



TRANSPORTATION



**SMAC RED
MONITORING SYSTEM
FOR RAILROAD SWITCH
HEATER CABLES**

TecniKabel

SPECIAL ELECTRICAL AND OPTICAL CABLES

WWW.TECNIKABEL.COM

SMAC RED

SMAC RED is a continuous, automatic system to monitor cable integrity for electrical switch heater (referred to in Italy as RED) equipment.

Electrical switch heaters ensure trouble free switch operations even in the harshest winter conditions by preventing ice from forming on the moving parts.

All railroad electrical switch heaters use conductor cables with big copper cross-section. Cables are often considerably long and, due to their specific features, a popular target for thieves.

The SMAC RED system protects and monitors the cables that connect the power supply switchboard to the transformer cabinets, and avoids switch heating system failure due to cable disruption or theft.

In the event of an anomaly or fault, the system sends an alarm alert to predefined SMS and/or e-mail contacts.

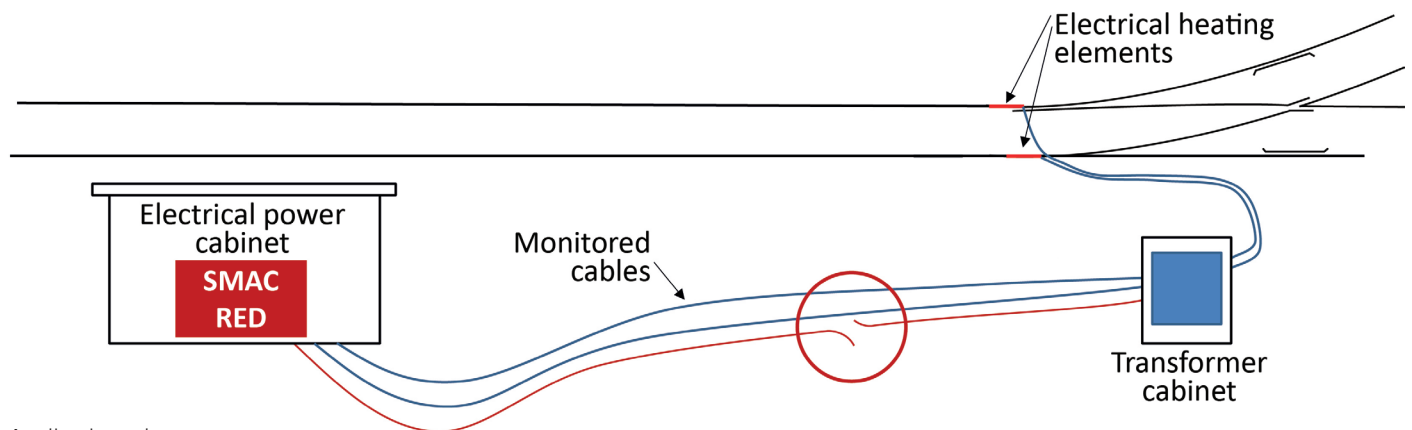
The system can be installed on existing railroad electrical switch heating systems without interfering with operations.



SMAC RED unit



Railroad switch electrical heating cables



Application scheme



Power supply cabinet



Installed SMAC RED



Transformer cabinet



Railroad switch

OPERATIONS

SMAC RED carries out continuous checks on the monitored cables.

Whenever cable checks reveal an anomaly or fault, the system repeats further measurements and cross-matches results to confirm the presence, and nature, of the fault. This approach ensures that the level of fault detection is highly reliable, and a significant reduction in the risk of raising a false alarm.

In the event of a fault being confirmed, SMAC RED activates a visual warning light at the location and sends alert SMS texts and e-mail messages to contacts predefined during initial equipment configuration.

The fault localization unit, if present, then communicates the location of the fault on the cable.

CONFIGURATION

SMAC RED should be wall-mounted in the electrical power cabinet near the power supply panel for the electrical switch heater.

The system is configured via a wireless terminal.

The connection is only active when configuration has been carried out. SMAC RED cannot be connected to when in operation to avoid the risk of the system being hacked.

Data regarding the monitored cable labels, telephone numbers and e-mail addresses to be used to receive alarm alert signals, can be entered into the system during configuration.

At the end of the configuration phase, an automatic test report is produced. This report summarises all the data relating to the specific SMAC RED unit.



SMAC RED unit

ADVANTAGES AND BENEFITS

Automatic monitoring

Continuous automatic monitoring of cable integrity from the power supply switchboard to the transformer cabinet.

Easy installation

Fast and easy installation. Installation kit includes wiring equipment and accessories.

Alarms and notifications

Easy-to-manage alarm. SMS and e-mail alert notification.

Round-the-clock monitoring

Continuous 24/7 monitoring of transformer cabinet connection cables.

Secure system

System protected against hacker attack.

Complete autonomous system

No integration and/or interface with other surveillance or management systems required. The system is immediately fully-operational following installation and configuration.

High reliability

High reliability guarantees fault detection and no false alarm alerts.

Fully operational

Fully operational with electrical switch heater switched on in winter and switched off in summer.

Maintenance-free

No maintenance required once the system is installed.

Fault localization

Localization of point of service disruption.

PHYSICAL CHARACTERISTICS

Control unit dimensions	340 x 430 x 180 mm
Material	Thermosetting plastic reinforced with glass fibre
Certification	IP 54
Weight	8.5 kg
Monitored elements	24 unipolar cables (8 three-phase transformers)



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