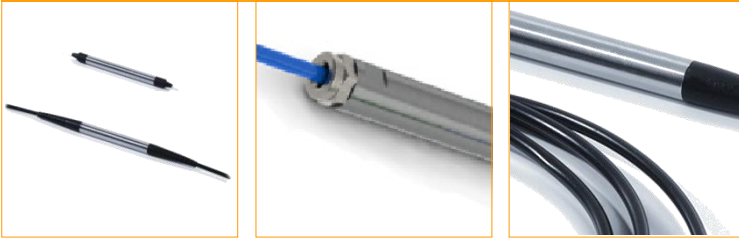


## 12.1081 MUST TEMPERATURE SENSOR

Fiber Bragg Grating (FBG)

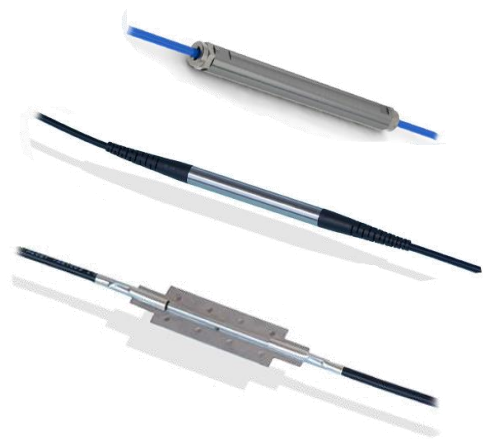


### GENERAL DESCRIPTION

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

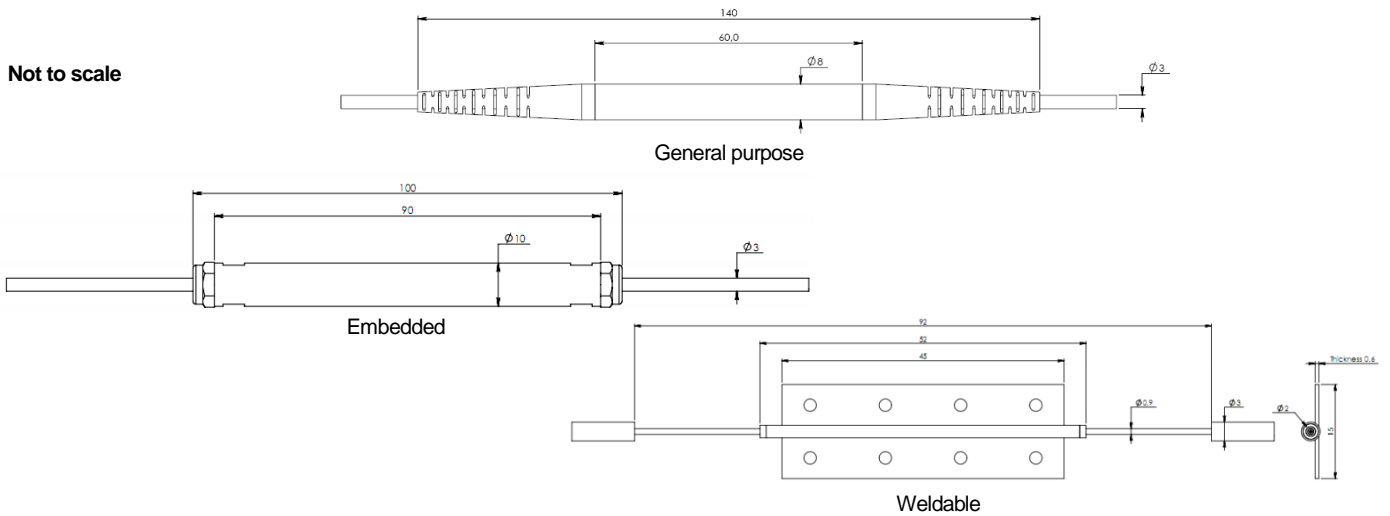
These temperature sensors feature high accuracy and resolution, and total fiber optic design ensuring intrinsic immunity to electric sparks and EMI/RFI. Compatible with most common FBG measurement units, the embedded temperature sensors combine compact size, high resistance to corrosion and harsh environments, 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 <sup>(1)</sup>
Accuracy	±0.5 °C
Resolution	±0.1 °C
Sensitivity	10 pm/°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 <sup>(2)</sup>	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		

<sup>(1)</sup> Measurement range may be customized upon request.

## ORDERING INFORMATION

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