



# WiFOS™ - FBG Sensor Interrogator

Self-Powered and Wireless  
Fiber Bragg Grating Sensor Interrogator



Redondo Optics' family of self-powered, wireless Fiber Bragg-Grating sensor interrogator systems—based on its patented photonic integrated circuit technology—represents a completely new, highly robust and reliable technology to accurately monitor in real time the passive and dynamic status of single or multiple distributed fiber optic Bragg grating sensors installed in critical infrastructures.



#### Unique Features:

- Monolithic Optical Transceiver Demodulator
- No Moving Parts
- Hermetically Sealed
- Wireless Data Communication
- Rechargeable Battery Power
- Energy Harvesting Tools
- Miniature Size and Lightweight
- Ultra-Low Power Operation



# WiFOS™ System Series

## Performance Specifications\*

Model No.	WiFOS-M600	WiFOS-M1200	WiFOS-M1600
			
<b>Monitoring Mode</b>	Single Fiber Output - WDM Multiplexing		
<b>FBG Sensing Channels</b>	6	12	16
<b>FBG Center Wavelength</b>	1520-, 1530-, 1540-, 1550-, 1560-nm	1520-, 1525-, 1530-,...1575-nm	1520-, 1525-, 1530-,...1575-nm
<b>Wavelength Dynamic Range</b>	± 2000-pm	± 1500-pm	± 1500-pm
<b>Wavelength Resolution</b>	20-pm	10-pm	10-pm
<b>Sampling Frequency</b>	1-kHz	5-kHz	20-kHz
<b>Light Source</b>	1550-nm	1550-nm	1550-nm
<b>3 dB Bandwidth</b>	60-nm	60-nm	60-nm
<b>SLD Source Cooling</b>	Active	Active	Active
<b>Weight (gr.)</b>	500	500	350
<b>Dimensions (W x H x L) (mm)</b>	50.8 x 50.8 x 101.6	50.8 x 50.8 x 101.6	50.8 x 50.8 x 101.6
<b>Energy Harvesting</b>	Vibration and Solar ~ 2W/hr	Vibration and Solar ~ 2W/hr	N.A.
<b>Wireless Communication</b>	ZigBee (≤ 100-meter range)	WiFi IEEE 802.11	WiFi IEEE 802.11
<b>Optical Connector</b>	FC/APC; or custom		
<b>Software Graphical Interface</b>	LabView		
<b>Power Supply</b>	Li-Battery 3.7V/3.4W/hr Rechargeable	Li-Battery 3.7V/3.4W/hr Rechargeable	Li-Battery 3.7V/3.4W/hr Rechargeable

\* Engineering proptotypes specification subject to change without prior notice.

## Applications

- Structural health monitoring
- Nondestructive evaluation
- Smart structures
- Passive and dynamic sensing

Miniature Multi-Channel  
Fiber Optic SHM Monitor  
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  
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Redondo Optics Inc.