



RF3+

CONTACTLESS STEP RAMP



RF3+ CONTACTLESS STEP RAMP

RAIL VEHICLE ACCESS DEVICE, FOR THE SAFETY AND COMFORT OF ALL PASSENGERS.

- A multi-use access device: ramp, step or gap filler for safe and functional passenger transit.
- Features a contactless platform detection system.
- Automatically detects the platform position with respect to the train and deploys as a ramp or step as needed. It also adapts to the necessary length.
- The system adapts horizontally or vertically to connect the vehicle to the platform.
- Electric operation.
- Manual operation possible.
- Fully integrated flush with the train car floor.
- For intensive use.
- Includes an obstacle and person detection system by overload and a sensitive edge.
- Presence detection (> 15 kg)
- Non-slip surface.
- Mechanically locked front cover.
- Rear lift system to reduce level differences between the ramp and train car floor.



ADVANTAGES

MODULARITY

- A universal access concept.
- A unique modular system that can be configured in three different ways: as a step, ramp or a combination of both (level access).
- Optimal LCC.
- The modular design means the dimensions can be adapted to the customer's width and depth needs.

SPEEDY OPERATION

- Adapts to all types of platforms for easy boarding/alighting.
- Improves service times as contactless detection requires no movement correction.

CONTROL

- A smart ramp that recognizes the platform position and deploys as a ramp or step automatically.

EASY TO ASSEMBLE

- Cassette height just 60 mm for quick installation in the floor without needing to modify the vehicle structure.
- Easy fixing

RELIABILITY

- The high-performance contactless sensor system provides greater speed and reliability.

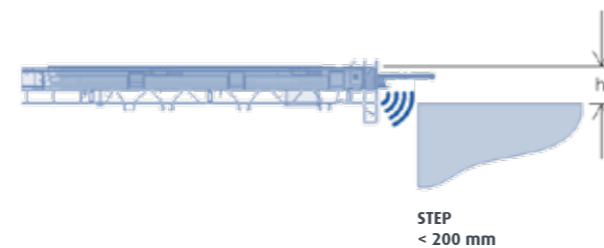
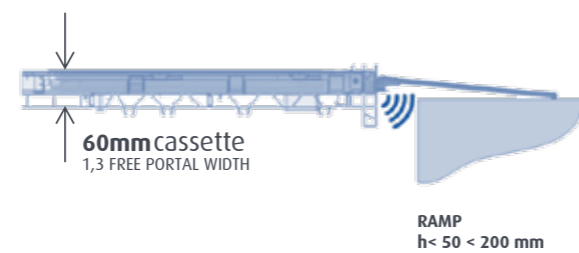
RF3+ CONTACTLESS STEP RAMP



Ramp Video

The contactless sensors detect the platform height and position, send the corresponding signal to the device electronics which indicates whether to open as a ramp, step or gap filler depending on the platform height. It also measures the distance from the train to the platform with no contact necessary, thereby increasing the durability.

3 AUTOMATIC MODES :

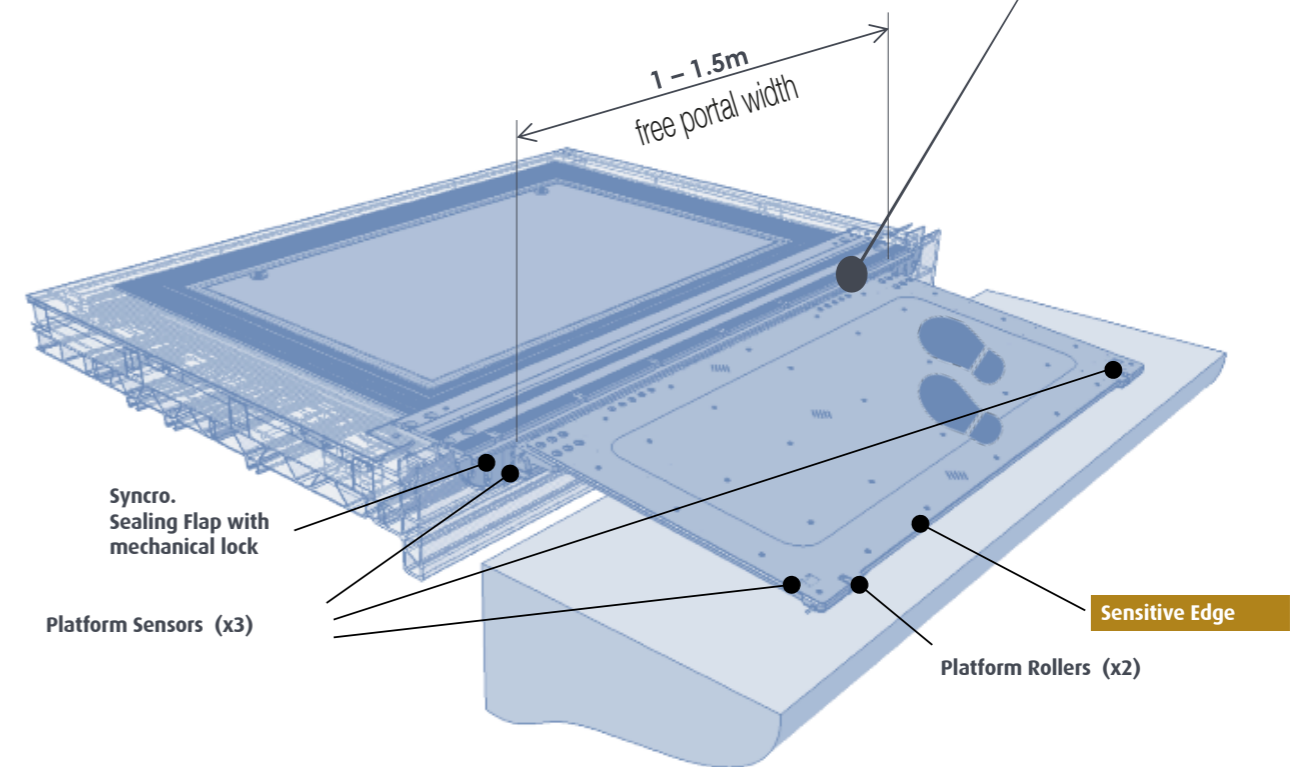
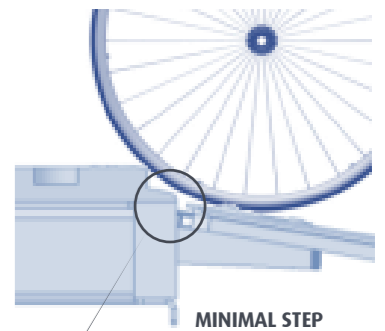


SENSORS AND PARTS THAT INTERACT WITH USERS

THE GREATEST OF PASSENGER SAFETY

With a triple people and object detection safety system.

- Consumption analysis
- Obstacle detection



Designed for

3M cycles

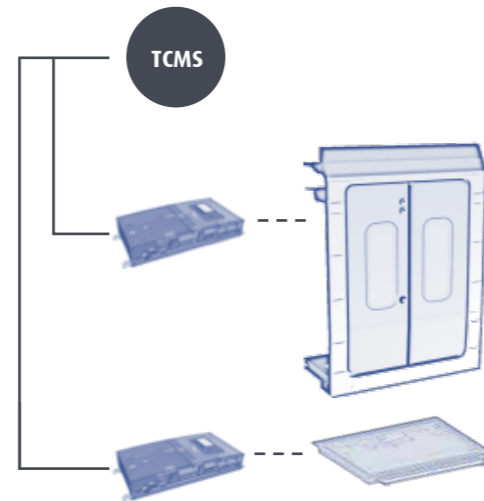
Power supply

72 / 110 VDC

(r)evOLUTION ECU

ELECTRONIC CONTROL UNIT

- Masats ECU with diagnostic and monitoring software.
- The control unit manages all the devices: sensors, encoder, microswitches, presence detection and the sensitive edge.
- CAN communication.
- With a USB and Ethernet port for local diagnosis and status LEDs.
- High-level self-diagnosis.
- Data collection for predictive maintenance.



SIL SECURITY LEVEL

**SIL 0 Door-ramp synchronization
Obstacle detection**

SIL 2 Prevents unintended openings

Short circuit protection

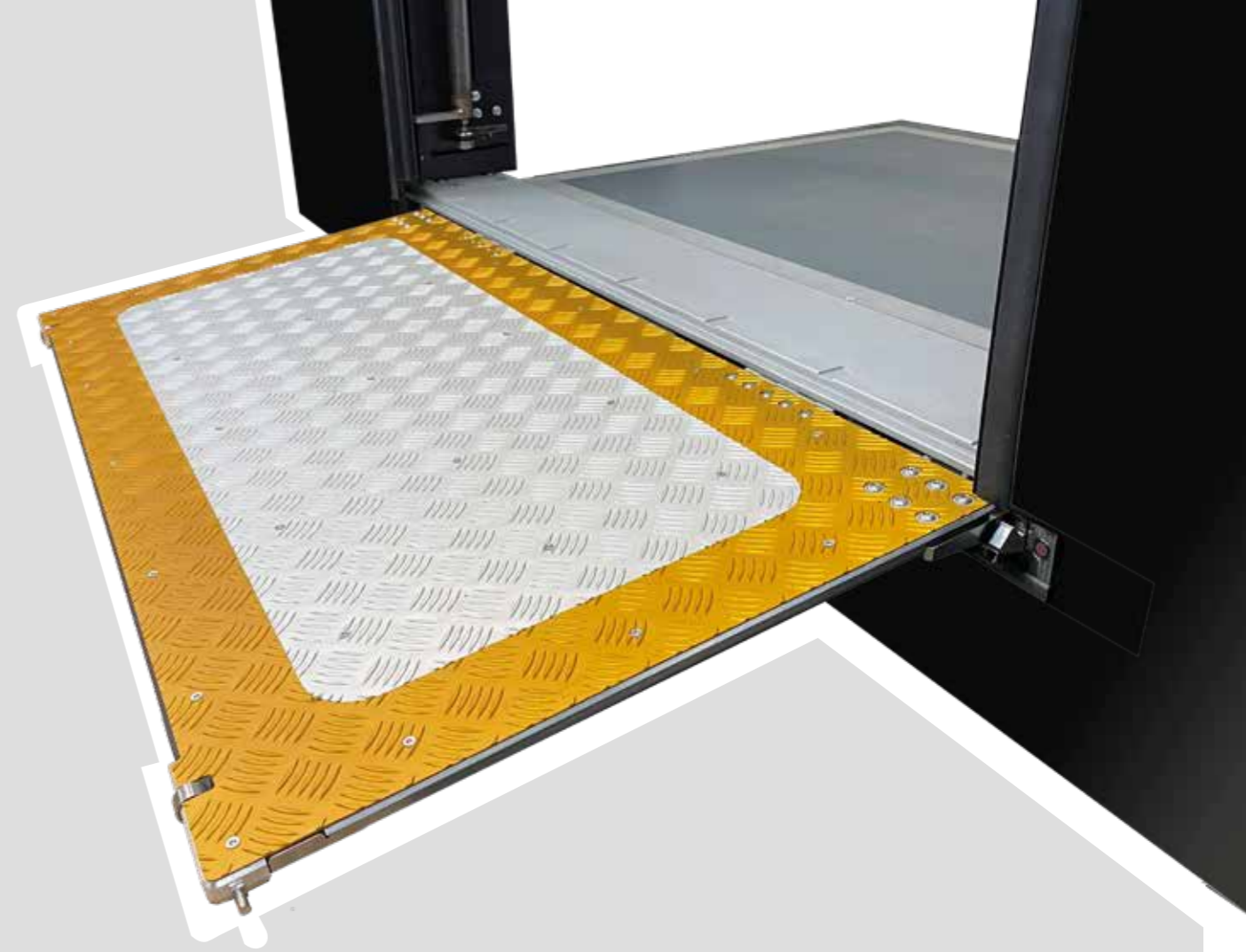
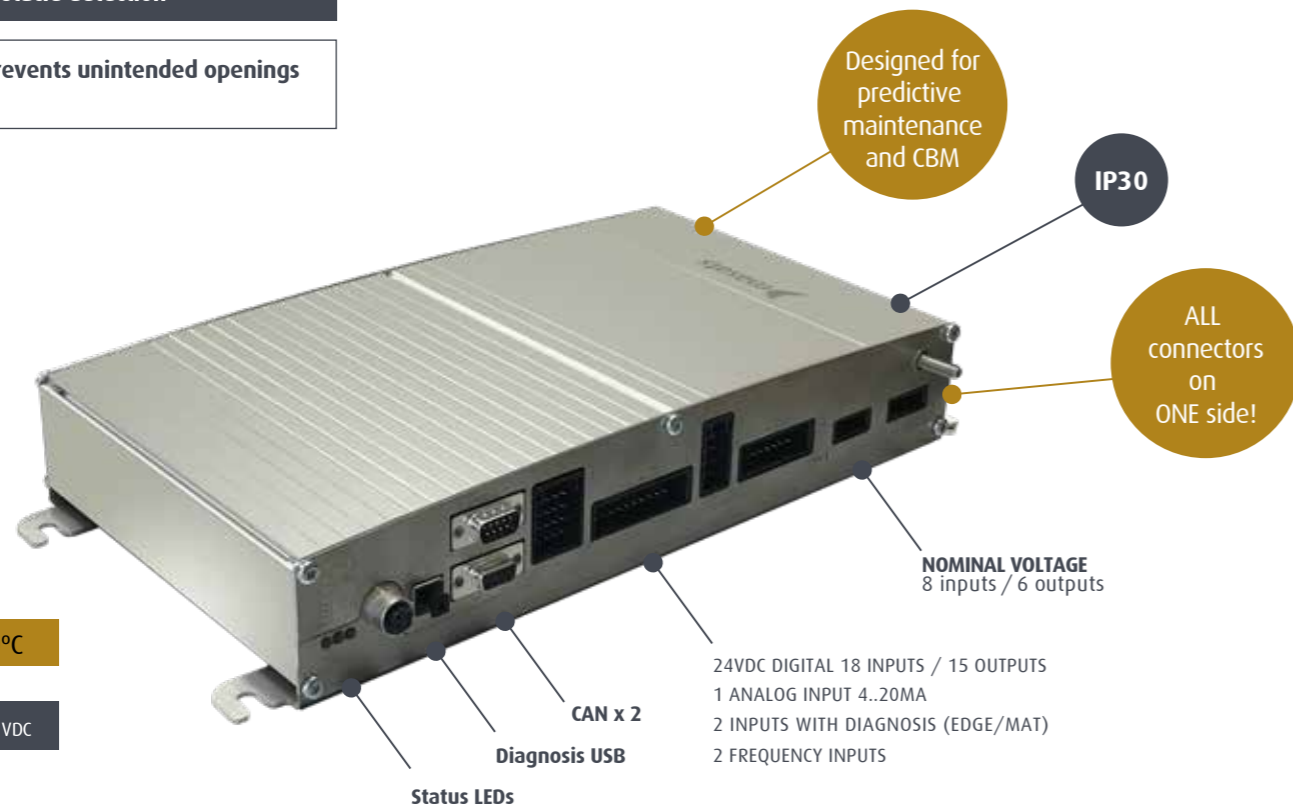


Working Temp.

-40 / +70°C

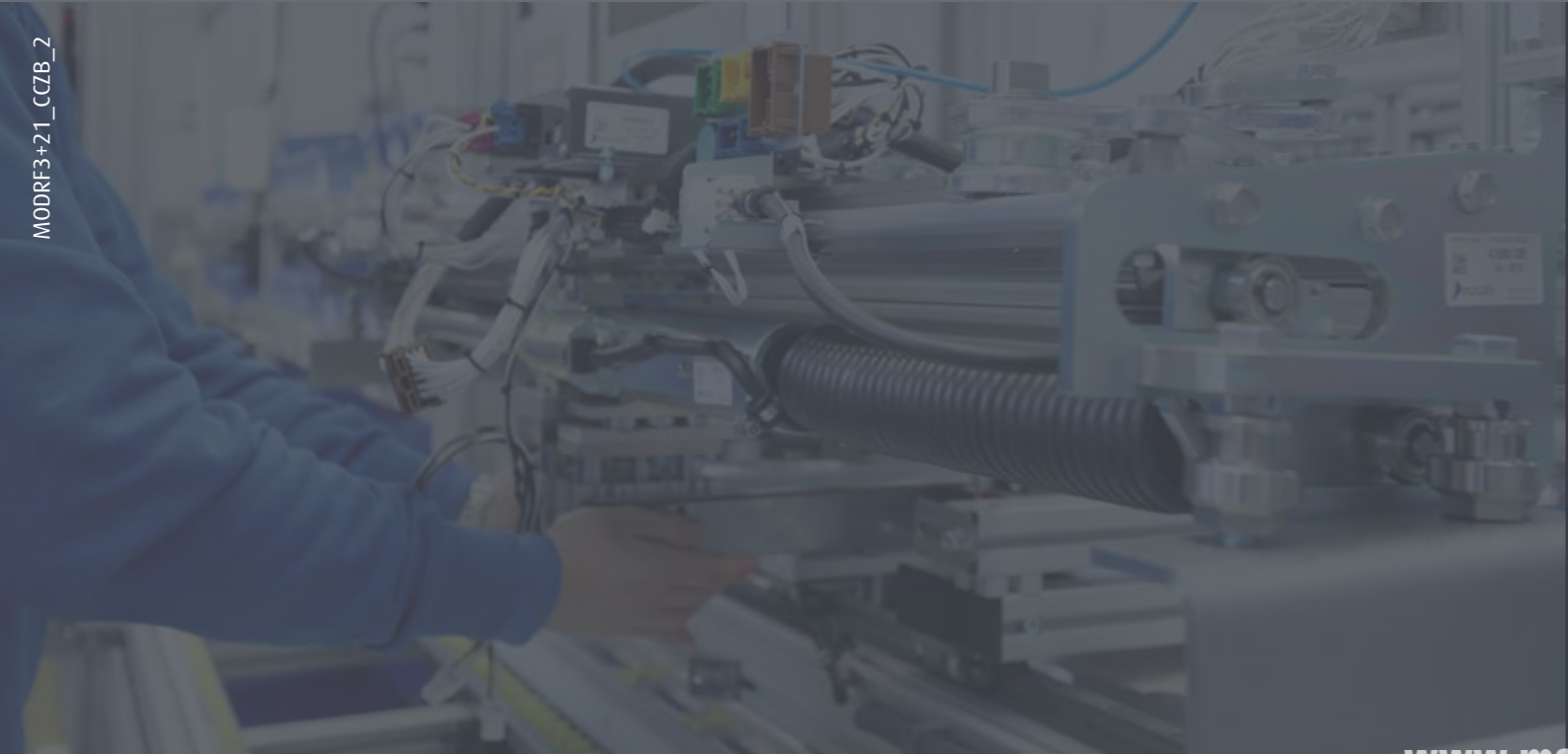
Power supply

72 / 110 VDC



TECHNICAL DATA

- Total weight: 90 kg for a width of 1300 (does not include footboard or hatch)
- Load capacity according to standards
Standard platform width: 1000 – 1500 mm.
- Horizontal GAP: up to 500 mm
Standard platform length when configured as a ramp: 650 mm.
- Mechanical limit when configured as a ramp: 27% 15°.
- Extension speed: approx. 100 mm/sec.
- Temperature range: -30°C to + 70°C
- Cassette height: 60 mm.
- Vertical gap (18% as per TSI): 160 mm (650 mm platform).
- Vertical gap (at the mechanical limit): 210 mm (650 mm platform).
- Contactless sensor system on the front and bottom.
- Self-diagnosing sensor system; warns when maintenance/cleaning is required.
- The maintenance hatch on the device is also a functional part of the train floor.
- Lock mechanism in the retracted position. Designed for 3,000,000 cycles (step).
- Compliant with standards:
DIN EN14752
TSI PRM
EN 45545
EN 50121
EN 50155
IEC 61373
EN 50125
EN 50126/128/129



www.masats.es

