



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

Compatible with Opsens' GaAs (SCBG) series 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 versions

#### 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
- Applications that require small size sensors

#### Description

Opsens' OTG-MPK5 fiber optic temperature sensor offers the highest performance and robust packaging in the industry. The OTG-MPK5 model 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-MPK5 temperature sensor is housed in a robust PEEK tube that facilitates insertion and daily handling.

Combined with Opsens' GaAs (SCBG) signal conditioning technology and the inherent advantages of fiber optic, the OTG-MPK5 delivers unprecedented repeatability and reliability in the most adverse conditions such as high level of EM, RF, MR and microwave field environments.

The OTG-MPK5 is made with industry standard optical fiber and is compatible with all Opsens' GaAs (SCBG) signal conditioners. This robust fiber optic temperature sensor, available with different optical cables and sheath options, may be customized to customer specific requirements or for OEM-type applications.

#### Opsens

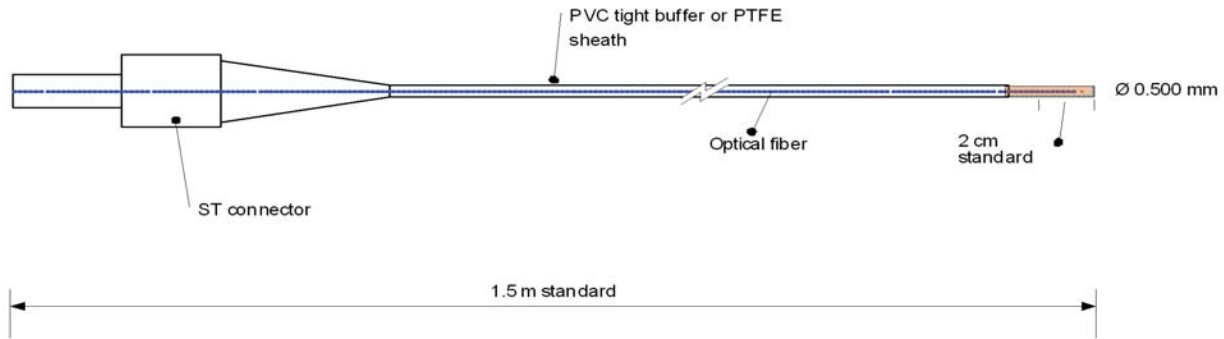
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## Specifications

|                                  |   |
|----------------------------------|---|
| Temperature operating range      | 20 °C to +45 °C (higher temperature ranges available upon request)  |
| Resolution                       | 0.01 °C   |
| Accuracy                         | ±0.3°C (Total accuracy over the full range from 20 to 45 °C including both signal conditioner and sensor errors)<br>±0.8°C and better (Total accuracy including both signal conditioner and sensor errors for higher temperature range up to 250°C) |
| Response time                    | ≤ 225 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   |
| Sensor diameter                  | 0.50 mm O.D.  |
| Cable sheathing                  | Teflon™   |
| Signal conditioner compatibility | All Opsens GaAs (SCBG) signal conditioners  |