

# FIBER OPTIC TEMPERATURE SENSOR

FOR INDUSTRIAL APPLICATIONS

## KEY FEATURES

- Good accuracy
- Small and robust design
- Outstanding repeatability
- EMI/RFI/RFI and microwave immune
- Intrinsically safe
- OEM-type and custom version



**OTP-A** Compatible with Opsens Solutions' WLPI signal conditioners

## DESCRIPTION

Opsens Solutions' OTP-A fiber optic temperature sensor offers the highest performances in the industry. The OTP-A sensor† uses the temperature-dependent birefringence of specially selected crystal as the temperature transduction mechanism. Because of the pure monocrystalline material used, the OTP-A 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 #7,259,862) and with the inherent advantages of fiber optics, the OTP-A delivers unprecedented repeatability and reliability in the most adverse conditions such as high level of EM, RF, MR and microwavefields environments as well as with high voltage and rapid temperature cycling conditions. The OTP-A is designed for relatively dry environment without significant condensing humidity. For such conditions, the fully sealed OTP-B is more suitable and can even be fully immersed in liquid permanently.

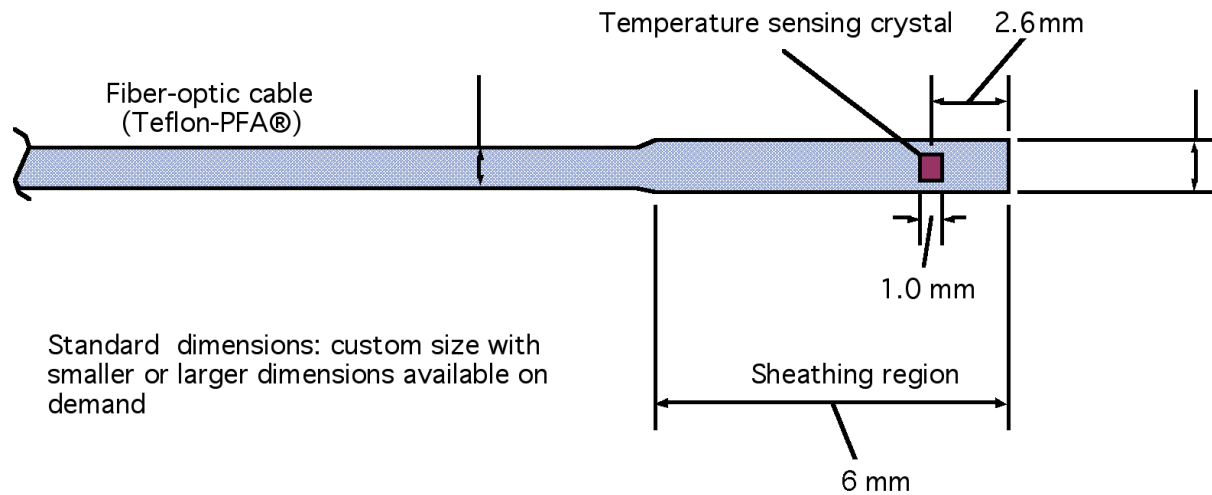
The standard operating range of the OTP-A is from -40 °C to +250 °C. The OTP-A is compatible with all Opsens' WLPI signal conditioners. This compact and robust fiber optic temperature sensor, available in different cables and sheath options, is customizable according to customer specific applications or for OEM-type applications.

## APPLICATIONS

- Microwave assisted chemistry
- EM, RF and microwave environments
- High voltage environments
- Sterilization applications
- In-situ process control
- RF and microwave drying applications
- Nuclear and hazardous environments

# OTP-A

## FIBER OPTIC TEMPERATURE SENSOR



### SPECIFICATIONS

TEMPERATURE OPERATING AND CALIBRATED RANGE	-40 °C to +250 °C
ACCURACY	± 1.0 °C @ ±3.3 sigma limit (99.9% confidence level)
RESPONSE TIME	1.5 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	LCA, ST standard
CABLE SHEATHING	Teflon™ PFA
SIGNAL CONDITIONER COMPATIBILITY	All Opsens Solutions' WLPI signal conditioners