

# RedGuard® Temperature Monitoring



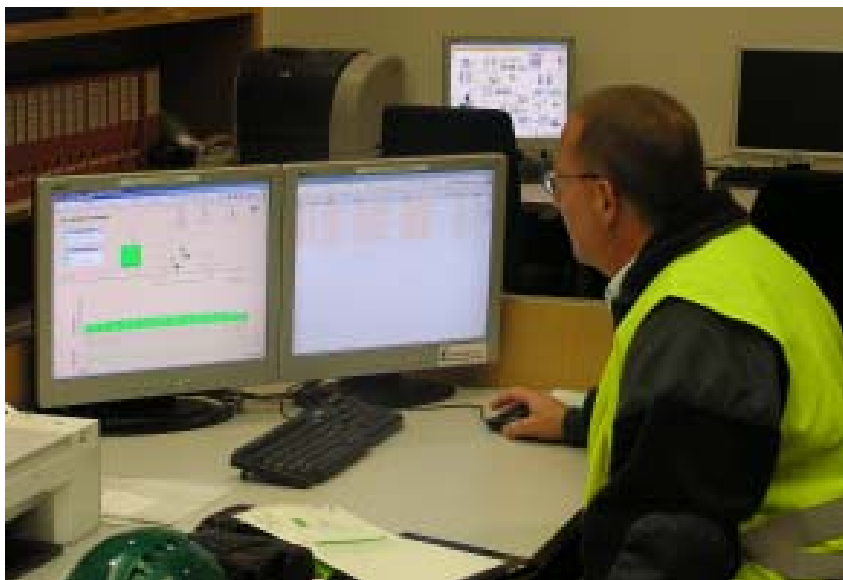
## Application

Tunnels for the supply of energy, e.g. heat or electricity, rank among the important infrastructures in process and industrial plants (chemicals industry, power stations, refineries). Steam under high pressure or high currents, for example, flow through the pipes and lines. These tunnels are often very narrow, difficult to walk through and have a high pipe/line density.

Leakages, overheating and even the outbreak of fire can arise as a result and cause serious problems from economic damage to accident hazards for people.

## Challenge and solution

The aim of having a monitoring system in an energy tunnel is that it will function as an early warning or alarm system. If an ab-



normal event (leakage/fire) occurs, it should respond immediately, localise the source of the accident and set off an alarm signal.

As hazards always manifest themselves in a rise in temperature, the RedGuard temperature monitoring system based on a sensor line with defined sensor-to-sensor spacing is particularly suitable for spatial temperature monitoring.

The flexible sensor spacing (2, 4, 7, 10 or 20 m) in the sensor cable makes it possible to select the optimum solution.

The temperature readings depend on the number of sensors. On average the entire system (with approx. 200 sensors) can be expected to react within 5-10 seconds.

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The ModBus interface on the control unit (SSP) allows the system to be integrated easily into the existing communication infrastructure.

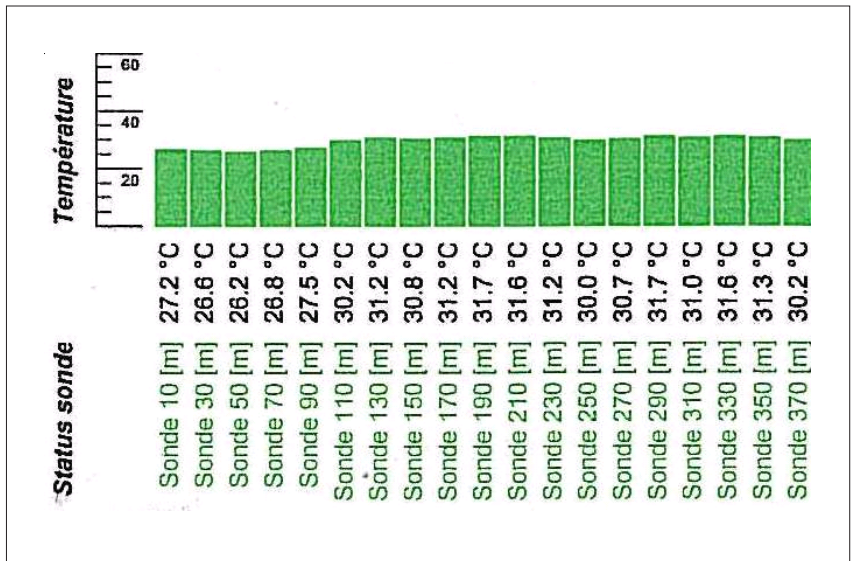
Data is exchanged e.g. through the existing Ethernet bus and is then rapidly available as a visual presentation in the control centre.

## Configuration and installation

- Sensor cable with 4-metre sensor spacing, e.g. for voltage cables under raised floors or 20-metre sensor spacing in long tunnels, e.g. for steam leakages.
- Processor unit (SSP) with ModBus interface and 2 relay outputs for error and/or alarm display.
- Connection and termination modules (CFM/CTM).
- Alerting values for alarm/pre-alarm are adjusted to suit local requirements with the RGCC configuration software. A typical alert as a temperature gradient is 2°C/sec.
- The application is presented visually with the existing visualisation and process control system (SCADA System).
- The sensor cable is laid under raised floors (in rooms) or in existing cable raceways.
- The sensor cable can be attached to the tunnel wall by means of special cable clips (1-m spacing).
- The processor unit (SSP) is installed in an existing control cabinet or on the wall.

## Benefits and advantages

- The integrated system with defined sensor spacing makes it possible to localise leakages or fire precisely and quickly.
- The system is easy to configure and integrate thanks to the processor unit with MODBUS interface.



- The continual and prompt visual presentation of the temperatures along the total tunnel length or in the entire room ensures a rapid on-the-spot response if an incident occurs.
- The calibrated sensors and the well-proven long-time stability offer low-maintenance monitoring.

For further informations please contact our Product Manager RedGuard:

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