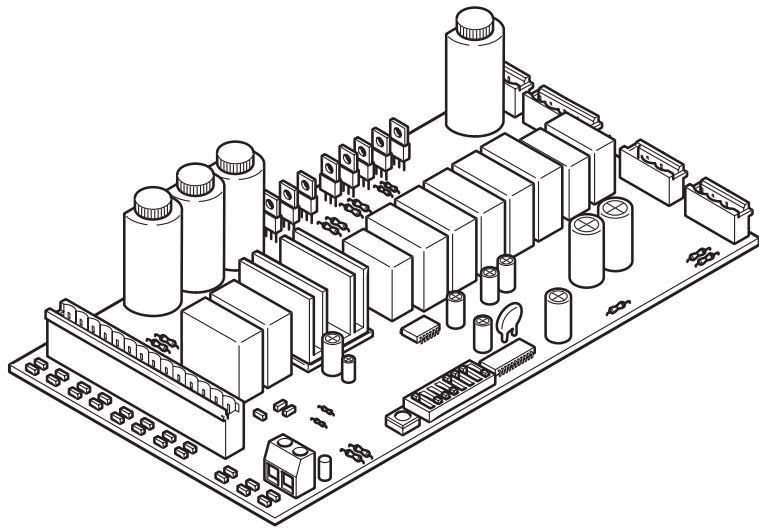


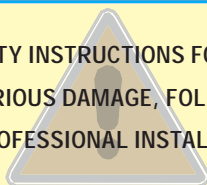
# ZL38



## "IMPORTANT SAFETY INSTRUCTIONS FOR INSTALLATION"

"CAUTION: IMPROPER INSTALLATION MAY CAUSE SERIOUS DAMAGE, FOLLOW ALL INSTALLATION INSTRUCTIONS CAREFULLY"


"THIS MANUAL IS ONLY FOR PROFESSIONAL INSTALLERS OR QUALIFIED PERSONS"



## 1 Legend

 This symbol indicates sections to be read with particular care.


 This symbol indicates sections concerning safety

 This symbol indicates notes to communicate to users.

## 2 Destination and limits of use

### 2.1 Destination

The electronic command board was designed for specific use in automatic GARD 4 and GARD 8 series barriers with 24V gear motors; inserted into the container fitted with a transformer with IP54 protection level, 230V power supply with 50÷60 Hz frequency.

 Uses other than the ones described above and installations using methods other than those shown in this technical manual are considered prohibited.

### 2.2 Limits of use

Comply with the cable cross-sections recommended in the table under chapter 5.3

## 3 Standard followed

The following standard were complied with for this product: EN 12978, UNI EN 954-1, CEI EN 60335-1, UNI EN 12453.

## 4 Description

### 4.1 Command board

Fully designed and built by CAME CANCELLI AUTOMATICI S.p.A. Guaranteed for 24 months unless tampered with.

The command board is powered at 230V A.C. on the L-N terminals with 50÷60 Hz frequency and is protected in input with 3.15A fuses.

A 2A fuse protects the low-voltage (24V) command devices.

630mA control unit fuse. 10A motor fuse.

The overall rated power of the 24V accessories must not exceed 40 W.


The photoelectric cells may be connected and pre-set for:

- Re-opening during closing phases: if the photocells identify an obstacle while the gate is closing, they will reverse the direction of movement until the gate is completely open;
- Total stop: stops the bar with consequent exclusion of the automatic closing cycle; pushbuttons or transmitters must be used to resume movement.

The board also integrates and independently manages a safety function which is sensitive to obstacles (amperometric device) that:

during opening: the bar stops;

during closing: the bar reverses its direction until it opens completely; automatic closure is thus activated.

 **Caution!** after three consecutive direction reversals, the bar will remain up and automatic closure will be discontinued. To close the gate, use the radio remote control or the push-button.

Other selectable functions:

- Automatic closure. The automatic closure timer self-powers at the end stop in opening. The set time can be adjusted and is also subject to modifications due to the intervention of additional safety features. This does not happen following a complete "stop" command or if there be a power cut;
- Immediate closure: The bar lowers automatically after the vehicle has exceeded the range of action of the safety devices;
- Obstacle detection: this function voids every command if an obstacle is detected by the photoelectric cells (connected to any safety function);
- Maintained action operations: barrier operation while keeping the pushbutton pressed (it excludes the radio transmitter operation);
- Pre-flashing during opening and closing: after an opening or closing command, the flashing lamp connected to 10-E, flashes for 5 seconds before the manoeuvre begins;
- Slave operations: in the case of two barriers working in pairs;

All the data and information contained herein is considered subject to change at any time and at our discretion

- Function that increases the braking action of the barrier;
  - Type of command: open-close or opening only
- Settings: automatic closure time adjustment, amperometric sensitivity.

Optional accessories:

- flashing dome and lighted cord;
- bar open light marks the opening position of the bar; it turns off after the closing operation;
- LB38 card makes it possible to power the barrier using batteries in the event of mains power outage. When the mains power comes back on, it also recharges the batteries (see the technical manual).

**⚠ ATTENTION:** before intervening inside the device, cut off the mains voltage and disconnect the batteries (if present).

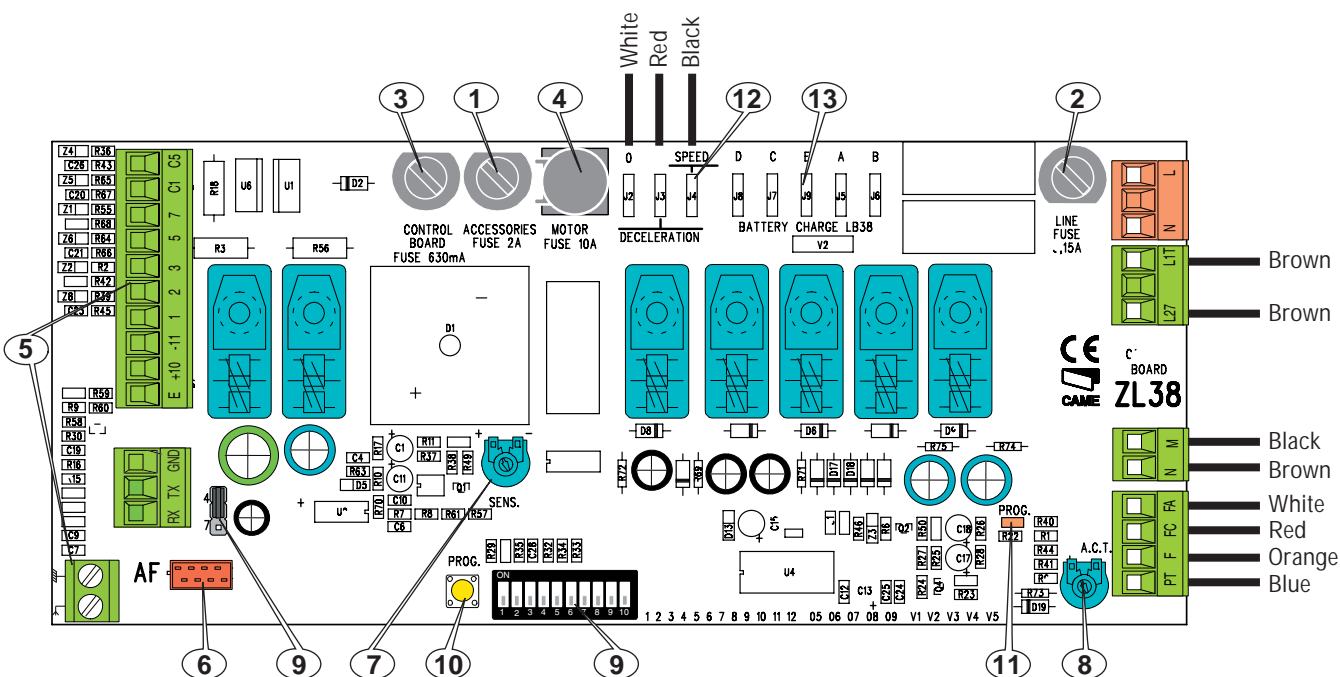
### 4.2 Technical information

Power supply: 230V / 50÷60 Hz.  
 Maximum power allowed: 400 W  
 Absorption at rest: 25W  
 Maximum power for 24V accessories: 20 W  
 Maximum power for 230V accessories: 200 W  
 Insulation type: II   
 Material case: ABS  
 Working temperature:



### 4.3 Main components


- |   |   |
|---|---|
| 1 - 2A accessory fuse                                 | 8 - TCA Trimmer: automatic closure time adjustment        |
| 2 - 3.15A line fuse                                   | 9 - "Function selection" dip-switch                       |
| 3 - 630 mA central unit fuse                          | 10- Code saving button                                    |
| 4 - 10 A motor fuse                                   | 11- Flashing radio code / automatic closing LED indicator |
| 5 - Connecting terminal boards                        | 12- Transformer power connectors                          |
| 6 - Radiofrequency board coupling (see table)         | 13- Battery charger (LB35) connectors                     |
| 7 - SENS Trimmer: amperometric sensitivity adjustment | 14- Command-type selection jumper for pushbutton in 2-7   |



All the data and information contained herein is considered subject to change at any time and at our discretion

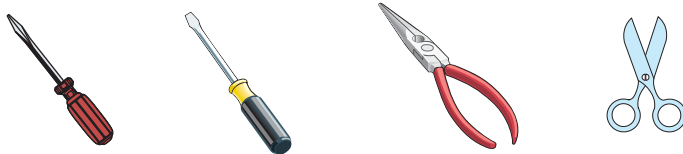
## 5 Installation

### 5.1 Preliminary checks

-  Before proceeding with the installation, it is necessary to:
- provide for suitable omnipolar disconnection device with more than 3 mm between contacts to section power supply;
  - ⊕ connections inside the case made for protection circuit continuity are allowed as long as they include additional insulation with respect to other internal drive parts;
  - make sure the mains voltage is disconnected.

### 5.2 Tools and materials

Make sure all tools and materials necessary are within reach to install the edge in maximum safety, according to regulations in force. The following figure illustrates the minimum equipment for the installer.



### 5.3 Cable list and minimum thickness

Connections	Type of cable	Length of cable 1<10 m	Length of cable 10<20 m	Length of cable 20<30 m
230V 2F power supply line	FROR CEI 20-22 CEI EN 50267-2-1	3G 1,5mm <sup>2</sup>	3G 2,5mm <sup>2</sup>	3G 4mm <sup>2</sup>
24V motors		2 x 1mm <sup>2</sup>	2 x 1,5mm <sup>2</sup>	2 x 2,5mm <sup>2</sup>
230V flashing lamp		2 x 0,5mm <sup>2</sup>	2 x 1mm <sup>2</sup>	2 x 1,5mm <sup>2</sup>
24V flashing lamp		2 x 0,5mm <sup>2</sup>	2 x 1mm <sup>2</sup>	2 x 1,5mm <sup>2</sup>
230V courtesy / cycle light		3G 0,5mm <sup>2</sup>	3G 1mm <sup>2</sup>	3G 1,5mm <sup>2</sup>
24V power supply accessory		2 x 0,5mm <sup>2</sup>	2 x 0,5mm <sup>2</sup>	2 x 1mm <sup>2</sup>
24V pilot light		2 x 0,5mm <sup>2</sup>	2 x 0,5mm <sup>2</sup>	2 x 1mm <sup>2</sup>
24V "in motion" output		2 x 0,5mm <sup>2</sup>	2 x 0,5mm <sup>2</sup>	2 x 1mm <sup>2</sup>
Safety contacts		2 x 0,5mm <sup>2</sup>	2 x 0,5mm <sup>2</sup>	2 x 0,5mm <sup>2</sup>
N.O./N.C. control button		2 x 0,5mm <sup>2</sup>	2 x 0,5mm <sup>2</sup>	2 x 0,5mm <sup>2</sup>
End stop		3 x 0,5mm <sup>2</sup>	3 x 1mm <sup>2</sup>	3 x 1,5mm <sup>2</sup>
Command 2nd combined motor		1 x 0,5mm <sup>2</sup>	1 x 0,5mm <sup>2</sup>	1 x 1mm <sup>2</sup>
Antenna connection		RG58	max. 50 m	
Encoder connection	2402C 22AWG shielded cable	max. 30 m		

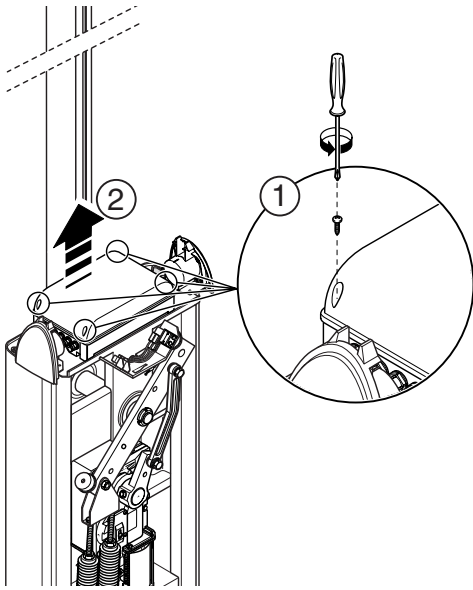
N.B.: An evaluation of the size of the cables with lengths other than the data in the table must be made based on the effective absorption of the connected devices, according to the instructions indicated by the CEI EN 60204-1 standards.

For connections that require several loads on the same line (sequential), the size given on the table must be re-evaluated based on actual absorption and distances.

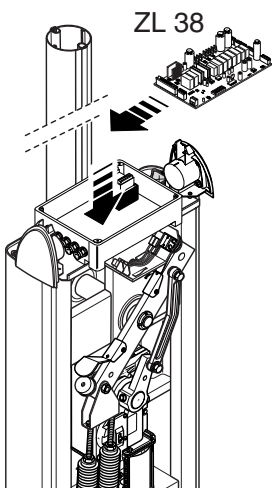
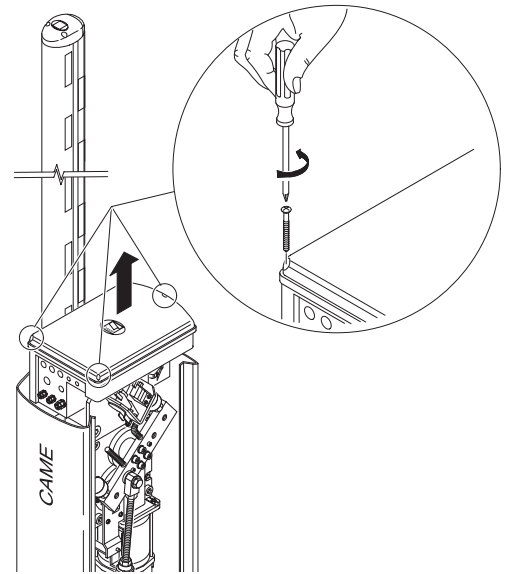
## 5.4 Installing the electrical card

G2080  
G2080I

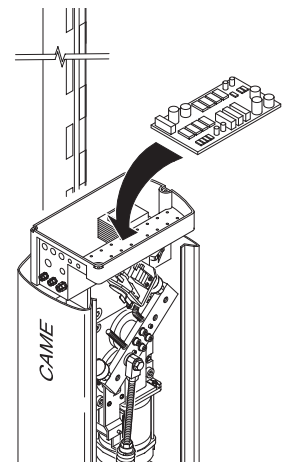
G4040  
G4040I



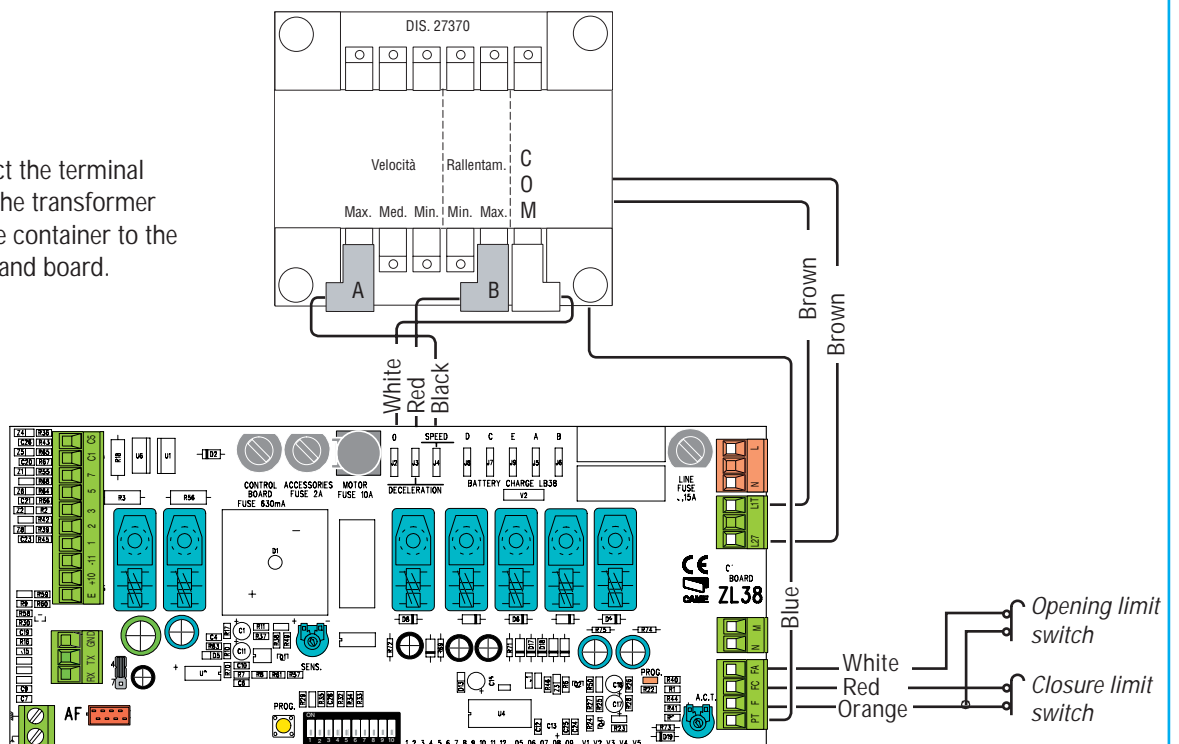
1) Unscrew the four mounting screws (or three in the case of the G4040) of the cover of the container located on the upper part of the automation.



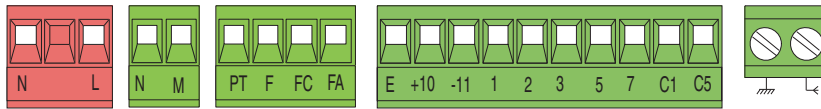
2) Insert the card into the container and fasten it with the screws supplied.



3) Connect the terminal boards of the transformer housed in the container to the command board.



## 5.5 Electrical connections



L  
N ———— 230V (a.c.) power supply

M  
N ———— (M) 24V(d.c.) motor

10  
E ———— (X) 24V max. 32W output

**DIP 3 OFF** - Flashing movement-indicating lamp  
(e.g.: flashing dome lamp, luminous cord)

**DIP 3 ON** - Flashing movement-indicating lamp and  
"Closed barrier" signalling lamp

+10  
-11 ———— Power supply to accessories 24V max. 30W

1  
2 ———— Stop button (N.C.)

IF NOT USED dip 9 ON



2  
3 ———— Open button (N.O.)

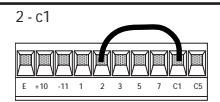
2  
7 ———— Button for command

4 - operations of opening only or opening-closing  
7 (see dip no. 2)

4 - operations of opening only (mandatory in the  
7 case of "maintained action operations")

2  
C1 ———— Contact (N.C.)  
of «reopening during closing»

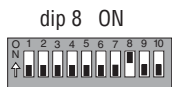
IF NOT USED



10  
5 ———— (X) "Barrier open" pilot lamp (24V-3W max)

2  
C5 ———— Contact (N.C.) of «immediate closing»

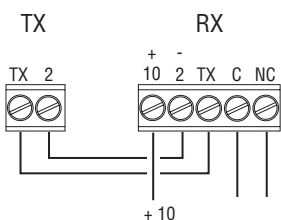
IF NOT USED



F  
FA ———— Microswitch connection slowdown during opening

F  
FC ———— Microswitch connection slowdown during closing

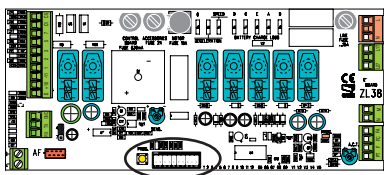
Antenna connection



N.B. Maintain polarity when connecting photoelectric cells (DIR)

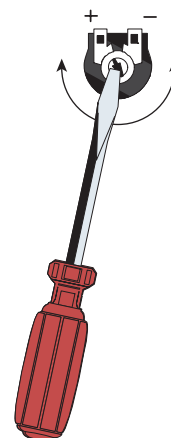
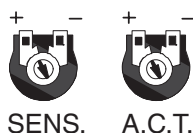
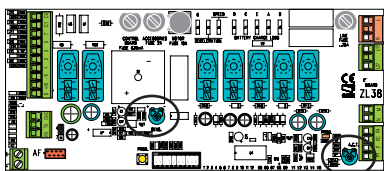
All the data and information contained herein is considered subject to change at any time and at our discretion

### 5.6 Function selections



- 1 ON Automatic Closing function activated; (1 OFF-deactivated);
- 2 ON "Open Only" function with pushbutton (2-7) and remote control (AF - board inserted) activated;
- 2 OFF "Open-Close-Reverse" Function with pushbutton (2-7) and remote control (HF board inserted) activated;
- 3 ON 24V (10-E) output activated when moving and when closed;
- 3 OFF 24V (10-E) output activated when moving;
- 4 ON "Steady action" function (remote control function disabled) activated;
- 5 ON Pre-flashing activated during opening and closing;
- 6 ON Obstacle presence detection activated; (6 OFF deactivated);
- 7 ON "Slave" (motor-driven) function activated;(7 OFF deactivated)
- 8 OFF Immediate bar closing function activated; insert safety device to terminals 2-C5 (8 ON deactivated).
- 9 OFF "Total Stop" function (connect the pushbutton on 1-2) activated; (if not used select ON dipswitch);
- 10 ON Increased barrier braking action function activated;(10 OFF deactivated)

### 5.7 Adjustments

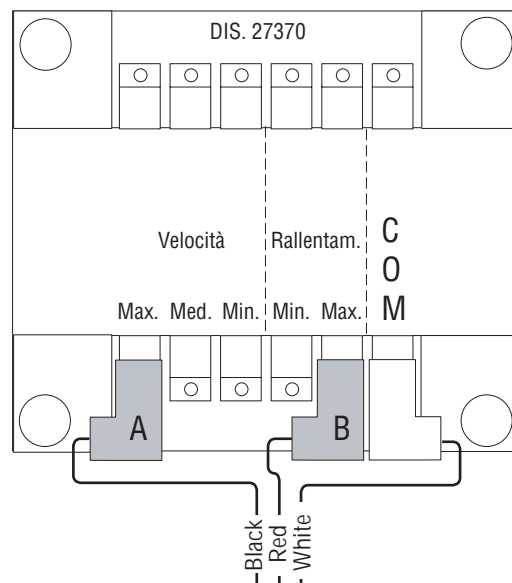


- SENS. Trimmer = Amperometric device sensitivity (min. / max.)
- TCA Trimmer = Automatic closing time min 1 sec. - max. 120 sec.

### 5.8 Adjustment of the speed of movement and delays

To regulate the speed of opening and closing, move the fast-on of the transformer indicated with "A" on Min = minimum, Med. = Medium or Max. = maximum, while for slowdowns, move the fast-on "B" to minimum or maximum.

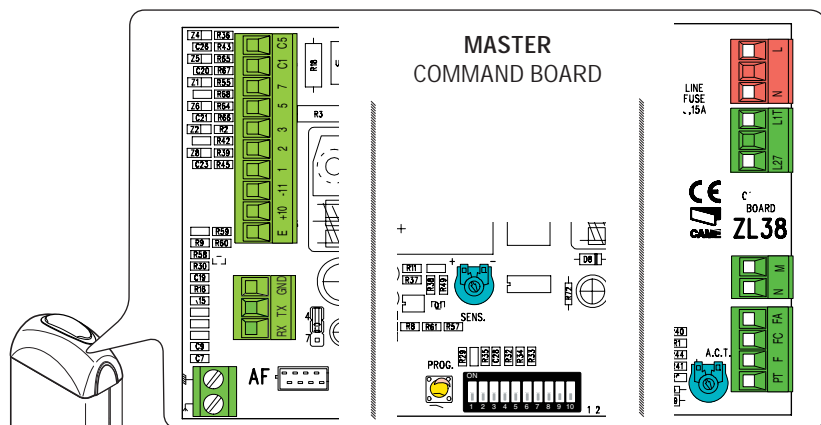
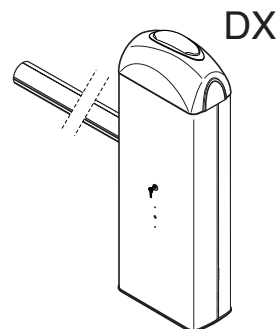
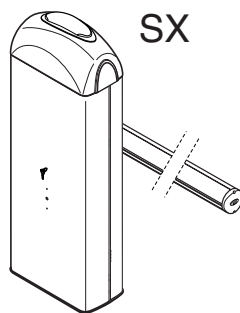
E.g.: max. speed of opening and closing – max. slowdown (see drawing on the right/left).



All the data and information contained herein is considered subject to change at any time and at our discretion

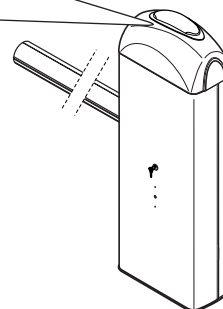
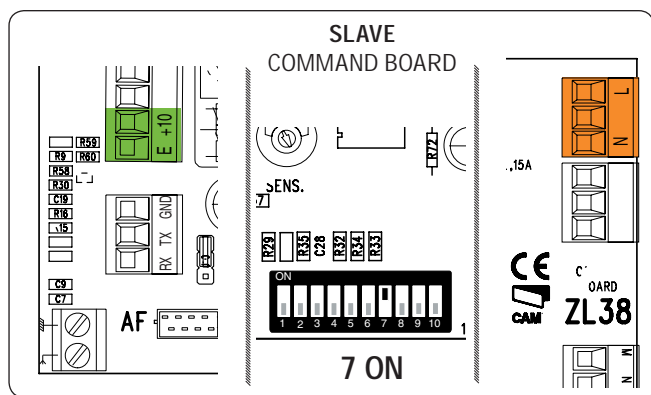
### 5.9 Connection of two pairs of barriers with a single command

1) Designate the **Master** barrier (or pilot, namely the motor that commands both barriers) and the **Slave** (motor piloted by the Master).

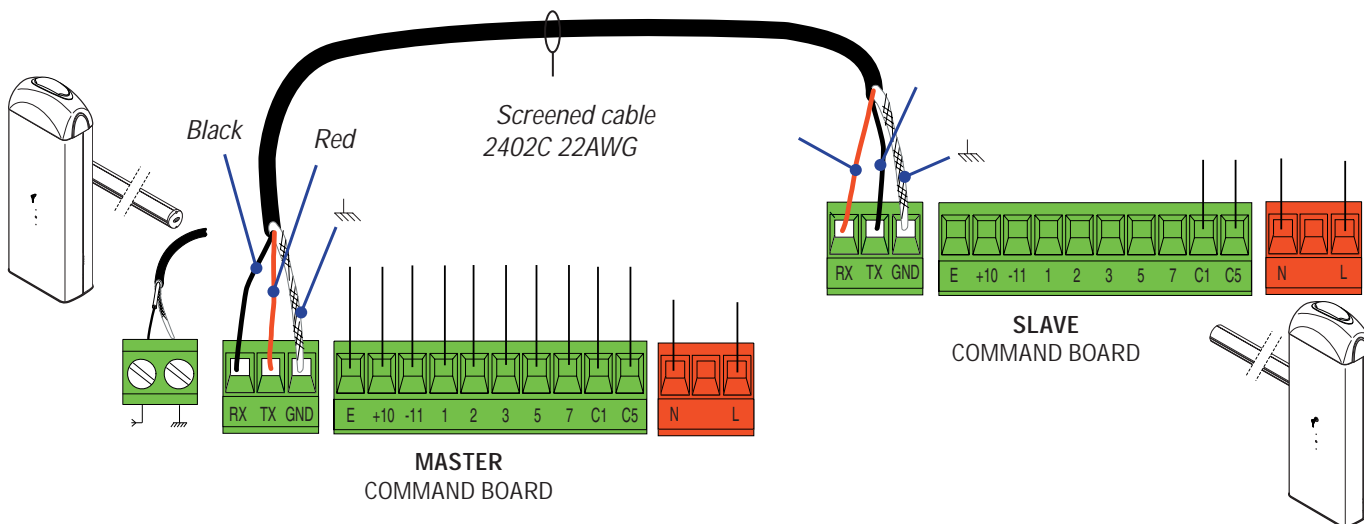


2) On the command board designated as the **Master**, execute all the wiring connections (see page 6), the installation procedure for remote control, settings and regulations.

On the command board designated as the **Slave**, position the dip 7 to ON; make the connections to the power supply on the L-N terminal, connect the device to the output of the 10-E terminal, adjust the speed of motion and the slowdowns of the Master barrier.



3) Execute the connection between the two command boards using the **RX-TX-GND** terminals.



All the data and information contained herein is considered subject to change at any time and at our discretion



## 6 Installation procedure of the transmitter for remote control

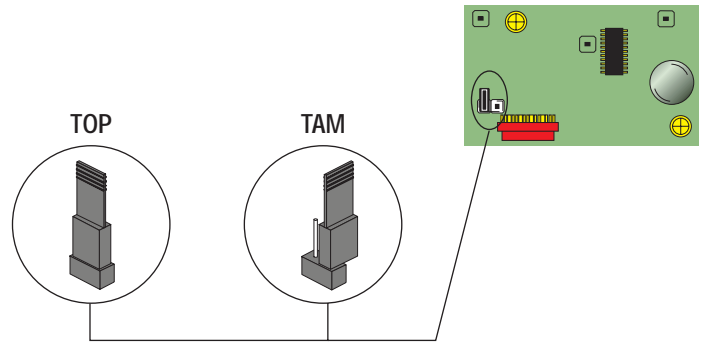


Read the three steps below before beginning installation procedures:

- prepare the radio board (paragraph 6.1);
- procedure for codifying the transmitter (paragraph 6.2);
- memorizing the code on the command board (paragraph 6.3).

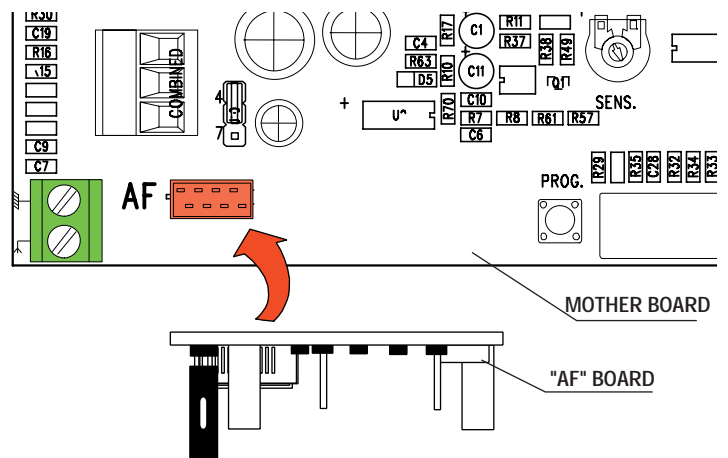
### 6.1 Prepare the radio board (AF)

1) On AM transmitters operating at 433.92 MHz (TOP and TAM series), position the jumper connection on circuit card AF43S as shown on the sheet.



2) The AF board should ALWAYS be inserted when the power is off.

Frequency/MHz	Radiofrequency board	Transmitter
FM 26.995	AF130	TFM
FM 30.900	AF150	TFM
AM 26.995	AF26	TOP
AM 30.900	AF30	TOP
AM 433.92	AF43S / AF43SM	TAM / TOP
AM 433.92	AF43SR	ATOMO
AM 40.685	AF40	TOUCH



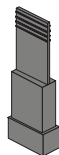
### 6.2 Procedure for codifying the transmitter

#### TOP QUARZATI SERIES

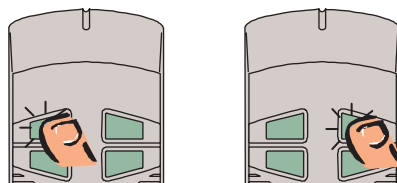
Standard encoding procedure T262M - T264M - T2622M - T302M - T304M - T3022M

	P1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OFF
1	assign a code (also on file)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ON
		1	2	3	4	5	6	7	8	9	10

2 connect encoding jumper J

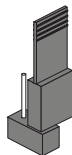


3 register code

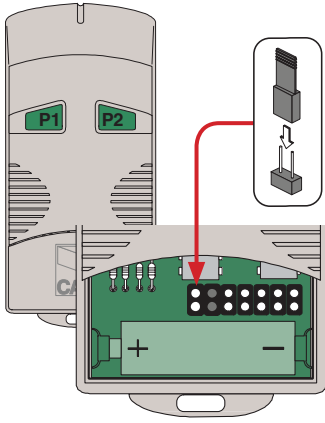


Press P1 or P2 in sequence in order to register the code; at the tenth pulse, a double beep will confirm that registration has occurred

4 disinsere jumper J



TOP  
T262M - T302M



The first encoding operation must be carried out whilst keeping the jumpers positioned for channels 1 and 2 as per fig. A; see fig. B for any subsequent settings on different channels.

FIG.A

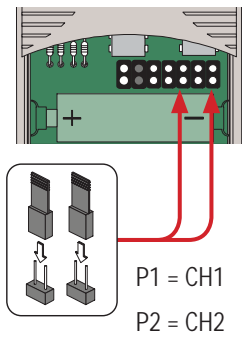
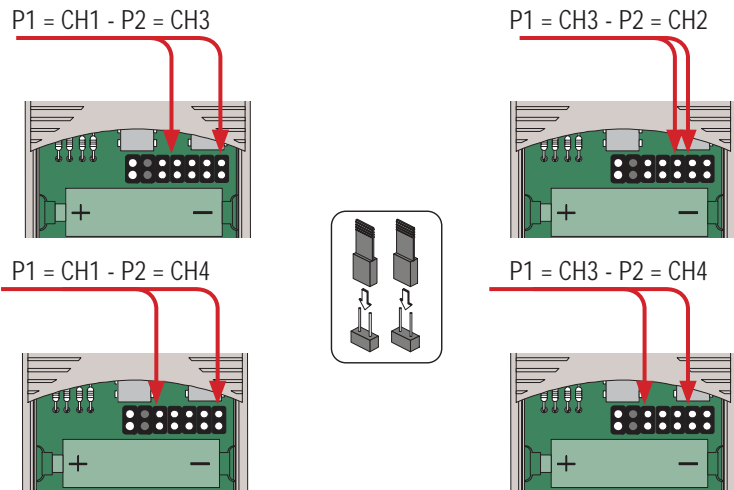
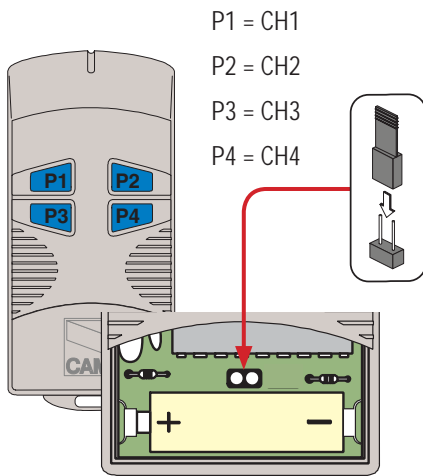


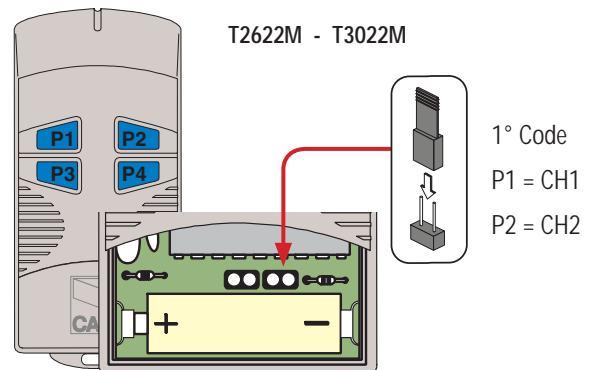
FIG.B



T264M - T304M

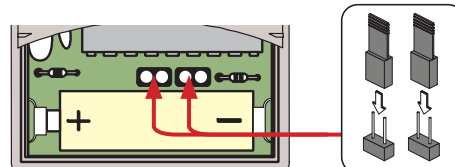


T2622M - T3022M



P1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OFF
P2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ON
	1	2	3	4	5	6	7	8	9	10	

2° Code  
P3 = CH1  
P4 = CH2

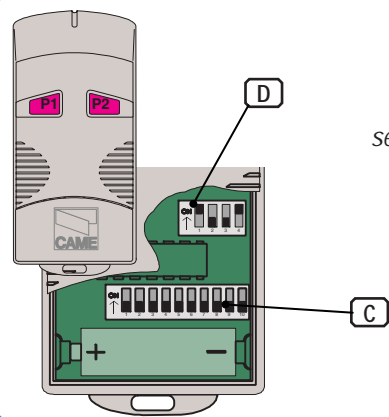


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TOP SERIES

**TOP**  
T432M - T312M

set the code to dip-switch C and channel to D (P1=CH1 and P2=CH2, default setting)

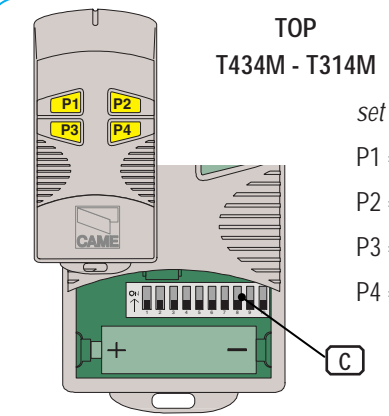


P1				
	CH1	CH2	CH3	CH4
P2				
	CH1	CH2	CH3	CH4

**TOP**  
T434M - T314M

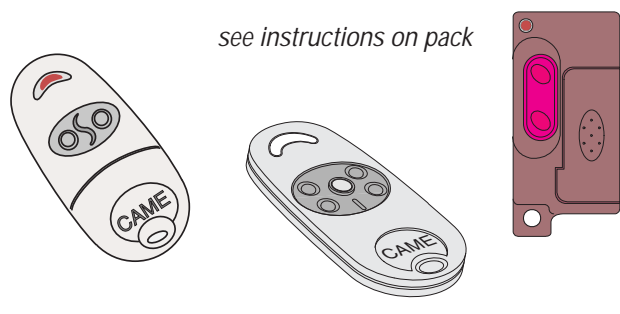
set code only

P1 = CH1  
P2 = CH2  
P3 = CH3  
P4 = CH4



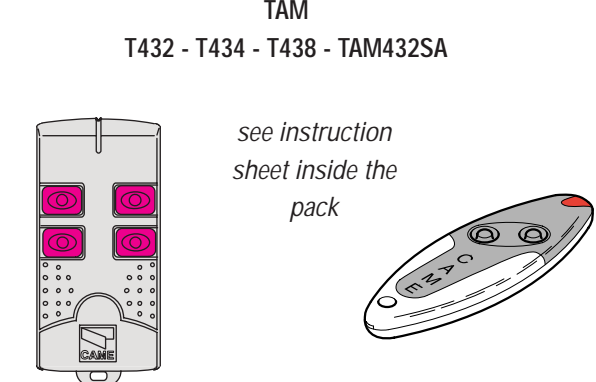
**TOP**  
T432S - T432SA - T434MA - T432NA - T434NA

see instructions on pack



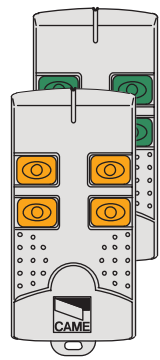
**TAM**  
T432 - T434 - T438 - TAM432SA

see instruction sheet inside the pack



**TFM**  
T132 - T134 - T138  
T152 - T154 - T158

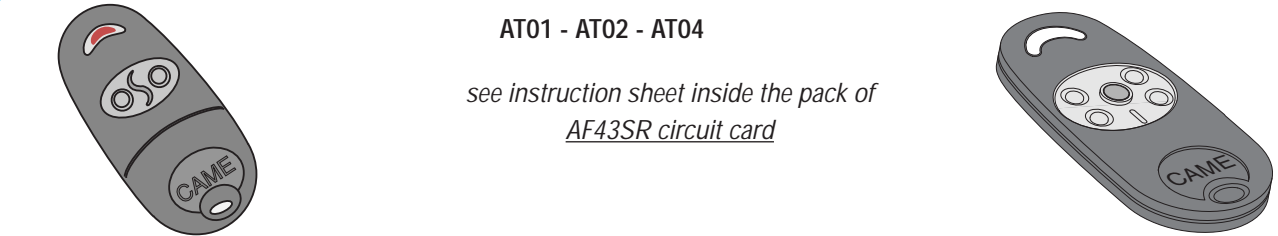
see instruction sheet inside the pack



ATOMO SERIES

**AT01 - AT02 - AT04**

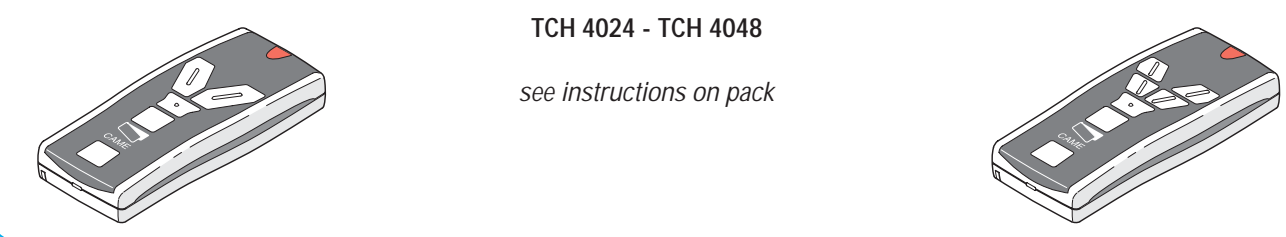
see instruction sheet inside the pack of AF43SR circuit card



TOUCH SERIES

**TCH 4024 - TCH 4048**

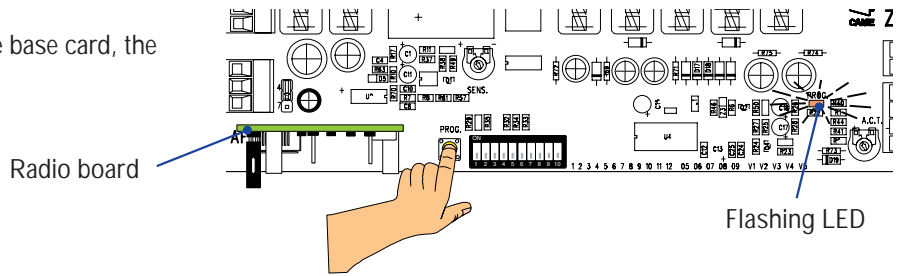
see instructions on pack



All the data and information contained herein is considered subject to change at any time and at our discretion

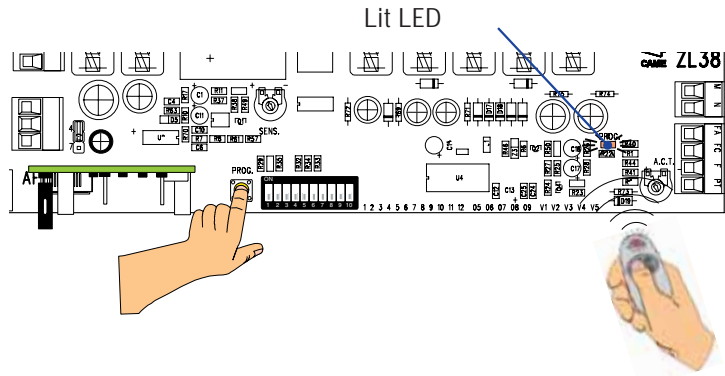
### 6.3 Memorizing the code on the command board

1) Keep the "PROG" key pressed on the base card, the signal LED will flash.

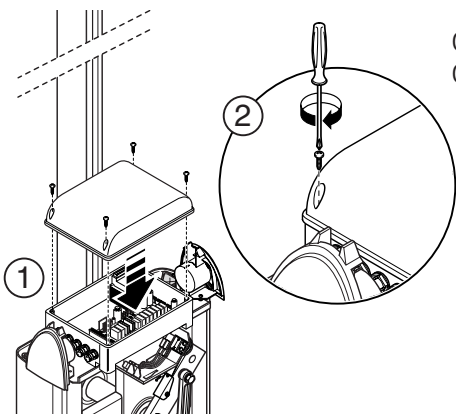


2) Press a transmitter key to send the code; the LED will remain lighted to signal memorization.

N.B.: if the code needs to be changed, repeat the sequence described above.



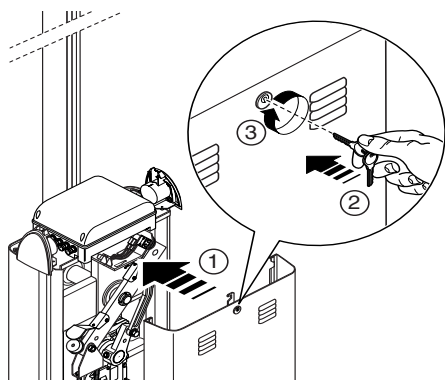
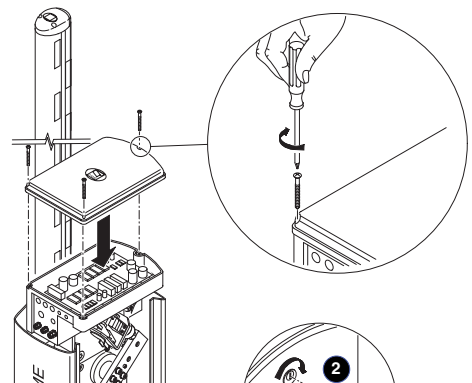
### 6.4 Mounting the lid



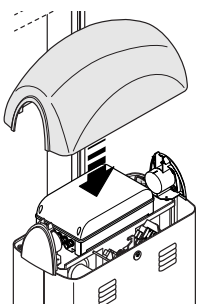
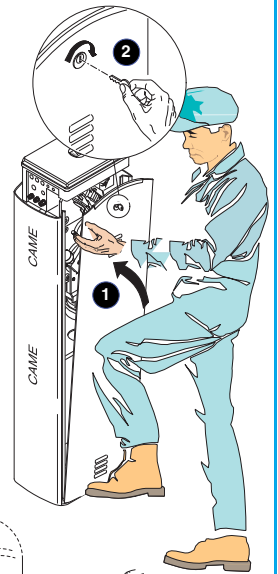
G2080  
G2080I

G4040  
G4040I

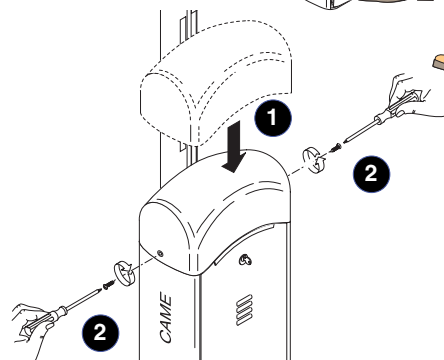
1) After making the adjustments and settings from the command board, insert the lid of the container and close it with the screws.



2) Insert the inspection door and close it.




3) Insert the protection dome on the upper part of the automation (for the GARD4 fasten it on the side with two UNI6954 Ø3.9x13 screws supplied).




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## 7 Demolition and disposal


 In its premises, CAME CANCELLI AUTOMATICI S.p.A. implements an Environmental Management System certified in compliance with the UNI EN ISO 14001 standard to ensure environmental protection.

Please continue our efforts to protect the environment—which CAME considers one of the cardinal elements in the development of its operational and market strategies—simply by observing brief recommendations as regards disposal:

 **DISPOSAL OF PACKAGING** – The packaging components (cardboard, plastic, etc.) are all classifiable as solid urban waste products and may be disposed of easily, keeping in mind recycling possibilities.

Prior to disposal, it is always advisable to check specific regulations in force in the place of installation.

### PLEASE DISPOSE OF PROPERLY!

 **PRODUCT DISPOSAL** – Our products are made up of various types of materials. Most of them (aluminium, plastics, iron, electrical wires, etc.) may be disposed of in normal garbage collection bins and can be recycled by disposing of in specific recyclable material collection bins and disposal in authorized centres. Other components (electrical boards, remote control batteries, etc.), however, may contain polluting substances. They should therefore be removed and given to qualified service companies for proper disposal.

Prior to disposal, it is always advisable to check specific regulations in force in the place of disposal.

### PLEASE DISPOSE OF PROPERLY!

## 8 Manufacturer's warranty



### MANUFACTURER'S DECLARATION

As per Enclosure II B of Machinery Directive 98/37/CE

Enclosed with the technical documentation (the original copy of the Declaration is available on request)

Date of the present declaration 07/12/2001

The representatives of

**CAME Cancelli Automatici S.p.A.**  
via Martiri della Libertà, 15  
31030 Dosson di Casier - Treviso - ITALY  
tel (+39) 0422 4940 - fax (+39) 0422 4941  
internet: www.came.it - e-mail: info@came.it

Hereby declare, under their own responsibility, that the product/s called ...

**ZL38**

Also, they furthermore represent and warrant that the product/s that are the subject of the present Declaration are manufactured in the respect of the following main harmonized provisions:

EN 292 PART 1 AND 2	MACHINERY SAFETY.
EN 12453	INDUSTRIAL, COMMERCIAL AND OTHER CLOSING MECHANISMS.
EN 12445	INDUSTRIAL, COMMERCIAL AND OTHER CLOSING MECHANISMS.
EN 12978	SAFETY DEVICES FOR POWER OPERATED DOORS AND GATES ....
EN 60335 - 1	SAFETY IN APPARATUS FOR HOME USE.
EN 60204 - 1	MACHINERY SAFETY.
EN 61000 - 6 - 2	ELECTROMAGNETIC COMPATIBILITY.
EN 61000 - 4 - 4	ELECTROMAGNETIC COMPATIBILITY.
EN 61000 - 4 - 5	ELECTROMAGNETIC COMPATIBILITY.

#### IMPORTANT CAUTION!

It is forbidden to market/use product/s that are the subject of this declaration before completing and/or incorporating them in total compliance with the provisions of Machinery Directive 98/37/CE

... comply with the Italian National Legal Provisions that transpose the following Community Directives (where specifically applicable):

MACHINERY DIRECTIVE 98/37/CE  
LOW VOLTAGE DIRECTIVE 73/23/EEC - 93/68/EEC  
ELECTROMAGNETIC COMPATIBILITY DIRECTIVE 89/336/EEC - 92/31/EEC  
R&TTE DIRECTIVE 1999/5/CE

Signatures of the Representatives

TECHNICAL MANAGER  
Mr. Gianni Michiejan

MANAGING DIRECTOR  
Mr. Paolo Menuzzo

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