



FOA-100E

Fiber Optic Accelerometer

The FOA-100E is a single-axis, fiber optic accelerometer designed to measure vibration amplitudes of high voltage components that are subjected to electrodynamic and mechanical stress, such as stator end-windings. This sensor is suited for operation in hostile environments containing high voltage levels and severe electrical and magnetic interference.

General Specifications

Operation

- Sensitivity 100 mV/g $\pm 5\%$
- Measuring Range 0 to 40 g Peak
- Bandwidth 10 to 1000 Hz (-3 dB)
- Voltage Output 6 Vdc $\pm 5\%$ Bias, ± 4 Vac
- Sensitivity Deviation vs Temperature
 - Class A $\pm 10\%$ max. @ 105°C [221°F]
 - Class F $\pm 10\%$ max. @ 155°C [311°F]
- Maximum Shock Acceleration 1000g Half Sine 1 ms Duration
- Resonance Frequency > 2 kHz
- Transverse Sensitivity < 5% Respecting Sensitive Axis
- Residual Noise < 6 mV RMS

Power Requirements

- Voltage 24 Vdc $\pm 20\%$
- Consumption 40 mA max.

Connection

- Connector Type 4-Pin M12 Male
- Maximum Cable Length 350 m [1150 ft]

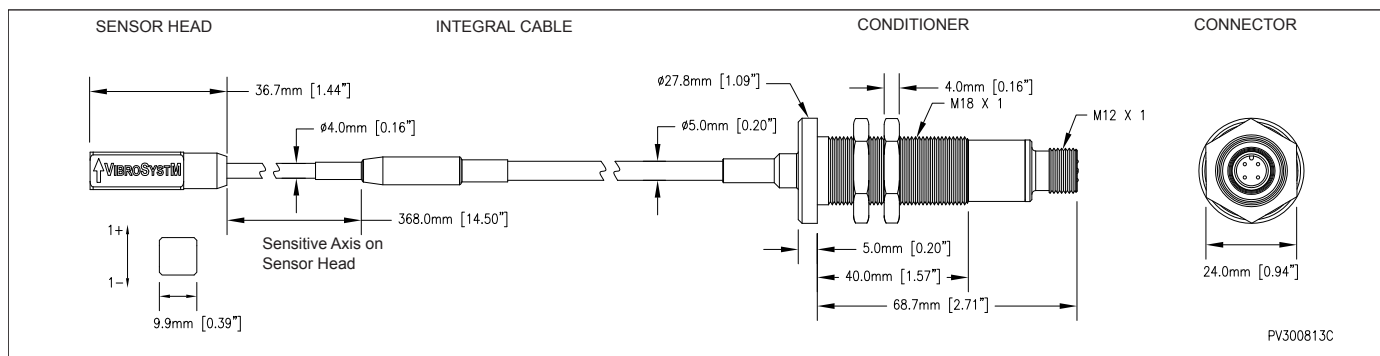
Environmental

- Temperature Range
 - Operating
 - Sensor Head (Class A) -40 to 105°C [-40 to 221°F]
 - Sensor Head (Class F) -40 to 155°C [-40 to 311°F]
 - Conditioner 0 to 70°C [32 to 158°F]
 - Non-Destructive
 - Sensor Head -50 to 200°C [-58 to 392°F]
 - Storage -20 to 85°C [-4 to 185°F]
- Humidity Up to 95% Non-Condensing
- Electrical Insulation Up to 3 kV/mm
 - Head vs Conditioner
- Electrical & Magnetic Field No Effect (Head Only)

Physical Characteristics

- Sensor Head Non-Conductive Materials
- Integral Cable Fiber Optics / PTFE Jacket
 - Length 10 m [33 ft]
 - Minimum Bending Radius 80 mm [3.15 in]
- Conditioner Body Chrome-Plated Brass Alloy

Dimensions



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