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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 (Telcordia MTBF> 29 years) giving complete coverage at all times

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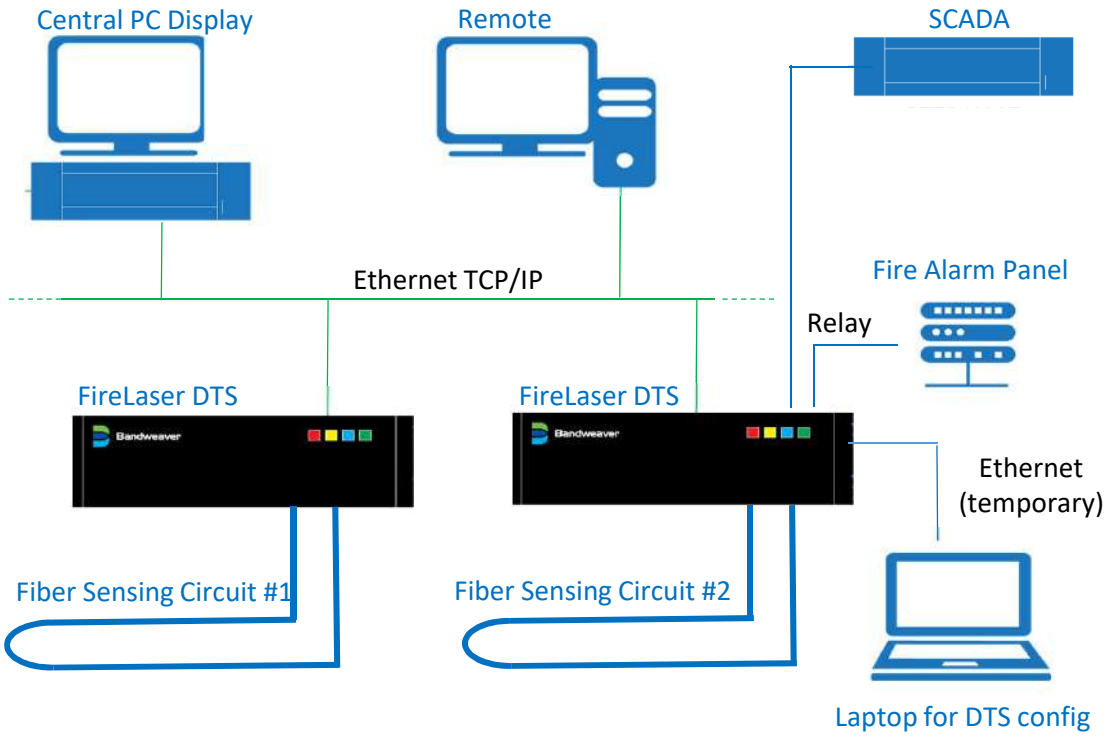
Measurement Specifications

Model	Range	Temp Resolution	Number of Zones	Sampling Resolution	Meas. Time (per circuit)	No. of Channels
FL-03-02-1CH	2km	0.5°C	250	1m	4 sec	1
FL-03-02-2CH	2km	0.5°C	250	1m	4 sec	2
FL-03-02-4CH	2km	0.5°C	250	1m	4 sec	4
FL-03-05-1CH	5km	0.5°C	500	1m	6 sec	1
FL-03-05-2CH	5km	0.5°C	500	1m	6 sec	2
FL-03-05-4CH	5km	0.5°C	500	1m	6 sec	4
FL-03-10-2CH*	10km	1°C	1000	1m	10 sec	2
FL-03-10-4CH*	10km	1°C	1000	1m	10 sec	4

* Product release Q3 2019 Please contact Kifta for specification

Example of System Architecture



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Physical and Operating Characteristics

No. of Alarm Zones	500 User configurable smart zones			
Zone Based Alarm Types	• Maximum and minimum absolute temperature values • Deviation from average within zone • Rate of rise			
System Interfaces	Internet ports RJ-45 100Mb/s	Relay Ports 50 way relay	RS 232/485 USB	
Laser Safety	Class 1m laser safety			
Operating Conditions	Operating Temperature -10 ~ 60°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

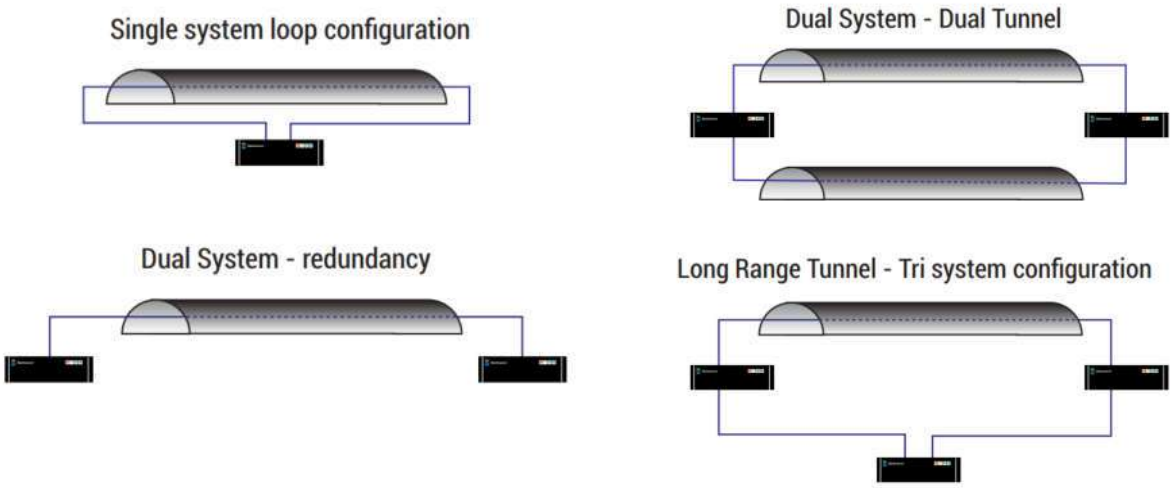
Fiber Type	Multi Mode 62.5/125
Temperature Range	-60°C ~ 85°C (long term **) -60°C ~ 150°C (short term **)
Attenuation	< 2.5 / 0.8 dB/km @ 850/1300nm
Cable Specifications	See individual data sheets for FireFiber AT – Armoured tube based cable design Fire Fiber TT – Thermoplastic tube cable design

** Standard operating temperature of DTS is -10 to +50°C. For 60°C please confirm HT model is selected*
*** Based on standard fiber. Speciality high temperature cables available on request*

System Design and Planning

Kifta or one of our partners can offer assistance in helping select which specific Firelaser system is appropriate for you specific application.

For example, for tunnel applications there are a number of different possible configurations depending on the end user safety requirements (see examples below)



Examples of tunnel configurations

Reliability, Certification and Approvals

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

- More than 1,500 installed DTS units.
- Field operating MTBF of 74,000 hours (>8 years)
- Key components designed and tested to telecom standards > 29 years MTBF
- Products are designed for low maintenance and cost of ownership (e.g. fan free design..)

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