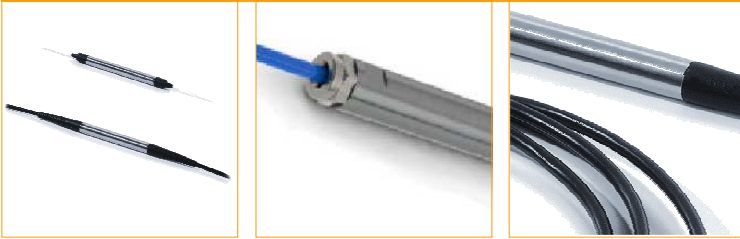


12.1080 MUST TEMPERATURE SENSOR

Fiber Bragg Grating (FBG)

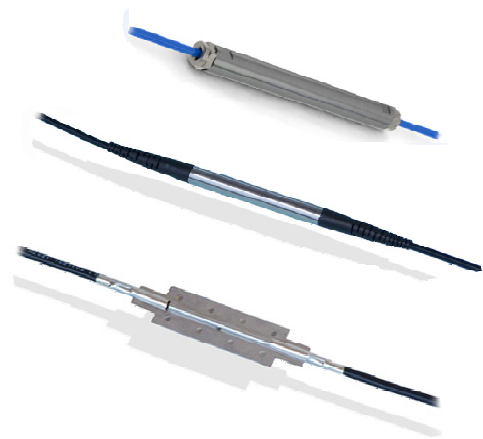


GENERAL DESCRIPTION

SMARTEC's temperature sensors are suitable for a large range of applications. These sensors are fiber optic versions of the conventional electrical and vibrating wire temperature sensors but completely passive, offering inherent insensitivity to environmental induced drift.

TECHNICAL DESCRIPTION

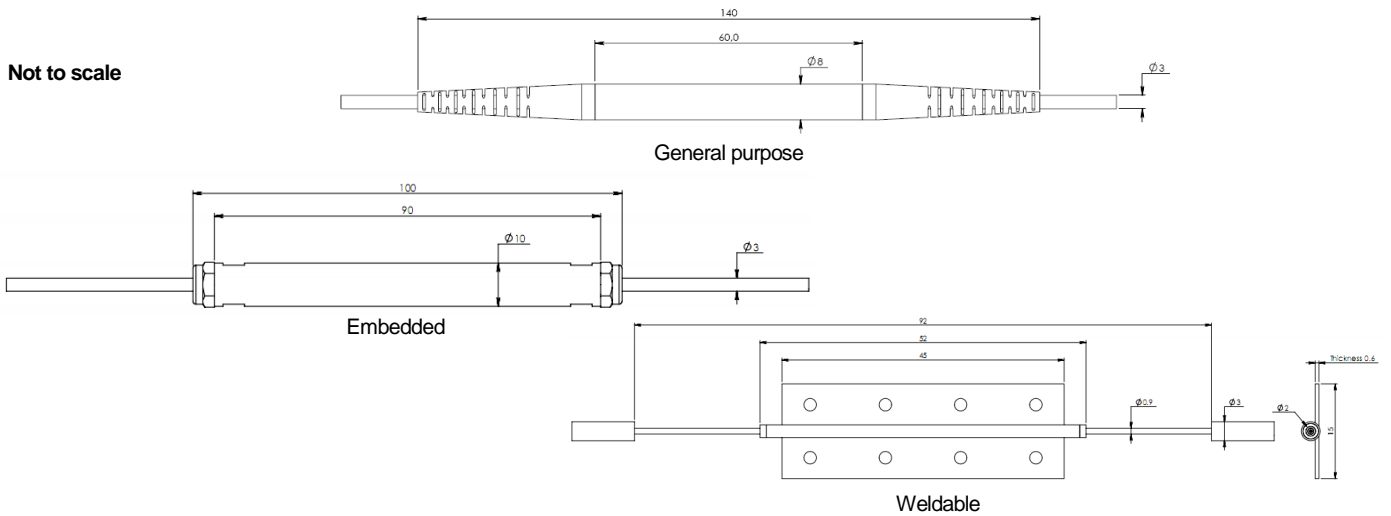
These temperature sensors feature high accuracy and resolution, and total fiber optic design ensuring intrinsic immunity to electric sparks and EMI/RFI. Compatible with most common FBG measurement units, the embedded temperature sensors combine compact size, high resistance to corrosion and harsh environments, and long-term reliability. They are also suitable for remote sensing being possible to install them several kilometers away from the measurement unit and connect a large number of sensors in a single optical fiber. These sensors are also suitable for difficult-to-reach locations and large scale sensing networks.



FEATURES

- High sensitivity
- Self-referenced
- Stainless steel housing
- Long-term reliability
- Large scale integration
- Intrinsically safe design
- Immunity to EMI/RFI
- Compatible with most FBG measurement units

SENSOR DRAWINGS



TECHNICAL CHARACTERISTICS

Central Wavelengths	1510 to 1590 nm. Max. 12 sensors on same chain.
Measurement range	-20 to +80 °C ⁽¹⁾
Accuracy	±0.5 °C
Resolution	±0.1 °C
Sensitivity	10 µm/°C
Reflectivity	> 75%
Insertion loss	< 0.1 dB
Spectral width (FWHM)	< 0.2 nm
Relative humidity	< 90% at 80° C
Packaging	Stainless steel
IP protection	IP68 (only embedded sensor)
Dimensions ⁽²⁾	General: 140 x 8 mm Weldable: 45 x 15 x 0.3 mm Embedded: 60 x 10 mm
Cable types	Ø 3 mm Indoor Ø 3 mm Outdoor/Embedded armor cable (IP68)
Weight	General: 100 g Weldable: 5 g Embedded: 150 g

Standard Wavelengths	Type	WL	Type	WL	Type	WL
		A	1528.9 nm	F	1560.8 nm	K
	B	1535.1 nm	G	1567.2 nm	L	1522.5 nm
	C	1541.5 nm	H	1573.8 nm		
	D	1547.9 nm	I	1580.2 nm		
	E	1554.3 nm	J	1586.6 nm		

⁽¹⁾ Measurement range may be customized upon request.

ORDERING INFORMATION

Wavelength, Connector type, single/double-ended, Cable type, Stainless steel protection cover option

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FiberSensing
Bringing light to measurements

v. 2010/03