HT-Tube500

In Well High Temperature FBG Sensor

Description:

HT-Tube500 is a well insertion Fiber Bragg Grating (FBG) based temperature sensor for industrial harsh environments. The sensor typically consists in a cascade of FBGs, packaged in metallic tube (ϕ = 5 mm typical outer diameter) and its rugged construction enable in well insertion providing temperature profile along the sensor length with millimeter scale spatial resolution. The loose tube construction and the FBG sensors within the optical fiber allow an operating temperature range up to 500 °C (600 °C R&D).

Typical applications:

- **Machine Condition Monitoring**
- **Power Plants Transformers**
- **Chemical Processes**
- **Conveyor Systems**
- **High Temperature Environments**

Physical specifications:

Sensor Construction	Loose Tube
Dimension (ϕ x L)	Tube diameter and sensor length to suit application
Package material	Stainless steel AISI 304 or other options
Fixing method	Swagelok , Glue

Optical specifications:

Fiber Type	Single-mode SMF-28 9/125 µm
FBG Wavelength (CWL)	1460 – 1620 nm
FBG Bandwidth (FWHM)	0.25 nm (typical)
FBG Peak Reflectivity (R)	> 50 %
Side Lobe Suppression Ratio (SLSR)	> 15dB
Sensors Spacing (D)	> 7 mm (Customizable)
Sensors Number	Custom to suit application
Measurement Range	-50 to 500 °C (600 °C R&D)
Sensor Resolution	0.1 °C *
Sensor Accuracy	0.5 °C *
Cable Length and Connector	to suit application

* Depending on the FBG sensors reading unit

Note: All the above specifications may be changed without notice.

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