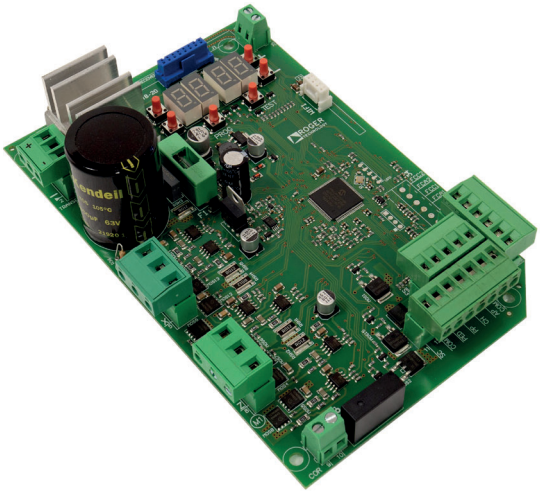
FW
P1.05



IS240 Rev.08 06/04/2023

B70/2ML

centrale di comando per cancelli battenti

Istruzioni originali

ROGER BRUSHLESS

IT - Istruzioni ed avvertenze per l'installatore
EN - Instructions and warnings for the installer
DE - Anweisungen und Hinweise für den Installateur
FR - Instructions et consignes pour l'installateur
ES - Instrucciones y advertencias para el instalador
PT - Instruções e advertências para o instalado
NL - Aanwijzingen en waarschuwingen voor de installateur
PL - Instrukcja i ostrzeżenia dla instalatora

ROGER TECHNOLOGY

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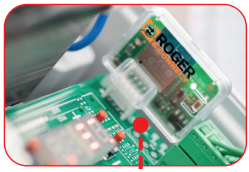
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Dispositivo IP B74/BCONNECT
B74/BCONNECT IP device



Display a 4 cifre e 6 tasti di programmazione
4 digit display and 6 programming buttons

Connettore ad innesto per radio ricevente
Plug-in connector for radio receiver

Fusibile F15A
Fuse F15A

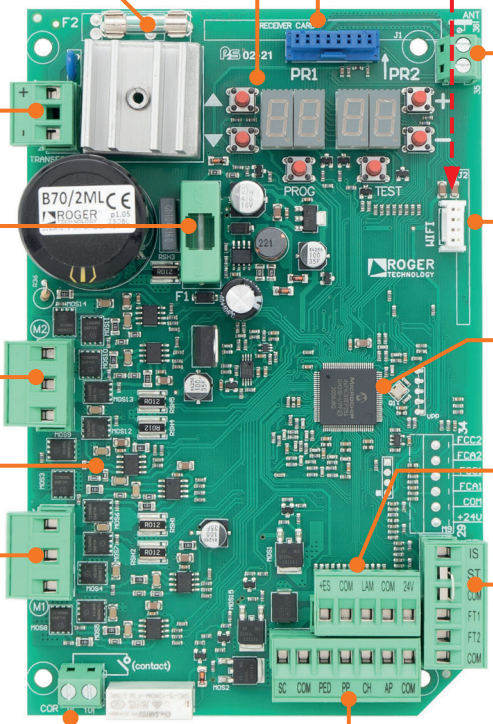
Ingresso alimentazione (secondario trasformatore)
Power supply unit (transformer's secondary)

Fusibile F3.15A
Fuse F3.15A

Collegamento MOTORE 2 (cavo 3 fili)
MOTOR 2 connection (3 wiring cable)

Inverter a mosfet con controllo sinusoidale
Mosfet inverter with sinusoidal control

Collegamento MOTORE 1 (cavo 3 fili)
MOTOR 1 connection (3 wiring cable)



Morsettiera antenna
Antenna *terminal block*

Connettore per Applicazione WiFi
Plug-in for WiFi Application

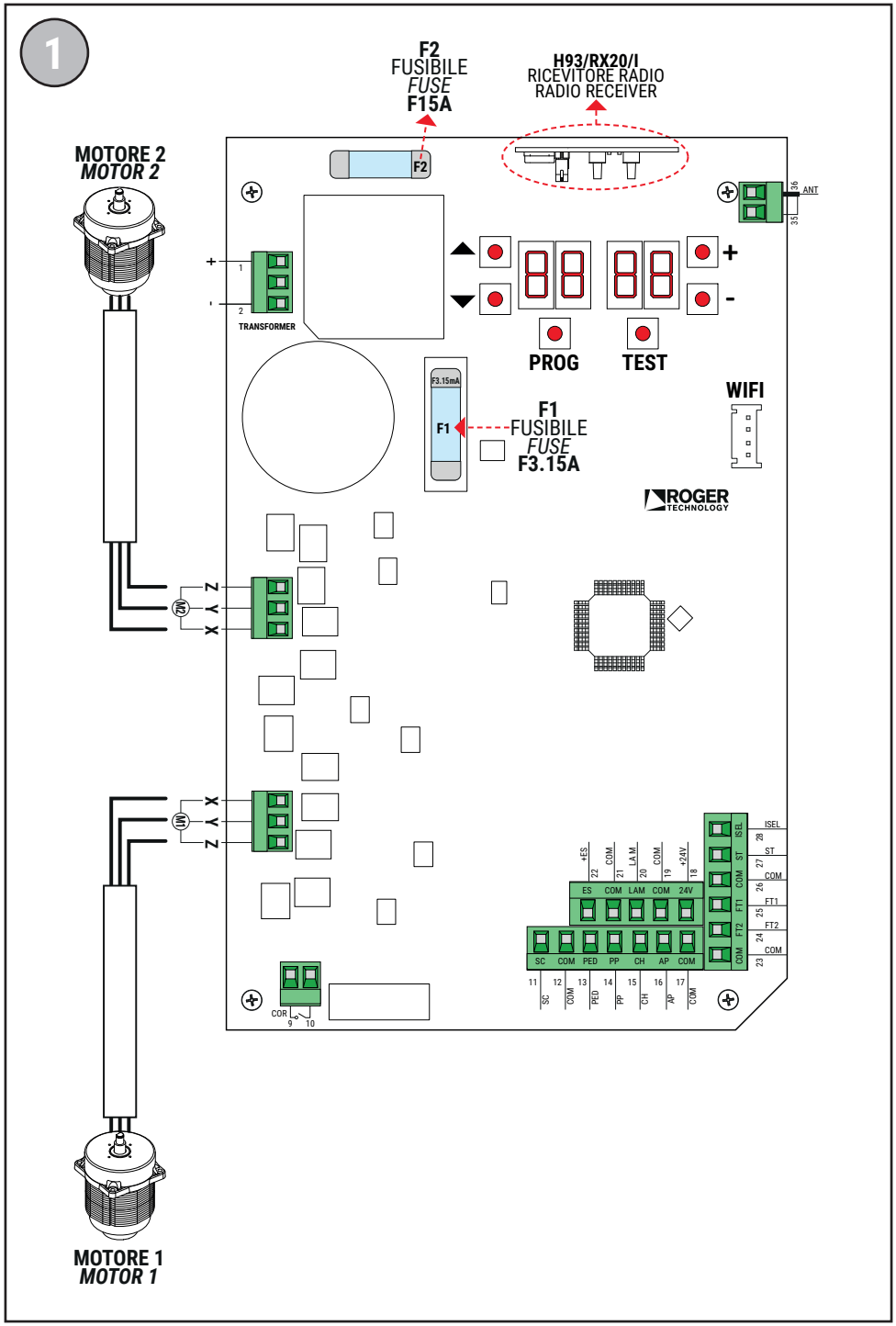
Nuovo Microcontrollore DSP 70 MIPS
New DSP CPU 70 MIPS

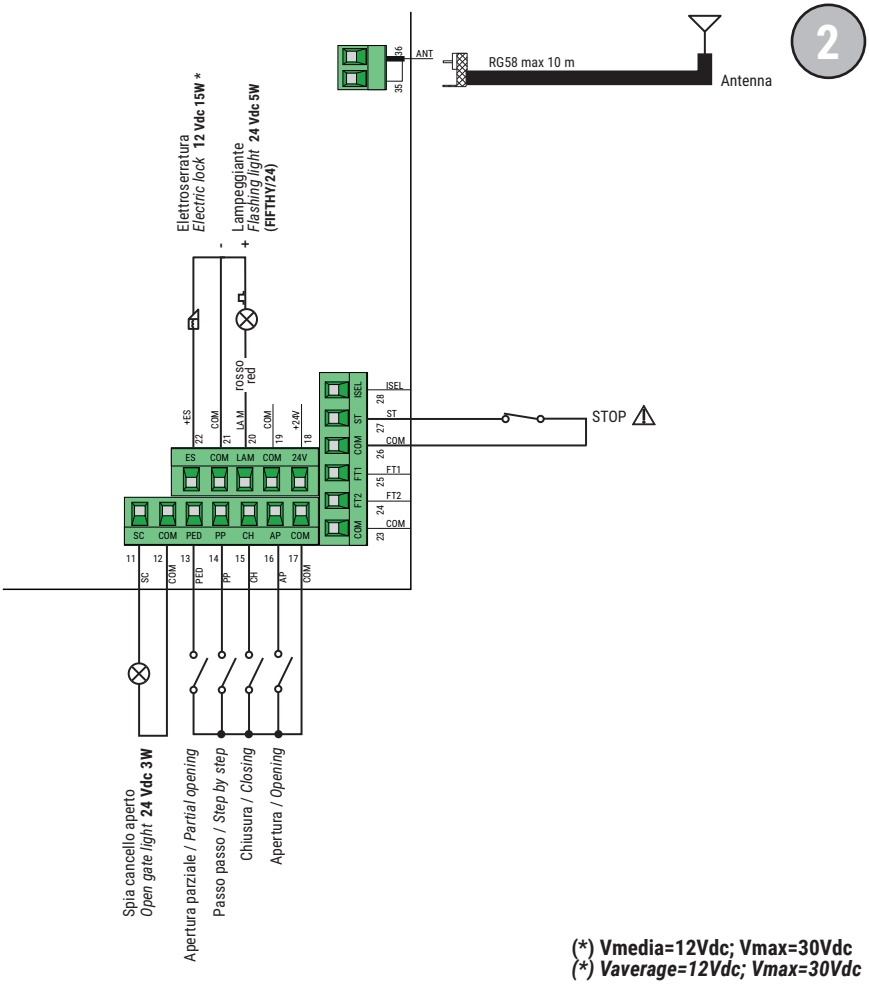
Morsettiere lampeggiante ed elettroserratura
Flashing light and electric lock terminal blocks

Morsettiere delle sicurezze
Safeties terminal blocks

Luce di cortesia
Courtesy light

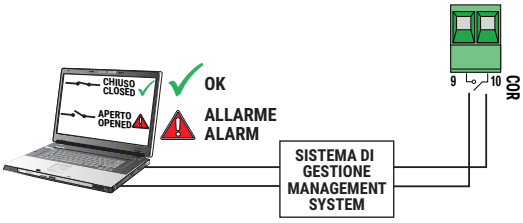
Morsettiere dei comandi
Commands terminal blocks

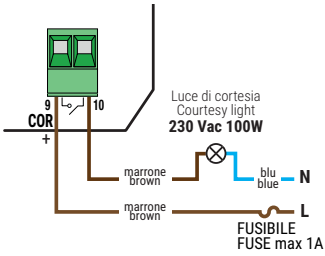

1
F2
FUSIBILE
FUSE
F15A
H93/RX20/I
RICEVITORE RADIO
RADIO RECEIVER
MOTORE 2
MOTOR 2
F2
ANT
TRANSFORMER
PROG
TEST
WIFI
F3.15mA
F1
F1
FUSIBILE
FUSE
F3.15A
ROGER TECHNOLOGY
Z
Y
X
X
Y
Z
ISEL
ST
COM
FT1
FT2
COM
ES COM LAM COM 24V
SC COM PED PP CH AP COM
COR
MOTORE 1
MOTOR 1





Utilizzo alternativo dell'uscita COR (par. 18 diverso da 00).
Alternative use of COR output (par. 18 different from 00).

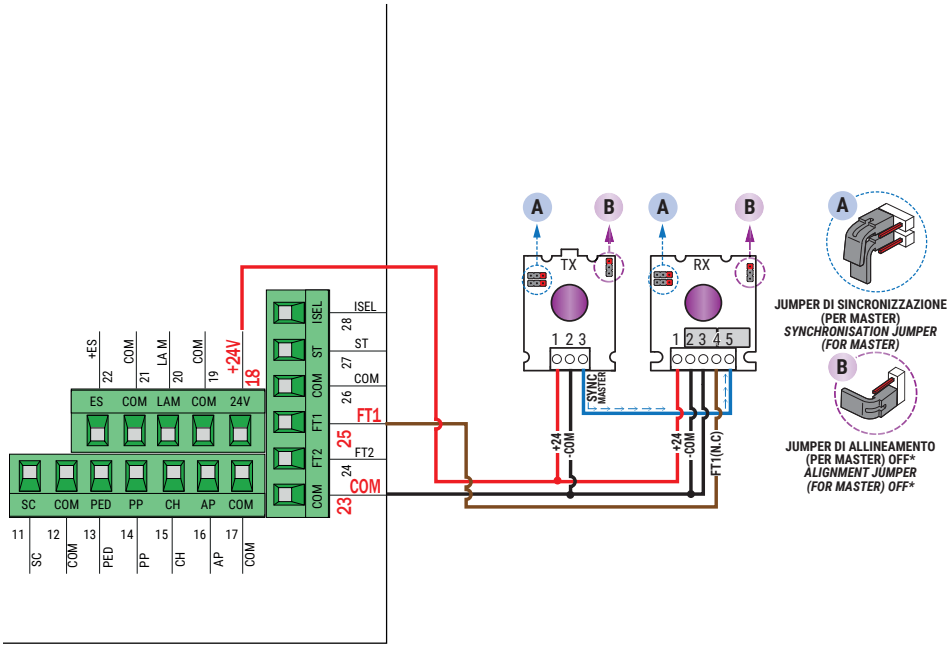




COLLEGAMENTO CON 1 COPPIA FOTOCELLULE SINCRONIZZATE (MODALITÁ NORMALE, SOLO COPPIA MASTER)
CONNECTION WITH 1 SYNCHRONISED PHOTOCELL PAIR (NORMAL MODE, MASTER PAIR ONLY)

ROSSO = libero da jumper
RED = jumper free

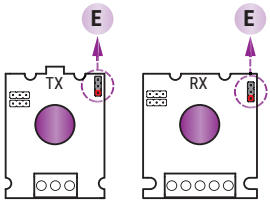
4

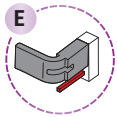


JUMPER DI SINCRONIZZAZIONE (PER MASTER)
SYNCHRONISATION JUMPER (FOR MASTER)

JUMPER DI ALLINEAMENTO (PER MASTER) OFF*
ALIGNMENT JUMPER (FOR MASTER) OFF*

*** Per eseguire la modalità in di allineamento ottico (NOTA: consultare le istruzioni delle fotocellule):**
**** To perform optical alignment mode (NOTE: refer to photocell instructions):***





JUMPER DI ALLINEAMENTO ON*
ALIGNMENT JUMPER ON*

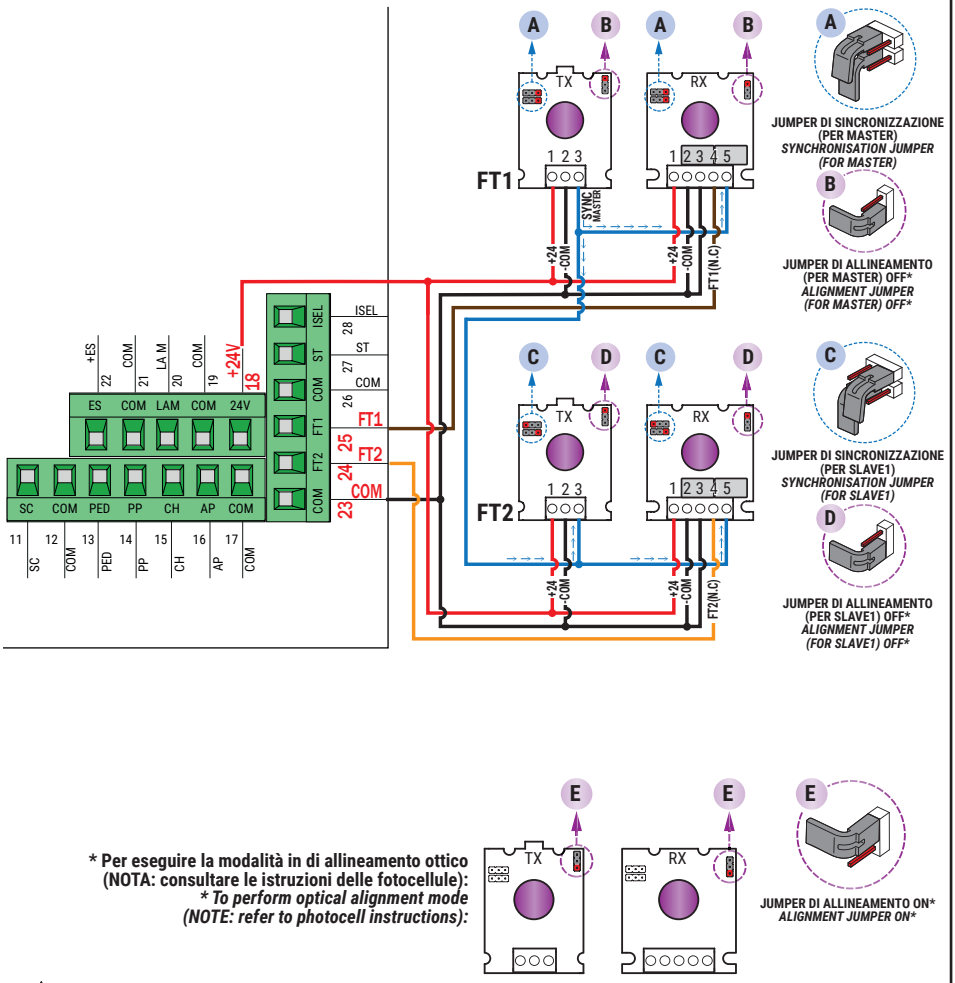
ATTENZIONE! Modificare la posizione dei jumper di sincronizzazione o di allineamento solamente quando le fotocellule sono **NON ALIMENTATE**! La configurazione scelta con i jumper viene memorizzata dalle fotocellule solamente all'accensione delle fotocellule.
Scollegare la morsettiera della centrale che fornisce alimentazione alle fotocellule, oppure togliere completamente la tensione al controller digitale (scollegando, se presenti, anche le batterie di backup) e verificare nella fotocellula TX / RX che il LED rosso di alimentazione sia spento; procedere soltanto ora all'impostazione della configurazione dei jumper.
ATTENTION! Please ensure that the photocell jumpers are only changed with the power to the control panel switched off, including the disconnection of any battery backup. Remove the terminal of the photocell inputs or completely remove the voltage from the digital controller (check that the digital controller is not powered by backup batteries) and check that the TX / RX photocell red power LED is off.

SI RACCOMANDA L' USO DI fotocellule Serie **F4ES - F4S / RECOMMENDED USE for** Series **F4ES - F4S** photocells

COLLEGAMENTO CON 2 COPPIE FOTOCELLULE SINCRONIZZATE (MODALITÁ NORMALE, 1 MASTER E 1 SLAVE)
CONNECTION WITH 2 SYNCHRONISED PHOTOCELL PAIRS (NORMAL MODE, 1 MASTER AND 1 SLAVE)

ROSSO = libero da jumper
RED = jumper free

4



*** Per eseguire la modalità in di allineamento ottico (NOTA: consultare le istruzioni delle fotocellule):**
**** To perform optical alignment mode (NOTE: refer to photocell instructions):***

ATTENZIONE! Modificare la posizione dei jumper di sincronizzazione o di allineamento solamente quando le fotocellule sono **NON ALIMENTATE**! La configurazione scelta con i jumper viene memorizzata dalle fotocellule solamente all'accensione delle fotocellule.
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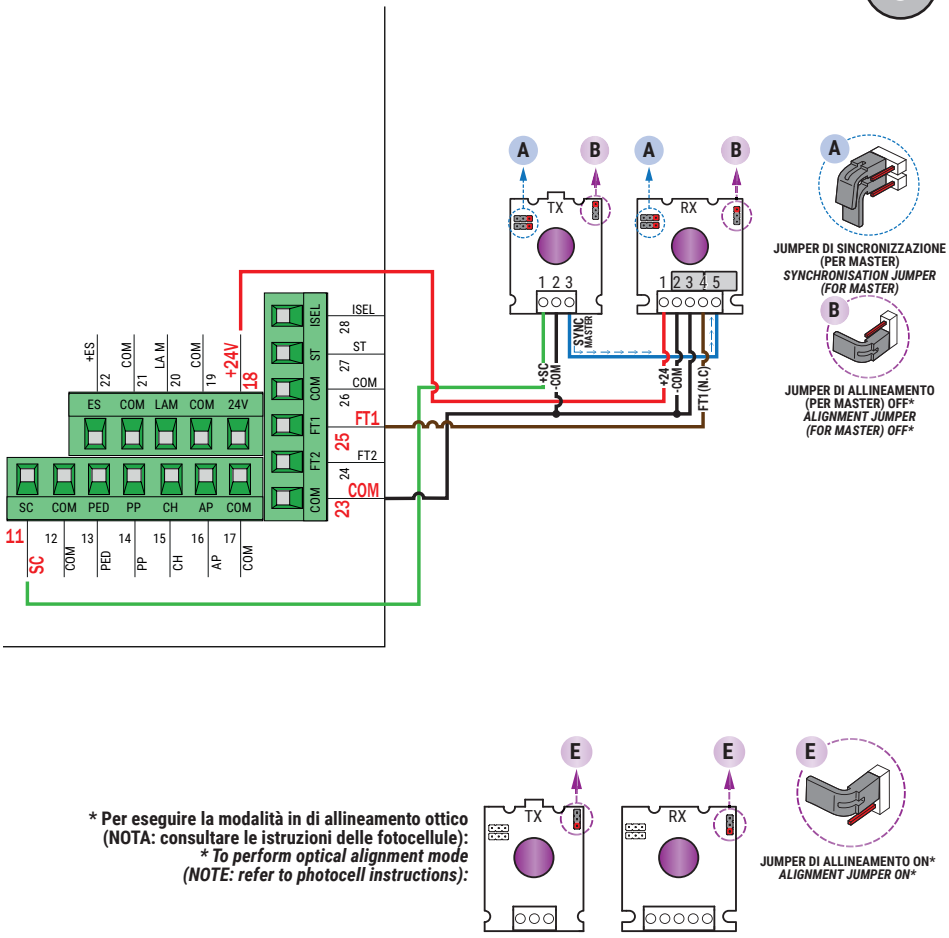
SI RACCOMANDA L' USO DI fotocellule Serie **F4ES - F4S / RECOMMENDED USE for** Series **F4ES - F4S** photocells

TEST FOTOCELLULE · PHOTOCELLS TEST (A8 02)

COLLEGAMENTO CON 1 COPPIA FOTOCELLULE SINCRONIZZATE (MODALITÁ NORMALE, SOLO COPPIA MASTER)
CONNECTION WITH 1 SYNCHRONISED PHOTOCELL PAIR (NORMAL MODE, MASTER PAIR ONLY)

ROSSO = libero da jumper
RED = jumper free

5



*** Per eseguire la modalità in di allineamento ottico (NOTA: consultare le istruzioni delle fotocellule):**
**** To perform optical alignment mode (NOTE: refer to photocell instructions):***

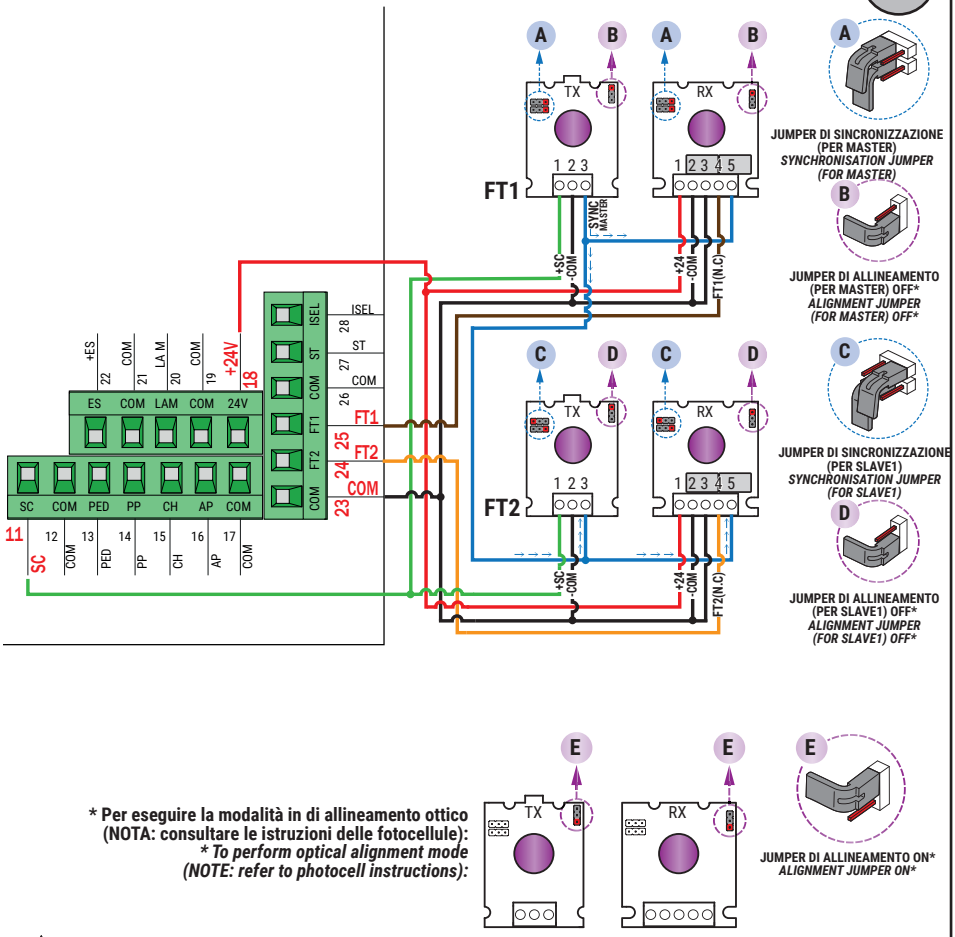
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Scollegare la morsettiera della centrale che fornisce alimentazione alle fotocellule, oppure togliere completamente la tensione al controller digitale (scollegando, se presenti, anche le batterie di backup) e verificare nella fotocellula TX / RX che il LED rosso di alimentazione sia spento; procedere soltanto ora all'impostazione della configurazione dei jumper.
ATTENTION! Please ensure that the photocell jumpers are only changed with the power to the control panel switched off, including the disconnection of any battery backup. Remove the terminal of the photocell inputs or completely remove the voltage from the digital controller (check that the digital controller is not powered by backup batteries) and check that the TX / RX photocell red power LED is off.

SI RACCOMANDA L' USO DI fotocellule Serie **F4ES - F4S / RECOMMENDED USE for** Series **F4ES - F4S** photocells

COLLEGAMENTO CON 2 COPPIE FOTOCELLULE SINCRONIZZATE (MODALITÁ NORMALE, 1 MASTER E 1 SLAVE)
CONNECTION WITH 2 SYNCHRONISED PHOTOCELL PAIRS (NORMAL MODE, 1 MASTER AND 1 SLAVE)

ROSSO = libero da jumper
RED = jumper free

5



*** Per eseguire la modalità in di allineamento ottico (NOTA: consultare le istruzioni delle fotocellule):**
**** To perform optical alignment mode (NOTE: refer to photocell instructions):***

ATTENZIONE! Modificare la posizione dei jumper di sincronizzazione o di allineamento solamente quando le fotocellule sono **NON ALIMENTATE**! La configurazione scelta con i jumper viene memorizzata dalle fotocellule solamente all'accensione delle fotocellule.
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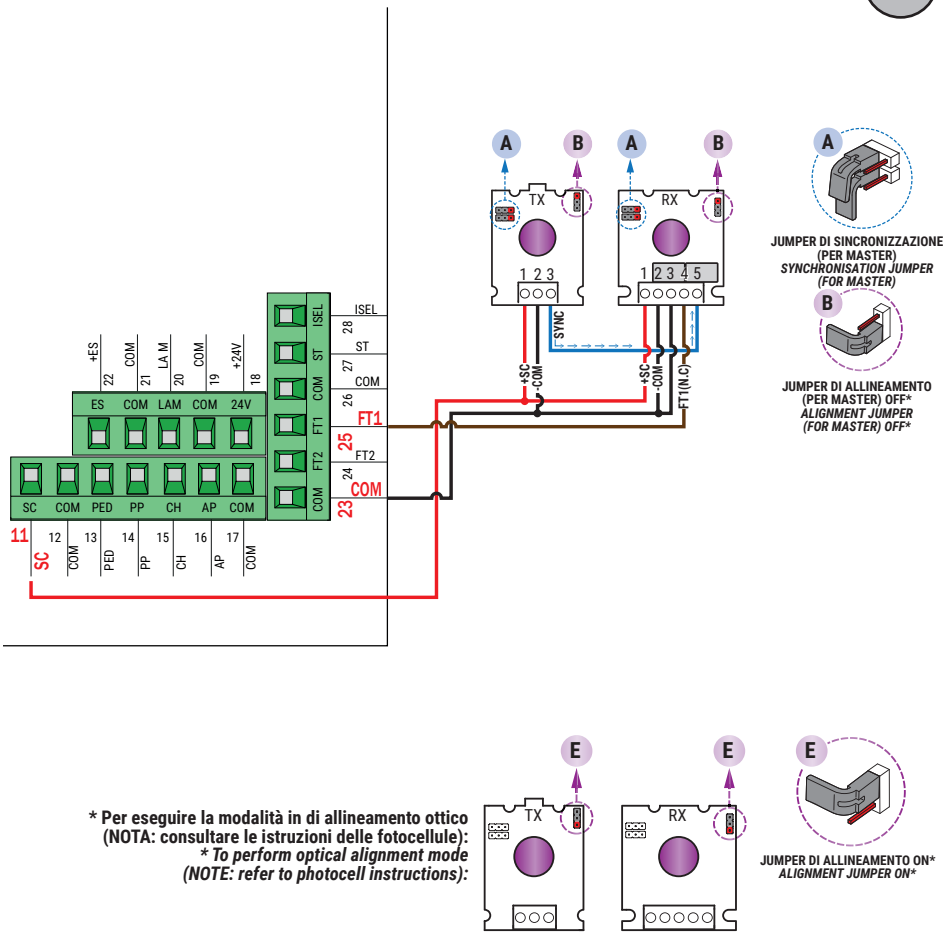
SI RACCOMANDA L' USO DI fotocellule Serie **F4ES - F4S / RECOMMENDED USE for** Series **F4ES - F4S** photocells

BATTERY SAVING (AB 03)
BATTERY SAVING + TEST FOTOCELLULE · PHOTOCELLS TEST (AB 04)

COLLEGAMENTO CON 1 COPPIA FOTOCELLULE SINCRONIZZATE (MODALITÁ NORMALE, SOLO COPPIA MASTER)
CONNECTION WITH 1 SYNCHRONISED PHOTOCELL PAIR (NORMAL MODE, MASTER PAIR ONLY)

ROSSO = libero da jumper
RED = jumper free

6



JUMPER DI SINCRONIZZAZIONE (PER MASTER)
SYNCHRONISATION JUMPER (FOR MASTER)

JUMPER DI ALLINEAMENTO (PER MASTER) OFF*
ALIGNMENT JUMPER (FOR MASTER) OFF*

*** Per eseguire la modalità in di allineamento ottico (NOTA: consultare le istruzioni delle fotocellule):**
**** To perform optical alignment mode (NOTE: refer to photocell instructions):***

JUMPER DI ALLINEAMENTO ON*
ALIGNMENT JUMPER ON*

ATTENZIONE! Modificare la posizione dei jumper di sincronizzazione o di allineamento solamente quando le fotocellule sono **NON ALIMENTATE**! La configurazione scelta con i jumper viene memorizzata dalle fotocellule solamente all'accensione delle fotocellule.
Scollegare la morsettiera della centrale che fornisce alimentazione alle fotocellule, oppure togliere completamente la tensione al controller digitale (scollegando, se presenti, anche le batterie di backup) e verificare nella fotocellula TX / RX che il LED rosso di alimentazione sia spento; procedere soltanto ora all'impostazione della configurazione dei jumper.
ATTENTION! Please ensure that the photocell jumpers are only changed with the power to the control panel switched off, including the disconnection of any battery backup. Remove the terminal of the photocell inputs or completely remove the voltage from the digital controller (check that the digital controller is not powered by backup batteries) and check that the TX / RX photocell red power LED is off.

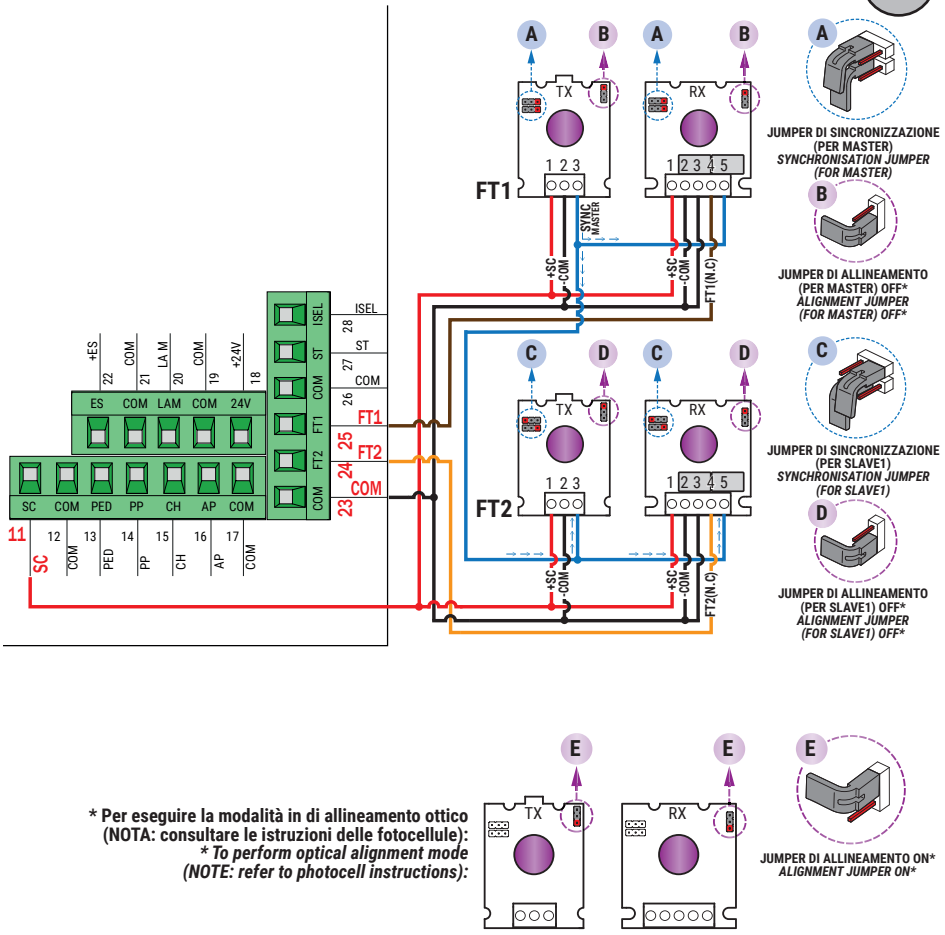
SI RACCOMANDA L' USO DI fotocellule Serie **F4ES - F4S / RECOMMENDED USE for** Series **F4ES - F4S** photocells

BATTERY SAVING (AB 03)
BATTERY SAVING + TEST FOTOCELLULE · PHOTOCELLS TEST (AB 04)

COLLEGAMENTO CON 2 COPPIE FOTOCELLULE SINCRONIZZATE (MODALITÁ NORMALE, 1 MASTER E 1 SLAVE)
CONNECTION WITH 2 SYNCHRONISED PHOTOCELL PAIRS (NORMAL MODE, 1 MASTER AND 1 SLAVE)

ROSSO = libero da jumper
RED = jumper free

6

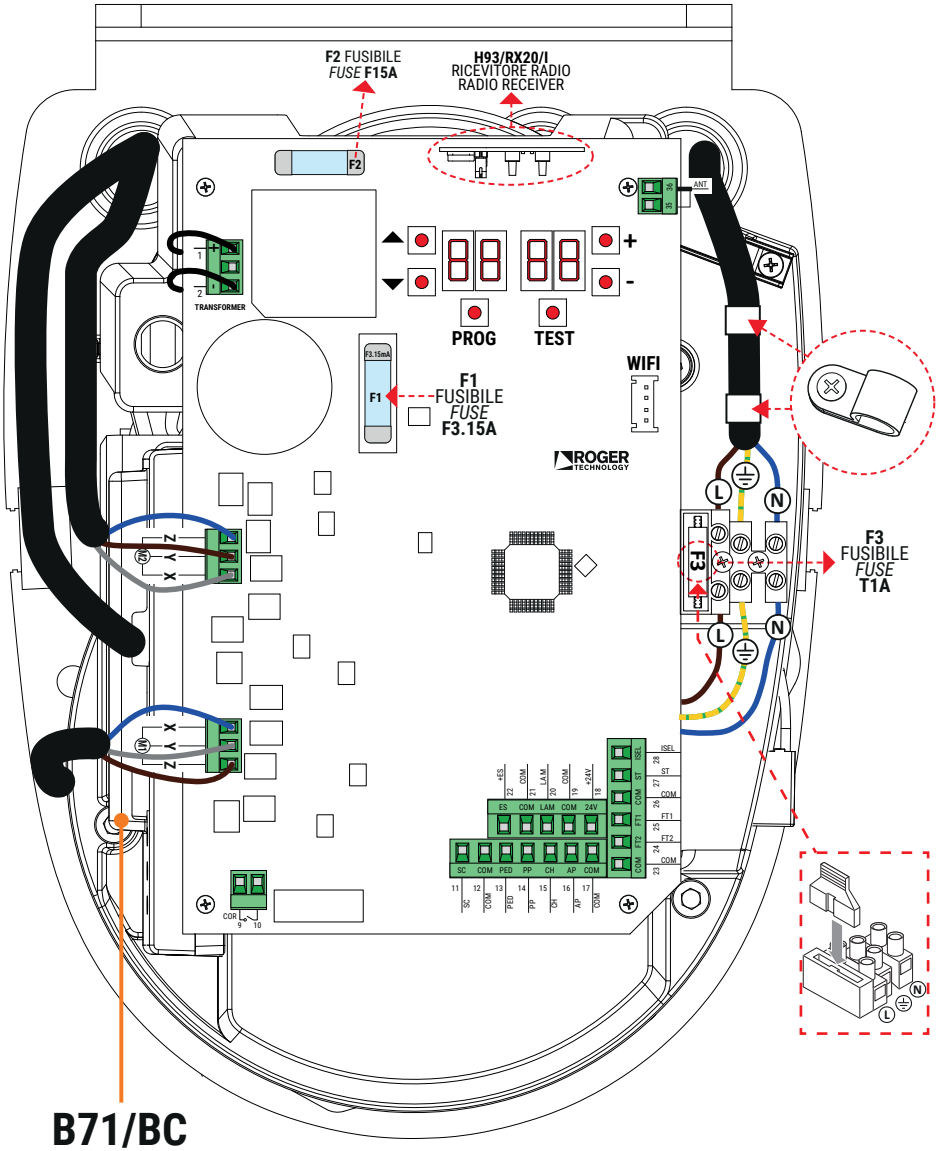


*** Per eseguire la modalità in di allineamento ottico (NOTA: consultare le istruzioni delle fotocellule):**
**** To perform optical alignment mode (NOTE: refer to photocell instructions):***

ATTENZIONE! Modificare la posizione dei jumper di sincronizzazione o di allineamento solamente quando le fotocellule sono **NON ALIMENTATE**! La configurazione scelta con i jumper viene memorizzata dalle fotocellule solamente all'accensione delle fotocellule.
Scollegare la morsettiera della centrale che fornisce alimentazione alle fotocellule, oppure togliere completamente la tensione al controller digitale (scollegando, se presenti, anche le batterie di backup) e verificare nella fotocellula TX / RX che il LED rosso di alimentazione sia spento; procedere soltanto ora all'impostazione della configurazione dei jumper.
ATTENTION! Please ensure that the photocell jumpers are only changed with the power to the control panel switched off, including the disconnection of any battery backup. Remove the terminal of the photocell inputs or completely remove the voltage from the digital controller (check that the digital controller is not powered by backup batteries) and check that the TX / RX photocell red power LED is off.

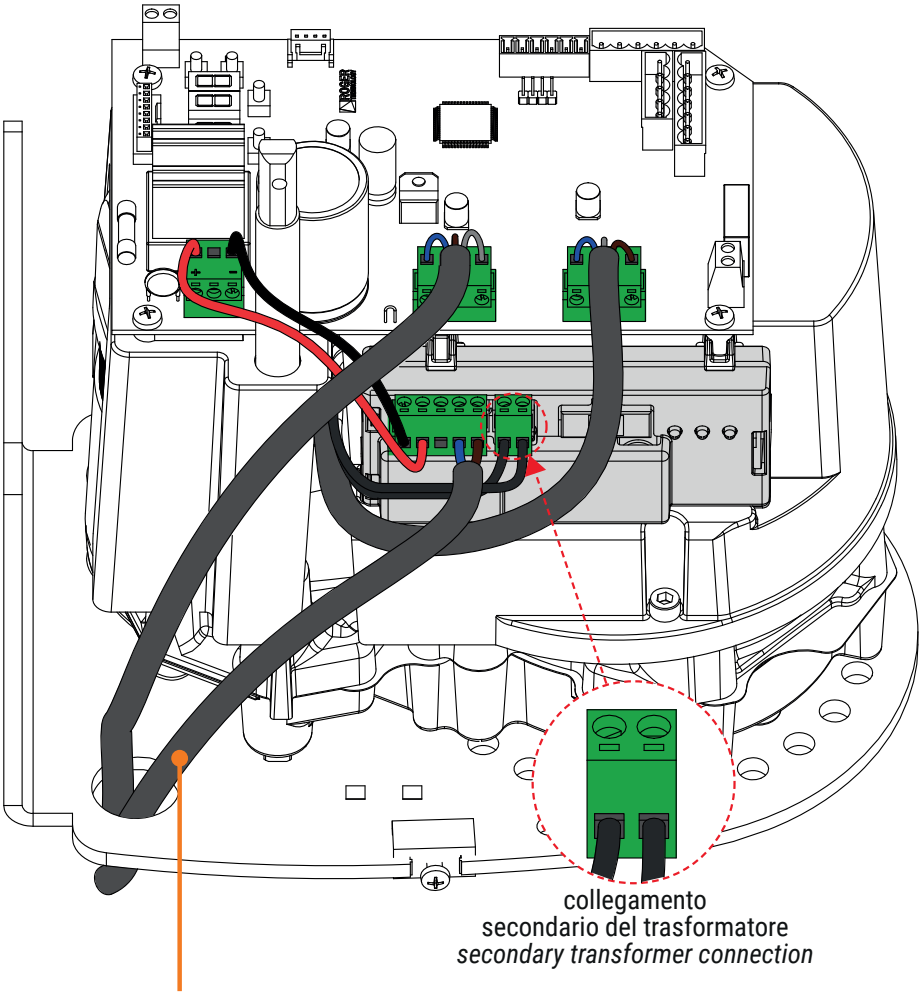
SI RACCOMANDA L' USO DI fotocellule Serie **F4ES - F4S / RECOMMENDED USE for** Series **F4ES - F4S** photocells

7 INSTALLAZIONE SU SERIE AY (AYRON) • MOTORE 1 (AY250M)
AY SERIES (AYRON) INSTALLATION • MOTOR 1 (AY250M)



COLLEGAMENTI CARICA BATTERIA SU SERIE AY (AYRON) • MOTORE 1 (AY250M)
***BATTERY CHARGER CONNECTION ON AY (AYRON) SERIES* • MOTOR 1 (AY250M)**

8

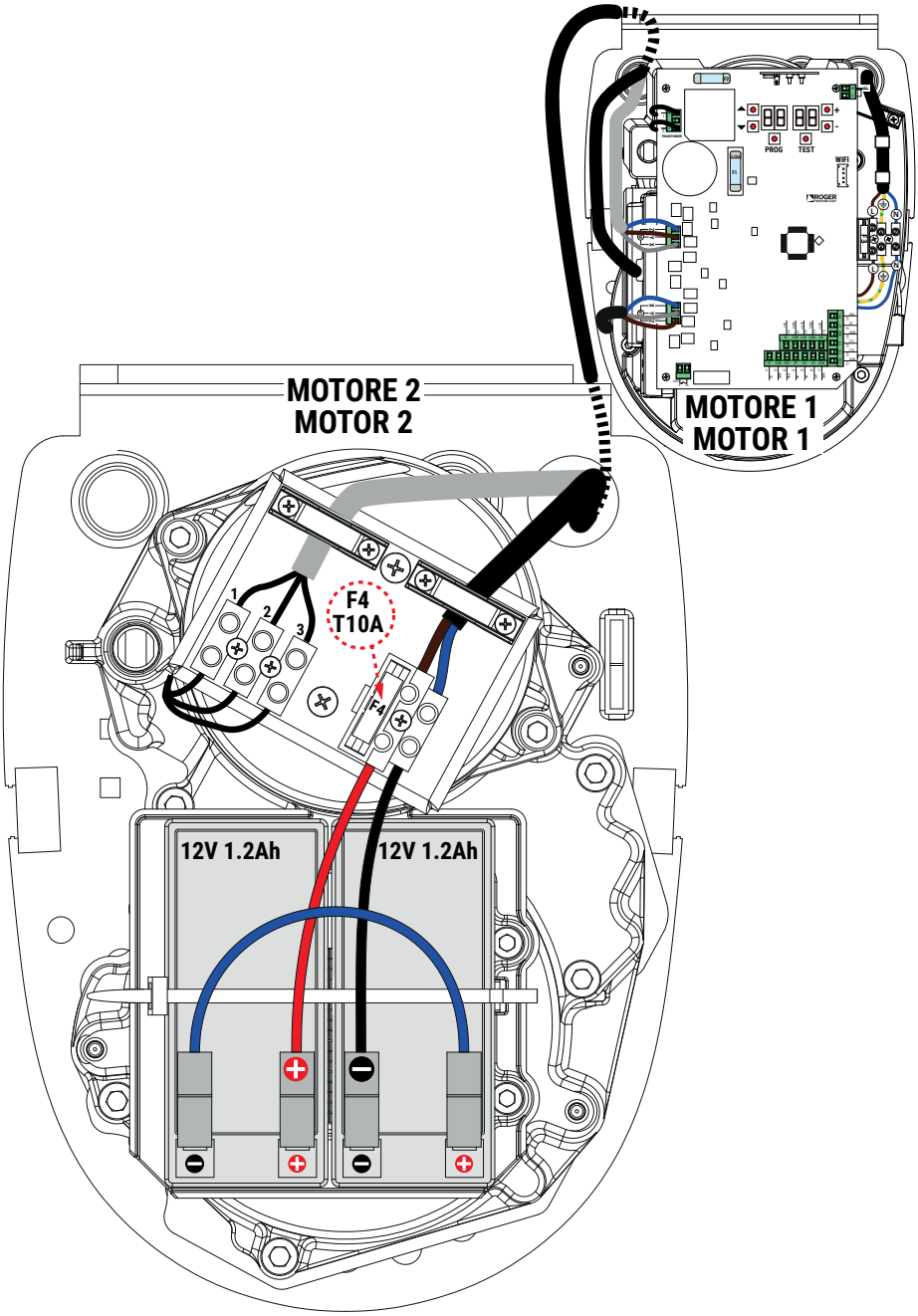


collegamento
secondario del trasformatore
secondary transformer connection

2 batterie opzionali, installate su motore 2
2 optional batteries, installed on motor 2
12 Vdc 1,2 Ah type AGM

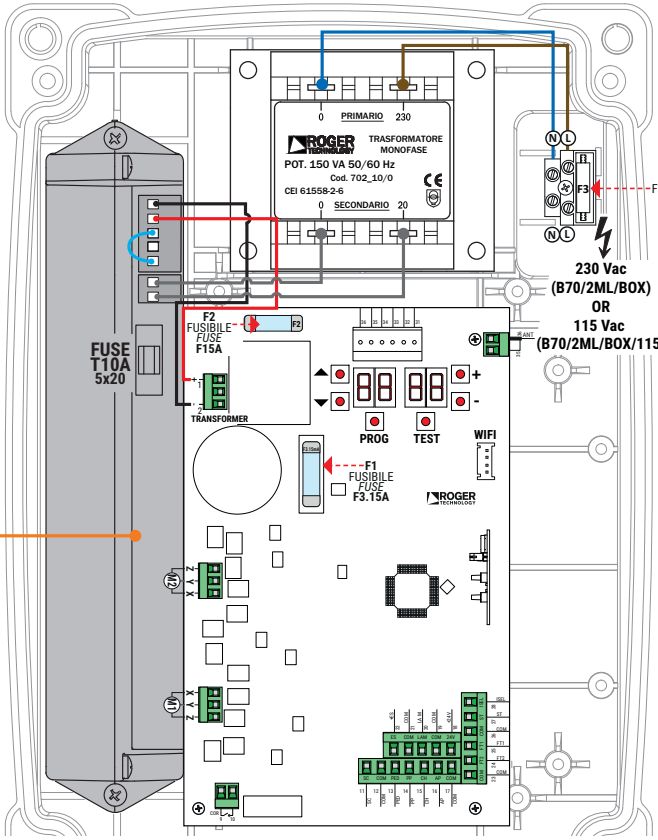
9 INSTALLAZIONE BATTERIA SU SERIE AY (AYRON) • MOTORE 2 (AY250S)

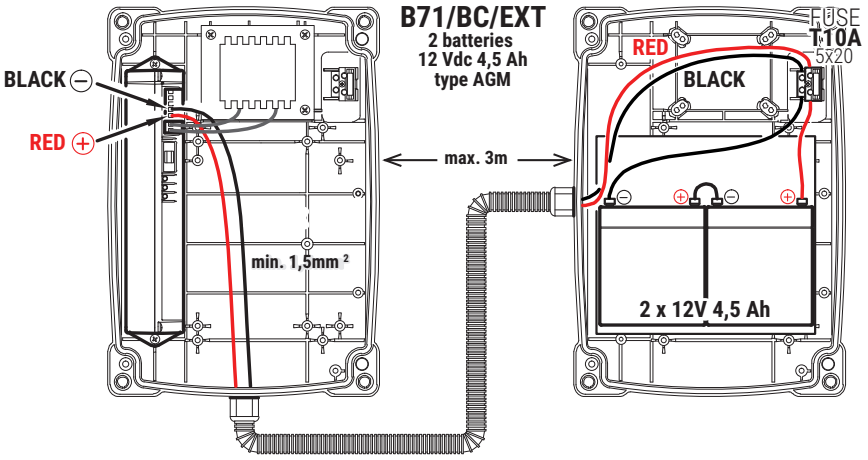
BATTERY INSTALLATION ON AY (AYRON) SERIES **• MOTOR 2 (AY250S)**



INSTALLAZIONE IN BOX (B70/2ML/BOX)
BOX INSTALLATION (B70/2ML/BOX)

10





1 General safety precautions

WARNING: IMPORTANT SAFETY INSTRUCTIONS
THESE INSTRUCTIONS MUST BE FOLLOWED TO GUARANTEE THE SAFETY OF THE PERSONS
PRESERVE THESE INSTRUCTIONS

This installation manual is intended for qualified personnel only.
Failure to observe the information included in this manual may result in personal in serious personal injury or damage to the equipment.
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.
The installation, electrical connections and adjustments must be performed by qualified personnel, in accordance with best practices and in compliance with applicable regulations.
Read the instructions carefully before installing the product.
Incorrect installation may pose risks.
Before installing the product, make sure it is in perfect condition: In case of doubts, do not use the product and refer exclusively to professionally qualified personnel.
Do not install the product in explosive environment and atmosphere: inflammable gas or vapours constitute serious danger for safety.
Before installing the motor, make all structural modifications related to the safety precautions and to the protection or segregation of areas involving crushing, shearing, dragging risks or any other risks.
WARNING: check that the existing structure fulfils the required resistance and stability specifications.
ROGER TECHNOLOGY is not liable for failure to observe the good practices in the construction of fixtures to be motorised or for deformations that may occur during use.
The safety devices (photocells, sensing edges, emergency stops, etc.) must be installed taking into consideration the following: the regulations and directives in force, the good practices criteria, the installation environment, the operating logic of the system and the forces generated by the motorised door or gate.
The safety devices must protect any areas where there is crushing, shearing, dragging or any other danger in general generated by the motorised door or gate; the installer is advised to check that the moving wings do not have sharp edges or anything that may pose shearing and/or dragging risks.
Ensure that entrapment between the guided part and surrounding fixed parts due to the opening movement of the guided part is avoided.
If it is deemed necessary based on the risk analysis, install sensing edges on the mobile part.
It should be noted that, as provided by the UNI EN 12635 standard, all requirements of the EN 12604 and EN 12453 standards must be fulfilled and, if necessary, also checked.
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, hold-to-run operation, etc.) intended to detect persons or objects in the operating area and prevent collisions in all circumstances.
The installer is required to measure impact forces and select on the control unit the 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.
ROGER TECHNOLOGY cannot be held responsible for any damage or injury caused by the installation of incompatible components which compromise the safety and correct operation of the device.
If the hold-to-run function is active, the installer will have the obligation to check the maximum stop distance or the alternative use of the rubber deformable edge, the closing speed or the gate and in general all aspects indicated by the applicable regulations. Moreover, please not that if the command means is fixed, it must be located in a position guaranteeing the automation system control and operation and the command type and the use type must comply with the UNI EN 12453 standard, prospectus 1 (with the following restrictions: type A or B command or type 1 or 2 use).
In case of hold-to-run operation, remove any potential persons away from the range of action of the automation system's moving parts; the direct commands must be installed at a minimum height of 1.5 m and must not be accessible to the public; moreover, unless the device is key operated, they must be located with a direct view to the motorised part and far from the moving parts.
Apply the signs indicated by the regulations in force for the identification of the dangerous areas.
Each installed device must have a visible indication of the motorised door or gate identification data, in accordance with the EN 13241-1:2001 standard or subsequent revisions.
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; put the cut-off switch in OFF position and disconnect any buffer batteries before performing any cleaning or maintenance operations.
Ensure that an adequate residual current circuit breaker with a 0.03 A threshold and a suitable overcurrent cut-out are installed upstream the electrical installation in accordance with best practices and in compliance with applicable legislation.
When requested, connect the automation to an effective earthing system that complies with current safety standards.
The electronic parts must be handled using anti-static conductive wrist straps with grounding wire.
Only use original spare parts when repairing or replacing products.

The installer must provide the user with complete instruction for using the motorised door or gate in automatic, manual and emergency modes, and must hand the operating instructions to the user of the installation upon completion.
Keep away from hinges and moving parts.
Keep out of the area of action of the motorised door or gate while it is moving.
Never try to stop the motorised door or gate while it is moving as this may be dangerous.
The motorised door or gate may be used by children aged 8 and above, by persons with diminished physical, sensory or mental capacity and by persons without the necessary experience and knowledge provided that they are supervised or have received adequate instruction on using the device safely and to ensure that they understand the dangers involved in its operation.
Children must be supervised at all times to ensure that they do not play with the device and that they keep out of the area of action of the motorised door or gate.
Keep remote controls and any other control devices out of the reach of children to prevent the risk of the motorised door or gate being operated unintentionally.
Failure to observe these instructions may lead to danger.
Any repair or technical interventions must be performed by qualified personnel.
The cleaning and maintenance operations must be performed exclusively by qualified personnel.
In the event of a fault or malfunction of the product, turn the main power switch off and have the installation serviced by qualified personnel and refrain from attempting to repair or perform any direct intervention yourself.
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.
Dispose of and recycle the packaging items according to the provisions of the laws in force.
These instructions must be kept and must be made available to any other persons authorised to use the installation.

2 Symbols

The symbols and their meaning in the manual or on the product label are indicated below.

	**Generic danger.** Important safety information. Indicates operations and situations in which the personnel involved must pay close attention.
	**Dangerous voltage risk.** Indicates operations and situations in which the personnel involved must pay close attention to dangerous voltages.
	**Useful information.** Indicates useful information for the installation.
	**Refer to the Installation and use instructions.** Indicates the obligation to refer to the manual or original document, which must be available for future use and must not be damaged in any way.
	Protective earth connection point.
	Indicates the admissible temperature range.
	Alternating current (AC)
	Direct current (DC)
	Symbol for the product disposal according to the WEEE directive.

3 Product description

The 24V **B70/2ML** control unit controls 1 or 2 ROGER brushless motors in sensorless mode for applications on medium sized gate leaves for residential use.



<u>Ensure that the parameter</u> *A I* **<u>is set correctly.</u> If this parameter is not set correctly, the automation system may not function properly.**

Use the same type of motor for both gate leaves in automation installations for double leaf swing gates.
Adjust the opening and closure speed, deceleration and delay settings appropriately for the specific installation, ensuring that the gate leaves overlap correctly.

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.

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

For further information, refer to the automation installation manual.

4 Updates of version P1.05

1. Improved torque control of AYRON motor.
2. Improved phototest management.
3. Added the management of the IP device B74/BCONNECT controllable via browser device Roger BCONNECT, for the complete management via IP, through the connection on WiFi network, of the B70/2ML control panels. The connection is possible in proximity of the installation of the automation with access point functionality directly provided by B74/ BCONNECT (point to point connection) or through the registration and the activation to the cloud Roger Technology with the possibility to manage all the functions of the central unit remotely via web browser.
4. Possibility of FW update of the central unit in point-to-point mode (at the place of installation), or via browser (remotely via cloud or from another device connected to the same network).
5. Addition of "remote assistance" mode and automation management with "emergency functionality" enabled and managed by web browser.
6. Also enabled the PED command to perform position recovery.
7. Improved management of the sensitive 4.1 kOhm ribs (setting par. 73 and 74 to value 12).

5 Technical characteristics of product

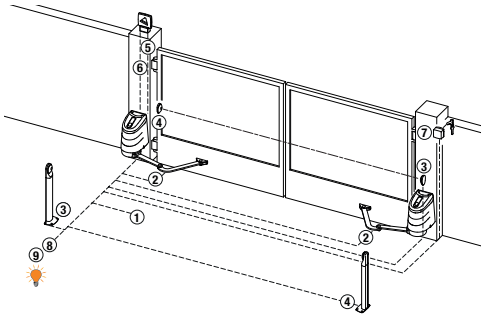
	B70/2ML	B70/2ML/115
MAINS POWER VOLTAGE	230 Vac ± 10% 50 Hz	115 Vac ± 10% 50/60 Hz
MAXIMUM MAINS POWER ABSORPTION	150 W	
INRUSH POWER	350 W	
FUSES	**F1 =** F3.15A (5x20 mm) accessories power supply protection **F2 =** F15A (5x20 mm) engines power circuit protection **F3 =** T1A (5x20 mm) Primary transformer protection	
CONNECTABLE MOTORS	2	
MOTOR POWER SUPPLY	24 Vac	
MOTOR TYPE	sinusoidal drive brushless (ROGER BRUSHLESS)	
MOTOR CONTROL TYPE	sensorless field oriented control (FOC)	
RATED MOTOR POWER	40 W	
MAXIMUM MOTOR POWER	110 W	
MAXIMUM POWER, FLASHING LIGHT	25 W (24 Vdc)	
FLASHING LIGHT DUTY CYCLE	50%	
MAXIMUM POWER	100 W 230 V~ - 40 W 24 V~ / ⎓ (potential free contact)	
GATE OPEN LIGHT POWER	3 W 24 V⎓	
ELECTRIC LOCK POWER	15 W 12 V⎓ (medium voltage) (*)	
MAXIMUM ACCESSORY CURRENT ABSORPTION	10 W 24 V⎓ (400 mA)	
OPERATING TEMPERATURE	-20°C +55°C	
DEGREE OF PROTECTION	IP54	
PRODUCT DIMENSION	dimensions in mm 112x175 Weight: 0,23 kg	

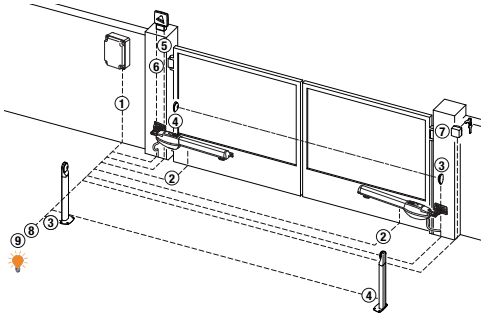
(*) The electric lock output provides a voltage of 24Vdc nominal (max 30Vdc) modulated to 50% (50% ON, 50% OFF). The device to be connected must therefore be able to withstand a maximum voltage of 30Vdc.

The total of the absorption values of all the accessories connected must not exceed the maximum power values shown in the table. The values are guaranteed with original ROGER TECHNOLOGY accessories ONLY. The use of non-original accessories may lead to malfunctioning. ROGER TECHNOLOGY declines all responsibility for incorrect or non-conforming installations.
All the connections are protected by fuses (refer to the table). The courtesy light requires an external fuse.

6 Description of connections

6.1 Typical installation





		Recommended cable
1	Power supply	H07RN-F 3x1,5 mm² double insulated cable
2	Motor 1	Cable 3x2,5 mm² (max 10 m) - 3x4 mm² (max 30 m) *
	Motor 2	Cable 3x2,5 mm² (max 10 m) - 3x4 mm² (max 30 m)
3	Photocells - Receiver **F4ES/F4S**	Cable 5x0,5 mm² (max 20 m)
4	Photocells - Transmitter **F4ES/F4S**	Cable 3x0,5 mm² (max 20 m)
5	Flashing light **FIFTHY/24** LED power supply 24Vdc	Cable 2x1 mm² (max 10 m)
6	Antenna	Cable 50 Ohm RG58 (max 10 m)
7	Key selector **R85/60**	Cable 3x0,5 mm² (max 20 m)
	Key pad **H85/TTD - H85/TDS** (connecting to **H85/DEC - H85/DEC2**)	Cable 2x0,5 mm² (max 30 m)
	H85/DEC - H85/DEC2 (connecting to control unit)	Cable 4x0,5 mm² (max 20 m) The number of conductors increases when using more than one output contact on **H85/DEC - H85/DEC2**
8	Gate open indicator Power supply 24V DC 3W max	Cable 2x0,5 mm² (max 10 m)
9	Courtesy light (Potential free contact) Power supply 230 Vac (100 W max)	Cable 2x1 mm² (max 20 m)

		Recommended cable
1	Power supply	H07RN-F 3x1,5 mm² double insulated cable
2	Motor 1	Cable 3x2,5 mm² (max 10 m) - 3x4 mm² (max 30 m)
	Motor 2	Cable 3x2,5 mm² (max 10 m) - 3x4 mm² (max 30 m)
3	Photocells - Receiver **F4ES/F4S**	Cable 5x0,5 mm² (max 20 m)
4	Photocells - Transmitter **F4ES/F4S**	Cable 3x0,5 mm² (max 20 m)
5	Flashing light **FIFTHY/24** LED power supply 24Vdc	Cable 2x1 mm² (max 10 m)
6	Antenna	Cable 50 Ohm RG58 (max 10 m)
7	Key selector **R85/60**	Cable 3x0,5 mm² (max 20 m)
	Key pad **H85/TTD - H85/TDS** (connecting to **H85/DEC - H85/DEC2**)	Cable 2x0,5 mm² (max 30 m)
	H85/DEC - H85/DEC2 (connecting to control unit)	Cable 4x0,5 mm² (max 20 m) The number of conductors increases when using more than one output contact on **H85/DEC - H85/DEC2**
8	Gate open indicator Power supply 24V DC 3W max	Cable 2x0,5 mm² (max 10 m)
9	Courtesy light (Potential free contact) Power supply 230 Vac (100 W max)	Cable 2x1 mm² (max 20 m)

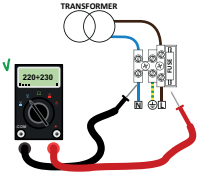
It is the installer's responsibility to verify the adequacy of the cables in relation to the devices used in the installation and their technical characteristics.

* only for installations in BOX

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

6.2 Electrical connections

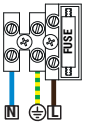
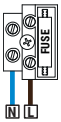
A switch or an omnipolar cut-off switch with a contact opening of at least 3 mm must be installed on the mains power line; put the cut-off switch in OFF position and disconnect any buffer batteries before performing any cleaning or maintenance operations.
Ensure that an adequate residual current circuit breaker with a 0.03 A threshold and a suitable overcurrent cut-out are installed upstream the electrical installation in accordance with best practices and in compliance with applicable legislation.
For power supply, use a H07RN-F 3G1.5 type electric cable for AYRON installation or H07RN-F 2G1.5 for installation in box and connect it to the terminals L (brown), N (blue), (yellow/green), located inside the control panel box.
Strip the insulation from the ends of the power cable wires which will be connected to the terminal (fig. 1-2), and secure the cable with the cable retainer.
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:
- 230Vac ±10% for the B70/2ML control unit.
- 115Vac ±10% for the B70/2ML/115 control unit.

If the detected value does not comply with the above specified values or is not stable, the automation system may NOT operate efficiently.

Connections to the electrical distribution network and to any other low-voltage conductors in the external section to the electrical panel must be on an independent path and separate from the connections to the command and safety devices (SELV = Safety Extra Low Voltage).
Make sure that the mains power conductors and the accessory wires (24 V) are separated.
The cables must be double insulated, strip them near the relevant connection terminals and lock them with clamps (not supplied).

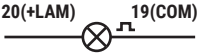
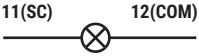
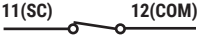
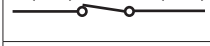
	DESCRIPTION
	Installation on AYRON motor. Mains power supply 230 Vac ±10% 50 Hz connection. Fuse 5x20 T1A.
	Mains power supply 230 Vac ±10% 50 Hz connection. (115 Vac ± 10% 60Hz). Installation on box. Fuse 5x20 T1A.
	Power supply input from transformer (or from B71/BC battery charger, if used). N.B.: Ready wired in factory by ROGER TECHNOLOGY.
X-Y-Z 	Connection to ROGER brushless MOTOR 1. **Warning!** If the motor rotates in the wrong direction, simply swap any two of the three motor connectors. Check the connections illustrated in fig. 1.
Z-Y-X 	Connection to ROGER brushless MOTOR 2. **Warning!** If the motor rotates in the wrong direction, simply swap any two of the three motor connectors. Check the connections illustrated in fig. 1.

7 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.

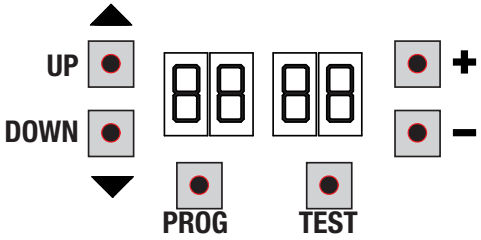
KEY: N.A. (Normally Open).
N.C. (Normally Closed).

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CONTACT	DESCRIPTION
9 (COR) **10** 	Output (potential free contact) for connecting courtesy light. 230 Vac 100 W - 24 Vac/dc 40 W (fig. 3).
9 (COR) **10**	Error alert contact only, for: • control unit in alarm / battery supply error (low battery); • gate completely open / gate completely closed (fig. 3). The COR output operating mode is managed by parameter 18. The voltage level of the battery can be set via parameter 85.
20(+LAM) **19(COM)** 	Connection for flashing light (24 Vdc - duty cycle 50%) (fig. 2). The settings for the pre-manoeuvre flashing warning signal may be selected with parameter A5, while the flashing mode is set with parameter 78.
22(+ES) **21(COM)** 	Input for connecting electric lock, 12 Vdc max. 15 W (fig. 2). The function of the electric lock is determined by parameter 28 - 29. Vmedia=12Vdc, Vmax=30Vdc; see table "PRODUCT TECHNICAL FEATURES" on page 47
18(+24V) **19(COM)**	Power feed for external devices; see table "PRODUCT TECHNICAL FEATURES" on page 47
11(SC) **12(COM)** 	Connection for gate open indicator lamp. 24 Vdc 3 W (fig. 2). The function of the indicator lamp is determined by parameter A8.
11(SC) **12(COM)** 	Photocell test connection and/or battery saving (fig. 5 and 6). 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 20 (SC) is used for the photocell test function or battery saving function, a gate open indicator lamp cannot be connected.
24(FT2) **23(COM)** 	Input (N.C. or 8.2 kOhm) for connecting photocells **FT2** (fig. 4-5-6). 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. 57 00. NC (normally closed) incoming contact. If the photocells are not installed, jumper the terminals **24(COM) - 23(FT2)** or set the parameters 53 00 and 54 00. **WARNING!** Use **R90/F4ES, G90/F4ES** or **T90/F4S** series photocells.
25(FT1) **23(COM)** 	Input (N.C. or 8.2 kOhm) for connecting photocells **FT1** (fig. 4-5-6). 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. 57 00. NC (normally closed) incoming contact. If the photocells are not installed, jumper the terminals **25(FT1) - 23(COM)** or set the parameters 50 00 and 51 00. WARNING! Use **R90/F4ES, G90/F4ES** or **T90/F4S** series photocells.
28(ISEL) **26(COM)** 	Selectable input that can be configured as: - Clock input ORO (N.O. contact): by setting par. 60 to 00 - Sensing edge input COS (N.C. contact): by setting par. 60 to 01
27(ST) **26(COM)** 	STOP command input (N.C. or 8.2 kOhm). The current manoeuvre is arrested if the safety contact opens. **N.B.**: the controller is supplied with this contact already jumpered by ROGER TECHNOLOGY. The contact is configured by default with the following settings: 57 00. (normally closed) incoming contact.
36 (ANT) **35** 	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
16(AP) 17(COM)	Open control signal input (N.O.). **IMPORTANT:** persistent activation of the opening command prevents automatic reclosure; the automatic reclosure time count is resumed when the opening command is released.
15(CH) 17(COM)	Close command input (N.O.).
14(PP) 17(COM)	Step by step mode command input (N.O.). The function of the control is determined by parameter A4.
13(PED) 17(COM)	Partial open control signal input (N.O.). On double leaf gate automation systems, by default, the partial opening command opens LEAF 1 completely. With single leaf swing gate installations, by default, partial opening is 50% of total opening.
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 76). • **PR2** - partial opening command (modifiable with parameter 77).
BATTERY CHARGER B71/BC	(Fig. 8-9) In the absence of mains voltage, the central network gets powered by the batteries, the display shows bAtt and the flashing light gets activated with reduced frequency, until mains power is restored or until the battery voltage drops below the minimum permissible limit. In this case, bELO (Battery Low) is shown on the display and the control unit accepts no commands. If mains power is lost while the gate is moving (black out), the gate stops and then automatically resumes the interrupted manoeuvre after 2 seconds.
BATTERY KIT 2x12 Vdc 1,2 Ah (B71/BC/INT) * or 2x12 Vdc 4,5 Ah (B71/BC/EXT) **Only AGM type.** *** only for installations in BOX**	Two battery kits are available (fig.10): 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. To reduce battery consumption, the positive power feed wire of the photocell transmitters and receiver may be connected to terminal SC (see fig. 5-6). 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. **WARNING!** the batteries must always be connected to the electronic control unit in order to charge. Periodically (at least every 6 months), check that the batteries are in good working order. For more information, refer to the installation manual for the **B71/BC** battery charger.
WIFI	Connector for B74/BCONNECT WiFi IP device. This IP device allows, using any internet browser, the complete management of the control panel both in proximity (point-to-point connection) and via cloud (remote connection).

8 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.

9 Switching on or commissioning

Power the control unit.
The firmware version of the control unit is displayed briefly.
Version installed: P1.05.

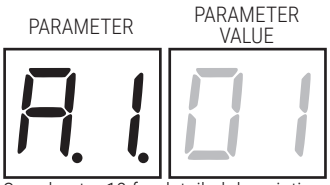


Immediately afterwards, the displays enters the commands and safety device status mode. See chapter 7.

EN

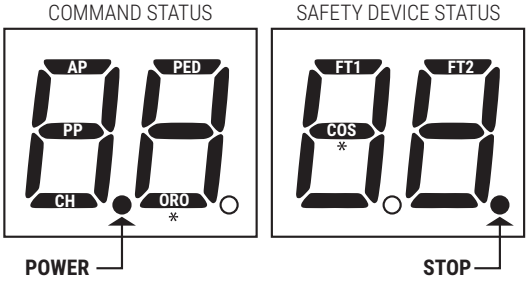
10Display function modes

10.1 Parameter display mode



See chapter 12 for detailed descriptions of the parameters.

10.2 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).

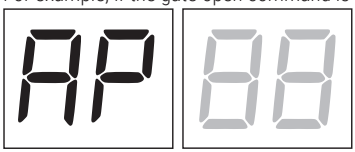
SAFETY DEVICE STATUS:
The safety device status indicators on the display (segments FT1/FT2=photocells, COS= sensing edge, STOP) are normally on. If an indicator is off, the relative device is in alarm state or is not connected. The an indicator is flashing, the relative device has been disabled with a specific parameter.

* NOTE: the segment ORO is only operated if par. *60* is *00*; the segment COS only, if par. *60* is *01*.

10.3 TEST mode

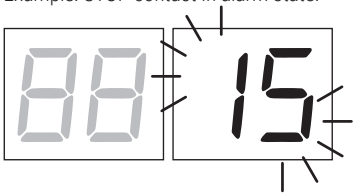
The TEST mode is used to test activation of the commands and safety devices with visual confirmation.
To activate the mode, press the TEST button with the automatic gate system at rest. If the gate is moving, pressing TEST stops the gate. Pressing the button again enables TEST mode.
If the flashing light 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.

Example: STOP contact in alarm state.

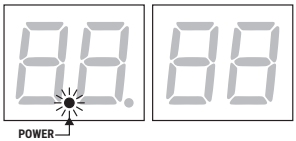


00	No safety device in alarm state, and no limit switch activated
27	STOP.
28	Sensing edge COS (if enabled with par.60 set to 01).
25	Photocell FT1.
24	Photocell FT2.

NOTA: If one or more contacts are open, the gate will not open or 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.

10.4 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.



11 Travel acquisition

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

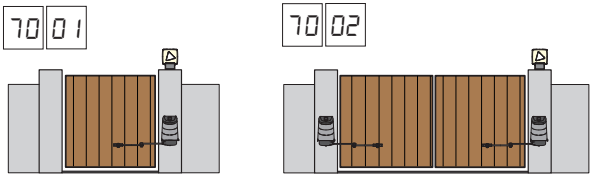
11.1 Before starting

1. Select the automation system model installed with the parameter A1.

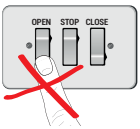
KEY: **HIGH SPEED Motor**

SELECTION	MODEL		MOTOR TYPE	CONFIGURATIONS
A1 01	**AYRON SERIES**			**NOTE: for gate leaves up to 2.5 m**
A1 02	**BE20/200**		-	**NOTE: for gate leaves up to 3 m**
	MONOS4		-	**NOTE: for gate leaves up to 4 m**

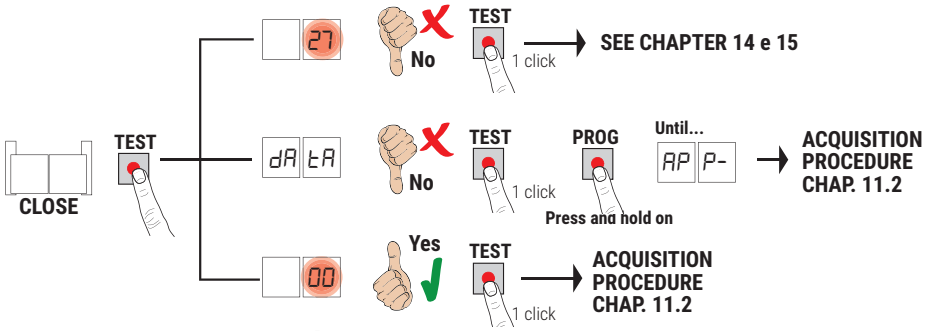
2. Select the number of motors installed with the parameter 70. This parameter is set for two motors by default.



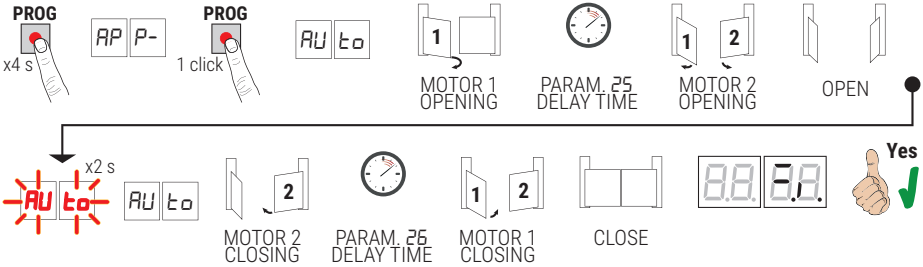
3. Check that the operator present function is **NOT** enabled (A7 00).



4. Install mechanical stops in both the open and closed positions.
5. Move the gate into the closed position. The gate leaves must be against the mechanical stops.
6. Press TEST (see TEST mode in chapter 8) 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, 51, 53, 54, 73 and 74).



11.2 Acquisition procedure



- Press and hold PROG for 4 seconds. AP P- is shown on the display.
- Press **PROG** again. Auto is shown on the display.
- MOTOR 1 starts opening at low speed.
- After the delay time set with parameter 25 (with a default time setting of 3 s), MOTOR 2 starts an opening manoeuvre.

Once the gate open mechanical stop is reached, the gate stops briefly. The message AUto flashes on the display for 2 s.
When the message AUto stops flashing and is steadily lit on the display, MOTOR 2 closes first and then, after a delay set with parameter 26 (default setting 5 s), MOTOR 1 closes until the gate closed mechanical stop is reached.
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:
- 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 TEST to clear the error, and check that both gate leaves are fully closed before launching a new acquisition procedure.

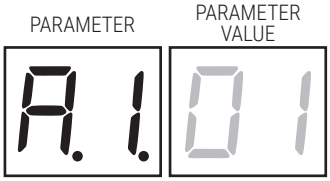
For more information, see chapter 15 “Alarms and faults”.

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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	**AYRON SERIES** - **IRREVERSIBLE** *HIGH-SPEED* gear motor with articulated arm
02	**BE20/200** - **IRREVERSIBLE** arm piston with worm screw **MONOS4** - **IRREVERSIBLE** telescopic arm piston

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 18).

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.

A600	**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.

A700	**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.

EN

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. 5. **NB**: the type of photocell test can be selected by means of parameters 58 and 59.
03	Set to 03 if the output SC is used for the “battery saving” function. See fig. 6. When the gate is completely open or closed, the control 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. 6. **NB**: the type of photocell test can be selected by means of parameters 58 and 59.

11 04	**Setting deceleration MOTOR 1 during opening and closing**
12 04	**Setting deceleration MOTOR 2 during opening and closing**
01-05	01= the gate decelerates near stops and the limit switch (if installed). ... 05= the gate decelerates long before stops and the limit switch (if installed).

13 10	**Adjusting LEAF 1 position control when completely opens or closes** The value selected must ensure that LEAF 1 is opened/closed correctly when it reaches the respective (open or closed) mechanical stop. The position of LEAF 1 is calculated by the system from the number of motor revolutions and the motor reduction gear ratio. Warning! Excessively low values cause the gate to reverse when it reaches the gate open stop.
14 10	**Adjusting LEAF 2 position control when completely opens or closes** The value selected must ensure that LEAF 2 is opened/closed correctly when it reaches the respective (open or closed) mechanical stop. The position of LEAF 2 is calculated by the system from the number of motor revolutions and the motor reduction gear ratio. Warning! Excessively low values cause the gate to reverse when it reaches the gate closed stop.
01-20	motor revolutions (01 = minimum / 20 = maximum).

15 99	**Partial opening adjustment (%)** **N.B.:** with double leaf swing gate installations, this parameter is set by default as the completely open position of LEAF 1. With single leaf swing gate installations, this parameter is set to 50% of total opening.
15-99	From 15% to 99% of total gate travel.

18 00	**Type of signaling provided by COR output**
00	STANDARD operation managed by parameter 79.
01	Contact closed if the control unit is working properly. Contact open if central locked in alarm.
02	Contact closed if the control unit is powered by the mains or charged battery. Open contact due to a fault: control unit powered by low battery (voltage level set by par. 85) or with error alert bEL0 (the control unit no longer accept commands).
03	Closed contact if none of the fault related situations 1 and 2 occurs. Open contact if at least one of the fault related situations 1 and 2 occurs.
04	Closed contact if the gate is not completely open. Open contact if the gate is completely open.
05	Closed contact if the gate is not completely closed. Open contact if the gate is completely closed.

19 00	**Adjusting stop advance of LEAF 1 when opening**
20 00	**Adjusting stop advance of LEAF 2 when opening**
00	The leaf stops against the opening stop.
01-25	A leaf stop advance of 1 to 25 motor turns before the completely open position may be set.

21 30	**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. **IMPORTANT:** persistent activation of the opening command prevents automatic reclosure; the automatic reclosure time count is resumed when the opening command is released.
00-90	Pause time settable from 00 to 90 s.

92-99	Pause time settable from 2 to 9 min.

22 00	**Enabling of management for opening with automatic reclosure exclusion** If enabled, the exclusion of automatic reclosure only applies for the command selected via the parameter. For example: if you set 220 1, automatic reclosure is excluded following an AP command, but it is activated following a PP or PED command. **NB:** a command activates a manoeuvre in the open-stop-close or close-stop-open sequence.
00	Disabled.
01	An AP (opening) command activates the opening manoeuvre. With the gate fully open, automatic reclosure is excluded. An AP (open) or CH (close) command activates the closure manoeuvre.
02	A PP (step mode) command activates the opening manoeuvre. With the gate fully open, automatic reclosure is excluded. Another PP (step mode) command activates the closure manoeuvre.
03	A PED (partial opening) command activates the partial opening manoeuvre. Automatic reclosure is excluded. Another PED (partial opening) command activates the closure manoeuvre.

25 03	**Adjusting opening delay (alignment) of MOTOR 2** During opening, MOTOR 2 starts with an adjustable delay after MOTOR 1.
00- 10	From 0 to 10 s.

26 05	**Adjusting closing delay (alignment) of MOTOR 1** During closing, MOTOR 1 starts with an adjustable delay after MOTOR 2.
00-30	From 0 to 30 s.

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.

28 00	**Electric lock mode selection**
00	Normally UNPOWERED electric lock (powered only for 3 s when opening starts). **N.B.**: The electric lock is enabled by parameter 29.
01	"ventouse" type electric block (normally powered when the gate is completely closed). Not powered when gate is moving.
02	"ventouse" type electric block (normally powered when the gate is completely opened or completely closed). Not powered when gate is moving.
10- 12	Electric lock of normally NOT powered type, with adjustable timing 10=0.5 seconds; 11=1 second; 12=1.5 seconds.

29 00	**Enable electric lock**
00	Disabled.
01	Enabled. When LEAF 1 approaches the gate closed stop, the controller delivers supplementary power to MOTOR 1 to latch the electric lock.
02	Enabled. When LEAF 1 approaches the gate closed stop, the controller delivers maximum power to MOTOR 1 to latch the electric lock. The obstacle detection system is disabled.

30 07	**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). In installations with gate leaves of different lengths, they torque value may be set separately, setting a value for parameter 33 between 01 and 09.
01-09	01= -35%; 02= -25%; 03= -16%; 04= -8% (reduced motor torque = increased sensitivity). 05= 0%. 06= +8%; 07= +16%; 08= +25%; 09= +35% (increased motor torque = reduced sensitivity).

31 15	**Setting obstacle impact force sensitivity MOTOR 1** 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. **N.B:** repeat the acquisition procedure after any change made to this parameter.
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- 19	Medium motor torque. **Recommended setting for adjusting force settings correctly.** 11 = minimum obstacle impact force ... 19 = maximum obstacle impact force.
20	Maximum motor torque. **May only be used if the gate is equipped with a sensing edge.**

EN

3215	**Setting obstacle impact force sensitivity MOTOR 2** 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 (or 33, if enabled: 33 different from 10). **N.B:** repeat the acquisition procedure after any change made to this parameter.
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.
11-19	Medium motor torque. **Recommended setting for adjusting force settings correctly.** 11 = minimum obstacle impact force ... 19 = maximum obstacle impact force.
20	Maximum motor torque. **May only be used if the gate is equipped with a sensing edge.**

3310	**Setting motor torque MOTOR 2** 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= 0%. 06= +8%; 07= +16%; 08= +25%; 09= +35% (increased motor torque = reduced sensitivity).
10	The torque is set with parameter 30.

3408	**Setting start acceleration MOTOR 1 during opening and closing**
3508	**Setting start acceleration MOTOR 2 during opening and closing**
01-10	01= the gate accelerates rapidly at start of manoeuvre ... 10= the gate accelerates slowly and progressively at start of manoeuvre.

3800	**Enable electric lock release reverse impulse**
00	Disabled.
01	Enabled. The controller applies a brief closing force (max. 4 s) to release the electric lock.

4004	**Setting opening speed (%)**
4104	**Setting closing speed (%)**
01-05	01= 60% minimum speed ... 05= 100% maximum speed.

4300	**Opening and closing approach distance setting MOTOR1**
4400	**Opening and closing approach distance setting MOTOR2**
00-80	from min. 0 to max. 80 of turns performed by the motor at the minimum speed. **Speed is setted by the control unit automatically and it isn't adjustable.**

4901	**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.

5000	**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.

5102	**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** **N.B.:** this parameter is not visible if A802 or A803 or A804 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** **N.B.:** this parameter is not visible if A802 or A803 or A804 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)** **N.B.:** This parameter is not visible if A803 or A804 is set. NOTE: in the case of photocells being blanked during opening, the 6 secs. count starts when the wings are completely open.
00	Disabled.
01	Enabled. When the photocell gate FT1 is crossed, a close command is sent 6 seconds later.
02	Enabled. When the photocell gate FT2 is crossed, a close command is sent 6 seconds later.

57 00	**Selecting contact type (NC or 8.2 kOhm) on inputs FT1/FT2/ST** In conformity with the safety regulations EN12453-EN12445, devices using an 8.2 kOhm contact instead of an NC contact may be connected to inputs FT1/FT2/ST. The controller unit must therefore be configured accordingly.		
	FT1	FT2	ST
00	The controller is configured for NC contacts by default.		
01	8k2	N.C.	N.C.
02	N.C.	8k2	N.C.
03	8k2	8k2	N.C.
10	N.C.	N.C.	8k2
11	8k2	N.C.	8k2
12	N.C.	8k2	8k2
13	8k2	8k2	8k2

58 00	**Selecting the type of photocell test on input FT1** This parameter is visible if A802 or A804 is set. If the photocell test is enabled, the control unit will check the photocells connected to input FT1 are working properly. The test lasts max. 3 s OFF / 3 s ON.
59 00	**Selecting the type of photocell test on input FT2** This parameter is visible if A802 or A804 is set. If the photocell test is enabled, the control unit will check the photocells connected to input FT2 are working properly. The test lasts max. 3 s OFF / 3 s ON.
00	Photocell test disabled.

01	Photocell test enabled on opening ONLY.
02	Photocell test enabled on closure ONLY.
03	Photocell test enabled on both opening and closure.

60 01	**ISEL selectable input configuration** The parameter allows to configure the input and to make it available according to the type of the contact status for operating the clock or sensing edge.
00	ISEL is N.O. input and operates the clock function (configurable in par. 80)
01	ISEL is N.C. input and operates the COS function (configurable in par. 73)

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

70 02	**Select number of motors installed**
01	1 motor.
02	2 motors. IMPORTANT: Use the same type of motor for both gate leaves.

73 03	**Configuring sensing edge COS** **NOTE:** This parameter is visible only if par. 60 is 01
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.
12	Management of two 8k2 sensitive edges connected in parallel (total resistance 4k1). The gate reverses only when opening.
14	Management of two 8k2 sensitive edges connected in parallel (total resistance 4k1). The gate always reverses.

76 00	**Configuring radio channel 1 (PR1)**
77 01	**Configuring radio channel 2 (PR2)**
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 ON-OFF (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** **NOTE:** The parameter is not visible if par. 18 is other than 00
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 (ORO)** **NOTE:** This parameter is visible only if par. 60 is 00 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 sensitive edge intervenes, detecting an obstacle in the same direction in which the function is enabled. If instead the sensitive edge detects an obstacle during the movement opposite to the one guaranteed, the function remains active. • the number of closure attempts set by parameter A2 has been reached; • the acquired position is lost (perform position recovery, see chapter 18).
00	Disabled. The parameter 82 is not displayed.
01	Safeguarded closure 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	Safeguarded closure / opening 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.

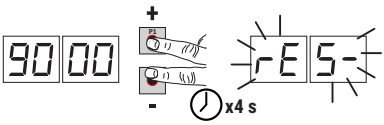
82 03	**Setting safeguarded closure/opening activation time** **N.B.:** this parameter is not visible if the value of parameter 81 = 00.
02-90	Wait time settable from 2 to 90 s.
92-99	Wait time settable from 2 to 9 min.

83 00	**Selecting limitations in battery operation** **N.B.:** the parameter is visible only if par. 85 is different than 00
00	There is no limitation for the commands when the battery voltage drops under the selected threshold. An error alert may be activated via the COR output (if parameters 85 and 18 are adequately set).
01	When the battery voltage drops under the threshold selected with par. 85, the control unit accepts only opening commands and does not perform closing.
02	When the battery voltage drops under the threshold selected with par. 85, after a 5 s pre-flashing, the control unit automatically opens the barrier's boom and accepts only a closing command.
03	It accepts only closing commands even if the ORO input is active and if the parameter is 80 01.
04	When the battery voltage drops to the threshold selected with par. 85 the control unit, after a prelamping of 5s, automatically closes the gate and accepts only one opening command.

84 00	**Battery consumption selection**
00	Battery 24Vdc (2x12V). Acceleration/deceleration/speed reduction enabled, to increase the battery life. The activation of the flashing light is reduced (on 1 second, off 2 seconds).
01	Battery 24Vdc (2x12V). No performance reduction, maximum battery consumption. Activation of the flashing light is normal.

85 00	**Selection of the battery operation management** Setting a value different than 00 a battery voltage level check is activated. The desired operation type can be selected via parameter 83 and an error alert can be activated through the COR output via parameter 18.
00	The control unit always accepts commands until the battery is completely exhausted.
01	The command becomes active when the battery voltage drops to the minimum threshold (22Vdc for battery 2x12Vdc)
02	The command becomes active when the battery voltage drops to the medium threshold (23Vdc for battery 2x12Vdc)
03	The command becomes active when the battery voltage drops to the maximum threshold (24Vdc for battery 2x12Vdc)

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9000	**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, 71, 86, 87: after restore, check that all parameters are suitable for the installation. • Press and hold the PLUS **+** and MINUS **-** button until the unit switches on. • The display flashes after 4 s rES-. • The default factory settings have now been restored. **Note:** it is possible to reset the parameters in a second way: when the control unit is switched on, before the firmware version appears on the display, press and hold down the ▲ (UP ARROW) and ▼ (DOWN ARROW) buttons for 4s.

	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.	
n001	**HW version**	Example: 01 23 45 67 89 01 23
n123	**Year of manufacture**	
n245	**Week of manufacture**	
n367	**Serial number**	
n489		
n501		
n623	**FW version**	

	View manoeuvre counter The number consists of the values of the parameters from o0 to o1 multiplied by 100. **N.B.:** The values shown in the table are indicative only. **IMPORTANT:** "manoeuvre" means every motor activation (total opening or closure / partial opening / step mode, etc.).
o001	**Manoeuvres performed.** Example: 01 23 x100 = 12.300 manoeuvres.
o123	

	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. When the manoeuvre hour limit (set by 86 and 87) is exceeded, the visual maintenance signal is activated (e.g. every 1500 manoeuvre hours). **IMPORTANT:** "manoeuvre" means every motor opening activation. The message ASSt is shown on the display and the flashing light, with motors stop, flashes with a regular duty cycle (1 s on / 4 s off) until system maintenance is performed and the alarm is reset. To reset the alarm, release the protection by inputting the password (CP 00) and press TEST for 5 s. The message ASSt is displayed, followed by the messages UPdt flashing for 4 seconds: to reset the alarm, hold down the TEST key until donE is displayed. If the TEST key is released, Abrt appears on the display and the alarm is not reset. The number of hours H0-H1 is stored by the control unit, and the count is reset. If the value H0=99 H1=90 is exceeded (9990 hours of operation) the maintenance alarm is no longer managed.
h001	**Manoeuvre hours.** Example: 01 23 = 123 hours.
h123	

	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.
d001	**Days with unit switched on.** Example: 01 23 = 123 days.
d123	

	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.
P100 P200 P300 P400	**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 P100, P200, P300 and P400 indicate that no password is set). • Switch the control unit off and on again (CP=00).

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

14Safety 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 27	The safety **STOP** contact is open. Incorrect setting of parameter 57.	Check that parameter 57 is set correctly	Install a **STOP** button (NC) or jumper the ST contact with the **COM** contact.
88 28	Sensing edge **COS** not connected or incorrectly connected. NOTE: visible only if par. 60 is 01	Set the parameter 73 00 if not used or to disable.	Jumper contact **ISEL** with contact **COM**, if not used or to disable
88 25	Photocell **FT1** not connected or incorrectly connected. Incorrect setting of parameter 57.	Set the parameter 50 00 and 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 (figure 4).
88 24	Photocell **FT2** not connected or incorrectly connected. Incorrect setting of parameter 57.	Set the parameter 50 00 and 51 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 (figure 4).
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 command, the contact (N.O.) may be faulty or the timer may be incorrectly connected. NOTE: visible only if par. 60 is 00	-	Check **ISEL - COM** contacts. Contact must not be jumpered if not used.

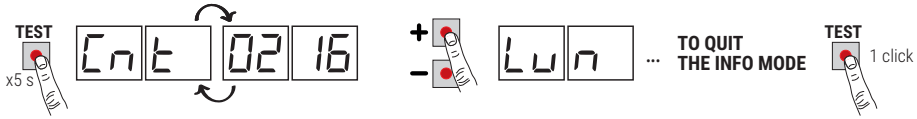
N.B: press TEST to exit TEST mode.
We recommend troubleshooting safety device and input status errors with "corrective action by software" only.

15Alarms and faults

PROBLEM	ALARM	POSSIBLE CAUSE	ACTION
The gate does not open or close.	**POWER** LED off	No mains power.	Check the mains power cable.
	POWER LED off	Fuses blown. Check fuses F1, F2 and F3.	Replace fuse. Always disconnect from mains power before removing fuses.
	OF 5t	Input mains power voltage fault. Control initialisation failed.	Disconnect from mains power, wait 10 seconds then reconnect to the mains and switch on. If the problem persists, contact your local authorized dealer for verification and possible assistance. Pressing the TEST button it is possible to hide the alarm temporarily and consult the control unit's parameters.
	Pr Ot	Overcurrent detected in inverter.	Press the **TEST** button twice or perform 3 command requests in succession.
	dA tA	Incorrect travel length values.	Press the TEST button and check the safety device/s in alarm state and the connections of the safety devices. Check that the mechanical stops of MOTOR 1 and MOTOR 2 are positioned correctly. Repeat acquisition procedure.
	Mot 1	Motor 1 not connected.	Check the motor cable.
	Mot2	Motor 2 not connected.	Check the motor cable.
	Example: 15 EE 2 1EE	Configuration parameter error.	Set configuration value correctly and save.
	btLO (btLO)	Flat batteries.	Wait for mains power to be restored.
Acquisition procedure does not complete correctly.	AP P.E	TEST button pressed accidentally.	Repeat acquisition procedure.
		Safety devices in alarm state.	Press the TEST button and check the safety device/s in alarm state and the connections of the safety devices.
		Excessive voltage drop.	Repeat acquisition procedure. Check mains voltage.
	AP PL	Travel length error.	Move gate into completely closed position 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.
	-	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.	-	Motor leads crossed.	Swap two wires on terminal X-Y-Z or Z-Y-X.

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.

16Procedural verifications - INFO Mode

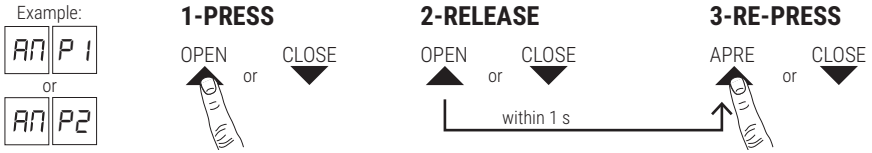


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INFO mode may be used to view certain parameters measured by the **B70/2ML** controller.
Press and hold the **TEST** button for 5 seconds from the "View command signals and safety devices" mode with the motor stationary. The control unit displays the following parameters and the corresponding measured values in sequence:

Parameter		Function
P1.05		View for 3 s the firmware version of the control unit.
CnE1	CnE2	Displays the position of MOTOR 1 / MOTOR 2, expressed in revolutions and relative to total length, at the time of the test.
Lun1	Lun2	View total length of MOTOR 1/ MOTOR 2 programmed travel , in motor revolutions.
rPM1	rPM2	View MOTOR 1 /MOTOR 2 speed, in revolutions per minute (rPM).
AMP1	AMP2	View current absorption of MOTOR 1/MOTOR 2, in Amperes (e.g.: 001.1 = 1,1 A .... 016.5 = 16,5 A). If the MOTOR 1 / MOTOR 2 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 Vac (nominal), bUS= 28.5 mains voltage= 207 Vac (-10%), bUS= 25.5 mains voltage= 253 Vac (+10%), bUS= 31.6
CMP1	CMP2	Display current, expressed in Amperes, used to compensate for strain detected by MOTOR 1 / MOTOR 2 due, for example, to low external temperatures (e.g.: 0 = 0 A ... 4 = +3 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 1 / MOTOR 2.
ASC1	ASC2	Display current threshold, expressed in Amperes, at which the obstacle detection function (crush prevention) of MOTOR 1 / MOTOR 2 is triggered. This value is calculated automatically by the controller in relation to the settings of parameters 30, 31 and 32. For the motor to function correctly, AMP must always be lower than the value ASC.
tIn1	tIn2	Indicates time taken by motor to detect an obstacle, as set with parameter 31/32, 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.
Ab51	Ab52	MOTOR 1 / MOTOR 2 status OK indicator. In normal conditions, this value is less than 500. If the value exceeds 2000, the controller disables the motor. A value exceeding 500 indicates that the characteristics of the connection cable are inadequate for the installation or that the connection cable is too long or of inadequate cross section, or may indicate an electrical fault of the brushless motor.
UP		If the control unit is capable of identifying the position of the gate leaf when the test is conducted, the following is shown on the display: UP__ position known, normal operation. UP1_ LEAF 1 position unknown, position recovery in progress. UP1_ LEAF 2 position unknown, position recovery in progress. UP12 positions of both leaves unknown, position recovery in progress.
OC		Indicates the state of the automation system (open/closed). OC OP automation system opening (motor active). OC CL automation system closing (motor active). OC -O automation system completely open (motor not actives). OC -C automation system completely closed (motor not actives).
UF		UF U_ mains voltage too low or overload. UF _H motors overcurrent.

- If only one motor is connected to the control unit, the parameters relative to "MOTOR 1" only are displayed.
- 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.
- The two motors may be controlled independently in OPERATOR PRESENT mode, ignoring the position data request message "dAtA" and bypassing the safety devices installed (photocells, sensing edges and STOP button) with the exception of the obstacle detection system. MOTOR 1 is controllable when the messages: CnE1, rPM1, AMP1 and Ab51 appear on the display. MOTOR 2 is controllable when the messages CnE2, rPM2, AMP2 and Ab52 appear on the display.



- THE MOTOR in question is activated on opening by pressing the ▲"UP ARROW" key, or on closure by pressing the ▼"DOWN ARROW" key.
- For safety, the open and close functions are only available in continuous control (operator present) mode: press the button, release within 1 second and then press and hold. The motor stops as soon as the button is released. **WARNING: during the check, the motor revolution count (position) is updated but the gate leaf alignment control function may cause problems. Before exiting INFO, make sure that the gate leaves are correctly aligned.**
- Press and hold the **TEST** button for a few seconds to exit INFO mode.

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16.1 B74/BCONNECT mode

By inserting **B74/BCONNECT** in the **WIFI** connector, all the functions are managed through internet browser and devices such as smartphones, tablets, PCs, exploiting WiFi communication, tablet, PC, all the functionalities of the central unit are managed, using the WiFi communication.

For further information consult the installation manual of the connection module B74/BCONNECT connection module.

Remote assistance" mode
Allows access and therefore the management of all the data of the control unit only in cloud mode and therefore with remote management.
When remote assistance is enabled, the message **ASCC** (assistance connect controlled) appears on the display.
By pressing the **TEST** button this message disappears for 10 seconds, and it is possible to access the parameters and other functions of the display.
After 30 minutes the display goes into stand-by, if the display is awakened by pressing a key the flashing ASCC reappears.

"Emergency operation" mode
This mode is used to exclude motor and safety alarms (e.g. photocells and sensitive edges), allowing the automation to open and close at low speed and with the operator present, with movement of the leaves only in the presence of a persistent command (when the command is released, the leaves stop).
Emergency operation is indicated by activation of the flashing light at a higher frequency.
Two types of "emergency" mode are possible: residential or condominium.
1) **residential** (flashing **L-ES** display indication): the PP command (from the terminal board or radio control) is initially managed as an opening command; only when complete opening has been reached will activation of the command send it to closing. Only when complete closure has been achieved will the command be able to open again.
2) **condominium** (flashing L-EM display indication): the PP command is initially managed as an opening command, but once it has been fully opened the leaves no longer close.
In this mode the display stand-by is not activated, always indicating the mode in progress.
By pressing the **TEST** button this message disappears for 10 seconds, and it is possible to access the parameters and other functions of the display.

ASCC	"Remote assistance" mode enabled
L-ES	"Residential emergency operation" mode enabled
L-EM	"Condominium emergency operation" mode enabled

17Mechanical release

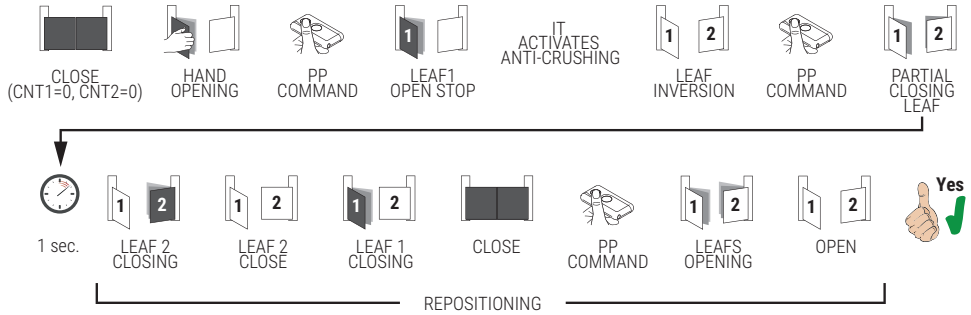
In the event of power failure, the gate may be unlocked by following the instructions given in the use and maintenance manual of the automation system. On receiving the first command signal after mains power is restored, the control unit starts an opening manoeuvre in position recovery mode (see chapter 18).

18Position recovery mode

On receiving the first command signal after a power failure or after detecting an obstacle in the same position three consecutive times, the control unit starts a manoeuvre in position recovery mode.
When the controller received a command signal, the gate starts a manoeuvre at low speed. The flashing light flashes with a different duty cycle than normal (3 s on, 1.5 s off).
In this phase the control unit performs a series of operations to recover the correct position in the opening and

closing directions. **Warning!** During the position recovery phase, do not activate any command and do not obscure the photocells until the gate has performed a complete opening and closing manoeuvre for both leaves.

RELEASE OF THE GATE LEAVES WITH POWERED CONTROL UNIT
If both gate leaves are released from a completely open or completely closed position, to obtain the regular functioning of the gate, simply reposition the leaves in the position they had when they were released. The gate will resume normal operation on receipt of the first control command.
WARNING: If one or both leaves are released when they are completely closed, to manually open the gateway, the loss of position data of the leaves occurs. In this case, the position recovery must be performed as shown in the following illustration.



POSITION RECOVERY WITH CONTROL UNIT NOT POWERED (BLACK OUT) AND INTERMEDIATE POSITION OF LEAVES (NOT COMPLETELY CLOSED OR NOT COMPLETELY OPEN)
NOTE: if set to par. *A3 0 1* and a blackout occurs, when the mains voltage returns, in whatever position the leaves are, after a pre-flashing of 5 seconds the closing manoeuvre is activated at low speed.
At the next command, the gate leaves perform the opening manoeuvre at low speed to restore normal operating mode.
NOTE: If the control unit is not powered (blackout) and parameter *A3* is at *00*, upon receipt of a command, the repositioning procedure begins, which will be completed when the leaves have performed a complete run without interruption.

19Initial testing

The testing must be performed by qualified technical personnel.
The installer is required to measure impact forces and select on the control unit the appropriate speed and torque values to ensure that the motorised door or gate remains within the limits defined by the standards EN 12453 and EN 12445.

Make sure that the provisions in Chapter 1 "GENERIC WARNINGS are observed.
- Turn on the power supply.
- Check that the automation system motors rotate in the correct direction. If the leaves do not move correctly, swap any two of the wires on the X-Y-Z motor terminal.
- Check that all connected controls are working correctly.
- 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 photocell test is enabled, check it is working properly by obscuring the photocells and giving a command: the gate leaves must not move.
- 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. Check the correct completion of the position recovery phase when opening and when closing.

20Maintenance

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.

21Disposal



The 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.

22Additional information and contact details

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ROGER TECHNOLOGY reserves the right to modifying or perfecting the product, which will not imply a FW version change.
In the absence of an instruction manual revision, it is understood that these instructions hold good for this and for subsequent FW versions of the control unit.
This instruction manual and the warnings for the installer are given in printed form and are included in the box containing the product.
The digital version of this documentation (PDF) and any future updates are available from the reserved area of our website **www.rogertechnology.com/B2B**, in the Self Service section.

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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.

Declaration CE of Conformity

The undersigned Dino Florian, legal representative of Roger Technology - Via Botticelli 8, 31021 Mogliano V.to (TV) DECLARES that the **B70/2ML** digital control unit is compliant with the provisions established by Community directives:

– 2014/35/EU Direttiva LVD
– 2014/30/EU Direttiva EMC
– 2014/53/EU Direttiva RED
– 2011/65/CE Direttiva RoHS

Last two figures of year in which marking was applied CE 20.

Place: Mogliano V.to Date: 07-05-2020 Signature