

T-Laser - Distributed Temperature Sensor

For industrial monitoring applications where reliability, safety and seamless system integration are essential, the long range, low-power, user friendly T-Laser DTS is the ideal solution.



The T-Laser DTS has been designed with safety in mind and has been tested to some of the industry's most rigorous standards. The system can be used in many monitoring fields such as: tunnel fire detection; power cable monitoring; oil and gas (upstream and downstream); pipe line monitoring and dam leak detection.

Features

Location of temperature 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

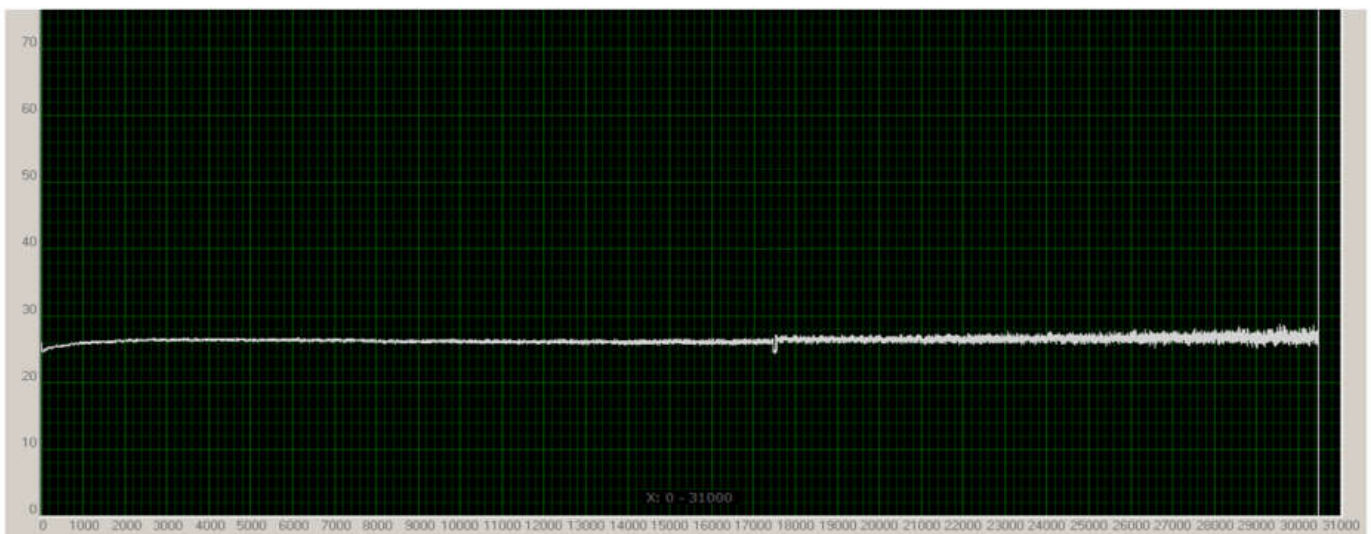
Easy to install and low cost of ownership with low ongoing maintenance costs

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



Measurement Specifications

Model	Range	Temp Resolution	Temp Accuracy	Sampling Resolution	Meas. Time	No. of Channels
TL-02-10-4CH	10km	0.5°C	<±1° C	1m	<15 Sec	4
TL-02-10-8CH	10km	0.5°C	<±1° C	1m	<15 Sec	8
TL-02-20-4CH	20km	0.5°C	<±1° C	1m	<60 Sec	4
TL-02-20-8CH	20km	0.5°C	<±1° C	1m	<60 Sec	8
TL-02-30-4CH	30km	0.5°C	<±2° C	2m	<120 Sec	4
TL-02-30-8CH	30km	0.5°C	<±2° C	2m	<120 Sec	8
TL-02-40-4CH	40km	1.5°C	<±2° C	2m	<240 Sec	4
TL-02-40-8CH	40km	1.5°C	<±2° C	2m	<240 Sec	8



Example screenshot of 30km trace, 4 minute acquisition time, temperature resolution <0.5 deg C



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 ~ 50°C	Storage Temperature -10°C ~ 85°C	Humidity 0%~95% RH NC	
Physical Dimensions	Height 131 mm	Width 432 mm	Depth 390mm	Weight 10kg
Power requirements	15 to 40 w (25W typical) 24 VDC or AC (optional)			

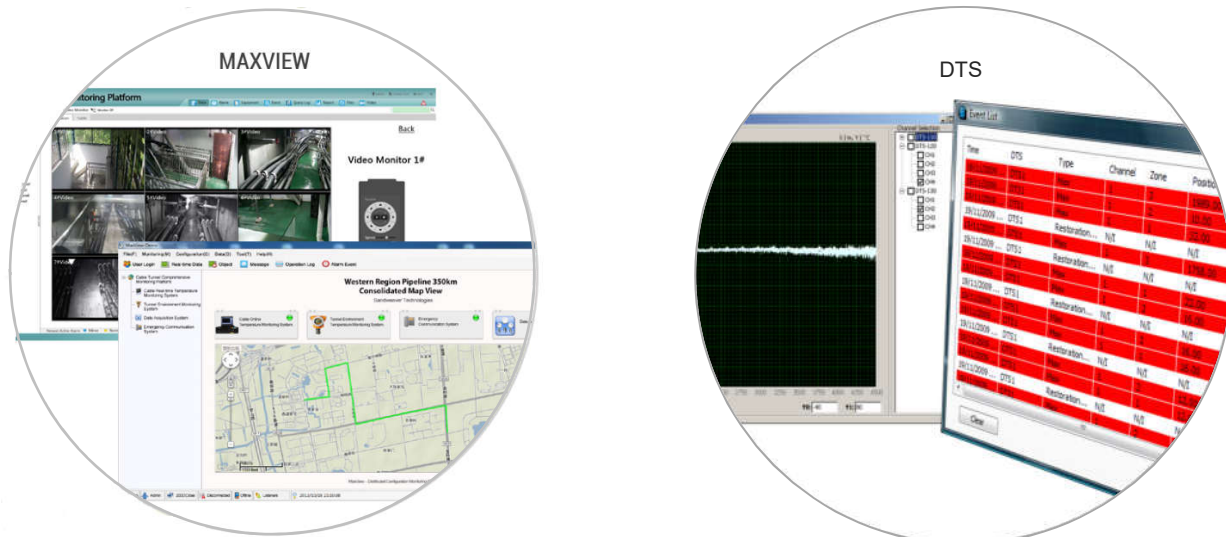
Sensing Fiber Characteristics

Fiber Type	Multi Mode 50/125 (OM2, G.651.1)
Temperature Range	-60°C ~ 85°C (standard acrylate fiber) -60°C ~ 150°C (speciality fiber)
Attenuation	< 2.5 / 0.8 dB/km @ 850/1300nm
Operating Guidelines	Application specific cable available on request Avoid tight bends during installation – specific bend radius cable dependent Take care with in line splices and connectors to keep point losses <0.5dB

Software and User Interface

The T-Laser system utilises the in-built DTS configuration manager (DTSCM) software which allows the user to easily configure the DTS through an industrial PC or Laptop.

For advanced visualisation and analytics, the DTS can also be utilised in conjunction with Bandweaver's Maxview integration software. With it's advanced visualisation capabilities including GIS mapping, 3D-modelling and advanced analytics (including interface to RTTR) MaxView provides a powerful tool for maximising value from the DTS information



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 1500 installed DTS units. Field operating MTBF of 65,000 hours (>7 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

