

119G3782EN

TRIPOD
TURNSTILES



INSTALLATION MANUAL

TWISTER LIGHT

PSBPS07N-PSBPS08-PSBPS09-PSBPS10



English

EN



CAUTION!
important personal safety instructions:
READ CAREFULLY!



Foreword

• This product should only be used for the purpose for which it was explicitly designed. Any other use is considered dangerous. CAME Cancelli Automatici S.p.A. will not be held liable for damage caused by improper, incorrect or unreasonable use. • The safety of the product, and therefore its proper installation, depends on total compliance with the technical specifications and installation procedures, as well as with rules regarding safety and use, expressly mentioned in the technical documentation for the products themselves. • Keep these warnings together with the installation and operation manuals for the operator system components.

Before installing

(preliminary check: in case of a negative outcome, do not proceed until you have complied with the safety requirements)

• Installation and testing must only be performed by qualified personnel • Cable routing, installation, connection and testing must be carried out to the highest levels of workmanship in accordance with applicable laws and regulations • Before starting any operation, read all the instructions carefully; incorrect installation can be dangerous and harm persons or property • Check that the operator is in good mechanical condition, balanced and aligned, and that it opens and closes properly. If needed, also install suitable guards or use appropriate additional safety sensors • 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 • Ensure that opening the turnstile does not create a dangerous situation • 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 on ground that is not level • Check that any lawn watering devices will not wet the operator 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. In such cases, use proper weight handling safety equipment • CE safety devices (photocells, platforms, sensitive edges, emergency buttons etc.) must be installed in compliance with applicable legislation and according to the highest standards of workmanship, bearing in mind the environment, the type of service required and the operating forces applied to the moving turnstiles. Points where there is a risk of crushing, shearing or dragging must be protected using suitable sensors • End users must be informed of any residual risks by means of special pictograms as envisaged by legislation • All opening commands (buttons, key selectors, magnetic readers etc.) must be installed at least 1.85 m from the perimeter of the area of turnstile movement, or where they cannot be reached from outside through the turnstile. Also, the direct commands (buttons, touch commands etc.) must be installed at a height of at least 1.5 m and must not be accessible to the public • The turnstile identification data must be clearly visible • Before connecting the turnstile to the power supply, make sure the identification data corresponds to the mains data • The turnstile must be connected to an effective, compliant earthing system • The manufacturer disclaims any liability for the use of non-original products; this also results in the invalidation of the warranty • All 'hold-to-run' commands must be placed where the moving turnstile, transit areas and driveways are completely visible • Before delivery to the user, check that the system complies with the EN 12453 and EN 12445 standards (impact tests), check that the operator has been properly adjusted and that the safety and protective devices work correctly • As appropriate and in a visible position, affix warning symbols.

Special instructions and advice for users

• Keep the turnstile's area of operation clean and clear of any obstacles. Check that the photocells' area of operation is free from obstacles • Children must be supervised to make sure they do not play with the operator and the fixed control devices or stand in the turnstile's area of operation. Keep any remote control devices (i.e. transmitters) or any control devices away from children as well, to prevent the operator from being activated accidentally • The operator is not designed to be used by persons (including children) whose physical, sensorial or mental capacities are limited, or who are lacking in experience or knowledge,

unless said persons can be supervised or given instructions regarding using the operator by a person responsible for their safety • 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 lubricated and clean, and do the same where friction may occur • Perform functional tests on photocells every six months. Ensure that the glass on the photocells is kept clean (use a cloth slightly moistened with water; do not use solvents or any other chemicals as these could damage the devices) • If the system requires repairs or modifications, disconnect the power to the operator and do not use it until safety conditions have been restored • Cut off the electrical power supply for manual opening. Read the instructions • If the power cable is damaged, it must be replaced by the manufacturer or the technical assistance service or by a person with a similar qualification so as to prevent any risks • It is STRICTLY FORBIDDEN for users to perform OPERATIONS THEY ARE NOT EXPLICITLY REQUIRED AND ASKED to do. For repairs, adjustments and extraordinary maintenance, CONTACT THE SPECIALIST TECHNICAL SERVICE CENTRE • On the periodic maintenance log, note down the checks you have done.

Further special instructions and advice for all

• Avoid working near the turnstiles or moving mechanical parts • Stay clear of the turnstile's area of operation when in motion • Do not resist the direction of movement of the operator; this may pose 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 'hold-to-run' 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 turnstile may move at any time without warning • Always cut the power when cleaning or performing maintenance.



Danger of hand crushing



Danger - live parts






No transit during the manoeuvre



Emergency button

KEY

-  This symbol indicates parts to read carefully.
-  This symbol indicates parts about safety.
-  This symbol tells you what to say to the end users.

WITH THE EXEMPTION OF WHAT IS EXPRESSLY STATED THE OPERATIONS SHALL BE CONSIDERED VALID FOR ALL MODELS OF THE TWISTER LIGHT SERIES REGARDLESS OF THE ILLUSTRATIONS SHOWN.

REGULATORY REFERENCES

This product has been designed and built by CAME CANCELLI AUTOMATICI S.p.A. in compliance with applicable safety standards stated in the declaration of conformity.

DESCRIPTION

001PSBPS07N	AISI 304 steel bidirectional electromechanical turnstile with scotch-brite finish, complete with control panel and hydraulic damper. Automatic tripod release in the event of a blackout.
001PSBPS08	AISI 304 steel bidirectional electromechanical turnstile with scotch-brite finish, complete with control board, hydraulic damper and LED arrow indicators lights. Automatic tripod release in the event of a blackout.
001PSBPS09	AISI 304 steel bidirectional electromechanical turnstile with scotch-brite finish, complete with control board, hydraulic damper and LED arrow indicators lights plus protection against climbing over. Automatic tripod release in the event of a blackout.
001PSBPS10	AISI 304 steel bidirectional electromechanical turnstile with scotch-brite finish, complete with control board, hydraulic damper and LED arrow indicators lights plus arm drop system. Automatic tripod release in the event of a blackout.

On all models, the top cover has a lock and is removable. The legs are also removable. The tripod head is made of aluminium with a polished finish and the arms are in AISI 304 polish finish steel.

The bidirectional electromechanical turnstile is selective, in that it allows the passage in the chosen direction of a person at a time.



The turnstile is operated by a control device that unlocks the tripod. After passing the arms automatically reposition and the tripod locks until a new command is issued.

Protection against climbing over: a set of optical and micro sensors detects and reports any attempt to scale the turnstile.

Arm drop system: the horizontal arm drops to free the passage during emergencies where there is no line voltage.

Intended use

The electromechanical turnstiles are used to filter and regulate pedestrian traffic in areas with high intensity of passage such as stadiums, sports centres, subways, public offices.

-  Opening the turnstile only 60 ° automatically returns the tripod to the initial position.
-  Leaning on the arm before releasing the tripod will prevent the turnstile from opening.

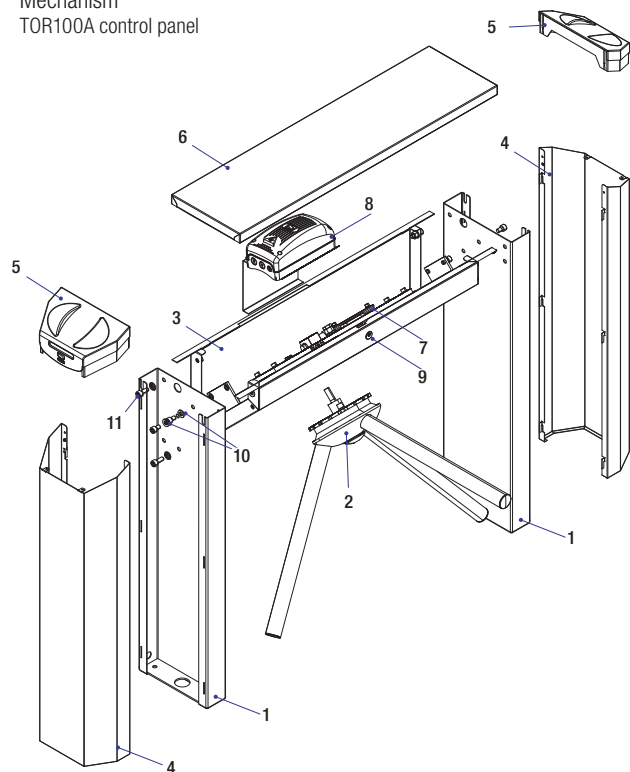
Technical data

Model	PSBPS07N - PSBPS08 - PSBPS09 - PSBPS10
Protection rating (IP)	44
Control panel power supply (V - 50/60 Hz)	120 - 230 AC
Turnstile power supply (V)	24 DC
Current draw (mA)	260
Weight (kg)	76
Insulation class	I
Operating temperature (°C)	-20 ÷ +55

Description of the components

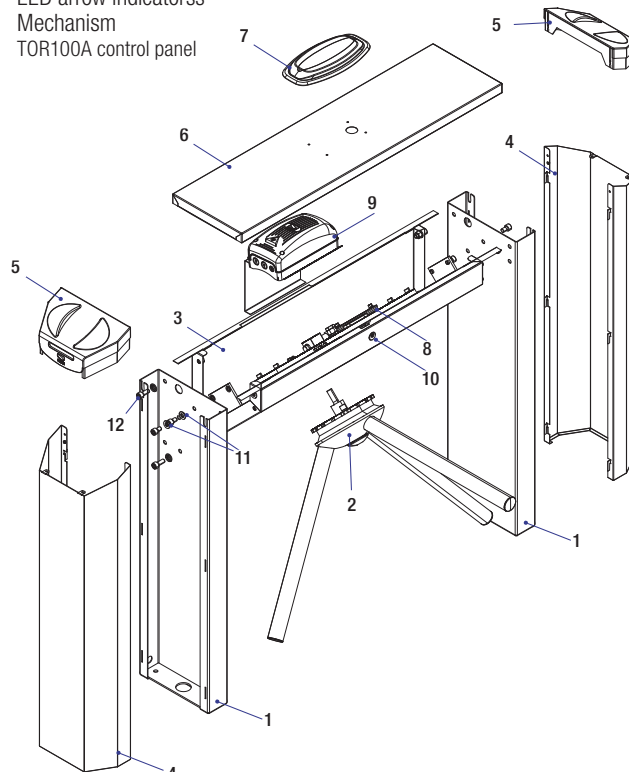
PSBPS07N

- | | |
|--------------------------|--|
| 1. Legs | 9. Cover lock |
| 2. Tripod | 10. Screws and washers for fixing the legs to the body |
| 3. Sheet housing | 11. Screw for fixing the casing to the leg |
| 4. Casing | |
| 5. Casing cover | |
| 6. Top cover | |
| 7. Mechanism | |
| 8. TOR100A control panel | |



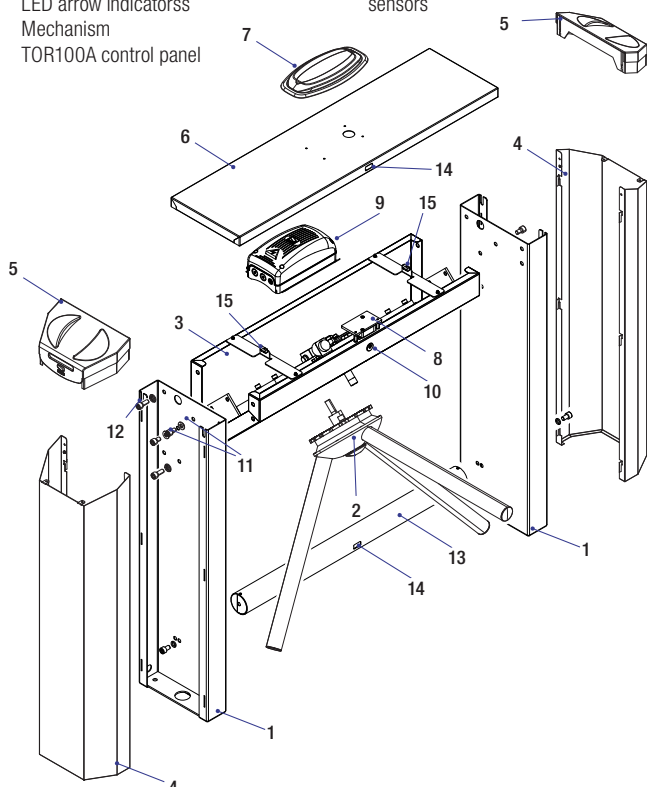
PSBPS08

- | | |
|--------------------------|--|
| 1. Legs | 10. Cover lock |
| 2. Tripod | 11. Screws and washers for fixing the legs to the body |
| 3. Sheet housing | 12. Screw for fixing the casing to the leg |
| 4. Casing | |
| 5. Casing cover | |
| 6. Top cover | |
| 7. LED arrow indicators | |
| 8. Mechanism | |
| 9. TOR100A control panel | |



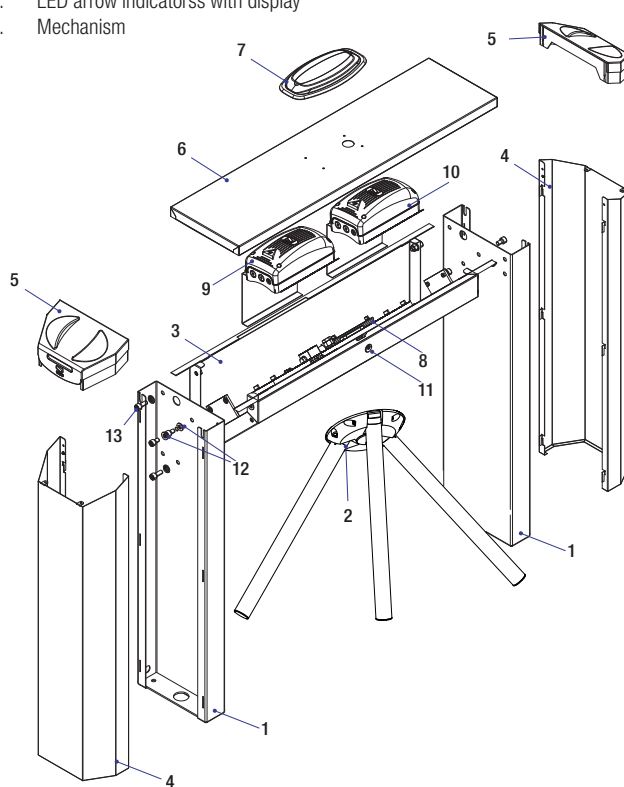
PSBPS09

- | | |
|--------------------------|--|
| 1. Legs | 10. Cover lock |
| 2. Tripod | 11. Screws and washers for fixing the legs |
| 3. Steel housing | 12. Screw for fixing the casing |
| 4. Casing | 13. Photocell holder crosspiece |
| 5. Casing cover | 14. Security photocells |
| 6. Top cover | 15. Protection against climbing over sensors |
| 7. LED arrow indicators | |
| 8. Mechanism | |
| 9. TOR100A control panel | |



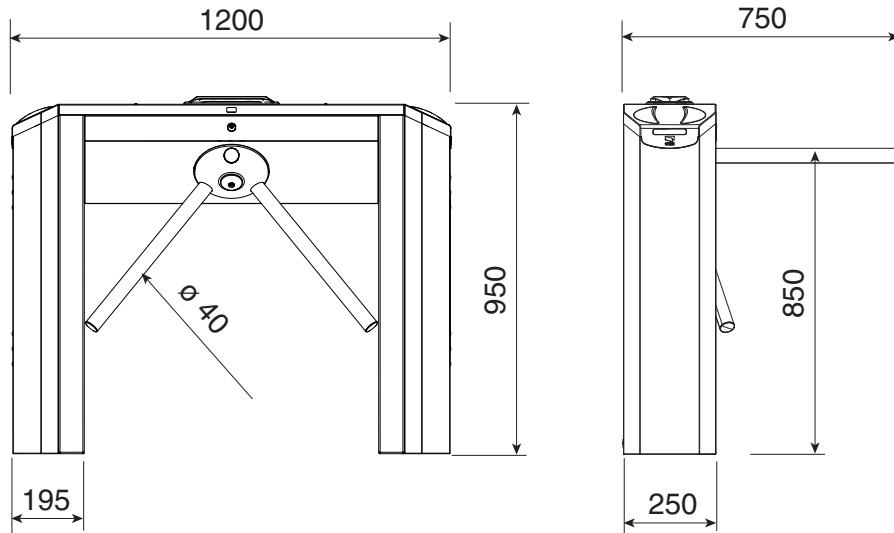
PSBPS10

- | | |
|--------------------------------------|--|
| 1. Legs | 9. TOR100A control panel |
| 2. Tripod | 10. TOR100B control panel |
| 3. Steel housing | 11. Cover lock |
| 4. Casing | 12. Screws and washers for fixing the legs |
| 5. Casing cover | 13. Screw for fixing the casing |
| 6. Top cover | |
| 7. LED arrow indicators with display | |
| 8. Mechanism | |



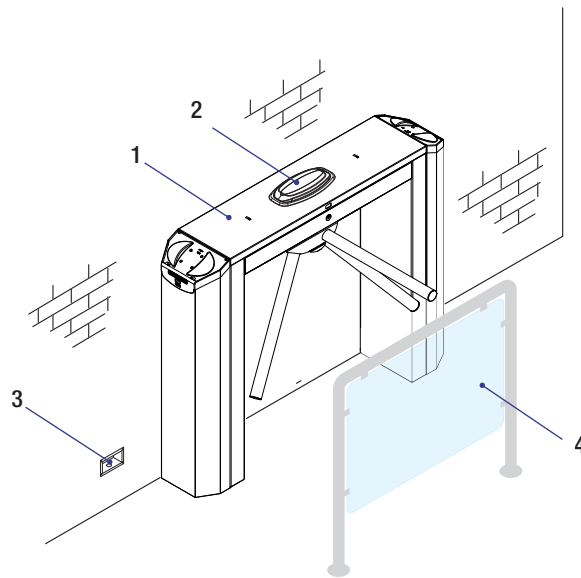
Dimensions

(MM)



Example of a system

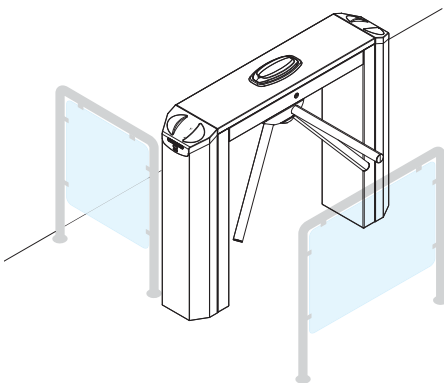
1. Tripod turnstile
2. Arrow indicators
3. Junction box
4. Barrier



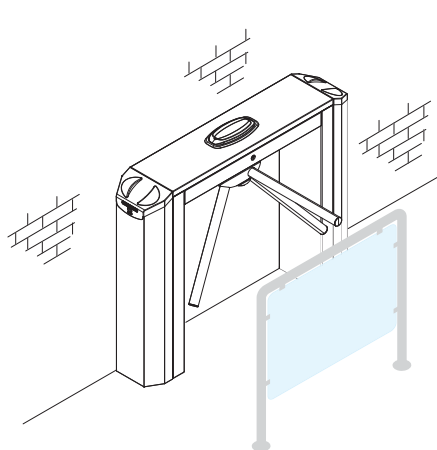
Examples of use

⚠ A turnstile regulated exit should not be considered an emergency exit! Always provide an exit for emergency situations and for the physically impaired.

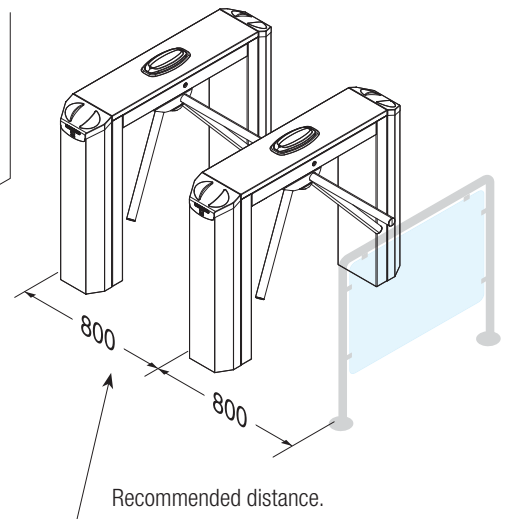
Standard installation



Wall flanking installation



Multiple installation



GENERAL INSTRUCTIONS FOR INSTALLATION

⚠ Installation must be carried out by qualified and experienced personnel in compliance with applicable regulations.

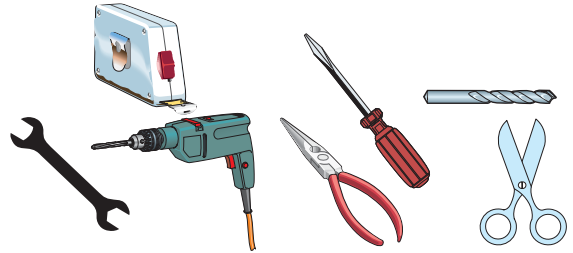
Preliminary checks

⚠ The following is necessary before installing the turnstile:

- If necessary, provide the corrugated tubing required for the passage of electrical cables;
- Provide a suitable omnipolar disconnecter device, with a maximum of 3 mm between the contacts, to disconnect the power supply;
- Prepare suitable piping and ducts for routing the electrical cables, ensuring protection against mechanical damage;
- ⚡ Make sure that any connections within the container (made to ensure the continuity of the protection circuit) are fitted with additional insulation compared to the other internal conductor parts;

Tools and materials

Make sure you have all the tools and materials needed for the installation at hand to work in total safety and compliance with current standards and regulations. The figure shows some examples of installer's tools.



Types of cables and minimum thicknesses

Connection	Cable type	Cable length 1 < 10 m	Cable length 10 < 20 m	Cable length 20 < 30 m
230 V power supply control panel	FROR CEI 20-22 IEC EN 50267-2-1	3G x 1.5 mm ²	3G x 1.5 mm ²	3G x 1.5 mm ²
Accessory power supply		2 x 0.5 mm ²	2 x 0.5 mm ²	2 x 1 mm ²
Control and safety devices		2 x 0.5 mm ²	2 x 0.5 mm ²	2 x 0.5 mm ²

☞ If the cables differ in length from what is shown in the table, the cable cross-section is determined according to the actual current draw of the devices connected and according to the provisions of the IEC EN 60204-1 standard.

For connections that require several, sequential loads, the sizes listed in the table must be re-evaluated based on actual power draw and distances. When connecting products that are not specified in this manual, please refer to the documentation provided with said products.

INSTALLATION

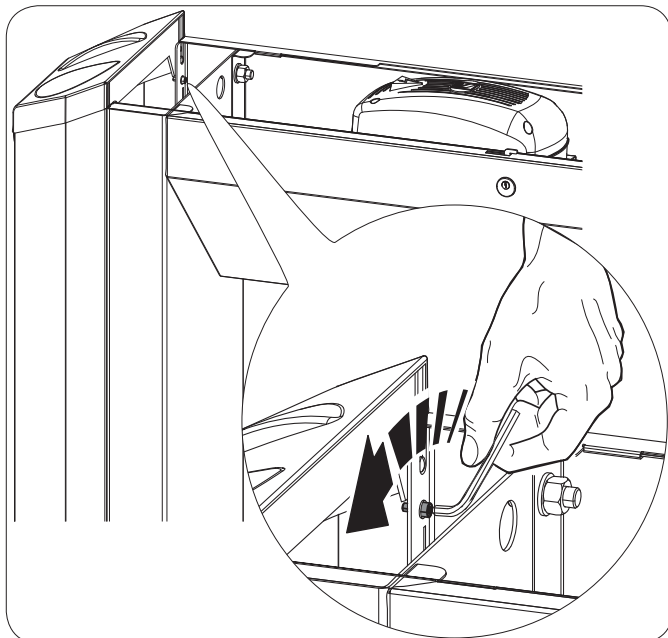
The following illustrations are only examples, given that the space for securing the turnstile and accessories varies depending on the overall dimensions. The installation technician is responsible for choosing the most suitable solution.

⚠ The turnstile must be mounted by two people. Transport and lift using appropriate lifting equipment.

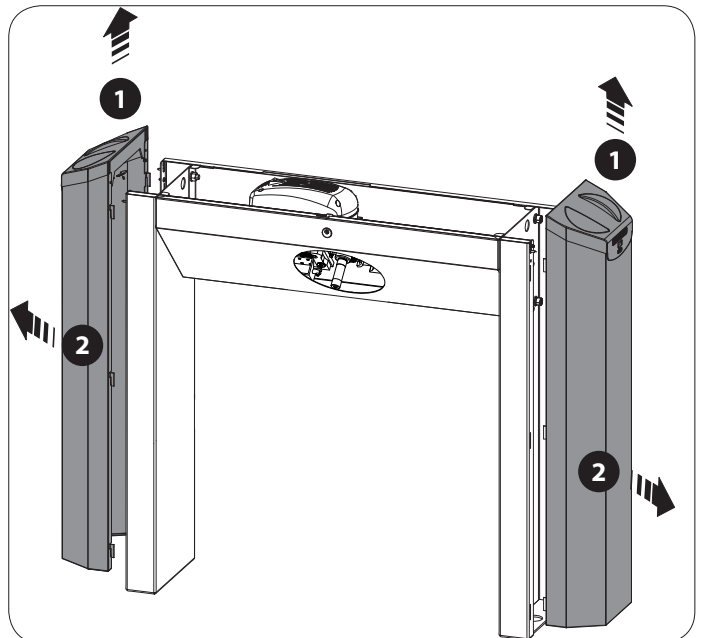
⚠ Risk of tipping over! Do not lean on the turnstile until it is fully secured.

Preparing the turnstile

Remove the casing by unscrewing the fixing screws.

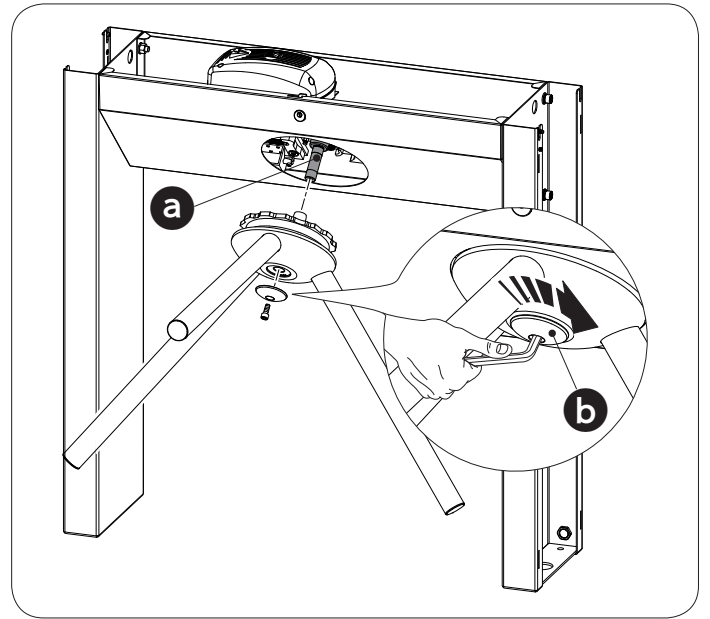
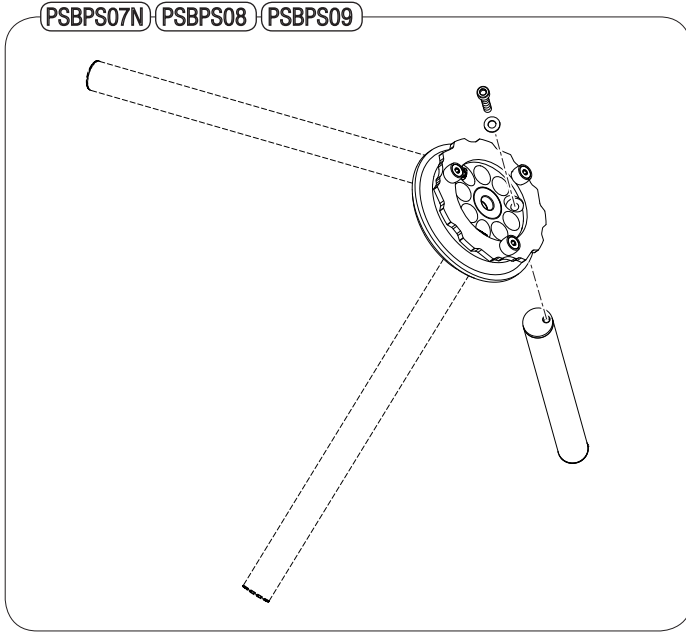


Lift ① and extract them ②.



Attach the arms to the head of the tripod with screws M10x60 and flat head washers.

Fit the tripod into the pin **a** and fix with screws M8x20 and cover **b**.

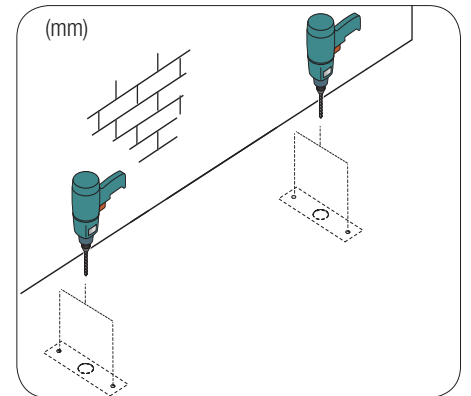
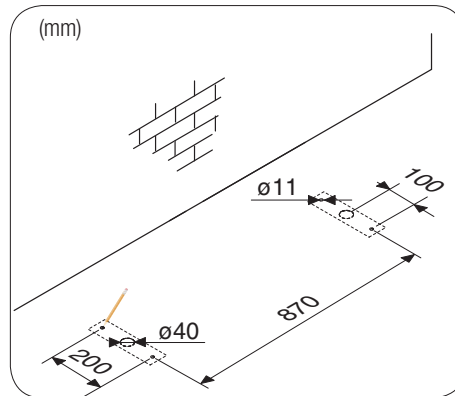
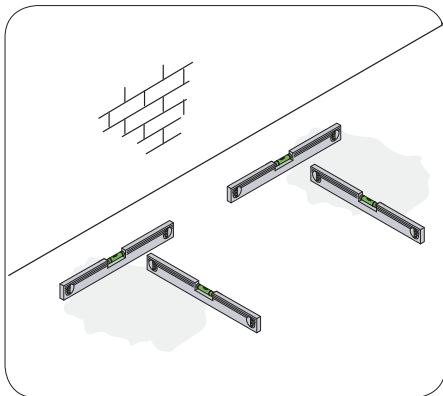


Securing the turnstile

The floor on which the turnstile is fixed must be perfectly level.

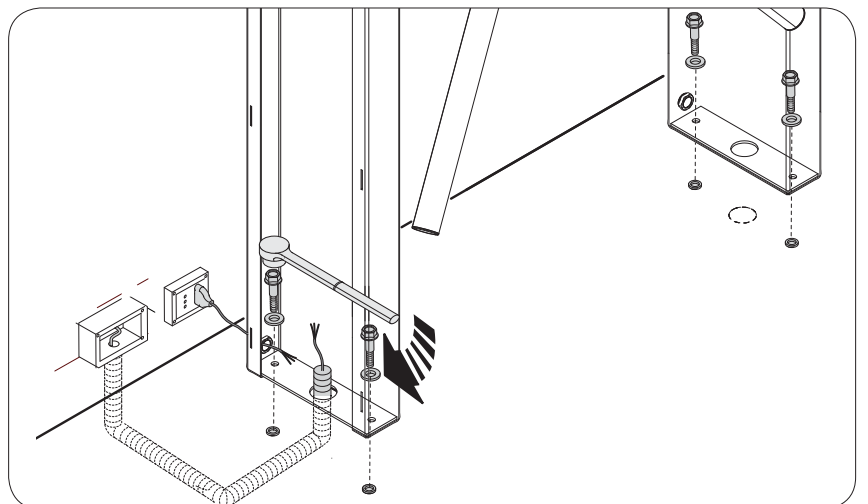
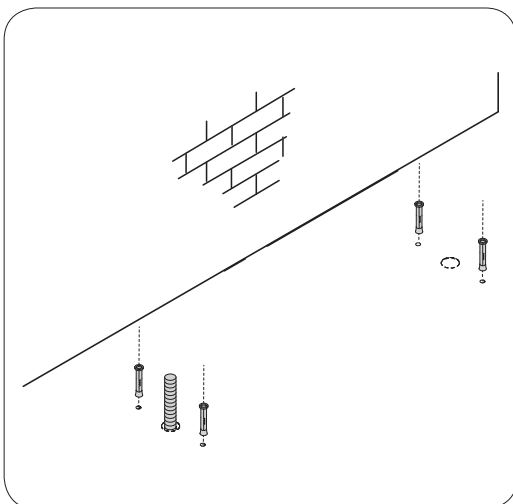
The turnstile anchoring spot depends on the size of the gap and the possible accessories to be connected. Once you have determined the location, use a pencil to mark the drill holes according to the dimensions indicated.

Drill the marked holes and insert the dowels into them.



Place the turnstile over the dowels. If present, the corrugated conduit for the passage of electric cables must pass through the centre hole.

Fix the turnstile with the screws using a ratchet wrench.



ELECTRICAL CONNECTIONS

⚠ Before intervening on the control board, disconnect the line voltage.

Control board supply (V - 50/60 Hz): 120 - 230 AC.

Control device power supply: 24 V AC

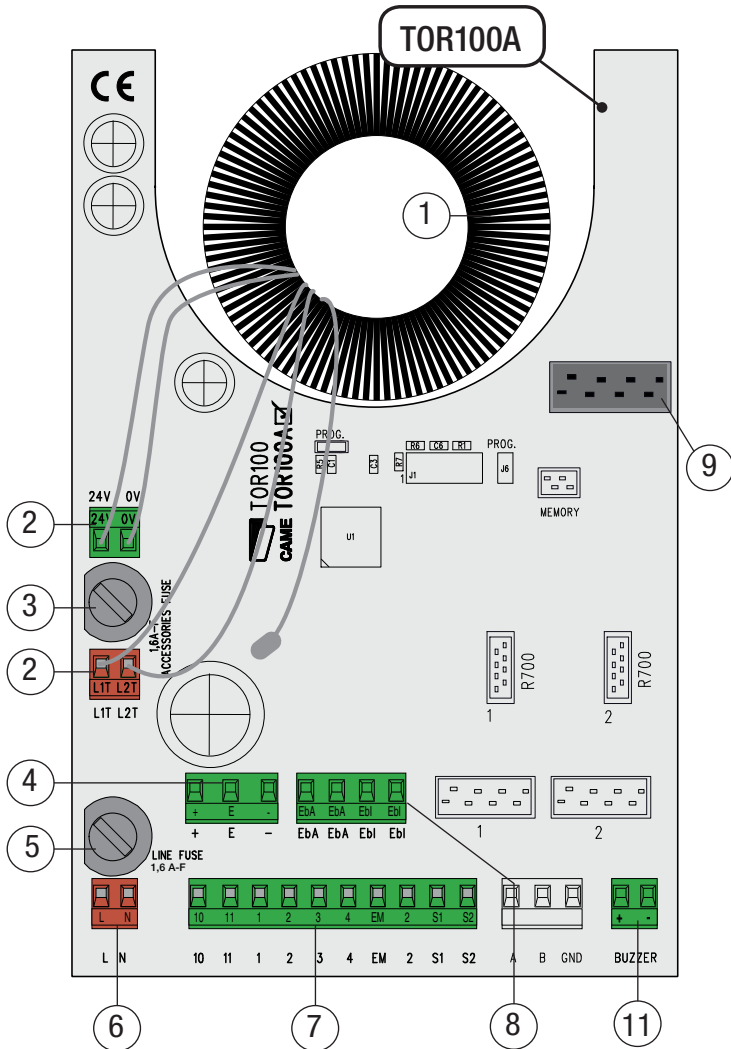
⚠ The total power of the accessories should not exceed 35 W.

📖 The output power at 24V AC is SELV and entails in a risk of electric shock.

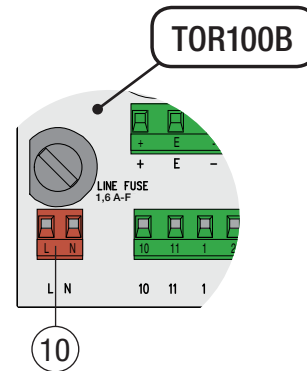
All the connections are protected by quick fuses.

FUSE TABLE	TOR100A	TOR100B
Line fuses (A)	1.6 (230 V)	3.15 (120 V)
Accessories:	1.6	6.3

Description of the components

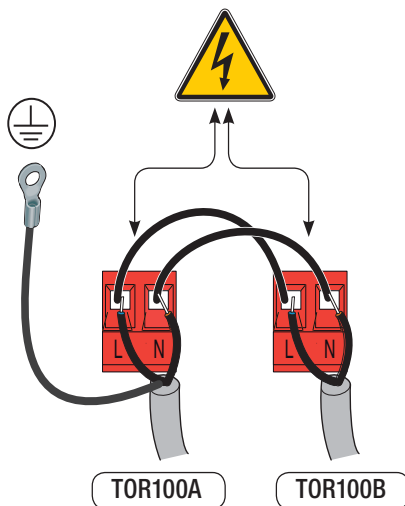


1. Transformer
2. Transformer terminal block
3. Accessory fuse
4. Transit sensor terminal block
5. Line fuse
6. Power supply terminal block
7. Control and safety device terminal block
8. Electric lock terminal block
9. Arrow indicators terminal block **PSBPS08 PSBPS09 PSBPS10**
10. Arm drop power supply terminal block **PSBPS10**



Power supply

120 - 230 V AC (50 / 60 Hz)



230 V AC transformer power supply
(default connection)

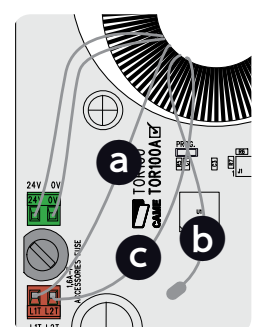
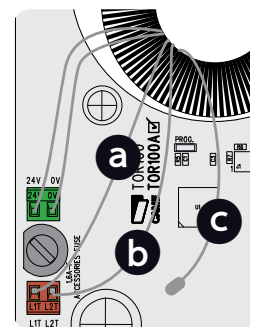
Ref.	Description
a	L1T = White
b	L2T = Red
c	Black (insulated)

120 V AC transformer power supply
(Reverse cables **b** and **c**)

Ref.	Description
t o	L1T = White
b	Red (* insulated)
c	L2T = Black

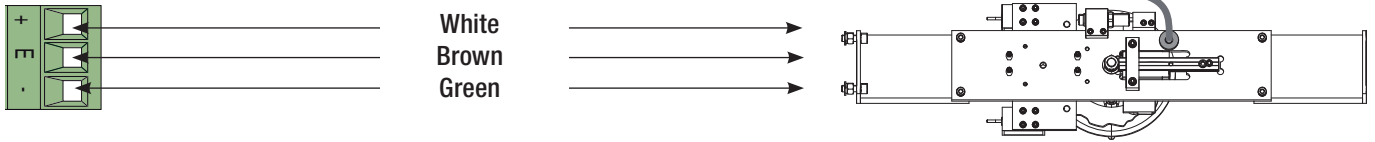
Replace the 1.6 A line fuse with a 3.15 A unit.

⚠ * Must be performed by the installer!

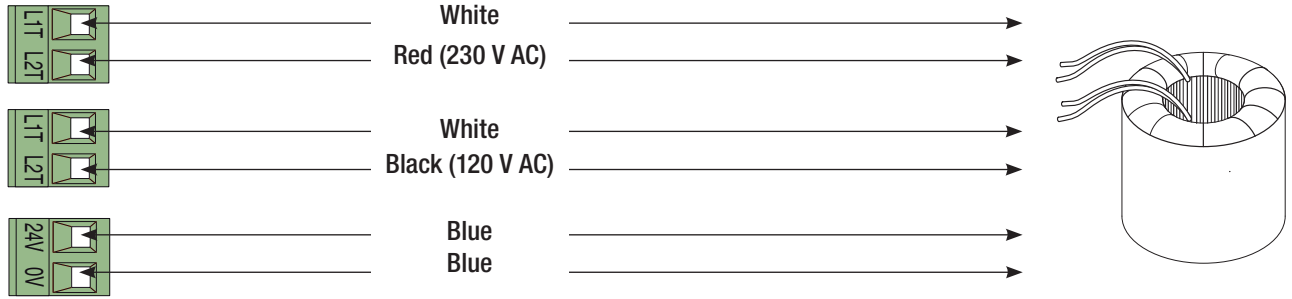


Devices already connected (all models)

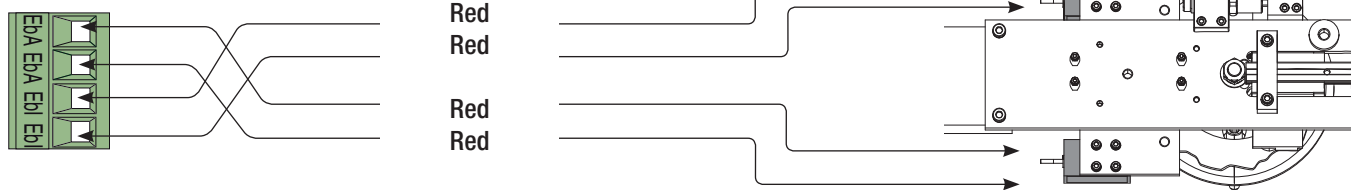
Transit sensor



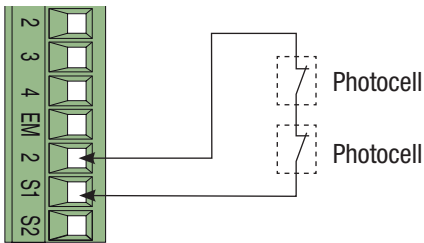
Transformer



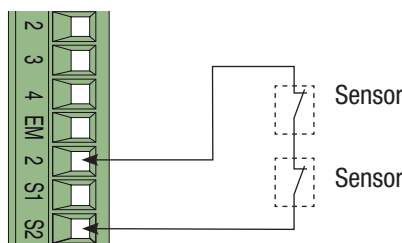
Electric lock



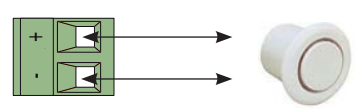
Photocells (PSBPS09)



Protection against climbing over sensors (PSBPS09)

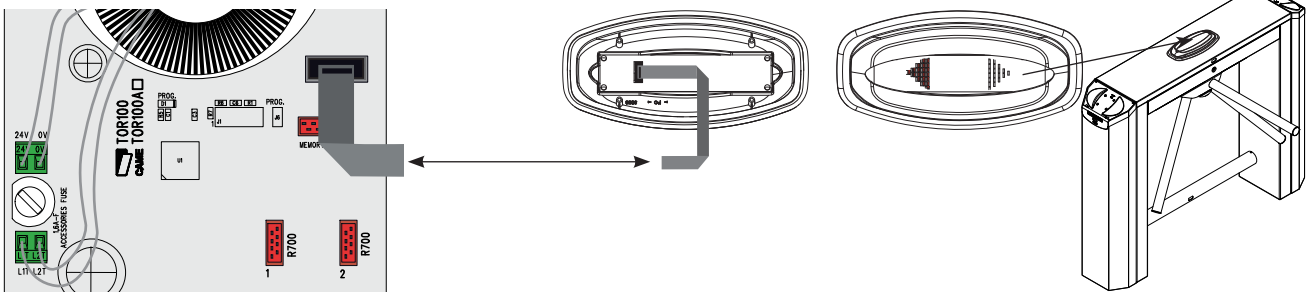


Buzzer (PSBPS09)

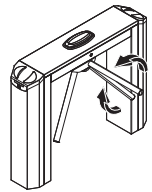
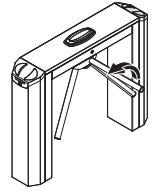
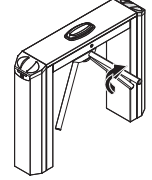
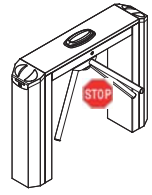
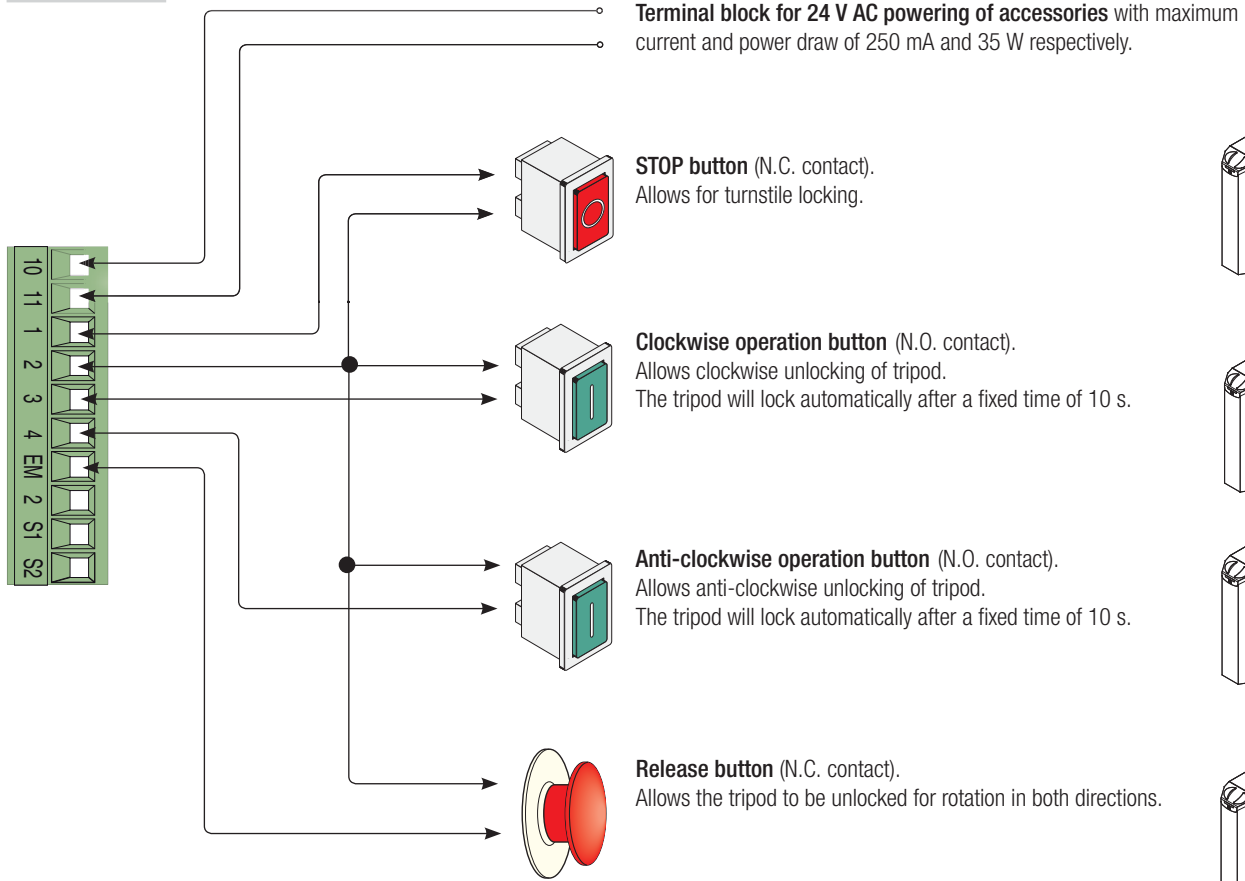


Devices to be connected

Arrow indicators (PSBPS08) (PSBPS09) (PSBPS10)



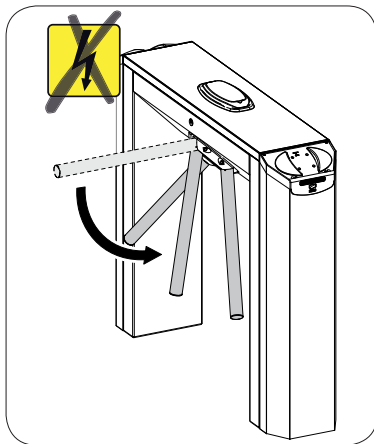
Control devices



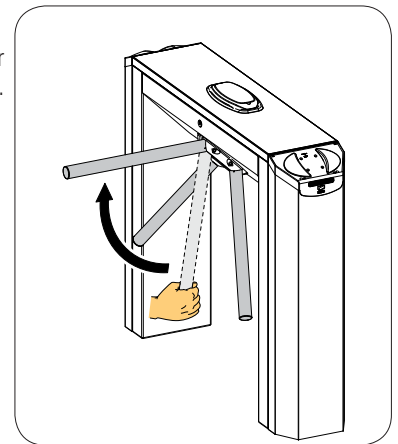
△ Wait 10 seconds before performing any operation after connecting the turnstile to the electrical mains.

Arm drop function (PSBPS10)

In the event of a power failure, the horizontal arm drops to free the passage.

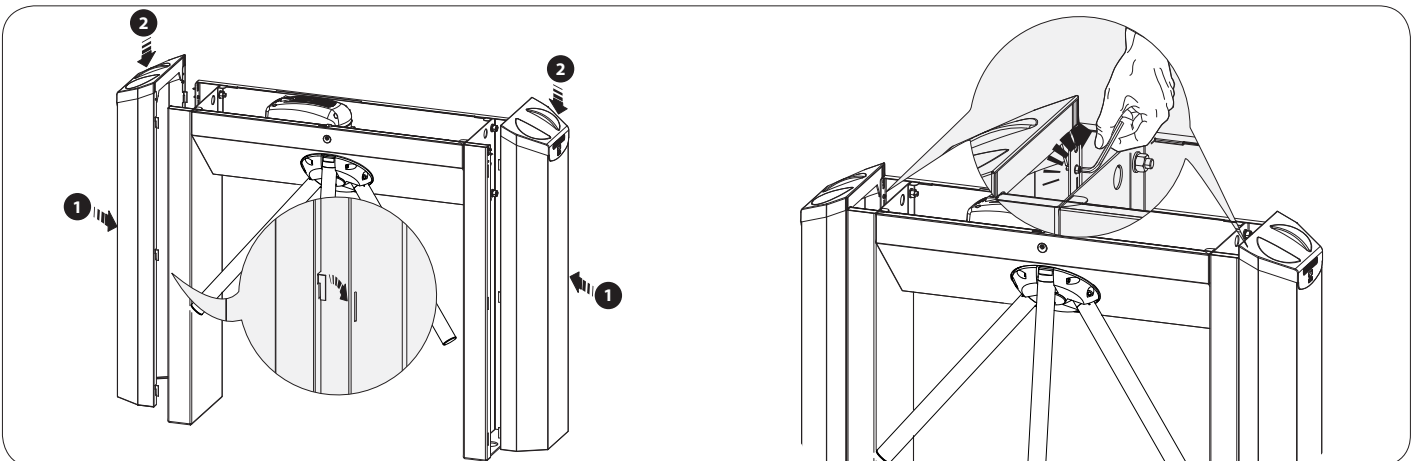


Lift the arm and reset it after power has been restored.

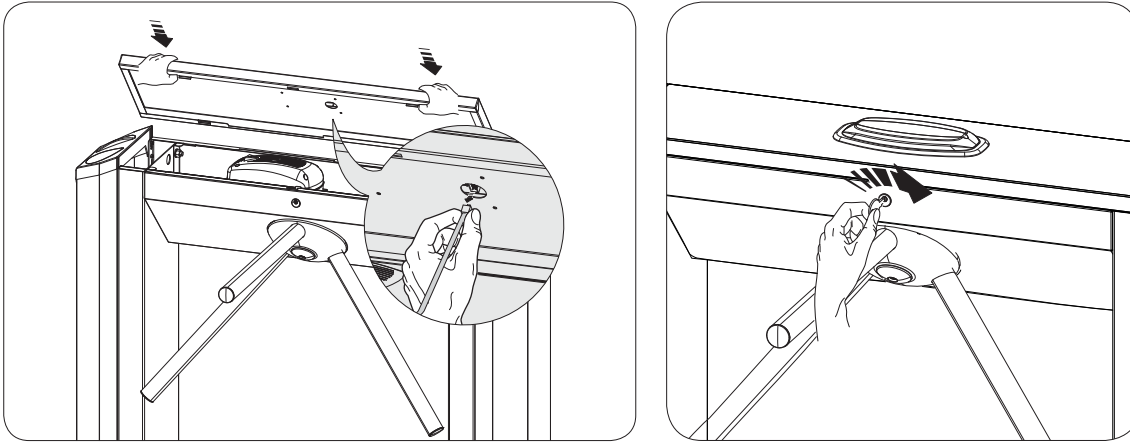


FINAL OPERATIONS

△ Make sure that the hydraulic damper is correctly adjusted (see specific chapter).
Fit the side casings and secure with the screws.



Put the cover on and close the lock with the key.



ADJUSTING THE HYDRAULIC DAMPER

☐ Proper adjustment of the hydraulic damper is a necessary condition for the correct turnstile operation with reduction of mechanical stress on the system.

△ Both the working temperature and duty cycle must be taken into account to properly adjust the hydraulic damper.

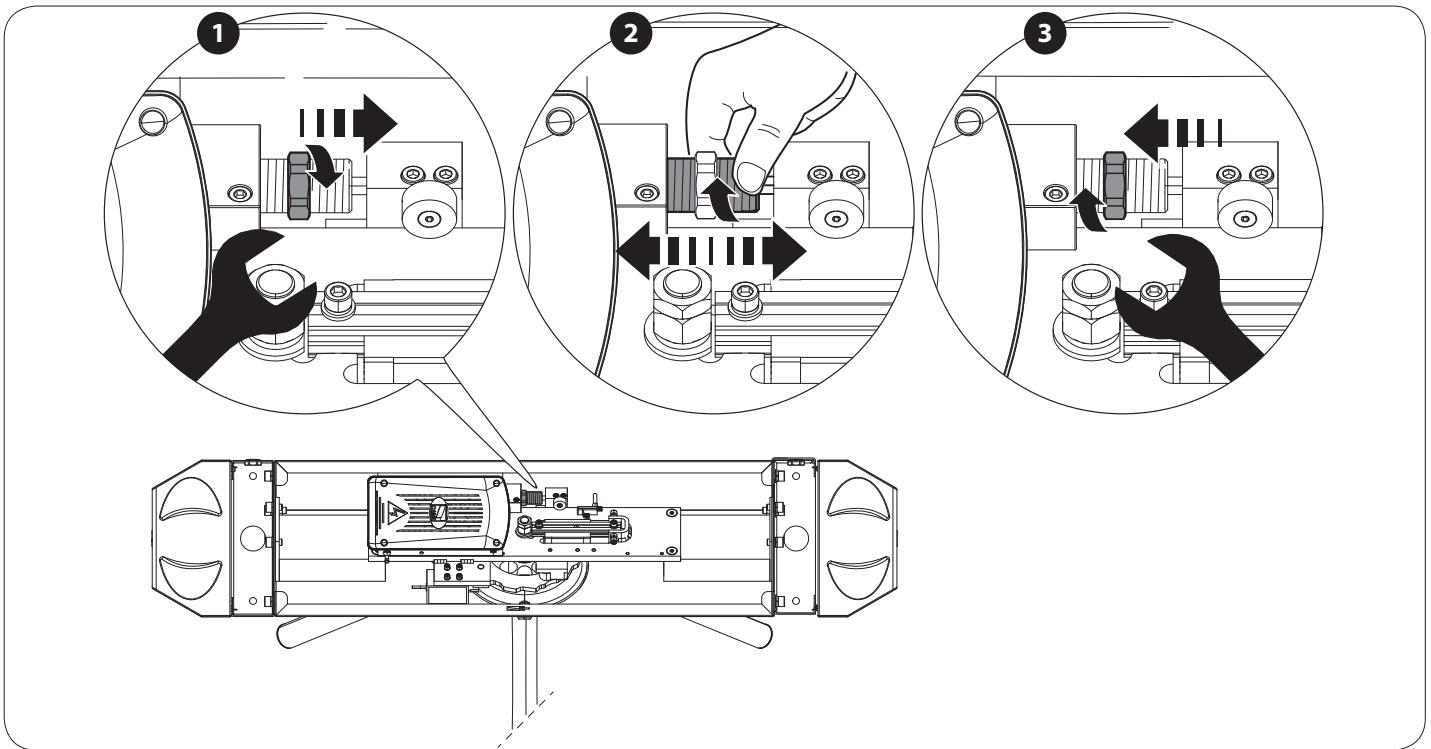
△ Remove line voltage during installation and make sure that the tripod moves freely.

❶ Loosen the bolt.

❷ Simulate use by acting on the tripod and, while screwing/unscrewing the damper, adjust braking force of the rotating mechanism: it must smoothly reach the end run during slowdown.

△ Make sure that slowdown is as expected for both clockwise and anti-clockwise rotation.

❸ Lock the hydraulic damper by tightening the bolt.



MAINTENANCE

Before any maintenance, disconnect line voltage to prevent any possible dangerous situations that can be caused by accidental movement. For proper maintenance of steel, please consult the manual 119RW48 on steel cleaning operations.

Periodic maintenance

Model	Operating Limits	MCBF
PSBPS07N		
PSBPS08	Maximum number of daily cycles: 15,000	1,500,000
PSBPS09	Maximum number of cycles per minute: 12 (1 cycles every 5 seconds)	
PSBPS10		

Every 400,000 cycles and at least every 6 months:

1. Check internal wiring of the turnstile, verify that there are no loose or damaged cables.
2. Check that there are no abnormal movements and that rotation is smooth by turning the tripod. Any sudden stopping could be a sign of malfunction.
3. Check that turnstile is securely fixed to the ground by trying to move it; poor ground anchoring could lead to danger.
4. Check tightness of bolts.
5. Check hydraulic damper adjustment.
6. Check the efficiency of lock/release levers.
7. Linear rail cleaning/lubrication.
8. Check roller condition.

Each 1,000,000 cycles, replace:

9. Rollers and electric locks.

Each 3,000,000 cycles, replace:

10. Runner springs.

TROUBLESHOOTING

PROBLEMS	POSSIBLE CAUSES	CHECKS AND REMEDIES
The turnstile is unlocked in both directions	<ul style="list-style-type: none">• No power• Emergency or release button pressed• Electric locks not working	<ul style="list-style-type: none">• Check for mains power• Reset the emergency or release buttons• Contact service
The turnstile is unlocked only in one direction	<ul style="list-style-type: none">• One of the electric locks is faulty• The spring of one of electric locks has come detached• Button 2-3 or 2-4 pressed	<ul style="list-style-type: none">• Contact service• Restore the spring• Check the contact
The turnstile is stuck	<ul style="list-style-type: none">• The person who was going through was leaning on the arm before too early.• Both electric locks remain energized• Stop button engaged	<ul style="list-style-type: none">• Invite the person to stop leaning on the arm and try again• Contact service• Check the validity of the release command
The tripod does not slow down at end run	<ul style="list-style-type: none">• The hydraulic damper is not functioning properly	<ul style="list-style-type: none">• Adjust the damper
The turnstile is unlocked after passage	<ul style="list-style-type: none">• The transit sensor is incorrectly positioned• The transit sensor is damaged	<ul style="list-style-type: none">• Check the position of the transit sensor• Contact service

DISMANTLING AND DISPOSAL

CAME CANCELLI AUTOMATICI S.p.A. implements an EN ISO 14001-certified and compliant Environmental Management System at its plants, to ensure environmental protection.

Please continue our efforts to protect the environment, something that CAME considers to be one of the foundations in developing its business and market strategies, simply by observing brief recommendations as regards disposal:

DISPOSAL OF PACKAGING

Packaging components (cardboard, plastic, etc.) can be disposed of together with normal household waste without any difficulty, by simply separating the different types of waste and recycling them.

Before proceeding, it is always advisable to check specific regulations in force in the place of installation.

DISPOSE OF PROPERLY!

DISPOSAL OF THE PRODUCT

Our products are made with different materials. Most of them (aluminium, plastic, iron, electrical cables) can be disposed of together with normal household waste. They can be recycled if collected, sorted and sent to authorised centres.

Other components (control boards, transmitter batteries, etc.), on the other hand, may contain pollutants.

They should therefore be removed and handed over to companies authorised to recover and recycle them.

Before proceeding, it is always advisable to check specific regulations in force in the place of disposal.

DISPOSE OF PROPERLY!

DECLARATION OF CONFORMITY

Declaration CE - Came Cancelli Automatici S.p.A. declares that this device complies with the essential requirements and other relevant provisions established in Directives 2006/95/EC and 2004/108/EC.

A true copy of the declaration of conformity is available upon request.



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