FiSens®

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FiSpec FBG X100

Ultraminiature, precise and rugged fully-integrated FBG Interrogator with embedded light source and on-board processing.

Overview

With an unprecedented small size, the FBG X100 integrates all necessary components for the accurateanalysis of up to 30 fiberBragg grating (FBG) sensors.

Its compact and energy-efficient design enables FBG based applications where space and power is limited.

Key Features

- Plug & Play System
- Ultra-compact
- Low Weight
- High Precision
- High Accuracy
- High Thermal Stability
- Energy-efficient
- On-board FBG Analysis

Used For

- Temperature
- Strain
- Pressure
- Force

Applications

- Process Control
- Predictive Maintenance
- Condition Monitoring
- Thermal Mapping

Performance Properties

Number of Channels	1
FBG Sensors per Channel	30
Sampling Rate	1 - 200Hz (simultan.)
Wavelength Range	808-880nm
Measurement Precision	from 0,1°C | 1µe (10Hz)
Digital Measurement Res.	0,01°C | 0,01µe
Thermal Stability	<0,1°C/°C
Polarization Dependency	±5µe/±0,5°C (typical)

Physical Properties

Operating Temperature	0 - 60°C
Storage Temperature	0 - 80°C
Dimensions	74 x 50 x 15mm
Weight	60g
Power Consumption	1W

Communication

Optical Interface	FC/APC
Interface	USB, UART (RS-232)
Software Protocol	User Data Protocoll (UDP)
Hardware Protocol	Direct Serial Communication

Exemplary FBG Spectrum @ 850nm

Precision vs. Sampling Rate Noise level (2σ)

Heat-up Behaviour

High Repeatability

Technical Drawings

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For more product information: www.fisens.com

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