



FOA™-100E-10F

Fiber Optic Accelerometer

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	
Normal environmental conditions	$\pm 10\%$ max. up to 105 °C [221 °F]
Extreme environmental conditions	$\pm 15\%$ max. up to 155 °C [311 °F]
• 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 $\pm 20\%$
• 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 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 (head vs conditioner)	
At 25 °C [77 °F] & 25% humidity	Up to 3 kV/mm
• Electrical & magnetic field	No effect (head only)

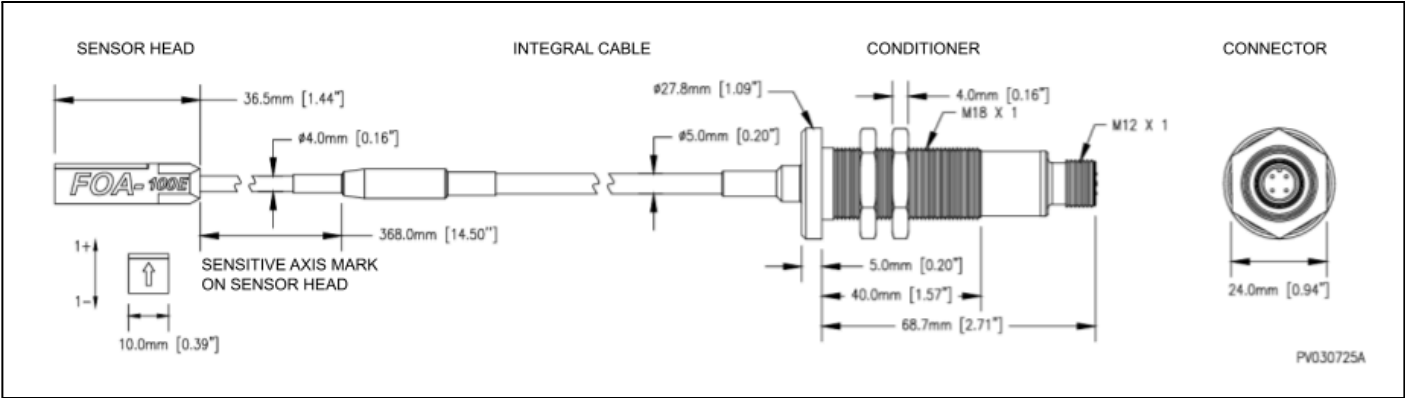
Physical characteristics

• 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.

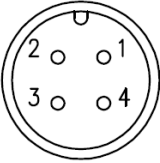


DIMENSIONS



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-10F	FOA-100E Fiber Optic Accelerometer complete with 10m integral fiber optic cable and signal conditioner (Class F 155 °C)