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.

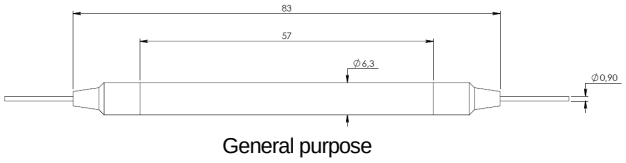
TECHNICAL DESCRIPTION

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.

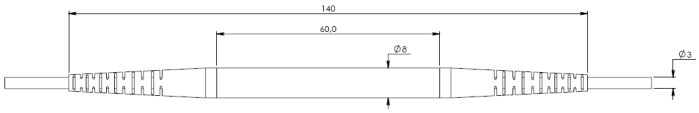
FEATURES

- 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

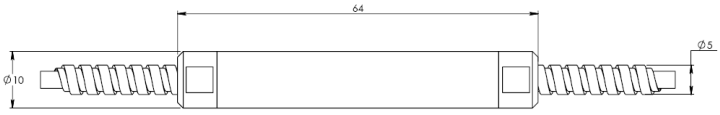
SENSOR DRAWINGS



General purpose



General purpose



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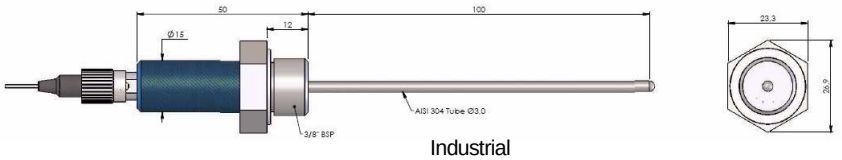

Industrial

TECHNICAL CHARACTERISTICS

Central Wavelengths	1510 to 1590 nm. Max. 12 sensors on same chain.
Measurement range	-20 to +80 ℃ (1)
Accuracy	±0.5 ℃
Resolution	±0.1 ℃
Sensitivity	10 pm/℃
Reflectivity	> 75%
Insertion loss	< 0.1 dB
Spectral width (FWHM)	< 0.2 nm
Relative humidity	< 90% at 80º C
Packaging	Stainless steel
Dimensions (2)	General purpose with Ø 0.9 mm cable: 83 x 6.3 mm General purpose with Ø 3 mm cable: 140 x 8 mm Weldable: 45 x 15 x 0.3 mm Embedded: 60 x 10 mm
Cable types	Ø 0.9 mm Ø 3 mm Indoor Ø 3 mm Outdoor Ø 5 mm Embedded
Weight	Surface 100 g Weldable 5 g Embedded 150 g

(1) Measurement range may be customized upon request.
(2) Dimensions may be customized upon request.

ORDERING INFORMATION