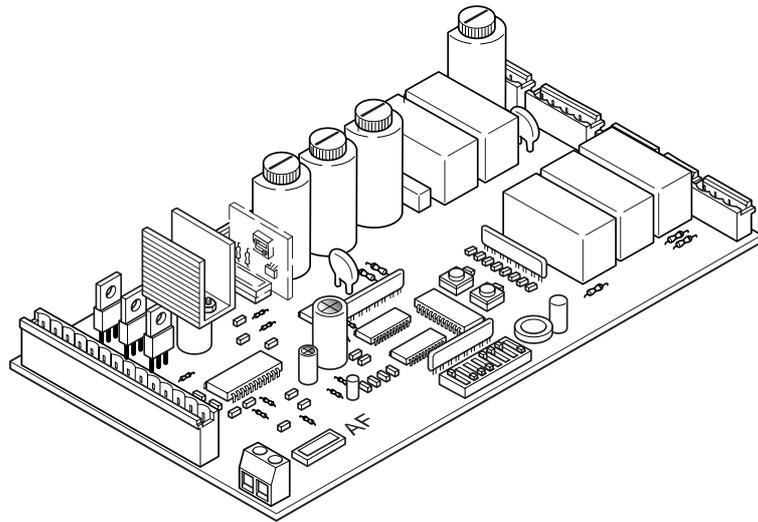


ZG5



"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 230V 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 5A fuse.

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

630mA control unit fuse. 1.6A electrical locking fuse.

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

The board manages an operating time of 20 seconds, which protects in the case that the end stop unit does not intervene.

Possibility of inserting the RSE board to enable the compass function or paired with dip (1 ON = compass, 2 ON = paired).

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 the obstacles (encoder) that:

during opening: the bar inverts its direction until it is completely close,

during closure: the bar inverts its direction until it is completely open.

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;

- Type of command: open-close or opening only

Settings: automatic closure time adjustment.

Optional accessories:

- flashing dome signals the bar in motion;
- lighted cord signals the bar closed or in motion; it turns off only if the bar is at an end stop and opens.
- bar open light marks the position of opening of the bar; it turns off after the closing operation.

⚠ Caution: Switch off the mains prior to any inspection or maintenance work on the equipment.

4.2 Technical information

Power supply: 230V / 50÷60 Hz.

Maximum power allowed: 400W

Absorption at rest: 25W

Maximum power for 24V accessories: 20W

Maximum power for 230V accessories: 200W

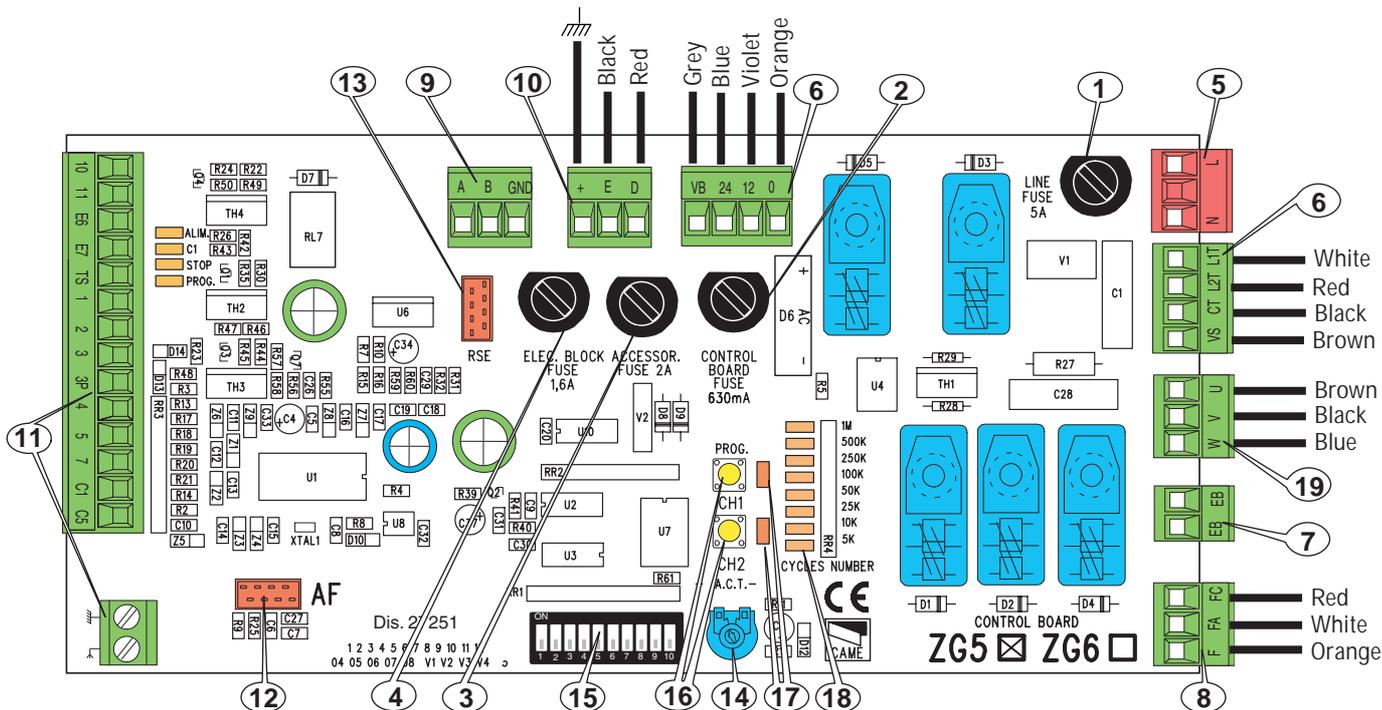
Insulation type:

Material case: ABS



4.3 Main components

- | | |
|---|--|
| 1 - 5 A mains fuse | 11 - Connecting terminal boards |
| 2 - 630 mA fuse control assembly | 12 - radiofrequency board coupling (see table page 9) |
| 3 - 2 A accessories fuse | 13 - RSE serial board coupling (optional for connection of combined and/or interlock barriers) |
| 4 - 1.6 A electric lock fuse | 14 - ACT Trimmer: automatic closure time adjustment |
| 5 - Supply-connecting terminal board | 15 - "function selection" dipswitch |
| 6 - Transformer-connecting terminal board | 16 - Code saving buttons |
| 7 - Electric lock-connecting terminal board | 17 - radio code / automatic closing flashing LED indicator |
| 8 - End-stop assembly-connecting terminal board | 18 - manoeuvre counter |
| 9 - Combined barriers connecting terminal board | 19 - Motor terminal board |
| 10 - Encoder-connecting terminal board | |



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.



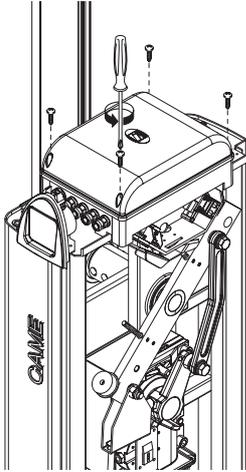
5.3 Cable list and minimum thickness

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 ²	3G 2,5mm ²	3G 4mm ²
230V motor		3G 1mm ²	3G 1,5mm ²	3G 2,5mm ²
230V courtesy / cycle light		3G 0,5mm ²	3G 1mm ²	3G 1,5mm ²
24V power supply accessory		2 x 0,5mm ²	2 x 0,5mm ²	2 x 1mm ²
24V pilot light		2 x 0,5mm ²	2 x 0,5mm ²	2 x 1mm ²
24V "in motion" output		2 x 0,5mm ²	2 x 0,5mm ²	2 x 1mm ²
Safety contacts		2 x 0,5mm ²	2 x 0,5mm ²	2 x 0,5mm ²
N.O./N.C. control button		2 x 0,5mm ²	2 x 0,5mm ²	2 x 0,5mm ²
End stop		3 x 0,5mm ²	3 x 1mm ²	3 x 1,5mm ²
Command 2nd combined motor		1 x 0,5mm ²	1 x 0,5mm ²	1 x 1mm ²
Antenna connection	RG58	max. 10 m		

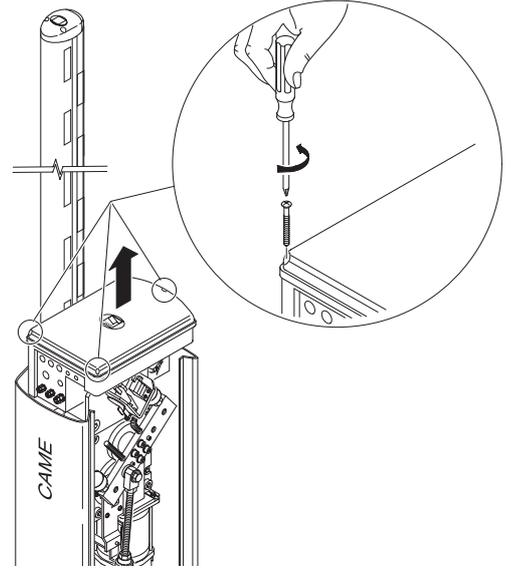
N.B.: An evaluation of the size of the cables with lengths other than the data in the table must be made based on the effective absorption of the connected devices, according to the instructions indicated by the CEI EN 60204-1 standards. For connections that require several loads on the same line (sequential), the size given on the table must be re-evaluated based on actual absorption and distances.

5.4 Installing the electrical card

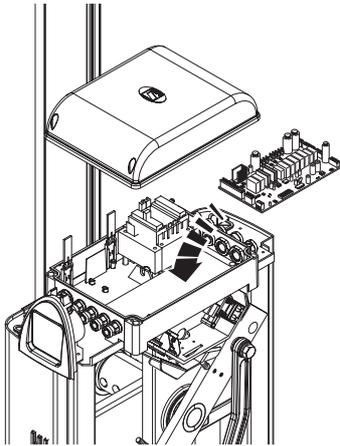
G2081
G2081I



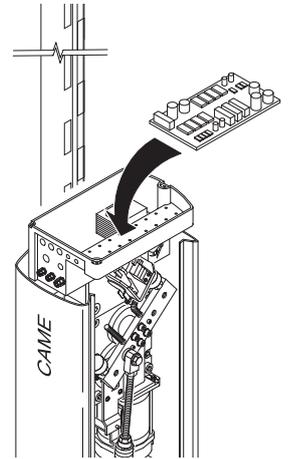
G4041
G4041I



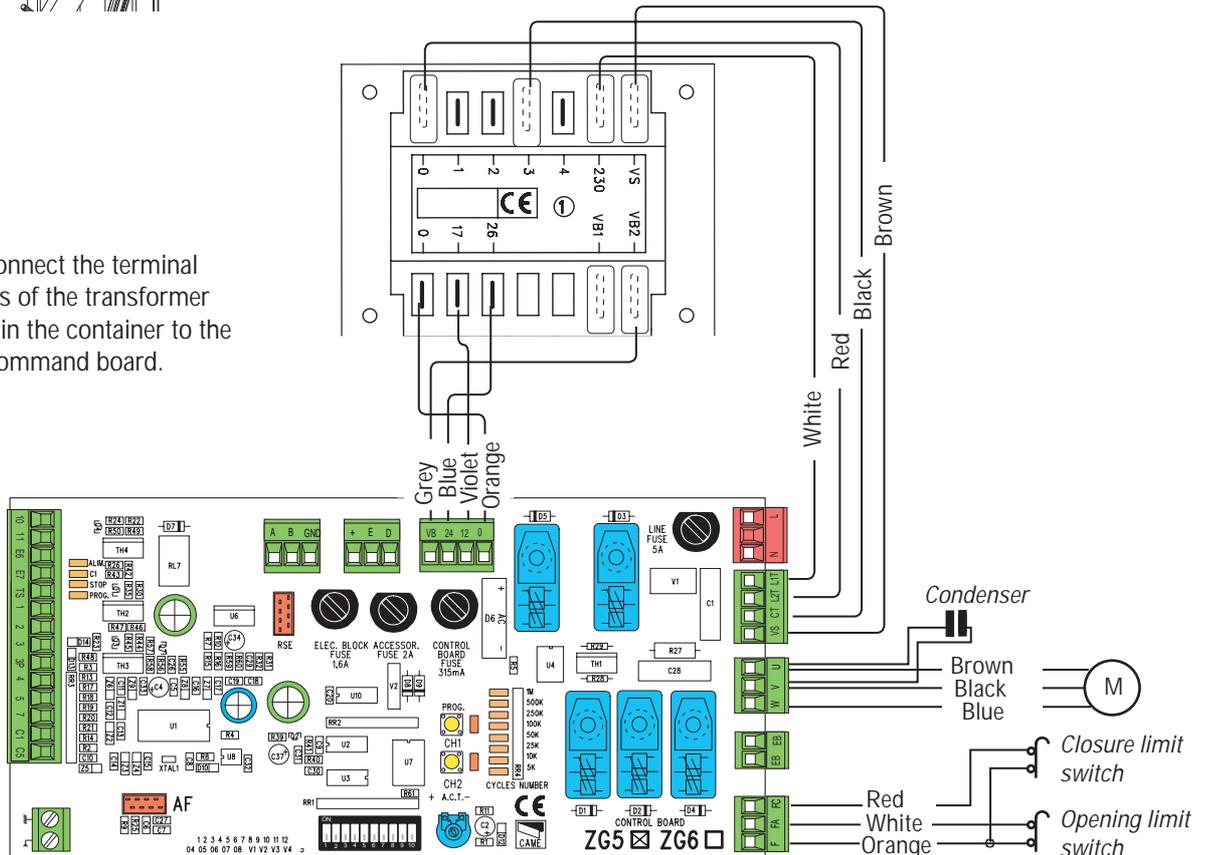
1) Unscrew the four mounting screws (or three in the case of the G4041) of the cover of the container located on the upper part of the automation.



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

U V W 230V(a.c.) motor

 (Condenser)

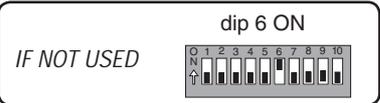
10 E7 Flashing dome 24V (A.C.) max.8W, signals the bar in motion

10 E6 Cord signals 24V (A.C.) max. 24W, signals the bar closed or in motion, it turns off only if the bar is in open end stop mode

10 5 Pilot light indicating "barrier open" (24V-3W max.)

+10 -11 24V (A.C.) max. 30W supply accessories

1 2 Stop pushbutton (N.C.)



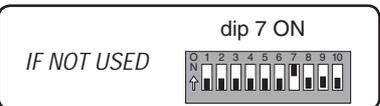
2 3 Open pushbutton (N.O.)

2 3P Opening pushbutton (N.O.) for combined and/or bush function

2 4 Closing pushbutton (N.O.)

2 7 Command pushbutton (see dip-switch 2 in function selections)

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



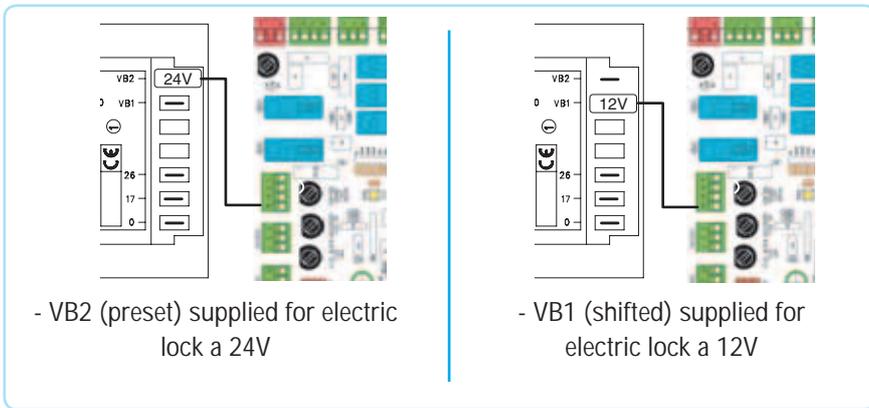
2 C5 Contact (N.O.) of «immediate closing»

F FA Open end stop connection (N.C.)

F FC Close end stop connection (N.C.)

Antenna connection

Output supplied for electric lock (comes on with the opening command)

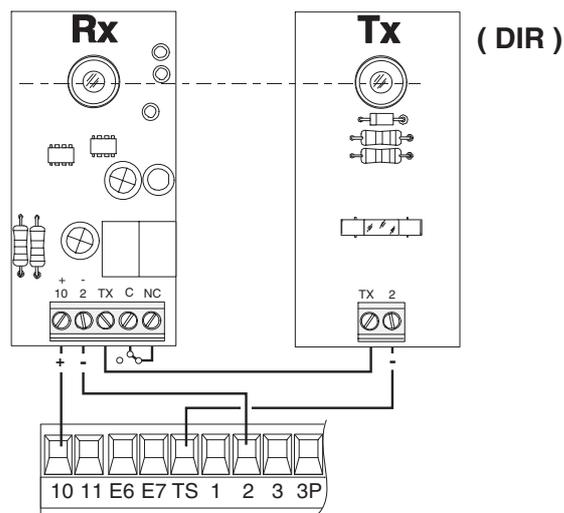


5.6 Photoelectric cells performance test

Allows the control assembly to check the efficiency of the safety devices (photoelectric cells) after each opening or closing command. A possible photoelectric cell malfunction is identified via LED indicator flashing on the control panel, consequently cancelling any remote control or pushbutton commands.

Electrical connection for safety test activation:

- photoelectric cell transmitters and receivers must be connected in the following way (see scheme)
- turn dip-switch 8 to ON to carry out the test.

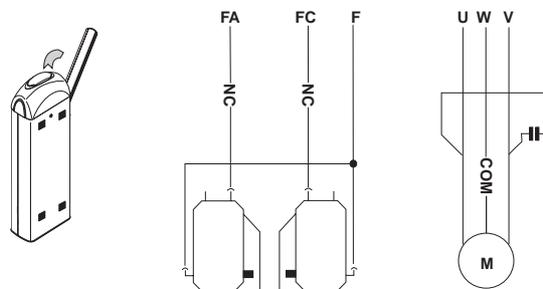
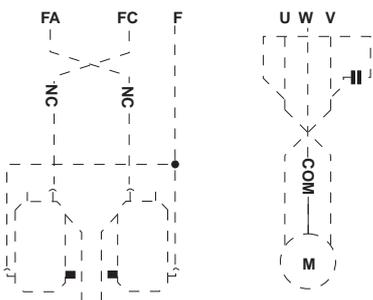


IMPORTANT:

when carrying out the safety test function, contacts N.C. if not used, on the relative dip switches (see functions selection p. 8)

5.7 Gearmotor end-stop connection

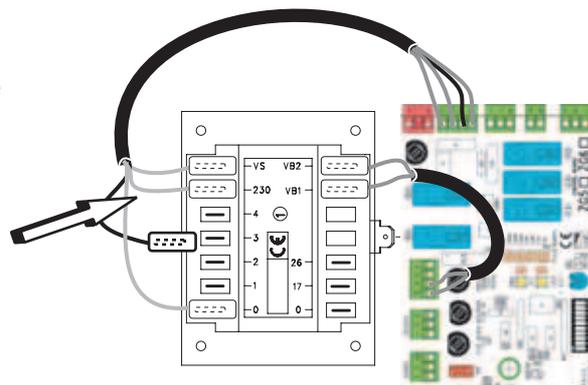
Gearmotor end-stop assembly already connected for installation on the left-hand side seen from inside.



- For right-hand installation:
- reverse FA-FC of the end stops on the terminal board;
 - reverse the U-V phases of the motor on the terminal board.

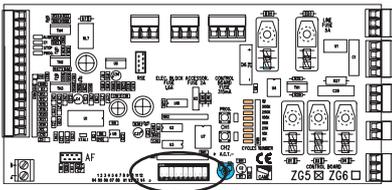
5.8 Motor torque limiter

To alter the torque, move the fast-on (marked with black string) to one of the 4 remaining positions: 1 min ÷ 4 max.



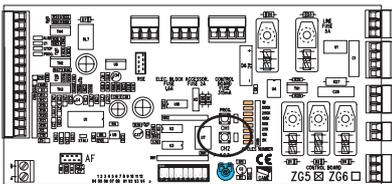
All the data and information contained herein is considered subject to change at any time and at our discretion

5.9 Function selections

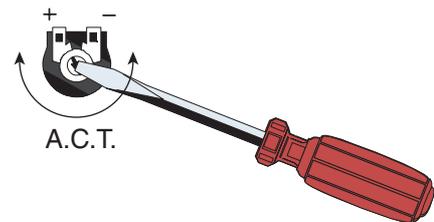


- 1 ON Automatic closing function activated; (1 OFF-deactivated);
- 2 ON "Open" function with activated remote control (HF board inserted);
- 2 OFF "Open-close-reverse" function with pushbutton (2-7) and activated remote control (HF board inserted) ;
- 3 ON "Maintained Action" function (remote control function disabled) activated; (3 OFF deactivated);
- 4 ON Activated pre-flashing during opening and closing,, with device connected on terminals 10- E7 (4 OFF deactivated);
- 5 ON Obstacle detection. With the motor off (bar closed, open or after a total-stop command), movement is blocked if safety devices (e.g. photoelectric cells) detect an obstacle;
- 6 OFF Total stop function activated, connect pushbutton to 1-2 (if not set the dipswitch to ON);
- 7 OFF Reopening function during closure activated, connect the safety devices to terminals 2-C1 (if not used set the dipswitch to ON);
- 8 ON Safety test function to check photoelectric cell efficiency (page.7) activated; (8 OFF deactivated).
- 9 OFF Encoder activated for obstacle detection (9 ON deactivated);
- 10 Not used

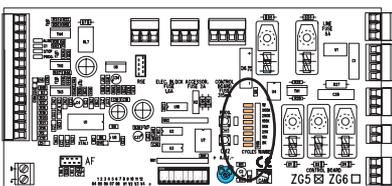
5.10 Adjustments



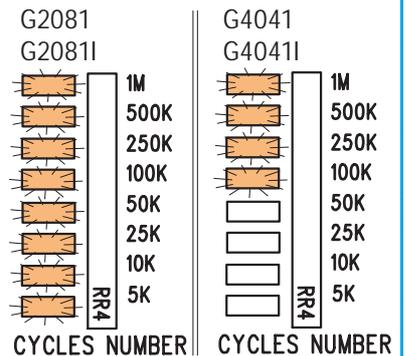
A.C.T Trimmer = min. automatic closing time 1 sec, max. 120 sec.



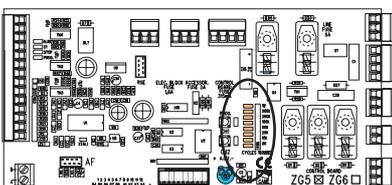
5.11 Management of the manoeuvre pick-up function



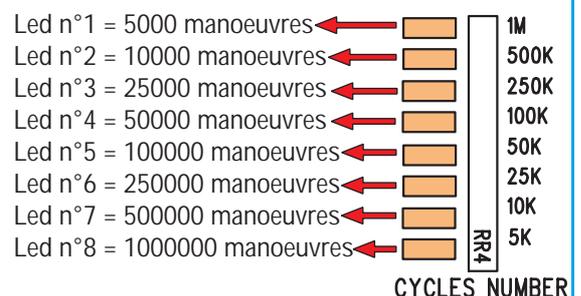
To manage the manoeuvre pick-up function, position the dip 1 and dip 3 to ON; all 8 LED of the manoeuvre counter will be on (default memorization for G2081 and G2081I); to select management of manoeuvre pick-up function for G4041 e G4041I barriers, position the dip 1 and 3 to ON and press the CH1 button. The first 4 LEDs will be on. Reposition the dip 3 to OFF and dip 1 can be left on the ON position, if automatic closure is desired.



5.12 Operation counter



Counts the number of operations displayed with the 8 LED to zero out the count, position the dip 1 to OFF (if selected to ON) and the dip 3 to ON, press the CH1 and wait for all the LED to turn off. After zeroing out, return the dip 1 to ON (if selected) and dip 3 to OFF.



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6 Installation procedure of the transmitter for remote control

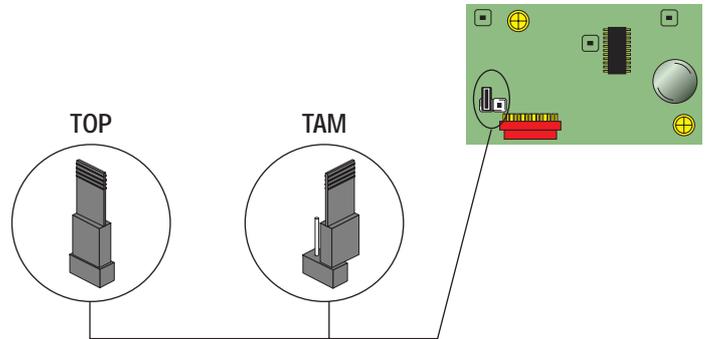


Read the three steps below before beginning installation procedures:

- 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).

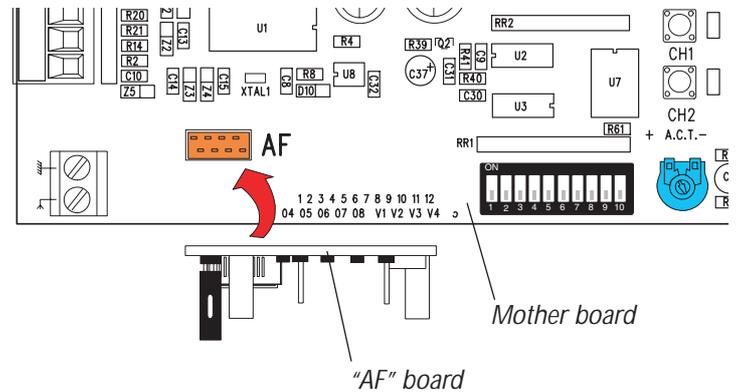
6.1 Prepare the radio board (AF)

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

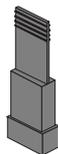
TOP QUARZATI SERIES

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

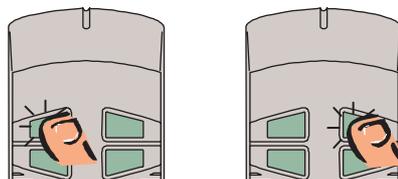
1 assign a code (also on file)

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

2 connect encoding jumper J

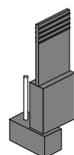


3 register code

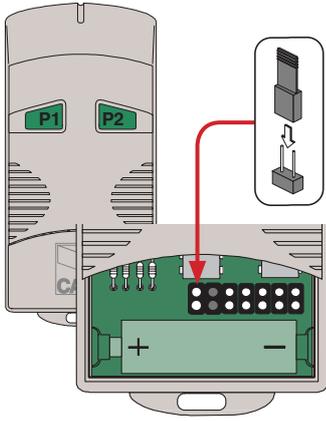


Press P1 or P2 in sequence in order to register the code; at the tenth pulse, a double beep will confirm that registration has occurred

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

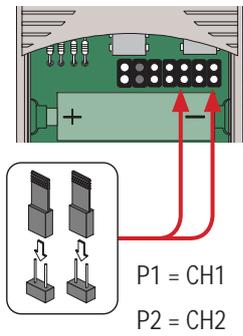
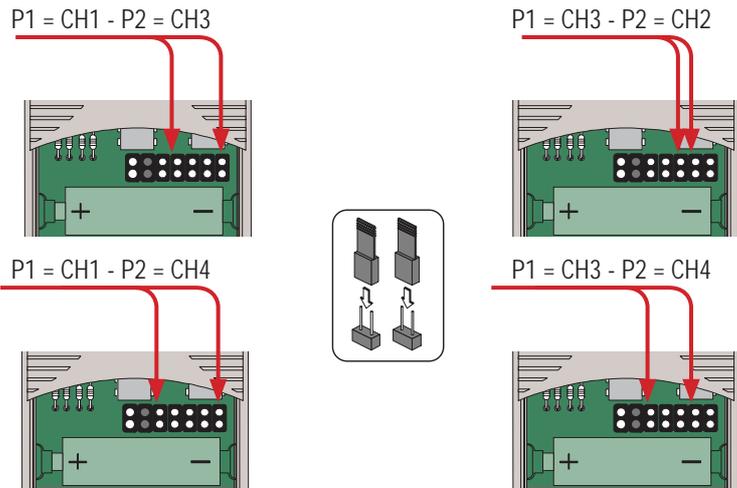
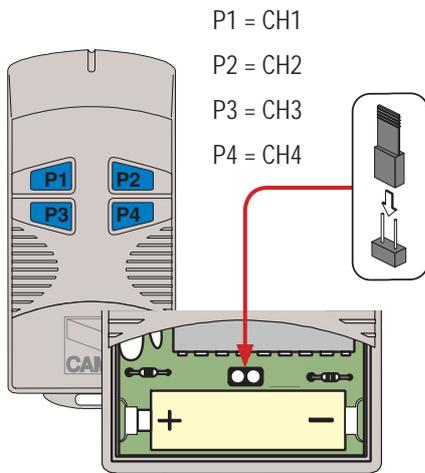


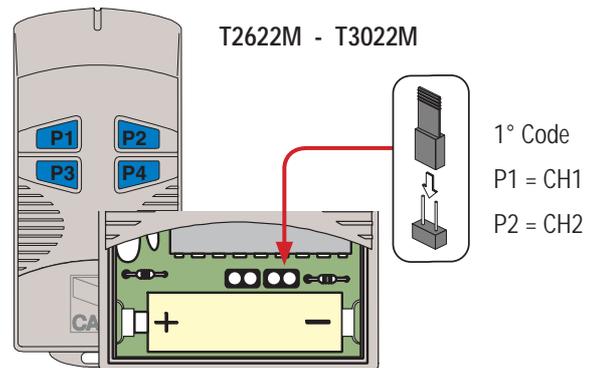
FIG.B



T264M - T304M

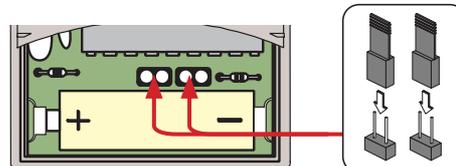


T2622M - T3022M



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

2° Code
P3 = CH1
P4 = CH2

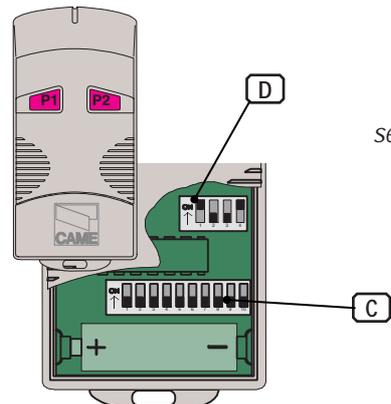


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TOP SERIES

TOP
T432M - T312M

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



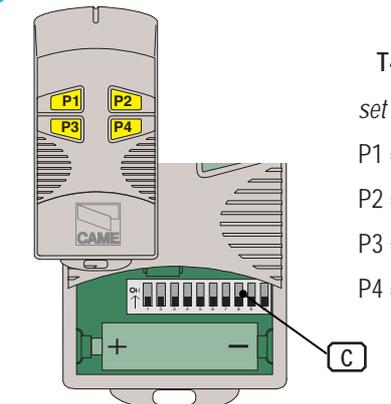
P1 CH1 CH2 CH3 CH4

P2 CH1 CH2 CH3 CH4

TOP
T434M - T314M

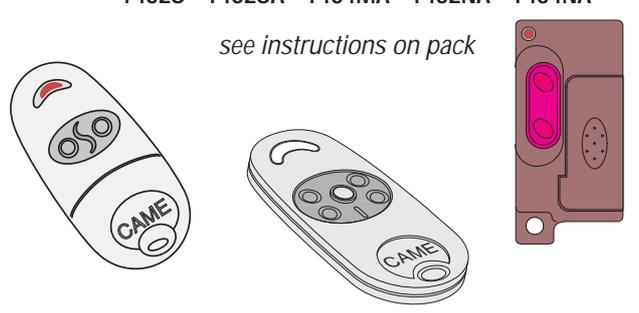
set code only

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



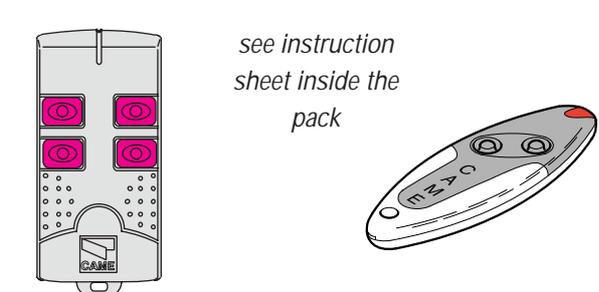
TOP
T432S - T432SA - T434MA - T432NA - T434NA

see instructions on pack



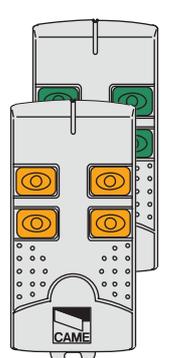
TAM
T432 - T434 - T438 - TAM432SA

see instruction sheet inside the pack



TFM
T132 - T134 - T138
T152 - T154 - T158

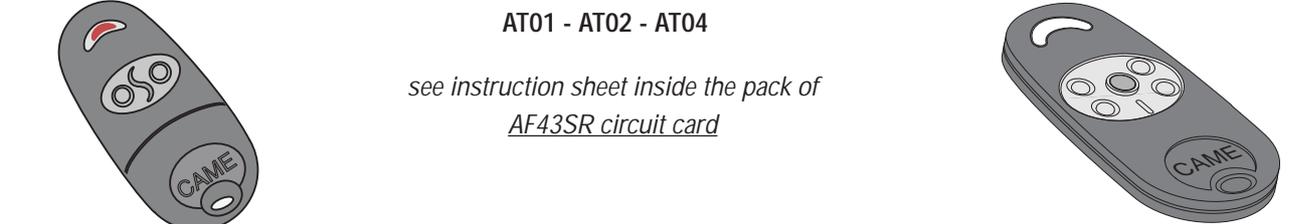
see instruction sheet inside the pack



ATOMO SERIES

AT01 - AT02 - AT04

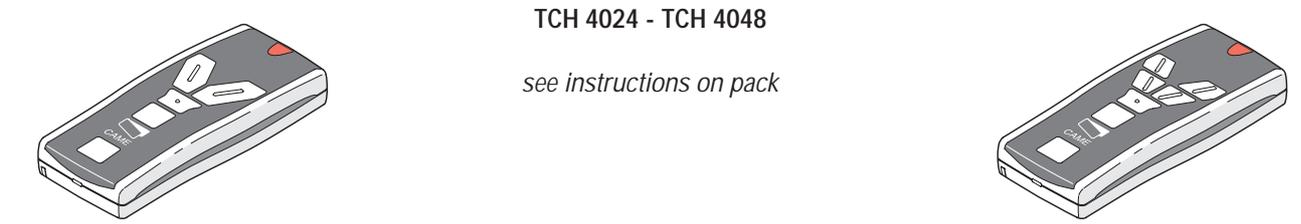
see instruction sheet inside the pack of AF43SR circuit card



TOUCH SERIES

TCH 4024 - TCH 4048

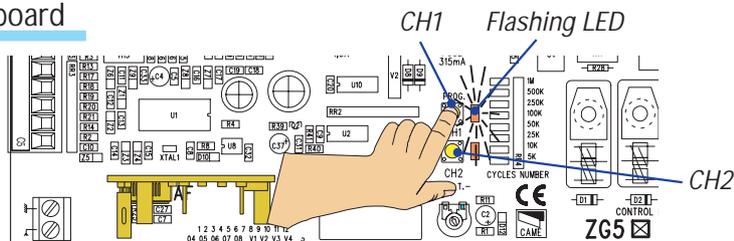
see instructions on pack



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

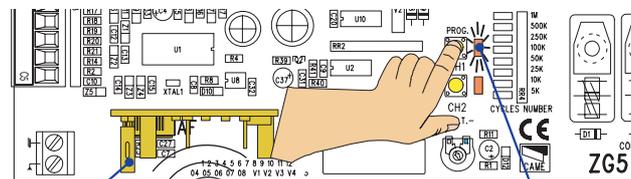
6.3 Memorizing the code on the command board

1) Keep the "CH1" 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.

Follow the same procedure with the "CH2" key, again using another transmitter key.

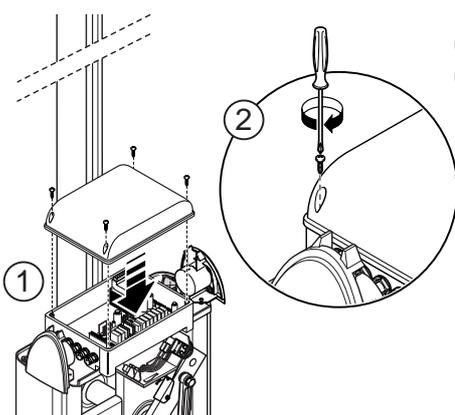


CH1 = Channel for direct commands with a gearmotor control assembly function of "open only" or "open-close-reverse", depending on the selection carried out on dip-switches 2).

CH2 = Channel for direct commands with an accessory device (radio control with combined barrier connection or with bush).

N.B.: if desired, simply repeat the sequence described to change the code.

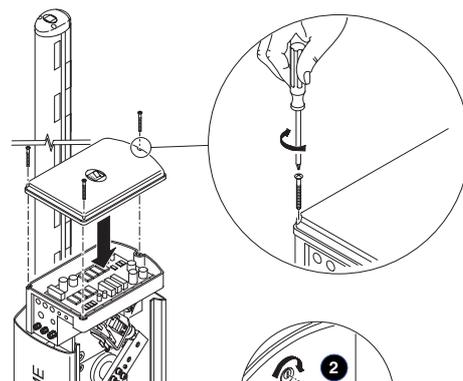
6.4 Mounting the lid



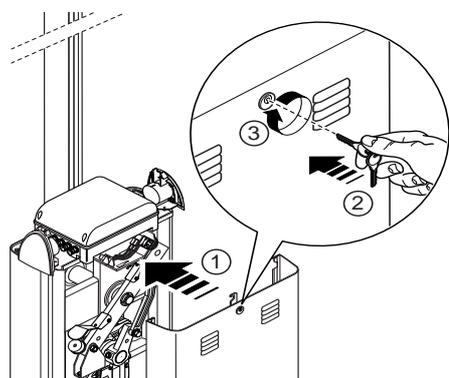
G2081
G2081I

G4041
G4041I

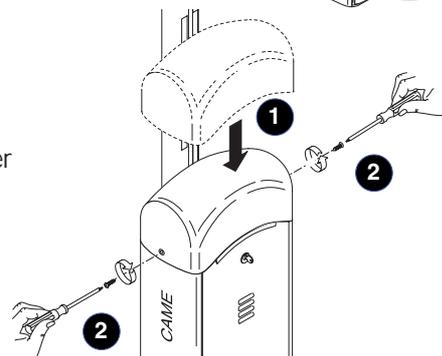
1) After making the adjustments and settings from the command board, insert the lid of the container and close it with the screws.



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).



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

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 OF CONFORMITY

Pursuant to annex II B of the Machinery Directive 98/37/EC



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Declares under its own responsibility that the equipments for automatic garage doors and gates listed below:

ZG5 ELECTRONIC COMMAND BOARD

... comply with the National Law related to the following European Directives and to the applicable parts of the following Standards.

98/37/CE - 98/79/CE	MACHINERY DIRECTIVE
98/336/CEE - 92/31/CEE	ELECTROMAGNETIC COMPATIBILITY DIRECTIVE
73/23/CEE - 93/68/CE	LOW VOLTAGE DIRECTIVE
89/106/CEE	CONSTRUCTION PRODUCTS DIRECTIVE

EN 13241-1	EN 12635	EN 61000-6-2
EN 12453	EN 12978	EN 61000-6-3
EN 12445	EN 60335-1	EN 60204-1

MANAGING DIRECTOR
Mr. Andrea Menuzzo

Reference code to request a true copy of the original: DDF B EN G001 ver.1.0

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