



**HIGH ACCURACY GAAS-BASED
FIBER OPTIC TEMPERATURE SENSOR
FOR LIFE SCIENCES 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

Description



Opsens' OTG-MPK8 fiber optic temperature sensor offers the highest performances and robust packaging in the industry. The OTG-MPK8 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. The OTG-MPK8 temperature sensor is housed in a robust PEEK tube hence facilitates insertion and daily handling.

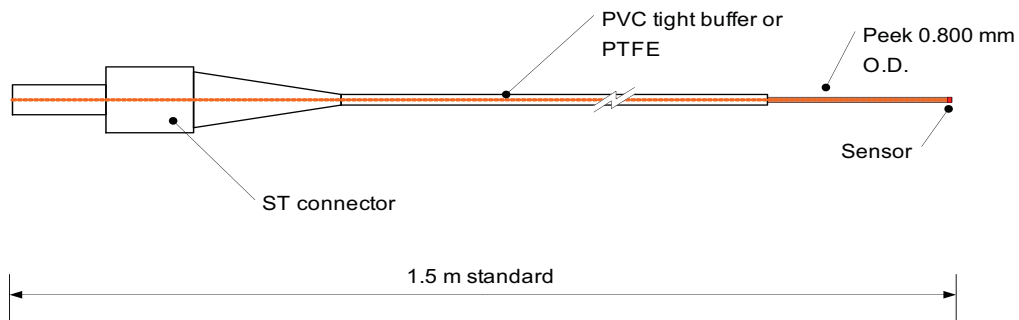
Combined with Opsens' GaAs (SCBG) signal conditioning technology and with the inherent advantages of fiber optic, the OTG-MPK8 delivers unprecedented repeatability and reliability in the most adverse conditions such as high level of EM, RF, MR and microwave field environments.

The OTG-MPK8 is made with industry standard optical fiber and is compatible with all Opsens' GaAs (SCBG) signal conditioners. This 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.

Opsens

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Specifications

Temperature operating range	20 °C to +45 °C (higher temperature ranges available upon request)
Resolution	0.05 °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)
Response time	500 ms or better
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
Sensor diameter	0.80 mm O.D.
Cable sheathing	PVC tight buffer (≤ 85°C) or Teflon™ (> 85°C)
Signal conditioner compatibility	All Opsens GaAs (SCBG) signal conditioners

All specifications are subject to change without prior notifications