



DESCRIPTION

The FOT-100 Fiber-Optic Temperature Sensor is ideal for direct contact temperature measurements in hostile environments: on high voltage equipment, immersed in oil or in presence of highly explosive gas. Its design and optical technology make it immune to electromagnetic interferences and ensure an excellent electrical insulation, at the sensor head, as well as between the instrumentation. The sensor head is made of electrically non-conducting materials for high voltage isolated measurements. **The FOT-100 measures up to 200°C / 392°F.**

It represents a rugged solution for industrial applications.

The FOT-100 unibody design comprises integral: sensor head, fiber-optic cable, and feedthrough conditioner. The optical sensor body is also made of a high performance, non-conducting material. Its small footprint and low profile enables easy installation in tight areas. Optical fibers are embedded in a protective tubing.

FOT-100

FIBER-OPTIC TEMPERATURE SENSOR



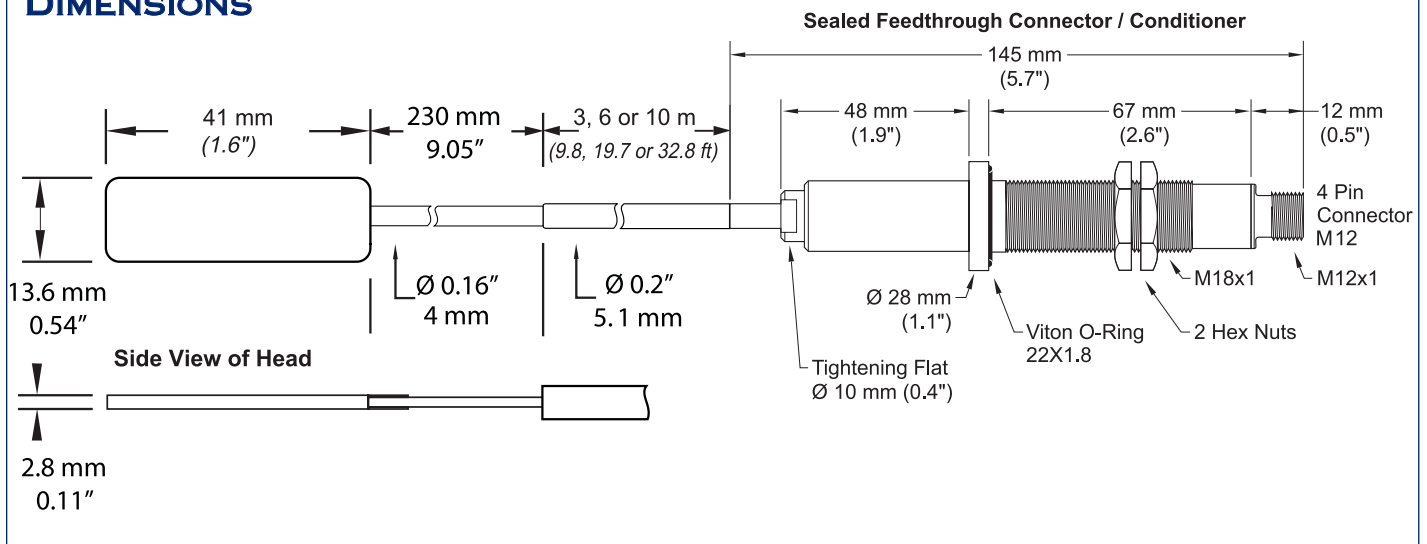
APPLICATIONS

- Direct contact temperature measurement in hazardous environments
ex.: high voltage, highly explosive gas, hydrogen cooled generators...
- Electrical apparatus applications:
 - high voltage transformers and circuit breakers
 - windings of turbo and hydro generators
 - isolated phase bus
 - high voltage conductor connections
 - brush temperature monitoring of exciter brushgears

FEATURES

- Temperature range: 0 to 200°C / 32 to 392°F
- 0 to 10 Volts analog linearized output
- Insulation: 3 kVAC/mm @ 25°C/77°F, 25 % of relative humidity
- Immune to electromagnetic interferences
- Unobtrusive to machine operation – Safe to personnel
- Unibody design: sensors, fiber-optic cable, conditioner
- Low profile, small footprint and light-weight sensor head
- Integral optical cable length: 10 m/32'8" (Standard)
(Other lengths also available upon request)
- Ruggedized design - Patent pending
- VibroSystM patent does not use rare earth elements nor fiber Bragg grating (FBG) technique to ensure a rugged design.
- **ATEX certified**

DIMENSIONS





FOT-100 GENERAL SPECIFICATION

Operating

- Continuous Temperature Measuring Range 0 to 200°C (32 to 392°F)

Electronics

- Analog output 0 to 10 Volts
- Insulation Voltage 3 kVAC/mm @ 25°C/77°F, 25 % of relative humidity between Sensor Head and Electronics
- Power Supply External + 24 VDC ±15%

Environmental

- Temperature Range
 - Operation Sensor 0° to 200°C (32° to 392°F)
 - Electronics 0° to 70°C (32° to 158°F)

Physical Characteristics

- Sensor Head
 - Length 41 mm (1.62 in.)
 - Width 13 mm (0.51 in.)
 - Thickness 2 mm (0.08 in.)
- Sealed Feedthrough Chromed Brass alloy, M12 4-Pin connector on outside end with mating shielded connector, Viton O-ring 21.95 x 1.78, 2 hex nuts M18x1
 - Length 145 mm (5.7 in.)
 - Max. Diameter 28 mm (1.1 in.)
 - Thread Length 49 mm (1.9 in.)
 - Thread Diameter 18 mm (0.7 in.)
- Fiber Optic Cable
 - **Standard Length 10 m (32.80 ft)**
Other lengths also available upon request
 - Diameter 5 mm (0.2 in.)
 - Min. Bending Radius 160 mm (4.0 in.)

VibroSystM reserves the right to change specifications to improve products without notification.
 † Protected by patents around the world: US patents 7,064,559; 6,307,385; 6,552,667; 6,075,464; 5,990,807; 5,182,612; and other patents pending.

Published: 06.12.13 **Revised:** 09.11.19