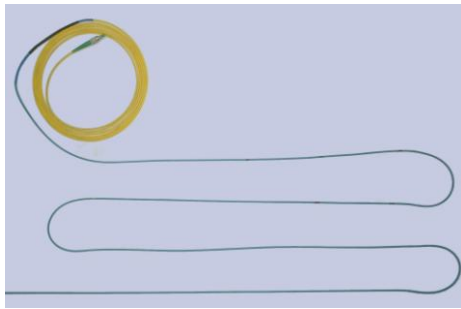
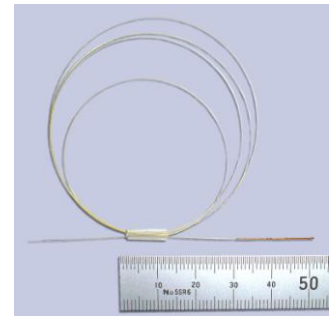


- ◇ **FBG temperature sensors**
- ◇ **Zero power, EMI immune, intrinsically safe**
- ◇ **Broad operating temperature range**
- ◇ **Highly stable**
- ◇ **Multi-km signal integrity**
- ◇ **Numerous package options to suit application**
- ◇ **Available as multiple sensor arrays**



Loose tube multi-point temperature sensing array



Composite embedment package

Smart Fibres FBG Temperature Sensors operate using a loose tube, whereby the FBG is isolated from external strain by a tubular housing, and wavelength variations due to the thermo-optic coefficient of the FBG are measured

The loose tube construction benefits from smaller sensor packaging and greater installation flexibility.

For a truly, miniature temperature sensor, for example to embed within a composite, a terminal FBG can be housed within a polyimide capillary of typ 400 µm diameter.

SmartTemp Specifications (typ):

	Unit	Loose Tube
Sensor Construction		Steel tubing with sensing fibre loose inside
Temperature sensitivity (typ)	pm/°C	11
Measurement resolution (typ) †	°C	0.05
Measurement accuracy (typ) † (with perfect calibration)	°C	0.1
Measurement range‡	°C	-40 to +85
Fibre type		Single Mode SMF-28, 9/125µm
Typical FBG Type *		CWL 1510 – 1590 nm, FWHM <=0.7 nm R>70%, Apodised profile, SLSR >15dB
Sensor dimensions (Typ.)		Tubing 2 to 4mm OD Length to suit application
Cable and connections		To suit application

* Alternative CWL or spectral profile on request

† with 0.5 pm resolution / 1pm accuracy (e.g. W4) interrogator. In practice accuracy may be limited by reference measurement.

All specifications are correct at the time of writing and may change without notice.

Certain specifications may be speculative or untested - please contact us to confirm the specification meets with your requirements.

FBG temperature sensors are also available in our SmartPatch, SmartTape and SmartWeld constructions.