ULRICA Fiber-Optic Distributed Heat Detection System

The ULRICA distributed heat detection system from Hudiksvall Fiber Sensor AB can detect overheating and determine its location fast and accurately, at low cost and a minimum of maintenance.

- Fire alarm systems
- Tunnels
- Subways
- Car Parks, Hotels
- Buildings
- Ventilation ducts
- Cable ducts, Pipelines
- High voltage cables
- Escalators and conveyor belts
- Oil depots, mines, silos
- Airports, railway stations
- Factory & storage premises

ULRICA can detect the location of fires or other discrete heat sources with high precision over a total length of 2000 m of sensor cable.

Alarms are transferred using traditional relay controlled signaling. Furthermore the system can be remotely configured over the internet via the Ethernet port using the configuration software. The system can be configured with up to 256 independent alarm zones.

The ULRICA system consists of heat sensitive fiber-optic sensor cable (SKI-55), optical monitoring unit (OMU), testing equipment (TKI-65) and cable anchors.

The sensor cable SKI-55 is robust, slim and low weight. The cable contains a multimode fiber line sensor. At a temperature of +55°C the wax filled tube strapped to the fiber will cause micro bending which will result in a local increase of attenuation. The attenuation is measured and the OMU pinpoints the position. The sensor cable is slim and light weight making it easy to handle and install.



The optical monitoring unit comes in two different configurations OMU-102 and OMU-103. They are equipped with an optical time domain reflectometer (OTDR) exclusively developed by Hudiksvall Fiber Sensor AB. One unit will support up to 16 relay outputs. The OTDR uses Rayleigh scattering to detect any discrete change of attenuation along the entire length of the fiber. The compact and low weight OMU will fit into small compartments and is very easy to install. The OMU unit can be run as a stand-alone solution or it may be connected to centralized surveillance systems.

The OMU unit can be equipped with up to 16 relay outputs in the same compact housing.

Testing equipment TKI-65 is used to heat up sensor cable for function test or calibration of the ULRICA - system. It is very convenient for verifying position indication during configuration.

The system complies with Directive 2004/108/EC EG Electromagnetic Compatibility (EMC-directive)

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