FOA™-100E-10A

Fiber Optic Accelerometer

GENERAL SPECIFICATIONS

Operation

Sensitivity	100 mV/g ±5%
Measuring range	0 to 40 g peak
Bandwidth	10 to 1000 Hz (-3 dB)
Voltage output	6 Vdc ±5% bias, ±4 Vac
Sensitivity deviation vs temperature	±10% max.
Maximum shock acceleration	1000 g half sine, 1 ms duration
Resonance frequency	> 2 kHz
Transverse sensitivity	< 5% respecting sensitive axis
Residual noise	Typical 8 mV_{RMS}, max. 27 mV_{RMS}

Power Requirements

Voltage	24 Vdc ±20%
Consumption	40 mA max.

Connection

Connector type	4-pin M12 male
Maximum cable length	350 m [1150 ft]

Environmental

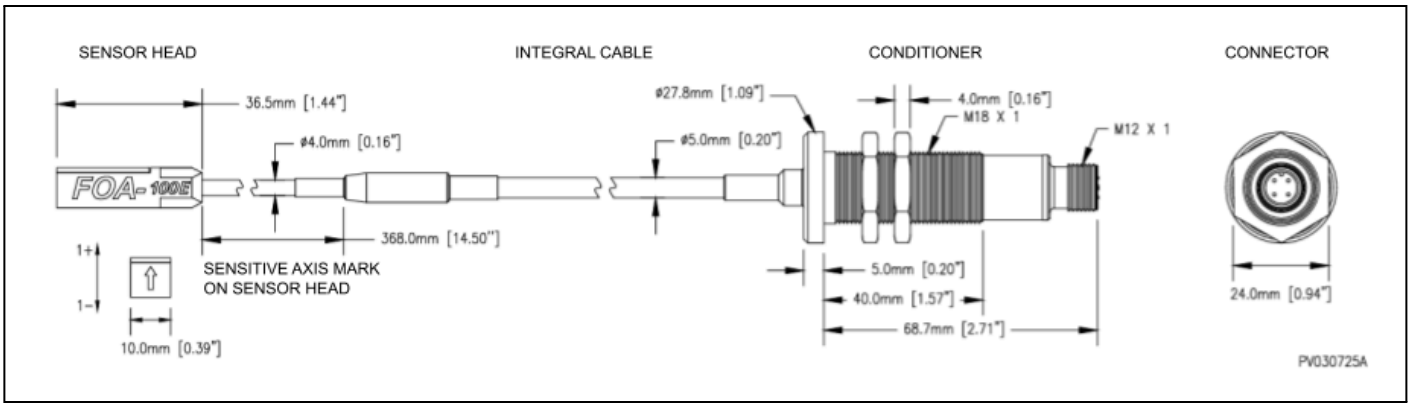
Temperature range	
Operating	
Sensor head (Class A)	-40 to 105 °C [-40 to 221 °F]
Conditioner	0 to 70 °C [32 to 158 °F]
Non-destructive	
Sensor head	-50 to 200 °C [-58 to 392 °F]
Storage	-20 to 85 °C [-4 to 185 °F]
Humidity	Up to 95% non-condensing
Electrical insulation (head vs conditioner)	
At 25 °C [77 °F] & 25% humidity	Up to 3 kV/mm
Electrical & magnetic field	No effect (head only)

Physical characteristics

Sensor head	Non-conductive materials
Integral cable	
Material	Fiber optics / PTFE jacket
Length	10 m [33 ft]
Minimum bending radius	80 mm [3.15 in]
Conditioner body	Nickel-plated brass
Installation[1]	Mounting panel using M18 x 1 nuts against integrated conditioner flange

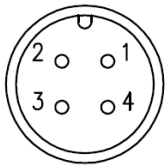
Note 1: For hydrogen-cooled generators, the conditioner body is not designed to be gas-tight. The conditioner must be installed inside the generator. Refer to the Welded Penetration Flange and the Connectorized Internal Flange as the solution to pass through the gas-tight wall.

DIMENSIONS



M12 CONNECTOR PINOUT

The following table shows the pin assignment for the A-coded, M12 male connector. The signal cable must be assembled as follows:



M12 Connector Pin #	Color Code	Designation	Specifications
1	Brown	Power Supply	+24 Vdc
2	Not used		
3	Blue	Common	0 V
4	Black	Voltage Output	+6 Vdc bias +/-4 Vpeak

PRODUCT INFORMATION

Product Number	Description
VSM-FOA100E-10A	FOA-100E Fiber Optic Accelerometer complete with 10m integral fiber optic cable and signal conditioner (Class A 105 °C)