COMUNELLO
AUTOMATION

INSTALLATION AND USER'S MANUAL

CU - 230V - HP

Control unit

comunello.com

ISTRUZIONI D'USO E DI INSTALLAZIONE
INSTALLATIONS-UND GEBRAUCHSANLEITUNG
INSTRUCIONS D'UTILISATION ET D'INSTALLATION
INSTRUCCIONES DE USO Y DE INSTALACION
ИНСТРУКЦИЯ ПО МОНТАЖУ

CE MADE IN ITALY

Cod. 91300176 - Rev. 05 - 09.09.19

ISTRUZIONI D'USO E DI INSTALLAZIONE
CU 230V - HP

DICHIARAZIONE DI CONFORMITÁ CE

Il sottoscritto, sig. **COMUNELLO LUCA** rappresentante il seguente costruttore

F.lli COMUNELLO spa
Via Cassola 64, 36027 Rosà (VI) Italy

DICHIARA che l'apparecchiatura descritta in appresso:

Descrizione	**Centralina di controllo due motori 230V per cancelli automatici**
Codice:	**GCU00HP2H0G00**
Modello	**CU 230V HP**

è conforme alle disposizioni legislative che traspongono le seguenti direttive:

- Direttiva 2004/108/CE (Direttiva EMC)
- Direttiva 2006/95/CE

e che sono state applicate tutte le norme e/o specifiche tecniche di seguito indicate

EN61000-6-2 + EN61000-6-3
EN62233 :2008
EN301489-1 + EN301489-3 + EN300220-2 EN60335-1 :2002

ed emendamenti successivi

Ultime due cifre dell'anno in cui è affissa la marcatura CE **14**

Rosà (VI) – Italia 01-09-2014

Inoltre dichiara che non è consentito mettere in servizio il macchinario fino a che la macchina in cui sarà incorporata o di cui diverrà componente sia stata identificata e ne sia stata dichiarata la conformità alle condizioni della Direttiva 2006/42/CE e alla legislazione nazionale che la traspone.

Dr. LUCA COMUNELLO
Legale rappresentante della FRATELLI COMUNELLO s.p.a.

Fratelli Comunello S.p.A.
Azienda con Sistema Gestione Qualità certificato
UNI EN ISO 9001:2015

AVVERTENZE

- La centrale non presenta nessun tipo di dispositivo di sezionamento della linea elettrica 230 Vac; sarà quindi cura dell'installatore prevedere nell'impianto un dispositivo di sezionamento. È necessario installare un interruttore omnipolare con categoria III di sovratensione. Esso deve essere posizionato in modo da essere protetto contro le richiusure accidentali secondo quanto previsto al punto 5.2.9 della EN 12453. Il cablaggio dei vari componenti elettrici esterni alla centralina deve essere effettuato secondo quanto prescritto dalla normativa EN 60204-1 e dalle modifiche a questa apportata dal punto 5.2.7 della EN 12453. I cavi di alimentazione possono avere un diametro massimo di 14 mm; il fissaggio dei cavi di alimentazione e di collegamento, deve essere garantito tramite l'assemblaggio di pressacavi fornibili "optional".
- Per i cavi di alimentazione si raccomanda di utilizzare cavi flessibili sotto guaina isolante in policloroprene di tipo armonizzato (H05RN-F) con sezione minima dei conduttori pari a 1 mm^2.
- Utilizzare in fase di installazione esclusivamente cavi in doppio isolamento (cavi con guaina) sia per i collegamenti a tensione di rete (230V) che per i collegamenti in bassissima tensione di sicurezza SELV. Utilizzare esclusivamente canalette in plastica, distinte per i cablaggi in bassa tensione (230V) e per i cablaggi in bassissima tensione di sicurezza (SELV).
- I conduttori a bassissima tensione di sicurezza devono essere separati (almeno 4 mm in aria) dai conduttori a tensione di rete, oppure devono essere adeguatamente isolati con isolamento supplementare avente spessore di almeno 1 mm.
- Prevedere a monte della rete di alimentazione dell'automazione un dispositivo che assicuri la disconnessione completa omnipolare della rete, con una distanza di apertura dei contatti in ciascun polo di almeno 3mm. Tali dispositivi di disconnessione devono essere previsti nella rete di alimentazione conformemente alle regole di installazione e devono essere direttamente collegati ai morsetti di alimentazione.
- Nel caso d'installazione all'interno di un quadro di controllo QUAD, fare attenzione, in fase di foratura dell' involucro esterno per far passare i cavi di alimentazione e di collegamento, e di assemblaggio dei pressacavi, ad installare il tutto in modo da mantenere il più possibile inalterate le caratteristiche di grado IP della scatola. Prestare inoltre attenzione ai cavi in modo che siano ancorati in modo stabile, e a non danneggiare la scheda con la foratura.
- L'involucro nella parte posteriore è provvisto di opportune predisposizioni per fissare a muro (predisposizione per fori mediante tasselli o fori per fissare mediante viti). Prevedere e implementare tutti gli accorgimenti per una installazione che non alteri il grado IP.
- L'eventuale montaggio di una pulsantiera per il comando manuale deve essere fatto posizionando la pulsantiera in modo che l'utente non venga a trovarsi in posizione pericolosa.
- Il motoriduttore usato per muovere il cancello deve essere conforme a quanto prescritto al punto 5.2.7 della EN 12453.
- L'uscita FOTO+ (CN2) è necessariamente dedicata all'alimentazione delle fotocellule, non è consentito l'utilizzo per altre applicazioni.
- La centrale ad ogni ciclo di manovra può effettuare il test di funzionamento delle fotocellule, garantendo una protezione al guasto dei dispositivi anti schiacciamento di Categoria 2 secondo quanto prescritto al punto 5.1.1.6. della EN 12453. Quindi se i dispositivi di sicurezza non vengono connessi e/o non sono funzionanti la centrale non è abilitata al funzionamento.
- L'apparecchio può essere utilizzato da bambini di età non inferiore a 8 anni e da persone con ridotte capacità fisiche, sensoriali o mentali, o prive di esperienza o della necessaria conoscenza, purché sotto sorveglianza oppure dopo che le stesse abbiano ricevuto istruzioni relative all'uso sicuro dell'apparecchio e alla comprensione dei pericoli ad esso inerenti. Non consentire ai bambini di giocare con il dispositivo e tenere lontano dalla loro portata i radiocomandi.
  La pulizia e la manutenzione destinata ad essere effettuata dall'utilizzatore non deve essere effettuata da bambini senza sorveglianza.

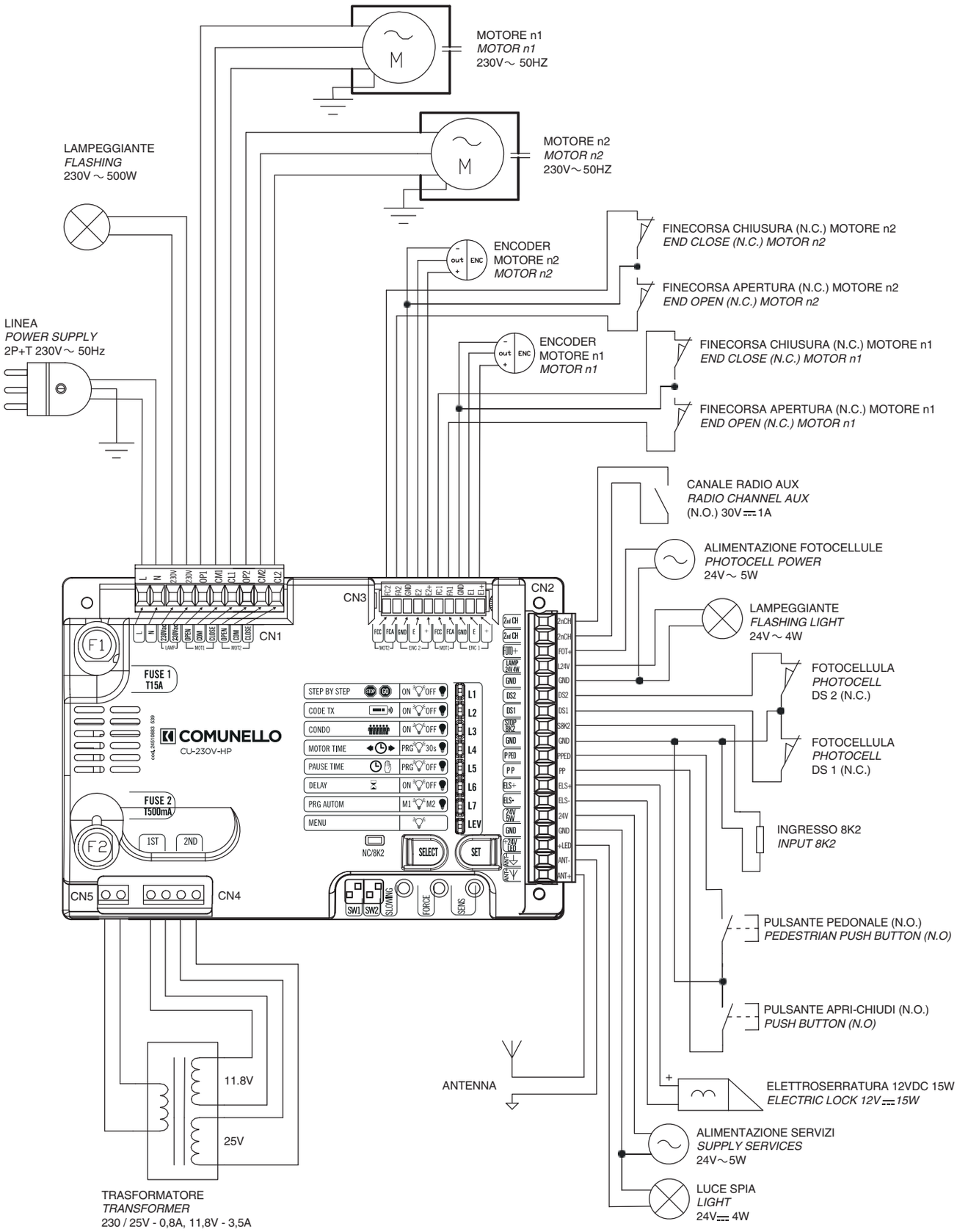
Nota importante: conservare questo manuale d'istruzioni e rispettare le importanti prescrizioni di sicurezza in esso contenute. Il non rispetto delle prescrizioni potrebbe provocare danni e gravi incidenti.

Esaminare frequentemente l'impianto per rilevare eventuali segni di danneggiamento.

Nel manuale sono presenti dei **QR-CODE** con il link diretto al canale **You-Tube "COMUNELLO TV"** dove sono pubblicati i video tecnici delle programmazioni più importanti per la messa in servizio dell'automazione spiegati passo-passo.

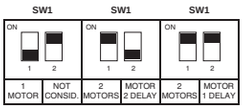
Per visualizzare i video sarà necessario avere una connessione ad internet ed installare nel proprio Tablet o Smartphone un lettore di codici **QR disponibile nell'APPLE STORE** per i dispositivi **iOs oppure in GOOGLE PLAY** per i dispositivi Android.

1 ELECTRICAL CONNECTIONS (WIRING DYAGRAM)



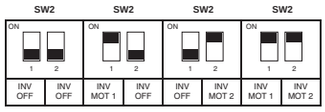
DIP SWITCH SW1

The SW1 Dip-Switches allow you to select the 1 or 2 motor function and define which of the two motors starts first and which second.

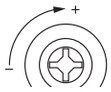


DIP SWITCH SW2

The SW2 Dip-Switches allow to change the direction of stroke of each motor without physically intervening on the electrical connections in the terminal block.

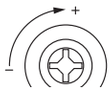


TRIMMER SENS: It regulates the SENSITIVITY of motors



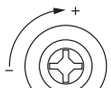
Turning with a screwdriver towards the + increases the sensitivity and therefore the motor will block its stroke more quickly if an obstacle is detected.

TRIMMER FORCE: It regulates the FORCE of motors

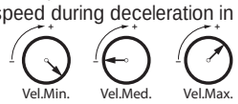


Turning with a screwdriver towards the + increases the motor force.

TRIMMER SLOWING: It regulates the slowdown speed of motors



Turning with a screwdriver toward the + modifies the motor stroke speed during deceleration in 3 STEPS



CAUTION: DS1, DS2 and STOP/8K2 are bridged by the factory. To connect the photocells, the stop button and the edge sensors, it is necessary to remove the jumper from the terminal.

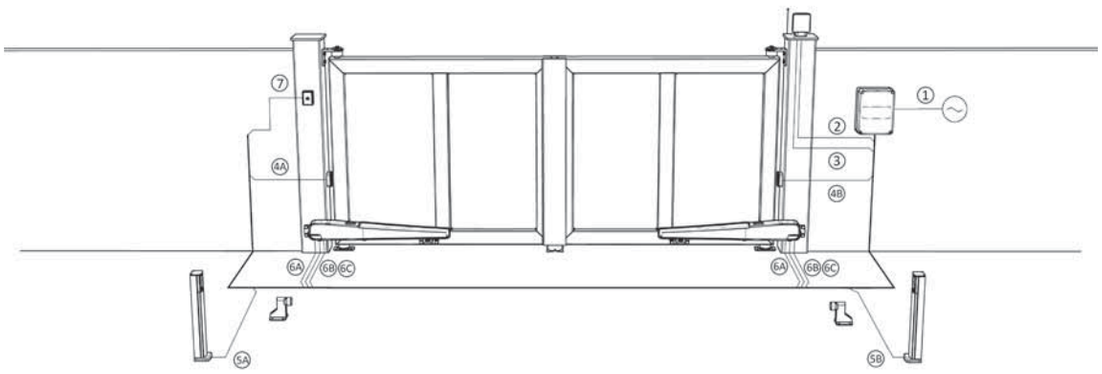
ENGLISH

2 WIRES CONNECTION TABLE:

n°	DESCRIPTION	CABLE	LENGTH from 1m to 20m	LENGHT from 20m to 50m
1	Power supply	EN standard 50575, in the list of harmonized rules for the Regulation CPR 305/2011, Com. 2016/C 209/03	2 x 1,5 mm²	2 x 2,5 mm²
6A	Motor power supply		3 x 1,5 mm²	3 x 2,5 mm²
2	Flashing light		2 x 0,5 mm²	2 x 1,0 mm²
4A, 5A	TX photocell		2 x 0,5 mm²	2 x 1,0 mm²
4B, 5B	RX photocell		4 x 0,5 mm²	4 x 1,0 mm²
6	Key selector		3 x 0,5 mm²	3 x 1,0 mm²
6B	Limit switches		3 x 0,5 mm²	3 x 1,0 mm²
6C	Encoder		3 x 0,5 mm²	3 x 1,0 mm²
3	Antenna	RG58	Massimo 20m	

Tab1

The table refers to the example of wiring shown in the ABACUS model manual for swing motors.



NOTE: If the cables are of a different length than those shown in the table, the section of the cables must be determined based on the actual absorption of the connected devices.

The requirements are reported in the *EN 50575: 2014 standard*:
With the publication of the standard EN 50575, in the list of harmonized standards for Regulation CPR 305/2011, Com. 2016 / C 209/03, also electric cables, already subject to CE marking for the Low Voltage Directive 2014/35 / EU, must be CE marked also under the CPR Regulation.

In the eventualities of connections with devices connected in parallel on the same power supply line, the sizing of the cables shown in Table 1 must be re-evaluated on the basis of the absorptions and the actual distances.

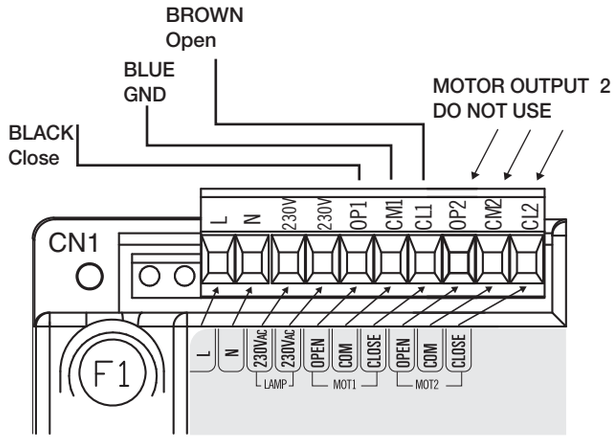
3 TECHNICAL SPECIFICATIONS

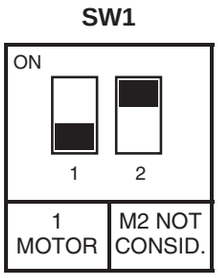
Flashing light output no.1: 230 V~ 500 W max.
Flashing light output no.2: 24 V~ 4 W max.
Motors output: 230 V~ 2 x 500 W max.
Electric lock output: 12 Vcc 15 W max.
Photocells power supply: 24 V 5 W max. AC
Pilot light output: 24 V~ 4 W max.
Working temperature: -20 ÷ 55 °C
Radio receiver: 433 Mhz
Transmitters: 18 Bit o Rolling Code
Max TX codes stored: 120 (CODE PP o CODE PED/2°CH)
Board dimensions: 160 x 107 mm.
Fuse 1: T 6,3 A 250V (Delayed fuse)
Fuse 2: T 0,5 A 250V (Delayed fuse)
LED output 24Vcc Pilot light
Services output 24 V 5 W

4 CONNECTION WITH ONE MOTOR

4.1 FORT

MOTOR OUTPUT 1

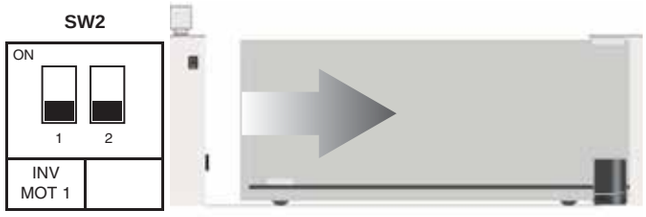




In this mode SW1 has been adjusted with:
DIP1 OFF : only MOTOR 1 is considered
DIP2 ON : NOT USED

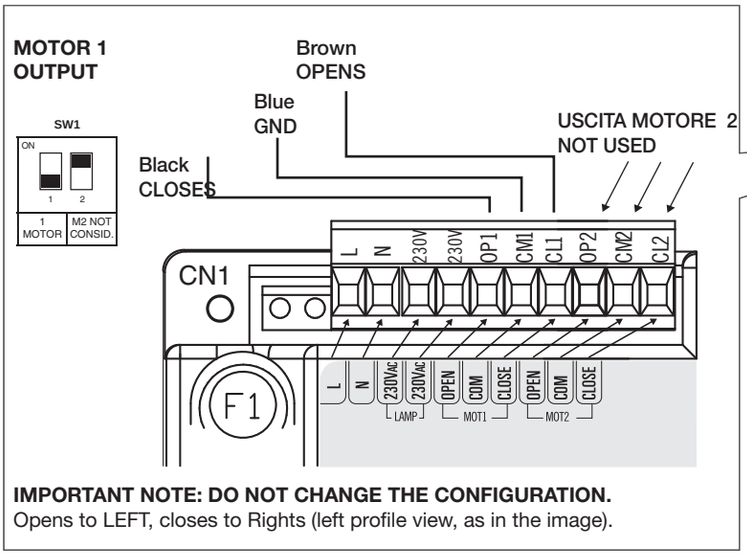
SW2 setting to have an opening to the **LEFT** (inner side view)

SW2 setting to have an opening to the **Rights** (inner side view)

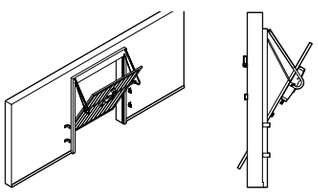


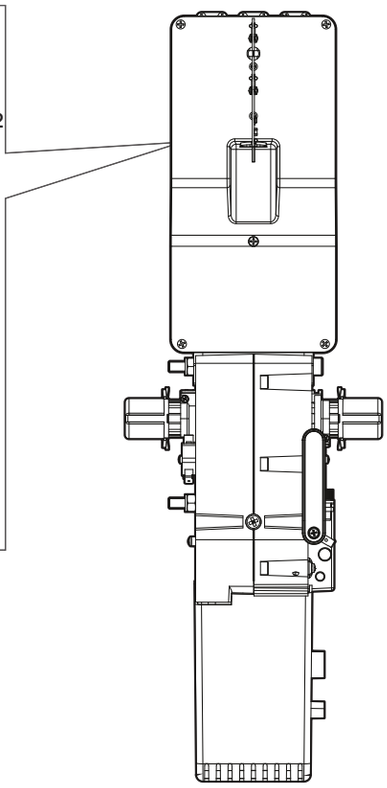
4.2 SALIENT

Single motor installation (up to 9 m2)

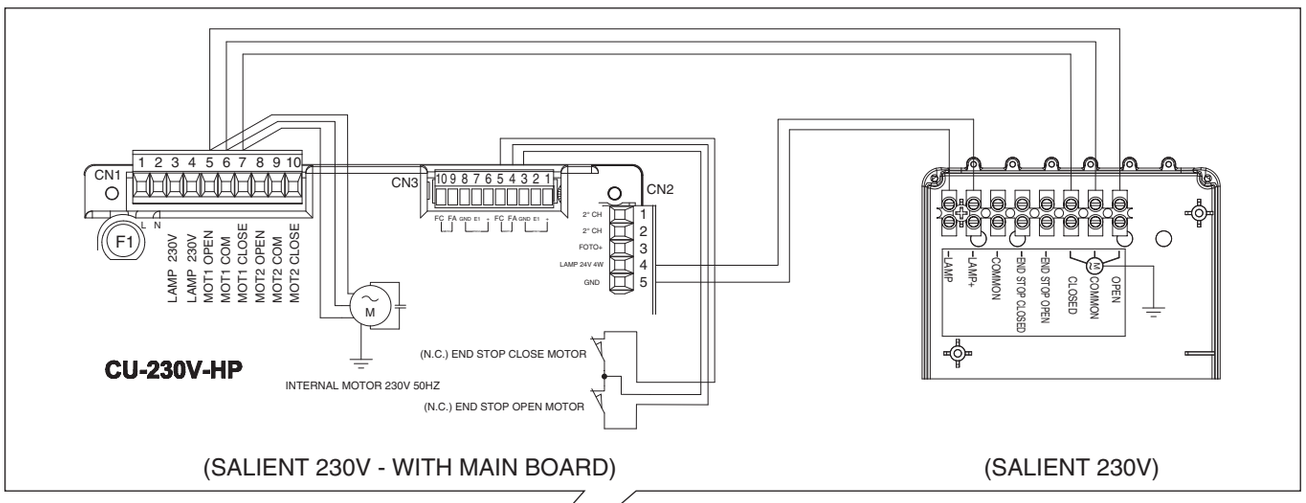


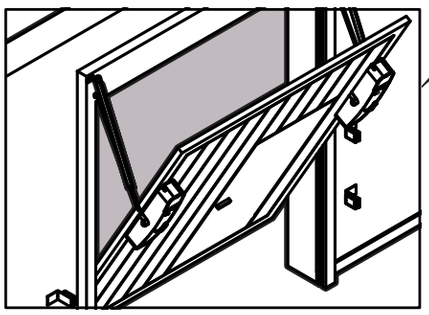
IMPORTANT NOTE: DO NOT CHANGE THE CONFIGURATION.
Opens to LEFT, closes to Rights (left profile view, as in the image).





Double motor installation (up to 16 m²)

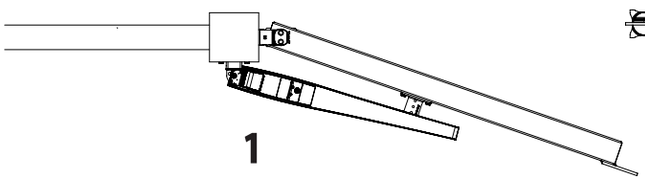


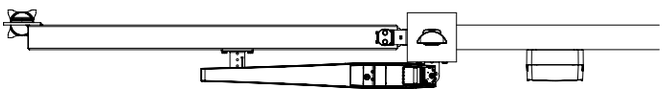


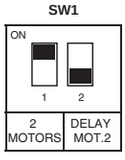
5 CONNECTION WITH TWO MOTORS

5.1 ABACUS - connection diagram of the motors

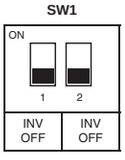
DELAY OF THE **MOTOR no.2**





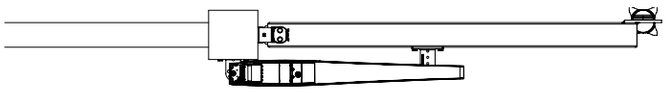


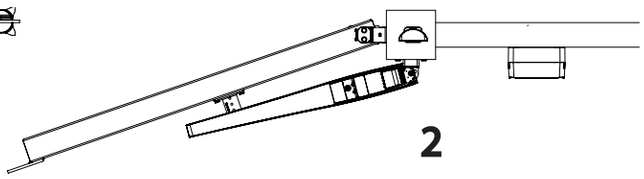
DIP1 ON = 2 motors configuration
DIP2 OFF = Delay of motor no. 2



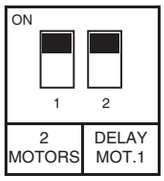
DIP1 OFF = inversion MOTOR no. 1 disabled
DIP2 OFF = inversion MOTOR no. 2 disabled

DELAY OF THE **MOTOR no.1**



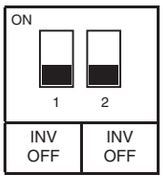


SW1



DIP1 ON = 2 motors configuration
DIP2 ON = Delay of motor no. 1

SW2

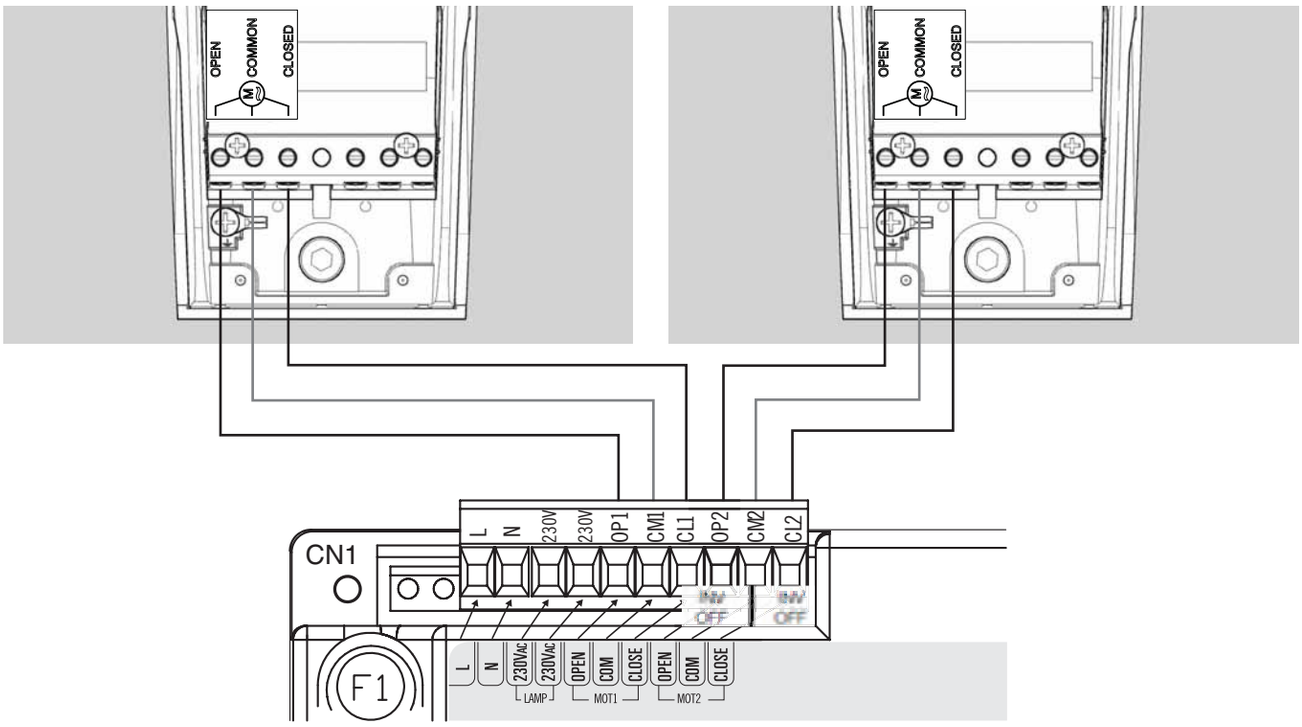


DIP1 OFF = inversion MOTOR no. 1 disabled
DIP2 OFF = inversion MOTOR no. 2 disabled

Wire connection of the motors (version without encoder) to the control unit:

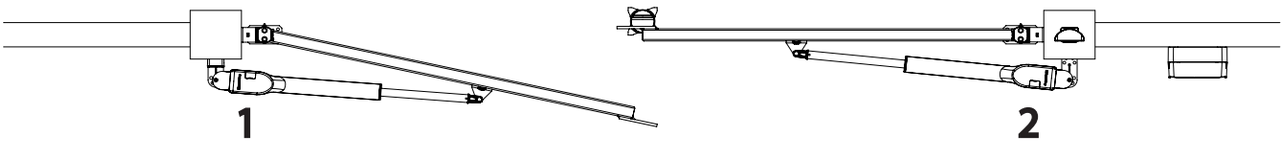
OPEN with OP1
COMMON with CM1
CLOSE with CL1

OPEN with OP2
COMMON with CM2
CLOSE with CL2

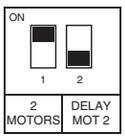


5.2 RAM - connection diagram of the motors

DELAY OF THE **MOTOR no.2**

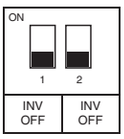


SW1



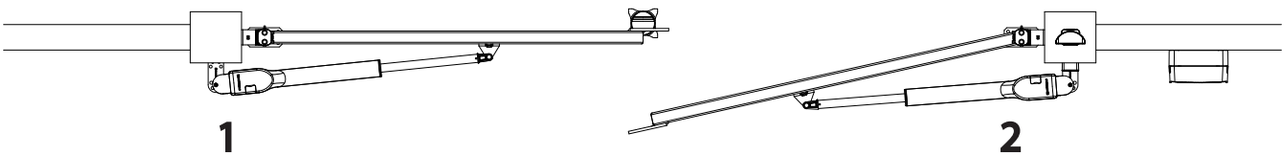
DIP1 ON = 2 motors configuration
DIP2 OFF = Delay of motor no. 2

SW2

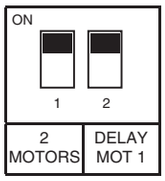


DIP1 OFF = inversion MOTOR no. 1 disabled
DIP2 OFF = inversion MOTOR no. 2 disabled

DELAY OF THE **MOTOR no.1**

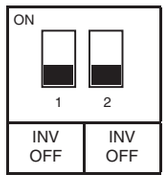


SW1



DIP1 ON = 2 motors configuration
DIP2 ON = Delay of motor no. 1

SW2

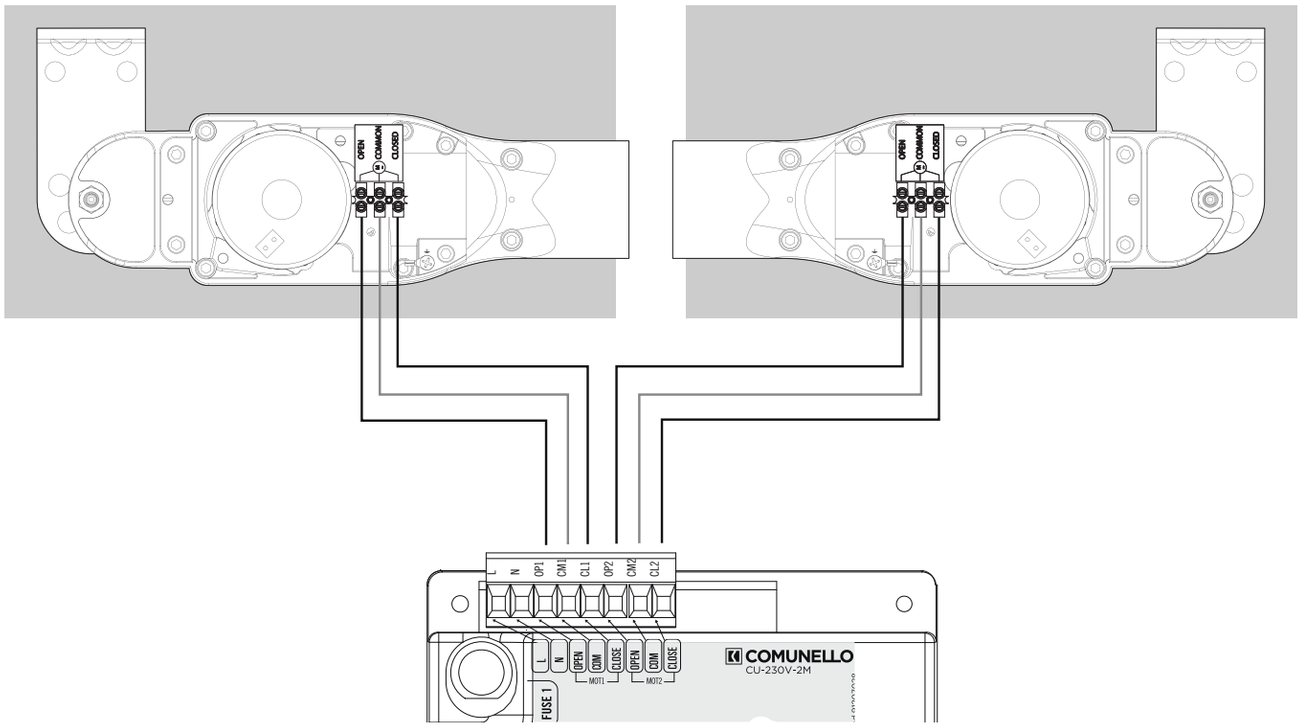


DIP1 OFF = inversion MOTOR no. 1 disabled
DIP2 OFF = inversion MOTOR no. 2 disabled

Wire connection of the motors to the control unit:

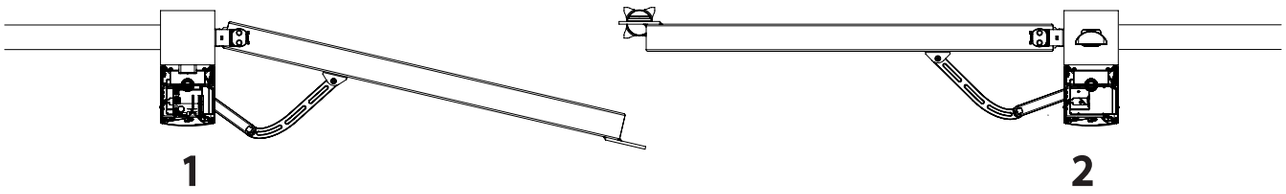
OPEN	with OP1
COMMON	with CM1
CLOSE	with CL1

OPEN	with OP2
COMMON	with CM2
CLOSE	with CL2

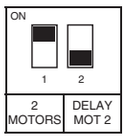


5.3 CONDOR - connection diagram of the motors

DELAY OF THE **MOTOR no.2**

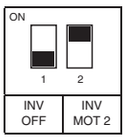


SW1



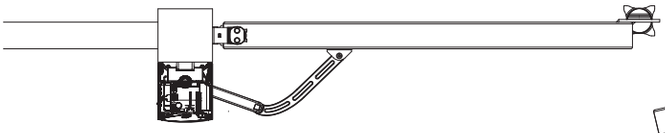
DIP1 ON = 2 motors configuration
DIP2 OFF = Delay of motor no. 2

SW2

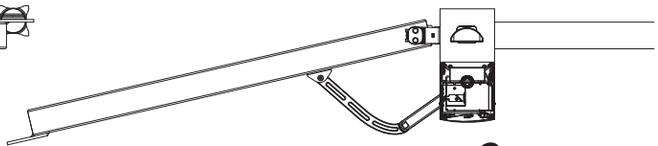


DIP1 OFF = inversion MOTOR no. 1 disabled
DIP2 ON = inversion MOTOR no. 2 enabled

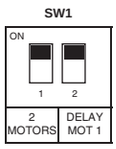
DELAY OF THE **MOTOR no.1**



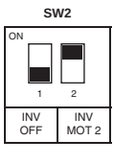
1



2



DIP1 ON = configurazione a 2 motori
DIP2 ON = Ritardo motore 1

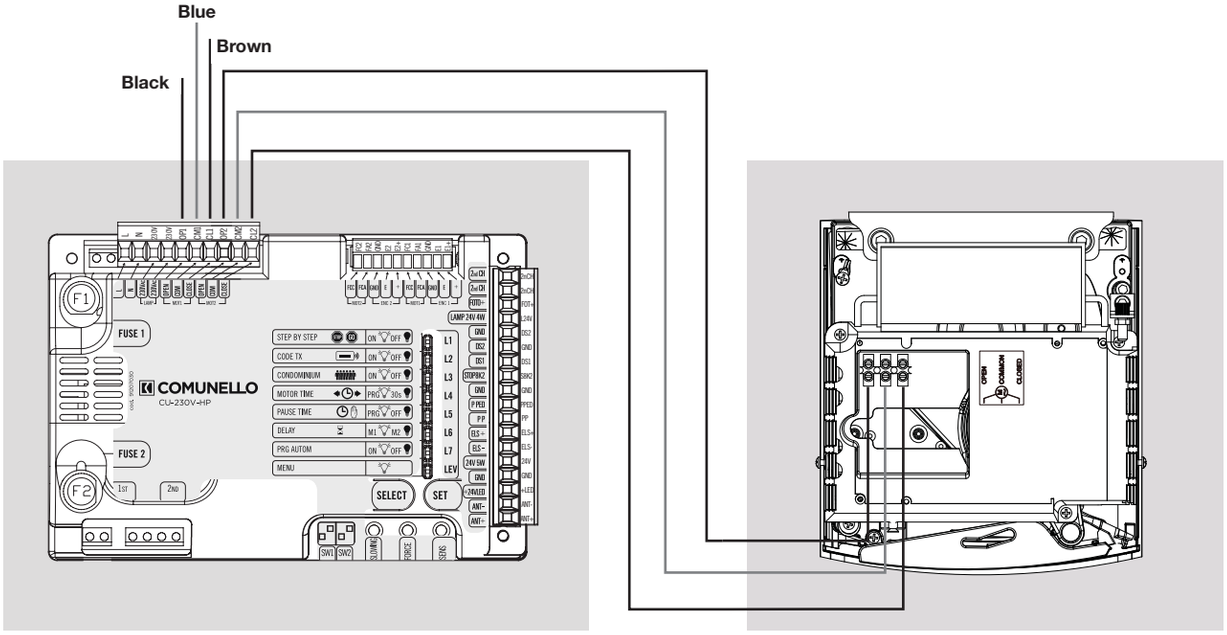


DIP1 OFF = inversione MOTORE 1 disattivata
DIP2 ON = inversione MOTORE 2 attivata

Wire connection of the motors (version without encoder) to the control unit:
Configuration - **MASTER** ON THE **LEFT**, **SLAVE** ON THE **Rights**

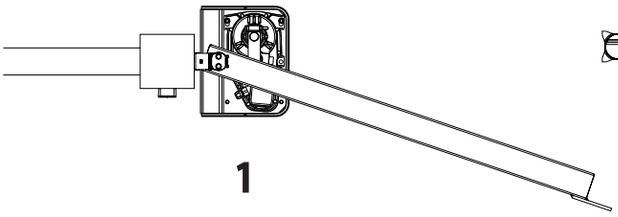
MOTOR 1 with Control unit
OPEN / APRI with OP1
COMMON with CM1
CLOSED / CHIUDI with CL1

MOTOR 2 without Control unit
OPEN / APRI with OP2
COMMON with CM2
CLOSED / CHIUDI with CL2

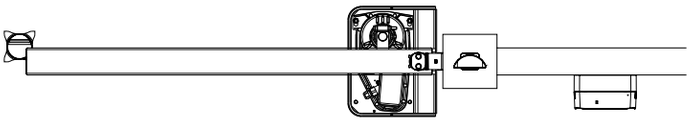


5.4 EAGLE- connection diagram of the motors

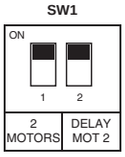
DELAY OF THE **MOTOR no.2**



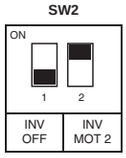
1



2

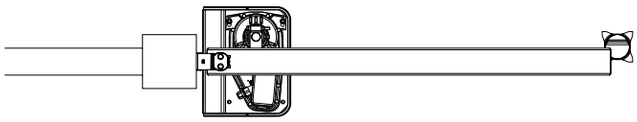


DIP1 ON = 2 motors configuration
DIP2 OFF = Delay of motor no. 2

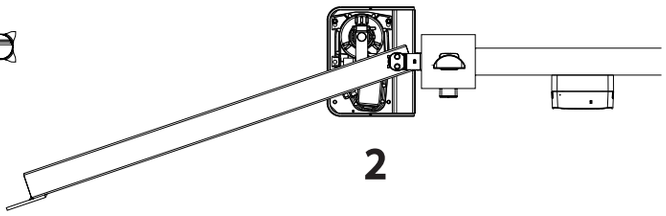


DIP1 OFF = inversion MOTOR no. 1 disabled
DIP2 ON = inversion MOTOR no. 2 enabled

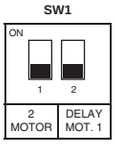
DELAY OF THE **MOTOR no.1**



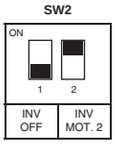
1



2



DIP1 ON = 2 motors configuration
DIP2 ON = Delay of motor no. 1

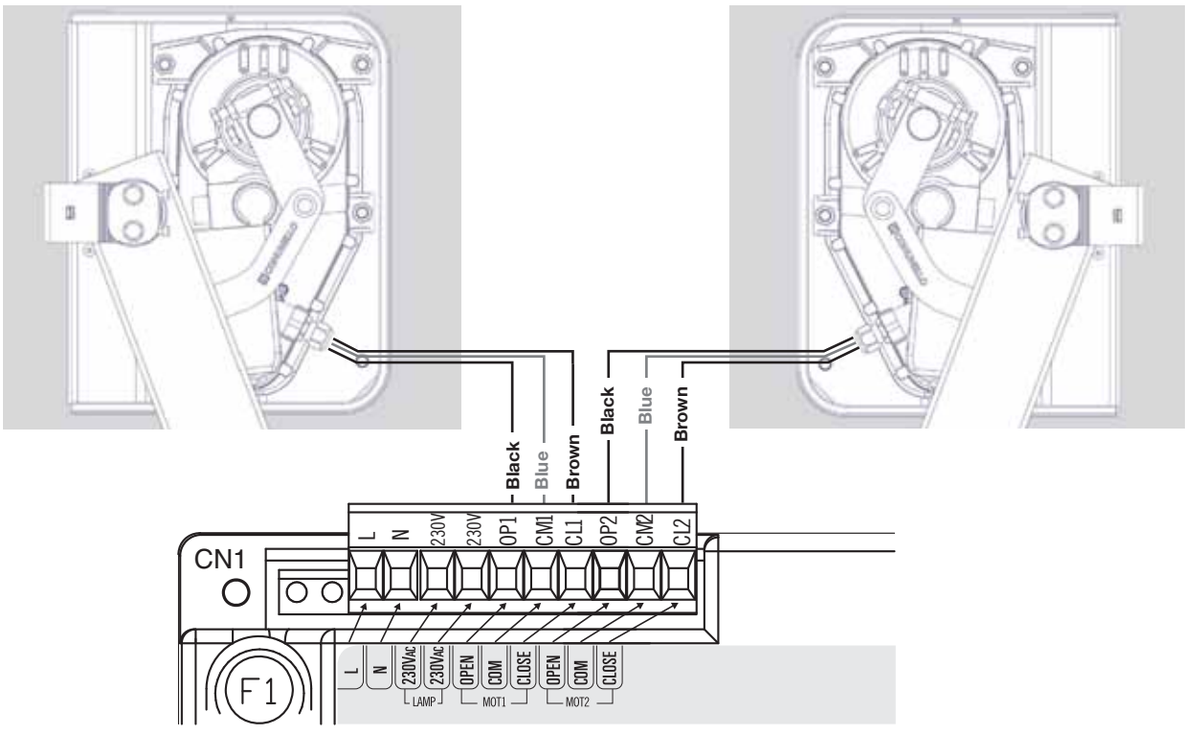


DIP1 ON = 2 motors configuration
DIP2 OFF = Delay of motor no. 2

Wire connection of the motors (version without encoder) to the control unit:
Configuration - **MOTOR NO.1** ON THE **LEFT**, **MOTOR NO.2** ON THE **Rights**

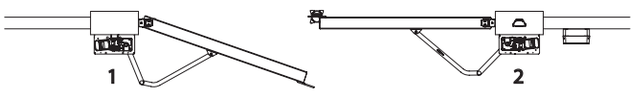
MOTORE n.1 (LEFT)
NERO in OP1
BLU in CM1
BROWN on CL1-

MOTORE n.2 (**Rights**)
BLACK with OP2
BLUE on CM2
BROWN on CL2

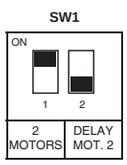


5.5 CONDOR 500 / CONDOR 500 S - connection diagram of the motors

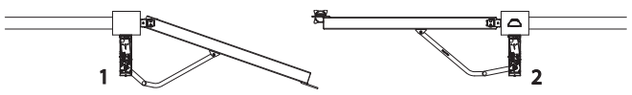
DELAY OF THE **MOTOR no.2**



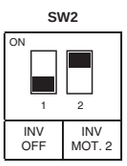
CONDOR 500



DIP1 ON = 2 motors configuration
DIP2 OFF = Delay of motor no. 2

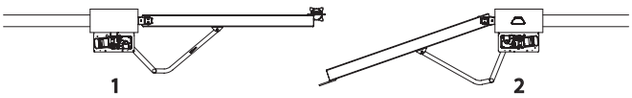


CONDOR 500 S

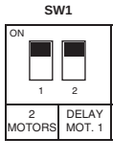


DIP1 OFF = inversion MOTOR no. 1 disabled
DIP2 ON = inversion MOTOR no. 2 enabled

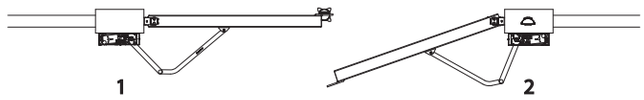
DELAY OF THE **MOTOR no.1**



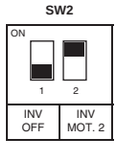
CONDOR 500



DIP1 ON = 2 motors configuration
DIP2 ON = Delay of motor no. 1



CONDOR 500 S



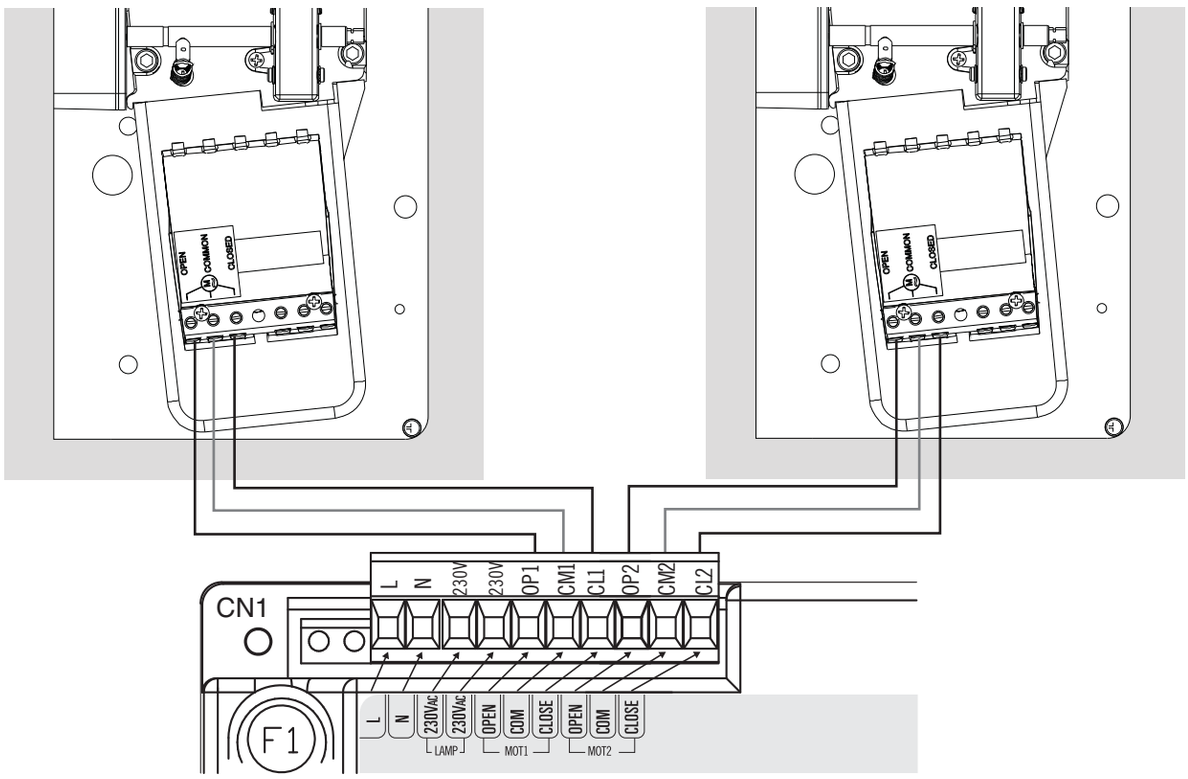
DIP1 OFF = inversion MOTOR no. 1 disabled
DIP2 ON = inversion MOTOR no. 2 enabled

Wire connection of motors WITHOUT ENCODER to the control unit
Configuration - MOTEUR 1 À GAUCHE, MOTEUR 2 À DROITE

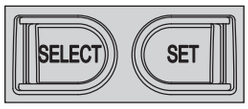
Motor line connection to control unit

MOTOR # 1 (left)
BLACK in OP1
BLUE in CM1
BROWN in CL1

MOTOR # 2 (rights)
BLACK in OP2
BLUE in CM2
BROWN in CL2



6 MENU DESCRIPTION AND PROGRAMMABLE FUNCTIONS



The control unit has a MAIN MENU and three sub-menus called EXTENDED to personalise programming and the various system functions.

THE “LEV” LED STATUS INDICATES WHICH MENU IS ACTIVE

Pressing the SELECT button several times in succession you can scroll through the menu displayed by the 7 LEDs to choose the desired function (flashing LED correspondingly flashing) and change its functionality with the SET button (the LED becomes fixed with function enabled or, conversely, off with function disabled).

The first available menu is the MAIN menu summarized in Tab no. 2:

MAIN MENU	• Press the SELECT button and select the desired function from the main menu	The LEV function LED stays on FIXED:

LIVEL 0 - MAIN MENU							
LED	FUNCTION	DESCRIPTION	LED ON			LED OFF	DEFAULT
L1	STEP BY STEP	Selection of the opening logic	Open-Stop-Close-Stop (it closes after the pause time in a partial opening phase)			Automatic (Open-Close)	
L2	CODE TX	Storage of remote controls	TX PP	TX P.PED	TX 2CH AUX.	Empty storage	
L3	CONDO	Activate the "Condominium" function	After the first one, the other inputs are ignored during the opening and the pause time			Disabled function	
L4	MOTOR TIME	Storage of the motor stroke with slowdowns	Stored stroke			30 seconds, without slowdown (default)	
L5	PAUSE TIME	Automatic closing setting	Automatic closing period stored			Disabled function	
L6	DELAY	Adjustment of the delay between the 2 leaves	Door delay enabled (Not resettable)			Door delay disabled	
L7	AUTO PROGRAM	Self-learning of the stroke with slowdowns	Memorized self-learning of the stroke			Disabled function	

Table 2

The second menu is the one defined as **EXTENDED 1** and to access the programmable functions follow the instructions given in **Tab. 3:**

EXTENDED MENU 1	• Press the SELECT button and scroll the LED menu until you reach the LEV LED; • Press SET once to access the EXTENDED menu 1.	The LED of the LEV function FLASHES with this frequency

LIVEL 1 - EXTENDED MENU 1						
LED	FUNCTION	DESCRIPTION	LED ON		LED OFF	DEFAULT
L1	HOLD-TO-RUN	Hold-to-run input	Enabled function		Disabled function	
L2	PEDESTRIAN /SINGLE LEAF PUSHBUTTON	Configuration of pushbuttons inputs PP and PPED	Opening and closing with two different buttons PP: Open / Close button PPED: Single leaf	Leaf with partial / pedestrian opening PP: Open / Close PPED: partial opening	Partial opening/pedestrain leaf PP: Start / Stop PPED: partial open of MOT1	
L3	PEDESTRAIN BUTTON / DS3	Configuration of the PPED input as partial opening or as additional photocell input	Configuration of N.O. PPED input as DS3 N.C. photocells input (inversion in OPEN)		Configuration of the PPED input as N.O. Pedestrian input	
L4	PHOTOTEST	Perform the photocell test before each movement	Enabled function		Disabled function	
L5	DS2 STOP IN CLOSE	Configuration of DS2 photocells input	STOP in CLOSE once the contact is open, then reversal		Reversal in CLOSE	
L6	DS1 PARTIAL INVERTION	Configuration of DS1 photocells input	Partial reversal in CLOSE		Complete reversal in CLOSE	
L7	BLOCK / 8K2	Configuration of N.C. STOP or 8.2 K Ohm resistive input.	8.2 K Ohm resistive input configuration		N.C. STOP pushbutton	

Table 3

The third menu is the one defined as **EXTENDED 2** and to access the programmable functions follow the instructions given in **Tab. 4**:

EXTENDED MENU 2	• Press the SELECT button and scroll the LED menu until you reach the LEV LED; • Press SET twice to access the EXTENDED menu 2.	il LED della funzione LEV LAMPEGGIA con questa frequenza: 

LIVEL 2 - EXTENDED MENU 2						
LED	FUNCTION	DESCRIPTION	LED ON		LED OFF	DEFAULT
L1	BRAKE	Enabling of the electronic brake	Always enabled		Always enabled	
L2	STEP BY STEP 1	Step-By-Step logic	Open-Stop-Close-Stop (It DOESN'T close after the pause time in a partial opening phase)		Disabled function	
L3	ALWAYS CLOSE	Enables the sending of a CLOSE command when the power is turned on again	Enabled function		Disabled function	
L4	FOLLOW ME	The motor automatically closes in 5 sec after passing through DS1 photocell	Enabled function		Disabled function	
L5	PEDESTRIAN TIME	Storage of motor no.1 partial stroke with slowdowns	Partial stroke of motor no.1 stored		10 sec., without slowdowns	
L6	2°CH MONOSTABLE / BISTABLE/TIMED MONO.	Setting the aux. relay of the 2°CH as Bistable / Monostable /Temporised monostable	Bistable command	Temporized 3 min.	Monostable command (impulsive)	
L7	REMOTELY PROGRAMMING	Enable the remote control memory function without acting on the control unit	Enabled function		Disabled function	

Table 4

The fourth and last menu is defined as EXTENDED 3 and to access the programmable functions follow the instructions given in Table 5:

EXTENDED MENU 3	• Press the SELECT button and scroll the LED menu until you reach the LEV LED; • Press SET 3 times to access the EXTENDED menu 3.	The LED of the LEV function FLASHES with this frequency 

LIVEL 3 - EXTENDED MENU 3						
LED	FUNCTION	DESCRIPTION	LED ON		LED OFF	DEFAULT
L1	SOFT STOP	Setting of gradual slowdown at the end of the movement	Enabled function		Disabled function	
L2	SOFT START	Setting of gradual slowdown at the beginning of the movement	Enabled function		Disabled function	
L3	RELEASE STROKE MAX FORCE/ RELEASE STROKE	Activation of the push in opening for electric lock release	Enabled function at the max FORCE	Enabled function - FORCE trimmer	Disabled function	
L4	SLAM LOCK MAX FORCE / SLAM LOCK	Activation of the push in closing for electric lock release	Enabled function at the max FORCE	Enabled function - FORCE trimmer	Disabled function	
L5	ELS / CMD PED	Activation of the electric lock as PPED input	Enabled function		Disabled function	
L6	LAMP / L.CORT L.SPIA / LAMP L.CORTESIA	Flashing light set as pilot light or courtesy light	Flash. → Courtesy light	Flash. → court. light.; Pilot light → Flash.	Flashing light	
L7	PRELAMP / LAMP IN PAUSA	Activation of the pre-flash for 3 s. before the CLOSE cycle / Flashing in pause time	Preflash in CLOSE	Fllash in pause time	Disabled function	

Table 5

ATTENTION: The control unit allows to be programmed if all the safety devices (N.C. inputs on terminals) grant a contact closed.

7 DETAILED DESCRIPTION OF ALL FUNCTIONS

7.1 ELECTRICAL CONNECTIONS

L: 230 V~ Line input (Phase)
N: 230 V~ Line input(Neutral)
LAMP 230~: Flashing Light Output 1 (230 V~ Neutral)
LAMP 230~: Flashing Light Output 1 (230 V~ Phase)
MOT1 OPEN: Operator 1 opening output
MOT1 COM: Operator 1 output common
MOT1 CLOSE: Operator 1 closing output.
MOT2 OPEN2: Operator 2 opening output
MOT2 COM2: Operator 2 output common
MOT2 CLOSE2: Operator 2 closing output

CN2:
2nd CH: Aux Radio CH Output (Free Contact max load 30V DC 1A)
2nd CH: Aux Radio CH Output (Free Contact max load 30V DC 1A)

FOTO + Photocell control and power supply
LAMP 24V Signal light output 24Vac
GND Common GND input
DS2 Safety device input 2 (NC)
DS1 Safety device input 1 (NC)
STOP 8K2 Block / 8K2 input
GND Common GND input
P PED: Ingresso Puls. Pedestrian/Single Door/open button input (NO)
PP: Open-close/close command button input (NO)
ELS + Electric lock output +24Vdc
ELS - Electric lock output -
24V 5W Services output (+24Vdc)
GND: Common GND input
SPIA+24V LED: Output indicator lamp (+24 V / 4 W)
ANT-: Chassis ground input (sheath)
ANT+: Antenna hot pin input

CN3:
ENC1 +: Motor 1 Encoder power supply input

ENC1 E: ENC1 Motor 1 Encoder signal input
GND: Common GND input
MOT1 FCA: Motor 1 Opening Limit Switch input (NC)
MOT1 FCC: Motor 1 Closing Limit Switch input (NC)
ENC2 +: Motor 2 Encoder power supply input
ENC2 E: Motor 2 Encoder Signal input
ENC2 GND: Common GND input
MOT2 FCA: Motor 2 Opening Limit Switch input (NC)
MOT2 FCC: Motor 2 Closing Limit Switch input (NC)

TRANSFORMATOR CONNECTIONS

CN5 (1st):
1: 230 V~ Transformer Primary Winding Input
2: 230 V~ Transformer Primary Winding Input

CN4 (2st):
1: Transformer SEC 1 output 11.8V 3.5A
2: Transformer SEC 1 output 11.8V 3.5A
3: Transformer SEC 2 output 25V 0.8A
4: Transformer SEC 2 output 25V 0.8A

7.2 FUNCTIONAL CHARACTERISTICS

7.2.1 AUTOMATIC OPERATION (OPEN/CLOSE):
When either a stored remote or the connected low voltage pushbutton panel is used to control the gate, operation is as follows: the first command opens the gate until motor time elapses or until the gate reaches its opening limit position; the second command closes the gate; if another command is transmitted before motor time has elapsed or before one of the two limiters has been reached, the control unit reverses the movement direction during both opening and closing.

7.2.2 STEP-BY-STEP OPERATION:
When the LED L1 of the main menu is turned on, when either the remote or the low voltage control pushbuttons are used to control the gate, operation is as follows: the first command opens the gate until motor time or until the gate reaches its opening limit position; the second command closes the gate; if another command is transmitted before motor time has elapsed or before one of the limit stops has been reached, the control unit stops the movement. Another command causes the gate to start moving again in the opposite direction.

7.2.3 STEP-BY-STEP 1 OPERATION:
When the command is activated (LED L1 lit), using both the radio control and the low voltage push-button panels to operate the gate, the following will occur: the first command controls the opening until the motor time limit expires or when the end of the opening stroke is reached, the second impulse commands the closing of the gate; if a command is sent before the motor time limit expires or when one of the two limit switches is reached, the control unit always stops motion both in the opening and closing phases (even if the pause time has been previously programmed). Automatic closing is not carried out. A further command determines resumption of motion in the opposite direction.

7.2.4 AUTOMATIC CLOSING:
The control unit can be set up to close the gate automatically without sending any additional commands.
The selection of this type of operation is described in Pause time programming mode PAUSE TIME.

7.2.5 PEDESTRIAN OPENING:
The control unit allows, using both the remote control and the Ped input button, the operation of the Motor no. 1 only, for a programmable time.

7.2.6 SINGLE LEAF:
Despite being utilized in the configuration for a 2-operator gate opener, the control unit allows the Pedestrian/Single Leaf pushbutton to start exclusively Operator no.1, in accordance with the programmed stroke.

7.2.7 EMERGENCY STOP INPUT:
The control unit allows the connection of an emergency stop pushbutton (NC). Pressing this pushbutton irrespective of the current operating mode of the control unit will cause immediate stopping of the gate movement. An additional gate movement command will be valid provided the emergency stop input is deactivated and, in any case, the control unit will execute the gate opening cycle with 5 seconds pre-flashing.

Important Note: Jumper this input if it is not to be used.

7.2.8 PHOTOCELLS:
Photocells can be powered by and connected to the control unit in accordance with directive EN 12453.
DS1 Input (NC)
Tripping of the photocells during opening is disregarded, while during closing it causes reversal of the direction of movement.
DS2 Input (NC)
Tripping during opening causes momentary stopping of the gate; once the safety is freed the control unit resumes the opening movement. Tripping during closing causes reversal of the direction of movement.
Programmable input DS3 (NC)
Tripping during opening causes reversal of the direction of movement. Tripping during closing is disregarded.
To allow operation in compliance with EN 13849-1 Category 2 a **photocell test** is performed before each movement. In order to perform this test it is essential to power the transmitter of each pair of photocells on the specific "Photocells Power and Control" output (outputs 3 and 4 of terminal strip CN2), while the receiver of each pair must be powered via the "Users Output" (outputs 14 and 15 of terminal strip CN2). The control unit enables the movement only if the test is passed; if it is not, the control unit inhibits all movements and an alarm condition is signalled by blinking of all the programming LEDs on transmission of each command.

Important note: Inputs DS1 and DS2 (NC) are factory bridged. To wire the photocells, remove the jumpers from the corresponding inputs.

7.2.9 OPENING AND CLOSING LIMIT SWITCHES:
The control unit allows for the connection of N.C. Opening and Closing limit switches. The intervention in the respective operating phases causes the immediate stop of the motion with the correspondence between limit switches and Motor 1 and 2.

Important note: Do not jumper these inputs if they are not used.

7.2.10 ENCODER MOTOR 1 AND MOTOR 2:
The control unit allows the connection of an Encoder for each motor. Use of the Encoders improves the Obstacle Detection function and guarantees improved precision during execution of the manoeuvre.
Obstacle detection does not work with automatisms without encoder.

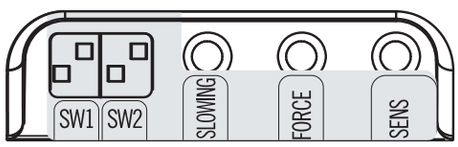
7.2.11 INDICATOR LIGHT:
The control unit allows a 24V DC indicator light to be connected to display the status of the gate opener.
FUNCTIONING
- Light off: closed
- Light on: open
- Light flashes slowly: motion when opening
- Light flashes rapidly: motion when closing

7.2.12 OPERATION WITH TIMER:
The control unit allows a timer to be connected in place of the open – close push-button.
E.g.: at 08.00 am the timer closes the contact and the control unit commands an opening movement; at 06.00 pm the timer opens the contact and the control unit commands a closing movement.

From 08.00 am – 06.00 pm at the end of the opening cycle, the control unit disables the flashing light, automatic closing and the remotes.

7.2.13 ELECTRIC LOCK CONTROL OUTPUT:
The control unit features an output to control a 24V DC 15W max. electric lock. The command is switched on at each initial opening movement for a period of 2 seconds.

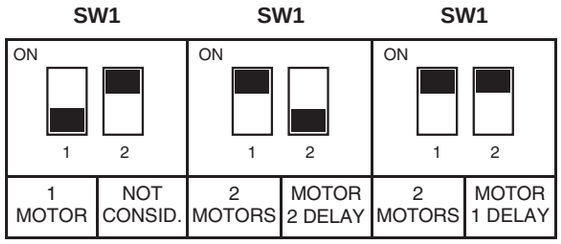
7.3 DIP-SWITCHES AND TRIMMERS ADJUSMENTS



Important Note: change the settings of dip-switches SW1 and SW2 with the control unit off and only subsequently repeat the control unit programming

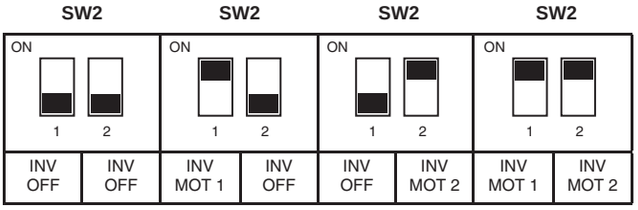
procedure.

7.3.1 MOTOR 1 OR MOTOR 2 DELAY CONTROL AND ENABLING OF 1 OR 2 MOTORS



The electronic control unit is equipped with a dip-switch SW1 that is used to select operation with 1 or 2 motors and to define which of the two starts first and which starts second.

7.3.2 MOTOR 1 AND MOTOR 2 STROKE DIRECTION



The electronic control unit is equipped with dip-switches that can be used to change the stroke direction of each connected motor without rewiring the electrical connections: dip-switch 1 controls Motor 1 while dip-switch 2 controls Motor 2.

7.3.3 DECELERATION (SLOWING):
The motor deceleration function is used in the gates to prevent the mobile doors from striking at high speed at the end of opening and closure.
When programming the Motor Time, the control unit also allows deceleration to be programmed in the desired points (before total opening and closure). Moreover, through the "SLOWING" trimmer it is possible to choose from three deceleration speed values.

7.3.4. REGULATION OF MOTOR POWER (FORCE):
The electronic control unit is equipped with a "SPEED" trimmer for adjustment of the speed delivered by the Motors, completely managed by the microprocessor.
Adjustment can be performed in a range between 50% and 100% of maximum speed.
Initial starting torque can be set for each movement by feeding the operator at full power for 2 seconds, even if operator speed control is enabled.

Important notes:
- Initial starting torque is disabled automatically if the Soft Start function is enabled (see section 8.4.2.);
- A variation of the trimmer "SLOWING" requires the repetition of the learning procedure, since the times of manoeuvre and slowing may vary.

7.3.5. OBSTACLE DETECTION (ONLY IN VERSION WITH ENCODER):
The electronic control unit is equipped with a **"SENS" trimmer**, completely managed by the microprocessor, for adjustment of the opposing Force required to detect the presence of an obstacle. The adjustment can be made with a trip time from a minimum of 0.1 seconds to a maximum of 7 seconds

Important notes:
- In the presence of limit switches connected to the control unit, the detection of the obstacle always causes the reversal of the closing movement and the inversion for 2 seconds in opening.
- The detection of an obstacle causes the brief inversion of movement in closure and opening.
- In the absence of limit switches connected to the control unit, detection of an obstacle will always cause a brief inversion of direction except in the last 5 seconds of the manoeuvre, in which case a stop will be made.

7.3.6 BLACK-OUT
In the case of a black-out and subsequent restoration of the power supply, the first manoeuvre will be in opening with a fixed speed as set by the trimmer "SLOWING"; when a mechanical block is encountered, in the absence of an electrical limit switch, the doors will not be obstructed, but will execute a STOP (version with encoder). With a subsequent command, the doors will close again at reduced speed until completely closed. The next manoeuvre will be at the speeds set by the trimmers.

8 DETAILED DESCRIPTION OF THE PROGRAMMING

PROGRAMMING:
SELECT key: it determines the type of function to be memorized, as indicated by the blinking of the LED.

By pressing the key several times, it is possible to scroll the menu and move to the desired function. The selection remains active for 10 seconds, displayed by the flashing LED; when this interval elapses, the control unit exits programming.
SET key: it confirms and changes the programming according to the type of function determined by the SELECT key.
Following confirmation, the respective LED remains on / off for about 2 sec. and then starts flashing again.

Important notes: the function of the SET key can also be replaced by the remote control if previously programmed (LED L2 CODE TX lit).
Programming enabled only with the closure of N.C contacts enabled.

8.1 MAIN MENU

L1	STEP BY STEP	Step-by-step	Automatic (Open-Close)
L2	CODE TX	Remote control stored	No remote control stored
L3	CONDO	ON	OFF
L4	MOTOR TIME	Complete stroke stored	30 s. (no slowdowns)
L5	PAUSE TIME	With automatic closure	OFF
L6	DELAY	ON	OFF
L7	PRG AUTOM	ON	OFF
LEV	MENÙ	ON	

8.1.1 **LED L1** - STEP BY STEP or OPEN-CLOSE:

Programming
In the default configuration the control unit is set with "Step-By-Step" operating logic enabled (LED no.1 ON);
if the "Automatic Open-Close" operating logic is required (LED no.2 OFF), proceed as follows:
- By the key SELECT, position yourself on the blinking LED no.1;
- Press the SET key;
- The LED L1 turns off and programming will be completed.

Repeat the procedure if you wish to restore the previous configuration.

8.1.1. **LED L2** - CODE TX:
CODE TX: Remote controls storage

Up to 120 remotes with different codes of either the fixed or the rolling code type can be saved on the control unit

Remote control code programming of the total opening (Mot. no. 1 + Mot. no.2):
- By the key SELECT, position yourself on the blinking LED 2 "CODE TX";
- Press key SET once to memorize the PP channel;
- Send the selected code with the remote control;
- The LED L2 will remain steady on for a second to indicate that programming has been completed;
- The LED L2 starts to blink again to indicate that you have 10 additional sec. to store a new code;
- On expiry of those 10 sec.the LED L2 will remain steady on.

Remote control code programming of the partial / pedestrian opening (Mot. no. 1):
- By the key SELECT, position yourself on the blinking LED L2 "CODE TX";
- Press key SET twice to memorize the PPED channel and the led will modify its blinking (110110110);

- Send the selected code with the remote control;
- The LED L2 will remain steady on for a second to indicate that programming has been completed. The extra time of 10 sec. to store a new PPED channel is then preview as for the PP channel.

Remote control code programming of the 2nd AUX channel:
- By the key SELECT, position yourself on the blinking LED L2 "CODE TX";
- Press key SET 3 times to memorize the 2nd auxiliary channel and the led will modify its blinking (1 1 1 0 1 1 1 0);
- Send the selected code with the remote control;
- The LED L2 will remain steady on for a second to indicate that programming has been completed.
- The extra time of 10 sec. to store a new AUX channel is then preview as for the PP channel.

Important note: If a code has already been entered or all 120 codes have been memorized, by repeating the programming operation, all the programming LEDs will start to flash, indicating that no further storing is possible.

Deletion of remote control codes:
- By the key SELECT, position yourself on the blinking LED L2 "CODE TX";
- Activate the blinking of the code to be deleted (P.P., PED. or AUX, indicated by the respective blinking);
- Press and hold down key SET for more than 5 sec.;
- The LED switches off for 2 sec. and the procedure is completed;
- If the CODE, PEDESTRIANS, or AUX codes are deleted, the LED will remain off.

Important note: If both channels codes are deleted, the LED will remain off, by the contrary if only PEDESTRIAN codes remain stored, the LED blinking mode will change (1 1 1 1 0 1 1 1 1 0).

Rule of the first saved Remote control:
When programming remotes the following rule is applied:
if the first remote to be saved is a rolling code type, the receiver will subsequently accept only rolling code remotes (thus providing enhanced anti-intrusion security); if the first remote to be saved is a fixed code type, the receiver will subsequently accept both fixed code remotes and rolling code remotes, although only the fixed part of the latter will be controlled (thus effectively relinquishing the security of the rolling code system).

8.1.3. **LED L3** - CONDO: "Condominium" logic:
The enabling of the Condominium function means that during the opening movement or during the pause time the control unit will not respond to commands sent by Pushbuttons or remotes.
In contrast, during the closing movement a command sent by the Pushbuttons or the remotes will reverse the direction of movement. This operating mode is invaluable when the automation includes a loop detector.

In the default configuration the control unit is set with the Condominium function disabled; if the Condominium function is required, proceed as follows:
- By the key SELECT, position yourself on the blinking LED no.3;
- Press the SET key;
- LED L4 becomes steady on and programming will be completed.

Repeat the procedure if you wish to restore the previous configuration.

8.1.4. **LED L4** - MOTOR TIME: Programming of the motors stroke (max 4 min.)
It is necessary to program the working time of the motors
To set a new stroke, programming must be carried out with leaves in closed position as follows:
- By the key SELECT, position yourself on the blinking LED no.4;
- Press the SET key; · Motor no.1 starts the opening phase;
- At the desired initial deceleration point, press the SET key again, LED L4 will start to flash more slowly and Motor 1 will decelerate;
- When the desired position is reached, press the SET button to end the Opening cycle;
- LED L4 will now resume flashing normally and Motor 2 will begin Opening;
- Repeat the work time programming procedure for Motor 2;
- Once programming of the motor Opening times has been completed, Motor 2 restarts Closing immediately: repeat the above procedures for the Closing phase of Motor 2 and subsequently Motor 1.
  If you wish to exclude the slowing down (strongly advised against), when opening, wait until you reach the fully open position and proceed as follows:
- In the case of motors with encoders and / or electric limit switches, press the SET key once and the reclosing phase will start;
- In the case of motors without an encoder and / or electrical limit switches, press the SET key twice and the closing phase will begin."

Important notes:
- If you do not require the control unit to perform the deceleration, during programming, when the open-close cycle has been completed press the SET key twice consecutively rather than just once.
- If the control unit is used in the 1 Motor configuration (dip 1 of SW1 OFF), the programming of the working time of the Motor 2 is not performed
- During programming, instead of the SET key on the control unit you can use the button on the remote already stored.

8.1.5. **LED L5** - PAUSE TIME Automatic closing time programming:
The control unit is factory set with automatic closing disabled.

If you wish to enable automatic closing proceed as follows:
- By the key SELECT, position yourself on the blinking LED no.5;
- Press the SET key;
- Wait for a time equivalent to the desired time interval (from 1 sec. up to 4 min.);
- Press the SET key again momentarily and at the same time the automatic closing time will be saved and LED L5 will remain steady on;

If you wish to restore the initial condition (no automatic closing)
- select blinking LED L6.
- press the SET key twice consecutively in a time period of 2 seconds.
- The LED will switch off and the operation will be completed.

During programming, instead of the SET key on the control unit you can use the button on the remote, providing the remote has been saved beforehand.

8.1.6. **LED L6** - LEAVES DELAY:
The control unit is factory set with 4 Sec. leaves opening and closing delay. Proceed as follows if you wish to modify that period:
- By the key SELECT, position yourself on the blinking LED L6;
- Press the SET key;
- Wait for a time equivalent to the desired time interval for leaves delay in the closing phase (from 4 sec. up to 15 min.);
- Press the SET button again for an instant, thus determining the door delay time to be memorised (during opening it is fixed at 4 seconds, whereas it will be the gate delay closing time for the programmed time);
- LED L6 becomes steady on and programming will be completed: the delay time is fixed for opening leaves at 4 sec and it is up to 15 sec for closing leaves

If you want to deactivate this function (without leaves delay),
- select blinking LED L6
- press the SET key twice consecutively in a time interval of 2 seconds, at the same time the LED will switch off and the operation will be terminated.

8.1.7. **LED L7** - AUTOMATIC PROGRAMMING:
"
The control unit allows to carry out an Automatic Programming (SIMPLIFIED and only in the presence of encoders and / or electric limit switches) to automatically adjust stroke and slowdowns of the leaves. To set a new stroke, programming must be carried out with leaves in intermediate position (partially open) as follows:
- Position the actuators manually until half of the stroke before continuing.
- By the key SELECT, position yourself on the blinking LED no.7;
- Press the SET key;
- To determine its zero position, Motor no.2 performs its closure until it reaches the limit switch or mechanical stop;
- Afterwards the same operation will be repeated by the Motor no. 1;
- The control unit executes the Auto programming procedure by performing a complete opening and closing cycle and the Deceleration cycle is set automatically too at approximately 15% of the complete cycle;
- Press the SET button to memorize the motor stroke.

During Automatic Programming, instead of the SET key on the control unit you can use the button on the remote, providing the remote has been saved beforehand.

Important notes:
- In the event that the motors move in a manner other than that described:
- Disconnect the power supply to the control unit.
- Change the position of Dip Switch SW2 to change the drive direction to the desired motor without physically using the electrical connections.

- During Automatic Programming, the radio control button (if previously memorised) may be used instead of the control unit SET button.
- It is not possible to carry out Automatic Programming in the absence of limit switches and/or encoders wired to the control unit.

8.2 EXTENDED MENU 1

The control unit is factory set to allow direct selection exclusively of the main menu functions. If you wish to enable the functions described in Extended Menu 1, proceed as follows:

- Select blinking LEV LED and press SET once;

Press SET once;

- The LED will start blinking (alternate flashing of LEV LED );

In this way you have access to the setting of the following functions:

			
L1	HOLD-TO-RUN	ON	OFF
L2	"PEDESTRIAN BUTTON / SINGLE DOOR PP/OPEN PPED/CLOSE"	SINGLE LEAF	PEDESTRIAN BUTTON
L3	PEDESTRIAN BUTTON / DS3	DS3	PEDESTRIAN BUTTON
L4	PHOTOTEST	ON	OFF
L5	DS2 STOP IN CLOSE	ON	OFF
L6	DS1 PARTIAL INVERSION	ON	OFF
L7	BLOCK / 8K2	ON	OFF
LEV	MENÙ	 1 FLASH	

There will be 30 seconds to select the functions of the Extended Menu 1 using the SELECT and SET keys; once an additional 30 seconds have elapsed the control unit reverts to the main menu.

8.2.1. **LED L1** - HOLD-TO-RUN:

The control unit allows you to configure the "Dead Man Switch" function. In this way, using the radio controls and the buttons to send a command, the following operation will be obtained: it will be necessary to keep the desired command all the time activated (button pressed constantly) to obtain the movement of the gate. When you release the command, the gate will stop immediately. If this mode of operation is desired, proceed as follows.

The control unit allows setting the "Deadman" operation. To enable this operation mode, proceed as follows:

- Make sure you have enabled the extended Menu 1 (as shown by the alternate flashing 1 0 1 0 1 0 of LEV LED);
- By the key SELECT, position yourself on the blinking LED L1;
- Press the SET key;
- LED L1 becomes steady on and programming will be completed.

In this way, using both the remote controls and the shutter activation Buttons, the following operation will be obtained: it is necessary to keep the desired command constantly activated (button pressed constantly) to obtain the movement of the door of the shutter. The release of the control will cause the stroke to stop immediately.

Repeat the procedure if you wish to restore the previous configuration.

8.2.2. **LED L2** - SINGLE LEAF OR PP. BUTTON = OPEN, PED. BUTTON = CLOSE:

The control unit allows a N.O. Pushbutton to be connected (CN2 input no. 10) to activate the gate in Pedestrian Opening mode.

It is however possible to use this input to connect a N.O. pushbutton operating in a different manner.

If you wish to enable the "Single Leaf" function, proceed as follows:

- The LED will start blinking (alternate flashing 1 0 1 0 1 0 of LEV LED);
- Select blinking LEV LED and press SET once;
- Press the SET key;
- By the key SELECT, position yourself on the blinking LED L2;

In this mode the PPED button can be used to operate only Motor 1.

In contrast, if you wish to enable "OPEN-CLOSE" mode in order to use the Pedestrian Pushbutton to activate exclusively closing of the gate and the P/P Pushbutton to (CN2 input no. 11) to activate exclusively opening of the gate, repeat the operation described above, pressing the SELECT key twice (LED L2 will blink rapidly) instead of just once. Repeat the procedure if you wish to restore the initial configuration.

8.2.3. **LED L3** - PEDESTRIAN PUSHBUTTON / DS3:

The control unit allows a N.O. Pushbutton to be connected (CN2 input no. 10) to activate the gate in Pedestrian Opening mode.

However, this input can be used to connect a DS3 photocell (N.C):

- Select blinking LEV LED and press SET once; The LED will start blinking (alternate flashing 1 0 1 0 1 0 of LEV LED);
- By the key SELECT, position yourself on the blinking LED L3;
- Press the SET key;
- LED L3 becomes steady on and programming will be completed.

Repeat the procedure if you wish to restore the initial configuration.

8.2.4. **LED L4** - PHOTOTEST (Photocells test):

The control unit is factory set with the photocells test disabled.

Proceed as follows if you wish to enable the function:

- Make sure you have enabled the extended Menu 1 (as shown by the alternate flashing 1 0 1 0 1 0 of LEV LED);
- By the key SELECT, position yourself on the blinking LED L4;
- Press the SET key;
- LED L4 becomes steady on and programming will be completed.

Repeat the procedure if you wish to restore the previous configuration.

8.2.5. **LED L5** - DS2 STOP IN CLOSE:

The control unit allows the operation of input DS2 to be modified. If you want **DS2** to trip also **during closing** (stopping of the gate leaf, then once the passage is free, the gate resumes the closing manoeuvre) proceed as follows:

- Make sure you have enabled the extended Menu 1 (as shown by the alternate flashing 1 0 1 0 1 0 of LEV LED);
- By the key SELECT, position yourself on the blinking LED L5;
- Press the SET key;
- LED L5 becomes steady on and programming will be completed.

Repeat the procedure if you wish to restore the previous configuration.

8.2.6. **LED L6** - DS1 PARTIAL INVERSION:

The control unit allows the operation of input DS1 to be modified. If, during a closing manoeuvre, you want **DS1** to perform a **partial reversal** (short reversal) of the gate leaf instead of a total reversal, proceed as follows:

- Make sure you have enabled the extended Menu 1 (as shown by the alternate flashing 1 0 1 0 1 0 of LEV LED);
- By the key SELECT, position yourself on the blinking LED L6;
- Press the SET key;
- LED L6 becomes steady on and programming will be completed

Repeat the procedure if you wish to restore the previous configuration.

8.2.7. **LED L7** - BLOCK = 8K2:

The control unit allows the connection of an N.C. Emergency Stop pushbutton (CN2 input no. 8). However, to switch this input to an 8.2 KOhm resistive input proceed as follows:

- Make sure you have enabled the extended Menu 1 (as shown by the alternate flashing 1 0 1 0 1 0 of LEV LED);
- By the key SELECT, position yourself on the blinking LED L7;
- Press the SET key;
- LED L7 becomes steady on and programming will be completed.

From this moment on, the connection of a resistive edge to the control unit in the relative input will result in the colour change (from red to green) of the STOP / 8K2 led.

A change in the input value causes a partial inversion and the subsequent block of the control unit in any phase of the leaf stroke.

Repeat the procedure if you wish to restore the previous configuration.

8.3 EXTENDED MENU 2

The control unit is factory set to allow direct selection exclusively of the main menu functions.
If you wish to enable the functions described in **Extended Menu 2**, proceed as follows:

- Select blinking LEV LED and press SET twice;
- Premere 2 volte SET;
- The LED will start blinking (alternate flashing of LED LEV );

			
L1	BRAKE	CANNOT BE DISABLED	CANNOT BE DISABLED
L2	STEP BY STEP 1	ON	OFF
L3	ALWAYS CLOSE	ON	OFF
L4	FOLLOW ME	ON	OFF
L5	PEDESTRIAN TIME	ON	OFF
L6	2°CH MONOSTABLE	ON	OFF
L7	DISTANCE PROGRAM.	ON	OFF
LEV	MENÙ	 2 FLASHES	

In this way you will have 30 seconds to select the functions of Extended Menu 2 by using the SELECT and SET keys; after a further 30 seconds the control unit returns to the main menu.

8.3.1 **LED L1** - BRAKE:
The control unit reduces the advancement of the gate caused by inertia, in correspondence with a stop or inversion command.

8.3.2 **LED L2** - STEP BY STEP 1:
Proceed as follows if you wish to enable the function "Step-by-step 1":

- Make sure you have enabled the extended Menu 2 (as shown by the alternate flashing 1 1 0 1 1 0 1 1 of LEV LED);
- By the key SELECT, position yourself on the blinking LED L2;
- Press the SET key;
- LED L2 becomes steady on and programming will be completed.

Repeat the procedure if you wish to restore the previous configuration.

Important Note: the Step by Step 1 function overwrites the standard operation Step by Step logic and it can be enable only if a "Step-by-step" in enabled and the "Pause time" period is stored.

8.3.3 **LED L3** - ALWAYS CLOSE:
The control unit provides the facility to set "Always Close" operation: this function, which is programmable only if a Pause Time has already been programmed, is activated after a power failure; if the gate open condition is confirmed a closing movement is started automatically, preceded by 5 seconds of pre-flashing.

Important note: this command can be programmed only if a Pause Time has already been set.

If you wish to enable the function, proceed as follows:

- Make sure you have enabled the extended Menu 2 (as shown by the alternate flashing 1 1 0 1 1 0 of LEV LED);
- By the key SELECT, position yourself on the blinking LED L3;
- Press the SET key;
- LED L3 becomes steady on and programming will be completed.

Repeat the procedure if you wish to restore the previous configuration.

8.3.4. **LED L4** - FOLLOW ME:
The control unit allows the "Follow me" function to be configured; programmable only if a Pause Time has already been set, this function reduces the Pause Time to 5 seconds after freeing the DS1 photocell, meaning the gate re-closes 5 seconds after transit of the user.

Note: this command is programmable only if a Pause Time has already been programmed.

Proceed as follows if you wish to enable the function:

- Make sure you have enabled the extended Menu 2 (as shown by the alternate flashing 1 1 0 1 1 0 of LEV LED);
- By the key SELECT, position yourself on the blinking LED L4;
- Press the SET key;
- LED L4 becomes steady on and programming will be completed.

Repeat the procedure if you wish to restore the previous configuration.

8.3.5 **LED L5** - PEDESTRIAN TIME:
Programming of the stroke of motor no.1:
The control unit is factory set with Pedestrian opening time (associated to Motor no.1) of 10 seconds without any deceleration.
That time can be modified and decreased or increased up to 4 min. To set a new pedestrian time programming must be carried out with the leaf associated to Motor no.1 in closed position as follows:

- Make sure you have enabled the extended Menu 2 (as shown by the alternate flashing 1 1 0 1 1 0 of LEV LED);
- By the key SELECT, position yourself on the blinking LED L5;
- Press the SET key;
- Motor no.1 starts the opening phase;
- When the desired deceleration starting point is reached press the SET key (the leaf continues its stroke at a decelerated speed);
- The L5 LED will start to flash more slowly and the Motor will decelerate;
- When the desired position is reached, press the SET button to end the Opening cycle;
- The L5 LED will flash again normally and the motor will start Closing once more;
- Repeat the procedures described above for the Closing phase.

If you do not require the control unit to perform the deceleration, during programming, when the opening and closing cycle has been completed press the SET key twice consecutively rather than just once.

During programming, instead of the SET key on the control unit you can use the button on the remote already stored.

8.3.6. **LED L6** - AUXILIARY RADIO CHANNEL OPERATING LOGIC:
The control unit allows the operating logic of the **Auxiliary Radio Channel** to be selected.
The control unit is factory set with **"Monostable"** operation of the Auxiliary Radio Channel. If you wish to enable **"Bistable"** operation proceed as follows:

- Make sure you have enabled the extended Menu 2 (as shown by the alternate flashing 1 1 0 1 1 0 of LEV LED);
- By the key SELECT, position yourself on the blinking LED L6;
- Press the SET key;
- LED L6 becomes steady on and programming will be completed.

8.3.7. **LED L7** - REMOTE RADIO CONTROL PROGRAMMING:
The control unit allows the transmission code to be programmed **remotely** without acting directly on the control unit SELECT key.
Remote programming of a Radio remote control is performed as follows:

- Send, continuously for a time in excess of 10 seconds, the code of a previously saved remote control;
- the control unit thus enters programming mode as described in the main menu (see sec. 9.1.2).
- If a previously saved pedestrian code is transmitted continuously the control unit will enter programming mode of a new pedestrian code and LED L2 will blink as though acquisition of the pedestrian code were active (1 1 0 1 1 0 1 1 0);
- If the code is associated with the 2nd CH/AUX input the LED will blink as though acquisition of the 2nd CH code were active (1 1 1 0 1 1 1 0 1 1 1 0).

To enable the remote programming function, proceed as follows:

- Make sure you have enabled the extended Menu 2 (as shown by the alternate flashing 1 1 0 1 1 0 of LEV LED);
- By the key SELECT, position yourself on the blinking LED L7;
- Press the SET key;
- LED L7 becomes steady on and programming will be completed.

Repeat the procedure if you wish to restore the initial configuration.

8.4 EXTENDED MENU 3

The control unit is factory set to allow direct selection exclusively of the main menu functions.
If you wish to enable the functions described in Extended Menu 3, proceed as follows:

- Select blinking LEV LED
- press SET 3 times
- The led will start blinking (alternate flashing of the LEV LED ).

There will be 30 seconds to select the functions of the **Extended Menu 3** using the SELECT and SET keys; once an additional 30 seconds have elapsed the control unit reverts to the main menu.

ID	REFERENCE LED		
L1	SOFT STOP	ON	OFF
L2	SOFT START	ON	OFF
L3	RELEASE STROKE	ON	OFF
L4	SLAM LOCK	ON	OFF
L5	ELS / CMD PED	ON	OFF
L6	LAMP / L.CORT / INDICATOR L	ON	OFF
L7	PRELAMP / LAMP IN PAUSE	ON	OFF
LEV	MENU LEVEL	 3 FLASHING	

8.4.1. **LED L1** - SOFT STOP:
The control unit is supplied by the manufacturer with the Soft Stop function disabled. To enable the function, proceed as follows:

- Make sure you have enabled the extended Menu 3 (as shown by the alternate flashing 1 1 1 0 1 1 1 0 of LEV LED);
- By the key SELECT, position yourself on the blinking LED L1;
- Press the SET key;
- LED L1 becomes steady on and programming will be completed.

In this way, during door movement, when a PP/DS1/DS2/DS3 command is sent, the speed will gradually be brought to zero (within 2 seconds).
Repeat the procedure if you wish to restore the previous configuration.

Notes:
- Soft-stop is not operated when a limit switch is triggered, when the Stop / safety edge button is activated and in case of an obstacle.

8.4.2. **LED L2** - SOFT START:
The control unit is supplied by factory with the Soft Start function disabled. With this function enabled at the beginning of the movement the speed gradually increase from the minimum to the value set by the "SPEED" trimmer during the first 2 seconds of operation.

Proceed as follows if you wish to enable the function:

- Make sure you have enabled the extended Menu 3 (as shown by the alternate flashing 1 1 1 0 1 1 1 0 of LEV LED);
- By the key SELECT, position yourself on the blinking LED L2;
- LED L2 becomes steady on and programming will be completed.

Repeat the procedure if you wish to restore the previous configuration.

Important note: when the Soft Start function is enabled, the control unit automatically disables the Starting Torque function, while if Soft Start is disabled then Starting Torque is automatically enabled.

8.4.3. **LED L3** - RELEASE STROKE (in opening phase):
The control unit is supplied by factory with the release stroke function disabled. This function consists of sending a closing command for 2 seconds before starting the opening stroke: in this way the release of the lock is facilitated to allow the correct execution of the opening phase.
Proceed as follows if you wish to enable the function:

- Make sure you have enabled the extended Menu 3 (as shown by the alternate flashing 1 1 1 0 1 1 1 0 of LEV LED);
- By the key SELECT, position yourself on the blinking LED L3;
- Press the SET key;
- LED L3 becomes steady on and programming will be completed.

If you wish to enable the function at the power level set by the FORCE trimmer, repeat the above mention programming, by pressing SELECT twice (obtaining fast flashing of LED L3 instead of once) and then press SET.
Repeat the procedure if you wish to restore the previous configuration.

8.4.4. **LED L4** - SLAM LOCK: (in closing phase):
The control unit is supplied by factory with the Slam lock function disabled. This function consists in adding, in the presence of a deceleration stage during closing, a stroke lasting 1 second at the maximum power or at the power selected with the "FORCE" trimmer, in such a way as to ensure positive engagement of the gate lock, if installed. If you wish to enable the Slam Lock function at maximum power, proceed as follows:

- Make sure you have enabled the extended Menu 3 (as shown by the alternate flashing 1 1 1 0 1 1 1 0 of LEV LED);
- By the key SELECT, position yourself on the blinking LED L4;
- LED L4 becomes steady on and programming will be completed.

If you wish to enable the function at the power level set by the FORCE trimmer, repeat the above mention programming, by pressing SELECT twice (obtaining fast flashing of LED L4 instead of once) and then press SET.
Repeat the procedure if you wish to restore the previous configuration.

8.4.5. **LED L5** - ELECTRICK LOCK ACTIVATED BY DISABLED PED. BUTTON:
The control unit is factory set with the function for electric lock activation via the Pedestrian command disabled. The function for electric lock activation with the Pedestrian command is used when, for example, the application consists of a sliding gate with a pedestrian gate alongside. With this function enabled the sliding gate can be opened both using commands from the P/P Pushbutton and the remotes, and via the PED commands from the pedestrian gate by activating the electric lock. To enable this function proceed as follows:

- Make sure you have enabled the extended Menu 3 (as shown by the alternate flashing 1 1 1 0 1 1 1 0 of LEV LED);
- By the key SELECT, position yourself on the blinking LED L5;
- LED L5 becomes steady on and programming will be completed.

Repeat the procedure if you wish to restore the previous configuration.

8.4.6. **LED L6** - FLASHING LIGHT / INDICATOR LIGHT / COURTESY LIGHT:
By activating this function it is possible to change the indicator light (it does not flash during the pause), while the flashing output becomes a courtesy light. To enable this function proceed as follows:

- Make sure you have enabled the extended Menu 3 (as shown by the alternate flashing 1 1 1 0 1 1 1 0 of LEV LED);
- By the key SELECT, position yourself on the blinking LED L6;
- LED L6 turns on (fixed) and programming will be completed (the LED doesn't light up, but is enabled).

Repeat the procedure if you wish to restore the previous configuration.
Courtesy Light Operation: The 24 ~ 4W max. Courtesy Light output will switch on for 3 minutes whenever an opening command is transmitted.

8.4.7. **LED L7** - PRE-FLASH/FLASH IN PAUSE:
The control unit is supplied by the factory with the Pre-flashing and Flashing during Pause (3 sec. pre-flash before closing phase) both disabled.
Pre-flashing operation: The 24V flasher output will always be activated 3 seconds before the closing manoeuvre. If Pre-flashing operation is required, proceed as follows:
Make sure you have enabled the extended Menu 3 (as shown by the alternate flashing 1 1 1 0 1 1 1 0 of LEV LED);

- By the key SELECT, position yourself on the blinking LED L7;
- LED L7 becomes steady on and programming will be completed.
- Flashing operation during the Pause: The 230 Vac and 24V flashing light output will remain active if the pause time is previously programmed. If you wish to enable this function, repeat the operation described above, pressing the SELECT key twice (obtaining the fast flashing of the L7 LED) and then press SET. The L7 LED will remain on steady.

Repeat the procedure if you wish to restore the previous configuration.

9 RESET

If the factory settings of the control unit need to be restored, press the SELECT and SET button simultaneously for about 5 seconds, at the same time, all RED indicator LEDs will simultaneously turn on, with subsequent immediate shut-down.

10 DIAGNOSTICS

10.1 Photocell Test:

The control unit is prearranged for connection of safety devices in compliance with standard EN 12453 point 5.1.1.6. At each operating cycle a functional test of the connected photocell is performed. In the case of an open circuit and/or malfunctioning of the photocell, the control unit does not enable movement of the gate and visually signals the test failed condition by causing all the indicator LEDs to blink simultaneously. As soon as correct operation of the photocell is restored, the control unit is ready for normal use. This operating mode guarantees failure mode monitoring in compliance with EN 954-1 Category 2.

10.2 Flashing of all MAIN MENU LEDs:

- obstacle for encoder;
- remote control already programmed;
- failure to respect the rule of the first programmed remote control;

Black-out test:

After programming the motor time, simulate a Black-Out and check that the doors make a complete manoeuvre in opening and in closure.

11 WARRANTY

Fratelli Comunello S.p.A. guarantees the proper functioning of the actuators for 24 months from the date of manufacture, provided that the performance specifications indicated in the product instruction manuals are complied with. Fratelli Comunello S.p.a. guarantees exclusively, and therefore with the exclusion of claims for compensation made by equivalence, the free repair or replacement of defective parts that will be recognised as such, according to the unquestionable technical judgement of the staff of Fratelli Comunello S.p.A. The material under warranty shipped to the headquarters of Fratelli Comunello S.p.A., must be shipped prepaid and will then be sent back carriage forward. The material considered defective and shipped to Fratelli Comunello S.p.A. will remain the property of the latter.

- The cost of labour required for repairs and replacements remains the responsibility of the purchaser. No compensation is paid for the period of inactivity of the plant.

The intervention does not extend the duration of the warranty. Under penalty of forfeiture, the buyer must report any product defects and faults within a term of 8 (eight) days to be calculated respectively from the date of discovery of the defect or from the date of delivery of the goods. The report must be made exclusively in writing. The warranty does not include: Breakage or damage due to transportation; failure or damage caused by faults in the electrical system present at the premises of the purchaser of the product and/or by neglect, negligence, inadequacy, abnormal use of the system; failure or damage due to tampering by unauthorised personnel or consequent to incorrect use/installation (in this regard, we system maintenance at least every six months is advised) or the use of non-original spare parts; defects caused by chemical agents and/or atmospheric phenomena.

The warranty does not include the cost for consumables or for alleged defects or casual controls.

Product characteristics

Product Features Fratelli Comunello S.p.A. products are subjected to continue changes and improvements; their technical features and image may therefore change without previous notice.

Competent court

Since the contract of sale is confirmed by an Order Confirmation drawn up in Rosà (Postal Code 36027 - ITALY), any such dispute shall be settled by the laws of Italy and by the court of Vicenza (VI) ITALY.