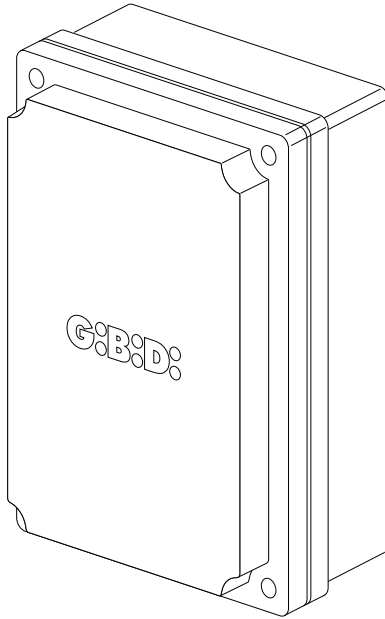


G:B:D:



•BR24BNL

CE

BR24BNL - (AS05560BNL)

Electronic control unit
INSTRUCTIONS FOR INSTALLATION

UK

I

- Questo prodotto è stato collaudato in Gi.Bi.Di. verificando la perfetta corrispondenza delle caratteristiche alle direttive vigenti.
- La Gi.Bi.Di. S.r.l. si riserva la facoltà di modificare i dati tecnici senza avviso, in funzione dell'evoluzione del prodotto.



LEGGERE ATTENTAMENTE QUESTO MANUALE PRIMA DI PROCEDERE ALL'INSTALLAZIONE.

UK

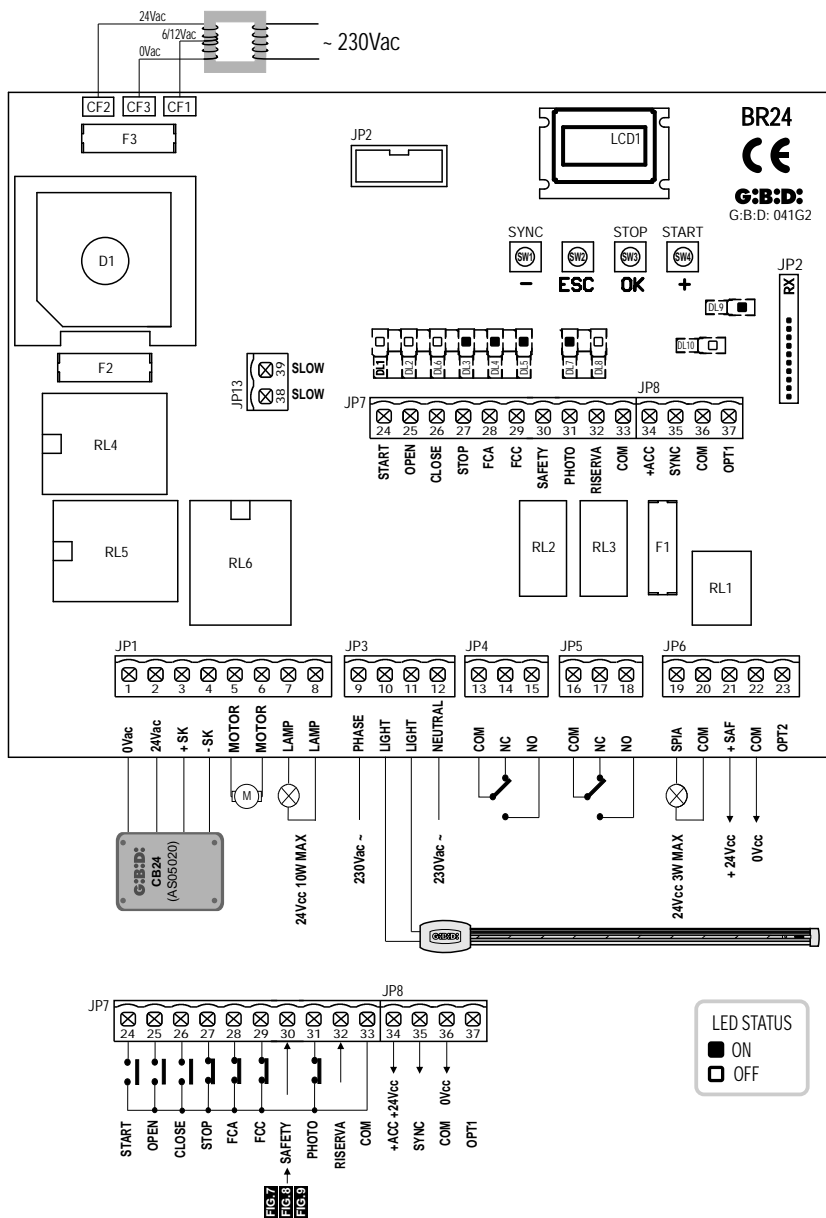
- This product has been tested in Gi.Bi.Di. verifying the perfect correspondence of the characteristics to the current directive.
- Gi.Bi.Di. S.r.l. reserves the right to modify the technical data without prior notice depending on the product development.



PLEASE READ CAREFULLY THIS MANUAL BEFORE PROCEEDING WITH THE INSTALLATION.

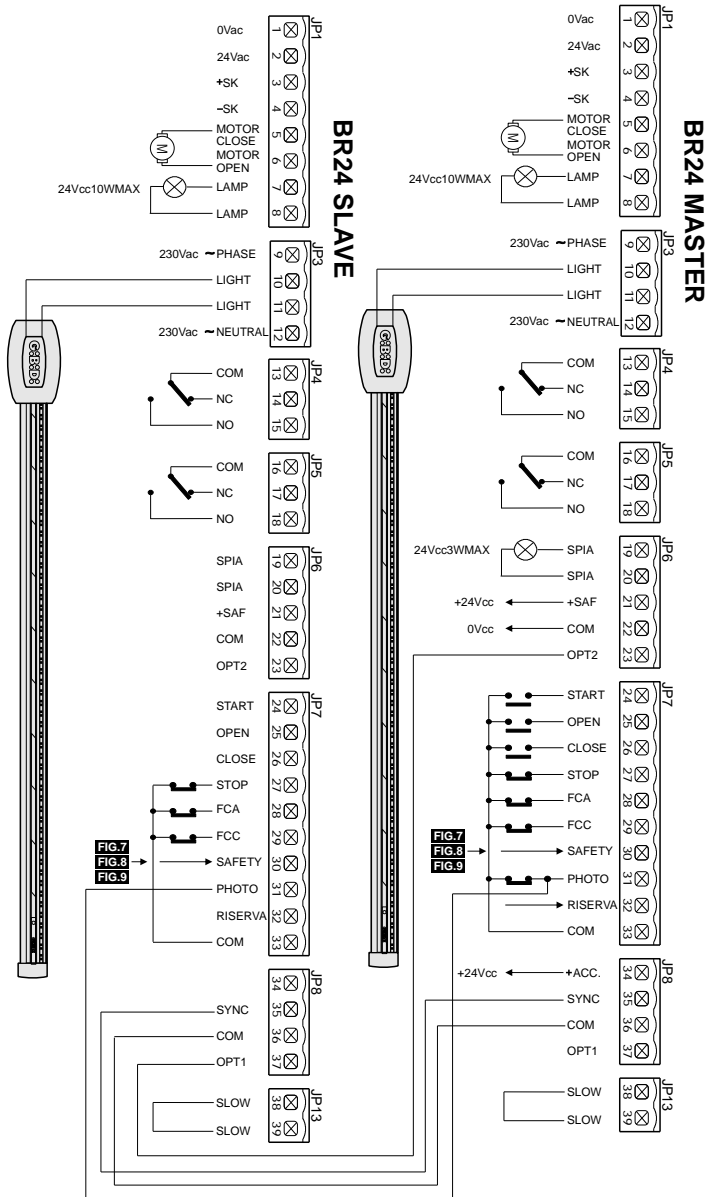
SCHEMA ELETTRICO / ELECTRICAL CONNECTION

1



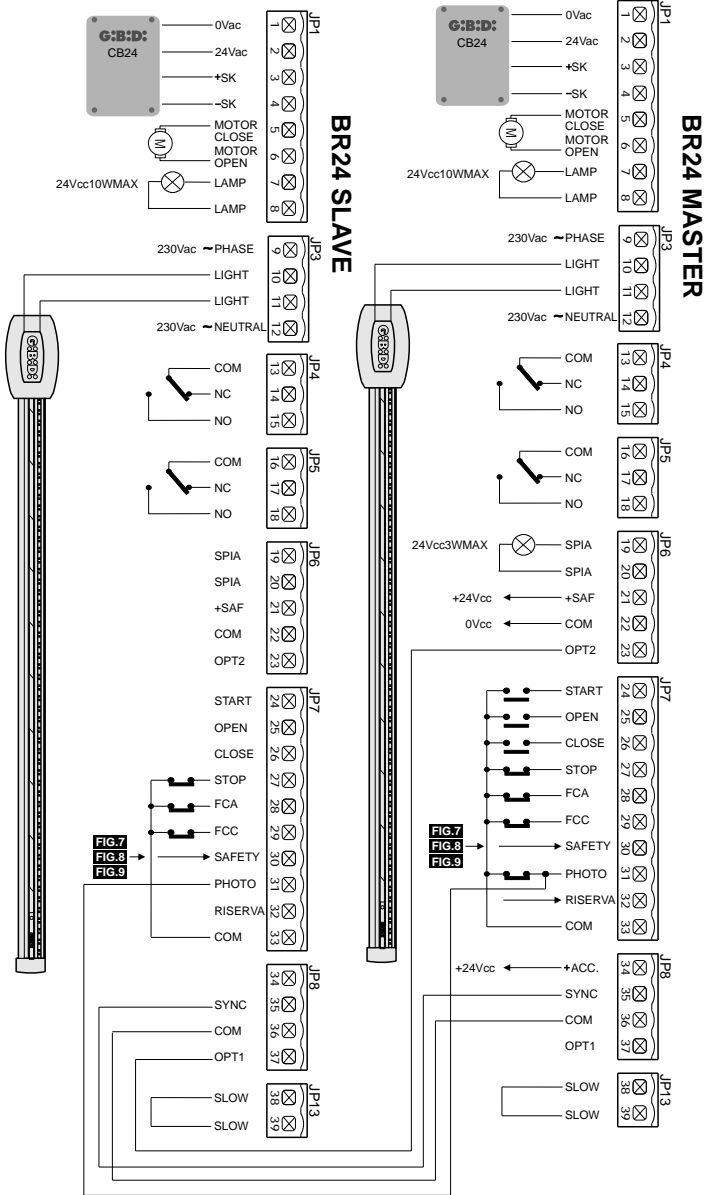
SINCRONISMO / SYNCHRONISM

2



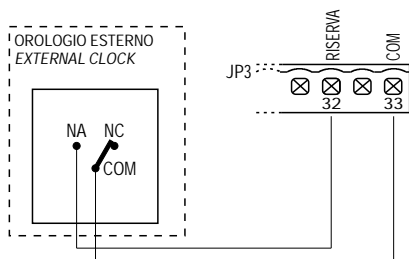
COLLEGAMENTO BATTERIE CON SINCRONISMO / BATTERY BACKUP CONNECTION WITH SYNCRONISM

3



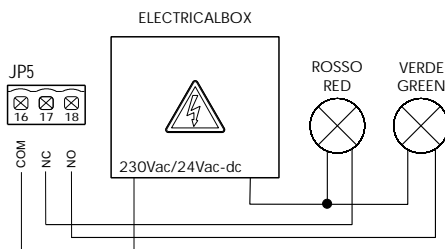
OROLOGIO ESTERNO / EXTERNAL CLOCK

4



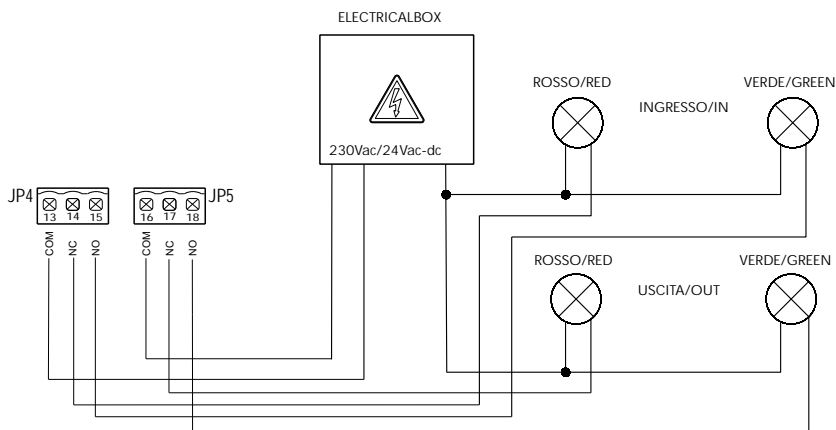
SEMAFORO UNA VIA / ONE WAY TRAFFIC LIGHT

5



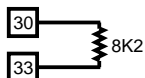
SEMAFORO DUE VIE / TWO WAYS TRAFFIC LIGHT

6



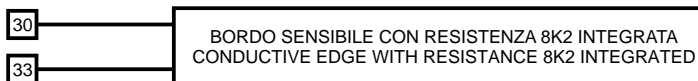
COLLEGAMENTO COSTA / SAFETY DEVICE CONNECTION

7



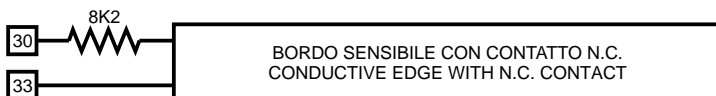
SENZA BORDO SENSIBILE
WITHOUT CONDUCTIVE EDGE

8



BORDO SENSIBILE CON RESISTENZA 8K2 INTEGRATA
CONDUCTIVE EDGE WITH RESISTANCE 8K2 INTEGRATED

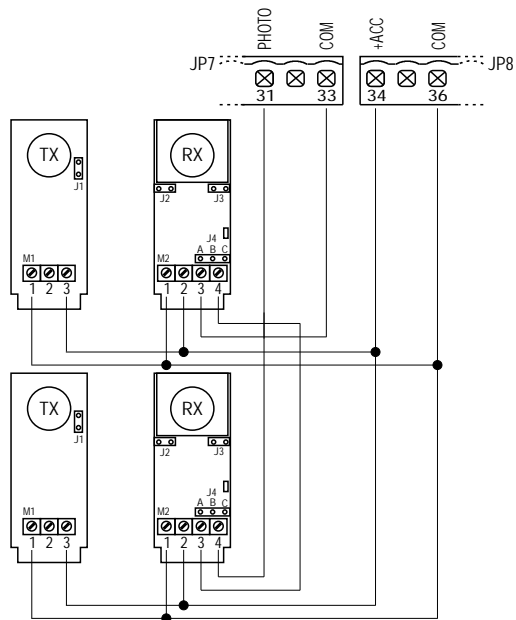
9



BORDO SENSIBILE CON CONTATTO N.C.
CONDUCTIVE EDGE WITH N.C. CONTACT

COLLEGAMENTO FOTOCELLULE / PHOTOCELLS CONNECTION

10



11

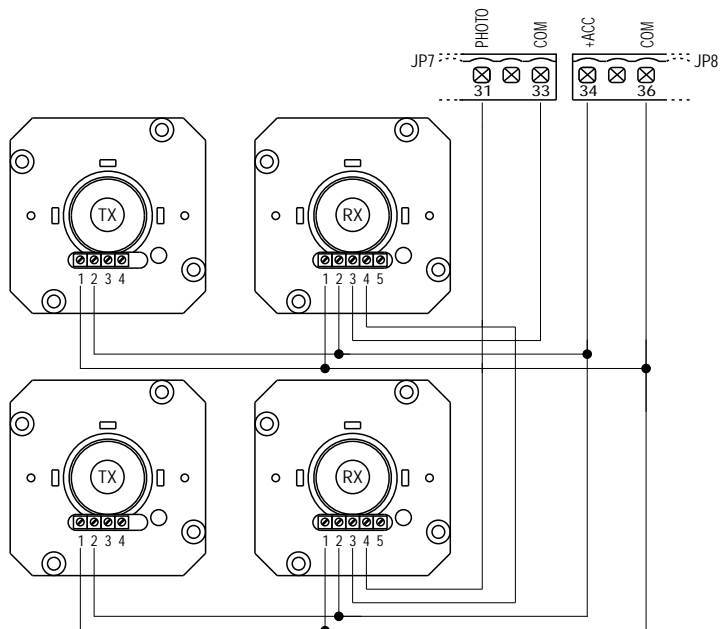
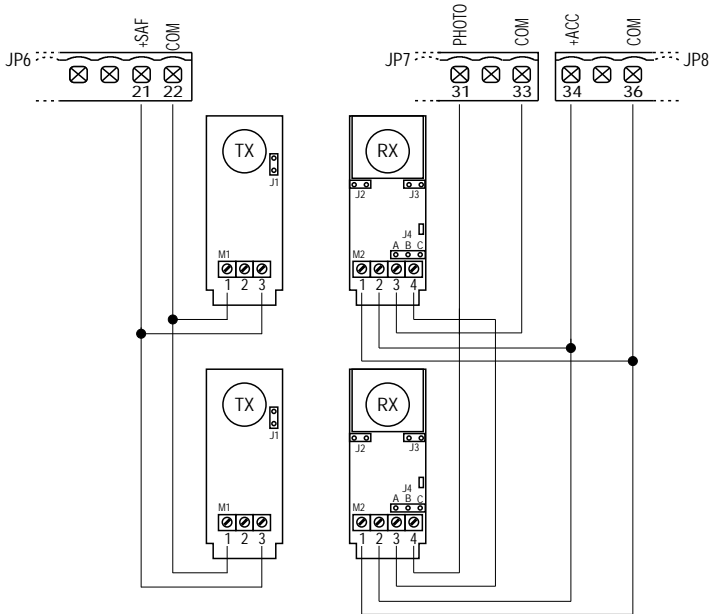
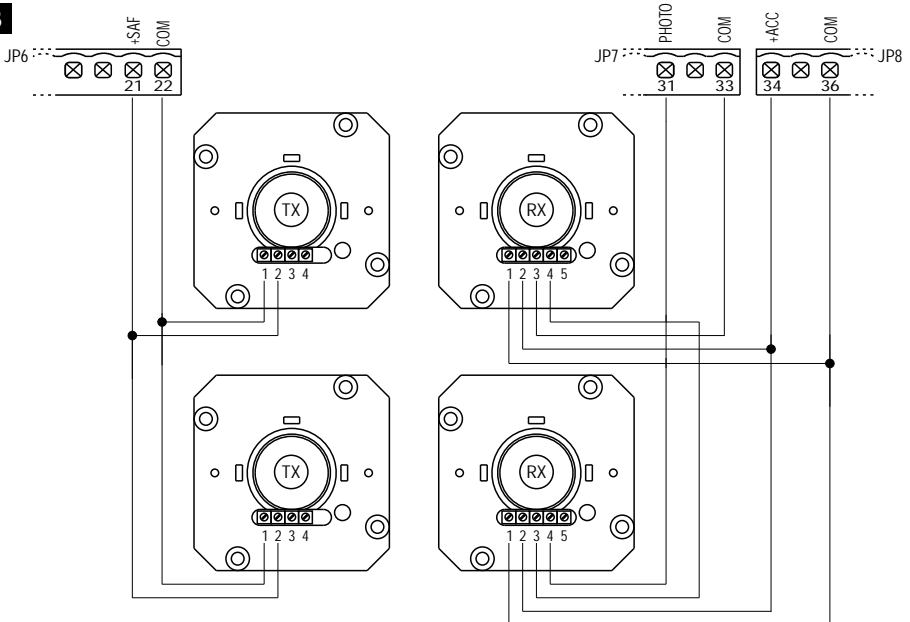


FOTO TEST / PHOTO TEST

12



13



UK

Control unit	BR24BNL
Type	Electronic control unit for the automation of a 24 Vdc motor
Power supply	230Vac monophas 50/60 Hz
No. Motors	1
Motor power supply	24 Vdc
Flashing light	24Vdc 10W max
Lights	230Vac 3W max
Courtesy light	24Vdc - 230Vac free relay contact
Electromagnet / Electric lock	24Vdc - 230Vac free relay contact
Warning light	24Vdc 3W max
Accessories power supply	24Vdc 8W max including safety devices power supply
Safety devices power supply	24Vdc 8W max including accessories power supply
Radio receiver	Plug-in
Operating temperature	-20°C +60°C

TECHNICAL SPECIFICATIONS / FUNCTIONS

- Red leds of NC contacts. There is not the safety devices led. See "SIGNALLING LEDS" table.
- Green / yellow leds of NO contacts. See "SIGNALLING LEDS" table.
- Management of 2 control units synchronized between them
- Management of 1 electric lock or electromagnet.
- Management of courtesy light.
- Management of 230 Vac lights
- Management of traffic light.
- Enabling the photocell test done before the opening and closing movement.
- Enabling the test of the amperometric circuit and conductive edge 8k2 done before the opening and closing movement.
- Separate safety devices power supply. Connect to this terminals the safety devices that will be tested.
- Working time in opening and closing adjustable.
- Digital programming of all functions.
- Adjustable pause time.
- 4 operating logics: step by step with stop, step by step, condominium or automatic, dead man.
- Programming of: automatic closing, fast closing, preflashing, fixed or intermittent flashing light, management of an external clock with 3 different modes, cycles number for planned maintenance, installer code, number of cycles done, number of powered days.

INSTALLATION WARNINGS

- Before proceeding with the installation, fit a magneto-thermal or differential switch with a maximum capacity of 10A upstream of the system. The switch must guarantee omnipolar separation of the contacts, with an opening distance of at least 3 mm.
- To prevent possible interferences, differentiate and always keep the power cables (minimum cross-section 1,5mm²) separate from the signal cables (minimum cross-section 0,5mm²).
- Make the connections referring to the following tables and to the attached screen-print. Be extremely careful to connect in series all the devices that must be connected to the same N.C. (normally closed) input and in parallel all the devices that share the same N.O. (normally open) input. Incorrect installation or improper use of the product may compromise system safety.
- Keep all the materials contained in the packaging away from children, since they pose a potential risk.
- The manufacturer declines all responsibility for improper functioning of the automated device, if the original components and accessories suitable for the specific automation are not used.
- At the end of the installation, always check carefully the proper functioning of the system and devices used.
- This instruction manual addresses people qualified for the installation of "live equipment". Therefore good technical knowledge and professional practice in compliance with the regulations in force are required.
- Maintenance must be carry out by qualified personnel.
- Before carrying out any cleaning or maintenance operation, disconnect the control unit from the mains.
- This control unit may only be used for the purpose for which it was designed. Check the aim of the final use and be sure to take all the necessary safeties.
- Use of the products for purposes different from the intended use has not been tested by the manufacturer, therefore any work is carried out on full responsibility of the installer.
- Mark the automated gate with visible warning plates.
- Warn the user that children and animals may not play or stand around near the gate.
- Appropriately protect the dangerous points (for example, use a conductive edge).
- The control unit does not assure by **itself** the safety against crushing. Be sure that the safety devices connected to the control unit are fit for purpose.

WARNINGS FOR THE USER

In the event of an operating fault or failure, cut the power upstream of the control unit and call the Technical Service.

Periodically check the functioning of the safety devices. Any repairs must be carry out by **specialized** personnel using original and certified materials.

The appliance is not to be used by children or people with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.

Do not touch the card for adjustments and/or maintenance.



WARNING: IMPORTANT SAFETY INSTRUCTIONS

It is very important to follow the present instructions for your own safety.
Please keep this manual.

UK

ELECTRICAL CONNECTIONS: FASTON

Terminal	Cable colour	Description
CF1	NOT USED	
	NOT USED	
CF2	YELLOW	Central power supply 24 Vac
CF3	BLACK	Central power supply 0 Vac

ELECTRICAL CONNECTIONS: TERMINAL BLOCKS

Terminal	Position	Signal	Description	
JP1	1	0Vac	Battery charger card connection	
	2	24Vac	Battery charger card connection	
	3	+SK	Battery charger card connection	
	4	-SK	Battery charger card connection	
	5	M1	Motor power supply	
	6	M1	Motor power supply	
	7	LAMP	Flashing light output 24Vdc 10W max.	Operation: slow flashing in opening, off in pause, fast flashing in closing
	8	LAMP	Flashing light output 24Vdc 10W max.	
JP3	9	L	POWER SUPPLY PHASE 230Vac for lights	Operation: slow flashing in opening, on in pause, fast flashing in closing
	10	LIGHT	LIGHTS 230 Vac	
	11	LIGHT	LIGHTS 230 Vac	
	12	N	POWER SUPPLY NEUTRAL 230Vac for lights	
JP4	On this terminal block there is a free contact that is activated at the start of the motor and disabled after 3 s. The contact can be used to control an ELECTRIC LOCK or an ELECTROMAGNET in opening and closing. The free contact does not provide any power supply, so it allows the use of 24 Vdc or 230 Vac devices, supplying them with the right cabling. WARNING: in case of connection of a double way traffic light, this function will not be available any more.			
	13	COM	COMMON	
	14	NC	CONTACT NORMALLY CLOSED	
	15	NO	CONTACT NORMALLY OPEN	
	JP5	On this terminal block there is a free contact that is activated at the start of the motor and disabled 3 minutes after the end of the motion. The contact can be used to control a COURTESY LIGHT or an ELECTROMAGNET. The free contact does not provide any power supply, so it allows the use of 24 Vdc or 230 Vac devices, supplying them with the right cabling. WARNING: in case of connection of a single or double way traffic light, this function will not be available anymore.		
16		COM	COMMON	
17		NC	CONTACT NORMALLY CLOSED	
18		NO	CONTACT NORMALLY OPEN	

JP6	19	SPIA	Warning light output 24 Vdc 3W max (+)	Operation: slow flashing in opening, fixed light in pause, fast flashing in closing	
	20	SPIA	Warning light output 24 Vdc 3W max (-)		
	21	+ SAF	Power supply 24 Vdc photocell transmitter for test		
	22	COM	COMMON INPUT-OUTPUT		
	23	OPT 2	SYNCHRONISM CONNECTION. Refer to paragraph "SYNCHRONIZED SYSTEM" and figure 2		
JP7	24	START	START input (N.O.) Control the operation cycle of the gate		
	25	OPEN	OPENING input (N.O.). Determine only the opening of the gate . WARNING: The OPEN command changes his functioning if a traffic light is connected and menu E20-3 is selected. Refer to the paragraph about traffic light operation		
	26	CLOSE	CLOSING (N.O.) input. Determine only the closing of the gate		
	27	STOP	STOP (N.C.) input Determines the lock of the manoeuvre If not used, jump with terminal 33 (COM)		
	28	FCA	OPENING LIMIT SWITCH input (N.C.)		
	29	FCC	CLOSING LIMIT SWITCH input (N.C.)		
	30	SAFETY	SAFETY DEVICES input (8K2 EDGE) only operates on the control unit connected to it (Master or Slave) If not in use disable during programming (C9-1). If using a safety edge with NC contact, an 8K2 resistor must be connected in series to one of the cables wired to the control board. Operation: - during opening, the motion is stopped till contact restoring. - during pause, the automatic closing will be reloaded (if enabled) till contact restoring (charges pause time again). - during closing, the motion is stopped, when contact is restored the door will open. When the contact is open (gate motionless): the activation of OPEN button for 3 sec. will enable the dead man opening; the activation of CLOSE button for 3 sec. will enable the dead man closing.		
	31	PHOTO	PHOTOCELL input (N.C.). If not use disable during programming (C7-1) Operation (only connected to master): - active input in opening and closing or only in closing - during opening, if operation in opening/closing is enabled, the motion is stopped till contact restoring. - during pause, the automatic closing will be reloaded (if enabled) till contact restoring (charges pause time again). - during closing, stops the motion and inverts during opening. When the contact is open (gate motionless): the activation of OPEN button for 3 sec. will enable the dead man opening; the activation of CLOSE button for 3 sec. will enable the dead man closing.		
	32	RESERVE	Multifunctional input	EXTERNAL CLOCK: see programming menu E9	
	33	COM	COMMON INPUT-OUTPUT		

UK

JP8	34	+ ACC	EXTERNAL ACCESSORIES POWER SUPPLY +24 Vdc
	35	SYNC	SYNCRONISM CONNECTION Refer to paragraph "SYNCRONIZED SYSTEM" and figure 2
	36	COM	EXTERNAL ACCESSORIES POWER SUPPLY and SYNCRONISM CONNECTION Refer to paragraph "SYNCRONIZED SYSTEM" and figure 2
	37	OPT1	SYNCRONISM CONNECTION Refer to paragraph "SYNCRONIZED SYSTEM" and figure 2
JP13	38		NOT USED
	39		NOT USED
JP12	40	GND	Not mounted
	41	ANT	
JP2			Plug in radio receiver connector

SIGNALLING LED

Position	Colour	Signal	Description
DL1	GREEN	START	Lights when the START command is activated and turns off immediately after
DL2	GREEN	OPEN	Lights when the OPEN command is activated and turns off immediately after
DL3	RED	STOP	Always on. It turns off when the STOP command is activated
DL4	RED	FCA	Always on. It turns off when reaching the OPENING LIMIT SWITCH
DL5	RED	FCC	Always on. It turns off when reaching the CLOSING LIMIT SWITCH
DL6	YELLOW	CLOSE	Lights when the CLOSE command is activated and turns off immediately after
DL7	RED	PH1	Always on. It turns off when the photocell is intercepted
DL8	RED	RESERVE	Lights when the contact switch from open to close and remain on until the contact switch off.
DL9	GREEN	VCC	Always on. It shows logic circuit power supply
DL10	YELLOW	OPTIONAL	Lights on SLAVE board when an opening command is done in synchronized system

PROTECTION FUSES

Position	Value	Type	Description
F1	500 mA	FAST	External accessories protection (accessories wired between +24 Vdc and COMMON)
F2	15 A	/	Control unit, motor and accessories protection when the control unit is battery supplied
F3	15 A	/	Control unit, motor and accessories protection

CHECK ENABLED INPUT

During stand by (closed **gate**) the control unit perform a test to verify the consistency between the enabling of an input by the menu and the status of the relevant contact.

Signal	Open contact	Closed contact
PHOTOCELL	m F	m —
SAFETY EDGE	m C	m —
LIMIT SWITCH	m L	m —
STOP	m S	m —

The letter on top left of the display could be "m" if the control unit is set as MASTER or "o" if set as SLAVE.

WARNING: The display indication is not a verification of the correct functionality of the input but simply a check on what is enabled by the menu and the input status.

If the menu related to one input is disabled there will not be any check and the display indication will be the one shown in the "Closed contact" column.

PASSWORD MANAGEMENT

You can enter the control board programming menu in 2 different ways, using 2 different password depending on which menu you want to set.

BASIC MODE: when prompted for the password enter 0000. In such a way you enter only the menus listed below

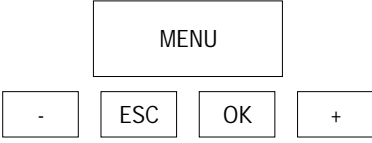
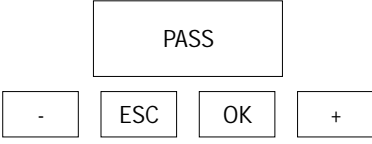
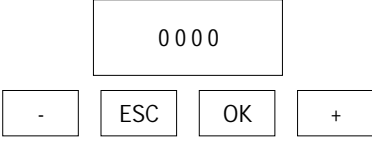
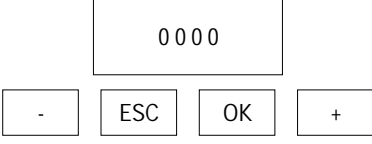
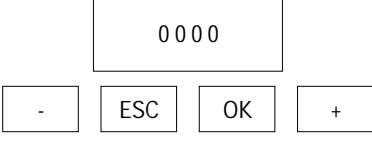
- A3 operation logic
- A5 automatic closing
- C9 safety edge
- H9 pause time
- E94 firmware release

ADVANCED MODE: when prompted for the password enter the default one 1234 . In such a way you enter all the menus.

WARNING: if you change the password in the menu E92, that is if you change the default password 1234 with another one, then you can no more access the system by entering 0000. The only way to do that is by resetting the control board or by entering again the password 1234 in the menu E92.

UK

ENTERING PASSWORD PROCEDURE

	<p>Press ESC and OK button simultaneously for 3 s. At the same time will appear MENU on the display.</p>
	<p>After 3 s appears PASS on the display. Press the OK button to continue with the procedure. Press and hold the ESC key for 3 s to exit and return to previous point. The message EXIT will appear on the display.</p>
	<p>It appears on the display 4 digits (0 0 0 0) with the former of them flashing. If you want to enter the ADVANCED programming, by means of + or - keys type the first digit of the installer code set in the menu E92. Once you get to the desired digit confirm with the OK button and go to the next step. If you want to enter the BASIC programming, confirm the digit 0 WARNING ! At first use of the control board the default PASSWORD set in the menu E92 is: 1234 Change the value of menu E92 only after having completed the settings of the menus A C H E.</p>
	<p>The second digit blinks. If you want to enter the ADVANCED programming, by means of + or - keys type the second digit of the installer code set in the menu E92. Once you get to the desired digit confirm with the OK button and go to the next step. If you want to enter the BASIC programming, confirm the digit 0 The ESC button will move the flashing digit to the left until the first digit.</p>
	<p>The third digit blinks. If you want to enter the ADVANCED programming, by means of + or - keys type the third digit of the installer code set in the menu E92. Once you get to the desired digit confirm with the OK button and go to the next step. If you want to enter the BASIC programming, confirm the digit 0 The ESC button will move the flashing digit to the left until the first digit.</p>

<div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">0 0 0 0</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> - ESC OK + </div>	<p>The fourth digit blinks.</p> <p>If you want to enter the ADVANCED programming, by means of + or - keys type the fourth digit of the installer code set in the menu E92. Once you get to the desired digit confirm with the OK button and go to the next step.</p> <p>If you want to enter the BASIC programming, confirm the digit 0</p> <p>The ESC button will move the flashing digit to the left until the first digit.</p>
<div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">0 0 0 0</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> - ESC OK + </div>	<p>By now the installer code is completed: if it is right you go to the next step.</p> <p>If the installer code is wrong the message PASS appears again</p>
<div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto; color: red;">A C H E</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> - ESC OK + </div>	<p>Proceed with the programming of the menus following the instructions in the relevant paragraphs.</p> <p>Once the programming is completed press and hold for 3 s the ESC button to store the settings and exit from programming procedure. Simultaneously appears the message EXIT</p>
<div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">- - - - -</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> - ESC OK + </div>	<p>If there is no mismatch between enabling and input status appears the screen you can see here beside, otherwise it will appear an indication of which input has a fault.</p> <p>Refer to the paragraph "CHECK ENABLED INPUT"</p> <p>In this case the buttons + and OK will mean: + → START OK → STOP</p>

MENU A: SYSTEM CONFIGURATION AND OPERATING LOGIC SELECTION

Example Programming MENU A	
<div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto; color: red;">A C H E</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> - ESC OK + </div>	<p>When the display shows the main menus (letters ACHE or just some of them depending on which password was used to access programming) let the letter A blink by moving to the right or to the left with the buttons + or -</p> <p>Once the letter A blinks confirm with the OK button</p>
<div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">A 3 4</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> - ESC OK + </div>	<p>By means of + or - buttons you can select the submenus (A3, A5). The digits on the LCD are fixed to show that is no possible any modification. The button ESC lets you to go to the upper level (menus A, C, HE).</p> <p>With OK button you enter the selected menu and the digits start blinking to show that is now possible to modify the values and the ESC button becomes irrelevant.</p> <p>Right now with + or - buttons you can change the settings of the selected menu.</p> <p>With the OK button you confirm the data and return to the selected menu with fixed digits.</p>

UK

<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">A5 2</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid black; padding: 2px 10px;">-</div> <div style="border: 1px solid black; padding: 2px 10px;">ESC</div> <div style="border: 1px solid black; padding: 2px 10px;">OK</div> <div style="border: 1px solid black; padding: 2px 10px;">+</div> </div>	<p>Right now with + and - buttons you can scroll the other submenus of the menu A and you can follow the same procedure shown above.</p> <p>The ESC button lets you to go to the upper level (menus A, C, H E).</p>
--	--

Description MENU A			
Menu	Function	Status	Description
A3	STEP BY STEP WITH STOP LOGIC	2	<p>It enables the STEP BY STEP WITH STOP logic</p> <p>Operation:</p> <p>Command START START open Next START stop (*) Next START close Next START open</p> <p>If automatic closing has been activated (menu A5) and the opening phase is at the end of the cycle, when the pause time has elapsed (menu H9), the control unit automatically closes the gate. If the gate is open "START" closes the gate.</p> <p>(*) If synchronized system this command is not sent from MASTER to SLAVE.</p> <p>Command OPEN - With gate closed it opens - During opening is irrelevant - During pause is irrelevant - During closing inverts the motion toward opening</p> <p>WARNING: the OPEN command changes its function if you use a traffic light and select the menu E20-3. Refer to the paragraph related to the traffic light operation</p> <p>Command CLOSE - During opening inverts the motion toward closing - During pause enables closing - During closing is irrelevant - With gate closed is irrelevant, when FCC is detected</p>
	STEP - STEP LOGIC	3	<p>It enables the STEP - STEP logic</p> <p>Operation:</p> <p>Command START START open Next START close (*) Next START open</p> <p>If automatic closing has been activated (menu A5) and the opening phase is at the end of the cycle, when the pause time has elapsed (menu H9), the control unit automatically closes the gate. If the gate is open "START" closes the gate.</p> <p>(*) If synchronized system this command is not sent from MASTER to SLAVE.</p>

	STEP - STEP LOGIC	3	<p>Command OPEN</p> <ul style="list-style-type: none"> - With gate closed it opens - During opening is irrelevant - During pause is irrelevant - During closing inverts the motion toward opening <p>WARNING: the OPEN command changes its function if you use a traffic light and select the menu E20-3. Refer to the paragraph related to the traffic light operation</p> <p>Command CLOSE</p> <ul style="list-style-type: none"> - During opening inverts the motion toward closing - During pause enables closing - During closing is irrelevant - With gate closed is irrelevant, when FCC is detected
A3	AUTOMATIC / CONDOMINIUM LOGIC	4	<p>It enables the AUTOMATIC/CONDOMINIUM logic</p> <p>Operation:</p> <p>Command START START open</p> <p>Next START(S) irrelevant if the system is opening, or it reset the pause time (if the gate is in pause and the automatic closing is activated).</p> <p>When the pause time has elapsed: If the automatic closing is activated, the system closes automatically. If the automatic closing is not activated, a START command close the gate. In closing a START command opens.</p> <p>Command OPEN</p> <ul style="list-style-type: none"> - With gate closed it opens - During opening is irrelevant - During pause is irrelevant - During closing inverts the motion toward opening <p>WARNING: the OPEN command changes its function if you use a traffic light and select the menu E20-3. Refer to the paragraph related to the traffic light operation</p> <p>Command CLOSE</p> <ul style="list-style-type: none"> - During opening inverts the motion toward closing - During pause enables closing - During closing is irrelevant - With the gate closed is irrelevant, when FCC is detected
	DEAD MAN LOGIC	5	<p>It enables the DEAD MAN logic</p> <p>Operation:</p> <p>OPEN button opens only if the button is held down. CLOSE button closes only if the button is held down. START command is irrelevant. With Dead Man Logic the button + (START) and OK (STOP) on the control board are irrelevant.</p> <p>With the movement the electromagnet and the courtesy light will turn on. With dead man logic the opening and closing movement will stop always on limit switch.</p>

UK

A3	DEAD MAN LOGIC	5	<p>The safety devices are never active but STOP is active.</p> <p>If the buttons will be continuously pressed the flashing light and the warning light remain active even if the motors has stopped on the limit switches. With this logic is not possible to make a synchronized system.</p>
A5	AUTOMATIC CLOSING	1	Disables the automatic closing
		2	Enables the automatic closing

MENU C: FUNCTION SELECTIONI

Example Programming MENU C	
<div style="border: 1px solid black; padding: 5px; text-align: center;"> A C H E </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> - ESC OK + </div>	<p>When the display shows the main menus (letters ACHE or just some of them depending on which password was used to access programming) let the letter C blink by moving to the right or to the left with the buttons + or -</p> <p>Once the letter C blinks confirm with the OK button</p>
<div style="border: 1px solid black; padding: 5px; text-align: center;"> C 1 1 </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> - ESC OK + </div>	<p>By means of + or - buttons you can select the submenus (C1, C2, C3,...) The digits on the LCD are fixed to show that is not possible any modification. The button ESC lets you to go to the upper level (menus A, C, H E).</p> <p>With OK button you enter the selected menu and the digits start blinking to show that is now possible to modify the values and the ESC button becomes irrelevant.</p> <p>Right now with + and - buttons you can change the settings of the selected menu.</p> <p>With the OK button you confirm the data and return to the selected menu with fixed digits.</p>
<div style="border: 1px solid black; padding: 5px; text-align: center;"> C 2 2 </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> - ESC OK + </div>	<p>Right now with + and - buttons you can scroll the other submenus of the menu C and you can follow the same procedure shown above.</p> <p>The ESC button lets you to go to the upper level (menus A, C, H E).</p>

Description MENU C			
Menu	Function	Status	Description
C1	FAST CLOSING	1	Disables the fast closing function
		2	Enables fast closing function Reduces the pause time to 3 s following interception and subsequent freeing of the photocells.
C2	FLASHING LIGHT, WARNING LIGHT AND GATE LIGHT	2	Blinking light output
		3	Fixed light output

C3	PREFLASHING	1	Disables preflashing. The flashing light and the motors start at the same time.
		2	Enables 3 s preflashing before motor start
C7	PHOTOCELL	1	Disables photocell input
		2	Enables photocell during closing
		3	Enables photocell during opening & closing
C9	SAFETY DEVICE (8K2 edge)	1	Disables the safety device input
		2	Enables the safety device input With synchronized system the safety edge works individually; each single gate will have its own safety edge and the intervention of the safety edge will invert the movement of just its gate .
		3	Enables the safety device during opening & closing

MENU H: TIME SETTINGS

Example Programming MENU H		
<div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">A C H E</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> - ESC OK + </div>		<p>When the display shows the main menus (letters ACHE or just some of them depending on which password was used to access programming) let the letter H blink by moving to the right or to the left with the buttons + or -</p> <p>Once the letter H blinks confirm with the OK button</p>
<div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">H 9</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> - ESC OK + </div>		<p>By means of + or - buttons you can select the submenus (H1-H2-H9) The digits on the LCD are fixed to show that is no possible any modification. The button ESC lets you to go to the upper level (menus A, C, H E).</p> <p>With OK button you enter the selected menu and the value set is shown.</p>
<div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">0 0 0 5</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> - ESC OK + </div>		<p>The digits on the LCD are still fixed to shown that is not possible any modification.</p> <p>The buttons + and - are irrelevant. The ESC button return to the upper level</p> <p>With OK button you enter the selected menu and the digits begin blinking.</p>
<div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">0 0 0 5</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> - ESC OK + </div>		<p>A digit of the LCD blinks (depending on the menu the blinking digit could be different).</p> <p>With + and - buttons you can modify the value of the blinking digit.</p> <p>The ESC button moves the blinking digit to the left until the first digit you can modify.</p> <p>With OK you confirm and go to the next step.</p>

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<div style="border: 1px solid black; padding: 5px; text-align: center; margin-bottom: 5px;">0 0 0 5</div> <div style="display: flex; justify-content: space-around; align-items: center;"> - ESC OK + </div>	<p>The next digit starts blinking</p> <p>With + and - buttons you can modify the value of the blinking digit.</p> <p>The ESC button moves the blinking digit to the left until the first digit you can modify.</p> <p>With OK you confirm and go to the next step.</p>
<div style="border: 1px solid black; padding: 5px; text-align: center; margin-bottom: 5px;">0 0 0 5</div> <div style="display: flex; justify-content: space-around; align-items: center;"> - ESC OK + </div>	<p>The next digit starts blinking</p> <p>With + and - buttons you can modify the value of the blinking digit.</p> <p>The ESC button moves the blinking digit to the left until the first digit you can modify.</p> <p>With OK you confirm and go to the next step.</p>
<div style="border: 1px solid black; padding: 5px; text-align: center; margin-bottom: 5px;">H 9</div> <div style="display: flex; justify-content: space-around; align-items: center;"> - ESC OK + </div>	<p>Appears again menu H9.</p> <p>With ESC return to the upper level (menu A, C, H, E)</p>

Description MENU H		All the times can be set in steps of 1 s
Menu	Function	Description
H1	OPENING TIME	max 300 sec.
H2	CLOSING TIME	max 300 sec.
H9	AUTOMATIC CLOSING PAUSE TIME	Determines the pause time in opening before automatic closing. (t.max 300 sec.)

MENU E: ENABLING AND DISABLING

The menu E contains submenus with different programming mode. Menus from E1 to E89 have the same programming mode as menu C; menus identified by E90 onwards have the same programming mode of menu F.

Example Programming MENU E	From E1 to E89
<div style="border: 1px solid black; padding: 5px; text-align: center; margin-bottom: 5px;">A C H E</div> <div style="display: flex; justify-content: space-around; align-items: center;"> - ESC OK + </div>	<p>When the display shows the main menus (letters ACHE or just some of them depending on which password was used to access programming) let the letter E blink by moving to the right or to the left with the buttons + or -</p> <p>Once the letter E blinks confirm with the OK button</p>

<div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">E 1 1</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> - ESC OK + </div>	<p>By means of + or - buttons you can select the submenus (E1, E3, E9,...) The digits on the LCD are fixed to show that is no possible any modification. The button ESC lets you to go to the upper level (menus A, C, H E).</p> <p>With OK button you enter the selected menu and the digits start blinking to show that is now possible to modify the values and the ESC button becomes irrelevant.</p> <p>Right now with + and - buttons you can change the settings of the selected menu.</p> <p>With the OK button you confirm the data and return to the selected menu with fixed digits.</p>		
<div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">E 3 2</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> - ESC OK + </div>	<p>Right now with + and - buttons you can scroll the other submenus of the menu C and you can follow the same procedure shown above.</p> <p>The ESC button lets you to go to the upper level (menus A, C, H E).</p>		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%; padding: 5px;">Example Programming MENU E</td> <td style="padding: 5px;">From E90</td> </tr> </table>		Example Programming MENU E	From E90
Example Programming MENU E	From E90		
<div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">A C H E</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> - ESC OK + </div>	<p>When the display shows the main menus (letters A C H E or just some of them depending on which password was used to access programming) let the letter E blink by moving to the right or to the left with the buttons + or -</p> <p>Once the letter E blinks confirm with the OK button</p>		
<div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">E 90</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> - ESC OK + </div>	<p>By means of + or - buttons you can select the submenus (E90, ...) The digits on the LCD are fixed to show that is no possible any modification. The button ESC lets you to go to the upper level (menus A, C, H E).</p> <p>With OK button you enter the selected menu and the value set is shown.</p>		
<div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">0 0 0 5</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> - ESC OK + </div>	<p>The digits on the LCD are still fixed to show that is not possible any modification.</p> <p>The buttons + and - are irrelevant. The ESC button return to the upper level</p> <p>With OK button you enter the selected menu and the digits begin blinking.</p>		
<div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">0 0 0 5</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> - ESC OK + </div>	<p>A digit of the LCD blinks (depending on the menu the blinking digit could be different).</p> <p>With + and - buttons you can modify the value of the blinking digit.</p> <p>The ESC button moves the blinking digit to the left until the first digit you can modify.</p> <p>With OK you confirm and go to the next step.</p>		

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<div style="border: 1px solid black; padding: 5px; text-align: center; margin-bottom: 5px;">0 0 0 5</div> <div style="display: flex; justify-content: space-around; align-items: center;"> - ESC OK + </div>	<p>The next digit starts blinking</p> <p>With + and - buttons you can modify the value of the blinking digit.</p> <p>The ESC button moves the blinking digit to the left until the first digit you can modify.</p> <p>With OK you confirm and go to the next step.</p>
<div style="border: 1px solid black; padding: 5px; text-align: center; margin-bottom: 5px;">0 0 0 5</div> <div style="display: flex; justify-content: space-around; align-items: center;"> - ESC OK + </div>	<p>The next digit starts blinking</p> <p>With + and - buttons you can modify the value of the blinking digit.</p> <p>The ESC button moves the blinking digit to the left until the first digit you can modify.</p> <p>With OK you confirm and go to the next step.</p>
<div style="border: 1px solid black; padding: 5px; text-align: center; margin-bottom: 5px; color: red;">0 0 0 5</div> <div style="display: flex; justify-content: space-around; align-items: center;"> - ESC OK + </div>	<p>The next digit starts blinking</p> <p>With + and - buttons you can modify the value of the blinking digit.</p> <p>The ESC button moves the blinking digit to the left until the first digit you can modify.</p> <p>With OK you confirm and go to the next step.</p>
<div style="border: 1px solid black; padding: 5px; text-align: center; margin-bottom: 5px;">E 90</div> <div style="display: flex; justify-content: space-around; align-items: center;"> - ESC OK + </div>	<p>Appears again menu E90.</p> <p>With ESC return to the upper level (menu A, C, H, E)</p>

Description MENU E			
Menu	Function	Status	Description
E1	PHOTOCELL TEST	1	Disables the photocell test
		2	Enables the photocell test. The transmitter of the photocell must be connected to the terminal n. 21 e 22 Operation: When the START or OPEN command is given the power to the photocell transmitter is cut off for 0,5 s and then restored: if photocell input switches from close to open and then return close the motor starts, otherwise a fault will be signaled by 4 blinks (1 s) of the flashing light, the warning light and the gate lights.
E3	SAFETY DEVICES TEST 8K2 EDGE	1	Disables the safety devices test
		2	Enables the safety devices test. See also menu E1 photocell test. Operation: if enabled (menu C9-2 and C9-3) the 8K2 EDGE input is tested. If the value is not correct, the fault is signaled with 2 long flashes (2 s.) of the flashing light, the warning light and the gate lights.

E9	EXTERNAL CLOCK	1	Disables RESERVE input (EXTERNAL CLOCK NOT ACTIVE)
		2	EXTERNAL CLOCK - CLOSING ALLOWED Enable the RESERVE input for the connection of an external clock Operation: With the contact on the RESERVE input closed between terminal 32 and common 33 (led DL8 on), following a START command the gate will open but it will not close automatically. Following the contact opening, the gate will close automatically after the pause time. When the gate is open, the closing command can be given with: START command if active logic STEP - STEP or STEP - STEP WITH CLOSE command WARNING: remember to preset the automatic closing and avoid the automatic/condominium logic.
		3	EXTERNAL CLOCK - CLOSING NOT ALLOWED Enable the RESERVE input for the connection of an external clock Operation: With the contact on the RESERVE input closed between terminal 32 and common 33 (led DL8 on), following a START command the gate will open but it will not close automatically. Following the contact opening, the gate will close automatically after the pause time. When the gate is open, it is not possible to give a closing command with START or CLOSE command. WARNING: remember to preset the automatic closing
		4	EXTERNAL CLOCK - AUTOMATIC OPENING AND CLOSING COMMAND Enable the RESERVE input for the connection of an external clock Operation: With the contact on the RESERVE input closed between terminal 32 and common 33 (led DL8 on), an automatic opening command will activate (with no need of a START command). The gate will open, but it will not close automatically. Following the contact opening, the gate will close automatically after the pause time. It is not possible to activate the closing with START or CLOSE command. WARNING: remember to preset the automatic closing
E20	TRAFFIC LIGHT	1	Disables TRAFFIC LIGHT functioning
		2	Enables ONE WAY TRAFFIC LIGHT functioning. Operation: see relevant paragraph
		3	Enables TWO WAYS TRAFFIC LIGHT WITH RESERVATION functioning. Operation: see relevant paragraph
E22	SYNC	2	Set the control board as MASTER for a synchronized system. Operation: see relevant paragraph
		3	Set the control board as SLAVE for a synchronized system. Operation: see relevant paragraph
E24	OPEN AND CLOSE BUTTON ON MASTER ACTIVE ALSO ON SLAVE	1	In case of synchronized system the OPEN and CLOSE button on the MASTER control board will operate only on MASTER.
		2	In case of synchronized system the OPEN and CLOSE button on the MASTER control board will operate both on MASTER and on SLAVE.

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E90	CYCLES NUMBER	<p>Allows the setting of a number of cycles (opening+ closing) before the maintenance request. The value set will always be multiplied for 10. If 0000 is set, the numbering is excluded. When the set number of cycles is reached, the maintenance request is signaled by a slow blink of 60 s at the end of the movement. The signaling is done with the flashing light, the warning light and the gate lights</p> <p>The signaling will be flashing even if the menu C2 is set with fixed light.</p> <p>WARNING: Each time you enter the menu E90 with value blinking, that is ready to be modified, the cycles counter is reset.</p>
E92	INSTALLER CODE	<p>Allows the input of the installer code to customize the settings during the programming phase. The INSTALLER CODE is the only way to enter the programming menu.</p>
E94	FIRMWARE RELEASE	Shows the firmware release installed on the equipment. (XX_b_YY)
E96	NUMBER OF PERFORMED CYCLES	Number of performed cycles. The value displayed on the LCD is increased every 10 movements.
E98	NUMBER OF POWERED DAYS	Number of powered days. The data increase each 24 hours. Any shortage of power reset the count of the last day

USING THE LIMIT SWITCHES

The correct polarity must be checked by unlocking the gate and handily moving in opening and closing with the control board powered on.

During the opening movement, at the interception of the limit switch, the led DL4 on the control board should switch off.

During the closing movement, at the interception of the limit switch, the led DL5 on the control board should switch off.

SYNCHRONIZED SYSTEM

In case of installation with 2 control boards wired and **synchronized** with each other the MASTER will send some commands to the SLAVE, that works in sync with the MASTER.

CONTROL BOARDS SETTINGS

- 1 - define a control board as MASTER setting the E22-2. On the display will appear the letter "m" on top left.
- 2 - define the other control board as SLAVE setting the menu E22-3. On the display will appear the letter "o" on top left.
- 3 - the radio receiver must be plugged in on the MASTER board.
- 4 - on both control board use the same settings for:
 - a. automatic functioning logic - menu A3 - 4
 - b. pre-flashing - menu C3
 - c. safety devices test - menu E3
- 5 - if necessary set on the MASTER the possibility to have the command OPEN and CLOSE also on SLAVE - menu E24
- 6 - connect the photocell to MASTER and SLAVE board
- 7 - enable photocell input on MASTER and SLAVE - menu C7-2, C7-3
- 8 - set the flashing light output for MASTER and SLAVE
- 9 - enable the safety edge if present - menu C9 - both for MASTER and SLAVE

OPERATION

The SLAVE board will receive the following commands from MASTER board:

- START
- OPEN if enabled menu E24 - 2
- CLOSE if enabled menu E24 - 2
- STOP
- PHOTO

The SLAVE board will manage for its own:

- SAFETY EDGE
- LIMIT SWITCH
- GATE LIGHTS
- FLASHING LIGHT

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TRAFFIC LIGHT OPERATION

WARNING: in the drawings n. 5 and 6 the power for the lights must be taken outside the control board. If not possible please refer to the electrical features of the control board, being careful not to overload the output power accessory.

ONE WAY TRAFFIC LIGHT

Operation:

the red light will be always on until the complete opening of the **gate**. It will switch off at the beginning of the pause time and at the same time the green led will switch on. At start closing the green light will switch off and the red one will switch on.

With dead man logic the green light will switch on at the interception of the opening limit switch. As soon as the closing begins the green light will switch off and the red one will switch on.

WARNING: with this settings the terminal block JP5 will no more be available for connecting a courtesy light while the terminal block JP4 will remain available for connecting an electric lock or an electromagnet

TWO WAY TRAFFIC LIGHT WITH RESERVATION

WARNING: It is recommended the AUTOMATIC /CONDOMINIUM logic

Operation:

The START command and the channel n. 1 of a stored transmitter will active the system and reserve the input traffic light. The button "+" on the control board will open but it will not active the traffic light.

The red light will be always on until the complete opening of the **gate**. It will switch off at the beginning of the pause time and at the same time the green led will switch on. At start closing the green light will switch off and the red one will switch on.

The OPEN command and the channel n. 2 of a stored transmitter will active the system and reserve the output traffic light. (Note that OPEN command and channel 2 of the transmitter are now working as START).

The red light will be always on until the complete opening of the **gate**. It will switch off at the beginning of the pause time and at the same time the green led will switch on. At start closing the green light will switch off and the red one will switch on.

The traffic light reservation will be cancelled at the end of closing phase, so a command during pause or during closing will not change the reservation previously activated.

With dead man logic it is not possible to use the two way traffic light with reservation

WARNING: with this settings the terminal blocks JP4 and JP5 will no more be available for connecting a courtesy light or an electric lock or an electromagnet

BACKUP BATTERIES USE

The control equipment checks the level of the power supply voltage:

- with voltage higher than 24 Vdc the control equipment is supplied by main, no restriction;
- with voltage lower than 24 Vdc the power supply source is the battery;
- with voltage around 20-21 Vdc, the battery is exhausted; it is possible to open the gate but not to close. When the gate should start the motion, it does not move. In this way the batteries voltage could be insufficient for both the flashing light and the warning light;
- with voltage around 16 Vdc, the battery is almost exhausted, no movement is allowed. Following a command, the fault "exhausted battery is signaled with 4 s blinks (fast in stand-by, slow in pause). In this case, the battery voltage could be insufficient for both the flashing light and the warning light.

The gate lights are powered at 230 Vac so they will not light whit batteries operations.

WARNING: using the battery charger board cod. AS05020 you cannot connect the flashing light signal to the board itself. Therefore the acoustic signal during battery operations will not be present.

With synchronized system it is recommended to connect each control board to its own backup battery (Fig. 3) and to replace the F2 fuse (5A fast) of the board cod. AS05020 with another one (10A fast)

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RESET

Press and hold simultaneously ESC and OK keys for 3 s until the writing "PASS" appears on the display. Then press and hold simultaneously the + and - keys for 3 s.

The default settings will be loaded into memory and will lose all previous settings except the number of performed cycles and powered days.

FLASHING LIGHT SIGNALS SUMMARY

Fault	Signal	Effect
Phototest failed at opening	4 blinks 1s	Closed gate
Phototest failed at closing	4 blinks 1s	Open gate
Menu C7-3 = Photo intercepted beginning of opening	5 blinks	Blocked closed gate
Edge 8K2 test failed at opening	2 blinks 2s	Blocked closed gate
Edge 8K2 test failed at closing	2 blinks 2s	Blocked open gate
Backup batteries at 20-21 Vdc in stand-by after a START command or at beginning closing	4s slow flashing (*)(**)	Blocked open gate
Backup batteries at 16 Vdc in stand-by after a START command	4s fast flashing (*)(**)	Blocked closed gate
Backup batteries at 16 Vdc in pause after a START command or at beginning closing	4s slow flashing (*)(**)	Blocked open gate
Expired maintenance	1 minute slow flashing with closed gate	None

(*) When backup batteries voltage is low the switching on of flashing and warning lights could not be visible.

(**) If the flashing light setting is with fixed light (C2-3), the blinking is not present but only the fixed switching on.

DEFAULT SETTINGS

- Active parameters type A
 - A3 2 STEP - STEP WITH STOP LOGIC
 - A5 2 AUTOMATIC CLOSING ENABLED
- Active parameters type C
 - C1 1 FAST CLOSING DISABLED
 - C2 2 INTERMITTENT FLASHING LIGHT
 - C3 2 PREFLASHING ENABLED
 - C7 2 PHOTOCCELL ENABLED IN CLOSING (*)
 - C9 1 SAFETY DEVICE (8K2 EDGE) DISABLED

- Active parameters type H

• H1	25	OPEN TIME
• H2	25	CLOSE TIME
• H9	20	PAUSE TIME

- Active parameters type E

• E1	1	PHOTOTEST DISABLED
• E3	1	SAFETY DEVICES TEST DISABLED
• E9	1	EXTERNAL CLOCK INPUT DISABLED
• E20	1	TRAFFIC LIGHT DISABLED
• E22	2	MASTER BOARD
• E24	1	OPEN/CLOSE COMMAND ACTIVE ONLY ON MASTER (**)
• E90	0000	NUMBER OF CYCLES
• E92	1234	INSTALLER CODE
• E94	XX_b_YY	FIRMWARE RELEASE
• E96	0000	NUMBER OF PERFORMED CYCLES
• E98	0000G	NUMBER OF POWERED DAYS

(*): if control board is set as SLAVE the default value is C7 - 1

(**): in control board is set as SLAVE the menu will not appear

FINAL CHECKS AND TESTING

Before powering the control unit , run the following tests:

- 1 - Check the electrical connections: improper connection may be harmful to both the control unit and the operator.
- 2 - Check proper position of the limit switches.
- 3 - Preset the mechanical stops in opening and closing.
- 4 - Power the equipment.
- 5 - Check that the red LEDs of the normally closed contacts are on and the green LEDs of the normally open contacts are off.
- 6 - Check that on the LCD do not appear any mismatch between enabling and input status
- 7 - Check that the relative LEDs turn off when limit switches work.
- 8 - Check that the relative LED turns off when the photocells ray is intercepted.
- 9 - Check that the motor is locked and ready to work with the "MOTOR HALFWAY POSITION".
- 10 - Remove possible obstacles in the operating area of the motor, then give the command START. At the first command, the equipment starts opening, then check that the motion direction is correct. If not invert the wires in the terminals M1(5 and 6).
- 11 - The gate will stop upon reaching the first opening limit switch. It is necessary a complete movement to activate the regular working of the decelerations.

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BR24BNL DISPOSAL

Gi.Bi.Di advises recycling the plastic components and to dispose of them at special **authorized centers** for electronic components thus protecting the environment from polluting substances.



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CE Declaration of conformity

The manufacturer:

GI.BI.DI. S.r.l.

Via Abetone Brennero, 177/B,
46025 Poggio Rusco (MN) ITALY

Declares that the products:

ELECTRONIC CONTROL UNIT BR24BNL

are in conformity with the following CEE Directives:

- LVD Directive 2006/95/CE and subsequent amendments;
- EMC Directive 2004/108/CE and subsequent amendments;

and that the following harmonised standards have been applied:

- EN60335-1, EN60335-2-103, EN50366
- EN61000-6-2, EN61000-6-3

Date 25/11/2013

The legal Representative
Michele Prandi



GIBIDI

G.I.B.I.D.I. S.r.l.

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