

FSI-800A High Speed Fiber Sensor Interrogator



Key Features

- **Low-cost Sensing Solution**
- **Compact and Robust**
- **No Moving Parts**
- **High Accuracy and Reliability**
- **Sampling Rates up to 250 Hz**
- **User Friendly Interface**

Make Measurements Simple!

- **Displacement**
- **Inclination**
- **Temperature**
- **Pressure**
- **Vibration**
- **Load**
- **Acceleration**
- **Strain**

**PLEASE CONTACT US FOR
SENSOR SPECIFICATIONS!**



Low-cost Sensing Solution!



PRODUCT DESCRIPTION

The FSI-800A High Speed Fiber Sensing Interrogator is our latest product specially developed for the fast growing fiber sensing industry. The FSI-800A is a high performance and low-cost fiber sensing interrogator for measurement of multiple fiber sensors* simultaneously at a sampling rate of 250 Hz.

The FSI-800A features excellent measurement accuracy and reliability and is not compromised by its compact footprint and low power consumption. The FSI-800A is particularly suitable for sensing system with low to moderate sensor counts of up to 20. The FSI-800A is also available in the form of educational kit, it bundles with different type of fiber sensors and all necessary materials that can demonstrate most important features of fiber optics sensors, users can also understand the principles and acquires hands-on experience of fiber optics sensors and system.

ADVANTAGES OF FIBER SENSING AND APPLICATIONS

Fiber Sensors can provide all form of measurements with better reliability and accuracy than conventional electronic-based sensor while offer additional benefits of, EMI-immunity, multiplexing capability and ease of sensor system design and installation.

Principle Advantages of Fiber Sensor

- Passive sensor with high reliability and long lifetime
- EMI immune and suitable for hazardous environments
- Suitable for static and dynamic measurements
- Multiple sensors can be daisy-chained and spanned over several kilometers of optical fiber
- Simultaneous and multiple parameter sensing capability

Applications of Fiber Sensing

- Civil Engineering – Bridge, Dams, Tunnels.
- Transportation – Railway, Roadway, LNG tank ship
- Energy – Wind Turbines, Oil, Gas Pipelines
- Aerospace

* FBG-based transducers for temperature, strain, and many other parameters are available.

** Education kit of FSI-800A bundled with different type of FBG sensors is available for educational purposes.



SPECIFICATIONS

OPTICAL PROPERTIES	
Number of Channel	1 (shared by 2 optical connections)
Sampling Frequency	Adjustable up to 250 Hz (all sensors simultaneously)
Wavelength Range	835 – 875 nm typ., 40 nm min.
Wavelength Stability	+/- 1 pm ¹ typ., +/- 3 pm ² max.
Wavelength Repeatability	1 pm @ 100Hz, 0.4 pm with 25 average
Wavelength Accuracy	5 pm ³
Wavelength Resolution	0.1 pm
Dynamic Range ⁴	28 dB typ., 20 dB min.
Gain Control	Automatic
Maximum Number of FBG per Channel	18 typ.
FBG Requirement	FWHM 0.3 nm (max.), SMSR > 10dB
FBG Wavelength Separation	1 nm (min.)
Optical Connectors	2 x FC/APC (others on request)
MECHANICAL, ENVIRONMENT, ELECTRICAL PROPERTIES	
Power and Communication Interface	1 x USB Type B
Dimension	165 mm x 220 mm x 50 mm (W x L x H)
Net Weight	1 kg
Operation Temperature/Humidity	0° – 40° C / 50 – 80 % RH
Storage Temperature/Humidity	-5° – 50° C / 20 – 90% RH @ 40° C
Power Supply	Powered by USB
Indicator	Power ON
EXTERNAL COMPUTER REQUIREMENTS	
CPC Processor	1 Gigahertz (GHz) or Faster
Memory	512MB (1 GB or above Recommended)
Hard Disk Space	300 MB (Additional Space Required for Data Storage)
Interface	1 x USB 2.0
Video Display	640 x 480 Resolution, 256 Colors or Higher
Operation System	Windows XP/ Vista / 7
Software	SpectroInt V1.5 Sensing System (Bundle with FSI-800)

1 At 10 samples per second

2 Long term performance

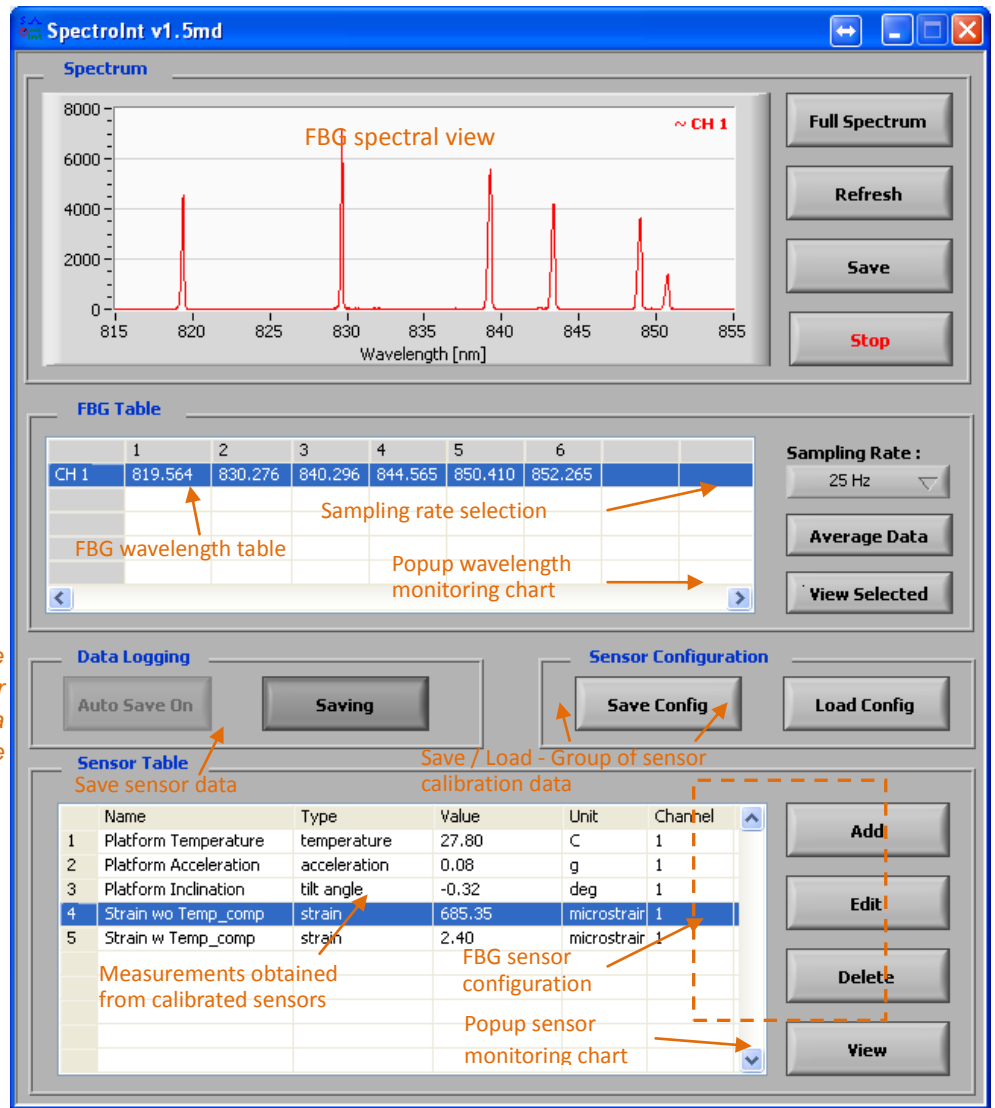
3 With 25 points in average

4 Defined as optical launch power minus detector noise floor

Specifications are subjected to change with a view of enhancing system performance without prior notice. Design and specifications can be customized to suit a range of customer requirements.



SPECTRONINT V1.5 SENSING SYSTEM

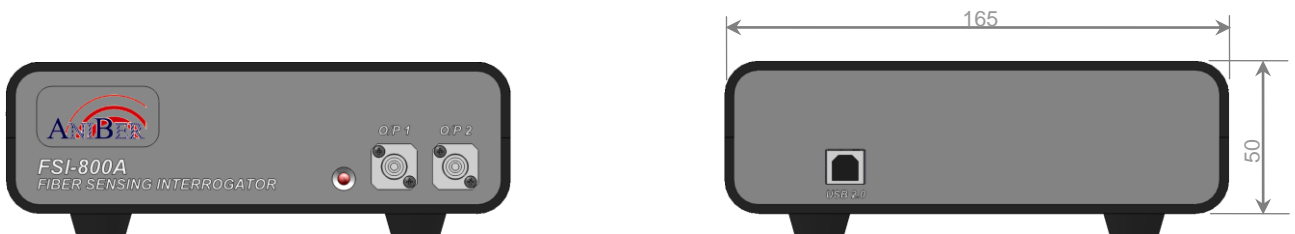


FSI-800P Interrogator Processing Module works with FSI-800A for sensor management, remote monitoring and data exporting is available as an option, please contact us for details.



Graphical User Interface of SpectroInt V 1.5

FRONT & BACK VIEWS



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