



FBG TEMPERATURE SENSOR ROBUST AND EASY TO INSTALL

For surface mounting or embedding in concrete and mortars.
Ideal for long-term temperature monitoring.
Up to 12 sensors per chain.

Description

MuST FBG 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.

These temperature sensors feature high accuracy and resolution, and total fiber optic design ensuring intrinsic immunity to electric sparks and EMI/RFI. Compatible with SMARTeC MuST 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.

Key Features

- High resolution
- Static and dynamic measurements
- Embeddable or surface mountable
- Multiplexable
- Insensitive to corrosion and vibrations
- Easy to install
- Long term reliability
- Waterproof

Applications

- Bridge Structural Health Monitoring
- Building monitoring
- Dam instrumentation
- Tunnel monitoring
- Multi-point temperature sensing

Specifications

Central Wavelengths: 1510 to 1590 nm. Max. 12 sensors on same chain.

Measurement range: -20 to +80 °C (may be customized upon request)

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)

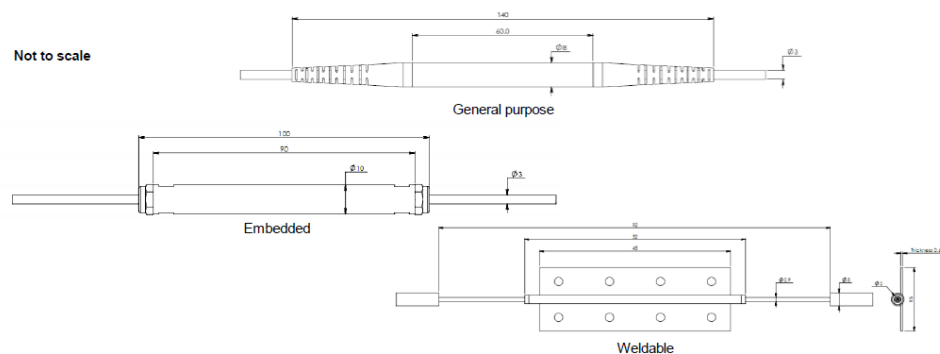
Dimensions:
 General: 140 x 8 mm
 Weldable: 45 x 15 x 0.3 mm
 Embedded: 60 x 10 mm

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	1516.1 nm
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			

Sensor Drawings



Ordering information

- Wavelength
- General purpose, embedded or weldable packaging
- Connector type
- Single/double-ended
- Cable type
- Stainless steel protection cover option