

119G3784EN

TRIPOD  
TURNSTILES

Official Partner



MILANO 2015

FEEDING THE PLANET  
ENERGY FOR LIFE



INSTALLATION MANUAL

**BRIDGE**

**PSAP01 - PSAP07N - PSAP08**



**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 button 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. • All 'maintained actions' commands must be placed where the moving turnstile and transit/manoeuvre areas are clearly 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 • Apply Warning Symbols where needed and in clearly visible areas.

**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 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 '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.

UNLESS EXPRESSEDLY STATED THE OPERATIONS SHALL BE VALID FOR ALL MODELS OF THE BRIDGEES REGARDLESS OF THE DRAWINGS SHOWN IN THIS MANUAL.

## REGULATORY REFERENCES

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

## DESCRIPTION

001PSAP01	One-way mechanical turnstile in galvanised painted steel (RAL 7035), complete with hydraulic damper.
001PSAP07N	Two-way mechanical turnstile in galvanised painted steel (RAL 7035), complete with control board and hydraulic damper. Automatic tripod release in the event of a blackout.
001PSAP08	Two-way mechanical turnstile in galvanised painted steel (RAL 7035), complete with control board, hydraulic damper and LED direction arrows. Automatic tripod release in the event of a blackout.

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




Bridge series turnstiles are selective, in that it allows the passage in the chosen direction of a person at a time.

The electromechanical models are 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.

The mechanical model always moves freely on one side and locked on the other.

## Intended use

Bridge series turnstiles are used for selection and regulation of pedestrian traffic in areas with high intensity of passage such as stadiums, sports centres, subways, public offices.

-  Rotation is completed and the turnstile automatically reset when turning the tripod more than 60°.
-  Leaning on the arm before releasing the tripod will prevent the electromechanical turnstile from opening.
-  The mechanical model always moves freely on one side and locked on the other.

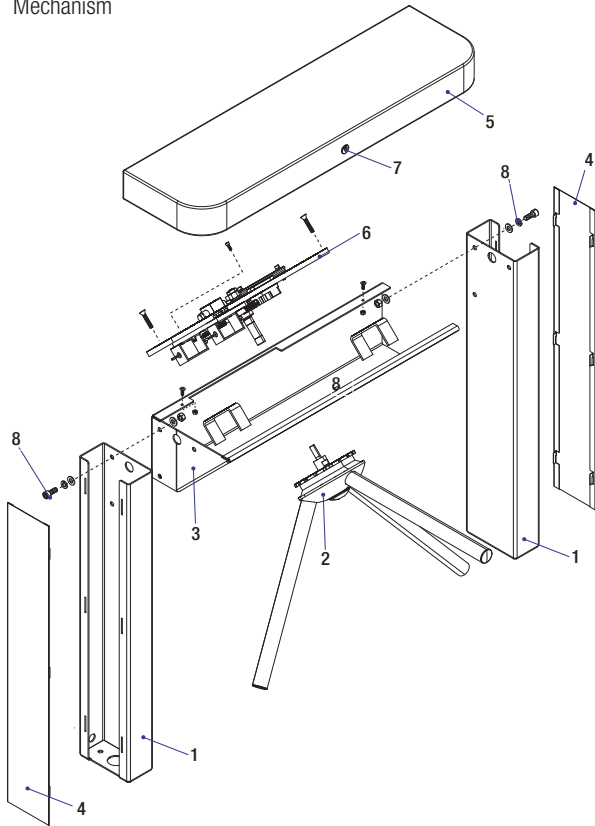
## Technical data

Model	PSAP01	PSAP07N - PSAP08
Protection rating (IP)	-	44
Power supply (V - 50/60 Hz)	-	120 - 230 AC
Absorption (mA)	-	223
Weight (kg)		64
Insulation class	-	I
Operating temperature (°C)		-20 - +55

## Description of the components

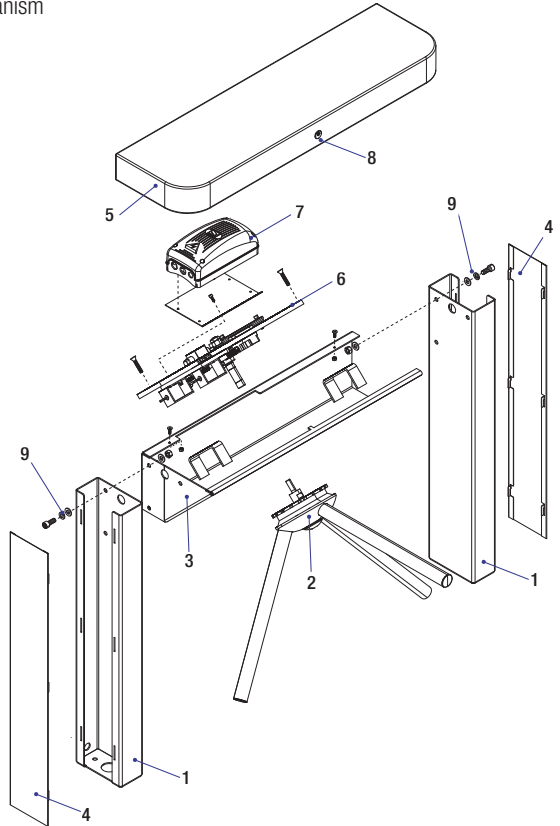
### PSAP01

- |                       |   |
|-----------------------|---|
| 1. Legs               | 7. Cover lock   |
| 2. Tripod             | 8. Screws and washers for fixing the legs to the casing |
| 3. Sheet metal casing |   |
| 4. Housing            |   |
| 5. Top cover          |   |
| 6. Mechanism          |   |



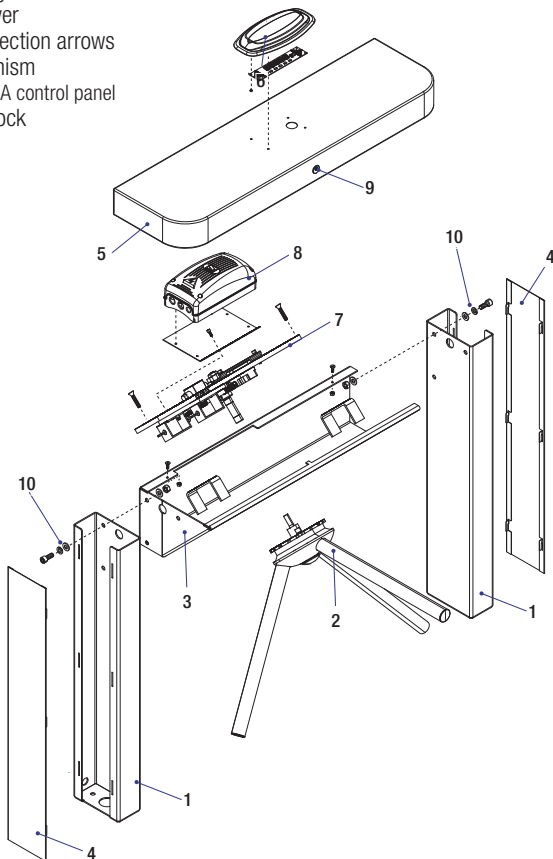
### PSAP07N

- |                       |   |
|-----------------------|---|
| 1. Legs               | 7. TOR100A control panel                                |
| 2. Tripod             | 8. Cover lock   |
| 3. Sheet metal casing | 9. Screws and washers for fixing the legs to the casing |
| 4. Housing            |   |
| 5. Top cover          |   |
| 6. Mechanism          |   |



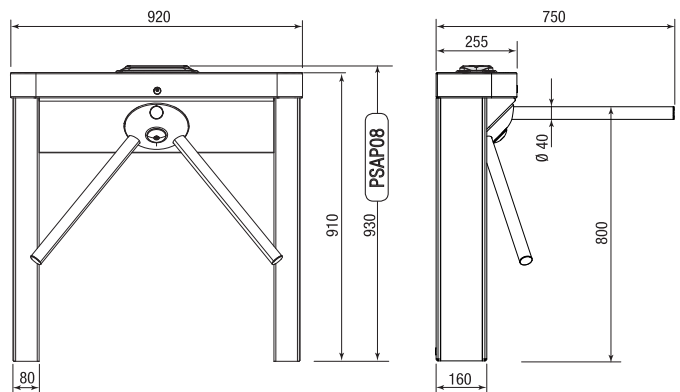
### PSAP08

- |                          |  |
|--------------------------|--|
| 1. Legs                  | 10. Screws and washers for fixing the legs to the casing |
| 2. Tripod                |  |
| 3. Sheet metal casing    |  |
| 4. Housing               |  |
| 5. Top cover             |  |
| 6. LED direction arrows  |  |
| 7. Mechanism             |  |
| 8. TOR100A control panel |  |
| 9. Cover lock            |  |



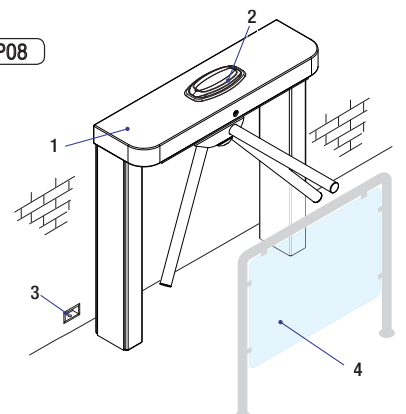
## Dimensions

(mm)



## Example of a system

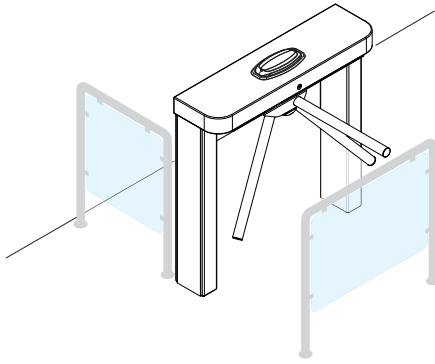
1. Tripod turnstile
2. Direction arrows **PSAP08**
3. Junction box **PSAP07N** **PSAP08**
4. Barrier



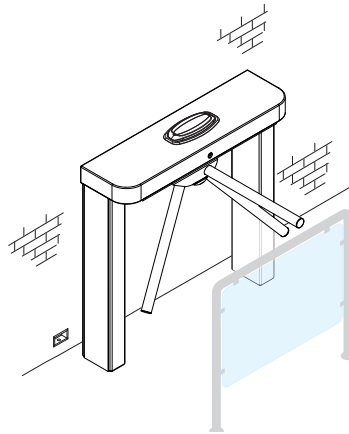
## Examples of use

△ The output managed by a turnstile should not be considered an emergency exit! Always provide an exit for emergency situations and for the physically impaired.

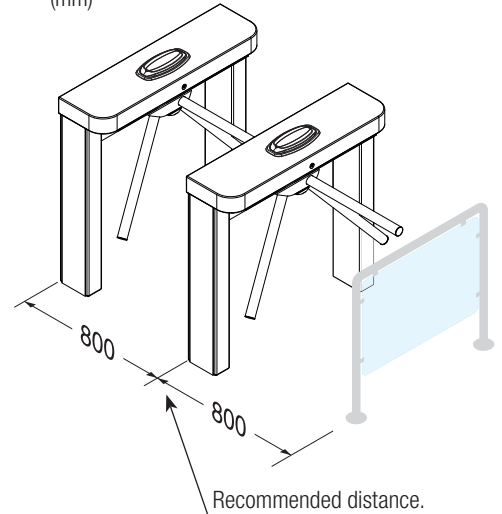
Standard installation



Wall flanking installation



Multiple installation (mm)



## GENERAL INSTRUCTIONS FOR INSTALLATION

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

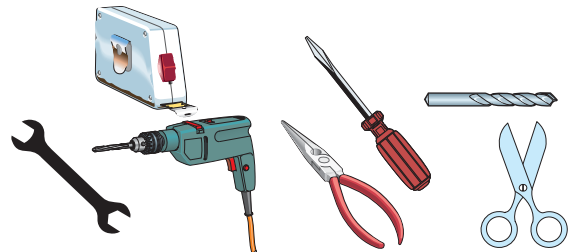
### Preliminary checks PSAP07N PSAP08

△ The following is necessary before installing the turnstile:

- If necessary provide for the corrugated tubing to route electrical cables;
- Provide a suitable single-pole disconnector with a maximum of 3 mm between the contacts, to disconnect the power supply;
- Prepare piping and ducts suitable 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 you will need 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 PSAP07N PSAP08

Connection	Cable type	Cable length 1 < 10 m	Cable length 10 < 20 m	Cable length 20 < 30 m
Control panel power supply 120/230 V	FROR CEI 20-22 IEC EN 50267-2-1	3G x 1.5 mm <sup>2</sup>	3G x 1.5 mm <sup>2</sup>	3G x 1.5 mm <sup>2</sup>
Accessory power supply		2 x 0.5 mm <sup>2</sup>	2 x 0.5 mm <sup>2</sup>	2 x 1 mm <sup>2</sup>
Control and safety devices		2 x 0.5 mm <sup>2</sup>	2 x 0.5 mm <sup>2</sup>	2 x 0.5 mm <sup>2</sup>

☞ If the cables differ in length compared to 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 given on the table must be re-evaluated based on actual power draw and effective distances. When connecting products that are not specified in this manual, please refer to the documentation provided with said products.

## INSTALLATION

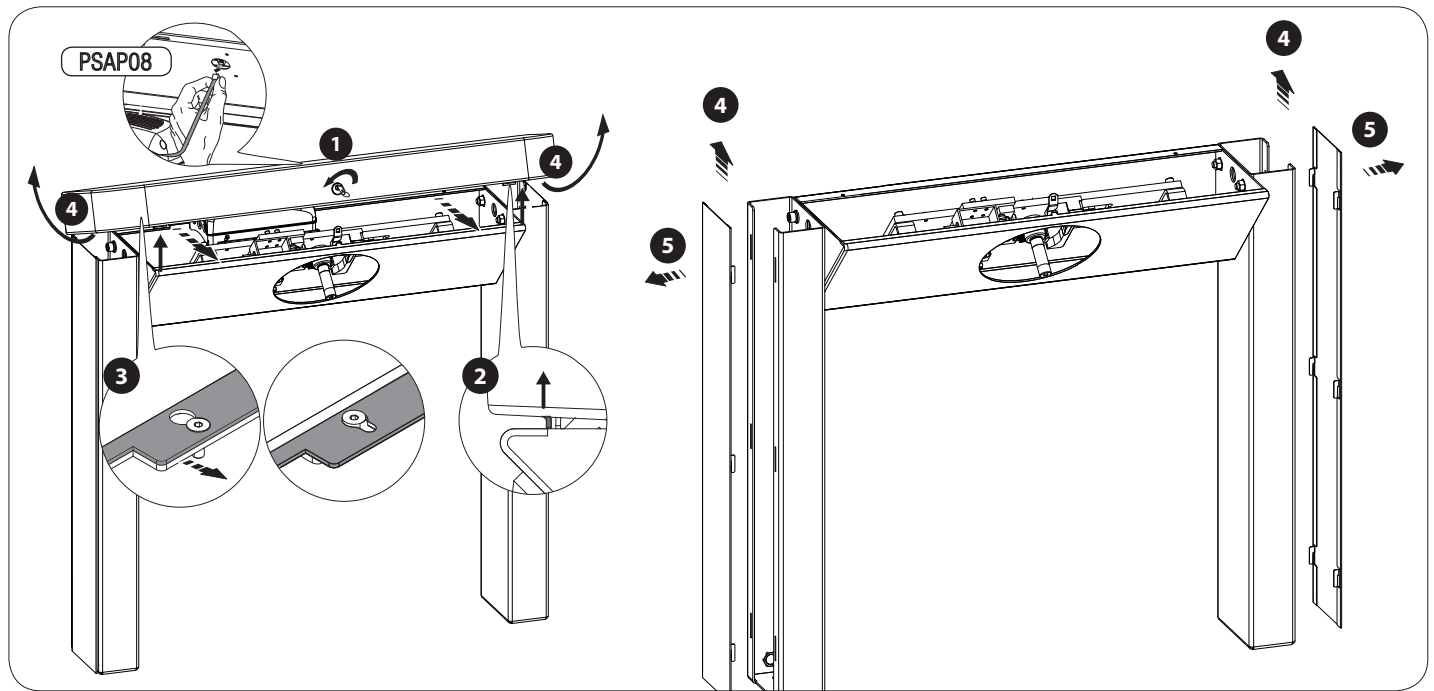
The following illustrations are only examples, given that the space for securing the turnstile and accessories varies depending on the overall dimensions. The installation technician is responsible for choosing the most suitable solution.

△ 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.

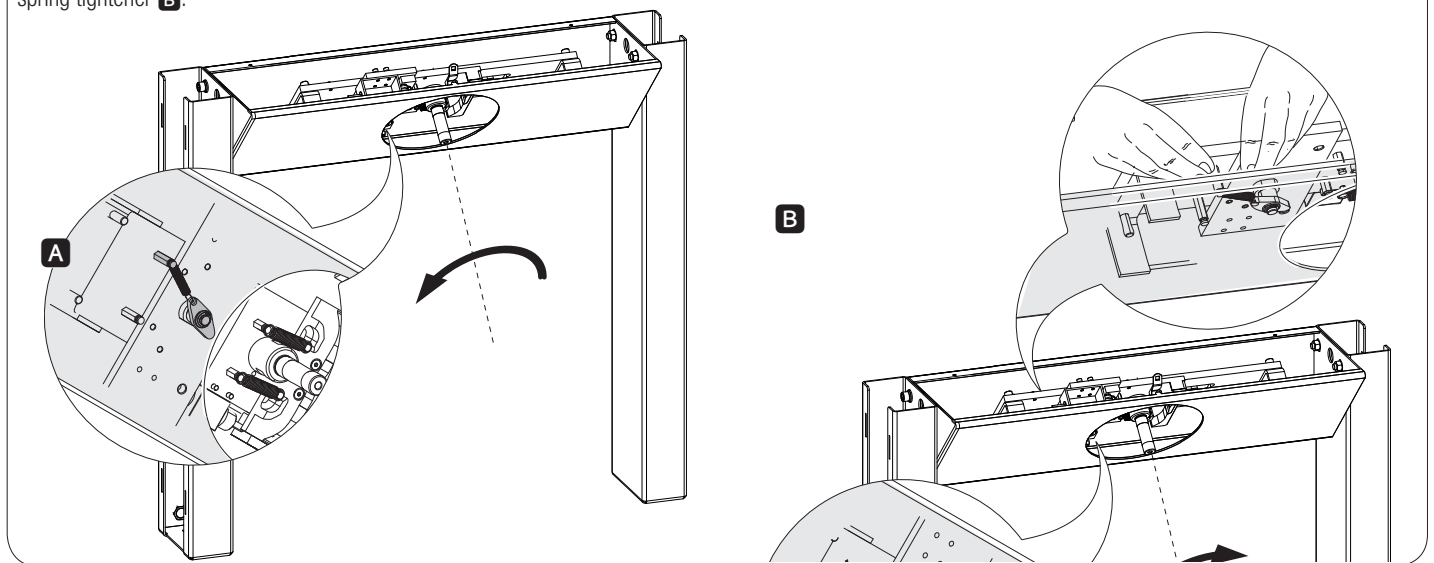
## Preparing the turnstile

Open the lock using the key **1**, lift **2** the cover and slightly pull it forward while **3** pulling it upwards **4**. Lift the casings **5** and remove them **6**.

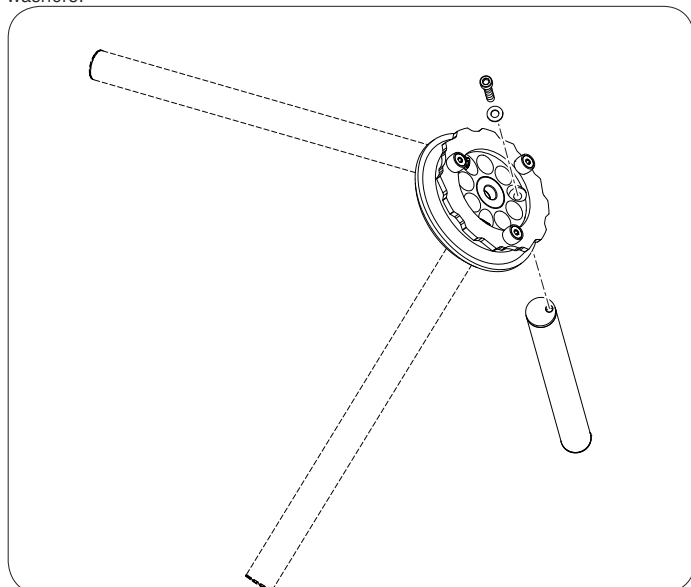


## PSAP01

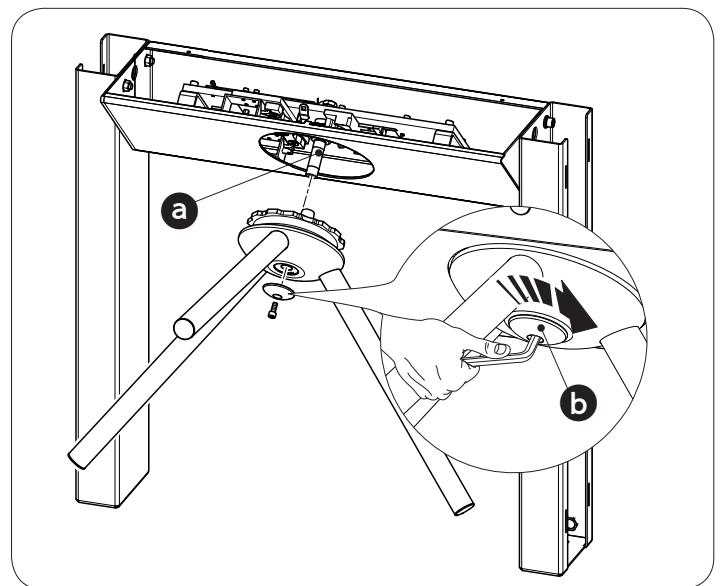
The turnstile comes with an anti-clockwise rotation mechanism **A** installed in the factory; invert mechanism rotation by moving the return spring to the second spring tightener **B**.



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**.

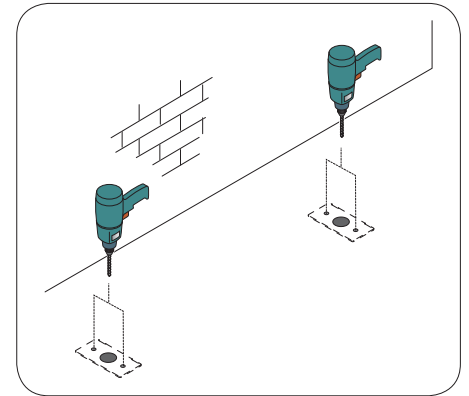
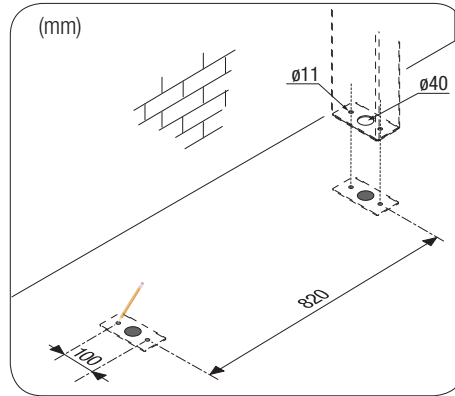
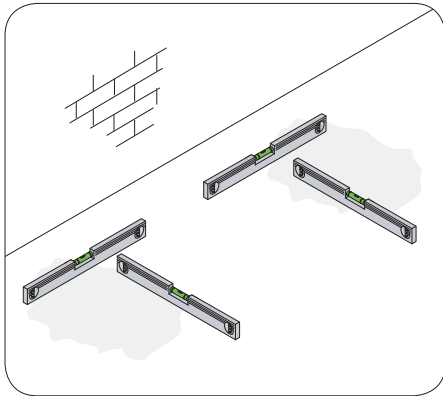


## Securing the turnstile

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

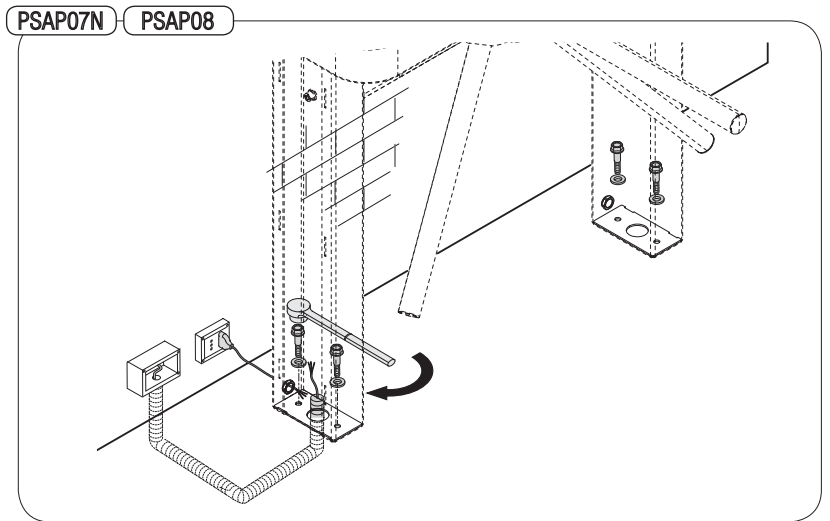
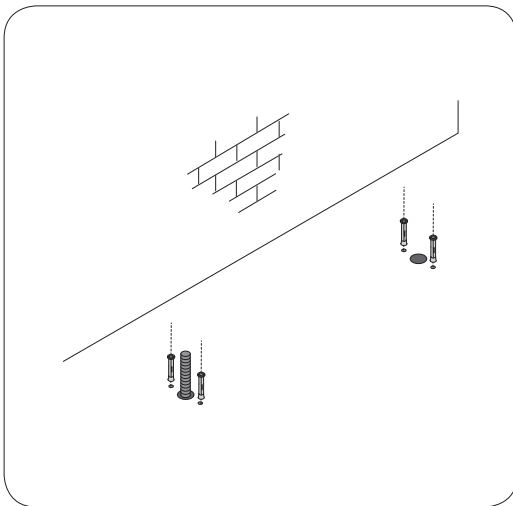
The location in which to fix the turnstile depends on the size of the gap and the possible accessories to be connected. Once you have determined the location, use a pencil to mark the drill holes according to the dimensions indicated.

Drill the marked holes and insert the dowels into them.



Place the turnstile over the wall 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 PSAP07N PSAP08

- ⚠ Remove line voltage before intervening on the control board.
- Control board power 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.

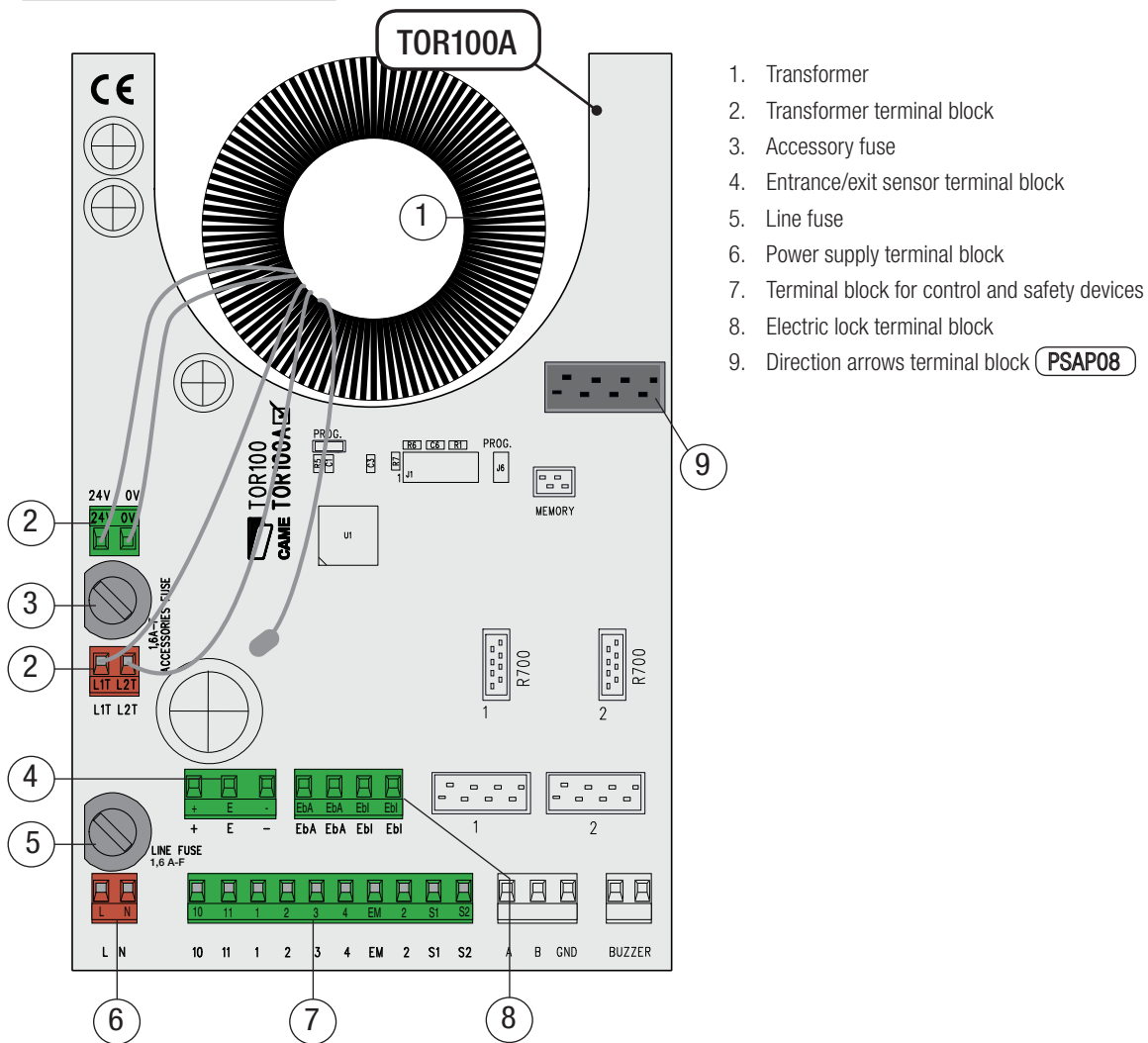
📖 The output power at 24V AC is SELV type for which there is a risk of electric shock.

All the connections are protected by quick fuses.

FUSE TABLE	TOR100A
Line fuses (A)	1,6 (230 V) 3,15 (120 V)
Accessories (A)	1.6



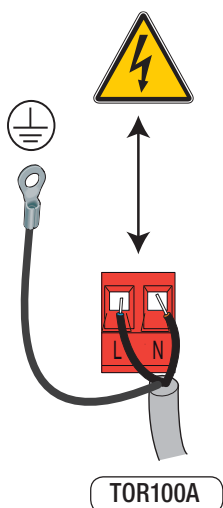
## Description of the components



1. Transformer
2. Transformer terminal block
3. Accessory fuse
4. Entrance/exit sensor terminal block
5. Line fuse
6. Power supply terminal block
7. Terminal block for control and safety devices
8. Electric lock terminal block
9. Direction arrows terminal block (PSAP08)

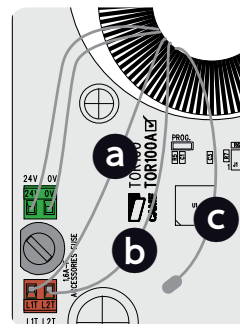
## Power supply

120 - 230 V AC (50 / 60 Hz)



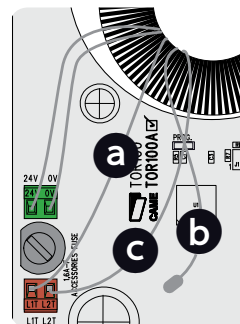
230 V AC power supply for transformer  
(default connections)

Ref.	Description
<b>a</b>	L1T = White
<b>b</b>	L2T = Red
<b>c</b>	Black (isolated)



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

Ref.	Description
<b>a</b>	L1T = White
<b>b</b>	Red (* isolated)
<b>c</b>	L2T = Black

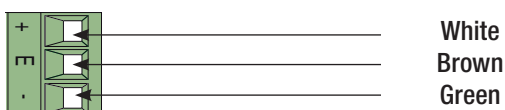


Replace the 1.6A line fuse with a 3.15 A unit.

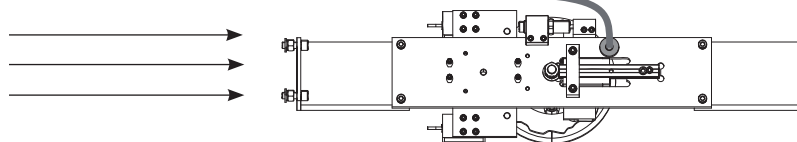
⚠ \* Operations reserved for the installing technician!

## Devices already connected (PSAP07N) (PSAP08)

### Entrance/exit sensor

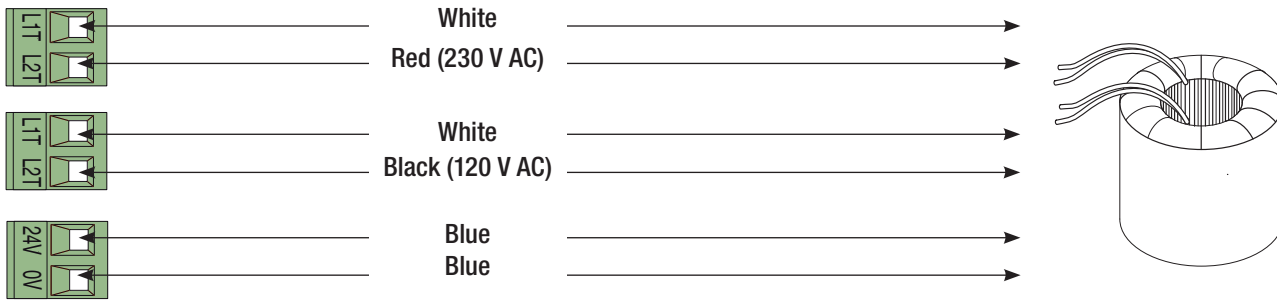


White  
Brown  
Green





### Transformer

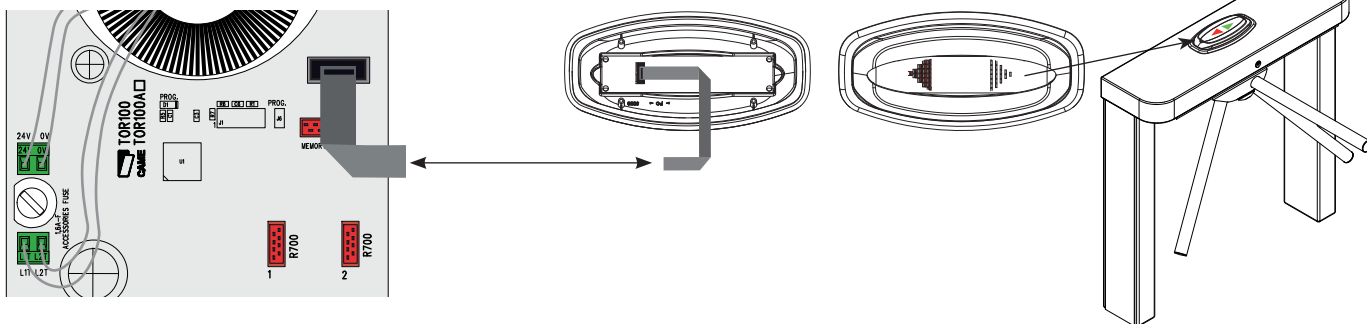


### Electric lock

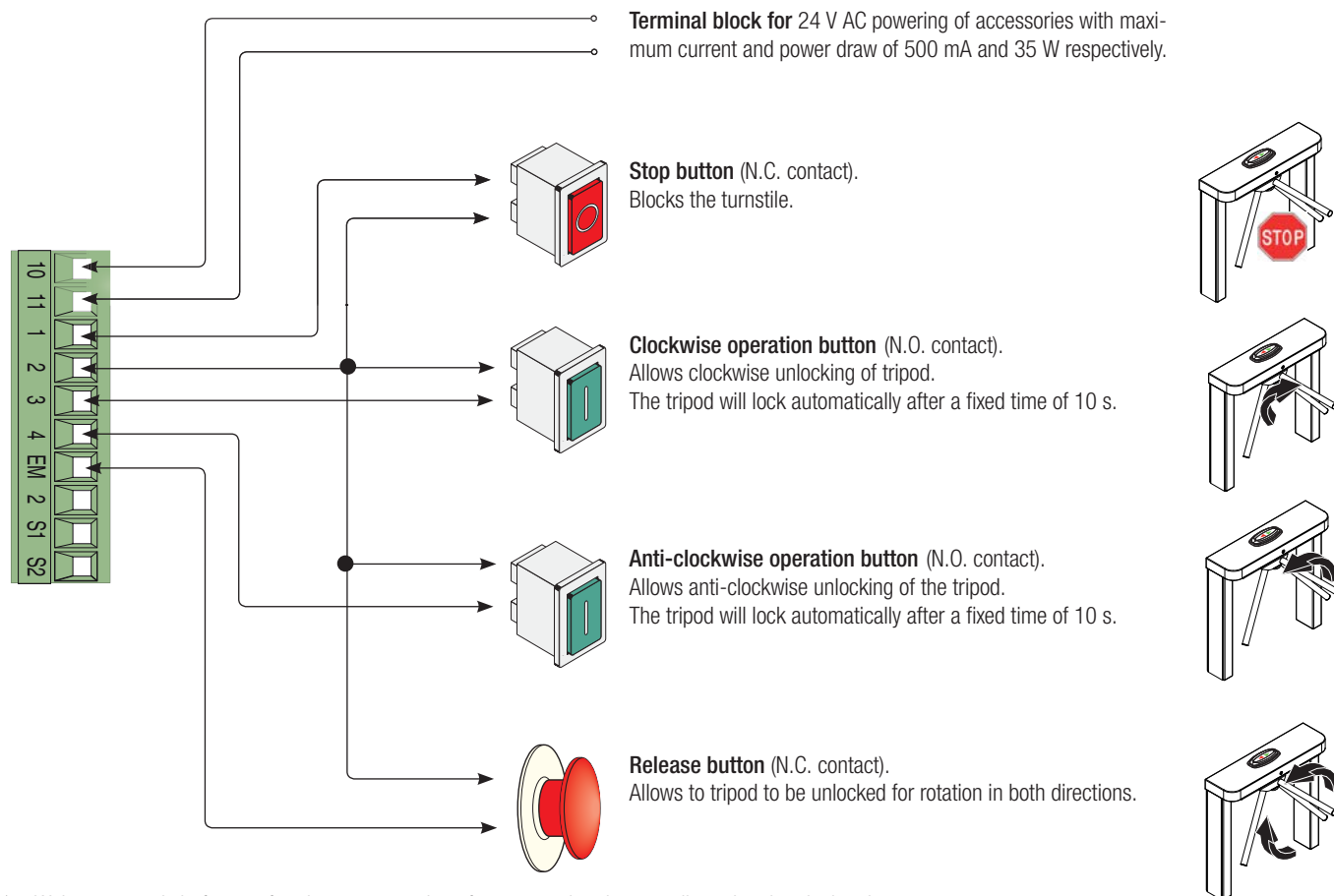


### Devices to be connected **PSAP08**

#### Direction arrows



### Control devices **PSAP07N** **PSAP08**

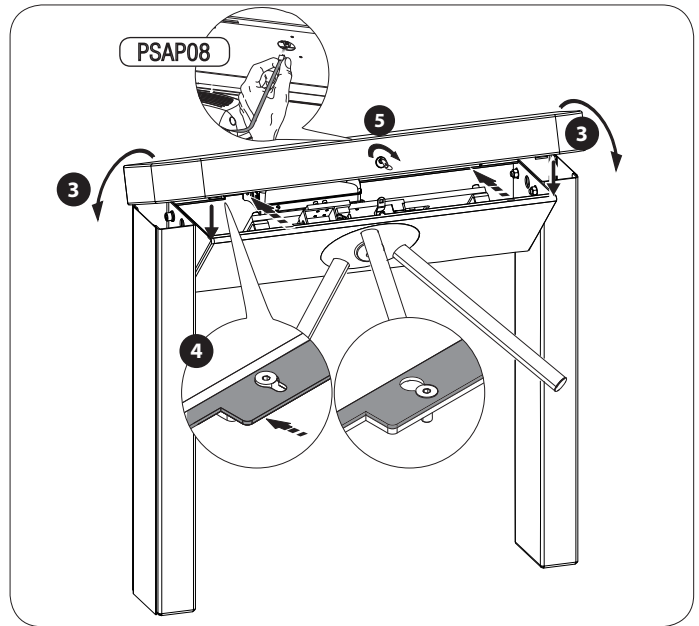
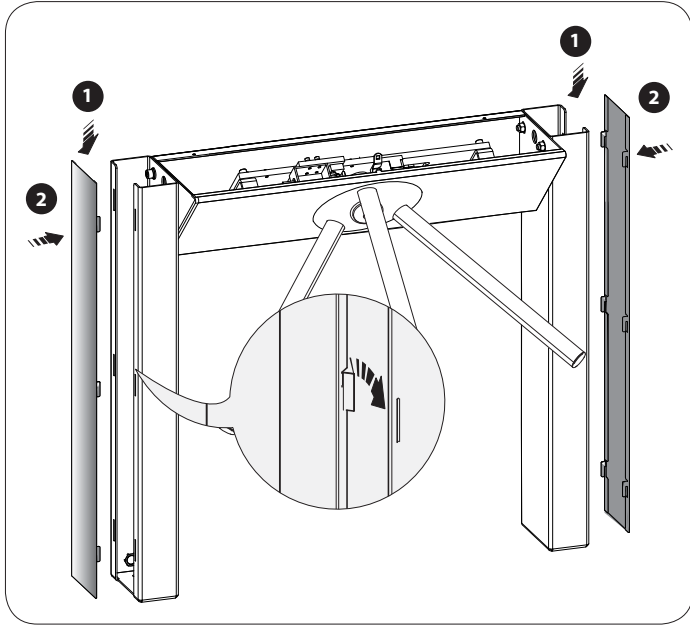


⚠ Wait 10 seconds before performing any operation after connecting the turnstile to the electrical mains.

## FINAL OPERATIONS

△ Make sure that the hydraulic damper is correctly adjusted (see specific chapter).

Mount the side casings **1** **2**. Lower the lid **3** and pull it back slightly **4**. Close the lock using the key **5**.



## 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.

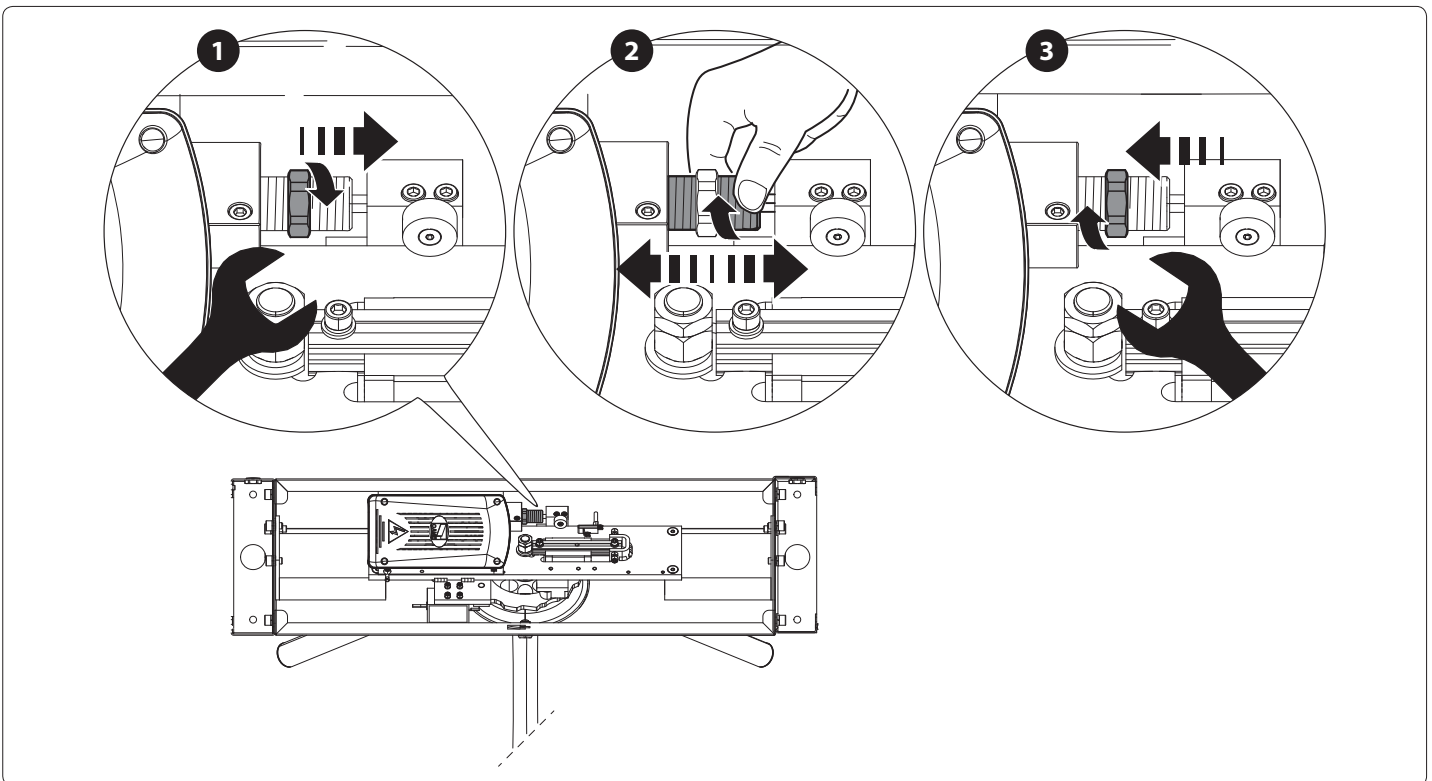
△ Remove line voltage during installation and make sure that the tripod moves freely.

**1** Loosen the nut.

**2** Acting on the tripod, perform simulated use and, while screwing/unscrewing the damper, adjust braking force of the rotating mechanism: it must smoothly reach the end run during deceleration.

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

**3** Lock the hydraulic damper by tightening the nut.



## 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
PSAP01	Maximum number of daily cycles: 15,000 Maximum number of cycles per minute: 12 (1 cycle every 5 seconds)	1,500,000
PSAP07N		
PSAP08		

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

1. Check turnstile internal wiring and 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 locking 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 bolt tightness.
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

PROBLEMI	POSSIBLE CAUSES	CHECKS AND REMEDIES	PSAP01	PSAP07N	PSAP08
The turnstile remains unlocked in both directions	<ul style="list-style-type: none"> <li>• The free direction cam is incorrectly positioned or damaged</li> <li>• No power</li> <li>• Emergency or release button pressed</li> <li>• Electric locks out of order</li> </ul>	<ul style="list-style-type: none"> <li>• Check the position, replace the cam</li> <li>• Check for mains power</li> <li>• Reset the emergency button or release button</li> <li>• Contact service</li> </ul>	✓		
				✓	✓
				✓	✓
				✓	✓
The turnstile unlocks only in one direction	<ul style="list-style-type: none"> <li>• One of the electric locks is out of order</li> <li>• The spring of one of the electric locks has come unlatched</li> <li>• Button 2-3 or 2-4 is pressed</li> </ul>	<ul style="list-style-type: none"> <li>• Contact service</li> <li>• Restore the spring</li> <li>• Check the contact</li> </ul>		✓	✓
				✓	✓
				✓	✓
The turnstile remains locked	<ul style="list-style-type: none"> <li>• The free direction cam is incorrectly positioned or damaged</li> <li>• The person going through leaned on the arm before it was released.</li> <li>• Both electric locks remain energised</li> <li>• Stop button active</li> </ul>	<ul style="list-style-type: none"> <li>• Check the position, replace the cam</li> <li>• Ask the person to stand free of the arm and try unlocking again</li> <li>• Contact service</li> <li>• Check the release command validity</li> </ul>	✓		
				✓	✓
				✓	✓
				✓	✓
The tripod fails to slowdown at end run	<ul style="list-style-type: none"> <li>• The hydraulic damper is out of order</li> </ul>	<ul style="list-style-type: none"> <li>• Adjust the hydraulic damper</li> </ul>	✓	✓	✓
The turnstile remains unlocked after passing through it	<ul style="list-style-type: none"> <li>• The entrance/exit sensor is positioned incorrectly</li> <li>• The entrance/exit sensor is out of order</li> </ul>	<ul style="list-style-type: none"> <li>• Check the position of the entrance/exit sensor</li> <li>• Contact service</li> </ul>		✓	✓
				✓	✓

## 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.*