ADV-FIRELASER
Fiber Optics Linear Panel

Overview

- Sensor cable is manufactured from readily available standard telecommunications optical fiber
- Temperature measurements are provided for the total length of the sensing cable
- Simple and Low cost installation with minimal planning required for sensor cable positioning
- No electronics or moving parts
- 30 years optical fiber life time
- Limited maintenance
- Immune to electromagnetic interference
- Intrinsically safe use within hazardous environments - fiber optic sensing cable will not generate ignition

Description

ADEVA fiber optics linear temperature sensing employs a Modularized Distributed Temperature sensor (DTS) which uses an optical fiber as the sensor. It provides high performance near real time temperature Sensing and Alarm functionality with standard communication interfaces.

The FIRELASER system can probe the temperature at every 1 metre interval along the installed optical fiber up to 4 kms per circuit with a temperature resolution better than 1C. It also provides a series of alarm conditions such as a maximum temperature threshold, temperature rate of rise threshold and temperature deviation. Also as an essential failsafe scheme it can detect a fiber break condition.

An important advantage of a Distributed fiber optic sensor is that the roles of the sensing elements and the transmission medium are combined utilizing a single fiber. One distributed sensor using a single fiber can collect temperature data over a wide range e.g. 4 kms is like having 4000 measurement/detection points. The FIRELASER has excellent temperature resolution and position accuracy.

The interrogation of the sensing fiber uses light and the nature of the fiber means that it does not need any electric power nor does it generate any electrical signals. The fiber is therefore immune to electromagnetic interference and is an ideal sensor for electric field sensitive applications.

The FIRELASER system comprises of a central control unit (DTS) coupled to a maximum of 4 kms of temperature sensing fiber. This may be connected in a double ended LOOP configuration and the length of sensor cable attached may be configured into multiple detection zones. Each zone may have its own dedicated alarm temperature level allocated to it. The alarm levels are typically in compliance with the sensitivity definition as per any relevant EN54 fire standard. The Firelaser system has the capability to interface directly to a Central Fire Alarm Control Panel (FACP) circuit typically via the use of the available volt free relay interface.

The sketch shows an example where the Firelaser unit has been configured to interface directly to the Fire Alarm Control Panel (FACP) in a similar manner to that of other fire alarm inputs on the detection circuit. The Firelaser signals to the FACP alarm and fault/trouble signals which are in turn logged and signalled in the appropriate manner. The Firelaser control unit would receive its 24vdc power from the FACP.

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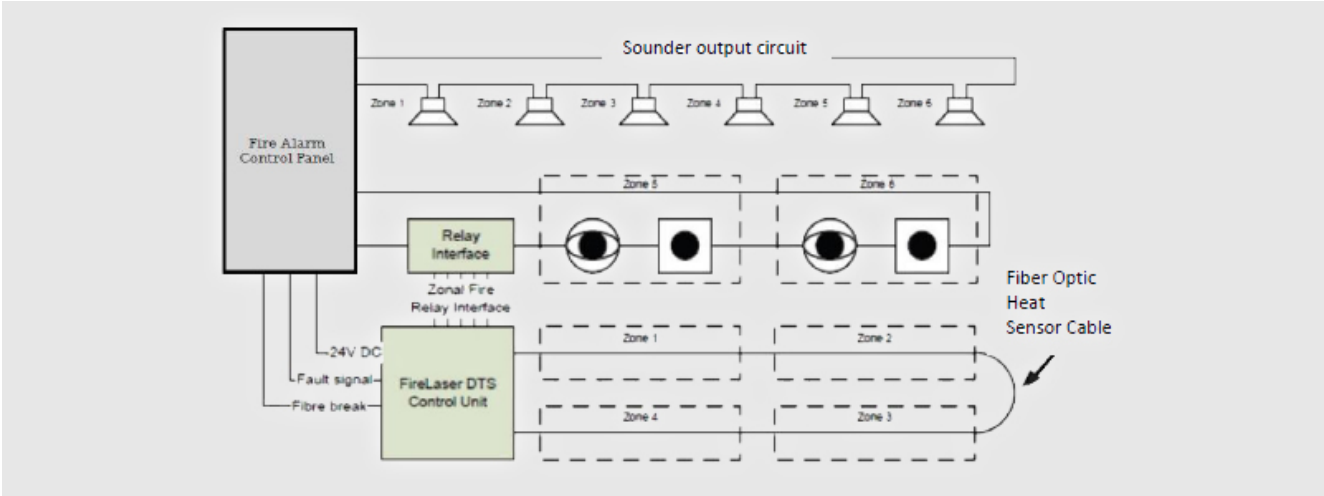
Technical Specifications



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