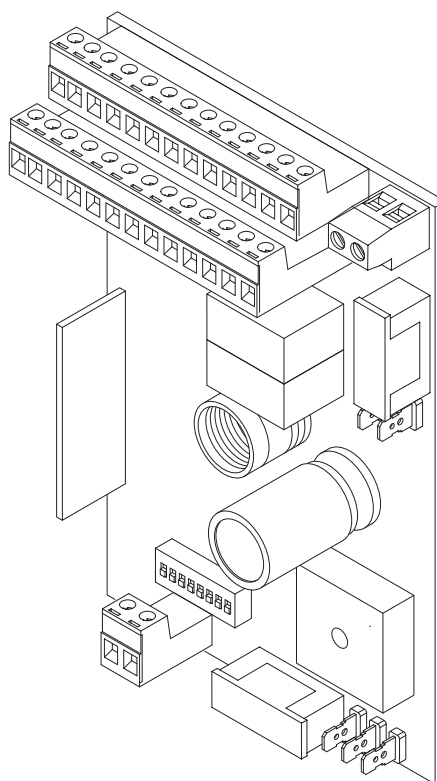


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02/2013 rev 4

BENINCA®

CENTRALE DI COMANDO
CONTROL UNIT
STEUEREINHEIT
CENTRALE DE COMMANDE
CENTRAL DE MANDO
CENTRALKA STEROWANIA

ZED24 RI



Libro istruzioni
Operating instructions
Betriebsanleitung
Livret d'instructions
Manual de instrucciones
Książeczka z instrukcjami



UNIONE NAZIONALE COSTRUTTORI
AUTOMATISMI PER CANCELLI, PORTE,
SERRANDE ED AFFINI

Dichiarazione CE di Conformità

Dichiarazione in accordo alle Direttive 2004/108/CE(EMC); 2006/95/CE(LVD)

Fabbricante:

Automatismi Benincà SpA

Indirizzo:

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

Dichiara che il prodotto:

Centrale di comando per 1 motore 24Vdc, ideale per porte basculanti:

ZED24.RI

è conforme alle condizioni delle seguenti Direttive CE:

• **DIRETTIVA 2004/108/CE DEL PARLAMENTO EUROPEO E DEL CONSIGLIO** del 15 dicembre 2004 concernente il ravvicinamento delle legislazioni degli Stati membri relative alla compatibilità elettromagnetica e che abroga la direttiva 89/336/CEE, secondo le seguenti norme armonizzate:

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

• **DIRETTIVA 2006/95/CE DEL PARLAMENTO EUROPEO E DEL CONSIGLIO** del 12 dicembre 2006 concernente il ravvicinamento delle legislazioni degli Stati membri relative al materiale elettrico destinato ad essere adoperato entro taluni limiti di tensione, secondo le seguenti norme armonizzate:

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

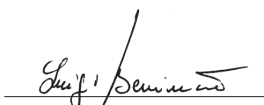
se applicabile:

• **DIRETTIVA 1999/5/CE DEL PARLAMENTO EUROPEO E DEL CONSIGLIO** del 9 marzo 1999 riguardante le apparecchiature radio e le apparecchiature terminali di telecomunicazione e il reciproco riconoscimento della loro conformità, secondo le seguenti norme armonizzate:

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, Responsabile legale.

Sandrigo, 02/11/2010.



CE Declaration of Conformity

Declaration in accordance with Directives 2004/108/CE (EMC); 2006/95/CE (LVD)

The Manufacturer:

AUTOMATISMI BENINCÀ SPA

Address:

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

Declares that the product:

Control box for 1 24V DC motor, ideal for tilt-up doors:

ZED24.RI

conforms with the requirements of the following EU Directives:

• **DIRECTIVE 2004/108/CE OF THE EUROPEAN PARLIAMENT AND COUNCIL**, 15 December 2004, in relation to the harmonisation of the legislation of member states regarding electromagnetic compatibility, in abrogation of Directive 89/336/CEE, per the following harmonised standards:

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

• **DIRECTIVE 2006/95/CE OF THE EUROPEAN PARLIAMENT AND COUNCIL**, 12 December 2006, in relation to the harmonisation of the legislation of member states regarding electrical material intended to be used within certain voltage ranges, per the following harmonised standards:

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

as applicable:

• **DIRECTIVE 1999/5/CE OF THE EUROPEAN PARLIAMENT AND COUNCIL**, 9 March 1999 in relation to radio equipment and telecommunications terminals and the mutual recognition of their conformity, per the following harmonised standards:

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 representative.

Sandrigo, 02/11/2010.

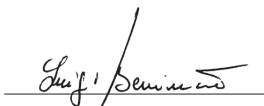
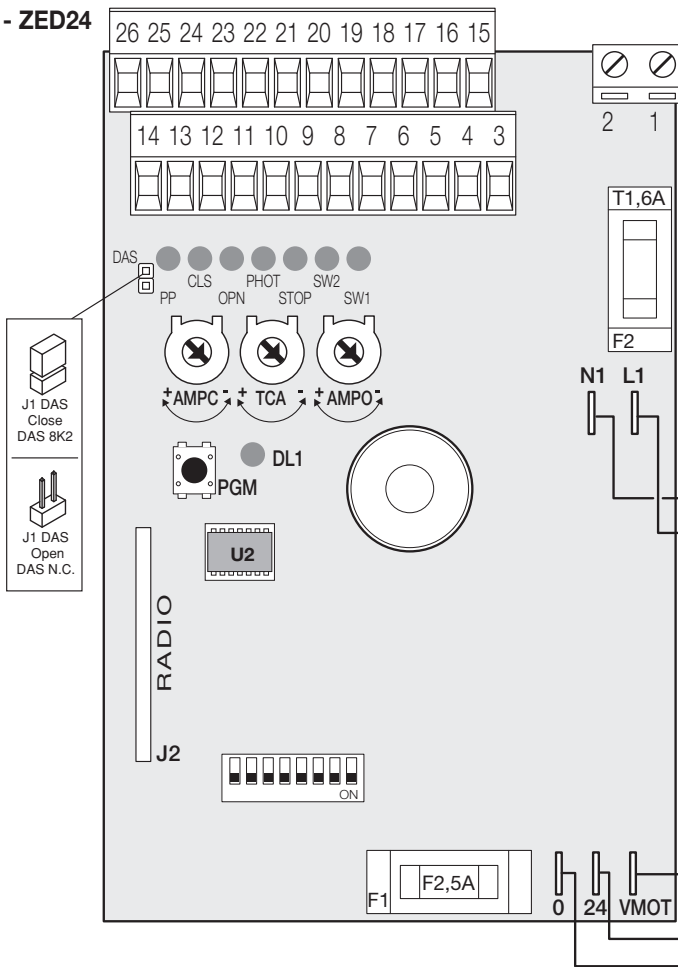
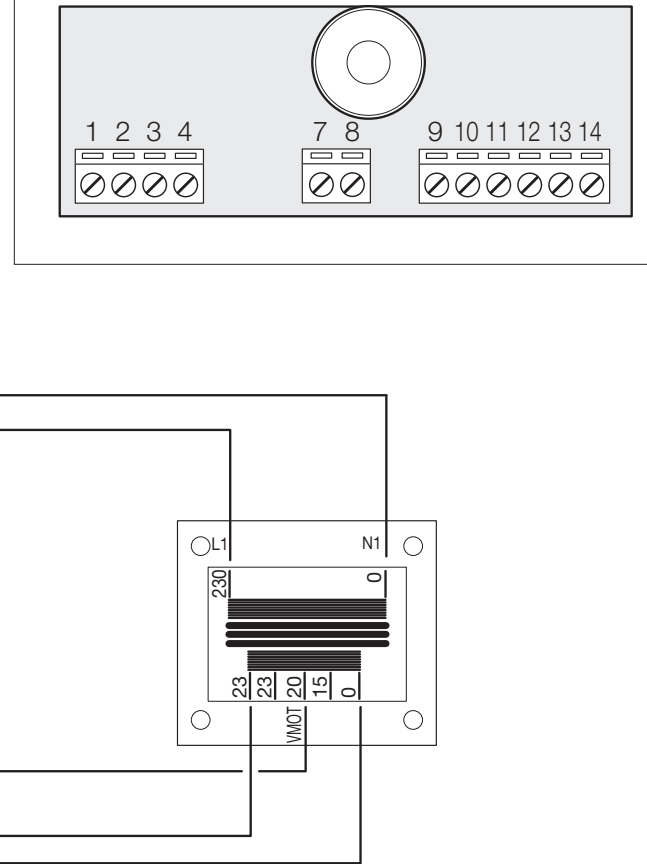


Fig.1

"A" - ZED24



"B" - ZED24 SC



"C" - 1 ZED24

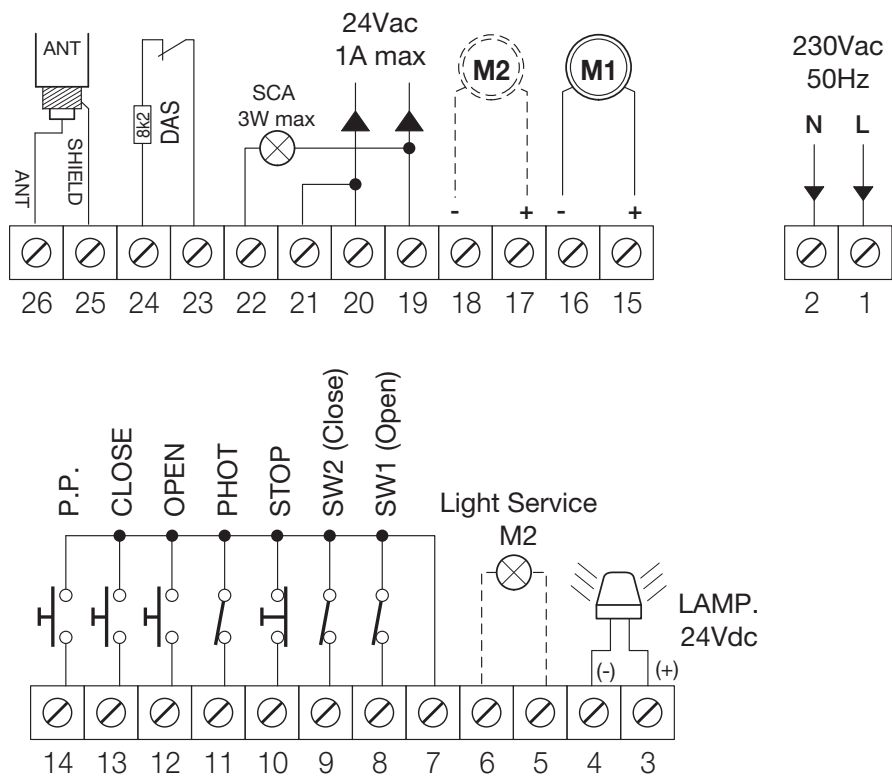
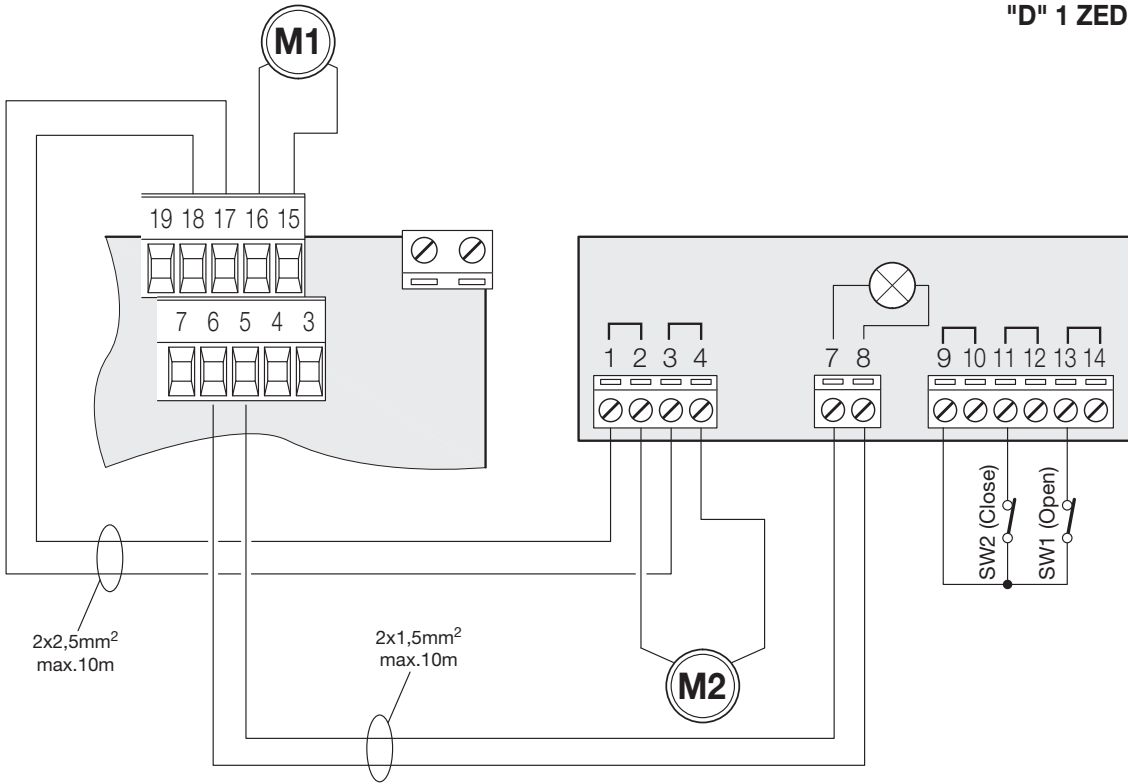
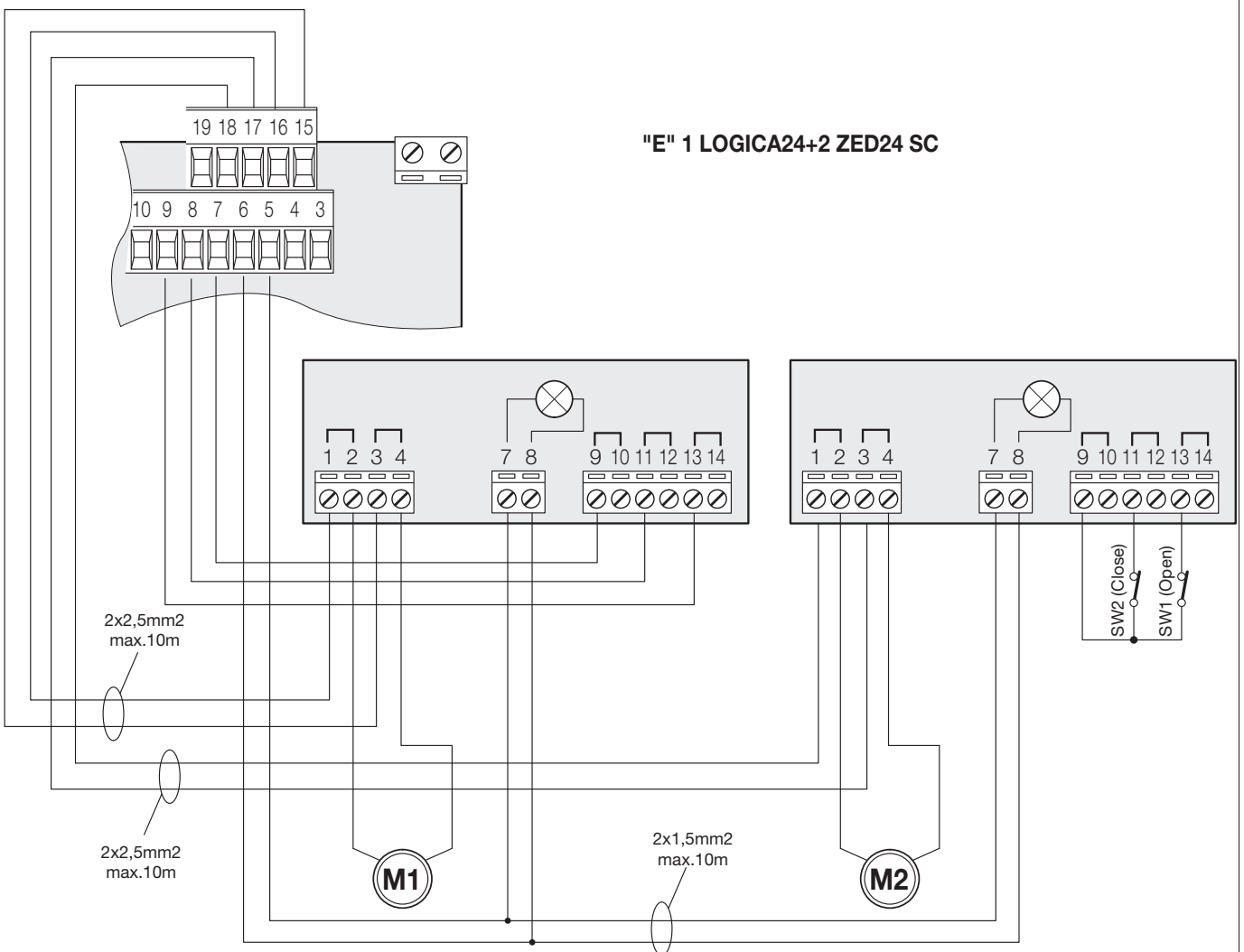


Fig.2

"D" 1 ZED24+1 ZED24 SC



"E" 1 LOGICA24+2 ZED24 SC



ZED24 RI Control unit

The electronic control unit ZED24 RI can be used to control 1 or 2 motors with a power not exceeding 120W+120W.

The following types of installation are possible:

- A) **1 Motor ZED24 with built-in control unit:** In fig.1, with reference to the “A” general scheme, connect the accessories as indicated in the “C” diagram.
- B) **1 Motor ZED24 with built-in control unit and one motor ZED24 without control unit:** In fig. 1, taking as a reference the “A” and “B” general diagrams, connect the accessories as per “C” diagram and connect the two motors as indicated in the “D” diagram shown in Fig. 2.
- C) **1 Control unit LOGICA24 fitted to wall and two motors ZED24 without control unit:** In fig. 1, taking as a reference the “A” and “B” general diagrams, connect the accessories as per “C” diagram and connect the two motors as indicated in the “E” diagram shown in Fig. 2.

IMPORTANT: Should two motors be used, connect the limit switches of one single motor to the control unit.

GENERAL WARNINGS

- a) The wire connections and the operating logic should be in compliance with regulations in force.
- b) ☐
- c) The cables should be further fastened in proximity to the terminals.
- d) Check all connections before powering the unit.
- e) Check that setting of the Dip-Switches are the required ones.
- f) Normally Closed inputs which are not in use should be short-circuited 230VAC – keep to phase/neutral).

INPUT/OUTPUT FUNCTIONS

ZED24 RI Control Unit		
Terminal No.	Function	Description
1-2	Power supply	Input, 230VAC 50Hz (1-Phase/2-Neutral)
3-4	Flashing light	Connection of flashing light, 24Vdc (3+/4-) 40W max.
5-6	Light, Motor 2	Connection to the courtesy light of motor 2 (only when 2 motors are in use)
7	COM	Common for limit switch and all control inputs.
8	SWO	Input, OPEN limit switch (N.C. contact)
9	SWC	Input, CLOSE limit switch (N.C. contact)
10	STOP	Input, STOP push button (N.C. contact)
11	PHOT	Input, connection to safety devices, N.C. contact (e.g. Photocells)
12	OPEN	Input, OPEN push button (N.O. contact)
13	CLOSE	Input, CLOSE push button (N.O. contact)
14	Step-by-Step	Input, step-by-step push button (N.O. contact)
15-16	Motor 1	Connection to motor 1 (15+/16-)
17-18	Motor 2	Connection to motor 2 (15+/16-) To be used only when 2 motors are in use
19-20	24 Vac	Output, power supply of accessories, 24Vac/1A max. IMPORTANT: If the battery charger board CB.24V is installed, the output (without mains power connected) has a 24Vdc polarised voltage. Make sure the devices are correctly connected (i.e. 19:+24Vdc - 20:-24Vdc).
21-22	SCA	Free contact, N.O. for open door warning light.
23-24	SAFETY EDGE	Input, safety edge contact Resistive edge: Closed “DAS” jumper Mechanical edge: Open “DAS” jumper If the safety edge is activated in the opening phase, the gate stops. In the closing phase, the gate stops and the performs a movement reversion (opens) for 3s.
25-26	Aerial	Connection to the radio receiver card of the aerial (25-screen/26-signal).
0-24-VMOT	Secondary	Connection, winding of secondary transformer
L1-N1	Primary	Connection, winding of primary transformer
J2	Radio receiver	Built-in radio receiver.

ZED24 SC Card		
Terminal No.	Function	Description
1-2	+ M2	+ connection of motor 2
3-4	- M2	- connection of motor 2
7-8	Motor 2 light	Connection to courtesy light of Motor 2
9-10	COM	Common, limit switches of Motor 2.
11-12	SWC	Input, CLOSE limit switch
13-14	SWO	Input, OPEN limit switch

REMARKS:

- a) If present, the push buttons on the motor are connected to Step-by-Step and STOP controls. Any further safety devices should be connected in series to the STOP control.
- b) The courtesy light stays on for about 90s at each operation.
- c) The safety EDGE should be connected only to the special inputs. Two types of EDGE can be used:
 If a safety edge is used with 8K2 resistance, the "DAS" jumper should be closed.
 If a mechanical safety edge with N.C. contact is used, the "DAS" Jumper should be opened.
 If no edge is used, terminals 23-24 should be short-circuited, the "DAS" Jumper should be opened.

TO ADJUST THE LIMIT SWITCHES

- 1) Power the control unit
- 2) Manually release the system and completely open the door.
- 3) Adjust the opening limit switch cam, the SWO LED turns off.
- 4) Shut the door completely.
- 5) Adjust the closing limit switch cam, the SWC LED turns off.
- 6) Cut off power supply.
- 7) Move the door half-way and lock it again.
- 8) Reset power supply. The STOP, PHOT, SWO and SWC LED's should light up.
- 9) Give a step-by-step control signal by pressing the appropriate button or using the remote control.
- 10) The door should move in the opening phase. In the negative, it is sufficient to invert the speed wires (15<>16) of the motor and the limit switch inputs (SWO<>SWC).
- 11) Adjust Time, the Operating Logistics as well as the Motor speed.

ENABLING THE SLOWDOWN FEATURE

To enable the slowdown feature during opening and closing set Dip-Switch 3 to ON. Preset the braking speed by using Dip-Switch 7. The braking phase will start when the limit switches are triggered and will last for 4", of which 3" at reduced torque and 1" at maximum torque. During the slowdown cycle the amperometric sensor is disabled. Make sure that, during the closing slowdown cycle the gate does not travel more than 5 cm of the stroke.

TO ADJUST SPEED

WARNING! This adjustment affects the safety level of the automatic system. Make sure that the force applied onto the gate wing complies with regulations in force.
 The supply transformer is provided with a Faston (VMOT) connector which permits to adjust the motor speed at three different levels. When the Faston (VMOT) is on 15, the speed is at minimum. When the Faston is moved to 23, the maximum speed is obtained.

FUNCTION OF TRIMMERS

- AMP-O** This trimmer allows to adjust the activation threshold of the current sensor in the opening phase. When the sensor is triggered in the opening phase, the motor stops.
- AMP-C** This trimmer allows to adjust the activation threshold of the current sensor in the closing phase. The sensor activation in the closing phase causes the total re-opening of the door. A new closing operation is then immediately started.
 In the event of a new amperometric activation, the operation is carried out again. If none of the three closure operations is completed, the door will stay completely open.
N.B.: At the beginning of the closing operation, the motor operates at maximum torque for approx. 1.5". In this phase the amperometric sensor is disabled and remains disabled until the SWO opening limit switch is released.

DIP-SWITCH FUNCTIONS

- DIP 1 "TCA"** The automatic closure is enabled or disabled
 Off: disabled automatic closure
 On: enabled automatic closure
- DIP 2 "Prelam."** Forewarning flashing light enabled or disabled
 Off: disabled forewarning flashing light
 On: enabled forewarning flashing light. The flashing light is activated 3 s before the starting of the motor.
- DIP 3 "Braking"** Braking is enabled or disabled.
 Off: disabled braking.
 With the "SWO" opening limit switch, the motor stopping is delayed by 1 sec to allow a better opening.

With the "SWC" closing limit switch, the motor stopping is delayed by 1 sec to allow a better closing
On: Braking activated in the opening and closing phase. The motor stopping is delayed by 3 sec with respect to the triggering of the opening and closing limit switches to allow the completion of the operation.

DIP 4 "P.P. Mod" The operating mode of "P.P. Push button" and of the transmitter are selected.
Off: Operation: OPEN > STOP > CLOSE > STOP >
On: Operation : OPEN > CLOSE > OPEN >

DIP 5 "TORQUE" The max torque available is selected with this Dip-Switch.
Off: Reduced torque in the closing phase.
This function increases the sensitiveness of the amperometric sensor during closure, thus increasing the safety level of the system. Therefore, this function requires a perfectly balanced door, submitted to periodic checking in order to avert any faulty triggering of the sensor.
On: Torque at regular operation.

DIP 6 "Cond." The multi-flat function is enabled or disabled.
Off: disabled multi-flat function.
On: enabled multi-flat function. The P.P. (Step-by-step) impulse or the impulse of the transmitter have no effect in the opening phase.

DIP 7 "VRall" Motor speed selection in the braking phase
Off: Minimum braking speed .
On: Maximum braking speed .

DIP 8 "Radio" Enables or disables transmitters with programmable codes
On: Radio receiver enabled exclusively for rolling-code transmitters.
Off: Receiver enabled for both rolling-code and programmable transmitters (self-learn and dip-switch) .

LED DIAGNOSTICS

The control system has a series of self-diagnostics LED's which allow to check all functions:

SW1 LED It switches off when the SWO opening limit switch is triggered
SW2 LED It switches off when the SWC closing limit switch is triggered
STOP LED It switches off when the STOP push button is pressed
PHOT LED It switches off when the photocells are not aligned or if obstacles are present
OPN LED It switches on when the OPEN push button is pressed
CLS LED It switches on when the CLOSE push button is pressed
PP LED It switches on when the PP push button is pressed
PGM LED It flashes to show the correct operation of the control unit.

5 quick flashes, followed by a pause, of LED PGM indicate the activation of the safety edge.

CONFIGURATION WITH BUILT-IN RECEIVER

The control unit is fitted with a built-in radio module for receiving remote controls both with fixed codes and variable codes (see dip-switch 8 functions), with a frequency of 433.92MHz.

For a transmitter to be used, the module first has to self-learn its code. The memorise procedure is illustrated below, the module can memorise up to 64 different codes.

Memorising a new transmitter by activating the P.P. function

- Press the PGM button once for 1sec and the DL1 LED will start blinking at 1 sec intervals.
- Press the transmitter button within 10 sec to memorise with the P.P. (Step-by-step) function

To exit the programming procedure wait 10 sec or press the PGM button for 1 sec, the DL1 LED will return to normal blinking at 3 sec intervals.

Cancelling all transmitters from the memory

- Keep the PGM button pressed for 15 sec, the DL1 LED will start blinking rapidly and when it goes out the memory has been erased.
- Release the PGM button, the memory has been cancelled and the DL1 LED will return to normal blinking at 3 sec intervals.

N.B.:

The transmitters are stored on an EPROM (U2) memory board that can be removed and installed in a new control unit in case of breakdown.

For safety reasons, transmitters cannot be memorised during the open/close cycles of the motor.

When entering the memorise transmitter procedure, if the DL1 LED gives a prolonged blink and then goes out, this signals that the receiver memory is full and no other transmitters can be memorised or that the transmitter is not compatible.