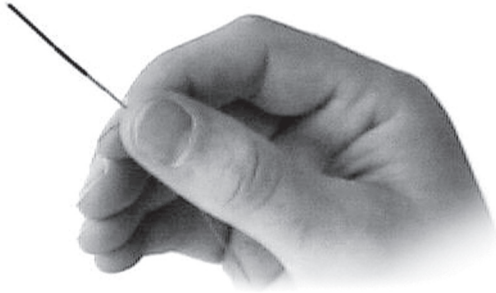


# PRODUCT DATASHEET

## FOT-L Temperature Sensors



The FOT-L-SD and FOT-L-BA are fiber optic temperature sensors perfectly suited for harsh environmental conditions such as in cryogenics, nuclear, microwave, and strong RF applications. The FOT-L temperature sensors combine all the desired characteristics you would expect from the ideal sensor. These temperature sensors offer accuracy and reliability in extreme temperature and hostile environments.

Both FOT-L temperature sensors feature complete immunity to EMI and RFI, miniature size, built-in safety for hazardous environments, extreme temperature resistance, high precision, and resistance to corrosive environments.

Fiber optic technology provides intrinsic immunity to EMI and RFI. Fiber optic sensors are not electronically active and do not emit nor are they affected by any type of EM radiation, whether it is microwave, RF, or NMR.

Another important advantage of optical fibers is the capability it provides to produce miniature components without compromising the physical characteristics of the bulk material. Optical fiber is optimized in size to provide the smallest possible light path. Thanks to this advantage, fiber optic sensors may feature tip diameters as small as 0.8 mm.

FISO's fiber optic temperature sensors provide accurate, stable, and repeatable measurements. These measurements are based on variations of the reflected light — when compared to the emitted light — due to thermal expansion of the highly stable glass used within the sensor.

The FOT-L-SD is sheathed with PTFE and has a temperature range from as low as  $-40^{\circ}\text{C}$  up to  $300^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $572^{\circ}\text{F}$ ).

The FOT-L-BA is designed with a much smaller diameter to provide an even faster response time, while withstand temperatures of up to  $250^{\circ}\text{C}$ .

All our temperature sensors are designed to work with FISO's line of signal conditioners.

The fiber optic lead cable can be up to several meters long without affecting the quality or the accuracy of the results.

### Key Features

- Intrinsically safe
- Up to  $300^{\circ}\text{C}$  ( $572^{\circ}\text{F}$ )
- High accuracy
- Miniature and rugged sensor

### Applications

- Microwaves and RF
- Medical applications
- Nuclear environments
- In-situ process monitoring
- Harsh and hazardous environments
- High temperature environments
- Aerospace applications

## Specifications

### Temperature range

FOT-L-SD -40°C to 300°C (-40°F to 572°F)

FOT-L-BA -40°C to 250°C (-40°F to 482°F)

**Resolution<sup>1</sup>** 0.1°C

**Accuracy<sup>2</sup>** ±1°C

### Response time

FOT-L ≤1.5 second

FOT-L-BA ≤0.5 second

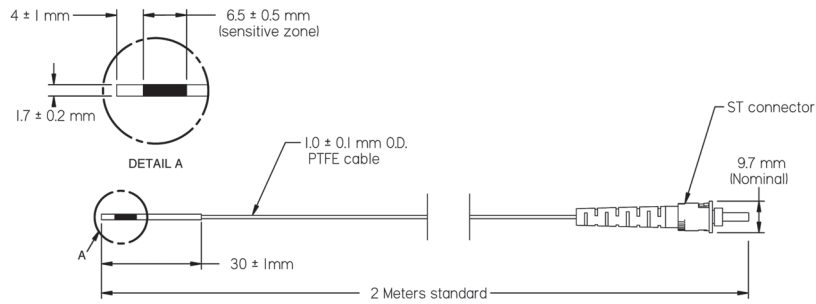
**Connector type** ST connector

1. Signal conditioner dependent.

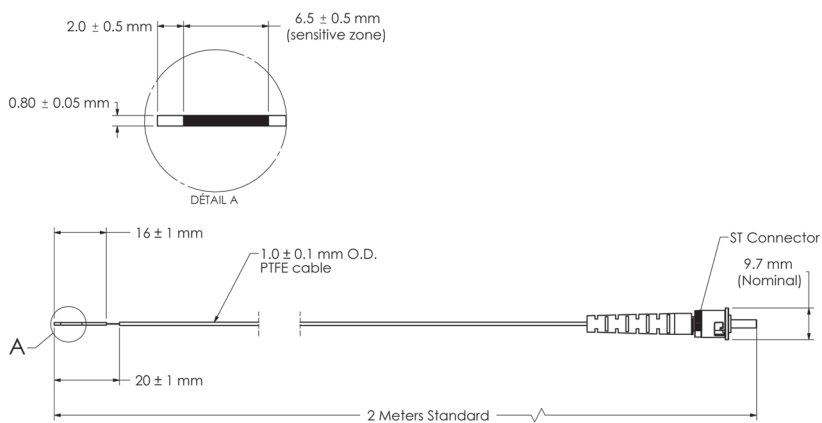
2. ±0.5°C is attainable when using a reduced temperature range of 20°C to 85°C (68°F to 185°F).

## FOT-L Dimensions

### FOT-L-SD Model



### FOT-L-BA Model



Drawing Number: SCH-00511 - SCH-00680