



Lane closure

Pre-marking systems  
**ROTATING PANELS**



Made in France

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## » Lane neutralization pre-marking

In the context of motorways, expressways and tunnels, lane neutralization is an important action in the large family of equipment intended to ensure the safety of agents and users.

Rotary panels are motorized equipment used to implement advance signaling sequences such as lane closure beacons.

When not active, the panels are parallel to the road. When the system is activated, the panels pivot to place themselves in the axis of the road and thus act as temporary signs.

These panels are an alternative to luminous dynamic panels.

Our system allows an agent to deploy the signaling adapted to his site and his situation with ease thanks to its modular design:

- Possibility of manual, remote-controlled, piloted control.
- Unpowered operation, battery, photovoltaic, on public lighting, 230 V.
- Installation on the ground (on solid mass), on GBA (reinforced concrete slide), wall.





## » Photovoltaic power supply

Totally self-sufficient in energy (thanks to its integrated photovoltaic power supply) it can be installed anywhere.

## » Sheet panels

Each mast can be equipped with two panels, each will be deployed individually depending on the activated scenario.

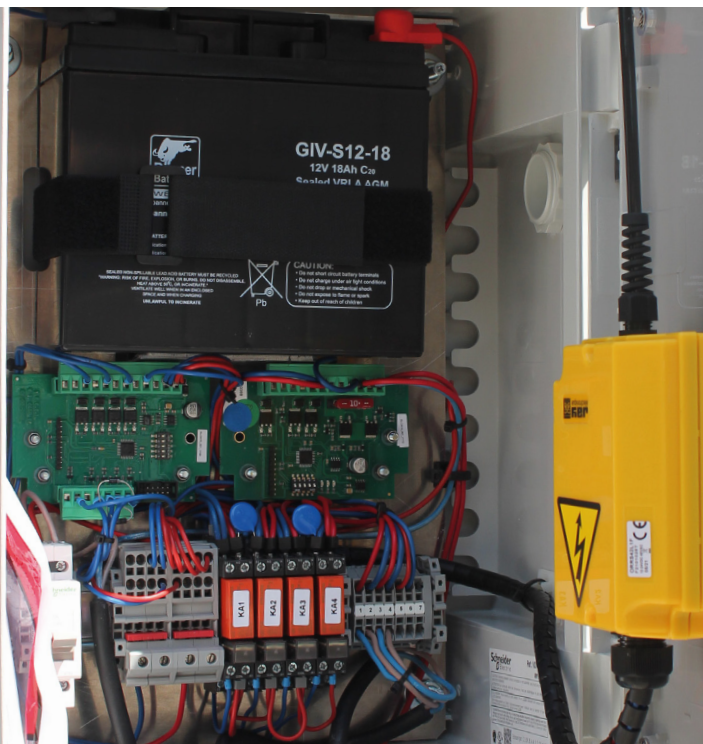
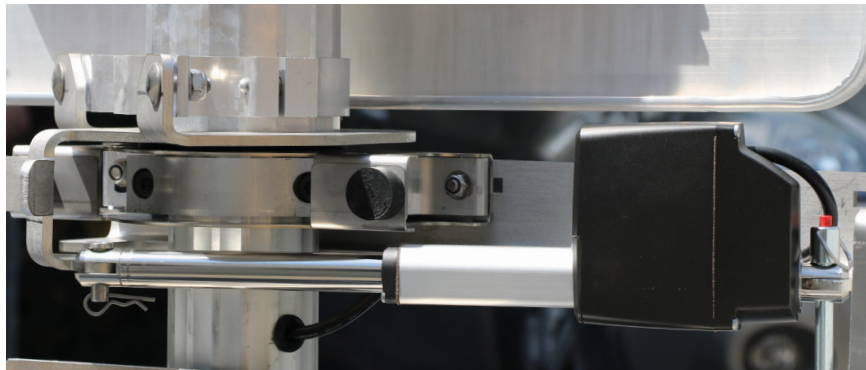
Panel in 1 mm thick galvanized steel sheet or 1.2 mm thick aluminum sheet with edged flange.

It can be deployed on one side of the road or simultaneously on both sides.



## » Motorization

These panels are motorized so that they can be rotated 90°, so that they are presented either facing the traffic (open position) or parallel to the direction of road traffic (hidden position).



## » Cabinet

The control cabinet includes all the components ensuring the operation of the whole. For each mast, it is the heart of the system centralizing the electronic elements for piloting, power supply and means of control.



# ROTATING PANELS

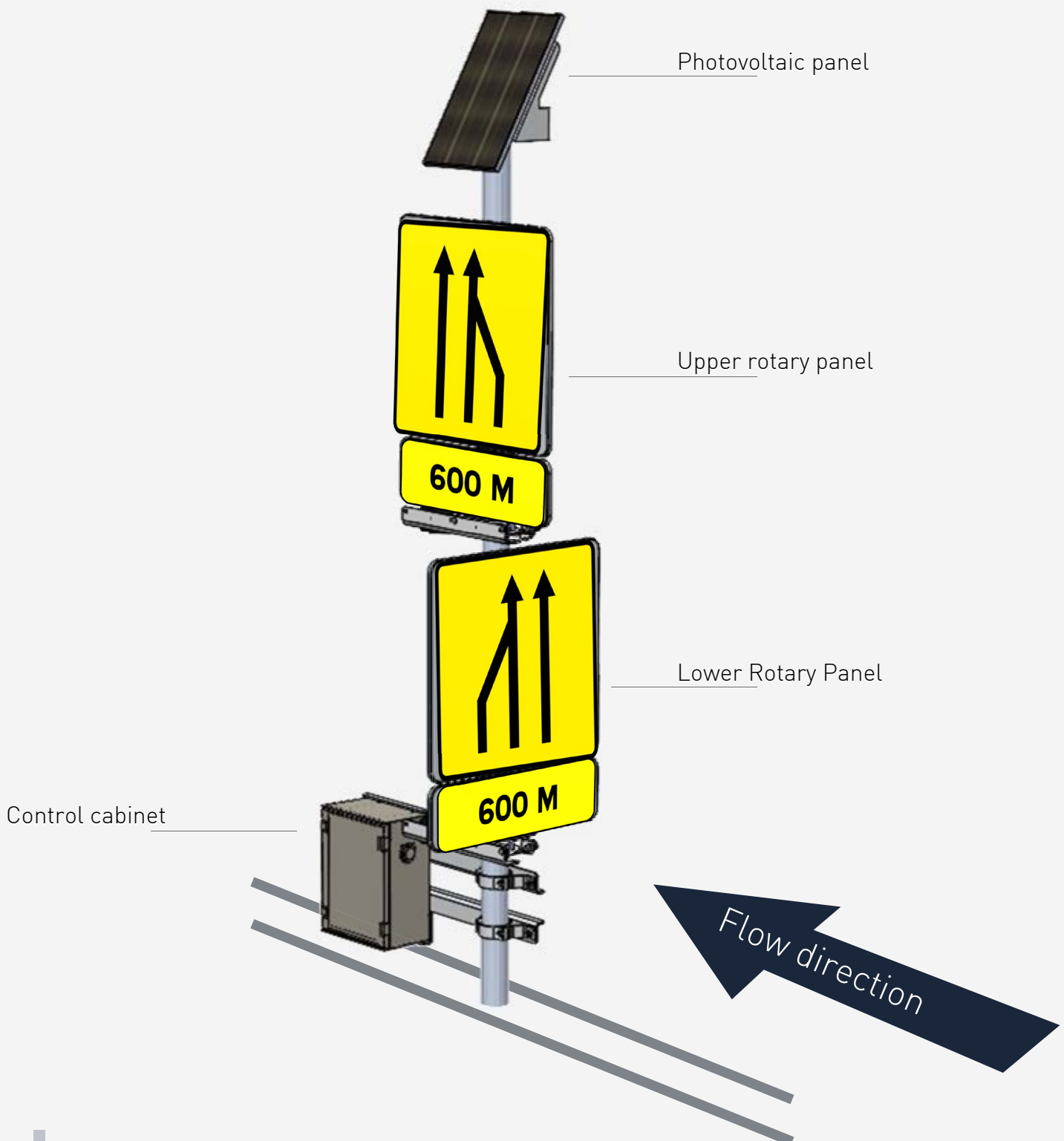
## Positioning and installation of rotating panels

### » Example of a double rotating panel installed in BAU:

The upper panel is deactivated (not visible to users), and the lower panel is activated and therefore visible to users.

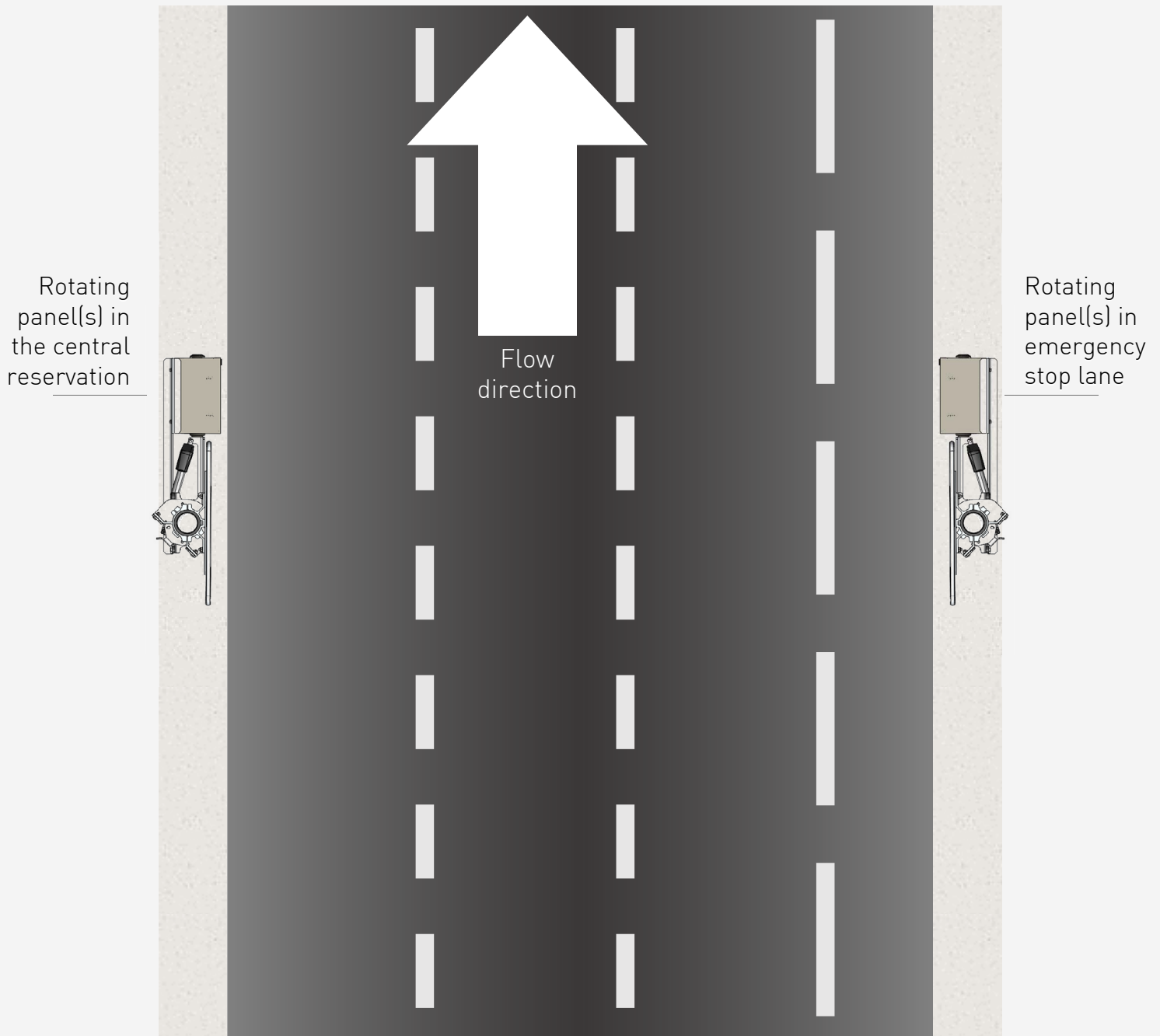
The size, shape and symbol of each of the signs are adapted to the site.

For sites with only one panel, only the signaling assembly in the lower part will be equipped.



# ROTATING PANELS

## Positioning and installation of rotating panels



For safety, the mechanical rotation device and the control cabinet will always be located after the axis of the mast, in relation to the direction of circulation.

## Operating mode

### » Power modes

The mode of operation of the pre-beaconing system made up of rotating panels, can be carried out in two ways: Manually, or via a power supply to operate the motor, activating the rotation of the panel.

The equipment can be powered by an electrical connection, or independently with a photovoltaic power supply integrated into the equipment.

The different possible power supply modes are:

- Mains supply 230 V.
- Photovoltaic power supply (coupled to a battery).
- Battery supply.
- Power supply on public lighting (SEP).



### » Piloting modes » more information on page 7

The panels are remote controlled (motor control) by an operator on site via a remote control (maximum distance 100m).

Long-distance control is also possible via 3/4G link for an operator installed in a centralized control station.

It is also possible at any time to disengage the electric cylinder in order to be able to maneuver and lock the panel concerned.

» more information on page 8.

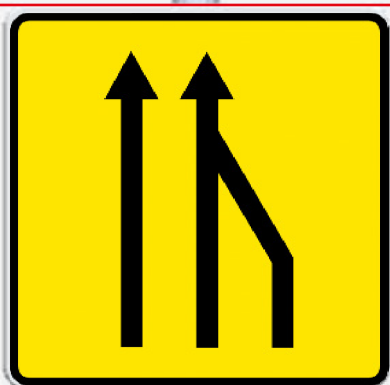
## » Equipment Operation

Three equipment control modes are possible:

- Manual.
- Remote controlled on site.
- pc.

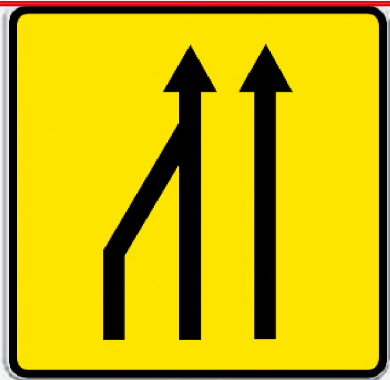
When a panel is opened, or in the process of being opened, the opening of a second panel immediately leads to the closing of the first (the two panels can therefore never be deployed at the same time).

Upper rotary panel



600 M

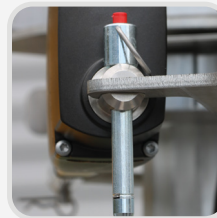
Lower Rotary Panel



600 M

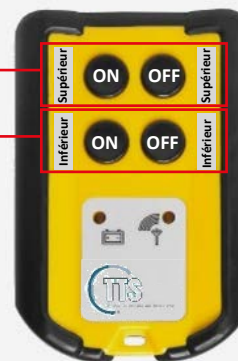


### Manual » more information on page 9



### Remote controlled on site

Our system allows an agent to deploy the signaling adapted to his site and his situation with ease thanks to the remote control (maximum distance 100m).



ON: The panel will rotate and will be visible to users.

OFF: The panel will return to its initial position and will be invisible to users.

This remote control can control a set of two panels, however, if the site has only one panel, only the «Top» keys will be active.

### Remote controlled

Remote control for an operator installed in a centralized control station.



» A set of two sensors provides real-time information on the position of the panel.

# ROTATING PANELS

Photovoltaic power supply

## » Orientation of the photovoltaic panel

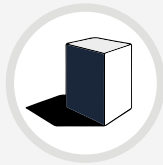
It will be imperative to orient the cells of the photovoltaic panel towards the south.

This adjustment is made by fixing the support of the photovoltaic panel to its mast. Simply loosen the clamps and rotate the assembly around the mast.

**Make sure that the cells of the photovoltaic panel are not in the shadow of an obstacle. (Tree branches, building, wall etc...)**



ORIENTED  
SOUTH



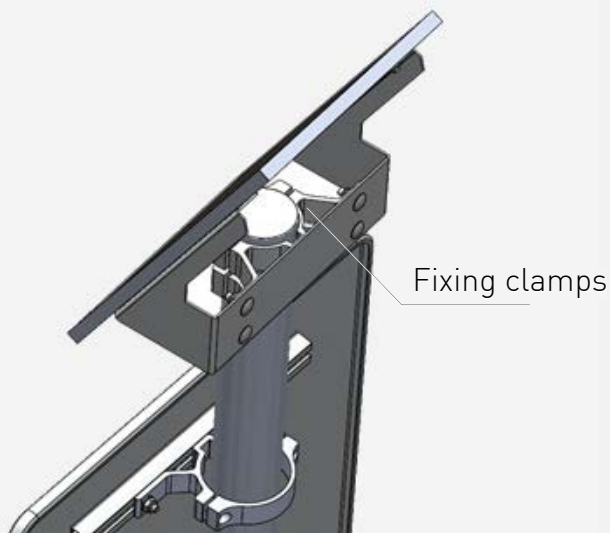
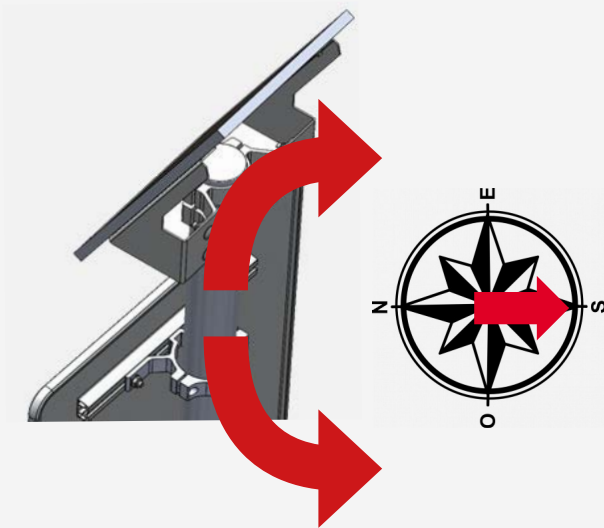
ORIENTATION  
CLEAR



NOT EXPOSED  
TO FOULING



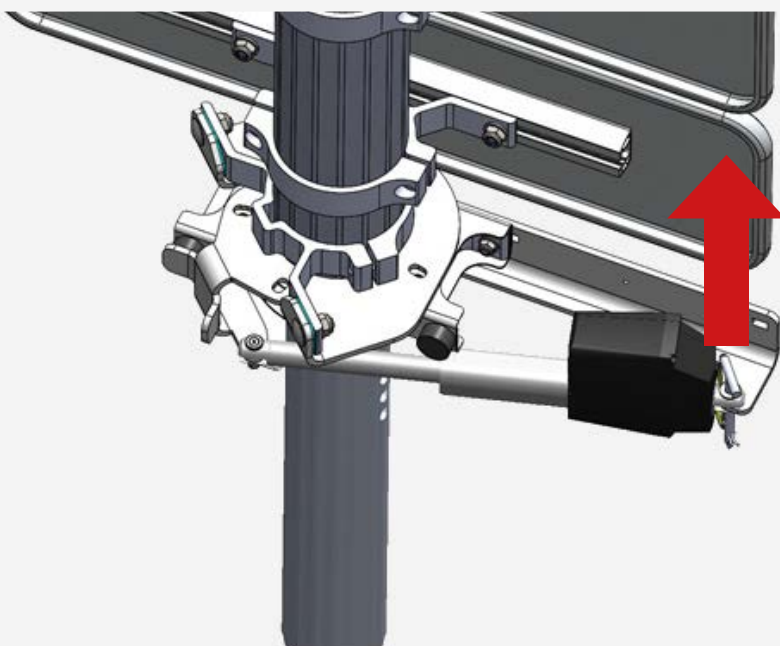
CLEANED UP  
2X A YEAR



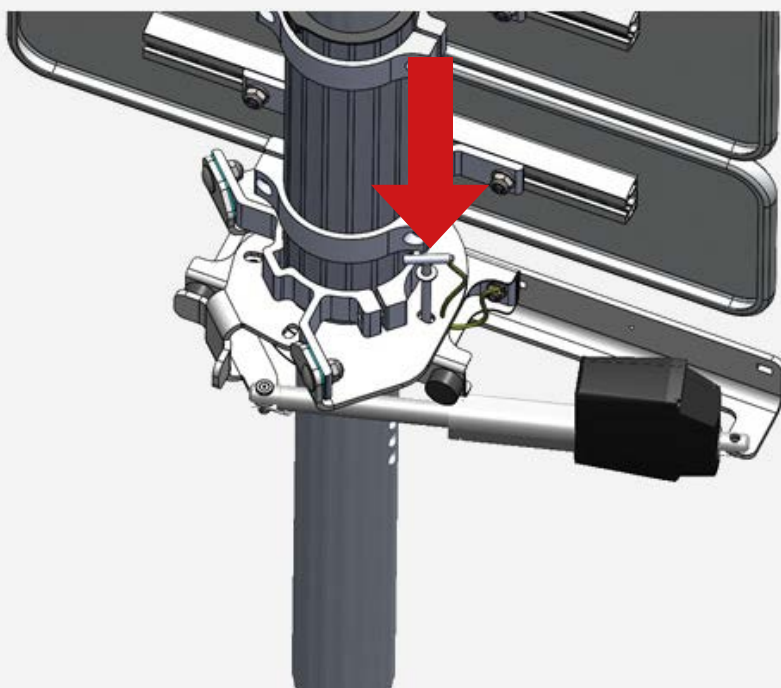


### Manual disengagement of the rotating device

In the event of an electrical failure, it is possible to disengage the electric cylinder in order to be able to maneuver and lock the panel concerned.



Release the pin located at the rear of the electric actuator. The rotation device is then released.



Engage this same pin in the index of the rotation device. In this state, this pin will lock the panel in either position.

## Fixings and installation

### » Fixings adapted to the installation site

The installation of the panels is possible either on shoulder, or on central ground (TPC).

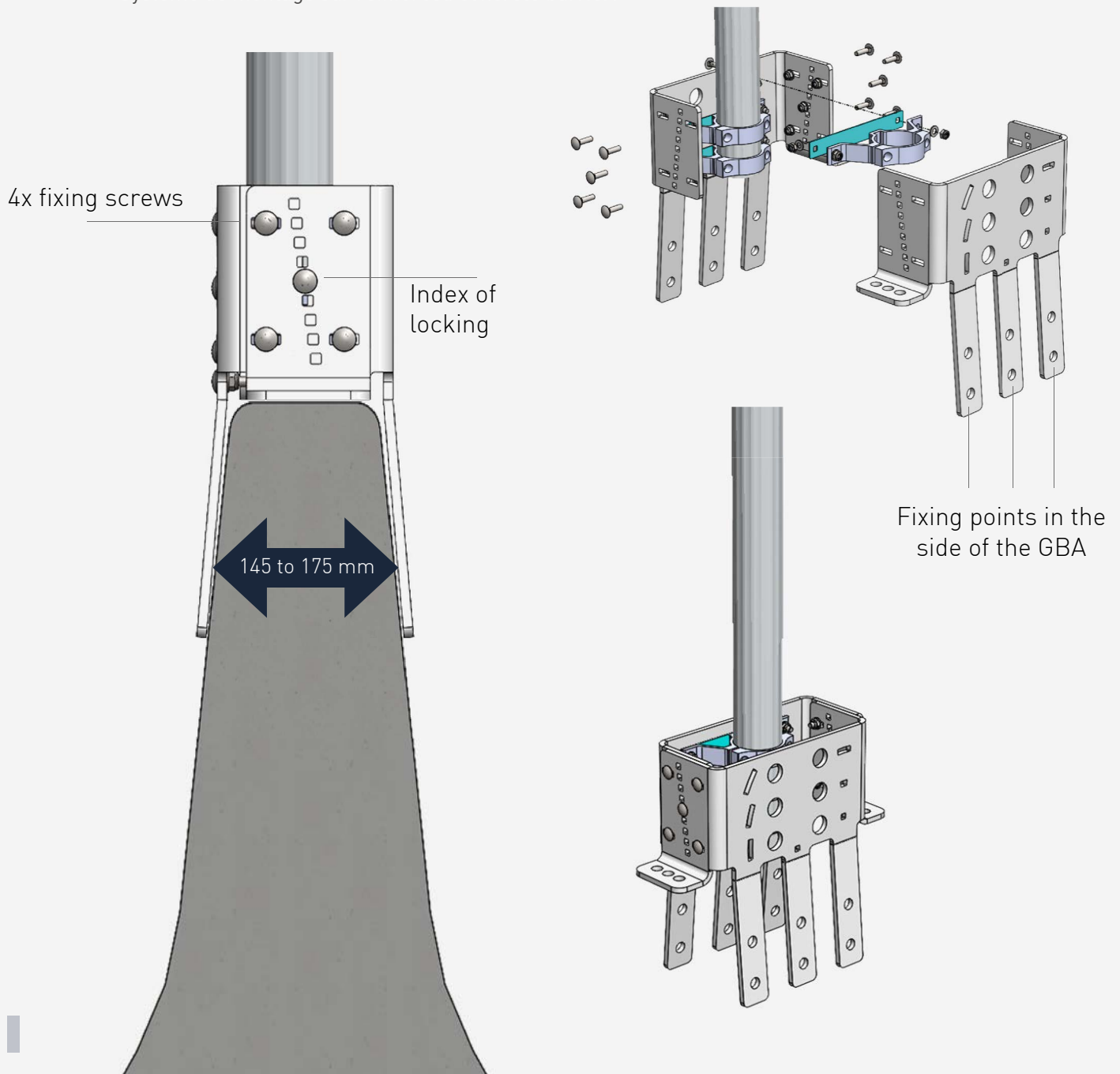
Our modular system is coupled with a range of fixings allowing it to be installed on any site and support:

- On ground foundation.
- On reinforced concrete barrier.
- Wall.

### Concrete barrier Fixings Example

This fixing device is designed to adjust to reinforced concrete barrier from 145 to 175mm thick, it ensures the perfect verticality of the mast according to the inclination of the road.

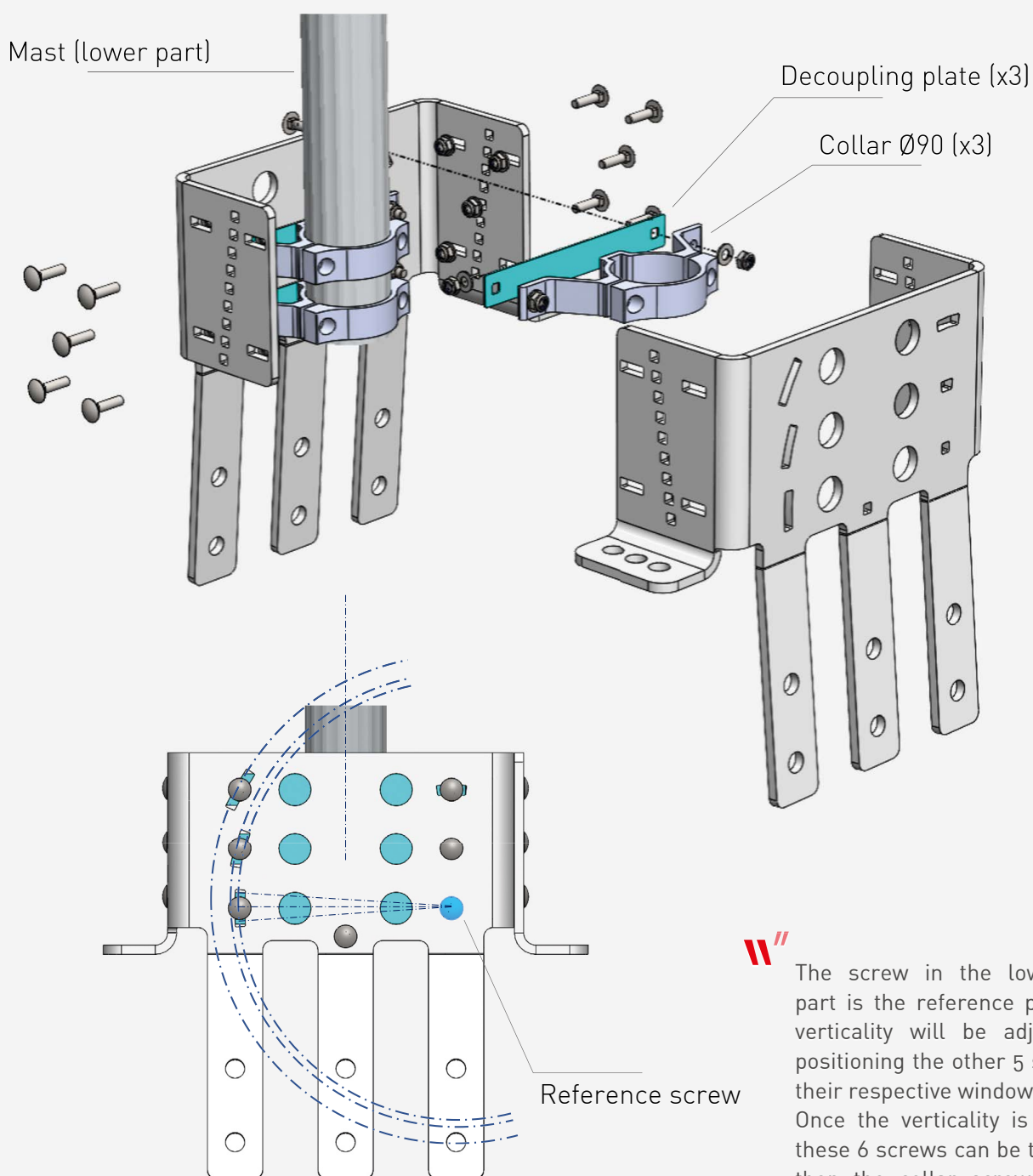
Système de montage sur reinforced concrete barrier:



# ROTATING PANELS

## Fixings and installation

**W"** Verticality adjustment system: The mast will be engaged in the 3 fixing collars, without being tightened.



**W"** The screw in the lower right part is the reference point. The verticality will be adjusted by positioning the other 5 screws in their respective windows. Once the verticality is ensured, these 6 screws can be tightened, then the collar screws can be tightened in turn.



## »» The world changes and TTS innovates.

With over thirty years commitment to the development of new safety and signaling solutions, we continue to maintain standards whilst ensuring that innovation plays its full part.

We have the resources to provide you with innovative and proven solutions for traffic management, with over 90% of the added-value achieved using manufacturing facilities in France.



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