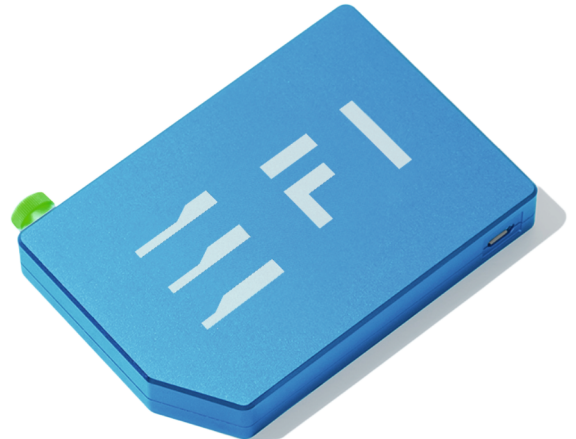


FiSpec FBG X100

Ultraminiature, precise and rugged fully-integrated FBG Interrogator with embedded light source and on-board processing. With an unprecedented small size, the FBG X100 integrates all necessary components for the accurate analysis of up to 30 fiber Bragg grating (FBG) sensors. Its compact and energy-efficient design enables FBG based applications where space and power is limited.



Performance Properties

Number of Channels	1
FBG Sensors of Channels	30
Sampling Range	1-200Hz (simultaneous)
Wavelength Range	808-880nm
Measurement Range	from 0,1°C 1µe (10Hz)
Digital Measurement Res.	0,01°C 0,01µe
Thermal Stability	<0,1°C/°C
Polarization Stability	±7µe/±0,7°C (typical)

Applications

Predictive Maintenance
Condition Monitoring
Thermal Mapping
Process Control

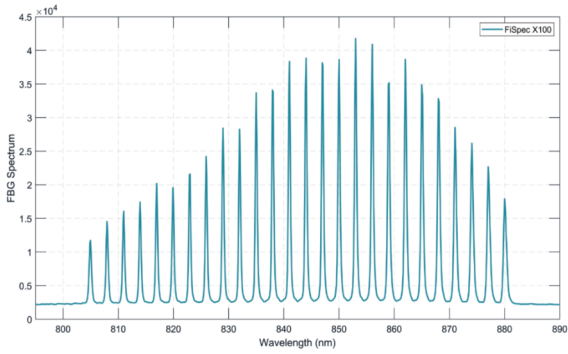
Used for

Temperature
Pressure
Force
Strain

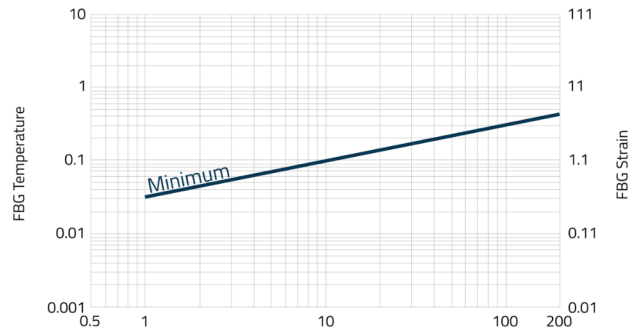
Physical Properties & Communications

Operating Temperature	0-60°C	Optical Interface	FC/APC
Storage Temperature	0-80°C	Electrical Interface	USB, UART (RS-232)
Dimensions	74 x 50 x 15mm	Software Protocol	User Data Protocol (UDP)
Weight, Power Consumption	60g, 1W	Hardware Protocol	Direct Serial Communication

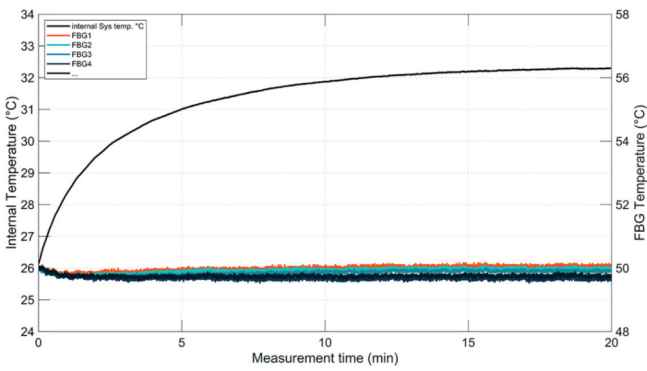
Exemplary FBG Spectrum @ 850nm



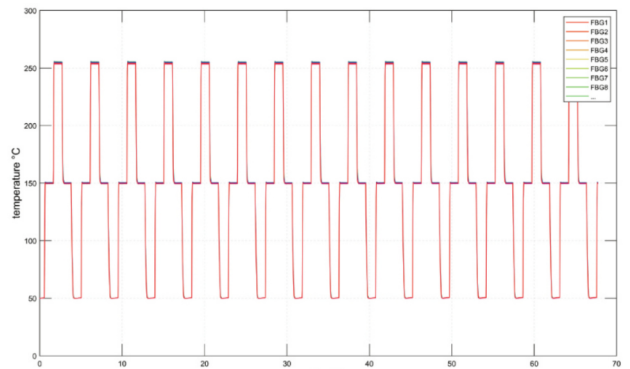
Precision in ($\mu\epsilon$) vs. Sampling Rate (Hz) Noise level (2σ)



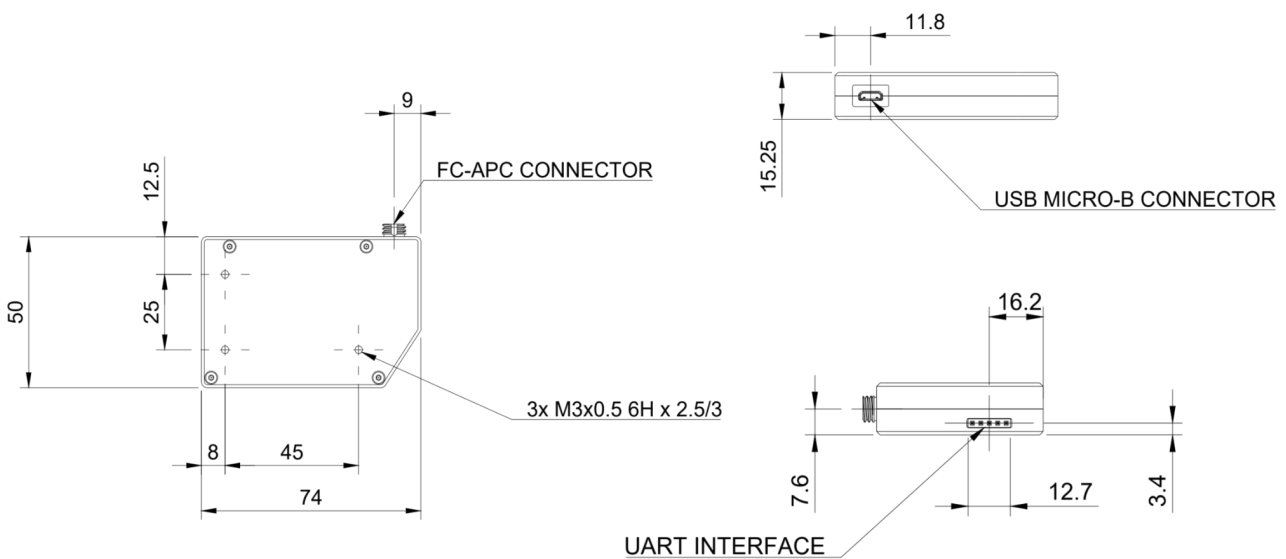
Heat-up Behaviour



High Repeatability



Technical Drawing



Pin Nr.	1	2	3	4	5
Signal	+5V	+3.3V (output)	GND	RX	TX