

FiSpec FBG X1000-2/4

Compact, precise & fast fully-integrated FBG Interrogator with embedded light source, on-board processing and high-speed streaming capability. The X1000 combines high measurement performance at fast sampling rates up to 2kHz, a compact form factor, low power consumption and a high thermal/polarization stability. It's uncompromising design sets a new standard for FBG Interrogators.



Performance Properties

Number of Channels	1
Number of Fiber Ports	-2/-4
FBG Sensors of Channels	Up to 24
Sampling Range	2kHz (High-speed mode)
Wavelength Range	815-865nm
Measurement Range	from 0,1°C 1µe (1kHz)
Digital Measurement Res.	0,01°C 0,01µe
Thermal Stability	<1µe /0,1°C per 1°C
Polarization Stability	<5µe/0,5°C (2σ)

Applications

Predictive Maintenance
Condition Monitoring
Thermal Mapping
Process Control

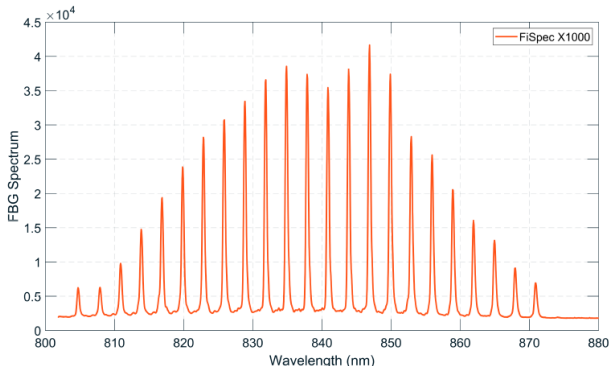
Used for

Temperature
Vibrations
Pressure
Strain

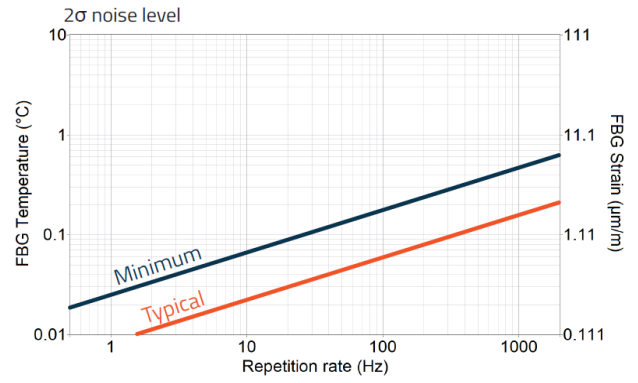
Physical Properties & Communications

Operating Temperature	5-50°C	Optical Interface	FC/APC
Storage Temperature	0-70°C	Electrical Interface	USB, RS-485, Ethernet
Dimensions	142 x 78 x 20mm	Data Protocol	Data Transfer Protocol, Mod-
Weight, Power Consumption	210g, 2W		bus

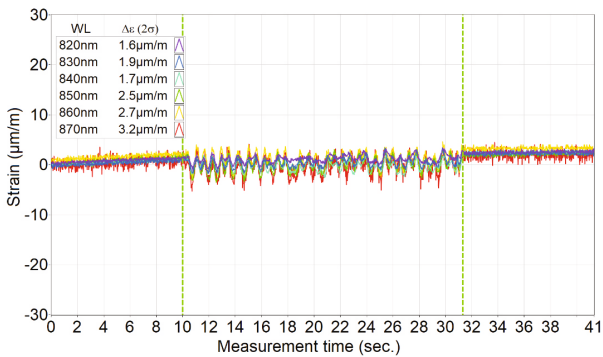
Exemplary FBG Spectrum @ 850nm



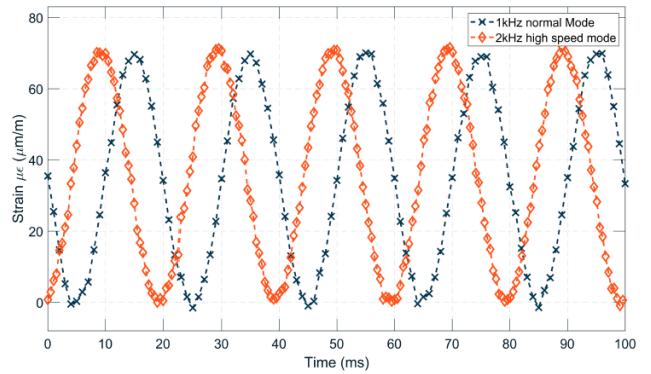
Precision in ($\mu\epsilon$) vs. Sampling Rate (Hz)



Typical FBG Stability over all Poincare Sphere Polarization States

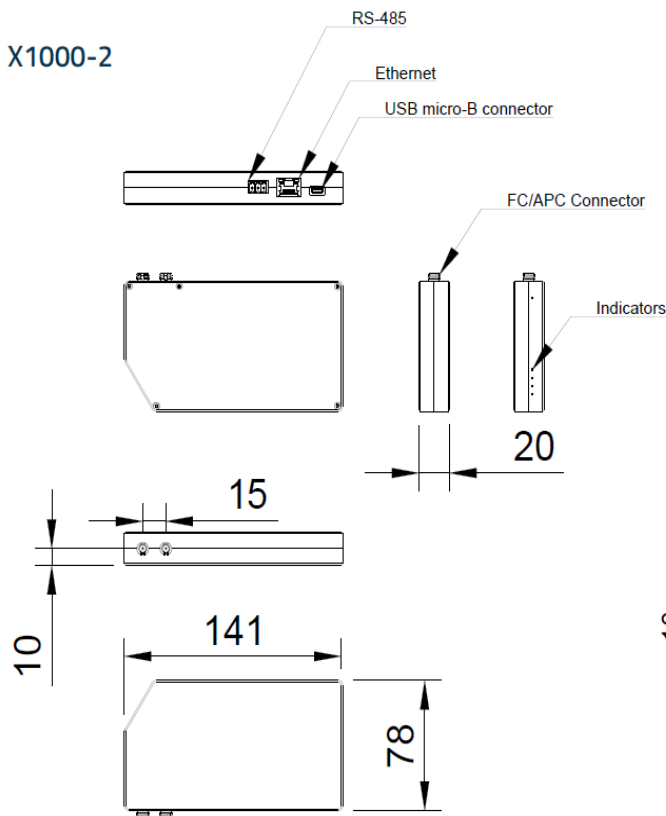


Vibration Measurement (Piezo, 50Hz)



Technical Drawing

X1000-2



X1000-4

