



Compact, precise and fast fully-integrated FBG Interrogator with embedded light source, on-board processing and high-speed streaming capability.

## Overview

The FBG 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. Its uncompromising design sets a new standard for FBG Interrogators.

## Key Features

Plug & Play	Fast Sampling
Compact	High Thermal Stability
Low Weight	Energy-efficient
High Precision	On-board FBG Analysis

## Applications

Process Control  
 Predictive Maintenance  
 Condition Monitoring  
 Thermal Mapping

## Used for

Vibrations  
 Strain  
 Pressure  
 Temperature

## Performance Properties

Number of Channels	1
Number of Fiber Ports	-2/-4
FBG Sensors per Channel	Up to 24
Max. Sampling Rate (USB)	2kHz (High-speed mode)
Wavelength Range	815-865nm
Measurement Precision	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)

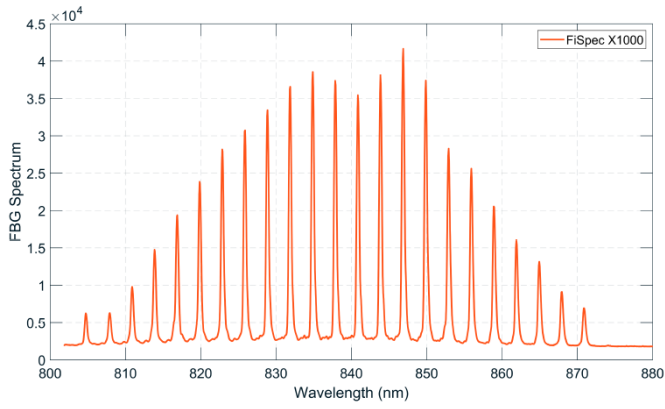
## Physical Properties

Operating Temperature	5-50°C
Storage Temperature	0-70°C
Dimensions	142 x 78 x 20mm
Weight	210g
Power Consumption	2W

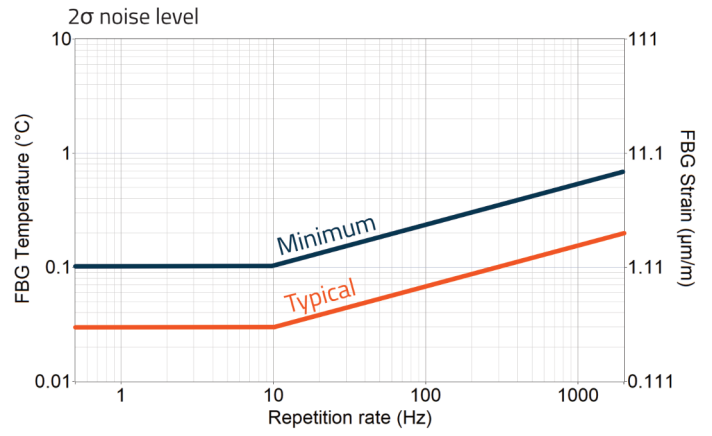
## Communication

Optical Interface	FC/APC
Electrical Interface	USB, RS-485, Ethernet
Data Protocol	Data Transfer Protocol, Modbus

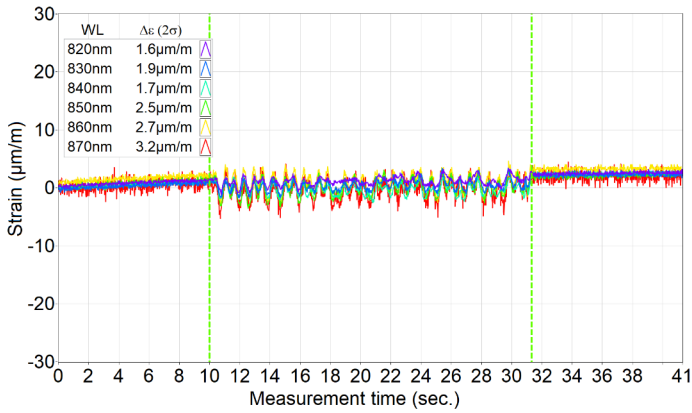
## Exemplary FBG Spectrum @ 850nm



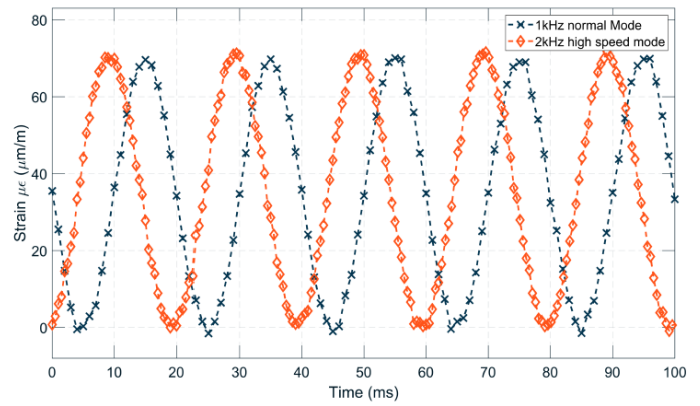
## Precision in ( $\mu\epsilon$ ) vs. Sampling Rate (Hz)



## Typical FBG Stability over all Poincare Sphere Polarization States

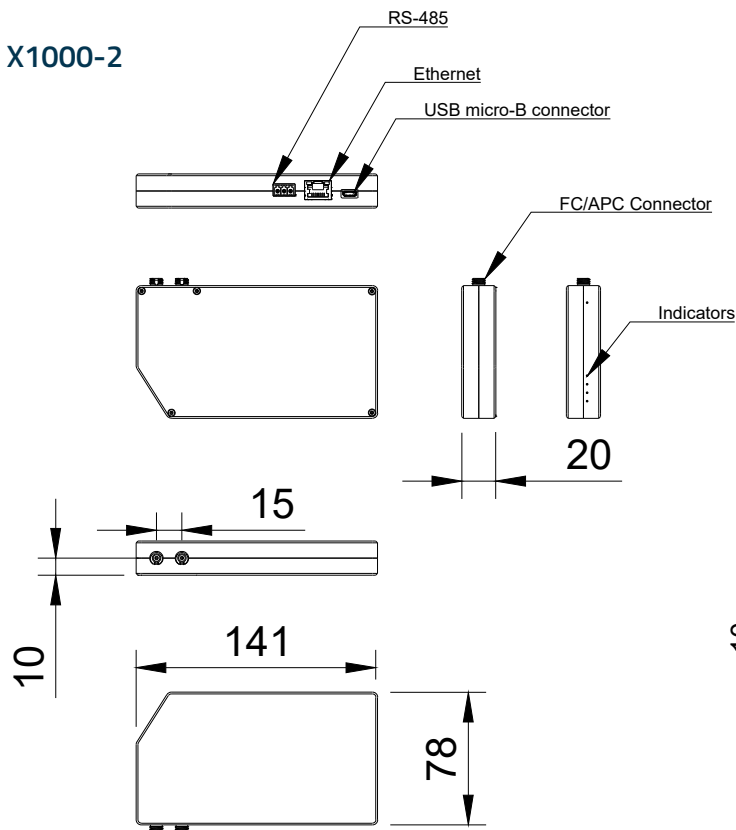


## Vibration Measurement (Piezo, 50Hz)



## Technical Drawings

### X1000-2



### X1000-4

