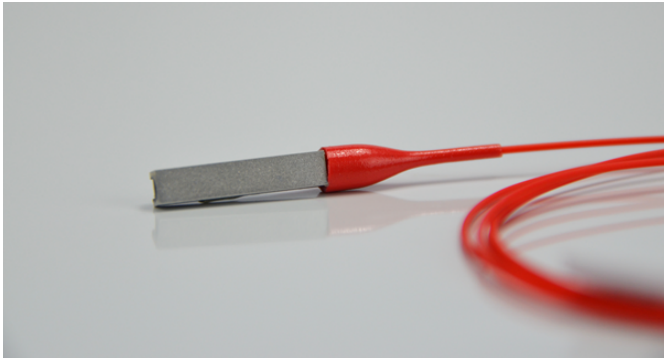imc

fos4Temp

Fibre optic temperature sensor

Highlights

- Immune to lightning and electromagnetic interference
- Temperature range -40 °C to +80 °C
- Sensitivity 25 ppm/K (39 pm/K)

The fos4Temp sensor is a fiber-optic temperature transducer based on a fiber Bragg grating sensor. It is designed to measure temperatures under special environmental conditions as the optical working principle makes the sensor immune to electromagnetic interference and lightning. Also, sensing over long distances, as required in many structural monitoring or geological applications, is one of fiberoptic sensors' advantages.

Technical Specs - fos4Temp

Sensor parameter, FBG parameter		
Sensor parameter	**Unit**	**fos4Temp (dyn, 1.5 m, 1550 nm)**
Bragg wavelength at 23 °C (λ_0)	nm	1550 ± 0.5
k_T	ppm/K	25.12 ± 0.5
Measurement range	°C	-40 to +80

FBG parameter	**Unit**	**fos4Temp (dyn, 1.5 m, 1550 nm)**
Spectral width	nm	0.55 ± 0.1
Reflectivity	%	60 ±10
Side mode suppression	dB	>15

General	**Unit**	**fos4Temp (dyn, 1.5 m, 1550 nm)**
Suitable fos4X measurement device		fos4Test dyn / fos4Test nSens
Sensor type		Fiber Bragg grating
Optical connector type		LC/APC
Fiber type		SMF 28 compatible
Minimal bending radius	mm	50
Storage temperature	°C	-40 to +80
Operating temperature	°C	-40 to +80

Parameter	**Unit**	**fos4Temp (dyn, 1.5 m, 1550 nm)**
Mounting		glue
Height x Width x Length	mm	4 x 4 x 20
Weight	g	2
Diameter of sensor cable	mm	1
Length of sensor cable	m	2