

HIGH ACCURACY GAAS-BASED FIBER OPTIC TEMPERATURE SENSOR FOR TIP MEASUREMENT APPLICATIONS

Compatible with Opsens' GaAs (SCBG) series of signal conditioners

Key Features

- $\pm 0,3$ °C total system accuracy
- Small and robust design
- Outstanding repeatability
- MRI/EMI/RFI and microwave immune
- Intrinsically safe
- OEM-type and custom disposable version

Applications

- Surface and core temperature monitoring in MRI environments
- RF, ultrasound and electro surgery environments
- Temperature monitoring for preclinical and research applications
- MR coil temperature monitoring
- Catheter design

Description



Opsens' OTG-M170 fiber optic temperature sensor offers the highest performances in the industry. The OTG-M170 sensor uses the well proven technique based on the temperature-dependent bandgap of GaAs crystal as the temperature transduction mechanism. Its small sensing GaAs crystal located at the tip of the optical fiber makes it convenient for tip measurement applications.

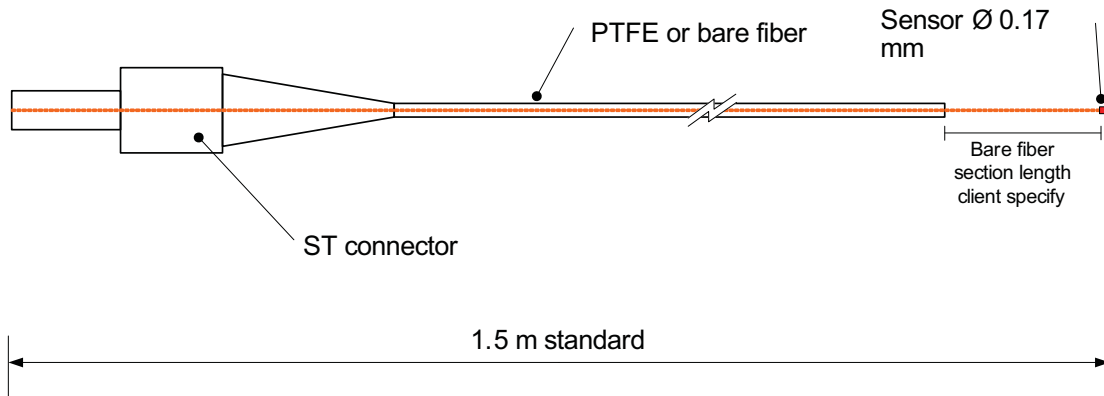
Combined with Opsens' GaAs (SCBG) signal conditioning technology and with the inherent advantages of fiber optic, the OTG-M170 delivers unprecedented repeatability and reliability in the most adverse conditions such as high level of EM, RF, MR and microwave field environments.

The OTG-M170 is made with industry standard optical fiber and is compatible with all Opsens' GaAs (SCBG) signal conditioners. This compact and robust fiber optic temperature sensor is available with different optical cables and sheath options and is customizable according to customer specific applications or for OEM-type applications.

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Specifications

Temperature operating range	20 °C to +45 °C (higher temperature ranges available upon request)
Resolution	0.01 °C
Accuracy	±0.3°C (Total accuracy over the full range from 20 to 45 °C including both signal conditioner and sensor errors) ±0.8°C and better (Total accuracy including both signal conditioner and sensor errors for higher temperature range up to 250°C)
Response time	≤ 10 ms
Operating humidity range	0-100 %
MRI/EMI/RFI susceptibility	Complete immunity
Calibration	NIST traceable
Cable length	1.5 meters standard (other lengths available)
Optical connector	ST standard
Cable sheathing	Teflon™
Signal conditioner compatibility	All Opsens GaAs (SCBG) signal conditioners