CAME

119PM75EN

SWING-DOOR
OPERATOR

Installation manual

PB1100

English EN

WARNING!
important safety instructions for people:
READ CAREFULLY!

Premise

• Employ this product only for the use for which it was expressly made. Any other use is dangerous. CAME S.p.A is not liable for any damage caused by improper, wrongful and unreasonable use • Keep these warnings together with the installation and operation manuals that come with the operator.

Before installing

(checking what's there: if something is missing, do not continue until you have complied with all safety provisions)

• Check that the automated parts are in good mechanical order, that the operator is level and aligned, and that it opens and closes properly. Make sure you have suitable mechanical stops • If the operator is to be installed at a height of over 2.5 m from the ground or other access level, make sure you have any necessary protections and/or warnings in place • If any pedestrian openings are fitted into the operator, there must also be a system to block their opening while they are moving • Make sure that the opening automated door or gate cannot entrap people against the fixed parts of the operator • Do not install the operator upside down or onto elements that could yield and bend. If necessary, add suitable reinforcements to the anchoring points • Do not install door or gate leaves on tilted surfaces • Make sure any sprinkler systems cannot wet the operator from the ground up • Make sure the temperature range shown on the product literature is suitable to the climate where it will be installed • Follow all instructions as improper installation may result in serious bodily injury • It is important to follow these instructions for the safety of people.

Installing

• Suitably section off and demarcate the entire installation site to prevent unauthorized persons from entering the area, especially minors and children • Be careful when handling operators that weigh over 20 kg. If need be, use proper safety hoisting equipment • All opening commands (that is, buttons, key switches, magnetic readers, and so on) must be installed at least 1.85 m from the perimeter of the gate's working area, or where they cannot be reached from outside the gate. Also, any direct commands (whether buttons, touch panels, and so on) must be installed at least 1.5 m from the ground and must not be reachable by unauthorized persons • All maintained action commands, must be fitted in places from which the moving gate leaves and transit and driving areas are visible • Apply, if missing, a permanent sign showing the position of the release device • Before delivering to the users, make sure the system is EN 12453 standard compliant (regarding impact forces), and also make sure the system has been properly adjusted and that any safety, protection and manual release devices are working properly • Apply Warning Signs (such as the gate's plate) where necessary and in a visible place.

Special user-instructions and recommendations

• Keep gate operation areas clean and free of any obstructions. Make sure that the photocells are free of any overgrown vegetation and that the operator's area of operation is free of any obstructions • Do not allow children to play with fixed commands, or to loiter in the gate's maneuvering area. Keep any remote control transmitters or any other command devices away from children, to prevent the operator from being accidentally activated. The apparatus may be used by children of eight years and above and by physically, mentally and sensorially challenged people, or even ones without any experience, provided this happens under close supervision or once they have been properly instructed to use the apparatus safely and to the potential hazards involved. Children must not play with the apparatus. Cleaning and maintenance by users must not be done by children, unless properly supervised • Frequently check the system for any malfunctions or signs of wear and tear or damage to the moving structures, to the component parts, all anchoring points, including cables and any accessible connections. Keep any hinges, moving joints and slide rails properly lubricated • Perform functional checks on the photocells and sensitive safety edges, every six months. To check whether the photocells are working, wave an object in front of them while the gate is closing; if the operator inverts its direction of travel or suddenly stops, the photocells are working properly. This is the only maintenance operation to do with the power on. Constantly clean the photocells' glass covers using a slightly damp cloth; do not use any solvents or other chemical products that may ruin the devices • If repairs or modifications are required to the system, 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 and before any other operation, to prevent potentially hazardous situations. Check the instructions • If the power supply cable is damaged, it must be replaced by the manufacturer or authorized technical assistance service, or in any case, by similarly qualified persons, to prevent any risk • It is FORBIDDEN for users to perform any OPERATIONS THAT ARE NOT EXPRESSLY REQUIRED OF THEM AND WHICH ARE NOT LISTED in the manuals. For any repairs, modifications and adjustments and for extra-ordinary maintenance, CALL TECHNICAL ASSISTANCE • Log the jobs and checks into the periodic maintenance log.

Further recommendations for all

• Keep away from hinges and mechanical moving parts • Do not enter the operator's area of operation when it is moving • Do not counter the operator's movement as this could result in dangerous situations • Always pay special attention to any dangerous points, which have to be labelled with specific pictograms and/or black and yellow stripes • While using a selector switch or a command in maintained actions, keep checking that there are no persons within the operating range of any moving parts, until the command is released • The gate may move at any time and without warning • Always cut off the power supply before performing any maintenance or cleaning

Danger of hand crushing

Danger! High voltage.

No transiting while gate is moving

LEGEND

🕮 This symbol shows which parts to read carefully.
⚠ This symbol shows which parts describe safety issues
☞ This symbol shows which parts to tell users about.

REFERENCE REGULATIONS

CAME S.p.A. is certified for the: ISO 9001 quality and ISO 14001 environmental management systems.
This product complies with the current regulations mentioned in the declaration of conformity.

DESCRIPTION

Operator for one swing-leaf, with 24 V DC reversible gearmotor and built-in control panel.

Intended use

This operator is designed to power swing doors for intensive duty.
🕮 Any installation and/or use other than that specified in this manual is forbidden.

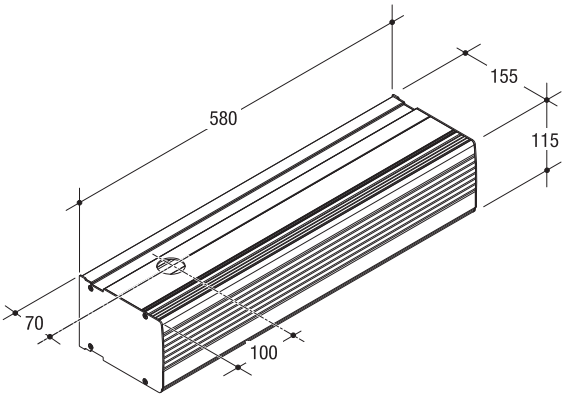
Limits to use

Memory	PB1100		
Max. gate leaf length (m)	1.2	1	0.8
Maximum gate-leaf weight (kg)	150	200	250

Technical data

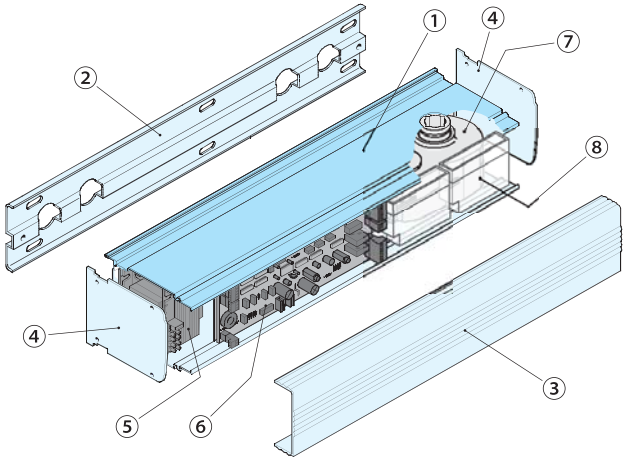
Memory	PB1100
Power supply (V - 50/60 Hz)	230 AC
Motor power supply (V)	24 DC
Control panel draw (mA)	70
Motor absorption (mA)	600
Power (W)	138
Maneuvering time 90° (s)	2 ÷ 5
Duty cycle (%)	intensive duty
Torque (Nm)	40
Working temperature (°C)	-20 ÷ +55

Dimensions



Description of parts

1. Gearmotor case
2. Fastening base
3. Front protective carter
4. Side plates
5. Transformer
6. Control board
7. Gearmotor
8. Batteries (OPTIONAL)



GENERAL INSTRUCTIONS FOR INSTALLING

⚠ Only skilled, qualified staff must install this product.

Preliminary checks

⚠ Before beginning, do the following:

- Connect the control panel to the electric supply line by means of a dual pole cut-off switch with minimum contact openings of 3 mm, and section the power supply;
- Set up suitable tubes and conduits for the electric cables to pass through, making sure they are protected from any mechanical damage;
- ⏚ Make sure that any connections inside the casing (ones that ensure continuity to the protection circuit) are fitted with additional insulation with respect to those of other electrical parts inside:
- Make sure the door frame structure is sturdy enough, that the hinges are suitable and that there is no friction between the moving parts;
- Make sure that at the point where the door is fully opened there is a floor stop to prevent the arm and gearmotor from overextending.

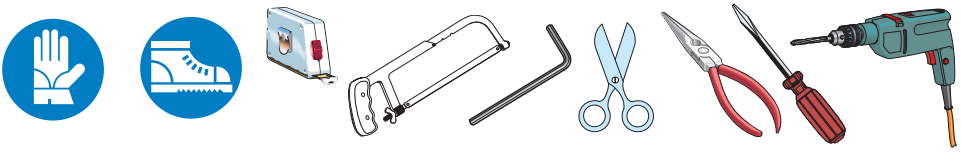
Cable types and minimum thicknesses

Connection	Cable type	Cable length 1 < 10 m	Cable length 10 < 20 m	Cable length 20 < 30 m
Control panel power supply 230 V AC	FROR CEI 20-22 CEI EN 50267-2-1	3G x 1.5 mm^2	3G x 2.5 mm^2	3G x 4 mm^2
Photocell transmitters		2 x 0.5 mm^2	2 x 0.5 mm^2	2 x 0.5 mm^2
Photocell receivers		4 x 0.5 mm^2	4 x 0.5 mm^2	4 x 0.5 mm^2
Command and safety device		2 x 0.5 mm^2	2 x 0.5 mm^2	2 x 0.5 mm^2

If cable lengths differ from those specified in the table, establish the cable sections depending on the actual power draw of the connected devices and according to the provisions of regulation CEI EN 60204-1.
For multiple, sequential loads along the same line, the dimensions on the table need to be recalculated according to the actual power draw and distances. If connecting products that are not contemplated in this manual, see the literature accompanying said products

Tools and materials

Make sure you have all the tools and materials you will need for installing in total safety and in compliance with applicable regulations. The figure shows some of the equipment installers will need.

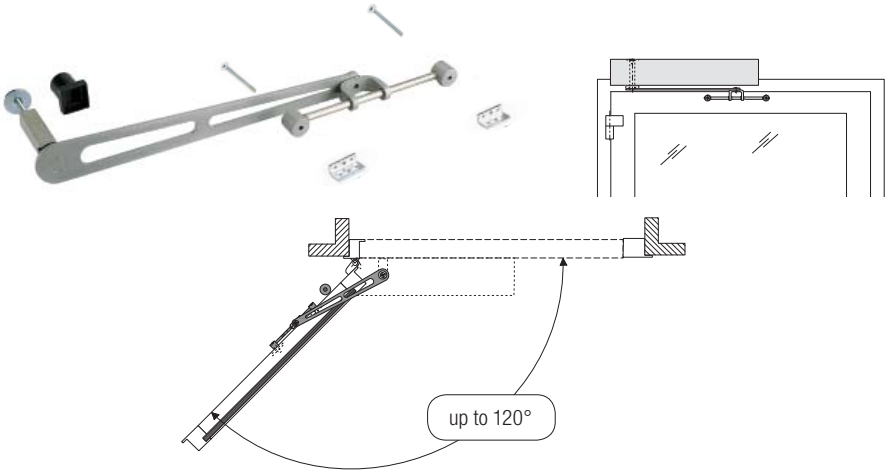


Standard installation

1. Operator
2. Arm
3. Opening radar
4. Safety radar
5. Touch sensor
6. Microphotocells
7. Features selector

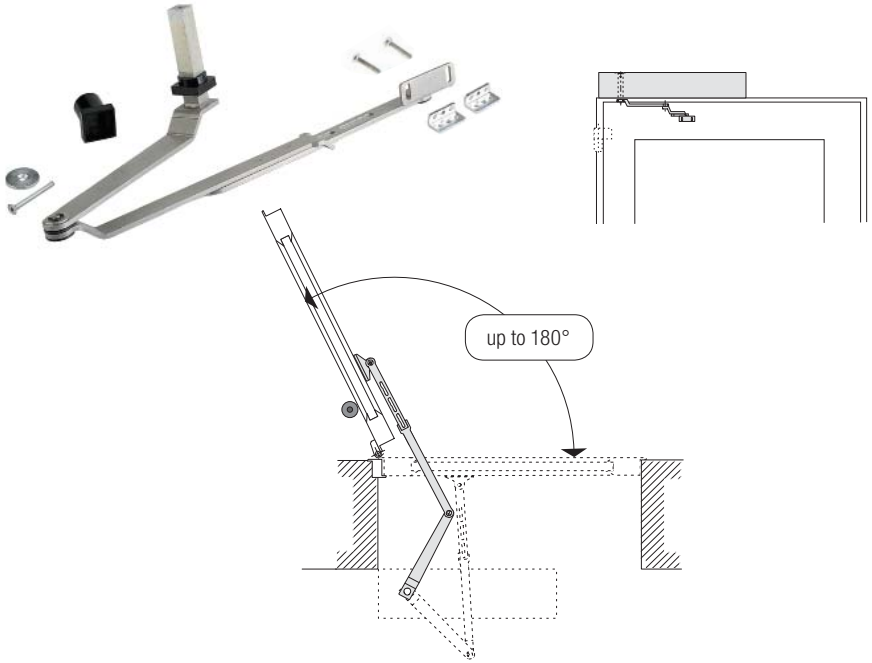
Sliding arm PB1001, for pull-to-open doors

For details on drilling and fastening the base, see the literature about the arm.



Articulated arm PB1002, for push-to-open doors

For details on drilling and fastening the base, see the literature about the arm.

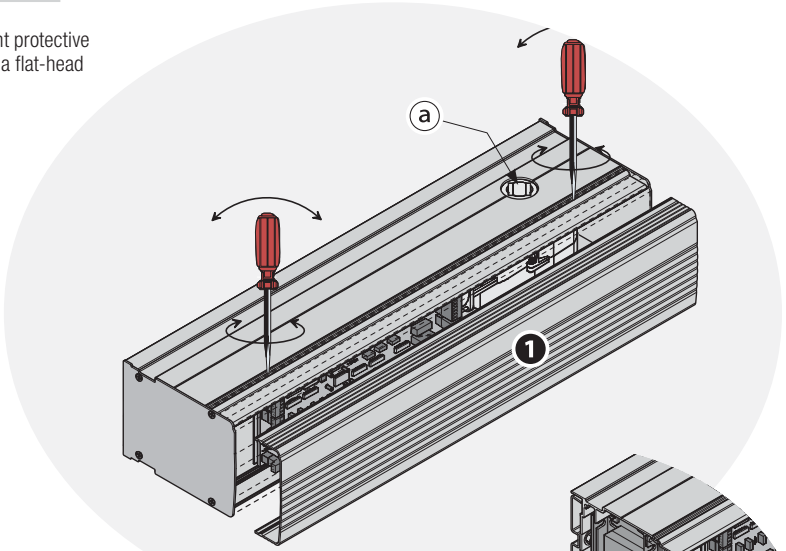


INSTALLATION

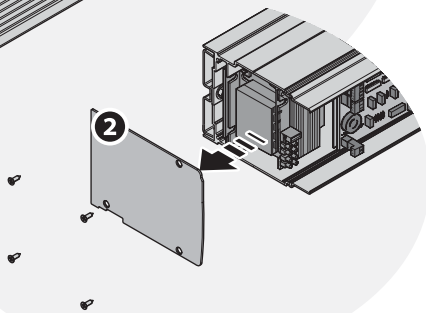
⚠ The following illustrations are mere examples that show the most common fitting. Consider that the space available for fitting the operator and accessories varies depending on where it is being installed. It is up to the fitter, therefore, to choose the most suitable solution.

Setting up the base

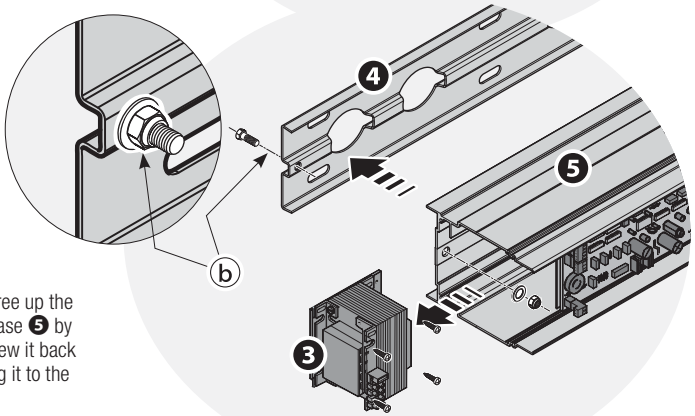
Remove the front protective carter ❶ using a flat-head screwdriver.



Remove the side plate ❷ on the side opposite of the arm hole ⓐ.



Remove the transformer ❸; free up the anchoring base ❹ from the case ❺ by loosening the nut ⓑ, then screw it back onto the base, before fastening it to the wall.

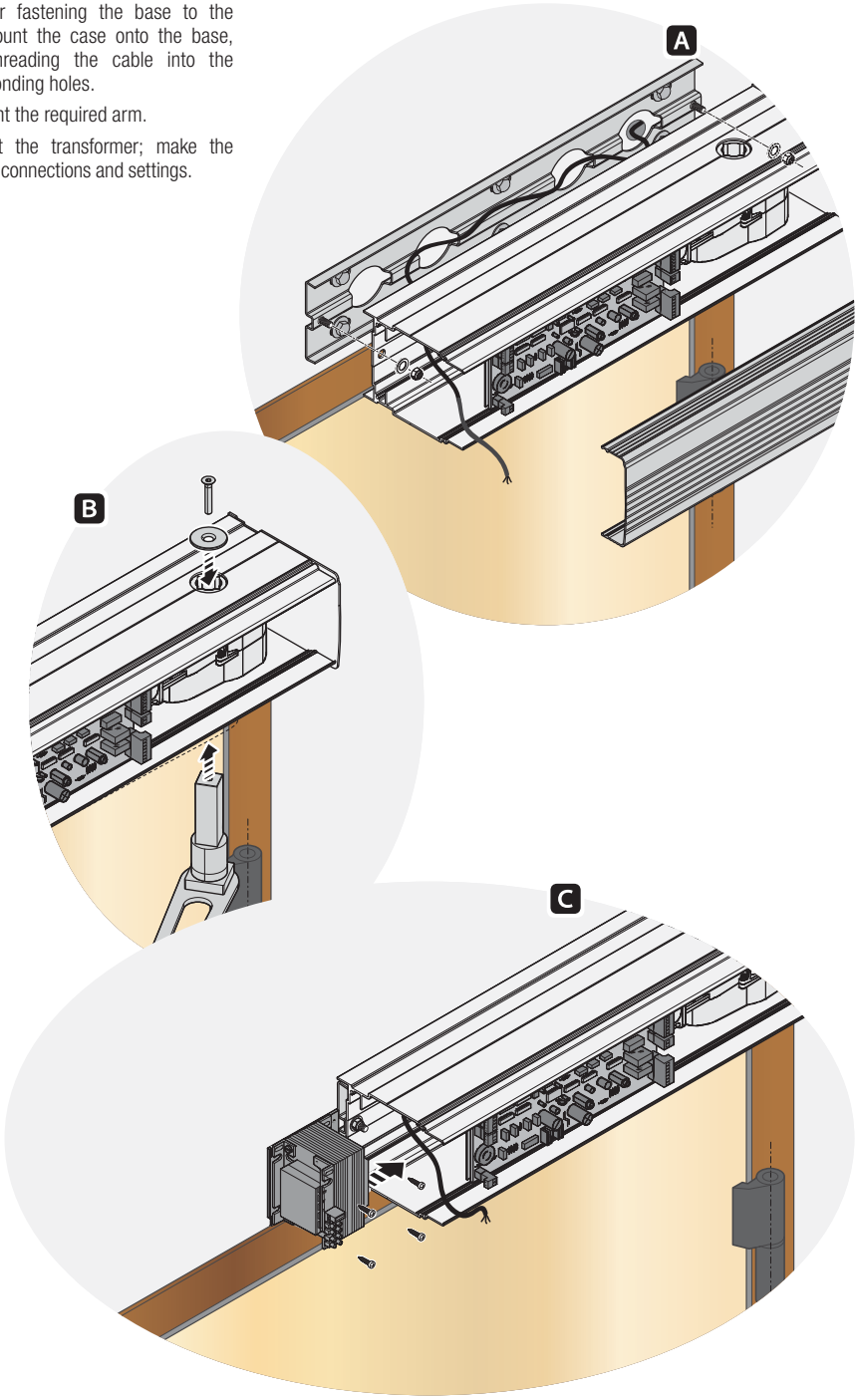


Fastening the operator

A After fastening the base to the wall, mount the case onto the base, while threading the cable into the corresponding holes.

B Mount the required arm.

C Refit the transformer; make the required connections and settings.



⚠ Warning! Before working on the control panel, cut off the main current supply and, if present, remove any batteries.

Control board power supply, control devices and accessories: 24 V.

The features are set using the DIP switches, the adjustments using the trimmer.

All connections are quick-fuse protected.

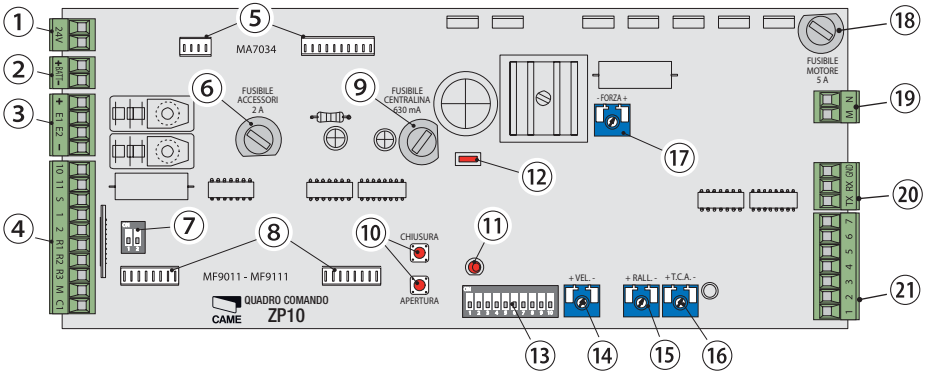
Fuse table	
Line	5 A-F
Control board (CENTRALINA)	630 mA-F
Accessories (ACCESSORI)	2 A-F
Motor (MOTORE)	5 A-F

The control board constantly controls the motor thrust value. If the door runs into an obstacle:

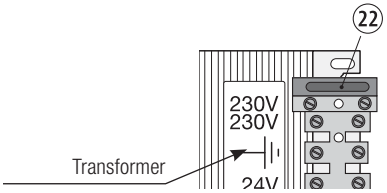
- it reopens if it is closing
- it recloses if it is opening

Warning: after three consecutive obstruction detections, the door will block. For it to resume movement, remove the obstruction and press the control button or transmitter button.

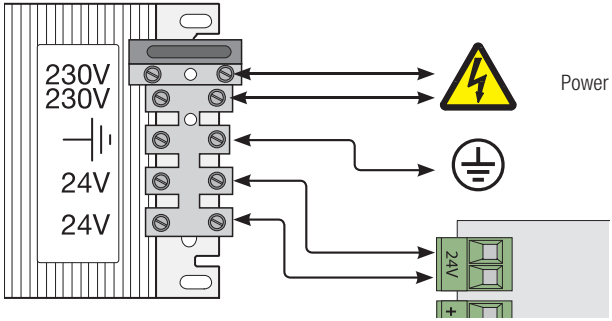
Main components



1. Transformer terminals
2. Batteries terminals
3. Encoder terminals
4. Accessories terminals
5. MA7034 card connector
6. Accessories fuse
7. Functions selector 2 DIP switches
8. MF9011/9111 card connector
9. Control board fuse
10. Programming buttons
11. Coding/Counting LED T.C.A.
12. RESET button
13. Functions selector 10 DIP switches
14. Trimmer VEL.: travel speed setting
15. Trimmer RALL.: slow-down speed setting
16. Trimmer T.C.A.: automatic closing setting
17. Trimmer FORZA: motor force setting
18. Motor fuse
19. Gearmotor terminals
20. Terminals for connecting 2 paired motors
21. MA7041 functions selector terminals
22. Line fuse



Power supply



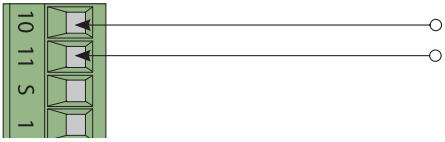
Power supply 230 V AC 50/60 Hz

ZP10

M - N Default gearmotor connection for the PB1001 arm.

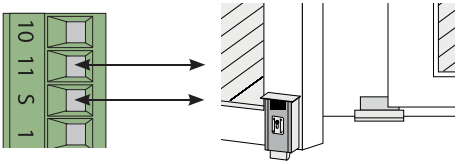
With the PB1002 invert cables M-N.

Accessories

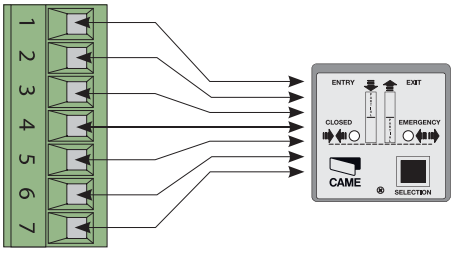


10 - 11 Accessories power-supply output 24 V AC.

The connected accessories must not exceed 15 W overall.



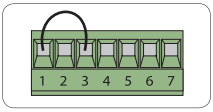
11 - S Electrolock connection 12 V DC - 15 W max.



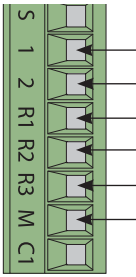
Functions selector connection.

The partial opening function cannot be activated from the selector.

To get the antipanic function without the selector, bridge contacts 1-3.



Command and control devices



1 - 2 (N.C.) connection for STOP button.

This is for stopping the door while excluding automatic closing. To resume movement, use the control device.

📖 The contact is bridged. If unused, leave it bridged.

2 - R1 (N.O.) connection for outer OPENING sensor, which is excludable on the selector in EXIT mode.

2 - R2 (N.O.) connection for inner OPENING or OBSTRUCTION WAIT sensor.

2 - R3 (N.O.) connection for IMMEDIATE CLOSING button.

It works only with the door open, when it is waiting for automatic closing.

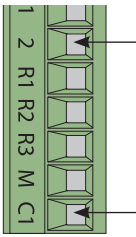
2 - M (N.O.) connection

for OPENING button even with functions selector in closed doors mode (CLOSED)

or

with DIP switch set to ON, for OPENING/ CLOSING (step-by-step). In this case, inputs 2-R1 and 2-R2 are excluded.

Safety devices

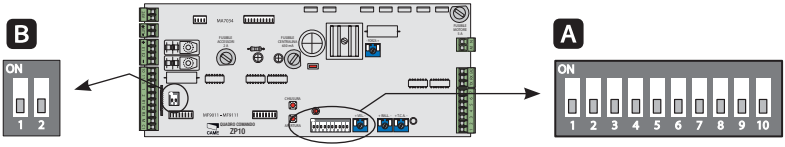


2 - C1 (N.C.) connection for reopening during closing photocells.

The contact is used for photocells or other safety devices, if it is not possible to use the microphotocells.

📖 If unused, bridge the contact.

Selecting functions



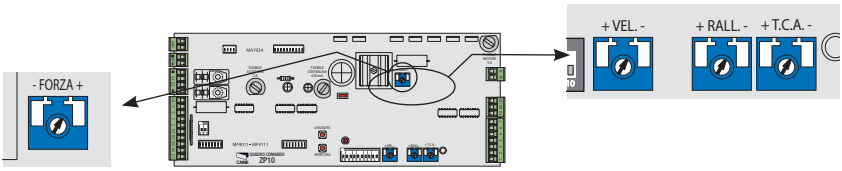
Selector A

DIP-SWITCH	Alarm
1	See the PAIRED CONNECTION chapter.
2	See the PAIRED CONNECTION chapter.
3	Unused, keep the DIP switch on OFF
4 ON	Obstruction detection when gate leaves are at the end of their travel (it inhibits contacts 2-M, 2-R1 and 2-R2).
5 ON	It activates the step-by-step function on 2-M (it excludes automatic closing and contacts 2-R1 and 2-R2).
6 ON	Wind stop/Jolt Stop: this function prevents opening of the door leaves in strong winds (Wind Stop). It is automatically excluded when the battery powered anti-panic is activated. If the electrolock is connected, it facilitates its release (Jolt Stop).
7 ON	Push & Go: push to open the leaves function. It can be excluded by selecting CLOSED doors on the selector.
8 OFF	Reopening during closing with safety device on 2-C1.
9 ON	Obstruction wait: the door leaf stops during opening, if input R2 detects and obstruction. Once the obstruction is removed, the door leaf starts moving again.
10 ON	Enables memorization of the door travel.

Selector B

DIP-SWITCH	Alarm
1 ON	Excluding the microphotocells.
2	Unused, keep the DIP switch on OFF.

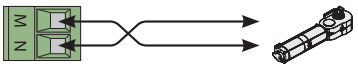
Settings



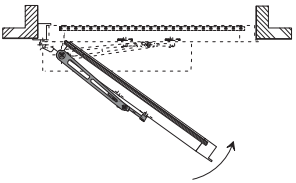
VEL. Setting the opening speed.
RALL. Setting the slow-down speed.
T.C.A. Setting the automatic closing time from 1 to 16 seconds.
FORZA Setting the motor force.

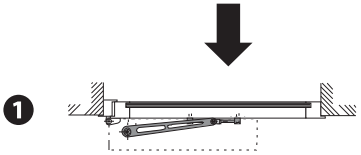
Memorizing the door travel

Warning: the PB1100 operator is set up for using the PB1001 slide arm; if using the PB1002 jointed arm, invert the motor cables.

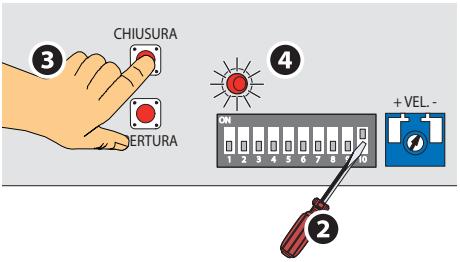


Power up the operator; the door will proceed at slowed-down speed until it closes ❶.





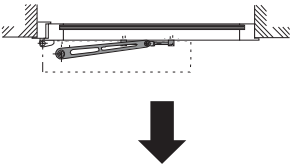
With the door leaf closed, set DIP switch 10 to ON ❷; press button CHIUSURA ❸ and release it when the LED turns on ❹.

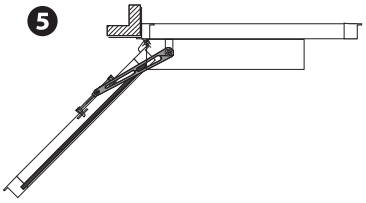


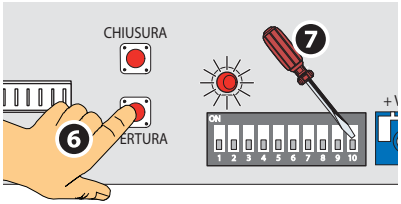
Manually push the door to the wanted open position ❺ and press button APERTURA ❻; release it when the LED turns on ❹.

Reset DIP switch 10 to OFF ❼.

Complete the procedure by either powering off or on the control board (wait at least 5 seconds).







Send an opening command to check memorization. The operator will perform a complete opening and closing cycle.

The incoming and outgoing automatic functioning must be selected on the functions selector.

PAIRED CONNECTION

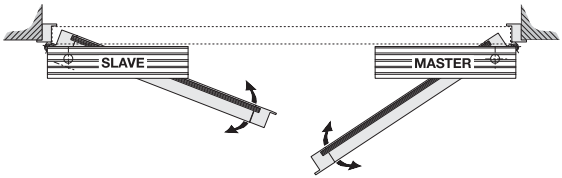
With two PB1100 operators, fitted onto a two-leaved door.

Definitions

MASTER: operator on the door-leaf that opens first and closes second.

SLAVE: operator on the door-leaf that opens second and closes first.

📖 The MASTER must be slower than the SLAVE because it must close second. This offsetting must be done by adjusting the travel speed (trimmer VEL.) and slow-downs (trimmers RALL.), on both control boards.

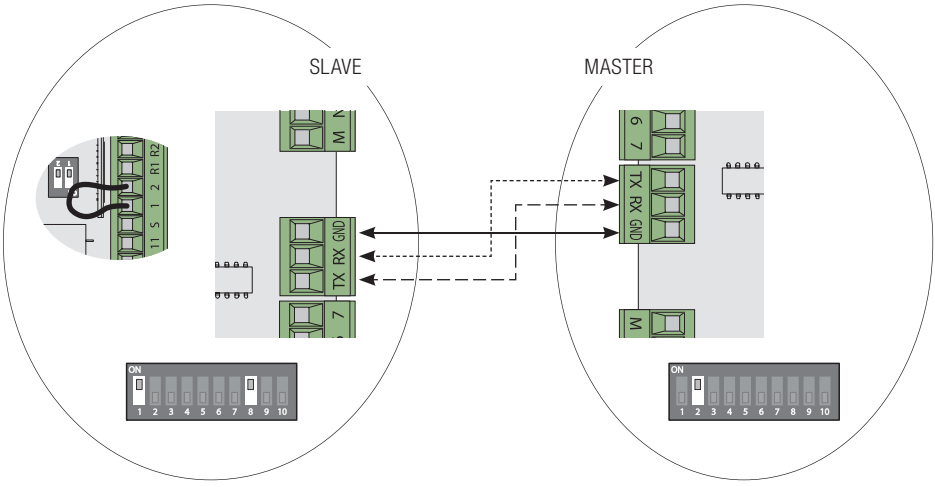


Procedure

⚠ Warning! Cut off the main power supply, and if fitted, disconnect the batteries.

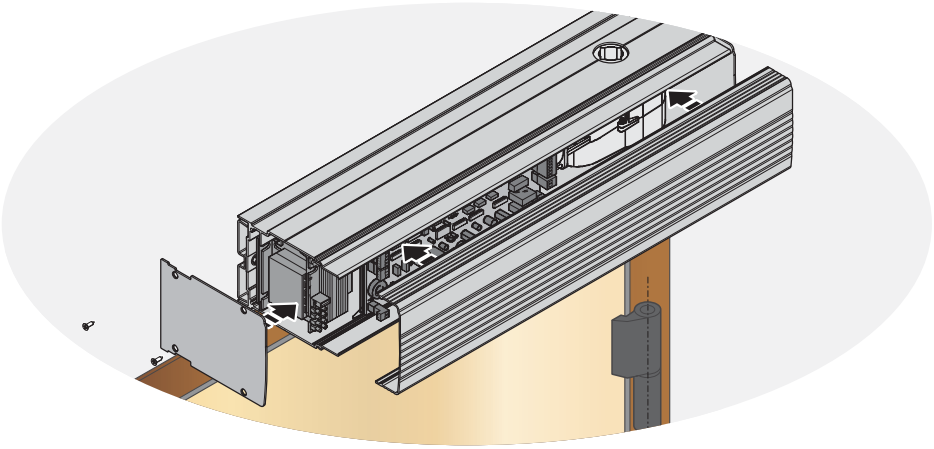
- Connect the two control boards, as shown in the figure.
- On the SLAVE board, short-circuit terminals 1-2 of the accessories and set DIP switches 1-8 to ON.
- On the MASTER board set DIP switch 2 to ON.
- Make all electrical connection only on the MASTER board, except for the antipanic system, which should be activated on both operators.
- However, make all settings, adjustments and travel memorizations on both control boards.

📖 When you power up again after a reset, wait for the automatic closing of the door leaves, or, if they are closed, wait for at least 15 seconds before sending an opening command.



FINAL OPERATIONS

Once you have completed the electrical connections and set up, fit the side plate and snap-in front protective carter.



DISMANTLING AND DISPOSAL

CAME S.p.A. employs a certified Environmental Management System at its premises, compliant with the UNI EN ISO 14001 environmental safeguard standard.

Please always protect the environment. At CAME it is fundamental to our operating and market strategies. Simply follow these brief disposal guidelines:

📖 DISPOSING OF THE PACKAGING

The packaging materials (cardboard, plastic, and so on) should be disposed of as solid urban waste, and simply separated from other waste for recycling.

Always make sure you comply with local laws before dismantling and disposing of the product.

DO NOT DISPOSE OF IN NATURE!

📖 DISMANTLING AND DISPOSAL

Our products are made with different materials. Most of these (aluminum, plastic, iron, electrical cables) are classified as solid urban waste. It can be recycled by separating it before dumping at authorized city dumps.

Whereas other components (control boards, batteries, transmitters, and so on) may contain hazardous pollutants.

These must therefore be disposed of by authorized, certified professional services.

Before disposing, it is always advisable to check with the specific laws that apply in your area.

DO NOT DISPOSE OF IN NATURE!

DECLARATION OF CONFORMITY

Declaration CE CAME S.p.A. declares that this device conforms to the essential, pertinent requirements provided by directives 2006/42/CE and 2014/30/UE.

An original copy of the declaration of conformity is available on request.

IT • Per ogni ulteriore informazione su azienda, prodotti e assistenza nella vostra lingua:

EN • For any further information on company, products and assistance in your language:

FR • Pour toute autre information sur la société, les produits et l'assistance dans votre langue :

DE • Weitere Infos über Unternehmen, Produkte und Kundendienst bei:

ES • Para cualquier información sobre la empresa, los productos y asistencia en su idioma:

NL • Voor meer informatie over het bedrijf, de producten en hulp in uw eigen taal:

PT • Para toda e qualquer informação acerca da empresa, de produtos e assistência técnica, em sua língua:

PL • Wszystkie inne informacje dotyczące firmy, produktów oraz usług i pomocy technicznej w Waszym języku znajdują się na stronie:

RU • Для получения дополнительной информации о компании, продукции и сервисной поддержке на вашем языке:

HU • A vállalatra, termékeire és a műszaki szervizre vonatkozó minden további információért az Ön nyelvén:

HR • Za sve dodatne informacije o poduzeću, proizvodima i tehničkoj podršci:

UK • Для отримання будь-якої іншої інформації про компанію, продукцію та технічну підтримку:

English *- Manual code:* ***119PM75*** *v.* ***4*** *10/2014*

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