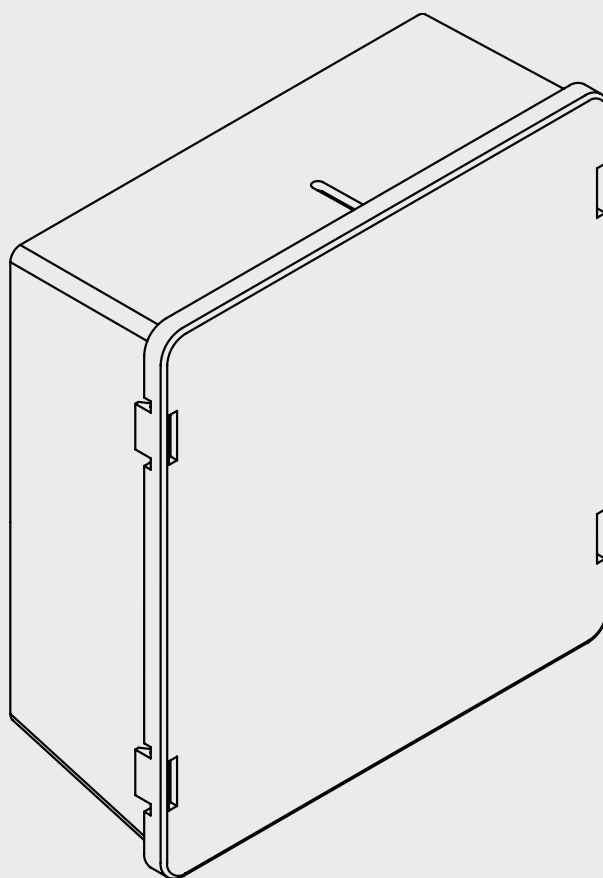
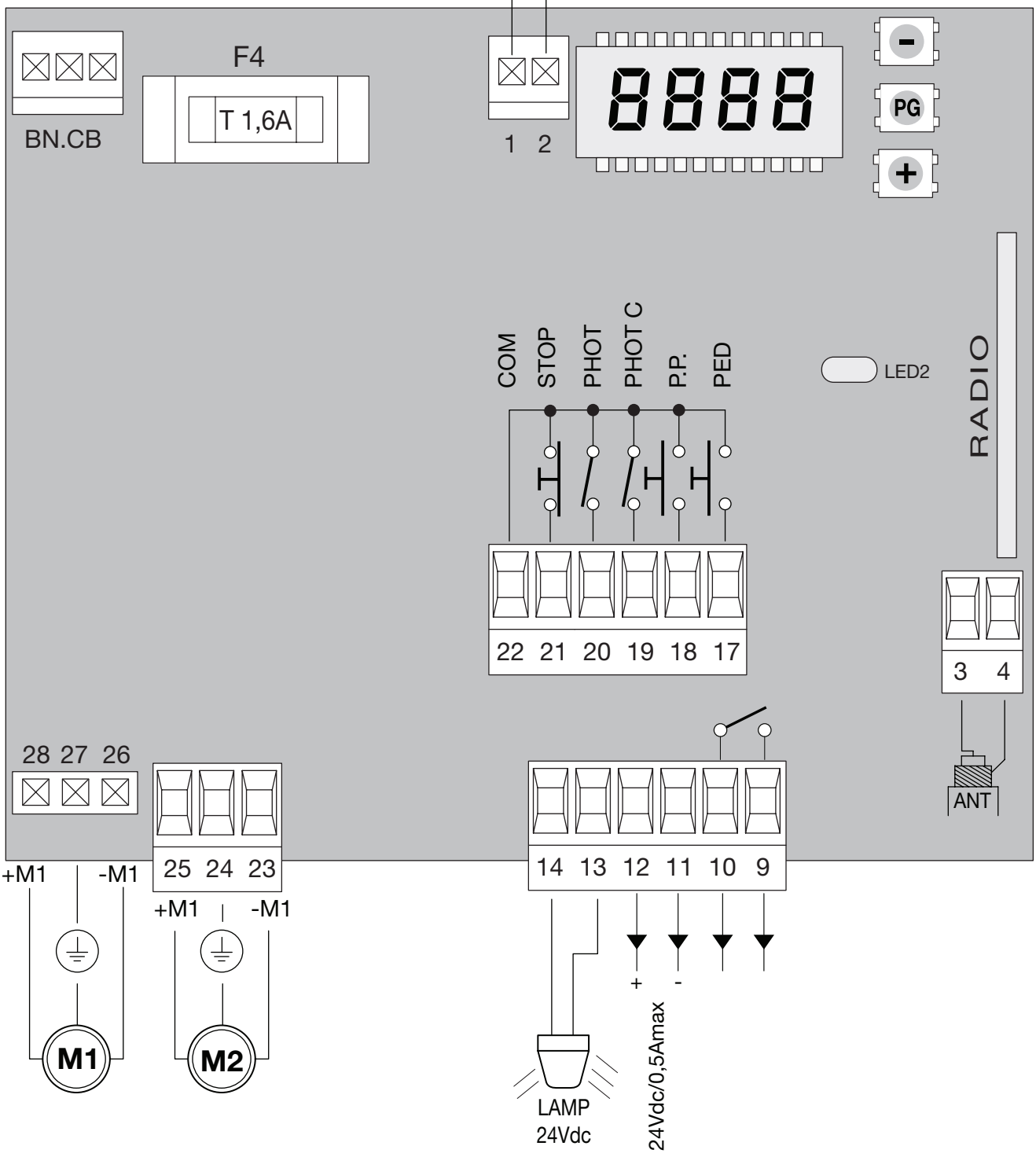
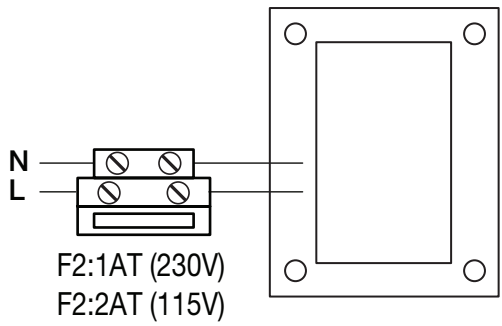


CP.BN

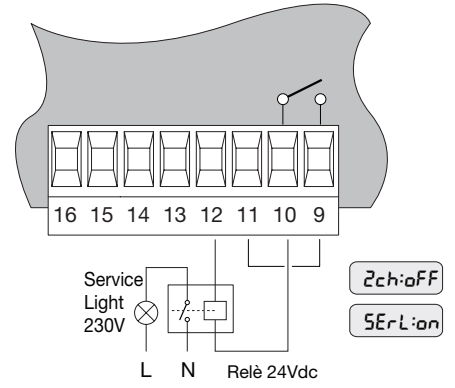
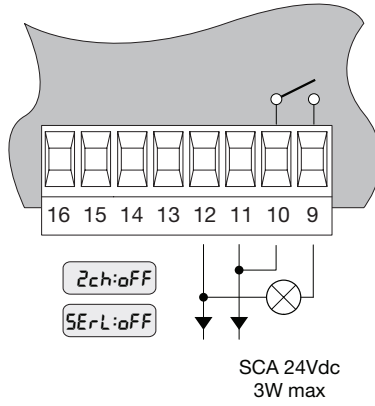
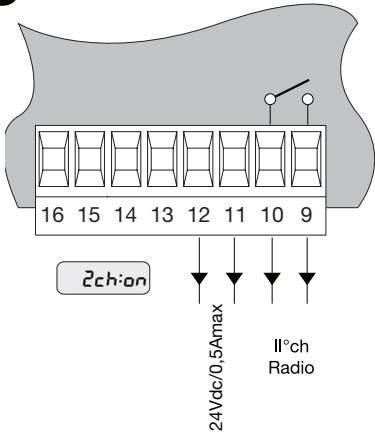


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TECHNOLOGY TO OPEN

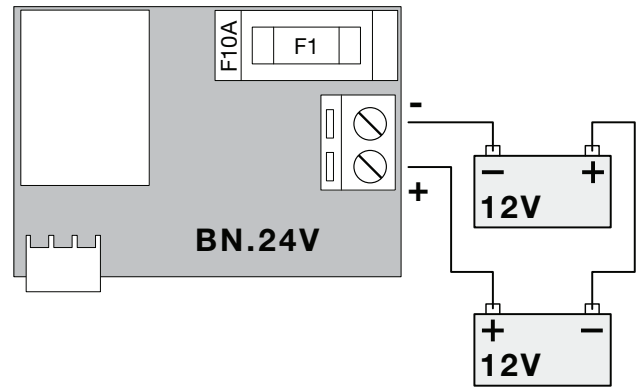
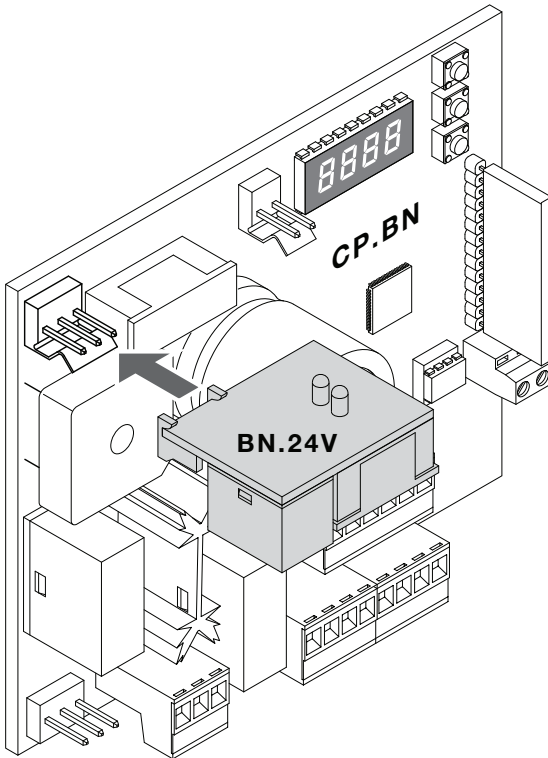




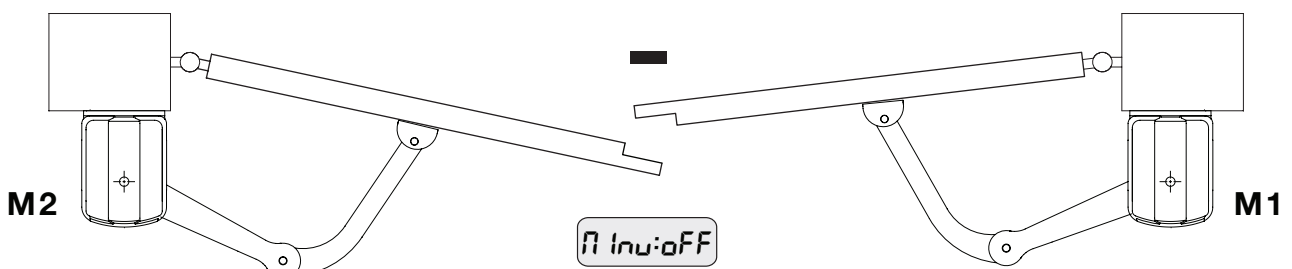
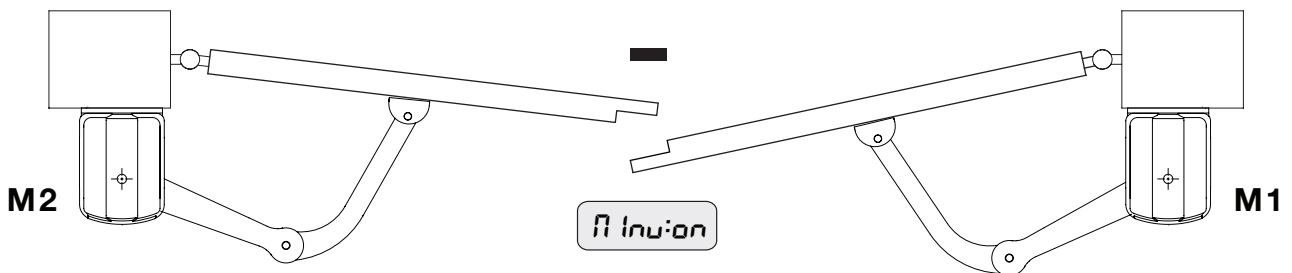
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3



4



EC Declaration of conformity

Declaration pursuant to Directives 2004/108/EC(EMC); 2006/95/EC(LVD)

Manufacturer:

Automatismi Benincà SpA

Address:

Via Capitello, 45 - 36066 Sandrigo (VI) - Italy

Declares that the product:

Command central for 1/2 230 Vac motor, for single: CP.BN

is compliant with the conditions of the following EC Directives:

• **DIRECTIVE 2004/108/EC OF THE EUROPEAN PARLIAMENT AND COUNCIL** of December 15 2004 regarding the approximation of the legislations of the member States relative to electromagnetic compatibility and that repeals directive 89/336/CEE, according to the following concurred norms:

EN 61000-6-2:2005, EN 61000-6-3:2007.

• **DIRECTIVE 2006/95/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL** of December 12 2006 concerning the approximation of the legislations of the member States relative to electrical material destined to be used within certain voltage limits, according to the following concurred regulations:

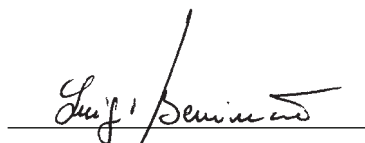
EN 60335-1:2002 + A1:2004 + A11:2004 + A12:2006 + A2:2006 + A13:2008; EN 60335-2-103:2003.

if applicable :

• **DIRECTIVE 1999/5/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL** of March 9 1999 regarding radio devices and terminal and telecommunications devices and the reciprocal recognisances of their conformity, according to the following concurred regulations: ETSI EN 301 489-3 V1.4.1 (2002) + ETSI EN 301 489-1 V1.4.1 (2002) + ETSI EN 300 220-3 V1.1.1 (2000) + EN 60950-1 (2001)

Benincà Luigi, Legal manager.

Sandrigo, 02/11/2010.



WARNINGS

This manual has been especially written to be use by qualified fitters.

None of the information provide in this manual can be considered as being of interest for the end users.

Preserve this manual for future needs.

The technician has to furnish all the information related to the step by step function, the manual and the emergency function of the operator, and to deliver the manual to the final user.



Foresee on the supply net an onnipolar switch or selector with distance of the contacts equal or superior to 3 mms.

Verify that of the electrical system there is an awry differential interrupter and overcurrent protection.

Some typologies of installation require the connection of the shutter to be link at a conductive mass of the ground according to the regulations in force.

The electrical installation and the operating logic must comply with the regulations in force.

The leads fed with different voltages must be physically separate, or they must be suitably insulated with additional insulation of at least 1 mm.

The leads must be secured with an additional fixture near the terminals.

During installation, maintenance and repair, interrupt the power supply before opening the lid to access the electrical parts

Check all the connections again before switching on the power.

The unused N.C. inputs must be bridged.

The descriptions and the present illustrations in this manual are not binding. Leaving the essential characteristics of the product unchanged, the manufacturer reserves himself the right to bring any change of technical, constructive or commercial character without undertaking himself to update the present publication.

TECHNICAL DATA

Control unit supply	24 Vdc
Power supply	230 Vac 50/60 Hz or 115Vac 50/60Hz according to the version
Output supply	1/2 motor 24Vdc
Power maximum motor	120/120 W
Output supply accessories	24Vdc 500mA max.
Protection level	IP44
Operating temp.	-20°C / +50°C
Radio receiver	built in 433,92 MHz configurable (rolling-code or programmable + rolling-code)
Rolling code transmitters supported	64

CP.BEN CONTROL UNIT

WIRE DIAGRAM

Wire connections shown in Fig. 1 are described hereunder:

Terminal no.	Function	Description
1-2	24Vac/dc	Input, power supply, 24Vac/24Vdc.
3-4	Antenna	Connection to insertable radio-receiver card antenna (3-screen/4-signal).
9-10	SCA/SRL/2° Ch Radio	Volt-free contact, Normally Open, controlled by logics "2° Ch Radio" (2 nd Radio channel) and "SRL". With "2 nd Radio channel" logics On: active output as 2 nd Radio channel. With "2 nd Radio channel" logics Off: - With "SRL" logics On: Contact for courtesy light control - With "SRL" logics Off: Contact for "SCA" open gate light
11-12	24 Vdc	Output, accessories power supply, 24Vc/0.5A max (12+/11-).
13-14	Flashing light	Connection of warning flashing light, 24Vdc 15W max.
17	PED/CLOSE	With "OPEN/CLOSE" logics Off: Input, pedestrian push-button (Normally Open contact). It controls motor 1 opening. With "OPEN/CLOSE" logics On: Input, close push-button (Normally Open contact). It controls both motors.
18	Step-by-Step/OPEN	With "OPEN/CLOSE" logics Off: Input, step-by-step push-button (Normally Open contact). With "OPEN/CLOSE" logics On: Input, OPEN push-button (Normally Open contact). It controls the opening of both motors.
19	PHOT C	Input, photocell is activated only during closure (Normally Closed contact Normally Closed contact)
20	PHOT	Input, photocell is activated during opening and closing (Normally Closed contact)
21	STOP	Input, STOP push-button (Normally Closed contact)
22	COM	Common for all control inputs.
23-25	Motor 1	Pre-wired rapid connector, motor 1
24	Motor 1, Ground	Ground of motor 1
26-28	Motor 2	Extractable connector for connection of motor 2: 24Vdc 120W max
27	Motor 2, Ground	Ground of motor 2
BN.CB	Buffer battery	Rapid connector for connection of battery charger card BN.CB

TO CHECK CONNECTIONS

- 1) Cut off power supply.
- 2) Manually release the gate leaves, move them to around half their stroke and block them again.
- 3) Restore power supply.
- 4) Send a sep-by-step control by using the push-button connected to the Input, Step-by-Step (PP), radio control or push-button <->.

- 5) The gate leaves should open.
In the negative, the operation wires of the motor should be inverted by turning motor 1 connector by 180° and inverting wires 26<>28 for motor M2.
- 6) Select the motor which should start the operation first in the opening phase by using the MINV logics, see Fig.4.
- 7) Carry out an autoset procedure (see SET menu).

PROGRAMMING

The programming of the various functions of the control unit is carried out using the LCD display on the control unit and setting the desired values in the programming menus described below.

The parameters menu allows you to assign a numerical value to a function, in the same way as a regulating trimmer.

The logic menu allows you to activate or deactivate a function, in the same way as setting a dip-switch.

Other special functions follow the parameters and logic menus and may vary depending on the type of control unit or the software release.

USE OF PROGRAMMING KEYS

Press <PG> key to gain access to the Main Menu (PAR>>LOG>>RADIO>>...). These keys can be selected by pressing + and - keys.

Select the Main menu with <PG> key to enter the desired Function Menu .

- If <+> is pressed, the Function Menu can be scrolled from top to bottom.
- If <-> is pressed, the Function Menu can be scrolled from bottom to top.
- If <PG> key is pressed, presetting to be modified can be entered.
- The preset values can be modified by using <+> and <-> keys.
- The value is programmed if <PG> key is pressed again. The word "PRG" appears on the display.

See paragraph "Programming Example".

NOTES:

Simultaneously pressing <+> and <-> from inside a function menu allows you to return to the previous menu without making any changes.

Hold down the <+> key or the <-> key to accelerate the increase/decrease of the values.

After waiting 30s the control unit quits programming mode and switches off the display.

Pressing <-> with the display turned off means an impulse of P.P.

PARAMETERS, LOGIC AND SPECIAL FUNCTIONS

The tables below describe the individual functions available in the control unit.

	MENU	FUNCTION	MIN-MAX-(Default)	MEMO
PARAMETERS	t_{cA}	Automatic closing time. Active only with logic "TCA"=ON. At the end of the set time the control unit orders a closing manoeuvre.	1-240-(40s)	
	t_{SN1}	Braking value of motor 1. The values indicate the brake percentage of the gate leaf (25%-50%-75%-100%) compared to the total opening/closing.	25-100-(50)	
	t_{SN2}	Braking value of motor 2. The values indicate the braking percentage of the gate leaf (25%-50%-75%-100%) compared to the total opening/closing.	25-100-(50)	
	t_{PEd}	Operating time of pedestrian gate leaf Values which can be preset are: 25: 25% opening 50: 50% opening 100: 100% opening	25-100-(100)	
	P_{No1}	The torque applied to motor 1 during the opening phase is adjusted.*	1-99-(20%)	
	P_{Nc1}	The torque applied to motor 1 during the closing phase is adjusted.*	1-99-(20%)	
	P_{No2}	The torque applied to motor 2 during the opening phase is adjusted.*	1-99-(20%)	
	P_{Nc2}	The torque applied to motor 2 during the closing phase is adjusted.*	1-99-(20%)	
	t_{dNo}	Mot.2 opening delay time. Regulates the delay time of motor 2 on opening with respect to motor 1	0-15-(2s)	
	t_{dNc}	Mot.1 closing delay time Regulates the delay time of motor 1 on closing with respect to motor 2	0-40-(3s)	
SL_{d1}	It regulates the motor 1 speed during braking. The value is expressed in percentage with respect to normal operating speed.	40-99 (50)		
SL_{d2}	It regulates the motor 2 speed during braking. The value is expressed in percentage with respect to normal operating speed.	40-99 (50)		

PARAMETERS	<i>PSo1</i>	The torque applied to motor 1 during braking in the opening phase is adjusted *	1-99-(20%)	
	<i>PSc1</i>	The torque applied to motor 1 during braking in the closing phase is adjusted *	1-99-(20%)	
	<i>PSo2</i>	The torque applied to motor 2 during braking in the opening phase is adjusted *	1-99-(20%)	
	<i>PSc2</i>	The torque applied to motor 2 during braking in the closing phase is adjusted *	1-99-(20%)	
	<i>TL5</i>	It adjusts the operating time of the service light when the "Service Light" logics is preset to ON and the "2nd radio channel" logics is preset to OFF	2s-180s-(60s)	

*** WARNING: An incorrect setting of these parameters may result in an hazard. Comply with regulations in force!**

To check the torque applied to the various phases of the operation, proceed as follows:

With switched-off display and moving gate leaves, press and keep the <+> key pressed

Two figures separated by a dot are displayed (e.g. 52.55), the first two figures indicate the torque applied to motor 1, while the last two the torque applied to motor 2.

	MENU	FUNCTION	ON-OFF-(Default)	MEMO
LOGIC	<i>tCR</i>	Enables or disables automatic closing On: automatic closing enabled Off: automatic closing disabled	(ON)	
	<i>ibl</i>	Enables or disables condominium function. On: condominium function enabled. The step-by-step impulse or transmitter impulse has no effect during the opening phase. Off: condominium function disabled.	(OFF)	
	<i>ScL</i>	Enables or disables rapid closing On: rapid closing enabled. With the gate open or in the opening phase the intervention of the photocell causes automatic closing after 3 s. Active only with TCA:ON. Off: rapid closing disabled.	(OFF)	
	<i>PP</i>	Selects the operating mode of the "Step by step button" and of the transmitter. On: Operation: OPEN > CLOSE > OPEN > Off: Operation: OPEN > STOP > CLOSE > STOP >	(OFF)	
	<i>PrE</i>	Enables or disables pre-blinking. On: Pre-blinking enabled. Blinking is activated 3s before the motor starts. Off: Pre-blinking disabled.	(OFF)	
	<i>SERL</i>	The "service light" function is enabled or disabled on terminals (9-10) On: output, enabled as "Service light". This output is activated at the beginning of each operation and remains activated for the time preset by parameter TLS. Off: output, enabled as "Open gate light". This function is not enabled if the "2°Ch radio" logics is preset to ON.	OFF	
	<i>2ch</i>	The second radio channel is enabled or disabled on terminals (9-10). On: "2nd radio channel" output is enabled. Off: "2nd radio channel" output is disabled. The output to terminals is activated as "Service light" if SERL=On, or as SCA if SERL=Off. If this function is preset to On, any presetting of the SERL logics will be ignored.	(OFF)	
	<i>cLoc</i>	The OPEN Input mode is preset. On: OPEN Input, with CLOCK function. To be used as connection to timer for timed opening/closing. (Closed contact: gate open. Open contact: normal operation). Off: OPEN input, with OPEN function. This function is activated only if the OPCL logics=ON	(OFF)	
	<i>oPcL</i>	The Step-by-Step and Pedestrian input modes is selected. On: Input to terminal 18 activated as OPEN. Input to terminal 17 is activated as Closed. Off: Input to terminal 18 activated as Step-by-Step. Input to terminal 17 activated as Pedestrian.	(OFF)	

LOGIC	<i>inuc</i>	The total reverse movement is enabled or disabled when the amperometric sensor is triggered. On: total reversion is enabled Off: total reversion is disabled. The control unit controls a 2sec reversion and then locks the gate leaves.	(OFF)	
	<i>n Inu</i>	Start control signal to motors: On: motor 2 starts first in the opening phase. Off: motor 1 starts first in the opening phase.	(OFF)	
	<i>cuAr</i>	The code programmable transmitters is enabled or disabled. On: Radio receiver enabled only for rolling-code transmitters. Off: Receiver enabled for rolling-code and programmable code transmitters (self-learning and Dip Switch).	(OFF)	

	MENU	FUNCTION
RADIO	<i>pp</i>	By selecting this function, the receiver awaits (<i>PUSH</i>) for a transmitter code to be assigned to the step-by-step function. Press the transmitter key to be assigned to this function. If the code is valid, it is stored in memory and OK appears. If the code is not valid, the wording <i>Err</i> is displayed.
	<i>2ch</i>	By selecting this function, the receiver awaits (<i>PUSH</i>) for a transmitter code to be assigned to the second radio channel. Press the transmitter key to be assigned to this function. If the code is valid, it is stored in memory and OK appears. If the code is not valid, the wording <i>Err</i> is displayed. If the 2CH logics is preset to OFF, the key assigned to 2CH function carries out the pedestrian control signal.
	<i>clr</i>	By selecting this function, the receiver awaits (<i>PUSH</i>) for a transmitter code to be erased from memory. If the code is valid, it is erase and OK appears. If the code is not valid or is not in memory, the wording <i>Err</i> is displayed.
	<i>rEr</i>	Completely erase the receiver memory. Confirmation of operation is required.

REMOTE COPY OF TRANSMITTER CODES

If a transmitter code is already stored in the receiver, the radio remote copy can be carried out (without accessing to the control unit).
IMPORTANT: This procedure should be performed with gate leaves open, during the TCA dwell time.

Proceed as follows:

- 1 Press the hidden key of the already memorised transmitter.
- 2 Within 5 seconds, press the key of the already memorised transmitter which corresponds to the channel to be matched with the new transmitter code. The flashing light switches on.
- 3 Within 10 sec, press the hidden key of the new transmitter.
- 4 Within 5 sec, press the key of the new transmitter to be matched to the channel selected at point 2. The flashing light switches off.
- 5 The receiver memorises the new transmitter and exits immediately the programming mode.

	MENU	FUNCTION
	<i>nna</i>	The number of cycles (open+close) completed by the system is displayed. When the push-button <PG> is pressed once, the first 4 digits are displayed, if the push-button is pressed once more, the last 4 digits are displayed. E.g. <PG> 0012 >>> <PG> 3456: 123.456 cycles were performed.
	<i>rES</i>	RESET of the control unit. WARNING: This resets the control unit to the default values. When the <PG> push-button is pressed once, the RES wording begins to flash, if the push-button <PG> is pressed once more, the control unit is reset. Note: neither the transmitter codes nor the position and stroked of the gate leaf will be erased from the receiver.
	<i>SEt</i>	Autoset of the control unit. WARNING: during this operation, the gate leaves movement MUST be free from obstacles. First pressure of the <PG> push-button causes the SET wording to flash at 1 sec intervals. If the <PG> push-button is pressed again, the autoset frequency of the control unit is carried out. If the autoset sequence has a positive result, the wording "OK" appears on the display; conversely, the "Err" wording is displayed (the autoset should be repeated). If, during the autoset sequence, any input is activated (PP,PED,PHOT,STOP), the procedure stops immediately and the wording "Err" is displayed. Note: The autoset presets the torque values of the motors. At the end of operation, check the correctness of the preset values and possibly modify them by hand through the appropriate Menu.

OPERATION OF THE AUTOSET MENU

The autaset procedure allows for the correct adjustment of the opening/closing torques, at normal speed and during braking, of the gate leaves.

- 1) Before proceeding with the autaset, check that:
 - the movement of the gate leaves is carried out without obstacles present;
 - there are no objects/persons standing within the moving area of the automatic system;
 - all connections are correct and there is no signal sent by safety devices (PHOT, PHOT C, STOP);
 - Move the gate leaves at about half-stroke.
- 2) Enter the "SET" Menu and press the "PRG" push-button . The wording "SET" is displayed at 1 sec intervals.
- 3) By pressing the "PRG" key once more, the "SET" wording is displayed at 0.5 sec intervals and the self-setting phase starts. This phase consists in the following:
 - Short opening operation of both motors (about 5sec)
 - Braked closure of both gate leaves until they stop against the mechanic stop in the closing phase.
 - Braked opening of both gate leaves until they stop against the mechanical stop in the opening phase.
 - Fast closure of both gate leaves until they stop against the mechanic stop in the closing phase.
 - Fast opening of both gate leaves until they stop against the mechanical stop in the opening phase.
 - Braked closure of both gate leaves until they stop against the mechanic stop in the closing phase.

All these phases should be carried out automatically without any intervention of the operator. The activation of any input (PHOT,PHOT C, STOP,PP,PED...) immediately annuls the autaset procedure, the gate leaves stop and an "err" message is displayed.

If the procedure is to be stopped, it is sufficient to activate either input or simultaneously press keys + and - on the card.

If the autaset procedure is successfully concluded, the message "ok" will be displayed. Press "PRG" key and exit the autaset menu.

Every autaset procedure, which is successfully concluded, overwrites the procedure previously made.

NOTE: for any modification to the parameters of torque, speed, braking or the start-up order of motors (MINV logics), a new autaset procedure should be carried out.

EMERGENCY BATTERY

An optional accessory is available to power the control unit in the event of power failure.

The BN.CB card must be inserted in the special rapid connector, as indicated in Fig.3.

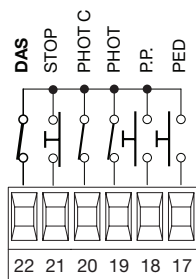
During normal operation, the green LED is switched on and the card keeps the batteries charged.

In the event of power failure, the card powers the system through the batteries and the red LED switches on.

A F10A fuse protects the control unit during operation with the emergency battery.

If the mains power supply is cut off and batteries are down, both LED's are off.

CONNECTION TO THE SAFETY EDGE

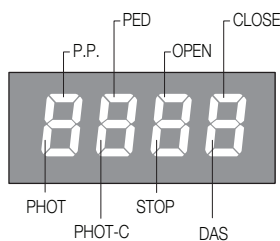


If required, a Normally Closed (N.C.) contact of a mechanical safety edge can be connected in series to terminal 22, as indicated in the side figure (DAS). For safety edges in 8k2 conductive rubber, the accessory SC.E can be used.

If the safety edge triggers, the control unit causes the gate to invert its movement for approx. 2 sec, or for its entire stroke (see INVC Logics) in both opening and closing phases. After reversion, the gate stops.

DIAGNOSTICS

In the event of malfunctions, by pressing key + or - the status of all inputs (limit switches, control and safety) can be displayed. One segment of the display is linked to each input. In the event of failure it switches on according to the following scheme.



N.C. inputs are represented by the vertical segments. N.O. inputs are represented by the horizontal segments.

ERROR MESSAGES

The control unit checks the correct operation of the safety devices. In case of malfunctions, the following messages can be displayed:

Err Error in autaset phase, or storage of remote controls.

thrn Triggering of thermic protection.

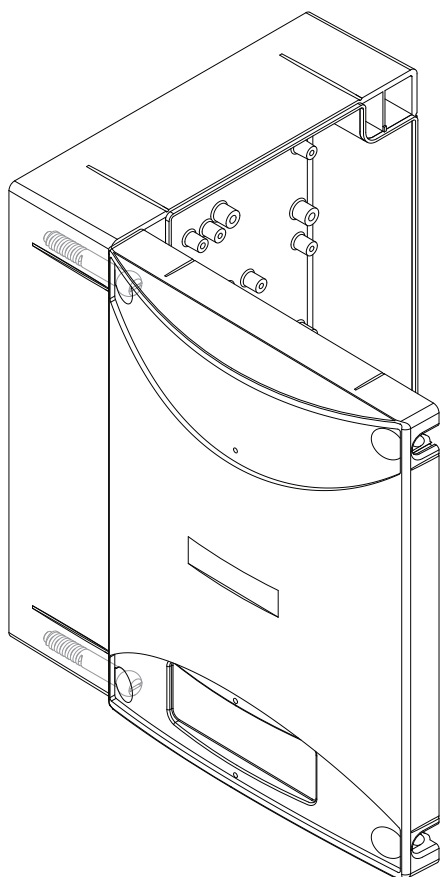
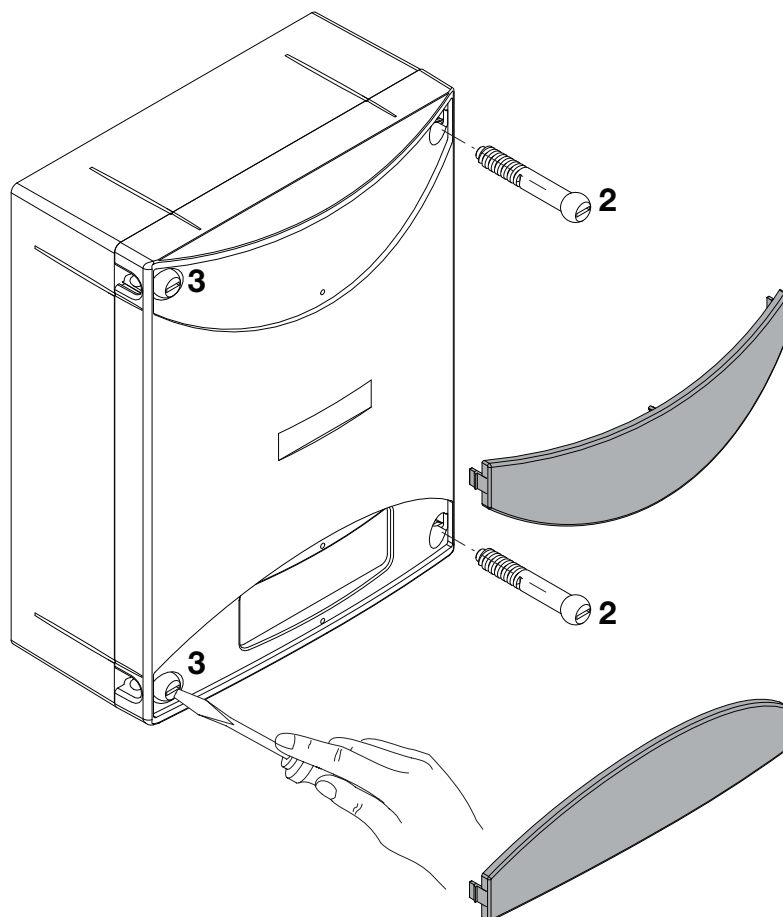
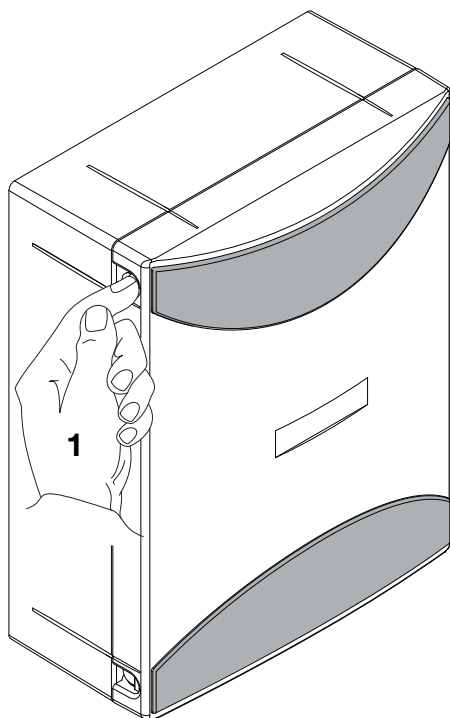
EXAMPLE OF PROGRAMMING

Let us suppose it is necessary to:

- set an automatic closing time (TCA) of 100s
- activate pre-blinking

Perform the operations described below step by step:

Step	Press	Display	Notes
1	PG	PRr	First menu
2		tCR	First function of the first menu
3	PG	040	Value currently set for the function selected
4	+↑ -↓	100	Set the desired value with the <+> and <-> keys
5	PG	PrG	The value is programmed
		tCR	When programming has been made, the display goes to the function just set
6	+ -	PRr	Press <+> and <-> simultaneously to go to the higher menu
7	-	LoG	Second menu
8	PG	tCR	First function of the second menu
9	-	PrE	Press <-> several times to select PRE logic
10	PG	oFF	Value currently set for the function selected
11	+↑ -↓	on	Set the desired value with the <+> and <-> keys
12	PG	PrG	The value is programmed
		PrE	When programming has been made, the display goes to the function just set
13	+ -	PRr	Press <+> and <-> simultaneously to go to the higher menu and quit programming or wait 30s.



- 1 Premere le alette sui fianchi per sganciare le due maschere copriviti.
- 2 Rimuovere le due viti sul lato di apertura desiderato.
- 3 Allentare le due viti con funzione di cerniera senza rimuoverle, in modo da consentire l'apertura del coperchio.

- 1 Presser les deux ailettes latérales pour décrocher les deux cache-vis.
- 2 Enlever les deux vis sur le côté d'ouverture désiré.
- 3 Desserrer les deux vis faisant fonction de charnière sans les enlever, de manière à permettre l'ouverture du couvercle.

- 1 Press the tabs on the sides to release the two masks that cover the screws.
- 2 Remove the two screws on the desired opening side.
- 3 Slacken the two screws that act as a hinge without removing them, so as to allow opening of the cover.

- 1 Presionar las aletas en los lados para desenganchar las dos tapas cubretornillos.
- 2 Extraer los dos tornillos del lado de apertura deseado.
- 3 Aflojar los dos tornillos con función de bisagra sin extraerlos, a fin de poder abrir la tapa.

- 1 Auf die seitlichen Laschen drücken, so dass die beiden Schraubenblenden befreit werden.
- 2 Die beiden Schrauben an der gewünschten Öffnungsseite ausbauen.
- 3 Zuletzt die beiden als Scharnier dienenden Schrauben lockern, aber nicht ausbauen, damit der Deckel geöffnet werden kann.

- 1 Nacisnąć boczne klapki w celu odhaczenia dwóch masek nakrywających śruby.
- 2 Wyciągnąć dwie śruby po wybranej do otwierania stronie.
- 3 Poluzować dwie śruby blokujące bez wyciągnięcia ich, w sposób umożliwiający otwarcie nakrywki.

BENINCA®