CAME
CANCELLI AUTOMATICI

CE

CONTROL BOARD FOR AUTOMATIONS 24 V

SERIES Z
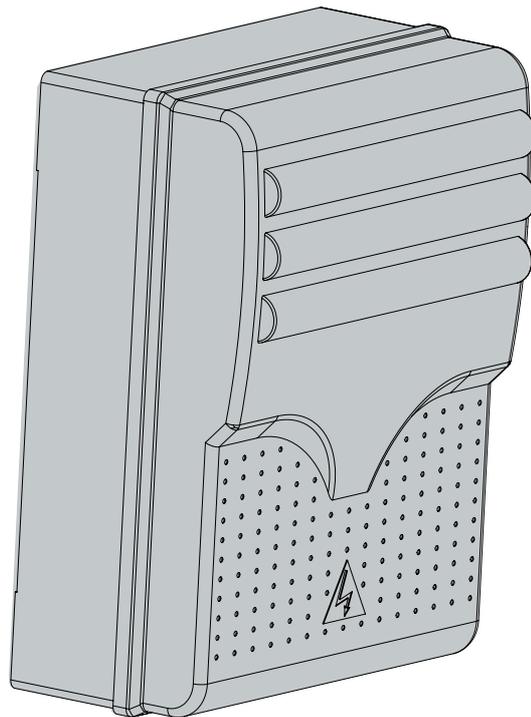
INSTALLATION MANUAL

ZL80 - ZL80C

1 Legend of symbols

This symbols stands for parts that must be read very carefully.

This symbols stands for parts that have to do with safety.

This symbols stands for what needs to be notified to the client.

2 Intended use and limitations of use

2.1 Intended use

The ZL80_ZL80C control boards(The ZL80C: featuring incorporated buttons and safety stop) have been specifically designed for C-BXE24 automation, to drive sectional, sliding and folding doors.

2.2 limitations of use

- Respect cable distances and diameters as shown in the table in chapter 5.4
- Set up the control board in areas that are free of accidental impacts.
- For theZL80C version positions the control board at a height of 1.5 m from the ground.

3 Reference standards

This product complies with the following standards: EN 12978, UNI EN 954-1, CEI EN 60335-1, UNI EN 12453.

4 Description

4.1 230V a.c. control board

24V d.c. powered control board for gear motors; 50÷60 Hz frequency.
Designed and manufactured entirely by CAME Cancelli Automatici S.p.A. Container fitted with air recycling intake.
Guaranteed 24 months unless tampered with.

4.2 Technical specifications

Control board
Power: 230V - 50÷60 Hz
Maximum output: 360 W
Draw at rest: 55 mA
Maximum output of 24V accessories: 36 W
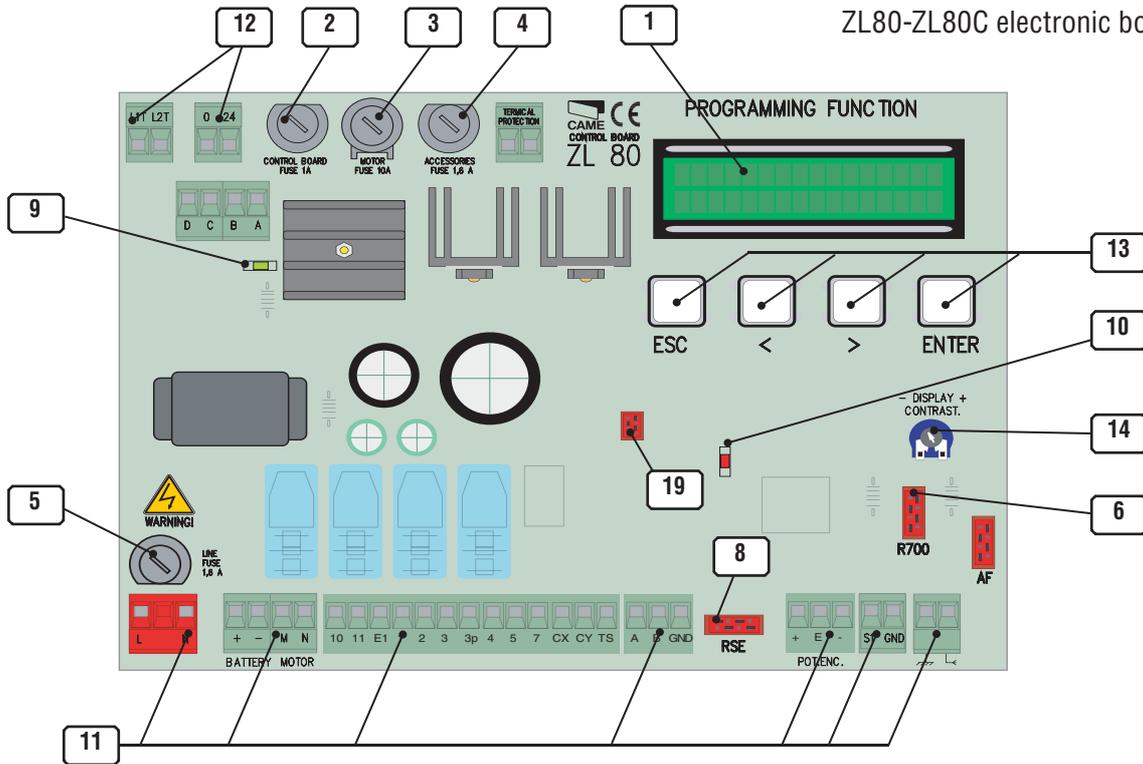
Protection level: IP54
Insulation class: II
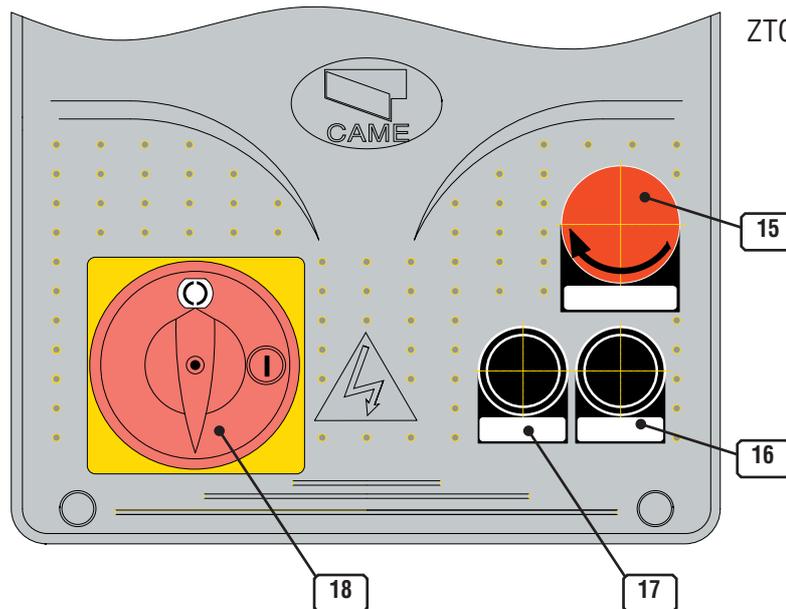Material: ABS

Operatine temperature

-20°C   55°C

4.3 List of parts

ZL80-ZL80C electronic board

PROGRAMMING FUNCTION

ZTC5 pushbutton panel

Tutti i dati e le informazioni qui contenute sono da ritenersi suscettibili di modifica in qualsiasi momento e a nostro giudizio

1-Display

2- 1° Control unit fuses

3- 10 A motor fuses

4- 1.6 A Accessories fuses

5- 1.6 A Line fuses

6-R700 board plug-in for decoding control devices (transponder slide-through cards)

7- AF board plug-in for radio frequency

8- RSE board plug-in for decoding PC interchange signal (for multiple control of to 16 units max.)

9-Led indicator: power

10-Led indicator: warns of open safety contacts error

11-Terminal board

12- Terminal board for connecting transformer

13-Programming buttons14-Trimmer to set display contrast

15- STOP button16- CLOSING button

17- OPENING button

18-safety stop

19- memory roll board connector (backup device for system and user data)

5 Installation

5 .1 Preliminary checks

⚠️ Prior to installing the automation device do the following:

• Make sure that the control board is mounted in a sturdy manner and that it is protected from possible impacts. It must be mounted using screws, anchor-plugs, etc. that are suitable for the type of surface;
• See to having a proper omnipolar disconnection device, with more than 3mm distances between contacts, and independent (sectioned off) power;
• ⏚Make sure that any connections inside of the container (done for continuance of the protective circuit) be provided with additional insulation as compared the other inside conducting parts;
• Install proper tubes and conduits to pull cables and wiring through making sure that these are protected from possible mechanical damage.
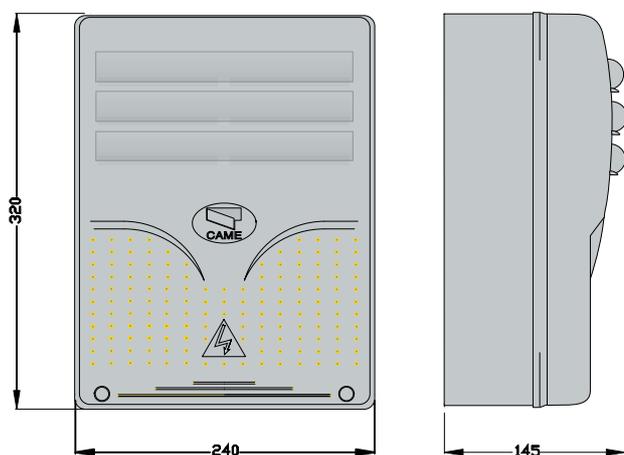
5.2 Tools and materials

Make sure to have all the tools and materials required to for installation under maximum safety conditions and in compliance with current standards. The figure shows some of the equipment needed by the installer.
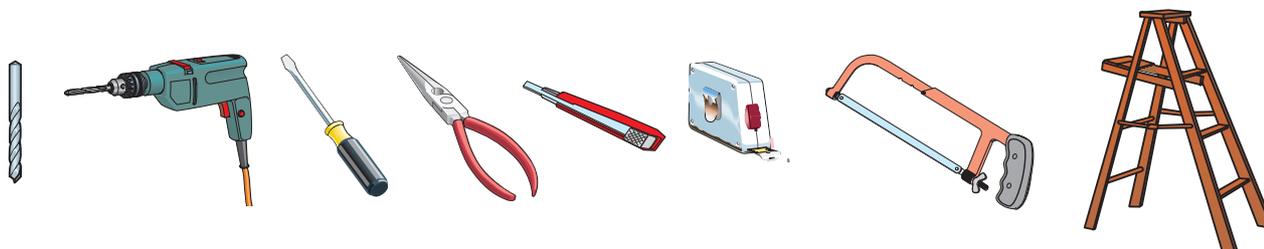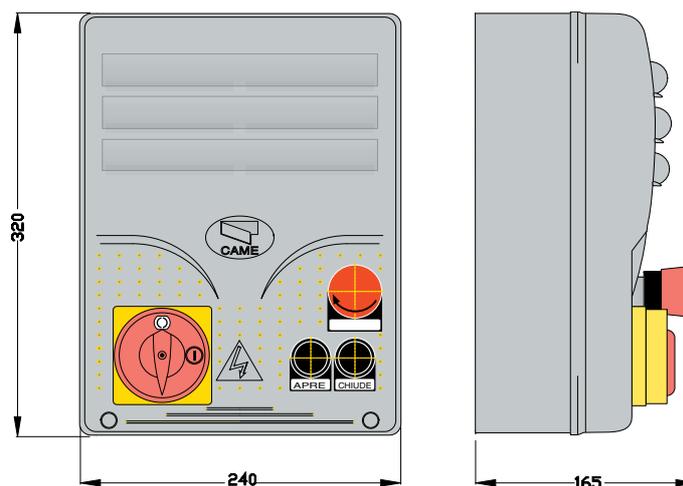

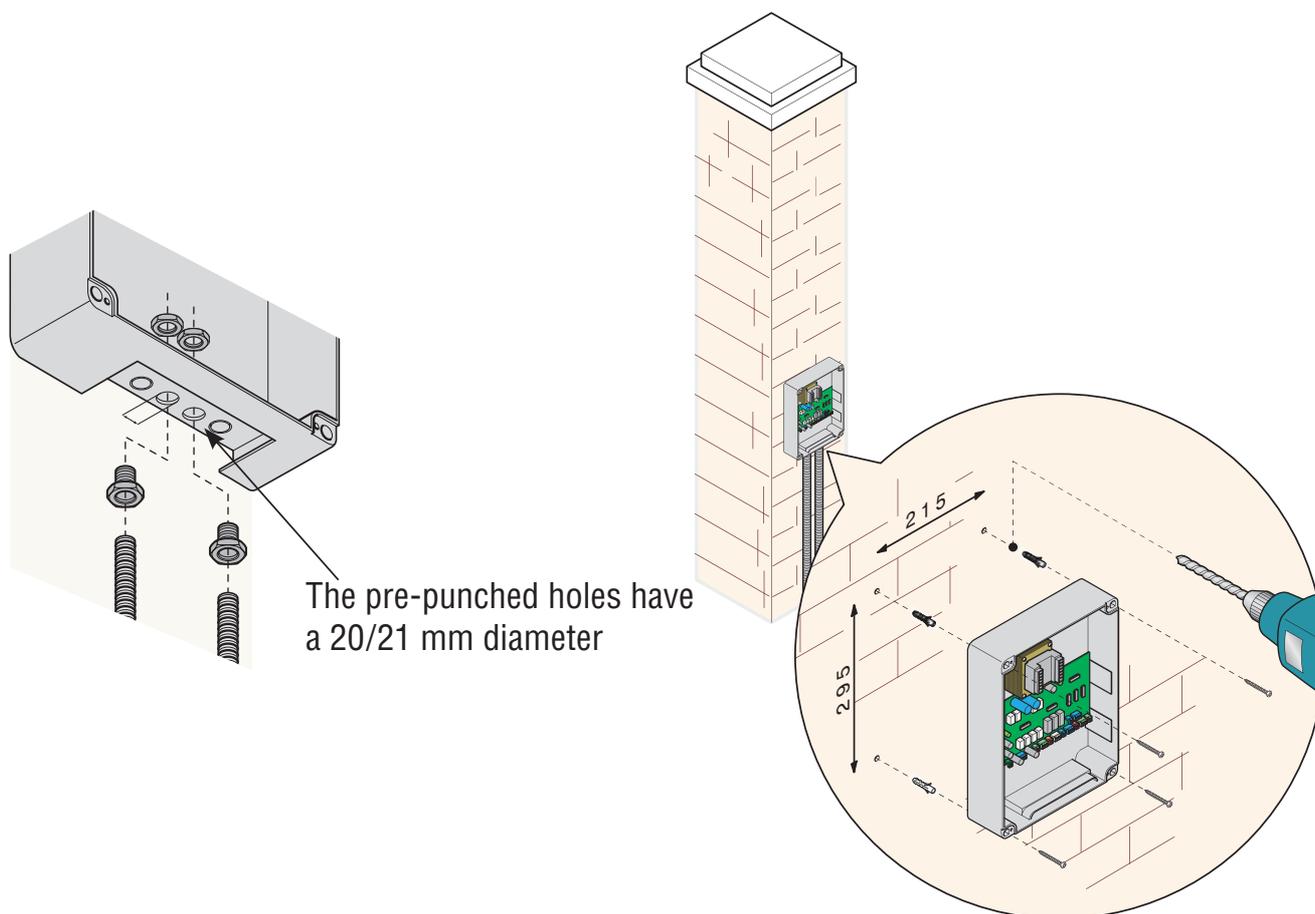## 5.3 Dimensions, centre spacing and securing holes.

It is best to use 6 mm max diameter rounded-top cross-head screws .

Dimensions of the ZL80 container
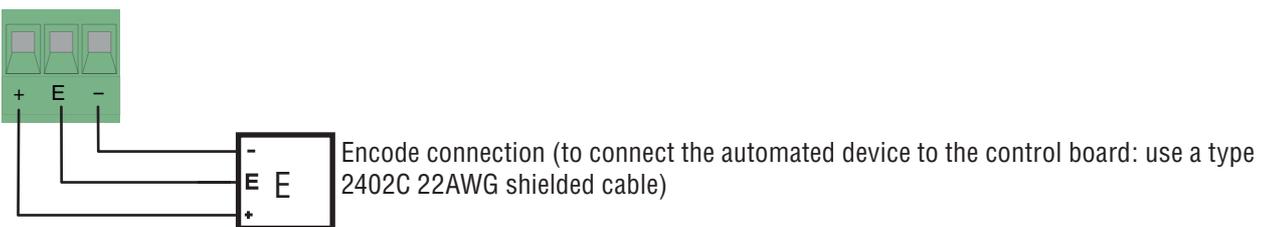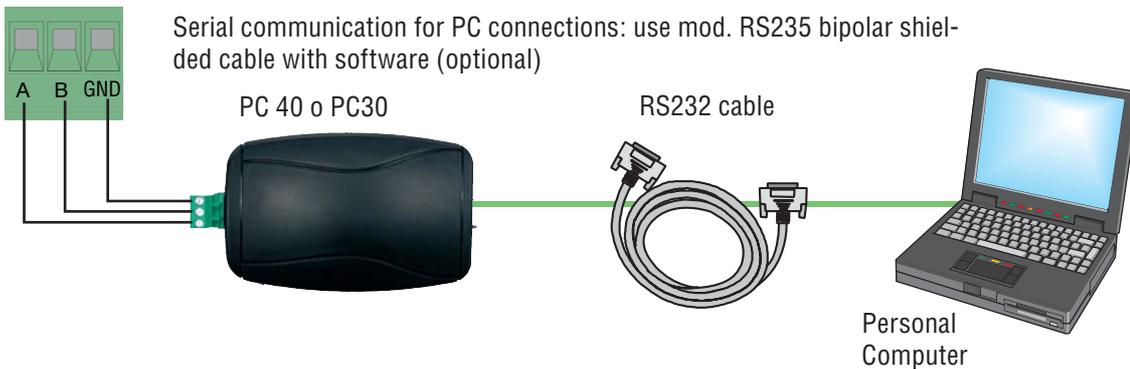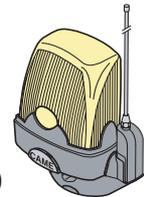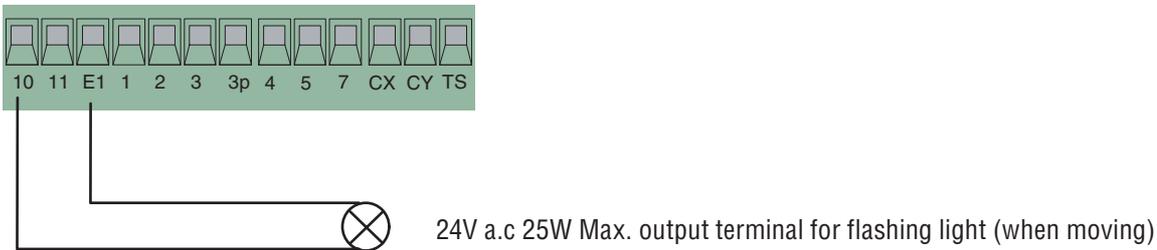
Dimensions of the ZL80C container

The pre-punched holes have a 20/21 mm diameter

5.4 Spessori minimi e tipo cavi

Connections	Cable type	Cable length 1<10 M	Cable length 10<20 M	Cable length 20<30 M
Power supply line, 230/400V 3F		4G 1,5mm²	4G 2,5mm²	4G 4mm²
Power supply line, 230V 2F		3G 1,5mm²	3G 2,5mm²	3G 4mm²
Motors, 230/400V 2F/3F		4G 1mm²	4G 1,5mm²	4G 2,5mm²
Motor, 24V		2 x 1mm²	2 x 1,5mm²	2 x 2,5mm²
Flashing lamp 230V		2 x 0,5mm²	2 x 1mm²	2 x 1,5mm²
Flashing lamp 24V		2 x 0,5mm²	2 x 1mm²	2 x 1,5mm²
Cycle/courtesy lights 230V		3G 0,5mm²	3G 1mm²	3G 1,5mm²
Power supply accessories 24V	FROR CEI 20-22 CEI EN 50267-2-1	2 x 0,5mm²	2 x 0,5mm²	2 x 1mm²
Warning light 24V		2 x 0,5mm²	2 x 0,5mm²	2 x 1mm²
Output 24V "in motion"		2 x 0,5mm²	2 x 0,5mm²	2 x 1mm²
Safety contacts		2 x 0,5mm²	2 x 0,5mm²	2 x 0,5mm²
N.O./N.C. control buttons		2 x 0,5mm²	2 x 0,5mm²	2 x 0,5mm²
End stop		3 x 0,5mm²	3 x 1mm²	3 x 1,5mm²
2nd motor control		1 x 0,5mm²	1 x 0,5mm²	1 x 1mm²
Antenna connection (max 50m)		RG58		
Encoder connection (max 30m)		Insulated cable 2402C 22AWG		

PLEASE NOTE: If the cable length differs from that specified in the table, then you must determine the cable diameter on the basis of the actual power draw from the connected devices and depending on the standards specified in CEI EN 60204-1. For connections that require several, sequential loads on the same line, the sizes provided on the table must be reconsidered by taking into account the actual distances and power draw. When connecting products that are not included in this manual then follow the indications specified in the documentation included with said products.

5.5 Electrical connections
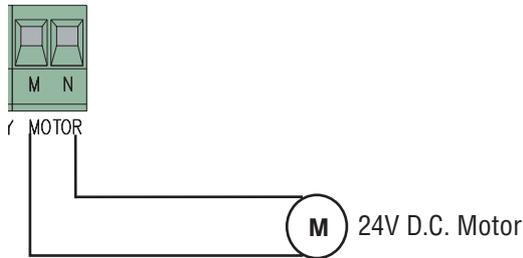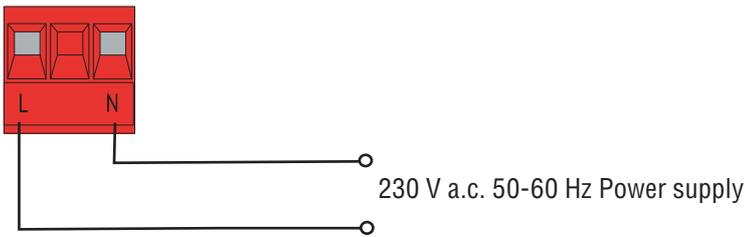
230 V a.c. 50-60 Hz Power supply

M N

MOTOR

M 24V D.C. Motor

| 10 | 11 | E1 | 1 | 2 | 3 | 3p | 4 | 5 | 7 | CX | CY | TS |

24V a.c 25W Max. output terminal for flashing light (when moving)

A B GND

Serial communication for PC connections: use mod. RS235 bipolar shielded cable with software (optional)

PC 40 o PC30

RS232 cable

Personal Computer

+ E −

−
E E
+

Encode connection (to connect the automated device to the control board: use a type 2402C 22AWG shielded cable)

Tutti i dati e le informazioni qui contenute sono da ritenersi suscettibili di modifica in qualsiasi momento e a nostro giudizio
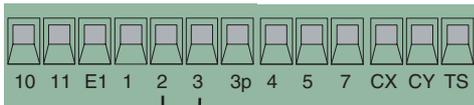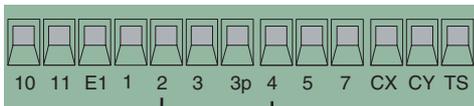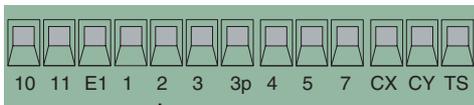
5.5 Electrical connections
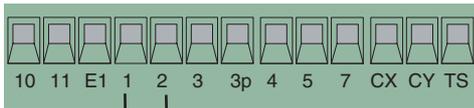
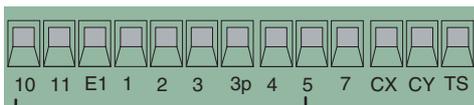(1-2) N.C. STOP button
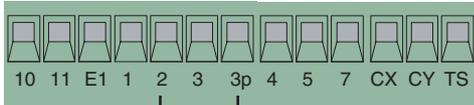
(2-3P) N.O. partial opening button

(2-3) N.O. complete opening button.
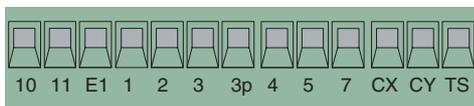
(2-4) N.O. closing button

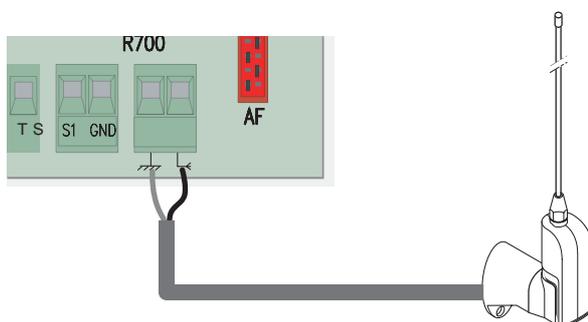(2-7) N.O.open-close contact (in steps) or open-stop-close-stop (sequential)

(10-5) 24V 3W Max. opening indicator light
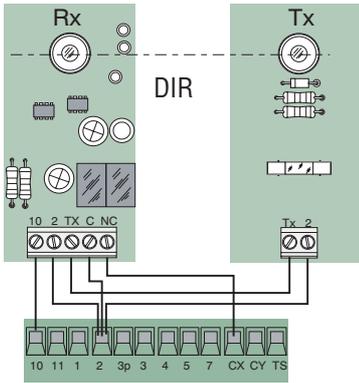
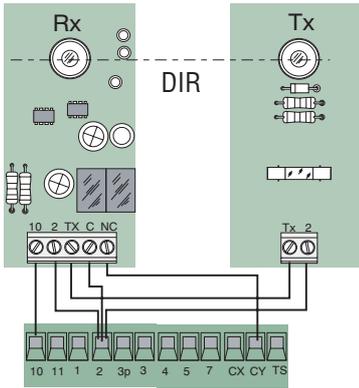10-11 24V A.C accessories power supply output terminal, max 36 W

Antenna connection

R700

T S   S1 GND   AF

Tutti i dati e le informazioni qui contenute sono da ritenersi suscettibili di modifica in qualsiasi momento e a nostro giudizio

7

5.5 Electrical connections

DIR

10 2 TX C NC

Tx 2

10 11 1 2 3p 3 4 5 7 CX CY TS

(2-CX) DOC and DIR photocells connection

DOC

Rx + N.O. C. N.C. Tx +

10 11 1 2 3p 3 4 5 7 CX CY TS

DIR

10 2 TX C NC

Tx 2

10 11 1 2 3p 3 4 5 7 CX CY TS

(2-CY) DOC and DIR photocells connection

DOC

Rx + N.O. C. N.C. Tx +

10 11 1 2 3p 3 4 5 7 CX CY TS

DIR

10 2 TX C NC

Tx 2

10 11 1 2 3p 3 4 5 7 CX CY TS
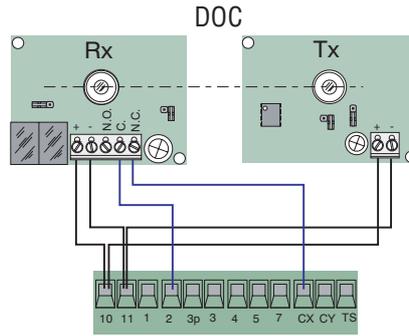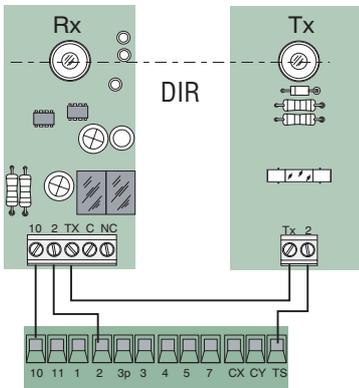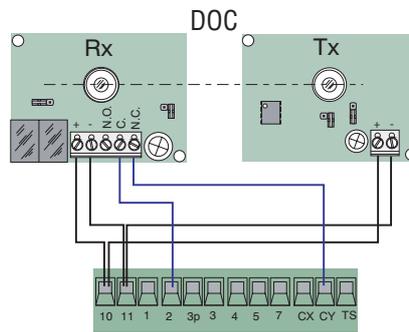
TEST DOC and DIR photocells working

DOC

Rx + N.O. C. N.C. Tx +

10 11 1 2 3p 3 4 5 7 CX CY TS
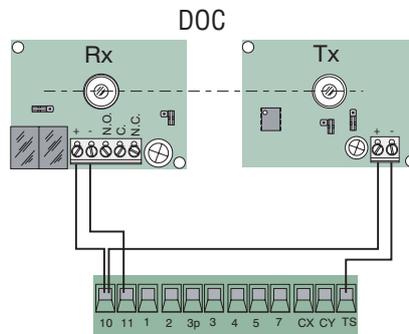
(S1-GND) TSP00 (transponder) LT001 (slide-through card) sensor connection
Please note: for the board to recognise the sensors, the apposite (R700) decoder board needs to be connected.

R700

AF

T S S1 GND

R700

TSP00

Blak

Red

R700

R700

T S S1 GND

AF

LT001

Blak

Red

6.1 Description of display commands

PROGRAMMING FUNCTION

WWW.CAME.IT
CBXE 24

ESC   <   >   ENTER

the ENTER key is used to:
- access the menus
- confirm and memorise the set value

The ESC key is used to:
- exit the menus
- cancel changes

the <> key are used to:
- move from one menu item to another
- increase or decrease any value

the <…..> symbols on the display indicate:
- the currently selected item

6.2 Browsing the menus
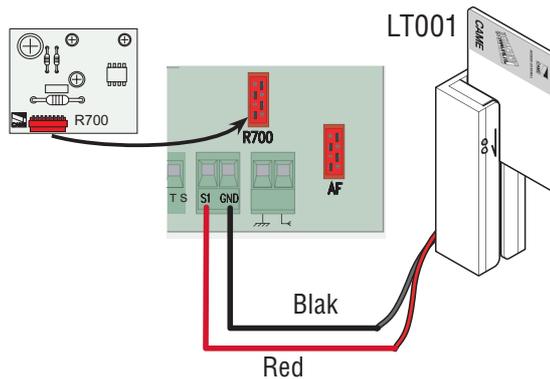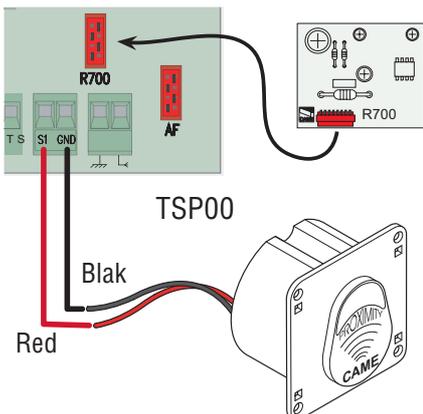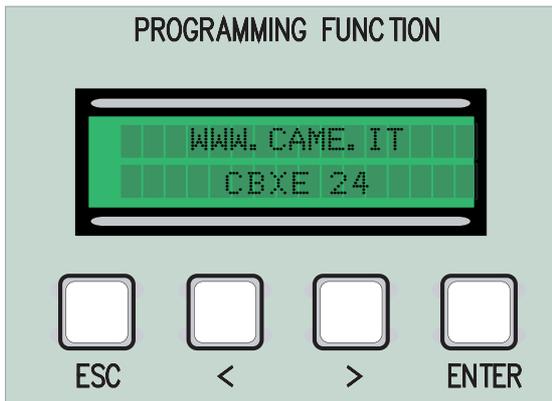
To enter a menu, keep the ENTER key pressed for at least one second.

< LANGUAGE >
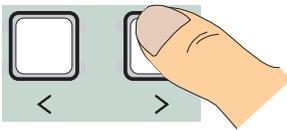
To select a menu item, move with the smaller than/greater than keys…

< LANGUAGE >

< TIMING >

…then press ENTER

Also for the "sub menus" move with the smaller than/greater than keys…

EXAMPLE

<Operation Time>

< Auto Clo.Time >
20 sec

…then press ENTER

< Auto Clo.Time >
20 sec
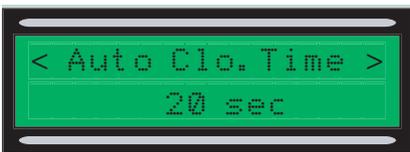
When the smaller than/greater than <> symbols are on the TIME function, its values may be changed.

To increase or reduce the value use the smaller than/greater than keys

Auto Clo. Time
< 45 sec >

…then press ENTER to confirm…

…to exit the menu, wait 30 seconds, or press ESC, until the initial screen reappears

Please note: when the menu is active the system cannot be used.

6.3 Menu structure

ENTER — Press ENTER for 1 second

LANGUAGE — ENTER → Lang. selec. — ENTER →
- Italian
- English
- French
- Dutch
- Spanisch
- German

TIMES — ENTER →
- Operat. time — ENTER → < 10 sec > — < >
- A.C.T. — ENTER → < 10 sec > — < >
- Flashing time — ENTER → < 10 sec > — < >
- A.P.C. time — ENTER → < 10 sec > — < >
- Courtesy time — ENTER → < 10 sec > — < >

FUNCTIONS — ENTER →
- Aut. closure — ENTER → <ON > / <OFF> — < >
- 2-7 control — ENTER → Sequential / Step-by-step — < >
- User function — ENTER → 2-7 control / Opens only — < >
- W. flashing — ENTER → <ON > / <OFF> — < >
- Dead Man — ENTER → <ON > / <OFF> — < >
- Dead Man clos. — ENTER → <OFF> / <ON> — < >
- C1 Entryway — ENTER → C1 < > C2 / Disabled — < >
- CX Entryway — ENTER → F.C2 — F.C3 / Disact < > F.C4
- Total stop — ENTER → Enabled / Disabled — < >
- Service test — ENTER → OFF / Attivo su CX/CY — < >
- Ex outlet — ENTER → Cycle / Movement — < >
- Detect obstacle — ENTER → <ON > / <OFF> — < >
- Closing push — ENTER → <ON > / <OFF> — < >
- Open indicator — ENTER → Intermittente / Continua — < >

RADIO/ USERS — ENTER →
- New user — ENTER → Radio funct. / Part. opening — < >
- Change user — ENTER → n.4 exists / n.5 empty — < >
- Delete user — ENTER → n.4 exists / n.5 empty — < >
- Save memory — ENTER → Writing ...
- Load memory — ENTER → Reading ...
- Cancella tutti — ENTER → confirm? / <Y> < > <N>

CALIBR. — ENTER →
- Run calibrat. — ENTER → Procedura....
- Obstr.sensitive — ENTER → < 15% > — < >
- Partial ap. run — ENTER → < 40% > — < >
- Network ID — ENTER → 1 <-> 16 — < >

INFO — ENTER →
- Version (Read only)
- No. manoeuv. (Read only)
- Startup mess. — ENTER → Procedura....

Tutti i dati e le informazioni qui contenute sono da ritenersi suscettibili di modifica in qualsiasi momento e a nostro giudizio
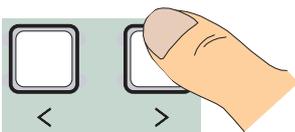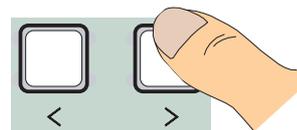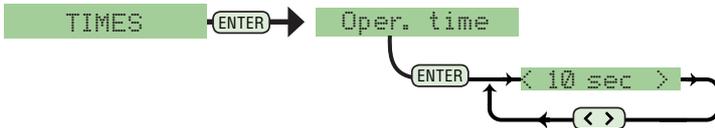
6.4 Description of menu items

Language

Select language: select the menu language among those available.

```
LANGUAGE  [ENTER]▶  Lang. select
                    [ENTER]
                         ↓
              Italian  [>]  English  [>]  French  [>]
            [>]↑
              German  [>]  Spanisch  [>]  Dutch
```
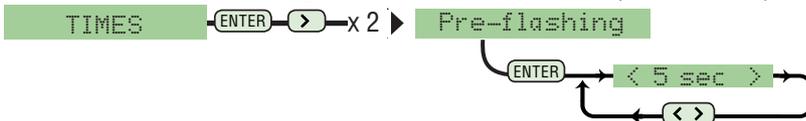
Time intervals

Time of operation: operating time intervals of the gearmotor during the opening phase or closing phase (from 10" o 120")
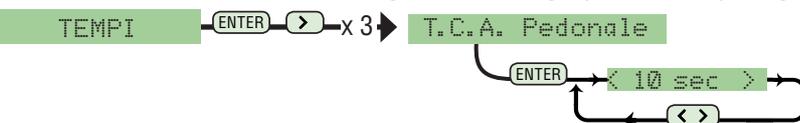
```
TIMES  [ENTER]▶  Oper. time
                 [ENTER]
                      ↓
                  < 10 sec >
                   [< >]
```

T.C.A.: automatic closing time following an opening command (from 1" to 120").

```
TIMES  [ENTER]─x 1 ▶  T.C.A.
                      [ENTER]
                           ↓
                       < 10 sec >
                        [< >]
```
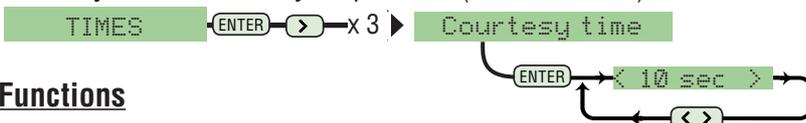
Pre-flashing Time: operating interval of the pre-flashing (from 1" to 5").

```
TIMES  [ENTER]─[>]─x 2 ▶  Pre-flashing
                          [ENTER]
                               ↓
                           < 5 sec >
                            [< >]
```

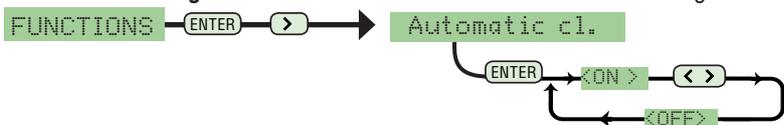**Pedestrian T.C.A.:** automatic closing time following a pedestrian opening command (from 1" to 120").

```
TEMPI  [ENTER]─[>]─x 3 ▶  T.C.A. Pedonale
                          [ENTER]
                               ↓
                           < 10 sec >
                            [< >]
```

Courtesy interval: courtesy lamp interval (from 1" to 120").

```
TIMES  [ENTER]─[>]─x 3 ▶  Courtesy time
                          [ENTER]
                               ↓
                           < 10 sec >
                            [< >]
```
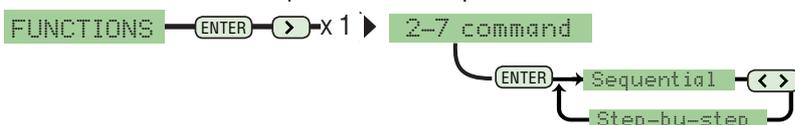
Functions

Automatic Closing: activates or deactivates the automatic closing function

```
FUNCTIONS  [ENTER]─[>]  Automatic cl.
                        [ENTER]
                             ↓
                         <ON >  [< >]
                         <OFF>
```

2-7 command: sets the sequential or in-steps contact.

```
FUNCTIONS  [ENTER]─[>]─x 1 ▶  2-7 command
                              [ENTER]
                                   ↓
                               Sequential  [< >]
                               Step-by-step
```

User function: assigns to the user either the opening command or the 2-7 function.

```
FUNCTIONS  [ENTER]─[>]─x 2 ▶  User function
                              [ENTER]
                                   ↓
                               2-7 command  [< >]
                               Opens only
```
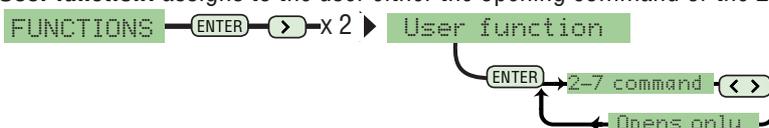
Pre-flashing: activates or deactivates the pre-flashing function.

```
FUNCTIONS  [ENTER]─[>]─x 3 ▶  Pre-flashing
                              [ENTER]
                                   ↓
                               <ON >  [< >]
                               <OFF>
```
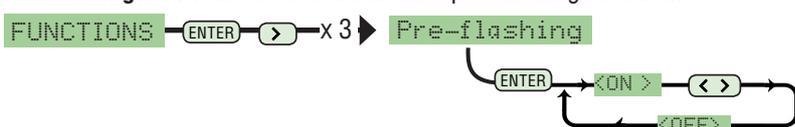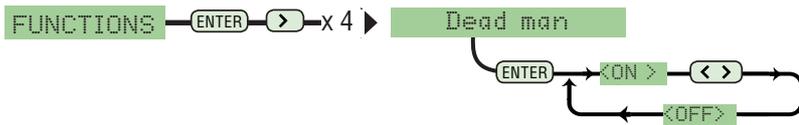
6.4 Description of menu items

**Person Present (Maintained Action):** activates or deactivates the Maintained Action function.

FUNCTIONS —ENTER—>—x 4 ▶ Dead man
ENTER → <ON > <‹ ›>
<OFF>

Person Present Closing (Maintained Action Closing): activates or deactivates the Maintained Action Closing function.

FUNCTIONS —ENTER—>—x 5 ▶ Clos. dead man
ENTER → <ON > <‹ ›>
<OFF>

CY Input: input terminal for N.C. safety contacts.The following functions can be associated:
C1: Reopening during closing phase C2: Reclosing during opening phase C3: Partial stop
C4: Obstruction standby C6: Reopening during closing phase (for safety edge).

FUNCTIONS —ENTER—>—x6 ▶ CY inlet
ENTER → C1 > C2 > C3 >
C4
Disabled > C6 >

CX Input: input terminal for N.C. safety contacts.The following functions can be associated:
C1: Reopening during closing phase C2: Reclosing during opening phase C3: Partial stop
C4: Obstruction standby C6: Reopening during closing phase (for safety edge).

FUNCTIONS —ENTER—>—x7 ▶ CX inlet
ENTER → C1 > C2 > C3 >
C4
Disabled > C6 >
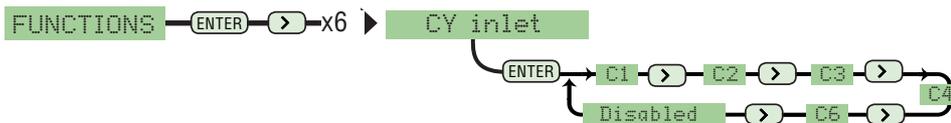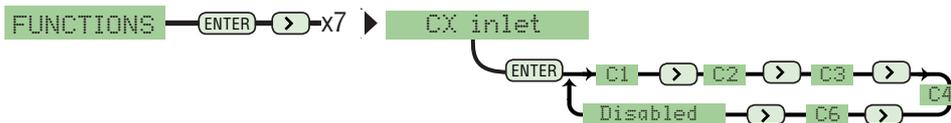
Complete Stop: activates or deactivates the complete stop.

FUNCTIONS —ENTER—>—x 8 ▶ Total stop
ENTER → <ON > <‹ ›>
<OFF>

Maintenance Test: checks the proper functioning of the safety and detection devices of the input terminal to which they are connected.

FUNCTIONS —ENTER—>—x 9 ▶ Service test
ENTER → <OFF > > Attivo su CX >
Attivo su CX/CY > Attivo su CY
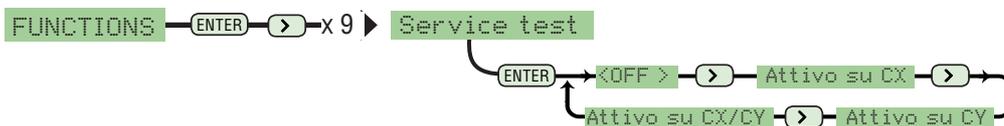
Lamp output: Output terminal for connecting the 24V flashing light, may be set in two modes of operation: Cycle – the flashing light operates until the automated device is completely closed. Motion – the flashing light operates only when the automated device is in motio**n.**

FUNCTIONS —ENTER—>—x 10 ▶ Lamp output
ENTER → Cycle <‹ ›>
Movement
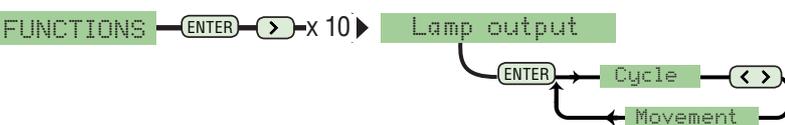
Obstacle detector: when the gearmotor is still, it prevents any movement whatsoever if any obstacle is detected by the safety devices.

FUNCTIONS —ENTER—>—x 11 ▶ Obstacle detec.
ENTER → <ON > <‹ ›>
<OFF>

Closing Boost: additional boost to optimise closure (suitable when the ground is not level)

FUNCTIONS —ENTER—>—x 12 ▶ Closing push
ENTER → <ON > <‹ ›>
<OFF>

Closing indicator light: to select the operating mode of the motion indicator light.

FUNCTIONS —ENTER—>—x 14 ▶ Open indicator
ENTER → Intermittente
Continua <‹ ›>

6.4 Description of menu items

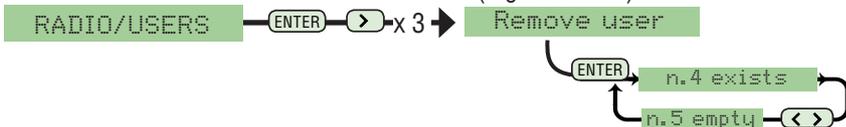**Radio/Users** ⚠️ Before plugging in any decoding/coding board cut power off to the control board (see p. 15)
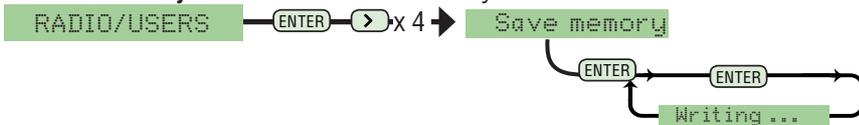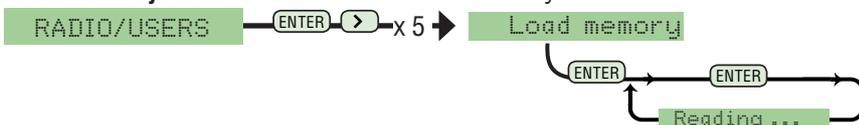
New User: Add new users

`RADIO/USERS` — (ENTER) (›) ⟶ `New user`
`Vedere descrizione dettagliata`

Edit User: to edit a user's functions.

`RADIO/USERS` — (ENTER)-(›)-x 2 › `New user`
`Vedere descrizione dettagliata`

Delete user: to delete a user from the files. (e.g. user n. 4)

`RADIO/USERS` — (ENTER)-(›)-x 3 ➤ `Remove user`
(ENTER) → `n.4 exists`
`n.5 empty` — (‹ ›)

Save to memory: saves users to the memory roll

`RADIO/USERS` — (ENTER)-(›)-x 4 ➤ `Save memory`
(ENTER) → (ENTER)
`Writing ...`

Load memory: loads the data saved in the memory roll.

`RADIO/USERS` — (ENTER)-(›)-x 5 ➤ `Load memory`
(ENTER) → (ENTER)
`Reading ...`

Delete all: deletes all the users on file.

`RADIO/USERS` — (ENTER)-(›)-x 6 ➤ `Delete all`
(ENTER) → `Confirm?`
`<Y>` — (‹ ›) — `<N>`
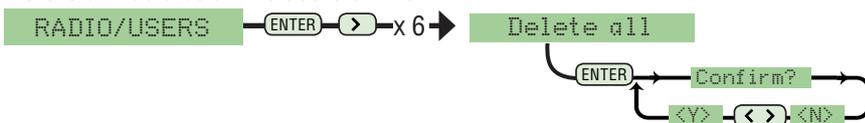
Calibrations

Travel Run calibration: adjusts the leaf's travel run and the Opening/Closing direction. (see p. 14)

`CALIBR.` — (ENTER) (›) ⟶ `New user`
`Vedere descrizione dettagliata`
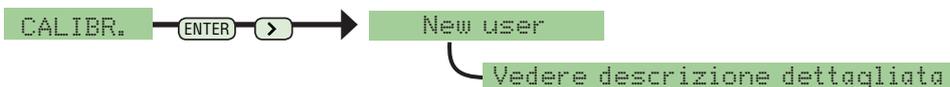
Sensitive Safety Strip obstacle detector (obstruction detection sensor): adjusts the gate's sensitivity, when obstructions are detected during motion.

`CALIBR.` — (ENTER)-(›)-x 2 ➤ `Saf. rib sen.`
(ENTER) → `+000✷-`
(‹ ›)

Partial opening travel run: adjusts the partial opening travel run.

`CALIBR.` — (ENTER)-(›)-x3 ➤ `Partial ap. run`
(ENTER) → `< 40% >`
(‹ ›)
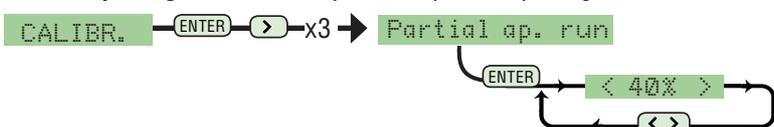
Web/Network Address: assigns a value of between 1 and 16 for purposes of software recognition.

`CALIBR.` — (ENTER)-(›)-x 4 ➤ `Network ID`
(ENTER) → (‹ ›)
`1 <-> 16`
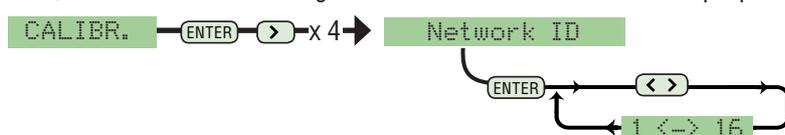
INFO

Version: Visualises the software version **Number of cycles:** visualises the number cycles made.

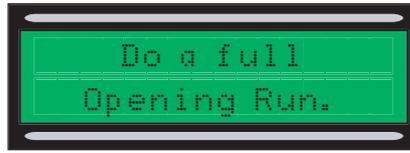**Welcome message:** to set the welcome message on the display.

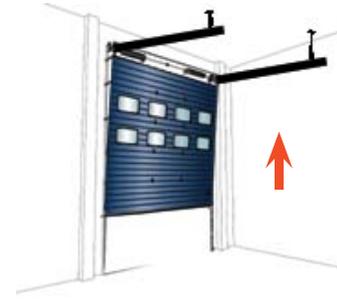`INFO` — (ENTER) (›) ⟶ `Startup message`
`Vedere descrizione dettagliata`

English
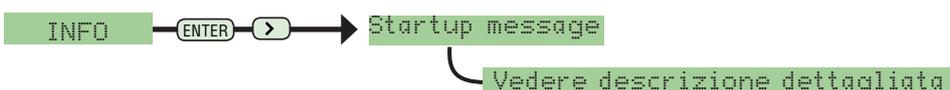
6.5 Travel Run calibration

[1] From the calibration menu, select Calibrate Travel Run. Press ENTER to confirm.

```
<Run  Calibrat.>
```

ESC   <   >   ENTER
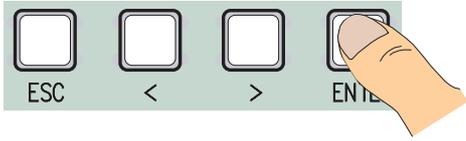
[2] Perform a complete opening run using (<>), until the complete opening occurs.

```
Do a full
Opening Run.
```

ESC   <   >   ENTER
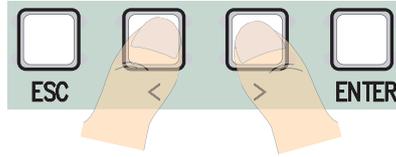
[3] Press ENTER to confirm.

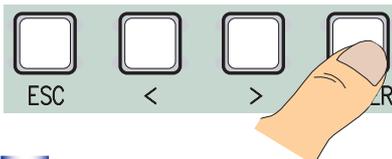[4] Carry out a complete closing run using (<>), until the leaf is completely closed.

```
Do a full
closing Run
```

ESC   <   >   ENTER
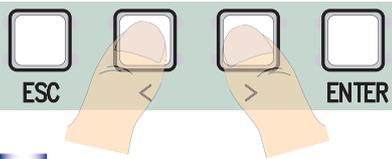
[5] Press ENTER to confirm.

[6] 6 – Set the gate leaf in motion for at least 3"

```
Set  opening dir
<>:move    ENT:OK
```

ESC   <   >   ENTER

[7] Press ENTER to confirm.

```
Direction  store
Waiting...
```

ESC   <   >   ENTER
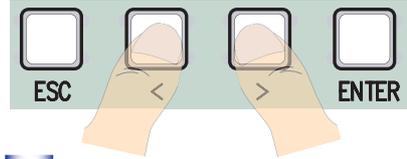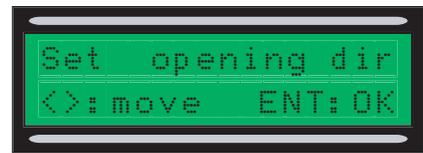
[8] Use the (<>) to take the gate leaf to its closing point

```
Set    close    Pnt
<>:move    ENT:OK
```

ESC   <   >   ENTER

[9] Then press ENTER to confirm.

```
Closure stored
Waiting...
```

ESC   <   >   ENTER
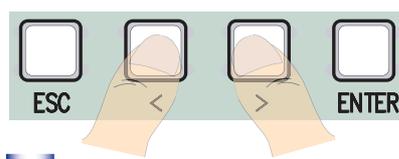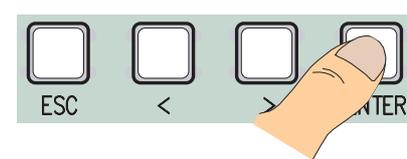
[10] Use the (<>) to fully open the gate

```
Set opening pnt.
<>:move    ENT:OK
```

ESC   <   >   ENTER

[11] Then press ENTER to confirm.

```
Set Up   OK
Waiting...
```

ESC   <   >   ENTER
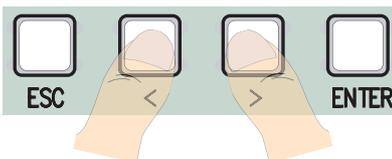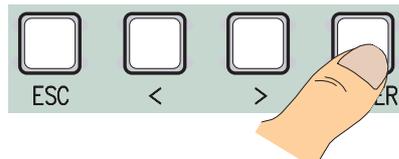
[12] If the calibration (a) has not been done properly or, (b) has not been completed, one of the following warning messages will appear:

- (a) reprogram…thus start over from point 1.:

- (b) reposition the encoder…proceed with point 13.

[13] – Move the wheel towards the + side or – side depending on what the display requests.

```
Move  6  notches
in direction (+)
```
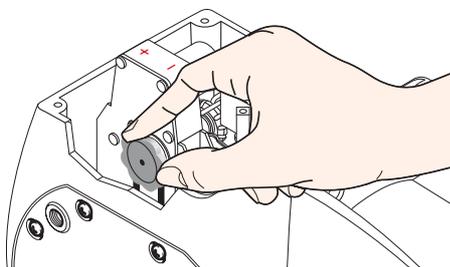

[14] -Press ENTER to confirm and start over form point 1

```
Adjustment     ok
run  calibration
```

```
Press          Enter
to                end
```

6.6 Decoding board

To control the board using remote controls or cards, connect the AF radio board chosen for the corresponding remote control, and the R 700 board for the TSP00/LT001 proximity sensors.

☞ Please note: users cannot be added without the proper decoding board (max. number of users is 250).
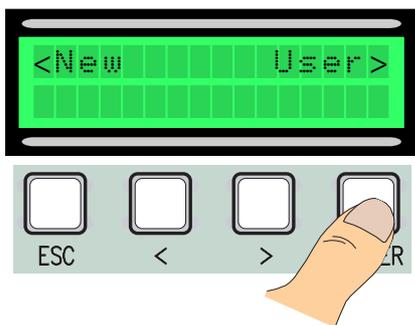
⚠ The AF and R700 boards must be inserted with the power source disconnected
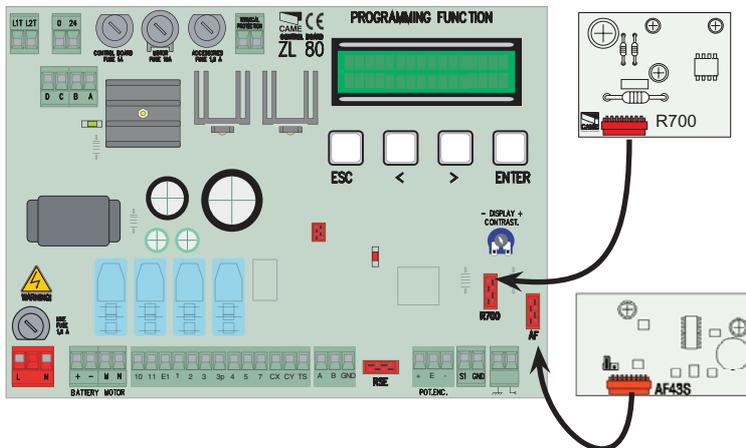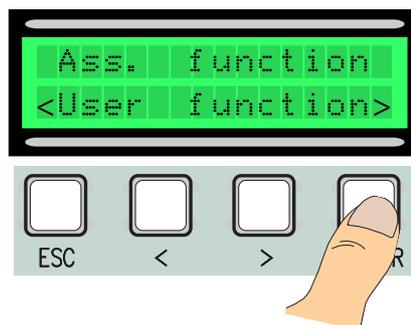

Frequency/MHz	Board	Trasmitter
FM 26.995	AF130	TFM
FM 30.900	AF150	TFM
AM 26.995	AF26	TOP
AM 30.900	AF30	TOP
AM 433.92	AF43S / AF43SM	TAM / TOP
AM 433.92	AF43SR	ATOMO
AM 40.685	AF40	TOUCH

6.7 Adding users

[1] From the Radio/Users menu, select New User. Press ENTER to confirm

[2] Choose the function associated with the user (User Function or Partial Opening). Press ENTER to confirm…

[3] ..a code will be required which may inserted with a remote control, a slide-through card or a transponder, depending on the type of sensors installed in the system at hand
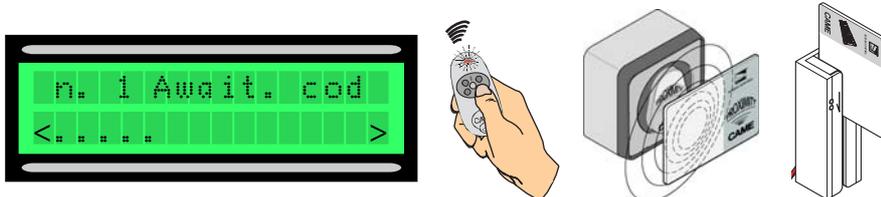
Once the remote control or card code has been added, the word Memorised will appear on the screen (if the code has yet to be added), or the word On file (if the code has already been added).

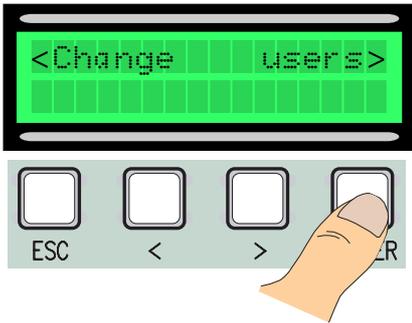[4] In any case a window will appear asking whether we wish to add a new code or not.
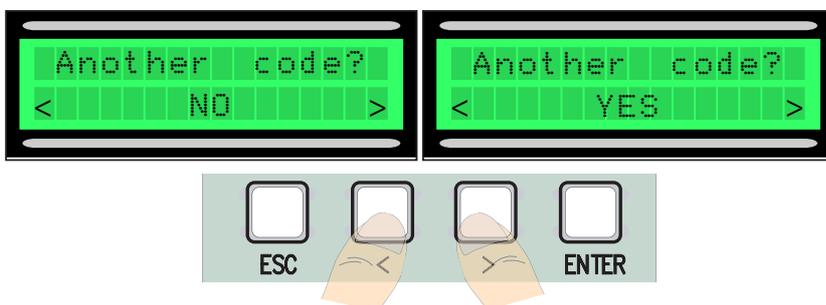
By selecting NO the user adding procedure will be terminated. By selecting YES the procedure reopens at point 3.
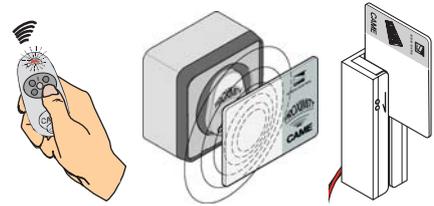
15

## 6.8 User changes (user fucntion)

[1] From the Radio/Users menu, select User Changes, press ENTER to confirme.

[2] Select the user which requires a change in function (a) by using the <> or (b), by pressing the relative transmitter button, and (c) pulling the card through the sensor. Press ENTER to confirm.
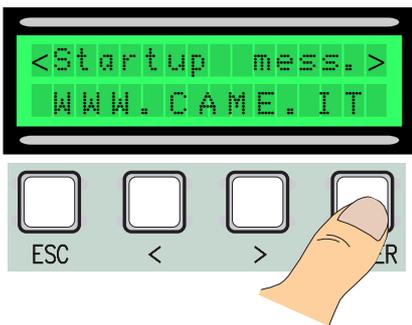
```
<Change    users>
```

ESC   <   >   ...ER

```
Change    user
<n.1      exist>
```

ESC   <   >   ENTER

[3] select the function requried for the user. Press ENTER to confirm.
P.N. pressing ENTER to confirm takes you back to the User Changes window.

```
Ass.  function
<User  function>
```

```
Ass.  function
<Part.  opening>
```

ESC   <   >   ENTER

>   ...TER
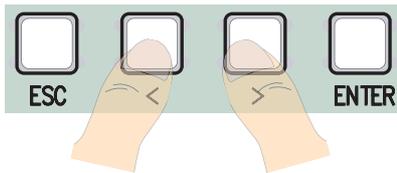
6.9 Changing the initial message

[1] From the INFO menu, select Initial Message. Press ENTER to confirm

```
<Startup  mess.>
 WWW.CAME.IT
```

ESC   <   >   ...R

ENTER

The Enter key servers to:
- Move the cursor to the right
- To confirm when it is kept pressed for more than 3"

ESC

The ESC key serves to:
- Move the cursor to the left
- To exit is it is kept pressed for more than 3"

<   >

The <> greater than/smaller than keys serve to:
- select the desired letter or the empty space.

[2] Write the desired message: the maximum number of characters is 32 (16 per line). Once the message is written keep the ENTER key pressed for at least 3"
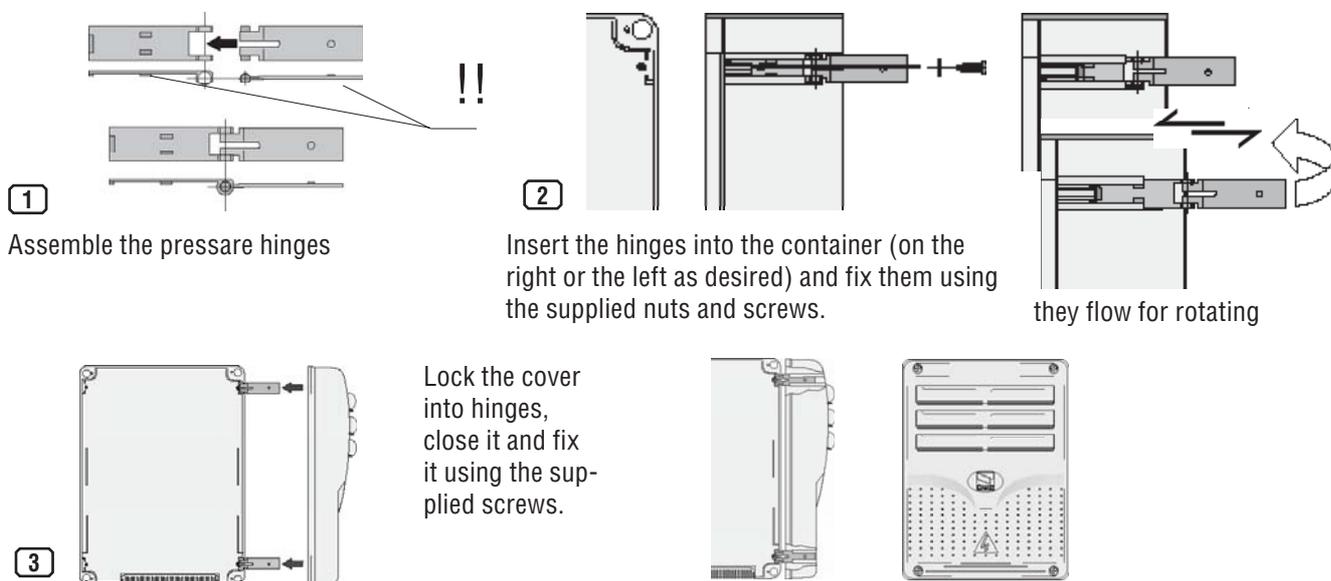
```
 WWW.CAME.IT
    CBXE 24
```

English

6.10 Error message

"STOP Contact Open": Check proper connection or efficiency of the device

"Service Check!!!" Malfunctions are present in the safety devices.

"Encoder Out of Order: check the proper connection or efficiency of the device.

"CX-CY Contact Open": check the proper connection or efficiency of the device.

7 Mounting the container cover

1 Assemble the pressare hinges

2 Insert the hinges into the container (on the right or the left as desired) and fix them using the supplied nuts and screws.

they flow for rotating

3 Lock the cover into hinges, close it and fix it using the supplied screws.

8 Product Disposal

I CAME products are made using several materials. For the most part they are (aluminium, plastic, iron, electrical cables) and can be disposed of with solid urban waste. They may be recycled through differentiated waste collection and disposal methods at authorised centres.

⚠ Other components (electrical boards, the batteries to the remote controls etc.,) may, however, contain polluting substances. They must therefore be removed and turned over to specialised firms that are licensed to dispose of the same.

9 Statement of Confomity

Cod.ZL80_ZL80C319T98 V0.1-02/06© CAME CANCELLI AUTOMATICI

CAME
CANCELLI AUTOMATICI