Fibre Optic - Linear Heat Detection

LTS 240 Sensor Control Unit

PATOL
FIRE DETECTION SOLUTIONS

The LTS 240 is a Linear Heat Detection system specifically designed for fire protection applications. It is able to measure temperature profiles at thousands of points simultaneously along a sensor cable which may be up to 4km in length. The LTS 240 can be configured with a 4km loop or two radial circuits each of 4km (8km in total). In fire prevention, the LTS 240 is able to determine not only the current position but also the progression of the fire by measuring the temperature along the sensor cable in real time.

Optical fibre offers several important advantages as a sensing medium. Signals are immune to electromagnetic interference thereby ensuring integrity of electrically noisy areas, for example around power and transformers. As no electric current is used in the sensing fibre and the fibre is relatively inert and dielectric (non conducting) medium, it is safe technology to use in hazardous environments.

Opto-Electronics Unit

The system consists of a LTS 240 Linear Heat Detection system module housed in a lockable wall mounted steel enclosure with sealed gland plates to provide IP54 protection. The enclosure also contains a fibre splice housing to protect the splices made between the sensing cable and the Sensa-supplied pigtails. Alternatively the system can be supplied suitable for mounting in a 19” inch rack.

LED’s mounted on the front panel of the cabinet indicate system status: Power On, System fault, Sensor Fault and Alarm.

A relay module is contained within the LTS 240 unit providing 32 volt-free contacts as standard for connection to end user systems. The volt-free contacts are terminated with screw terminal connector blocks within the wall-mount cabinet to simplify installation. Two of these relays are dedicated to system and Sensor Fault and are not reconfigurable.

Features

When configured in a loop, in the event of a break in the sensor fibre, or significant increase in optical loss, the LTS 240 indicates an alarm and the system automatically measures from both ends of the fibre, ensuring continued fire protection over the entire fibre length.

Unbeatable reliability, with over 1300 devices installed and 1 million + days of operation.

Embedded software enables the LTS 240 to operate independently of an external controller via TCP/IP or RS232 serial connector eg. PC.

Up to 600 programmable zones, each with individual alarm thresholds. Up to 32 outputs can be fed directly to an end user system via relays. Additional outputs to cover all zones can be achieved via Modbus protocol interface.

Fibre optic sensor cable is not affected by electro -magnetic interference and is well suited to dusty, hazardous conditions.

Applications

Cable Tunnels, Ducts & Mezzanines

Escalators & Moving Walkways

Petro-Chemical

Refrigerated Stores & Cold Rooms

Ceiling Voids & Attic Spaces

Conveyor, Bearing Protection

Car Parks, Open Storage areas

Warehousing, Racking Protection

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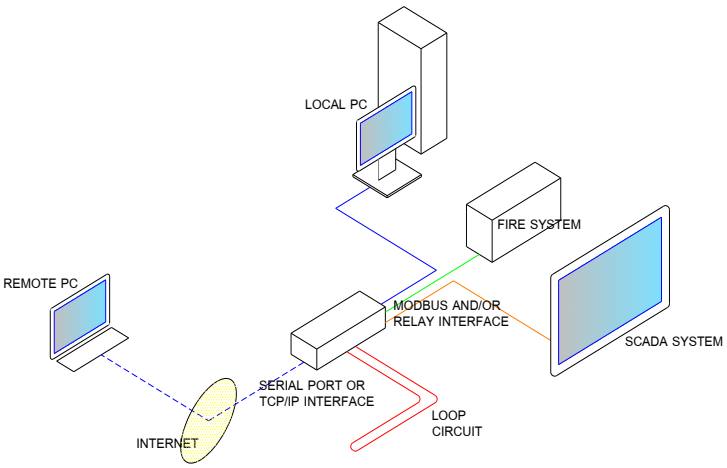
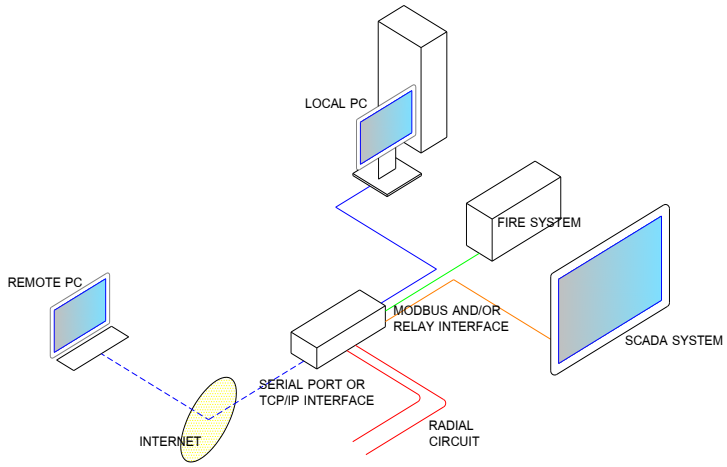
Wall Mounted Option

Connection Options



SINGLE LOOP CIRCUIT OPTION



DUAL RADIAL CIRCUIT OPTION

Specification

Performance				
Sampling resolution.	1m			
Fibre length per circuit	4km			
Circuits	Available in 1 or 2 circuit options			
A1R -	System response defined by EN54 part 5:2000			
Class 1 -	Laser classification when assessed in accordance with EN60825-1 2001			
Physical				
	Rack Mounted		**Wall Mounted**	
	Packed	**Unpacked**	**Packed**	**Unpacked**
Width	560mm	435mm	630mm	500mm
Depth	510mm	404mm	500mm	155mm
Height	260mm	132mm	740mm	595mm
Weight	8kg	6kg	25kg	17.5kg
Environmental				
Operating temp.	- 5°C to 40°C			
Storage temp.	- 40°C to 65°C			
Humidity	5% to 95% RH (non condensing)			
Power				
dc power	24vdc nominal			
Power rating: Typ.	18W			
Maximum	25w			
EMC Compliance				
CE Conformity	EN50082-2 (immunity); EN50130-4 (immunity)			
Railway	EN50121 part 4			

Ordering Information

LTS 240 Sensor Control Units

	Part Number
Wall Mounted	
Single Circuit	100-514
Twin Circuit	100-479
Rack Mounted	
Single Circuit	100-510
Twin Circuit	100-488
Fibre-optic Cable	
SensorLine (Thermoplastic)	100-569