



- Lifetime Calibration
- NIST Traceable Accuracy
- Compact Size
- Full Spectrum Information

The W4-RX is an industrial grade FBG interrogation instrument designed for static applications with slow changes in strain, temperature or pressure. The instrument features local data storage, remote configuration control/data transfer. W4-RX has been designed to meet the need for affordable sensing technology demanded by emerging volume markets. W4-RX requires a continuous power supply. For interrogating sensors at sites where mains electricity is not available, we recommend the portable [W4-P](#) battery powered unit.

Specifications	W4-RX2	W4-RX5	W4-RX8
<b>Optical / Measurement</b>			
Wavelength Range	1520 – 1570 nm	1510 – 1590 nm	1510 – 1590 nm
Number of Optical Channels	1	4	16
Typical Number of Sensors per Channel	25	40	40
Typical Sensor Spacing	> 2 x sensor bandwidth		
Scan Frequency	1 Hz	2 Hz	0.5 Hz
Accuracy <sup>1</sup>	10 µm	1 pm	1 pm
Stability <sup>2</sup>	5 pm	1 pm	1 pm
Dynamic Range <sup>3</sup>	40 dB	50 dB	40 dB
Repeatability <sup>4</sup>	0.5 pm at 1 Hz, 0.2 pm at 0.1Hz		
Optical Connector	FC/APC		
<b>Mechanical</b>			
Dimensions	435mm x 442 mm x 45 mm		
Weight	4.1 kg		
<b>Environmental</b>			
Operating Temperature	0° to 50° C		
Operating Humidity	0 to 80%, non-condensing		
<b>Electrical</b>			
Processor	PC XP embedded		
Storage capacity	Internal 100 GB HDD		
Interface	Remote Desktop via Ethernet, USB, External Keyboard/Mouse/Monitor		
Input Voltage	+7 ~ 36 VDC		
AC/DC Converter	Included (100-240 VAC, 47-63 Hz)		
Power Consumption	40 W typical, 55 W max		
<b>Options</b>			
Scan Frequency <sup>5</sup>	2, 5, or 10 Hz		

<sup>1</sup> Per NIST Technical Note 1297, 1994 Edition, Section D.1.1.1, definition of 'accuracy of measurement'.

<sup>2</sup> Captures effects of long term use over full operating temperature of the instrument.

<sup>3</sup> Defined as laser launch power minus detection noise floor.

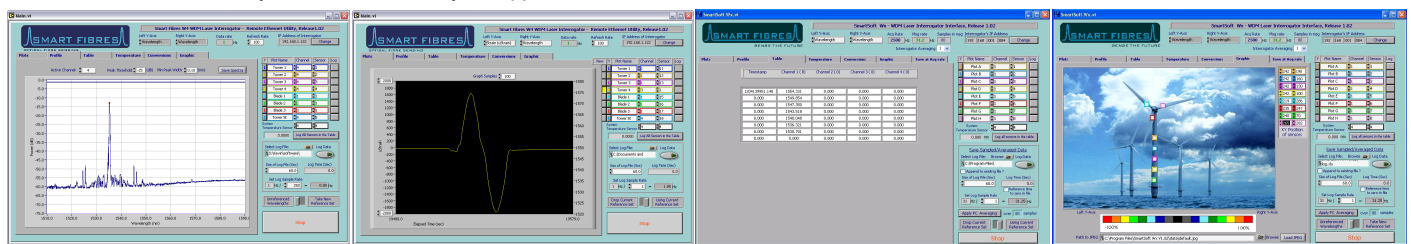
<sup>4</sup> Per NIST technical note 1297, 1994 edition, section D.1.1.2, definition of 'repeatability [of results of measurement]'.

<sup>5</sup> 10 Hz scan rate available with 1528 - 1568 nm range

Specifications are subject to change without notice

### SmartSoft Remote Utility

Our SmartSoft suite of LabView based applications is supplied with every W4 interrogator. It's an easy to use utility that will provide you with up to date information in a variety of formats to suite your application needs.



Full spectra of each optical channel, can be saved to file

Time history of sensor responses, can be simultaneously logged to file

Real-time sensor data in units of wavelength or calculated measurand

Graphical representation of sensors readings on image of structure

Details of our Standard W4 SmartSoft Utility can be [downloaded](#) from our website. Customised SmartSoft functions can be provided on request.