### GENERAL CHARACTERISTICS

**Description:**
- Motorised barrier for control of passages with width of up to 12 m.
- Designed and built entirely by CAME S.p.A., meets UNI 8612 safety standards, with IP54 degree of protection.
- Guaranteed 12 months, unless tampered with.

**Models:**

**G12000**
Barrier with double, non-reversible 24 V DC gear motor. Galvanised steel housing with painted finish.

**G0121**
- Aluminium barrier bar composed of: Ø120 mm tube with L=6200 mm
  Ø100 mm tube with L=6000 mm.
- Hardware and accessories for mounting the barrier bar.
- Fixed support for the barrier.

**Accessories supplied:**

**Optional accessories:**

**LB35**
Circuit card for installation of an emergency battery.

**G0461**
Package of red phosphorescent strips for the barrier bar.

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### TECHNICAL CHARACTERISTIC

<table>
<thead>
<tr>
<th>PRODUCT VERSION</th>
<th>VOLTAGE REQUIREMENT</th>
<th>CURRENT DRAW</th>
<th>TOTAL MOTOR POWER RATING</th>
<th>DUTY CYCLE</th>
<th>REDUCTION RATIO</th>
<th>TORQUE</th>
<th>DURATION OF OPENING CYCLE</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>230 V A.C. 24 V D.C.</td>
<td>15 A max</td>
<td>300 W</td>
<td>50 %</td>
<td>1/202</td>
<td>600 Nm</td>
<td>10 s</td>
<td>783 kg *</td>
</tr>
</tbody>
</table>

(* Weight of G12000 barrier structure = 250 Kg / Weight of counterweight plates = 500 Kg / Weight of G0121 bar = 33 Kg)

### CENTRE LINES AND EXTERNAL DIMENSIONS

- Important: For easy installation and maintenance, be sure to use CAME original control equipment, safety systems and accessories.
<table>
<thead>
<tr>
<th></th>
<th>DESCRIPTION OF MAIN COMPONENTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>REDUCTION GEAR UNIT</td>
</tr>
<tr>
<td></td>
<td>24 VDC motors; non-reversible reduction gear with die-cast aluminium housing; uses worm gear reduction system which is permanently lubricated with liquid grease.</td>
</tr>
<tr>
<td>2</td>
<td>TRANSMISSION LEVERS</td>
</tr>
<tr>
<td></td>
<td>In forged, galvanised steel; adjustment rods in drawn hexagonal metal; self-lubricating joints.</td>
</tr>
<tr>
<td>3</td>
<td>ROTATION SHAFT</td>
</tr>
<tr>
<td></td>
<td>In C40 recycled steel, mounted on single-unit supports with terminal flanges for installation of barrier bar fork.</td>
</tr>
<tr>
<td>4</td>
<td>COUNTERWEIGHT SYSTEM</td>
</tr>
<tr>
<td></td>
<td>Uses 25 Kg rectangular plates which are assembled as needed.</td>
</tr>
<tr>
<td>5</td>
<td>RELEASE SYSTEM</td>
</tr>
<tr>
<td></td>
<td>Manual, with PVC handle and cord in self-lubricating sheath; safety lock.</td>
</tr>
<tr>
<td>6</td>
<td>HOUSING</td>
</tr>
<tr>
<td>7</td>
<td>MOUNTING BASE</td>
</tr>
<tr>
<td></td>
<td>U-profile in galvanised steel, complete with anchor stays and bolts for attachment of housing structure.</td>
</tr>
<tr>
<td>8</td>
<td>BARRIER BAR FORK</td>
</tr>
<tr>
<td></td>
<td>In galvanised steel painted RAL 9005 black; supplied in two symmetrical parts which are ready for assembly.</td>
</tr>
<tr>
<td>9</td>
<td>BARRIER BAR</td>
</tr>
<tr>
<td></td>
<td>In 6060 TA16 aluminium alloy painted RAL 9010 white; supplied in two circular sections (Ø120 and Ø100 mm) which are assembled to the desired size.</td>
</tr>
<tr>
<td>10</td>
<td>CONTROL PANEL</td>
</tr>
<tr>
<td></td>
<td>Housing in ABS with IP54 level of protection, installed in horizontal position.</td>
</tr>
</tbody>
</table>
a) determine the desired positions for the housing as well as for the fixed support for the barrier bar; mark the longitudinal and transverse axes of the barrier.

b) detach the mounting base from the housing and mount the anchor stays on the base; apply grease and/or removable tape to protect the threaded bolts protruding from the top.

c) Sink everything into the relative cement bases. Be sure that the mounting base is perfectly level, and that the electrical cables for the unit protrude in the area indicated.
**DESCRIPTION OF ASSEMBLY PROCEDURE**

**2 - PRELIMINARY ASSEMBLY OF THE BARRIER BAR**

**a)** use the indicated formula to determine length LTP of the rear tube (Ø100 mm), cut the tube to the correct length and install the end cap.

\[ L_{TP} = L_n - 5850 \]

**b)** assemble the barrier bar by sliding the rear tube (Ø120 mm, fixed length of 6200 mm) into the front tube and inserting the centring pin; next, install and tighten the two mounting jaws;
3 - INSTALLING THE BARRIER

DESCRIPTION OF ASSEMBLY PROCEDURE

a) remove the cover of the housing (by lifting) and remove the sides of the housing (by raising and withdrawing them from below); clean the cement bases and free the bolts on the anchor stays by removing the protection tape and nuts;

b) position and mount the housing on the mounting base;

c) position and mount the fixed support for the barrier bar, and make sure it is in perfect longitudinal alignment with the housing;

d) with the aid of a stand and the fixed support, place the barrier bar at the approximate height and axis of operation;

e) install the fork and unite the two mounting jaws on the barrier bar, but do not tighten the bolts;

f) next, mount the barrier bar on the terminal plates of the rotation shaft, but do not tighten the bolts;

g) check for misalignment and adjust if necessary; then, firmly tighten the bar onto the fork and firmly tighten the fork onto the housing.
a) install the release handle, turn the safety key and rotate the handle to release the gear motors;

b) insert the counterweight plates on the support, alternatively on the left and right, until the bar shows signs of raising. **N.B.:** if not all the counterweight plates are used, they must be fixed with a hose clamp, to avoid possible release during movement.

c) balance the bar so that it stays in position when it is manually placed at a 45° angle;

d) adjust the vertical mechanical stop by fixing the angle of the open barrier bar so that it does not exceed 90°;

e) adjust the horizontal mechanical stop when the barrier bar is in the lowered position;
**MAIN COMPONENTS**

1) Transformer  
2) Connectors for power supply motor  
3) Terminal block for motor connections  
4) 2A accessories fuse  
5) Amperometric sensitivity adjustment (trimmer SENS)  
6) 3,15A line fuse  
7) Terminal block for external connections  
8) Jumper for selection of type of control for button in 2-7  
9) Connectors for connection to battery charger LB35  
10) Button for memorizing code numbers  
11) Automatic closing time adjustment (trimmer TCA)  
12) Radio code / automatic closing signal LED  
13) Radiofrequency board socket (see table pag. 11)  
14) "Funcion selection" dip-switch  
15) Terminal block for antenna connections

**ACCESSORIES WHICH CAN BE CONNECTED TO THIS UNIT**

- LB35 board, used to power the automation system using battery power in case of a power failure. When the power supply is restored, the batteries are recharged automatically (refer to instruction sheet);  
- Flashing signal light when bar is in motion;  
- Plug-in radio receiver.

**OTHER FUNCTIONS AVAILABLE**

- Automatic closing: The automatic closing timer is automatically activated at the end of the opening cycle. The preset, adjustable automatic closing time is automatically interrupted by the activation of any safety system, and is deactivated after a total stop command or in case of power failure;  
- Obstacle detection: When the motor is stopped (bar is closed, open or half-open after an emergency stop command), the transmitter and the control pushbutton will be deactivated if an obstacle is detected by one of the safety devices (for example, the photocells);  
- "Human presence" operation;  
- Flashing light activated before opening and closing cycle begins;  
- Activation of a 24V output signal during the movement phases and in the closed position;  
- "Slave" operation when two motors are used in combination (see page 15);  
- Function that increases the braking action on the barrier;  
- Selection of command sequence: open-close-reverse;  
- open only.

**ADJUSTMENTS**

- Trimmer TCA = Automatic closing time: 0° to 120°;  
- Trimmer SENS = Sensitivity of amperometric safety system: min/max.

**IMPORTANT:** Shut off the mains power and disconnect the batteries before servicing the inside of the unit.

**NOCIA**

When an obstacle is encountered, the amperometric locking device intervenes as follows:

a) if in the aperture phase, the bar stops;  
b) if in the closure phase, the movement of the bar is reversed.  
N.B.: In situation (b), if an obstacle is detected three times, the bar stops during aperture, and automatic closure is deactivated.  
Use the keyboard or the radio transmitter to resume movement of the bar.
24V A.C. motor

Connection limit switch deceleration opens

Connection limit switch deceleration closes

230V A.C. power

Accessory power: 24V A.C. max. 40W

24V output during movement (e.g. flashing light) DIP 3 OFF

during movement and in the closed position DIP 3 ON

24V - 3W max. "barrier open" warning light

STOP button (N.C.) (see selection functions)

OPEN button (N.O.)

Connector (N.O.) radio and/or pushbutton. See DIP 2 for command type

Button operation: closure only

Contact (N.C.) for re-opening during closure, if not used ....

Contact (N.C.) of immediate closure, if not used ....

Antenna connection
### ZL37B Control Panel

#### Selection Function

<table>
<thead>
<tr>
<th>Function Description</th>
<th>ON Activated</th>
<th>OFF Deactivated</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> - Function: Automatic Closure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Deactivated immediate closure (8 ON)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2</strong> - Function: &quot;Open Only&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Activated by radio remote control (when receiver is installed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3</strong> - Function: 24V Output During Movement and in the Closed Position</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4</strong> - Function: &quot;Human Presence&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5</strong> - Function: Flashing light on opening and closing</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>6</strong> - Function: Obstacle Detection (with motor at end of travel)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>7</strong> - Function: Slave</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>8</strong> - Function: Immediate Closure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Connect safety device across 2-C5; deactivate automatic closure (1 OFF)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>9</strong> - Function: Total Stop</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Connect safety device across 1-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>10</strong> - Function: Increase Braking Action on Barrier Bar</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
AF BOARD INSERTION

A. insert an AF card **.
B. encode transmitter/s.
C. store code in the motherboard.

** The AF board should ALWAYS be inserted when the power is off because the motherboard only recognises it when it is powered.

PROGRAMMING THE REMOTE CONTROL

** 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.

<table>
<thead>
<tr>
<th>Frequency / MHz</th>
<th>Radiofrequency board</th>
<th>Transmitter</th>
</tr>
</thead>
<tbody>
<tr>
<td>FM 26.995</td>
<td>AF130</td>
<td>TFM</td>
</tr>
<tr>
<td>FM 30.900</td>
<td>AF150</td>
<td>TOP</td>
</tr>
<tr>
<td>AM 26.995</td>
<td>AF26</td>
<td></td>
</tr>
<tr>
<td>AM 30.900</td>
<td>AF30</td>
<td></td>
</tr>
<tr>
<td>AM 433.92</td>
<td>AF43S / AF43SM</td>
<td>TAM / TOP</td>
</tr>
<tr>
<td></td>
<td>AF43SR</td>
<td>ATOMO</td>
</tr>
</tbody>
</table>

TRIMMER SENS. = Adjustment of amperometric sensitivity min./max.

TRIMMER T.C.A. = Adjustment automatic closing time from a minimum of 0 seconds to a maximum of 120 seconds.
TRANSMITTER ENCODING

TOP QUARTZ

STANDARD ENCODING PROCEDURE
T262L/M-T264L/M-T2622M
T302L/M-T304L/M-T3022M
1. assign a code (also on file)
2. connect encoding jumper J
3. register code
4. disconnect jumper J

1. 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

2. ON
   OFF

3. J

4. J

P1=CH1 - P2=CH3
P1=CH1 - P2=CH4

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.
ATOMO

AT01 - AT02

see instruction sheet inside the pack of AF43SR circuit card

T432M - T312M

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

P1

P2

T434M - T314M

set code only

T432S

see instructions on pack

TAM

TFM

see instruction sheet inside the pack
- While holding down key "CH" signal LED flashing (Fig.1), press the control key on the transmitter: the lights up of LED sign the code stored (Fig.2).

IMPORTANT: Do not store the code on the circuit card unless the barrier is closed.

N.B.: If you wish to change the code on your transmitters in the future, simply repeat the procedure described above.
1) On one of the two control panels, set Dip 7 to ON in order to select the motor controlled externally (slave).

2) Wire the electrical connections only on the terminal board for the pilot motor in the normal.

3) Connect the two control panels using the interlock terminals as shown in the figure.
NOTE

All data checked with the maximum care. However, no liability is accepted for any error or omission.