Foreword

• Use of the products must be restricted to its intended use (i.e. that for which it was expressly built for). Any other use is to be considered dangerous. Came Cancelli Automatici S.p.A. is not liable for any damage resulting from improper, wrongful or unreasonable use • Keep these warnings with the installation and use manuals issued with the automated system.

Before installing

(preliminary check: in case of a negative outcome, do not proceed before having complied with the safety obligations)

• Make sure that the parts you intend to automate are in good working order, and that they are properly balanced and aligned. Also, make sure that proper mechanical stops are already in place • If the operator will be installed at a height of less than 2.5 m from the ground or other access level, check whether you will need any protections and/or warnings • Any gate leaves, fitted with pedestrian entrances, onto which you will install an operator, must have a blocking mechanism when the gate is in motion • Make sure that the opening of the automated gate is not an entrapment hazard as regards any surrounding fixed parts • Do not mount the operator upside down or onto any elements that may fold under its weight. If needed, add suitable reinforcements at the points where it is secured • Do not install onto gates on either an upward or downward slope (i.e. that are not on flat, level ground) • Check that any lawn watering devices will not wet the gearmotor from the bottom up.

Installation

• Carefully section off the entire site to prevent unauthorised access, especially by minors and children • Be careful when handling operators that weigh more than 20 Kg (see installation manual). In such cases, employ proper weight handling safety equipment • All opening commands (e.g. buttons, key selectors, magnetic detectors, etc.) must be installed at least 1.85 m from the gate’s area of operation perimeter - or where they cannot be reached from the outside of the gate. Also, the direct commands (e.g. push button, or proximity devices, etc.) must be installed at a height of at least 1.5 m and must not be accessible to the public • All ‘maintained action’ commands, must be placed where the moving gate leaves, transit areas and driveways are completely visible • If missing, apply a permanent label that shows the position of the release mechanism • Before delivering to the client, verify that the system is EN 12453 (impact test) standard compliant. Make sure that the operator has been properly adjusted and that the safety and protection devices, as well as the manual release are working properly • Where necessary and in plain sight, apply the Warning Sings (e.g. gate plate).

Special instructions and advice for users

• Keep the gate’s area of operation clean and clear of any obstacles. Trim any vegetation that may interfere with the photocells • Do not allow children to play with the fixed command devices, or in the gate’s area of operation. Keep any remote control devices (i.e. transmitters) away from the children as well • Frequently check the system, to see whether any anomalies or signs of wear and tear appear on the moving parts, on the component parts, on the securing points, on the cables and any accessible connections. Keep any joints (i.e. hinges) lubricated and clean, and do the same where friction may occur (i.e. slide rails) • Perform functional tests on photocells and sensitive edges, every six months. Keep glass panels constantly clean (use a slightly water-moistened cloth; do not use solvents or any other chemical products) • If the system requires repairs or modifications, release the operator and do not use it until safety conditions have been restored • Cut off the power supply before releasing the operator for manual openings. See instructions • Users are FORBIDDEN to carry out ANY ACTIONS THAT THEY HAVE NOT BEEN EXPRESSLY ASKED TO DO OR SO INDICATED in the manuals. Any repairs, modifications to the settings and extraordinary maintenance MUST BE DONE BY THE TECHNICAL ASSISTANCE STAFF • On the periodic maintenance log, note down the checks you have done.

Special instructions and advice for all

• Avoid working near the hinges or moving mechanical parts • Stay clear of the gate’s area of operation when in motion • Do not resist the direction of movement of the gate; this may present a safety hazard • At all times be extremely careful about dangerous points that must be indicated by proper pictograms and/or black and yellow stripes • When using a selector or command in ‘maintained action’ mode, keep checking that there are no people in the area of operation of the moving parts. Do this until you release the command • The gate may move at any time without warning • Always cut the power when cleaning performing maintenance.
DECLARATIONS THAT THE PARTLY COMPLETED MACHINERY

DRIVES FOR SWING GATES

A180; A1824; A18230; A3000; A3000A; A3006; A3100; A3106; A3024; A3024N; A5000; A5100;
A5000A; A5006; A5106; A5024; A5024N
AX302304; AX402306; AX412306; AX71230; AX3024; AX5024
STYLO-ME; STYLO-BS; STYLO-BD; STYLO-RME
FROG-A; FROG-AE; FROG-AV; FROG-A24; FROG-A24E; FROG-B; FROG-B1; FROG-J
FROG-PM4; FROG-PM6
MYTO-ME
F7000; F7001; F7024; F7024N; F4000; F4024
F1000; F1100; F1024; F500; F510
FE40230; FE4024; FE40230V; FE4024V
FA40230; FA40230CB; FA4024; FA4024CB

MEET THE APPLICABLE ESSENTIAL REQUIREMENTS

1.1.3; 1.1.5; 1.2.1; 1.2.2; 1.3.2; 1.3.7; 1.3.8.1; 1.4.1; 1.4.2; 1.5.1; 1.5.6; 1.5.8; 1.5.9; 1.5.13; 1.6.1;
1.6.3; 1.6.4; 1.7.1; 1.7.2; 1.7.4

COMPLIES WITH THE PROVISIONS OF THE FOLLOWING DIRECTIVES

DIRECTIVE 2006/42/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 17 May 2006 on machinery and amending Directive 95/16/EC.

of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility.

PERSON AUTHORISED TO COMPILE THE RELEVANT TECHNICAL DOCUMENTATION

Came Cancelli Automatici s.p.a.

address Via Martiri della Libertà Street n. 15 postal code 31030

location Dosson di Casier province Treviso state Italia

The pertinent technical documentation has been drawn up in compliance with attached document 88
Came Cancelli Automatici S.p.A., following a duly motivated request from the national authorities, undertakes to provide information
related to the quios machines,

and FORBIDS

commissioning of the above mentioned until such moment when the final machine into which they must be incorporated, has been
declared compliant, if pertinent, to 2006/42/EC.

Dosson di Casier (TV)
06 March 2012

Gianni Michelini
Managing Director

Translation of the Declaration in the original language

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
info@came.it - www.came.com
Cap. Soc. 1.610.000,00 i.e. - C.F. e P.I. 03481280265 - VAT IT 03481280265 - REA TV 275339 - Reg Imp. TY 03481280265

CAME GROUP
1 Legend of symbols

This symbol tells you to read the section with particular care.

This symbol tells you that the sections concern safety issues.

This symbol tells you what to say to the end-users.

2 Intended use and restrictions

2.1 Intended use

The 001F4000 - 001F4024 gearmotor is engineered to automate lateral opening, double-wing folding doors on slide rails.

2.2 Restrictions

<table>
<thead>
<tr>
<th></th>
<th>FOLDING DOOR</th>
<th>SWING DOOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of one door wing (m)</td>
<td>1,5 max</td>
<td>2 max</td>
</tr>
<tr>
<td>Weight of gate leaf (kg)</td>
<td>200 max</td>
<td>300 max</td>
</tr>
</tbody>
</table>

3 Reference Standards

The company: Came Cancelli Automatici is ISO 9001 quality certified; has also obtained the ISO 14001 environmental safeguarding certification. Came engineers and manufactures all of its products in Italy. This product complies with the following standards: see declaration of compliance.

4 Description

4.1 Gearmotor

This product is engineered and manufactured by CAME CANCELLI AUTOMATICI S.p.A. and complies with current safety regulations. The gearmotor consist of a cast aluminium gearmotor case that houses the irreversible reduction system with helical worm screw and crown.

Version:

001F4000 - 230 V AC irreversible gearmotor

Command panels:

002ZA3C - Command panel complete with safety block and built-in buttons with onboard radio decoder;
002ZC3 - Command panel with running thrust and self-diagnosis functions of the safety devices and onboard radio decoder;
002ZC3C - Command panel complete with safety block and built-in buttons with running thrust and self-diagnosis functions of the safety devices and onboard radio decoder;
002ZM3EC - Multifunction command panel, complete with safety block and built-in buttons, warning display, and self-diagnosis functions of the safety devices and onboard radio decoder.

Version:

001F4024 - 24 V DC Irreversible gearmotor

Command panels:

002ZL170N - Command panel for one gearmotor with onboard radio decoder;
002ZL19N - Command panel for gearmotors with onboard radio decoders;
002LB18 - Container with emergency card and housing for three, 12V – 7Ah batteries for the 002ZL170N and 002ZL19N command panels.

Accessories:

001F4004 - Slide arm;
001CMS - Remote controlled release mechanism;
001C002 - Hanging release system
4.2 Technical features

001F4000 Gearmotor

Control board power supply: 230 A.C. 50/60Hz
Motor power supply: 230 V AC 50/60Hz
Nominal voltage: 1,9A
Power: 235W
Maximum torque: 34daNm
Duty Cycle: 30%
Condenser: 16 μF
Weight: 11,5 kg
Operating temperature:

001F4024 Gearmotor

Control board power supply: 230 A.C. 50/60Hz
Motor power supply: 24 V DC 50/60Hz
Nominal voltage: 15A
Power: 180W
Maximum torque: 47dNm
Duty Cycle: Intensive use
Weight: 11 kg
Operating temperature:

4.3 Description of parts

1. Main body of the gearmotor
2. Upper hole cove
3. Lower hole cover
4. Cylinder head bolt UNI 5931 M8x120
5. Medium nut UNI 5588 M8
6. Return spring
7. Release handle
8. Arm assembly
9. Slide rails
10. Rail
11. Distancer
12. Hexagonal head bolt UNI 5739 M12x40
13. Flare head bolt UNI 5933 M6x20
14. Washer for motor arm
15. Cylinder head bolt UNI 5931 M8x20
16. Rail cap
17. Hole covering caps

4.4 Dimensions

Measurements in mm
4.5 Application examples

Double wing folding doors with slide rail and single swing door.

Double wing folding door with 180° opening

Note: if the distance between the slide rail and the anchoring area is less than the overall dimension of the gearmotor, anchor it as shown in figure 2, making sure to follow the measurements shown.

1)

Hinge axis

2)

Slide guide

Not enough space for anchoring
5 Installation

⚠️ Installation must be carried out by expert qualified personnel and in full compliance with current regulations.

5.1 Preliminary checks

⚠️ Before installing, do the following:

- Check you have suitable tubing and conduits for the electrical cables to pass through and be protected against mechanical damage;
- Fit tubing to drain away any water leaks which may cause oxidation;
- Check that any connections inside the case (that provide continuance to the protective circuit) be fitted with extra insulation as compared to the other conductive parts inside;
- Check that the door structure is robust enough, that the hinges are in proper working order and that there is no friction among the fixed and moving parts;
- Check that there is mechanical door stop to prevent overextension of the gearmotor/door wing.

5.2 Tools and materials

Make sure you have all the tools and materials you will need for the installation at hand to work in total safety and compliance with the current standards and regulations. The following figure illustrates the minimum equipment needed by the installer.
5.3 Cable list and minimum thickness

<table>
<thead>
<tr>
<th>Connections</th>
<th>Type of cable</th>
<th>Length of cable 1 &lt; 10 m</th>
<th>Length of cable 10 &lt; 20 m</th>
<th>Length of cable 20 &lt; 30 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control panel power supply 230V</td>
<td>FROR CEI 20-22</td>
<td>3G x 1,5 mm²</td>
<td>3G x 2,5 mm²</td>
<td>3G x 4 mm²</td>
</tr>
<tr>
<td>Motor power supply 24V</td>
<td>CEI EN 50267-2-1</td>
<td>2G x 1,5 mm²</td>
<td>2G x 1,5 mm²</td>
<td>2G x 2,5 mm²</td>
</tr>
<tr>
<td>Motor power supply 230V</td>
<td></td>
<td>4G x 1,5 mm²</td>
<td>4G x 1,5 mm²</td>
<td>4G x 2,5 mm²</td>
</tr>
<tr>
<td>Flashing light</td>
<td></td>
<td>2 x 0,5 mm²</td>
<td>2 x 1 mm²</td>
<td>2 x 1,5 mm²</td>
</tr>
<tr>
<td>Photocell transmitters</td>
<td></td>
<td>2 x 0,5 mm²</td>
<td>2 x 0,5 mm²</td>
<td>2 x 0,5 mm²</td>
</tr>
<tr>
<td>Photocell receivers</td>
<td></td>
<td>4 x 0,5 mm²</td>
<td>4 x 0,5 mm²</td>
<td>4 x 0,5 mm²</td>
</tr>
<tr>
<td>Accessories power supply</td>
<td></td>
<td>2 x 0,5 mm²</td>
<td>2 x 0,5 mm²</td>
<td>2 x 0,5 mm²</td>
</tr>
<tr>
<td>Control and safety devices</td>
<td></td>
<td>2 x 0,5 mm²</td>
<td>2 x 0,5 mm²</td>
<td>2 x 0,5 mm²</td>
</tr>
<tr>
<td>Limit Switch</td>
<td></td>
<td>4 x 0,5 mm²</td>
<td>4 x 1 mm²</td>
<td>4 x 1,5 mm²</td>
</tr>
<tr>
<td>Antenna</td>
<td>RG58</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N.B.: If the cable length differs from that specified in the table, then you must determine the proper cable diameter in the basis of the actual power draw by the connected devices and depending on the standards specified in CEI EN 60204-1. For connections that require several, sequential loads, the sizes given on the table must be re-evaluated based on actual power draw and distances. When connecting products that are not specified in this manual, please follow the documentation provided with said products.

5.4 Standard installation

1. Gearmotor
2. Control panel
3. Radio receiver
4. Antenna
5. Flashing light indicating movement
6. Safety photocells
7. Gearmotor release

Page 6
5.5 Installing the operator

The following illustrations are only examples, given that the space available for anchoring the operator and accessories may vary from gate to gate. It is up to the installer, thus, to choose the most suitable solution.

Loosen the bolts on the lateral cover. Raise the cover, the wings and gearmotor from the base-plate.

APPLICATION ON THE DOUBLE WING (Min. width 700 mm) APPLICATION ON THE SINGLE WING and for 180° OPENING

Secure the base plate to the wall or door wing depending on the situation, using proper bolts.

Secure the slide rail to the door wing making sure to follow all of the measurements shown in the pictures.
Insert the slide arm in to the motor shaft, with the respective accessories (see picture) in the proper direction according to how the motor is positioned, and secure everything.

Release the gearmotor to facilitate the subsequent assembly operations.

Insert the arm into the rail and the gearmotor onto the base plate as shown in the figure.
Secure the gearmotor using two supplied M8x110 bolts and nuts and fit the protective caps onto both ends of the rail.

NOTE: use proper cable glands to run cables and the release cable through.

5.6 Regulations

Adjusting opening and closing microswitches (F4000)

Opening: release and bring the door wing into the desired opening position. Turn the lower cam counter-clockwise until the microswitch is inserted and tighten the cam screw.
Closing: push the door wing until fully closed. Turn the upper cam clockwise until the microswitch is inserted and tighten the cam screw.

**Adjusting opening stop and closing deceleration microswitches (F4024)**

Opening: release and move the wing to the desired open position. Turn the lower cam anti-clockwise until the microswitch is on and loosen the screw in the relative cam.

Closing: bring the wing to approx. 100 mm from the closure limit switch. Turn the upper cam clockwise until the microswitch is on and tighten the screw in the relative cam.

---

**5.7 Installing the cover**

N.B.: Before fitting the cover, make the electrical connections and settings as explained in chapter 6 below and in the control panel manual.

After completing the assembly procedures, electrical connections and adjustments, insert the remaining tab.

**APPLICATION ON THE DOUBLE**

**APPLICATION ON THE SINGLE WING and for 180° OPENING**
Make a hole with a Ø 13.5 mm bit in the cover in the point indicated.

Anchor the cover with the two screws provided.

Insert the release handle into the hole and fasten it with the washer and the UNI 6954 Ø3.9 x13 screw.

5.8 Emergency release

In the event of power- or equipment failure, release the gearmotor with the designated knob.
Caution! Work only when the motor is OFF.

EMERGENCY UNLOCK FEATURE WITH RELEASE KNOB EQUIPPED WITH AUTOMATION
6 Electrical connections

6.1 Electrical connections to the 001F4000 gearmotor

Electrical connection to panel 002ZC3-002ZC3C

Door wings of the same length with separate floor fasteners. They move simultaneously.
Electrical connection to the ZA3N command panel (second door wing is delayed)

6.2 Electrical connections to the 001F4024 gearmotor

Electrical connection to panel 002ZM3EC

Note: for electrical connections to the 002ZL19N panel see the relative literature.
7 Safety instructions

**Important safety instructions**

This product must only be employed for its originally intended use. The automation installation using these gearmotors requires adequate safety systems on the gate leaves to detect any obstacles (e.g. sensitive edges), in compliance with EN12445 and EN12453 Technical Standards relative to the impact force generated by the moving gate. Any other use is wrong and potentially dangerous. The manufacturer cannot be held liable for any damages resulting from wrongful, erroneous or negligent uses.

Avoid working close to the hinges or other moving mechanical parts. Stay out of the opening/closing arc when operator is in motion. Do not exercise force against the motion of the operator as this could result in potentially dangerous situations.

---

Do not allow children to play or loiter within the opening/closing arc of the operator.

Keep remote controls and any other command device out the reach of children, to prevent operator from being activated by accident.

In the event of anomalous behaviour, stop using the operator immediately.

- **Danger of crushing hands**
- **Danger of crushing feet**
- **Danger High voltage**
- **No transit during operation**
8 Maintenance

8.1 Periodic maintenance

Periodic maintenance to be carried out by the end-user is as follows: wipe clean the glass surface of the photocells; check that the safety devices work properly; remove any obstructions.

We suggest checking the state of lubrication and tightness of the anchoring screws on the operator.

To check the efficiency of the safety devices, move an object in front of the photocells when gate is closing. If the operator inverts the motion or stops, the photocells are working properly.

This is the only maintenance procedure to be carried out with the power source connected.

Before performing any maintenance procedures, cut off the main power, to prevent possible accidents due to gate movement.

To clean the photocells use a water dampened cloth. Do not use solvents or other chemical products which may ruin the devices.

In the event of any strange vibrations or squeaking, lubricate the joints with grease, as shown in the diagram.

Make sure there are no plants within the photocell’s beam, and that the gate motion is free of any obstacles.

8.2 Trouble shooting

<table>
<thead>
<tr>
<th>MALFUNCTIONS</th>
<th>POSSIBLE CAUSES</th>
<th>CHECK AND REMEDIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>The gate will not open nor close</td>
<td>• There is no power</td>
<td>• Check that the power is up</td>
</tr>
<tr>
<td></td>
<td>• The gearmotor is released</td>
<td>• Lock the gearmotor again</td>
</tr>
<tr>
<td></td>
<td>• The transmitter’s batteries are run down</td>
<td>• Replace batteries</td>
</tr>
<tr>
<td></td>
<td>• The transmitter is broken</td>
<td>• Call assistance</td>
</tr>
<tr>
<td></td>
<td>• The stop button is either stuck or broken</td>
<td>• Call assistance</td>
</tr>
<tr>
<td></td>
<td>• The opening/closing button or the selector switch are stuck</td>
<td>• Call assistance</td>
</tr>
<tr>
<td>The gate opens but will not close</td>
<td>• The photocells are engaged</td>
<td>• Check that photocells are clean and in good working order</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Call assistance</td>
</tr>
<tr>
<td>The Flashing light does not work</td>
<td>• The bulb is burnt</td>
<td>• Call assistance</td>
</tr>
</tbody>
</table>
8.3 Extra-ordinary maintenance

The following table serves to note down any extraordinary maintenance, repairs or improvements performed by specialised firms.

N.B.: Any extraordinary maintenance must be performed by specialised technicians.

**Extra-ordinary maintenance log**

<table>
<thead>
<tr>
<th>Installer’s stamp</th>
<th>Operator name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Date of job</td>
</tr>
<tr>
<td></td>
<td>Technician’s signature</td>
</tr>
<tr>
<td></td>
<td>Requester’s signature</td>
</tr>
</tbody>
</table>

Job performed ________________________________________________________________________________________
__________________________________________________________________________________________________

<table>
<thead>
<tr>
<th>Installer’s stamp</th>
<th>Operator name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Date of job</td>
</tr>
<tr>
<td></td>
<td>Technician’s signature</td>
</tr>
<tr>
<td></td>
<td>Requester’s signature</td>
</tr>
</tbody>
</table>

Job performed ________________________________________________________________________________________
__________________________________________________________________________________________________

<table>
<thead>
<tr>
<th>Installer’s stamp</th>
<th>Operator name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Date of job</td>
</tr>
<tr>
<td></td>
<td>Technician’s signature</td>
</tr>
<tr>
<td></td>
<td>Requester’s signature</td>
</tr>
</tbody>
</table>

Job performed ________________________________________________________________________________________
__________________________________________________________________________________________________

<table>
<thead>
<tr>
<th>Installer’s stamp</th>
<th>Operator name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Date of job</td>
</tr>
<tr>
<td></td>
<td>Technician’s signature</td>
</tr>
<tr>
<td></td>
<td>Requester’s signature</td>
</tr>
</tbody>
</table>

Job performed ________________________________________________________________________________________
__________________________________________________________________________________________________

Periodic maintenance log for end-user (every 6 months).
9 Phasing out and disposal

CAME CANCELLI AUTOMATICI S.p.A. employs a UNI EN ISO 14001 certified and compliant environmental protection system at its plants, to ensure that environmental safeguarding.

We ask you to keep protecting the environment, as CAME deems it to be one of the fundamental points of its market operations strategies, by simply following these brief guidelines when disposing:

**DISPOSING THE PACKING MATERIALS**

The packing components (cardboard, plastic, etc.) are solid urban waste and may be disposed of without any particular difficulty, by simply separating them so that they can be recycled.

Before actions it is always advisable to check the pertinent legislation where installation will take place.

**DO NOT DISPOSE OF IN NATURE!**

**DISPOSING OF THE PRODUCT**

Our products are made using different types of materials. The majority of them (aluminium, plastic, iron, electric cables) can be considered to be solid urban waste. They may be recycled at authorised firms.

Other components (electrical circuit board, remote control batteries etc.) may contain hazardous waste.

They must, thus, be removed and turned in to licensed firms for their disposal.

Before acting always check the local laws on the matter.

**DO NOT DISPOSE OF IN NATURE!**