The smart infrared array detector for early and reliable fire detection

- The SMIR is a compact, low profile intelligent CAN based infrared array detector specifically designed for early and reliable detection of fire events in rolling stock application.

- The detector can be pre-wired at the base and the head can be easily locked and removed thanks to its plug-in mechanism.

- The device requires considerably less maintenance time than the standard sensors currently in use in the railway landscape.

- SMIR relies on a powerful algorithm that implements fast and reliable detection of early fire by precisely identifying flames, temperature, temperature gradient and avoiding false alarms.

- The algorithm is not affected by environmental conditions or airflow as it happens with traditional fire detectors.

- SMIR performs a robust self-diagnosis, results are transmitted in real-time via CAN bus; it is fitted with LEDs indicating power-up, standby, out of order and alarm status.

The device allows easy installation and maintenance by mean of a pre wired base and plug-in type head sensor.

Ceiling mounting allows to have a wide field of view and to track incoming fire events wherever they are located in the monitored area.
Technical Specification

Alimentazione

- **Input Voltage:** 24VDC Nominal Voltage (14.4 VDC ÷ 36 VDC, peak up to 40V for 100msec)

Physical Characteristic

- **Housing:** Polycarbonate-ABS
- **IP Rating:** IP 40 protection
- **Dimensions:** 110 × 60mm
- **Installation:** Panel mounting plug-in design, base included
- **FoV:** 160° × 90°

Environmental Limits

- **Operating Temperature:** –25°C to 70°C, EN 50155 class T3
- **Storage Temperature:** –40°C to 85°C
- **Relative Humidity:** annual average <= 75% and 95% for 30 consecutive days in the year

Standards and Certification

- **Railway:** EN 50155
- **Safety:** SW SIL 2 according EN 50128
- **Fire Behaviour:** EN 45545
- **Shock and Vibration:** EN 61373
- **EMC:** EN 50121-3-2
- **Fire Detection:** UNI 11565, EN 54-5, EN 54-10

Interface

- **Ports:** Dual redundant CAN EN 50159 compliant

MTBF

- **Time:** > 1,000,000 hrs
- **Standard:** IEC 62380

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