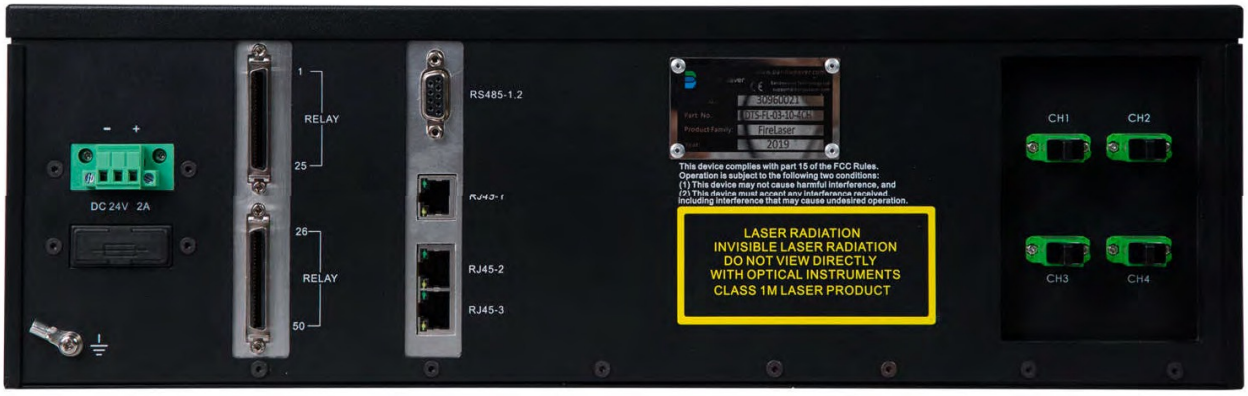
Bandweaver

DATASHEET

FireLaser
Distributed Temperature Sensor

FRONT VIEW

REAR VIEW



Monitored | Secured | Safe

FIRELASER SPECIFICATIONS

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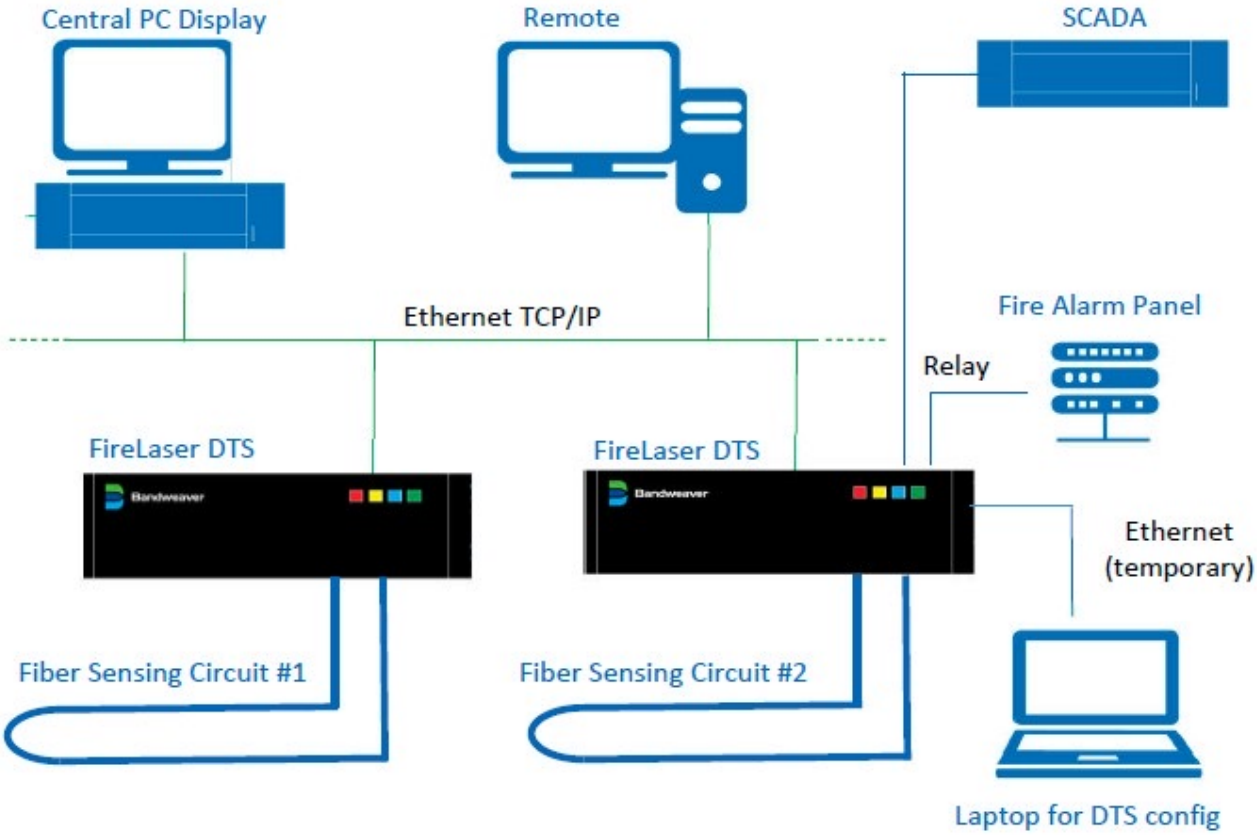
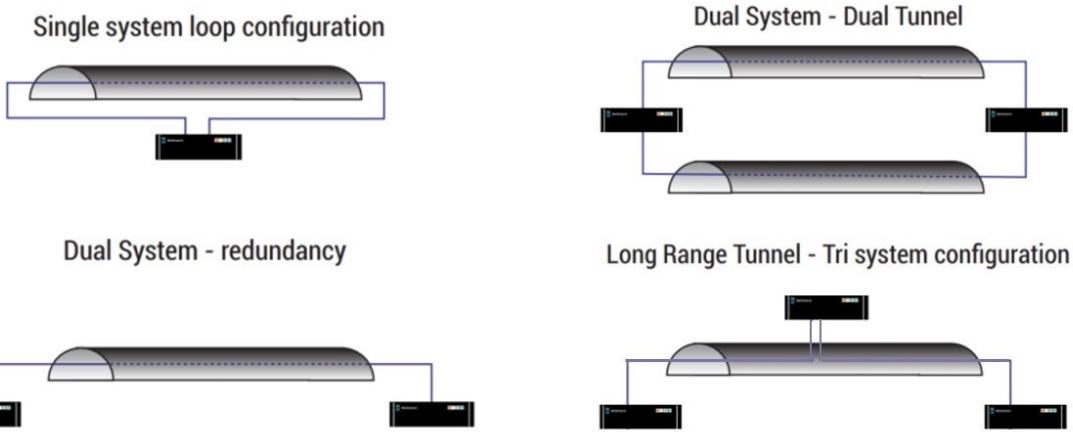
Range per channel	2km	5km	10km
Number of channels	1/2/4	1/2/4	1/2/4
Ordering Part Numbers	DTS-FL-03-02-1CH DTS-FL-03-02-2CH DTS-FL-03-02-4CH	DTS-FL-03-05-1CH DTS-FL-03-05-2CH DTS-FL-03-05-4CH	DTS-FL-03-10-1CH DTS-FL-03-10-2CH DTS-FL-03-10-4CH
DATA ACQUISITION			
Measuring time	From 1s/ch, generally ~5 seconds for linear heat applications (EN54-22)		
Sampling Interval	0.5m / 1m		
Temperature Resolution*	0.1°C@15s, 2km	0.3°C@15s, 5km	0.3°C@15s, 10km
Temperature Accuracy*	±1°C		
Fiber Break Alarm	Automatic detection, accuracy within < ±5m		
OPTICAL			
Laser Wavelength	975 nm	975 nm	1550 nm
Optical Budget**	7 dB	9dB	10 dB
Connector Type	E2000		
Cable type	Multi mode 62.5/125 as standard		
Bandweaver Cable	FireFiber-AT – Armoured tube based cable FireFiber-TT Thermoplastic Tube cable Other cable designs available on request		
Laser Safety Classification	Class 1		
ELECTRICAL AND HARDWARE INTERFACES			
Supply Voltage	24VDC (18 to 36 VDC)		
Power Consumption	20W (average)		
Relays	Yes - 50 relays		
Modbus	MODBUS TCP / MODBUS RTU		
RJ45	3 x 100Mbps		
Serial	2x RS-485		
USB	1x USB On-the-go (OTG)		
Other	5.7-inch touch screen, 640*480-pixel 262K		
Internal Storage	> 500,000 measurements @10km , 32 GB		

* All temperature resolution and accuracy figures are for 62.5/125 fiber.
** For optical budget calculations maximum loss per connector/splice is 0.3/0.1 dB. For FireLaser 2 & 5km max recommended number of splices = 3 to 5. For 10km max number of splices =7 to 10

FIRELASER SPECIFICATIONS (CONT.)

PHYSICAL	
Rack Height	3U
Dimensions (W * H * D)	431 x 131 x 384 mm
Net Weight	10 kg
IP Rating	IP40
Material	Painted Steel
Colour/Finish	Matt Black
Shipping Dimensions	550 x 330 x 530 mm
Shipping Weight	15 kg
ENVIRONMENTAL	
Operating Temperature	-10°C to +50°C (60°C for HT version)
Operating Humidity	0 to 95%RH
Storage Temperature	-10°C to +85°C
Storage Humidity	0 to 95% Relative Humidity, Non-condensing
SAFETY AND COMPLIANCE	
Laser Safety	IEC 60825-1:2007 (2nd Edition)
CE - EMC	EMC 2014/30/EU - EN 61000-6-3:2007+A1:2011, EN 61000-3-2:2014, EN 61000-3-3:2013, EN 61000-6-1:2007
CE - LVD	N/A
CE - RoHS	Yes
FDA	FDA Ascension number 1821008-000 (FireLaser 2km and 5km) 1920930-000 (FireLaser 10km)
FCC	47CFR Part 15:2017, ANSI C63.4:2014
Other	Explosion-proof mark: Ex iaIICT6 Ga , EN54 part 22, SIL 2
SOFTWARE	
Software Name	DTSCM2
Alarm Types	Max & Min, Rate of Rise and Deviation
Max. Zones	1000

Example of System Architecture



Tunnel Configuration Examples