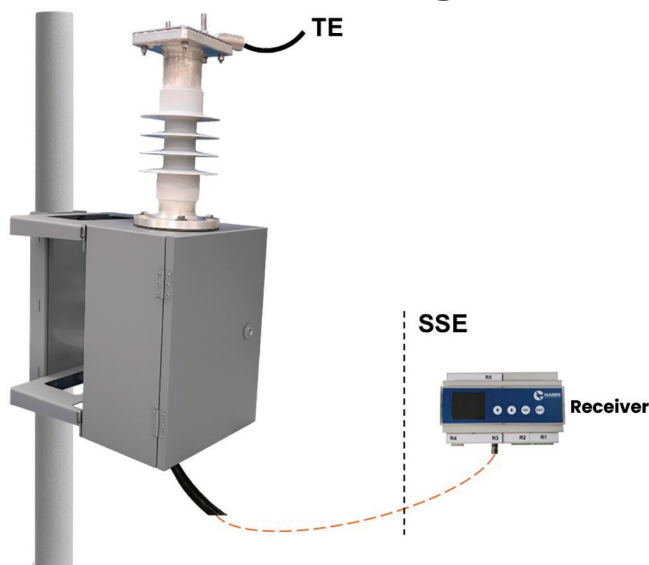


RV Device - Voltage Monitoring System for Railway Traction Lines



The RV is a device designed to acquire the 3 kV DC voltage from railway traction lines and detect any alarms when the voltage exceeds preset thresholds. It also transmits the voltage trend via a dedicated current loop output.

The device by Marini Impianti Industriali can be configured to operate in two distinct modes:

- **Voltage Presence Mode:** The threshold relay is energized when the line voltage is equal to or above the preset threshold. The relay is de-energized when the line voltage falls below the preset threshold.
- **Range Verification Mode:** The threshold relay is energized when the line voltage is within the two preset threshold values. The relay is de-energized when the line voltage is outside the configured range.

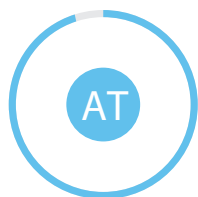
In addition to the functions required by the reference specification, the RV includes a supplementary "SLEEP" function, which allows:

- Display indication of the absence of line voltage without triggering the self-diagnostic alarm relay. This function remains active for at least 6 hours after the loss of input line voltage.

System Components:

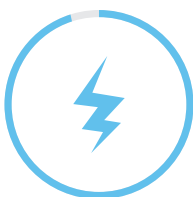
- High Voltage Transducer Module (AT): Installed on the supports of the traction line.
- Receiver Module: Installed in SSE substations or at the base of traction line poles.
- Fiber Optic Cable: With protective casing, used to connect the AT Transducer Module to the Receiver Module.

The RV system is certified according to RFI specification DMA IM LA SP IFS 363 A and is supplied as a complete kit, including: AT Transducer, Receiver and Fiber Optic Kit.



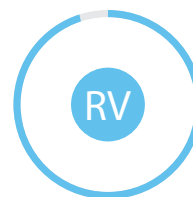
AT TRANSDUCER

Device connected to the 3KV line that measures voltage (up to 6KV) and sends data to the Receiver. It also includes an energy storage system using supercap, allowing communication with the receiver for at least 6 hours even during maintenance periods when the voltage is disconnected, in order to avoid false fault alarms during this time — SLEEP function.



FIBER OPTIC KIT

The connection between the High Voltage Transducer and the Receiver is made via optical fiber, in order to ensure galvanic isolation between the two subsystems.



RECEIVER

Device which analyzes the data transmitted by the High Voltage Transducer. It applies data analysis functions and makes information available to an operator (contact line status and system operating status), both locally via a display interface and remotely via relay contacts and a 0–30 mA impressed current output.