



HIGH ACCURACY FIBER OPTIC TEMPERATURE SENSOR FOR MEDICAL APPLICATIONS

Use with of Opsens' AccuSens signal conditioner

Key Features

- Highest accuracy and resolution in the industry
- Outstanding repeatability
- Miniature and robust design combined with customization flexibility
- Low drift and low hysteresis
- EMI/RFI and microwave immune
- Compatible with MRI system
- OEM version available

Applications

- Physiological temperature measurements
- RF, microwave and electro surgery environments
- MRI system (R&D and OEM applications)
- Sterilization applications

Description

Opsens' OTP-M is designed to perform in stringent medical environments by offering the highest temperature accuracy and resolution in the industry.

The OTP-M sensor uses the temperature-dependent birefringence of a crystal specially selected for medical applications as the temperature transduction mechanism. Because of the pure monocrystalline material used, the OTP-M does not show thermal creeping or aging as with other fiber optic sensors based on the thermal dilatation of glass optical fibers.

Combined with Opsens' WLPI signal conditioning technology (Patent # 7,259,362) and with the inherent advantages of fiber optics, the OTP-M is able to address the medical industry's requirements for long-term accuracy, repeatability, low drift and high resolution in rapid thermal cycling conditions under the presence of strong EM, RF, MR and microwave fields.

The OTP-M is compatible with the WLPI AccuSens and AccuSens-OEM signal conditioners. This compact and precise fiber optic temperature sensor, available in different cables and sheath options, is customizable according to client specific or OEM applications.

Opsens

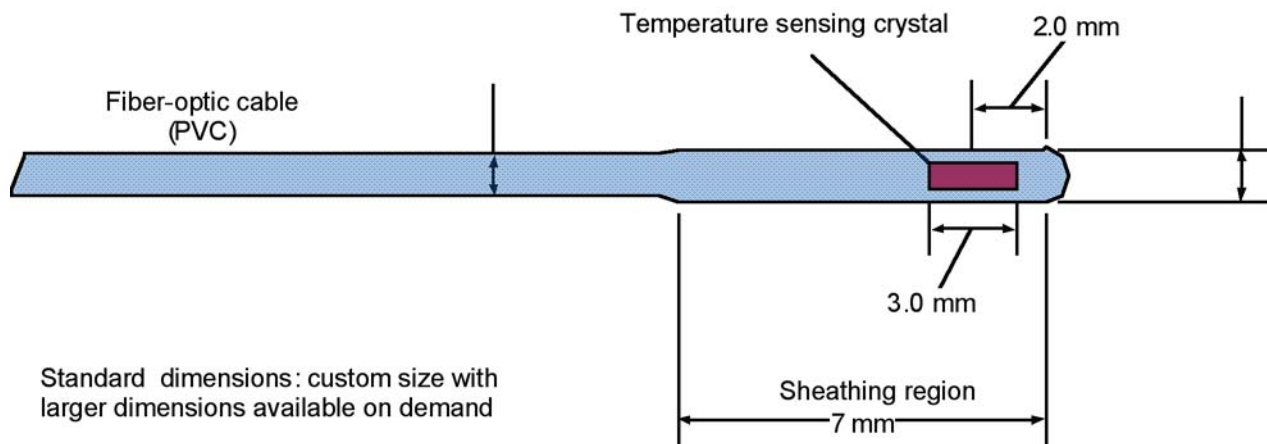
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Specifications

Temperature operating range	0 °C to 85 °C
Specific calibrated range	20 °C to 45 °C standard (other ranges available)
Accuracy (within the specific calibrated range)	±0.30 °C @ ±3.3 sigma limit (99.9% confidence level)
Response time	< 1 s typical (depends on packaging and measuring conditions)
Operating humidity range	0-100 %
EMI/RFI susceptibility	Complete immunity
Calibration	NIST traceable
Cable length	1.5 meters standard (other lengths available)
Optical connector	SC standard
Cable sheathing	Teflon™
Signal conditioner compatibility	WLPI AccuSens and AccuSens-OEM signal conditioners

* The OTP-M product is designed to be integrated into customer host system but is not approved by the FDA or by any applicable regulatory bodies. The compulsory approvals needed for the medical or clinical use of the OTP-M product are the customer's responsibility.