

FSI-800E High Speed Fiber Sensor Interrogator



Key Features

- All-in-One Sensing System
- 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 Easy!

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

**PLEASE CONTACT FOR
SENSOR SPECIFICATIONS!**



Complete Sensing Solution!



PRODUCT DESCRIPTION

Aniber's new FSI-800E Fiber Sensor Interrogator and fiber-based transducers* for physical parameter measurements provide a cost-effective solutions for industrial measurements. The FSI-800E is a high performance and low-cost fiber sensing system for measurement of multiple fiber sensors* along single strand of optical fiber. More than 20 transducers can be connected in series and interrogated simultaneously at a sampling rate of 250 Hz.

The FSI-800E is an enhanced version of our previous FSI-800 and provides a complete all-in-one sensing solution. With the embedded industrial graded computer, the FSI-800E simplifies system setup for a wide variety of sensing applications, and is the ideal choice for both beginners of fiber sensing and experienced measurement engineers.

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
- ✦ Multiple sensors can be daisy-chained and spanned over several kilometers of optical fiber
- ✦ Simultaneous and multiple parameter sensing capability
- ✦ EMI immune and suitable for hazardous environments
- ✦ Suitable for static and dynamic measurements

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.

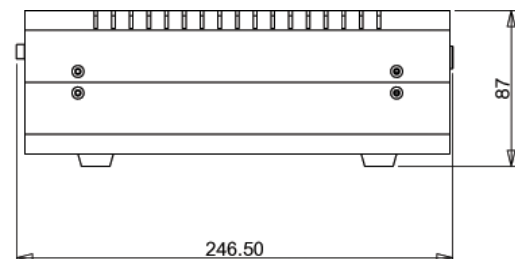
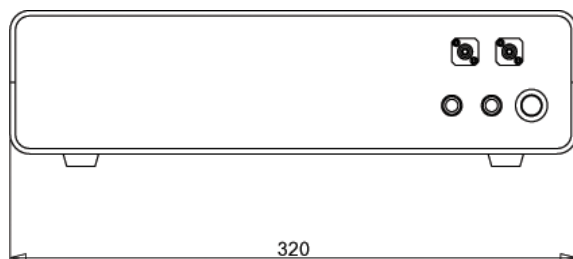


SPECIFICATIONS

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)
DATA PROCESSING CAPABILITIES	
Embedded Industrial PC	Intel Atom D510, 2GB RAM
Operation System	Windows XP
External Interface	COM / 4 x USB / 2 x GbE / VGA
Embedded Software	SpectroInt V1.5md Sensing System
Enhanced Data Management	Peak Detection, Tracking, Sensor Monitor
MECHANICAL, ENVIRONMENT, ELECTRICAL PROPERTIES	
Dimension	320 mm x 246.5 mm x 87 mm (W x L x H)
Net Weight	4 kg
Operation Temperature/Humidity	0° – 40° C / 50 – 80 % RH
Storage Temperature/Humidity	-5° – 50° C / 20 – 90% RH @ 40° C
Power Supply	12Vdc (2A)

- 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

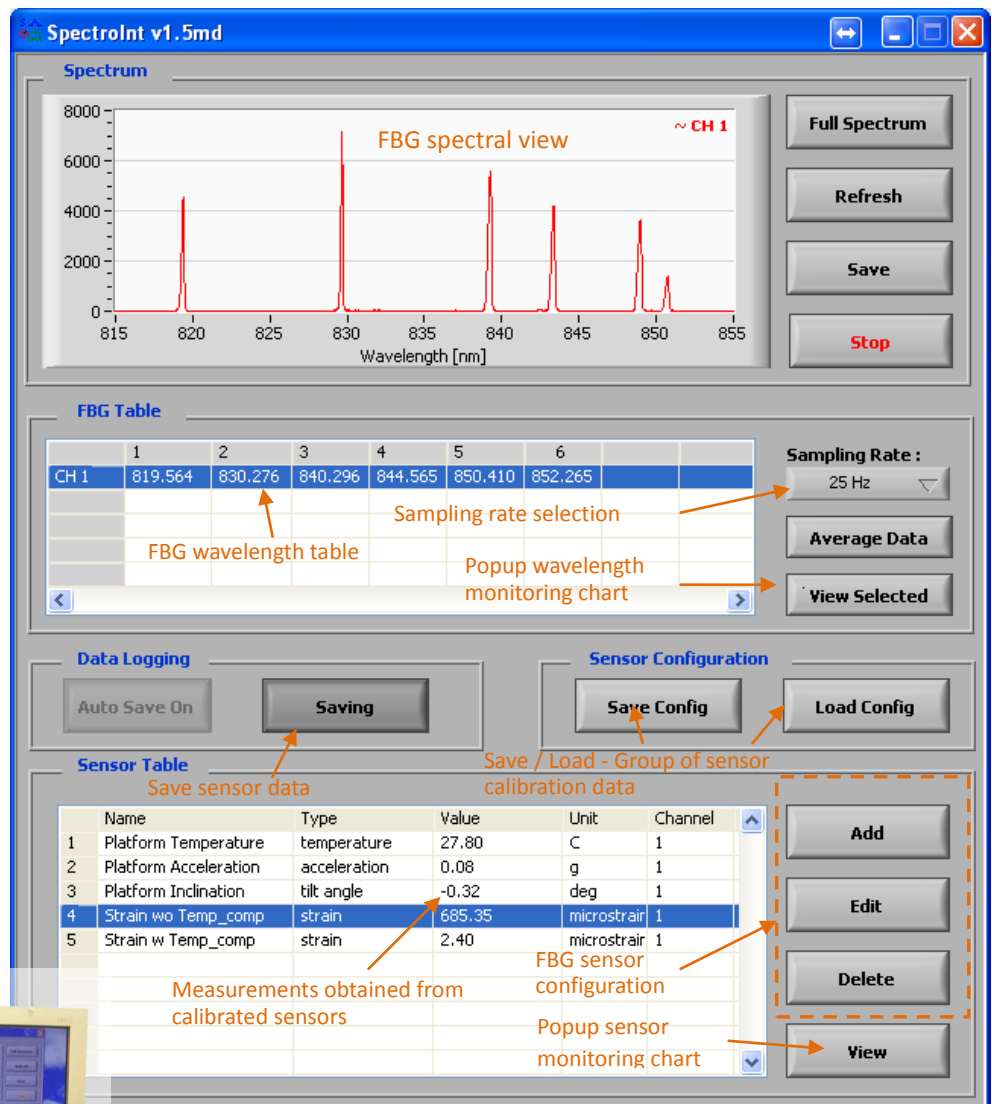
FRONT & SIDE VIEWS



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



Graphical User Interface of SpectroInt V 1.5



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