The barrier remains stationary against the obstacle for a maximum time of 5 s before reversing.
<b>33 10</b>	<b>Setting opening start acceleration</b>
<b>34 10</b>	<b>Setting closure start acceleration</b>
01-10	01= the barrier accelerates rapidly at start of manoeuvre ... 10= the barrier accelerates slowly and progressively at start of manoeuvre. <b>N.B.:</b> Available values may be limited by the setting for parameter <i>R l</i> .
<b>40 04</b>	<b>Setting opening speed (%)</b>
<b>41 04</b>	<b>Setting closure speed (%)</b>
01-10	01= 10% minimum speed ... 10= 100% maximum speed. <b>N.B.:</b> Available values may be limited by the setting for parameter <i>R l</i> .
<b>42 01</b>	<b>Approach speed setting</b>
	This parameter sets the motor speed when approaching the barrier open/closed stop.
01-10	01= 10 motor revolutions per minute (RPM) ... 10= 100 motor revolutions per minute (RPM).

<b>43 15</b>	<b>Opening approach distance setting</b>
<b>44 30</b>	<b>Closing approach distance setting</b>
05-30	from 0,5 to 3 of turns performed by the motor at speed set with parameter 42. <b>N.B.:</b> Available values may be limited by the setting for parameter A 1.
<b>49 01</b>	<b>Number of automatic closure attempts after activation of sensing edge or obstacle detection (crush protection)</b>
00	No automatic closure attempts.
0 1-03	From 1 to 3 automatic closure attempts. Automatic closure is only performed if the barrier is completely open. Set a value equal to or lower than the value set for parameter A2.
<b>50 00</b>	<b>Photocell mode for barrier opening (FT)</b> <b>N.B.:</b> this parameter is not visible if the value of parameter B3 = 0 1, 02 or 03.
00	DISABLED. Photocell is not active or not installed.
0 1	STOP. The barrier stops and remains stationary until the next command is received.
02	IMMEDIATE REVERSE. The barrier reverses immediately if the photocell is activated during opening manoeuvre.
03	TEMPORARY STOP. The barrier stops and remains stationary as long as the photocell is obstructed. The barrier resumes opening when the photocell is cleared.
04	DELAYED REVERSE. The barrier stops if the photocell is obstructed. The barrier closes when the photocell is cleared.
<b>51 02</b>	<b>Photocell mode for barrier closure (FT)</b> <b>N.B.:</b> this parameter is not visible if the value of parameter B3 = 0 1, 02 or 03.
00	DISABLED. Photocell is not active or not installed.
0 1	STOP. The barrier stops and remains stationary until the next command is received.
02	IMMEDIATE REVERSE. The barrier reverses immediately if the photocell is activated during closing manoeuvre.
03	TEMPORARY STOP. The barrier stops and remains stationary as long as the photocell is obstructed. The barrier resumes closing when the photocell is cleared.
04	DELAYED REVERSE. The barrier stops if the photocell is obstructed. The barrier opens when the photocell is cleared.
<b>52 01</b>	<b>Photocell (FT) mode with barrier closed</b> <b>N.B.:</b> this parameter is not visible if the value of parameter B3 = 0 1, 02 or 03 or if AB = 0 1, 02 or 03
00	If the photocell is obstructed, the barrier cannot open.
0 1	The barrier opens when an open command is received, even if the photocell is obstructed.
02	The photocell sends the barrier open command when obstructed.
<b>56 00</b>	<b>Enable close command 6 s after activation of photocell (FT)</b> <b>N.B.:</b> This parameter is not visible if AB 03 or AB 04 is set, and if value of parameter B3 = 0 1, 02 or 03.
00	Disabled.
0 1	Enabled. When the photocell barrier FT is crossed, a close command is sent 6 seconds later.
<b>65 08</b>	<b>Motor stop distance setting.</b> The motor brake function is activated each time a stop is requested by a user command or by activation of the photocells. Set a value that will prevent collision with objects or persons due to the inertia of the boom.
0 1- 10	01= rapid braking/smaller stopping distance ... 10= gentle braking (soft-stop)/greater stopping distance ( <b>NOTE:</b> recommended setting for bars longer than 4 m). <b>N.B.:</b> Available values may be limited by the setting for parameter A 1.

<b>7101</b>	<b>Installation position of barrier relative to gateway (seen from interior side)</b> For installations with two opposed barriers, this setting must be made for the MASTER barrier. The SLAVE barrier recognises its position automatically. <b>N.B.:</b> every time the installation position is changed by altering parameter 71, the display shows a position data request message <i>dRER</i> . Press the <b>PROG</b> key until <i>PPP-</i> appears on the display, then repeat the acquisition procedure (see fig.19 and chapter 9.2).
00	Barrier installed on the left, viewed from the inspection cover side. With passage opening on the right.
01	Barrier installed on the right, viewed from the inspection cover side. With passage opening on the left.

<b>7300</b>	<b>Sensing edge COS configuration</b>
00	Sensing edge NOT INSTALLED.
01	NC contact (normally closed). The barrier reverses only when closing.
02	Contact with 8k2 resistor. The barrier reverses only when closing.

<b>7600</b>	<b>Radio channel 1 configuration (PR1)</b>
-------------	--

<b>7703</b>	<b>Radio channel 2 configuration (PR2)</b>
-------------	--

00	STEP MODE.
01	PARTIAL OPENING.
02	OPENING.
03	CLOSING.
04	STOP.
07	STEP MODE with confirmation for safety <sup>(1)</sup> .
08	PARTIAL OPENING with confirmation for safety <sup>(1)</sup> .
09	OPEN with confirmation for safety <sup>(1)</sup> .
10	CLOSE with confirmation for safety <sup>(1)</sup> .

<sup>(1)</sup> To prevent barrier manoeuvres caused by accidentally pressing a remote control button, confirmation is required to enable the command. Example: parameters 7607 e 7701 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.

<b>7802</b>	<b>Flashing light / upper cover lights frequency configuration</b>
00	The frequency is set electronically from the flashing light unit.
01	Slow flash. The light flashes at a lower frequency when the boom is near the mechanical stops.
02	Light flashes slowly when barrier opens, rapidly when barrier closes. The light flashes at a lower frequency when the boom is near the mechanical stops.

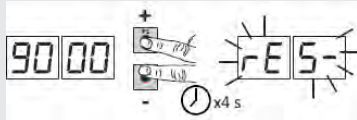
<b>7900</b>	<b>Operating mode of signal lights on boom</b> <b>N.B.:</b> to reduce power consumption, the controller automatically sets this parameter to 04 during battery powered operation.
00	Disabled. Lights always off.
01	Lights always on.
02	Lights on with boom stationary, flashing when boom is moving.
03	Short flash with boom stationary, flashing normally when boom is moving.
04	Short flash with boom closed, flashing normally when boom is moving, off when boom is open.

80 00	<b>Clock contact configuration.</b> When the clock function is active, the barrier opens and remains open. At the end of the programmed time set with the external device (clock), the barrier closes.
00	When the clock function is active, the barrier opens and remains open. Any command signal received is ignored.
01	When the clock function is active, the barrier opens and remains open. Any command signal received is accepted. When the barrier returns to the completely open position, the clock function is reactivated.
81 00	<b>Enable safeguarded barrier closure</b> Enabling this parameter ensures that the barrier is not left open due to incorrect and/or accidental commands. This function is <b>NOT</b> enabled if: <ul style="list-style-type: none"> <li>• the barrier receives a STOP command;</li> <li>• the sensing edge is activated;</li> <li>• the number of closure attempts set by parameter <i>A2</i> has been reached.</li> </ul>
00	Disabled. Parameter <i>B2</i> is not visible.
01	Enabled. If the barrier is closed as a result of a step mode command, after a period of time set with parameter <i>B2</i> , the control unit signals a 5 second warning with the flashing light (regardless of the parameter <i>A5</i> ), and then the barrier closes.
82 03	<b>Safeguarded closure activation time setting</b> <b>N.B.:</b> this parameter is not visible if the value of parameter <i>B1</i> = 00.
02-90	Wait time settable from 2 to 90 s.
92-99	Wait time settable from 2 to 9 min.
83 00	<b>Parking access mode selection</b> <b>N.B.:</b> If enabled with values 01, 02 or 03, photocell activation during a closing manoeuvre will always trigger a reopening manoeuvre unless parameter <i>B4</i> 01 is set. Parameters <i>A2</i> , <i>A7</i> , <i>S0</i> , <i>S1</i> , <i>S2</i> and <i>S6</i> are not visible. With <i>B3</i> = 01, 02, 03 the barrier re-closes after a pause time set at parameter <i>Z1</i> (if <i>Z1</i> is set to a value different from 00). <b>i</b> <b>For more information, see chapter 12 "Examples of applications in parking access mode".</b>
00	Disabled. Parameter <i>B4</i> is not visible.
01	<b>Bi-directional mode with immediate closure.</b> When entering and leaving the parking area, the barrier is opened with an <b>AP</b> open command. Once the vehicle has crossed the barrier and released contact <b>FT</b> (NC) (e.g. from magnetic loop), the barrier closes immediately. When parameter <i>Z1</i> =00, the barrier open and remains open until the vehicle has completed the passage. If the vehicle moves back, the barrier remains open. <b>NOTE:</b> it is possible to add further 5 s delay before closing, setting <i>A5</i> 99.
02	<b>Directional mode 1.</b> When entering the parking area, the barrier is opened with an <b>AP</b> open command. Once the vehicle has crossed the barrier and released contacts <b>FT</b> (NC) and <b>PED</b> (NO), the barrier closes. When leaving the parking area, the barrier is opened by a <b>PED</b> command received from the magnetic loop. Once the vehicle has crossed the barrier and released contact <b>FT</b> (NC), the barrier closes. When parameter <i>Z1</i> =00, the barrier open and remains open until the vehicle has completed the passage. If the vehicle moves back, the barrier remains open. <b>NOTE:</b> it is possible to add further 5 s delay before closing, setting <i>A5</i> 99.
03	<b>Directional mode 2.</b> When entering, the barrier is opened with an <b>AP</b> open command, and closes after the automatic closing time set with parameter <i>Z1</i> . <b>NOTE:</b> in order to have the automatic closing set parameter <i>Z1</i> different to 00. When leaving the parking area, the barrier is opened by a <b>PED</b> command received from the magnetic loop. Once the vehicle has crossed the barrier and released contact <b>FT</b> (NC), the barrier closes. <b>NOTE:</b> it is possible to add further 5 s delay before closing, setting <i>A5</i> 99.

<b>84 00</b>	<b>Enable close command after activation of photocell (FT)</b> N.B.: this parameter is not visible if 83 00.
00	Disabled.
01	Enabled. The barrier stops if the photocell is activated during closing manoeuvre. The barrier resumes closing when the photocell is cleared.

<b>85 00</b>	<b>Enable automatic open function with flat battery</b> N.B.: This parameter is not visible for the SLAVE barrier.
00	Disabled.
01	Enabled. When the battery voltage drops below <b>21 V DC</b> , the barrier opens after a 5 second pre-manoevre flashing warning. No further command signals are accepted until mains power is restored.
02	Enabled. When the battery voltage drops below <b>22 V DC</b> , the barrier opens after a 5 second pre-manoevre flashing warning. No further command signals are accepted until mains power is restored.
03	Enabled. When the battery voltage drops below <b>23 V DC</b> , the barrier opens after a 5 second pre-manoevre flashing warning. No further command signals are accepted until mains power is restored.

**90 00 Restoring factory default values**  
**NOTE** This procedure is only possible is NO data protection password is set.  
**N.B.:** This parameter is not visible for the SLAVE barrier.



**Warning!** Restoring default settings cancels all settings made previously except for parameters **80**, **81** and **71**: 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 - (MINUS) buttons until the unit switches on.
- The message **rE5-** flashes on the display after 4 s.
- 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.

<b>n0 01</b>	<b>HW version</b>	Example: 01 23 45 67 89 01 23 45
<b>n1 23</b>	<b>Year of manufacture</b>	
<b>n2 45</b>	<b>Week of manufacture</b>	
<b>n3 67</b>		
<b>n4 89</b>	<b>Serial number</b>	
<b>n5 01</b>		
<b>n6 23</b>	<b>FW version</b>	
<b>n7 45</b>	<b>RS485 serial communication version</b>	

**View manoeuvre counter**  
 The number consists of the values of the parameters from  $\alpha 0$  to  $\alpha 1$  multiplied by 100.  
**N.B.:** The values shown in the table are indicative only.

$\alpha 0$ 01	<b>Manoeuvres performed</b> Example: $01\ 23\ 45 \times 100 = 1,234,500$ manoeuvres
$\alpha 0$ 23	
$\alpha 1$ 45	

**View manoeuvre hour counter**  
 The number consists of the values of the parameters from  $h 0$  to  $h 1$ .  
**N.B.:** The values shown in the table are indicative only.

$h 0$ 01	<b>Manoeuvre hours</b> Example: $01\ 23 = 123$ hours
$h 1$ 23	

**View control unit days on counter**  
 The number consists of the values of the parameters from  $d 0$  to  $d 1$ .  
**N.B.:** The values shown in the table are indicative only.

$d 0$ 01	<b>Days with unit switched on</b> Example: $01\ 23 = 123$ days
$d 1$ 23	

**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 barrier automation system.  
**WARNING:** Contact the Technical Support Service if you lose your password.  
**N.B.:** This parameter is not visible for the SLAVE barrier.

$P1$ 00 $P2$ 00 $P3$ 00 $P4$ 00	<p><b>Password activation procedure:</b></p> <ul style="list-style-type: none"> <li>• Enter the desired values for parameters <math>P 1, P 2, P 3</math> and <math>P 4</math>.</li> <li>• Use the UP ▲ and/or DOWN ▼ buttons to view parameter <math>CP</math>.</li> <li>• Press and hold the + and - buttons for 4 seconds.</li> <li>• The display flashes to confirm that the password has been saved.</li> <li>• Switch the control unit off and on again. Check that password protection is activated (<math>CP=01</math>).</li> </ul> <p><b>Temporary unlock procedure:</b></p> <ul style="list-style-type: none"> <li>• Enter the password.</li> <li>• Check that <math>CP=00</math>.</li> </ul> <p><b>Password cancellation procedure:</b></p> <ul style="list-style-type: none"> <li>• Enter the password (<math>CP=00</math>).</li> <li>• Save the values <math>P 1, P 2, P 3, P 4 = 00</math></li> <li>• Use the UP ▲ and/or DOWN ▼ buttons to view parameter <math>CP</math>.</li> <li>• Press and hold the + and - buttons for 4 seconds.</li> <li>• The display flashes to confirm that the password has been cancelled (the values <math>P 100, P 200, P 300</math> and <math>P 400</math> and indicate that no password is set).</li> <li>• Switch the control unit off and on again (<math>CP=00</math>).</li> </ul>
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**CP 00 Password change protection**

00	Protection deactivated.
01	Protection activated.

## 12 Commands and Accessories

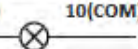
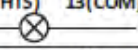
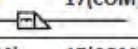
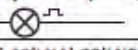

**⚠** If not installed, safety devices with NC contacts must be jumpered at the COM terminals, or disabled by modifying the parameters 50, 51 and 73.

For installations with two opposed barriers, connections for command signals and accessories must be made on the MASTER controller. The sensing edge and, if used, the STOP command signal must be connected to the SLAVE controller.




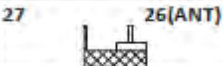

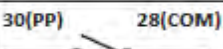



KEY:

N.A. (Normally Open) .

N.C. (Normally Closed).

CONTACT	DESCRIPTION
<b>11(+SC) 10(COM)</b> 	Barrier open/closed indicator lamp, 24 V DC 3 W. The function of the indicator lamp is determined by parameter AB.
<b>11(+SC) 13(COM)</b>	Photocell test function and/r battery saving mode connection (fig. 6-7). The power feed for the photocell transmitters (TX) may be connected to terminal 11(SC). Set the parameter AB 02 to enable the test function. Each time a command is received, the controller unit switches the photocells off and on to check that the contact changes state correctly. Power feeds for all external devices (excluding the external radio receiver) may be connected to reduce battery consumption (if batteries are used). Set AB 03 or AB 04. In the case of installations with two opposed barriers, the functions are not available for the SLAVE barrier. <b>WARNING!</b> If contact 11(SC) is used for the photocell test function or battery saving function, a barrier open indicator lamp cannot be connected.
<b>12(+LIGHTS) 13(COM)</b> 	Input for connecting AG/ALED series signal lights on boom (optional). 24 V DC 12W max.
<b>14(+24V) 13(COM)</b>	Power feed for external devices, max. 10W. See technical specifications.
<b>15(+ES) 17(COM)</b> 	Input for connecting electric block. See technical specifications.
<b>16(+LAM) 17(COM)</b> 	Connection for flashing light (24 V DC - max. 5 W). The settings for the pre-manoeuve flashing warning signal may be selected with parameter A5, while the flashing mode is set with parameter 7B.
<b>18(COM)-19(LNA)-20(LNB)</b> 	RS485 serial communication cable connection (3x0.5 mm <sup>2</sup> - max. length 30 m) for installation of two MASTER / SLAVE opposing barriers (from firmware version r5 13 or later).  <b>Connections.</b> <ul style="list-style-type: none"> <li>• Connect the COM-LNA-LNB terminals of the MASTER barrier to the relative terminals of the SLAVE barrier.</li> <li>• The MASTER barrier is the barrier which opens (completely) when the partial open command (PED) is received.</li> <li>• Set parameter A0 11 for the MASTER barrier and parameter A0 10 for the SLAVE barrier.</li> <li>• After having modified the settings of parameter A0 shut off power and power up again.</li> <li>• All command signals, the photocells and the main STOP command must be connected to the MASTER barrier. Sensing edges must be connected to the respective barriers.</li> <li>• An auxiliary STOP command signal may also be connected to the SLAVE barrier. If not used, jumper terminals 21(ST)-22(COM) on the SLAVE controller.</li> <li>• All parameters except for A0 and 73 must be set on the MASTER controller.</li> <li>• The travel acquisition procedure must be performed for both barriers, after setting the parameters as required and in accordance with the type of installation.</li> <li>• Alarm messages are viewable on the displays of the respective controllers.</li> </ul> <b>Function.</b> Serial communication enables synchronised operation of the two barriers. The obstacle detection system immediately reverses the direction of the boom which detected the obstacle, while the other boom reverses after a fixed delay. If the MASTER barrier is completely open or completely closed and the SLAVE barrier is in an intermediate position, the MASTER barrier sends a re-alignment command to the SLAVE barrier, with a 5 second pre-manoeuve flashing warning signal. Conversely, if the MASTER barrier is in an intermediate position, after 5 seconds of pre-flashing it re-aligns with the SLAVE barrier. The alignment function is disabled if the "operator present" function A7 01 is enabled.



CONTACT	DESCRIPTION
<b>21(ST) 22(COM)</b> 	STOP command input (NC). The current manoeuvre is arrested if the safety contact opens. <b>N.B.:</b> the controller is supplied by default with this contact already jumpered by ROGER TECHNOLOGY. In the case of installations with two opposed barriers, if the STOP command signal is given for the MASTER barrier, both barriers stop. If the STOP command signal is given for the SLAVE barrier, only the SLAVE barrier stops.
<b>23(COS) 22(COM)</b> 	Input (NC or 8.2 kOhm) for connecting sensing edge <b>COS</b> . Movement is reversed (open) if the sensing edge is activated during closure. If the sensing edge is not installed, jumper the terminals <b>23(COS)-22(COM)</b> or set parameter <b>73 00</b> . In the case of installations with two opposed barriers, the sensing edge (if installed) must be connected to and configured for both the MASTER barrier and the SLAVE barrier.
<b>24(FT) 13(COM)</b> 	Input (NC) for connecting photocell <b>FT</b> (fig. 4-5). The photocells are configured by default with the following settings: – <b>50 00</b> . Photocell triggers only during barrier closure. Photocell is ignored during barrier opening manoeuvre. – <b>5 1 02</b> . Movement is reversed if the photocell is triggered during barrier closure. – <b>52 0 1</b> . The barrier opens when an open command is received if the photocell <b>FT</b> is obstructed. If the photocells are not installed, jumper the terminals <b>24(FT) - 25(COM)</b> or set the parameters <b>50 00</b> and <b>5 1 00</b> . <b>WARNING!</b> Use <b>G90/F4E5</b> or <b>T90/F4S</b> photocells. In the case of installations with two opposed barriers, the photocells must be connected to and configured for the MASTER barrier only. In the case of installations with parking mode, the input <b>FT</b> may be used to receive a closing command from a magnetic loop (NC) (see chapter 12).
<b>27</b> 	Antenna connector for slot-in radio receiver board. Use RG58 if an external antenna is used - maximum recommended length: 10 m. <b>N.B.:</b> do not make joints in cable.
<b>29(PED) 28(COM)</b> 	Partial open command input (NO). The barrier is always opened completely when the contact is closed. In the case of installations with two opposed barriers, the command PED only opens the MASTER barrier when both barriers are completely closed. In the case of installations with "Directional" parking mode (parameter <b>B3 02</b> or <b>B3 03</b> ), the input PED may be used to receive a closing command from a magnetic loop (NC) (see chapter 12).
<b>30(PP) 28(COM)</b> 	Step mode command input (NO). The function of this command is determined by parameter <b>A4</b> .
<b>31(CH) 28(COM)</b> 	Close command input (NO).
<b>32(AP) 28(COM)</b> 	Open command input (NO).
<b>33(ORO) 34(COM)</b> 	Clock timer contact input (N.O.). When the clock function is active, the barrier opens and remains open. At the end of the programmed time set with the external device (clock) the barrier closes.
<b>ENC1</b>	7-way connector for connecting to encoder installed on motor (see fig. 9-10). <b>WARNING!</b> Always disconnect from electrical power before disconnecting or connecting the encoder cable.
<b>ENC2</b>	6-way connector for connecting to encoder installed on one side of motor (see fig. 9-10). <b>WARNING!</b> Always disconnect from electrical power before disconnecting or connecting the encoder cable.
<b>LED LIGHT</b>	Connector for the (OPTIONAL) AG/EXP signal device connection and flashing lights installed on the top cover (see fig. 11-12).
<b>LOCKS</b>	Connectors for connecting lock device microswitch and safety stop microswitch on barrier inspection hatch (see fig. 8). Jumper the other connector if only one connector is connected.
<b>RECEIVER CARD</b>	Connector for slot-in radio receiver board. The controller has two radio remote control functions by default: – <b>PR1</b> - step mode command (modifiable with parameter <b>75</b> ). – <b>PR2</b> - close command (modifiable with parameter <b>77</b> ).

CONTACT	DESCRIPTION
<p><b>B71/BCHP</b>  <b>BI/BCHP</b>  <b>BATTERY CHARGER</b></p> <p><b>AG/BAT/KIT</b>  <b>BI/BAT/KIT</b>  <b>BATTERY KIT</b>            2x12 Vdc 4.5 Ah            (AGM type ONLY)</p>	<p>Connector for slot-in battery charger board.</p> <p>In the event of a mains power loss, the controller unit is powered by the batteries. When battery power is used, the message <i>bAtE</i> 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, <i>bEL0</i> (Battery Low) is shown on the display and the controller unit accepts no commands.</p> <p>If mains power is lost while the boom is moving, the boom stops and then automatically resumes the interrupted manoeuvre after 2 seconds.</p> <p>Setting a value for parameter <i>B5</i> other than <i>00</i> enables automatic opening when the battery voltage drops below the safety limit. Once the boom reaches the completely open position, the boom remains open and the controller accepts no further commands until mains voltage is restored.</p> <p>In the case of installations with two opposed barriers, the battery charger must be connected to both barriers.</p> <p>Parameter <i>B5</i> is not available for SLAVE automation systems.</p> <p><b>WARNING!</b> the batteries must always be connected to the electronic controller unit in order to charge. Periodically (at least every 6 months), check that the batteries are in good working order.</p> <p>For more information, refer to the installation manual for the <b>B71/BCHP</b> or <b>BI/BCHP</b> battery charger.</p>

# 13 Examples of applications in parking access mode.

The **AG/CTRL** controller manages the system in parking access mode. This function is enabled with parameter **B3**.

**WARNING!** Only with **B3 01, 02, 03** the persistent activation of the AP opening command allows keeping the barrier's rod open, preventing the automatic re-closure to activate (example: a vehicle pausing above a magnetic loop with barrier opening command function).

**N.B.:** the input **FT** cannot be disabled in the following operating situations. If the contact (NC) is opened during a closing manoeuvre, the barrier reopens and remains open until the contact is closed again.

The automatic closing time is enabled if parameter **21** is different to **00**. Adjust an automatic closing time that allows the vehicle to complete the crossing.

## • **Bi-directional mode with immediate closure** (B3 01)

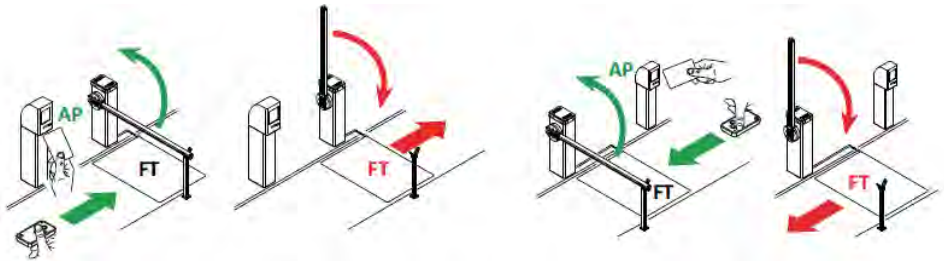
When entering and leaving the parking area, the barrier is opened with an AP open command (terminal block or radio command).

Once the vehicle has crossed the barrier and released contact **FT** ((NC) (e.g. from magnetic loop), the barrier closes immediately.

When parameter **21=00**, the barrier open and remains open until the vehicle has completed the passage. If the vehicle moves back, the barrier remains open.

If parameter **21** has a value different from **00**, the barrier re-closes after an automatic re-closure set time.

**NOTE:** it is possible to add further 5 s delay before closing, setting **A5 99**.



## • **Directional mode 1** (B3 02)

When entering the parking area, the barrier is opened with an AP open command (terminal block).

Once the vehicle has crossed the barrier and released contacts **FT** (NC) and **PED** (NO), the barrier closes.

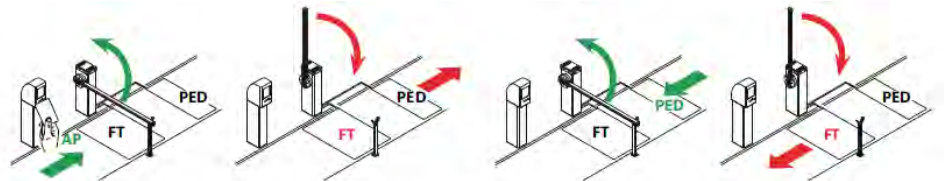
When leaving the parking area, the barrier is opened by a **PED** (NO) command received from the magnetic loop.

Once the vehicle has crossed the barrier and released contact **FT** (NC), the barrier closes.

When parameter **21=00**, the barrier open and remains open until the vehicle has completed the passage. If the vehicle moves back, the barrier remains open.

If parameter **21** has a value different from **00**, the barrier re-closes after an automatic re-closure set time.

**NOTE:** it is possible to add further 5 s delay before closing, setting **A5 99**.



## • **Directional mode 2** (B3 03)

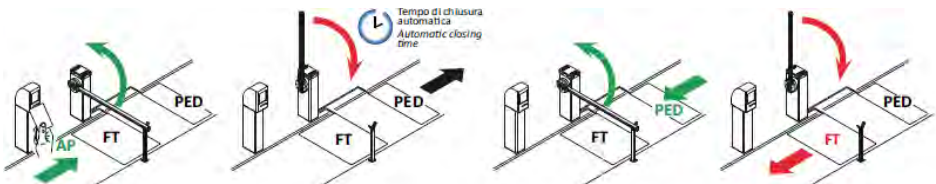
When entering, the barrier is opened with an AP open command (terminal block), and closes after the automatic closing time set with parameter **21**.

**NOTE:** in order to have the automatic closing set parameter **21** different to **00**.

When leaving the parking area, the barrier is opened by a **PED** (NO) command received from the magnetic loop.

Once the vehicle has crossed the barrier and released contact **FT** (NC), the barrier closes.

**NOTE:** it is possible to add further 5 s delay before closing, setting **A5 99**.



# 14 Safety input and command status (TEST mode)

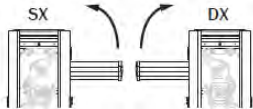
With no currently active intentional commands, press the TEST button and check the following:

DISPLAY	POSSIBLE CAUSE	ACTION BY SOFTWARE	PHYSICAL CORRECTIVE ACTION
88 r5 (rS)	MASTER barrier not moving. STOP contact of MASTER barrier open (message visible for SLAVE barrier).	-	Check STOP button/contact on MASTER controller. Install a STOP button (NC) or jumper the ST contact with the COM contact of the MASTER controller.
88 21	Safety STOP contact open.	-	Check the STOP button/contact. Install a STOP button (NC) or jumper the ST contact with the COM contact.
	Release device open.	-	AGILIK/KB Lock by turning the key two complete turns clockwise. Check that the microswitch contact is connected correctly.
	Barrier inspection hatch open.	-	BIONIK Close the release lock cover and turn the key. Check that the microswitch contact is connected correctly.
88 23	Sensing edge COS not connected or incorrectly connected.	Set the parameter 73 00 if not used or to disable.	If not used jumper contact COS with contact COM.
88 24	Photocell FT not connected or incorrectly connected.	Set parameters 50 00 and 51 00 if not used or to disable.	If not used jumper contact FT with contact COM. Check connection referring to relative connection diagram (figures 4-5).
PP 00	If occurs with no voluntary command, the contact may be faulty or one of the buttons may be incorrectly connected.	-	Check PP - COM contacts and connections to button.
CH 00		-	Check CH - COM contacts and connections to buttons.
AP 00		-	Check AP - COM contacts and connections to button.
PE 00		-	Check PED - COM contacts and connections to button.
0-00	If occurs with no command, the contact may be faulty or the timer may be incorrectly connected.	-	Check contacts ORO - COM. Do not jumper this contact 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.

# 15 Alarms and faults

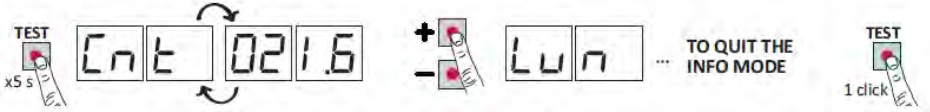
PROBLEM	ALARM SIGNAL	POSSIBLE CAUSE	CORRECTIVE ACTION
The barrier does not open or close.	POWER LED off	No power.	Check power cable.
	POWER LED off	Fuses blown.	Replace fuse. Always disconnect from mains power before removing and refitting fuses.
	FUSE	Fuse F1 blown or damaged. This message is not visible if controller is in battery power mode.	Replace fuse. Always disconnect from mains power before removing and refitting fuses.
	DF St	Input mains power voltage fault. Controller 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 Dt	Overcurrent detected in inverter.	Press the TEST button twice or perform 3 command requests in succession.
	SECO	Incorrect connection between SEC1 and SEC2 of the transformer.	Swap the connection between SEC1 and SEC2.
	dRA	Travel data acquisition error.	Check that the spring is balanced correctly with the barrier unlocked. Press TEST and check if any safety devices are in alarm state. Repeat acquisition procedure.
		Calibration procedure failed (PHAS).	Allow the indicated calibration times to elapse during self-acquisition. Before re-closing the release lock cover, ensure that on the display will flash PHAS. Repeat acquisition procedure.
		Automation system position selection modification message with parameter 7 l.	 <p>Motors for barriers are factory configured for right hand opening barriers 7 l D l (position of barrier relative to passage seen from inspection hatch side). If the position is changed and message dRA is displayed:</p> <ul style="list-style-type: none"> <li>• Move the boom 45° degree.</li> <li>• Adjust the spring position correctly for the required opening direction.</li> <li>• Press and hold PROG until dRA disappears and APP- appears on the display. Repeat acquisition procedure.</li> </ul>
	Not	Motor not connected.	Check the motor cable.
	Example: 21EE / 33EE	Configuration parameter error.	Set configuration value correctly and save.
	StoP flashing	Release device open.	<b>AGILIK/KB:</b> Lock by turning the key two complete turns clockwise. <b>BIONIK:</b> Close the release lock cover and turn the key.
		Barrier inspection hatch open.	Close the inspection hatch correctly.
		STOP button/contact active for more than 5 s.	Check connections to STOP button.
EnE1	Encoder 1 not connected.	Check connection to encoder. Replacing the encoder is recommended if the problem persists.	
EnE2	Encoder 2 not connected.	Check connection to encoder. Replacing the encoder is recommended if the problem persists.	
EnE3	Severe encoder 1 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.	

PROBLEM	ALARM SIGNAL	POSSIBLE CAUSE	CORRECTIVE ACTION
The barrier does not open or close.	<i>E<sub>n</sub>E4</i>	Severe encoder 2 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.
	<i>E<sub>n</sub>E5</i> (EnE5)	Encoder 1 malfunction.	Press TEST button or perform 3 command requests in succession. Replace the encoder if the problem persists.
		Operation in battery mode.	Batteries almost flat.
	<i>E<sub>n</sub>E6</i>	Encoder 2 malfunction.	Press TEST button or perform 3 command requests in succession. Replace the encoder if the problem persists.
		Operation in battery mode.	Batteries almost flat.
	<i>E<sub>n</sub>E7</i>	Encoder 1 calculation error.	Repeat acquisition procedure.
	<i>E<sub>n</sub>E8</i>	Encoder 2 calculation error.	Repeat acquisition procedure.
	<i>E<sub>n</sub>EP</i>	Inverter overheat protection triggered.	Function is restored automatically within 2 minutes.
	<i>b<sub>t</sub>L0</i> (btLO)	Flat batteries.	Wait for mains power to be restored.
	<i>COM1</i>	No RS485 serial communication between MASTER barrier and SLAVE barrier.	Check connection to terminals COM-LNA-LNB.
			Check settings of parameter <i>AQ</i> .
	<i>COM2</i>	Serial communication interference: two MASTER controllers detected.	Check that battery kit is installed on both MASTER and SLAVE barriers.
Check settings of parameter <i>AQ</i> .			
<i>COM3</i>	Parameter configuration transfer error between MASTER and SLAVE.	Check connection to terminals COM-LNA-LNB.	
<i>COM4</i>	Controller unit models not compatible.	Check installation and replace one or both controller units.	
<i>COM5</i> (COM5)	Incompatibility between firmware versions of controller units.	Check parameter <i>n7</i> . Both controllers must have the same firmware version. Contact the technical assistance.	
Acquisition procedure does not complete correctly.	<i>n<sub>0</sub>PH</i>	Motor calibration failed.	Repeat acquisition procedure. If the problem persists, check the cable connecting encoder 1 to the motor.
			Check that the motor turns without impediment. Contact technical support in case of any problems.
	<i>APPE</i>	TEST button pressed accidentally.	Repeat acquisition procedure.
Barrier does not perform desired manoeuvre.	-	Safety devices in alarm state.	Check connections of safety devices.
		Excessive voltage drop.	Repeat acquisition procedure; check mains voltage.
The barrier opens/closes for a short distance and then stops.	-	Incorrect setting of parameter <i>A1</i> .	Select the correct installation position with parameter <i>71</i> . Repeat acquisition procedure.
		Incorrect setting of parameter <i>A1</i> .	Check type of boom and set parameter <i>A1</i> correctly. Repeat acquisition procedure.
		Incorrect values for installation type.	Set values of parameters <i>33</i> , <i>34</i> , <i>40</i> and <i>41</i> correctly for installation type.
The remote control has limited range and does not work with the automation moving.	-	Incorrect spring setting.	See the AGILIK, KB or BIONIK instructions for spring balancing.
The flashing light is not working.	-	Radio signals are impeded by metal structures and reinforced concrete walls.	Install the antenna.
Barrier open indicator lamp does not work.	-	Flat batteries.	Replace the radio control batteries.
Barrier open indicator lamp does not work.	-	Bulb / LED blown or flashing light wires disconnected.	Check LED circuit and/or connector wires.
Barrier open indicator lamp does not work.	-	Bulb blown or wires disconnected.	Check the bulb and/or wires.

**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.

# 16 Procedural verifications - INFO Mode



INFO mode may be used to view certain parameters measured by the **AG/CTRL** controller. Press and hold the TEST button for 5 seconds from the “View command signals and safety devices” mode with the motor stationary. The controller displays the following parameters in sequence:

Parameter	Function
r3.45	View for 3 s the firmware version of the control unit.
Cnt	View barrier position (ENCODER data) at time of test, in motor revolutions. (example: 021.6 = barrier installed on the right; -21.6 = barrier installed on the left).
Lun	View total length of programmed travel, in motor revolutions (e.g.: 037.8 = 37.8 motor revolutions).
rPn	View motor speed, in revolutions per minute (rPM).
rP	View current absorption of motor, in Amperes (e.g.: 016.5 = 16.5 A). If the motor is stationary, the current absorption value is 0.
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
Eln	Indicates time taken by motor to detect an obstacle, as set with parameter 3 l, 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.
nStA	Displays a number which indicates the status of the control unit (INTERNAL USE - ROGER TECHNICAL ASSISTANCE)
rStA	Displays a number which indicates the status of the SLAVE control unit (INTERNAL USE - ROGER TECHNICAL ASSISTANCE) and visible only on the MASTER control unit; on the SLAVE control unit, --- is always displayed.
ErrL	Number of RS485 communication errors (it gets reset by pressing “arrow down” ▼): this could highlight problems at board circuit level.
ErrC	Number of communication protocol errors (it gets reset by pressing “arrow down” ▼). It can highlight: <ul style="list-style-type: none"> <li>problems at connection cable level LNA/LNB/COM (reduced section, excessive length, closeness to cables with switching loads)</li> <li>difficulties in communicating with the SLAVE control unit.</li> </ul>
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 -O automation system completely open (motor not actives). OP -C automation system completely closed (motor not actives).
Ot	Indicates activation of the obstacle detection system. Ot _ I obstacle detection activated.
UF	UF U mains voltage too low or overload. UF H motors overcurrent. UF S malfunction detected, reduce acceleration and speed settings, and check spring setting.

- 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.

## 17 Mechanical release

In the event of a fault or mains power loss, the barrier may be released and opened manually (see the release instructions in the user manual for the AGILIK, KB or BIONIK automated system).

If the barrier is unlocked while the controller is powered, the message  $5\epsilon\sigma P$  flashes on the display until the barrier is locked again.

The flashing light and the signal lights (if installed) illuminate if the boom is moved manually.

If a "ventouse" electric lock is installed, unlocking the barrier cuts off the power supply, making it possible to move the boom manually.

The barrier resumes normal operation once the release system is locked again.

## 18 Initial testing

- Turn on the power supply.
- Perform travel acquisition.
- Set acceleration, speed and deceleration values. Check that the values are correct for the installation type. The boom must approach the mechanical stop at low speed, and then press gently against the stop to hold the boom in the closed position. Setting a value between  $01$  and  $03$  for parameter  $42$  ensures that the boom approaches and arrests against the stops slowly without vibration. For booms up to 4 m in length, values between  $05$  and  $08$  are recommended for parameters  $43$  and  $44$ . Set higher values for booms measuring 6 m in length.
- Check that all connected controls are working correctly.
- Check that the release device functions correctly. The message  $5\epsilon\sigma P$  must flash on the display.
- Check that the impact force is correct.
- 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. With the barrier stopped in an intermediate position, check that the manoeuvre is performed correctly.
- Check that the mechanical stops are set correctly. Repeat the travel acquisition procedure after each adjustment.
- In the case of installations with two opposed barriers, request a manoeuvre and check that both barriers function correctly.
- If a "ventouse" electric lock is used, check that when the boom is completely closed the lock activates and the boom cannot be lifted from the fixed end rest with integrated magnet.

## 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.

Make sure the batteries are in good working order (if installed).

## 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](http://www.rogertechnology.com/B2B), in the section 'Self Service'.

### **ROGER TECHNOLOGY CUSTOMER SERVICE:**

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Skype: [service\\_rogertechnology](https://www.skype.com/people/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](http://www.rogertechnology.com/B2B).

## 22 Declaration of Conformity

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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 hereafter:

Description: Controller unit for automatic barriers

Model: **AG/CTRL**

Is conformant with the legal requisites of the following directives:

- 2006/42/EC;
- 2004/108/EC;
- 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  $\text{C}\epsilon$  14.

Place: Mogliano V.to

Date: 14-01-2014

Signature

