FireLaser - Distributed Temperature Sensor

FireLaser is a Linear Heat Detector System specifically designed for use in Special Hazard fire detection applications. Designed specifically for industrial application environments, FireLaser is built to the highest reliability and with a flexible communication architecture to integrate with all standard control systems.

Features

Location of fire related events to within 1m

Based on single fiber optic sensing cable. No individual sensors, no metal or moving parts

Robust and reliable instrumentation with no moving parts (fan free) and utilising high reliability telecom components

Benefits

Ability to react to precise location of event for rapid action and effective troubleshooting
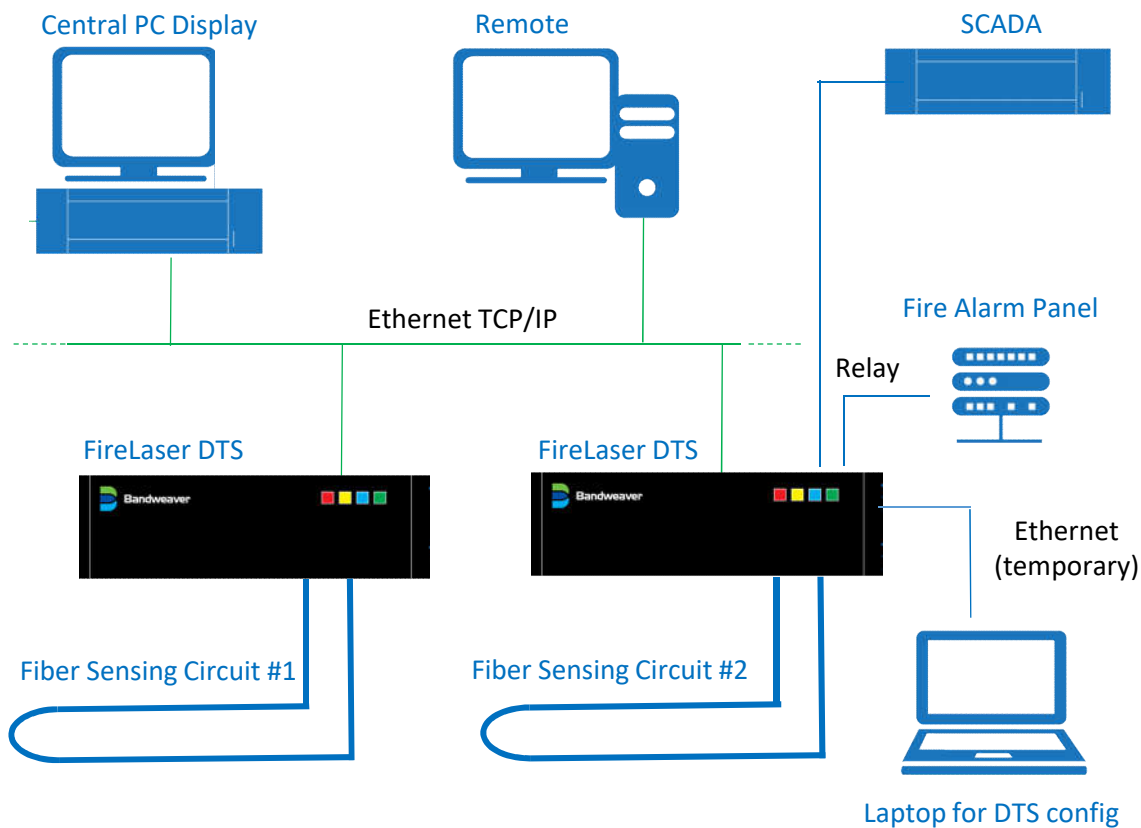
Easy to install and low cost of ownership with low ongoing maintenance costs

High percentage system uptime (mean time between failures > 19 years) giving complete coverage at all times

Measurement Specifications

Model	Range	Temp Resolution	Number of Zones	Sampling Resolution	Meas. Time (per circuit)	No. of Channels
FL-01-02-1CH	2km	0.5°C	250	1m	4 sec	1
FL-01-02-2CH	2km	0.5°C	250	1m	4 sec	2
FL-01-05-1CH	5km	0.5°C	500	1m	6 sec	1
FL-01-05-2CH	5km	0.5°C	500	1m	6 sec	2
FL-01-05-4CH	5km	0.5°C	500	1m	6 sec	4

System Architecture

Central PC Display

Remote

SCADA

Ethernet TCP/IP

Fire Alarm Panel

Relay

FireLaser DTS

FireLaser DTS

Ethernet (temporary)

Fiber Sensing Circuit #1

Fiber Sensing Circuit #2

Laptop for DTS config

Physical and Operating Characteristics

Number of Alarm Zones	250 - 500 User configurable smart zones		
Zone Based Alarm Types	Maximum and minimum absolute temperature values Deviation from average within zone Rate or rise		
System Interfaces	Internet ports RJ-45 100Mb/s	Relay Ports 48way relay	RS 232/485 USB
Laser Safety	Class 1m laser safety		
Operating Conditions	Operating Temperature -0 ~ 55°C	Storage Temperature -20°C ~ 85°C	Humidity 0%~95% RH NC
Physical Dimensions	Height 131 mm	Width 432 mm	Depth 332mm	Weight 10kg
Power requirements	15 to 40 w (25W typical) 24 VDC		

Sensing Fiber Characteristics

Fiber Type	Multi Mode 62.5/125
Temperature Range	-60°C ~ 85°C (standard acrylate fiber) -60°C ~ 150°C (speciality fiber)
Attenuation	< 2.5 / 0.8 dB/km @ 850/1300nm
Cable Specifications	See individual data sheets for FireFiber AT – Armoured tube based cable design Fire Fiber PT – Thermoplastic tube cable design

Wall Mounted Variant

In addition to the rack mounted version Bandweaver also supplies a wall mounted variant of the FireLaser DTS with integrated LCD screen

Reliability, Certification and Approvals

Bandweaver is ISO 9001 certified and undergoes a rigorous continuous improvement program and tests all of its products to leading international standards

- More than 1250 installed DTS units. Field operating MTBF of 167,000 hours (>19 years)
- Key components designed and tested to telecom standards > 30 years MTBF
- Products are designed for low maintenance and cost of ownership (e.g. fan free design..)

Bandweaver tests all of it's equipment to leading international using internal facilities and internationally recognised 3rd party test houses

EN54 Part22   VdS   TÜV ISO 9001   Intertek   CCC   C E