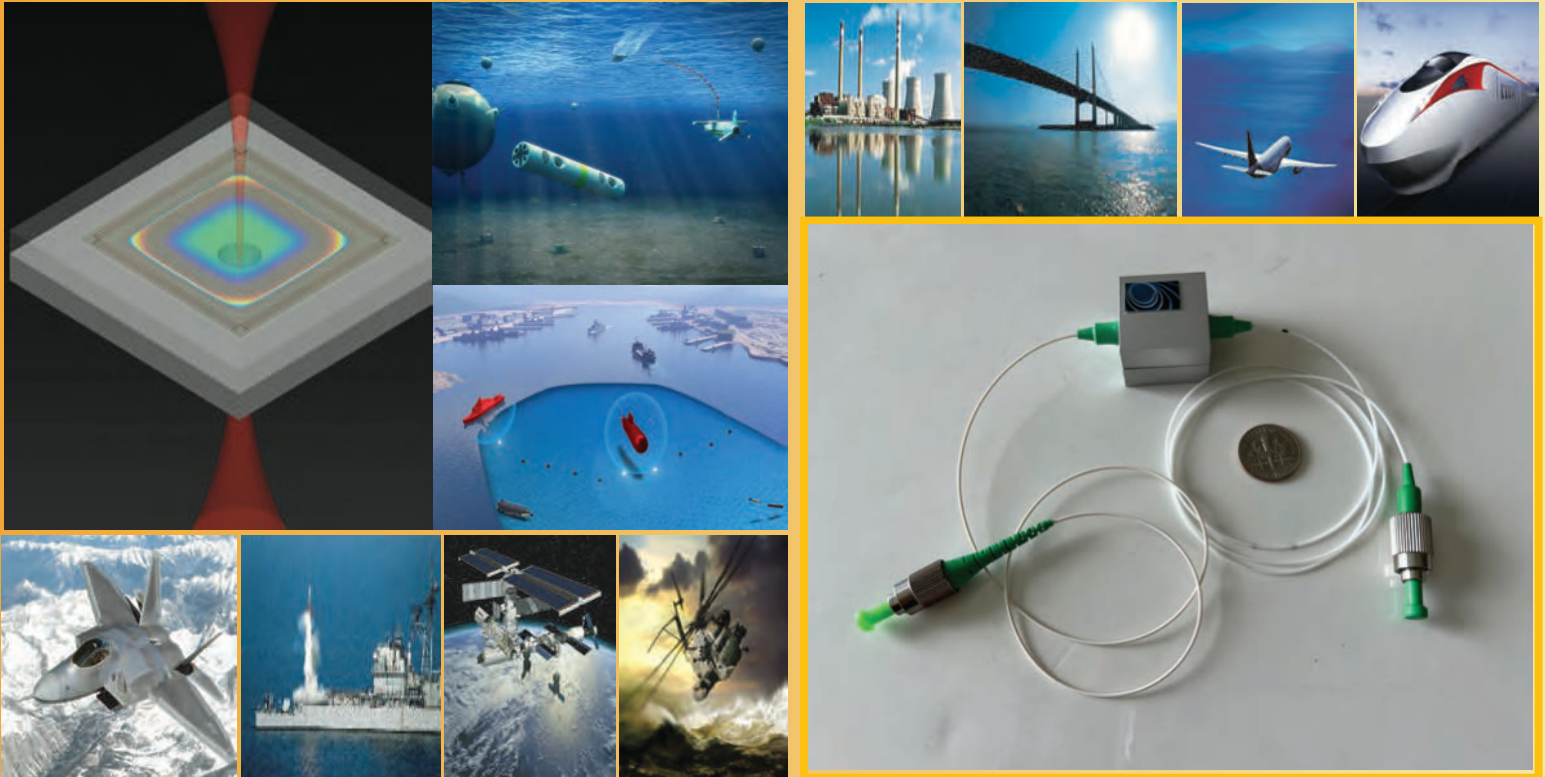




# MOMS Interferometric Accelerometer

## Fiber Optic Single-Axis and Tri-Axial Accelerometers



Redondo Optics' family of ultra-high sensitivity miniature, lightweight, and small foot-print distributed multi-point, single axis and multi-axial, fiber optic accelerometers, based on ROI's unique transmission and reflective interferometric micro-opto-mechanical-systems – MOMS microchip technology represents a completely new, highly robust and reliable technology to accurately monitor vibration and shock on high performance infrastructures in real time.

### Unique Features:

- High Sensitivity Optical Interferometer
- WDM Based Multi-Channel Optical Interrogator
- Hermetically Sealed
- Wireless Data Communication
- Rechargeable Battery Power
- Multi-Fiber Connection Access
- Miniature Size and Lightweight
- Ultra-Low Power Operation

# MOMS-FOAS™ Interferometric Accelerometer Series

## Performance Specifications\*

### Fiber Optic MOMS Interferometric Accelerometer

Monitoring Mode	WDM Fabry-Perot Interferometer Multiplexing
Sensing Channels	Single Axis, Bi-Axial, and Tri-Axial Accelerometers
Full Range Scale	$L \pm 1.7\text{-g}$
Sensitivity	5-nm/g
Wide Dynamic Range	$\geq 140\text{-dB}$
Low Noise	$\leq 40\text{ ng}/\sqrt{\text{Hz}}$ at 1000Hz
Frequency Range	10-Hz to 5000-Hz
Weight	$\leq 25\text{-g}$ single axes; 75-g tri-axial
Size	15-mm x 25-mm x 25-mm (H x W x L)

### Fiber Optic Accelerometer WDM Interrogator

WDM Demodulator	Three Accelerometers and One Temperature Sensors
Fiber Range	$\leq 1\text{-km}$
Wavelength Range	60-nm @ 1550-nm
Wavelength Accuracy	$\leq 20\text{-pm}$ at full data sampling rate 20-kHz
Wavelength Dynamic Range	$\pm 5,000\text{-pm}$
No. of Sensing Fibers	1 x 4, 1 x 8, or 1 x 12 Optical Switch
Sampling Rate	DC to 20-kHz
Signal Processor	Ultra-low-power Microcontroller
Data Communication	Wireless – WiFi IEEE 802.11 (range $\geq 40\text{-}$ to 100-meter)
Power Consumption	$\leq 1\text{-W}$ @ 5-Vdc
Power Supply	Li-Battery 3.7-V/6W/hr - Rechargeable
Weight	$< 500\text{-grams}$
Package Dimensions	2-inch x 2-inch x 2-inch

Miniature Multi-Axial  
Fiber Optic Accelerometer  
System for Applications where  
Weight, Size, and Power are  
Critical for Operation

#### Contact Information

For further information on this or other products, please contact our sales department at (310) 406-1295 or e-mail [sales@redondooptics.com](mailto:sales@redondooptics.com).



Redondo Optics Inc.