

# INDUSTRY LEADING PERFORMANCE

The Sentinel DTS™ is the most technologically advanced distributed temperature sensing system today.



The Sentinel range of DTS units, lead the way in terms of performance in DTS technology, with temperature resolutions as fine as 0.004°C achieved in the field, the fastest measurement speeds available and the greatest coverage of up to 45km from a single channel.

The self contained Sentinel DTS system operates with an intuitive user interface allowing fast and simple calibration and configuration. The system has been designed with safety in mind and meets the rigorous standards of the Oil & Gas industry.

Features	Benefits
<ul style="list-style-type: none"> <li>High performance</li> </ul>	Industry leading temperature resolution as fine as 0.004°C enables interpretation in the most difficult applications.
<ul style="list-style-type: none"> <li>Fine spatial resolution</li> </ul>	1m spatial resolution allows accurate location of changing temperature events.
<ul style="list-style-type: none"> <li>Fast measurement speed</li> </ul>	Measurements as short as 10 seconds to enable real time monitoring of transient events, particularly in safety critical applications.
<ul style="list-style-type: none"> <li>Intuitive configuration</li> </ul>	Intuitive user interface allowing fast and simple calibration and configuration. Double-ended calibration through use of a multiplexer.
<ul style="list-style-type: none"> <li>Remote operation</li> </ul>	System can be configured and operated remotely through its Ethernet interface.
<ul style="list-style-type: none"> <li>Multiple channels</li> </ul>	4, 8 and 16 channel multiplexer modules available to increase system flexibility.
<ul style="list-style-type: none"> <li>Alarms functionality</li> </ul>	User configurable zones and alarms available to tie in to SCADA systems. MODBUS/OPC data formats. Relay contact module also available.

## Summary of sensing capabilities

Range	Sentinel DTS Model	Description	Temperature Resolution*	Spatial Resolution	Sampling Resolution
0 – 10km	Sentinel DTS-LR	Medium Range (1064nm)	<0.01°C	1m	0.5m
0 – 30km	Sentinel DTS-XR**	Long Range	<0.01°C	1-2m	0.5-1m
0 – 30km	Sentinel DTS-AX**	Long Range, ATEX M1	<0.01°C	1-2m	0.5-1m
0 – 30km	Sentinel DTS-XRS	Long Range Singlemode	<0.06°C	2m	0.5-1m
0 – 45km	Sentinel DTS-XXR	Extreme Long Range	<0.05°C	5m	2m

\* Please see following page for more details regarding the capabilities of the Sentinel product range.

\*\* 12, 20 and 30km options available.

## Optical

Wavelength	1550nm (1064nm for LR)
Average output power	<3mW
Pulse repetition frequency	2-8kHz depending on range
Pulse energy	<0.5µJ

## Communication and memory

USB	4 x USB3.0 (2 at the front, 2 at the back)
Serial	RS232/485
Network	10/100/1000 Base TX (RJ45)
On-board storage	2 x 128Gb SSD

## Power requirements

AC Power	Power Consumption
100V - 240V, 50Hz - 60Hz	200W maximum

## Environmental

Operating Temperature	Storage Temperature	Humidity
+5°C to +40°C	-15°C to +65°C	5% to 95% relative humidity, non-condensing

## Physical dimensions

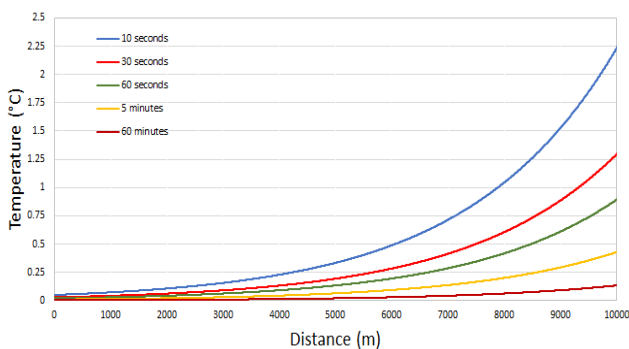
H x W x D*	Weight
180 x 435 x 480mm (7.1 x 17.1 x 18.9")	21kg (46lb)

\*fits in standard 19" rack mountint

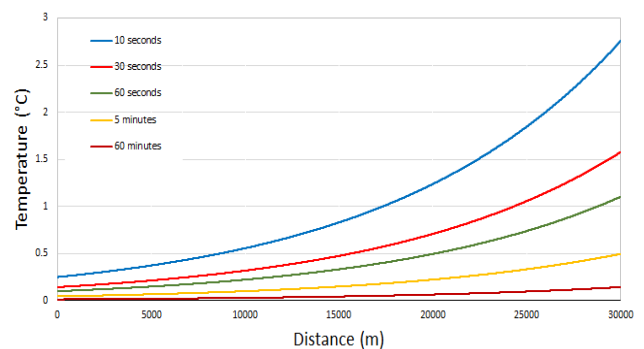
## PRODUCT PERFORMANCE

The following graphs illustrate the temperature resolution\* of each Sentinel DTS with sensing range and measurement time. Further specifications are available from SensorNet on request.

Sentinel DTS-LR Performance



Sentinel DTS-XR Performance



\* Resolution is considered as 1sigma

## Certification & compliance

**Safety:** The Sentinel DTS has been independently classified to BS EN 60825-1:2014 as a Class 1M laser product.

### ATEX

Sentinel AX is Certified Atex Cat. M1 (Mining). All the other Sentinel models are certified Cat.3 and are suitable for use in Potentially Explosive Atmospheres according to Directive 2014/34/EU Standards: EN 60079-0:2012, EN 60079-28:2015

### EMC

EN 61326-1:2013 Lab Equipment; EMC EN55022/ CISPR22 Conducted Emissions: Class B; Radiated Emissions: Class A\*\*;  
EN 61000-4-2:2008; EN 61000-4-3:2006;  
EN 61000-4-4:2012; EN 61000-4-5:2008;  
EN 61000-4-6:2013; EN 61000-4-11:2008;  
\*\* Excluding monitor and keyboard

### CE

Accordance with 89/336 EEC EMC Directive Accordance with LVD 72/23 EEC Directive: EN 41003; EN 50178; EN 60065; EN 60825-1; EN 60950; EN 61010-1



## BE SURE WITH SENSORNET

SensorNet offers the widest range of DTS to meet your every monitoring requirement, specific to any need, environment and challenge. You can rely on us to provide the full solution - from system engineering and design, to installation, data interpretation services and global support services. We'll take the time to fully understand your business goals and the unique context and physical circumstances of your asset to provide the best solution to you.