

FiSpec FBG X150



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

Overview

With an unprecedented small size, the FBG X150 integrates all necessary components for the 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 per Channel	25
Sampling Rate	1 - 200Hz
Wavelength Range	808-865nm
Measurement Precision	0,01°C 0,1µε
Digital Measurement Res.	0,001°C 0,01µε
Thermal Stability	±5pm/K
Repeatability	±5pm

Physical Properties

Operating Temperature	0 - 60°C
Storage Temperature	0 - 80°C
Dimensions	100 x 68 x 15mm
Weight	120g
Power Consumption	1,5W

Communication

Optical Interface	FC/APC
Interface	USB, UART (optional)
Software Protocol	User Data Protocol (UDP)
Hardware Protocol	Direct Serial Communication

Key Features

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

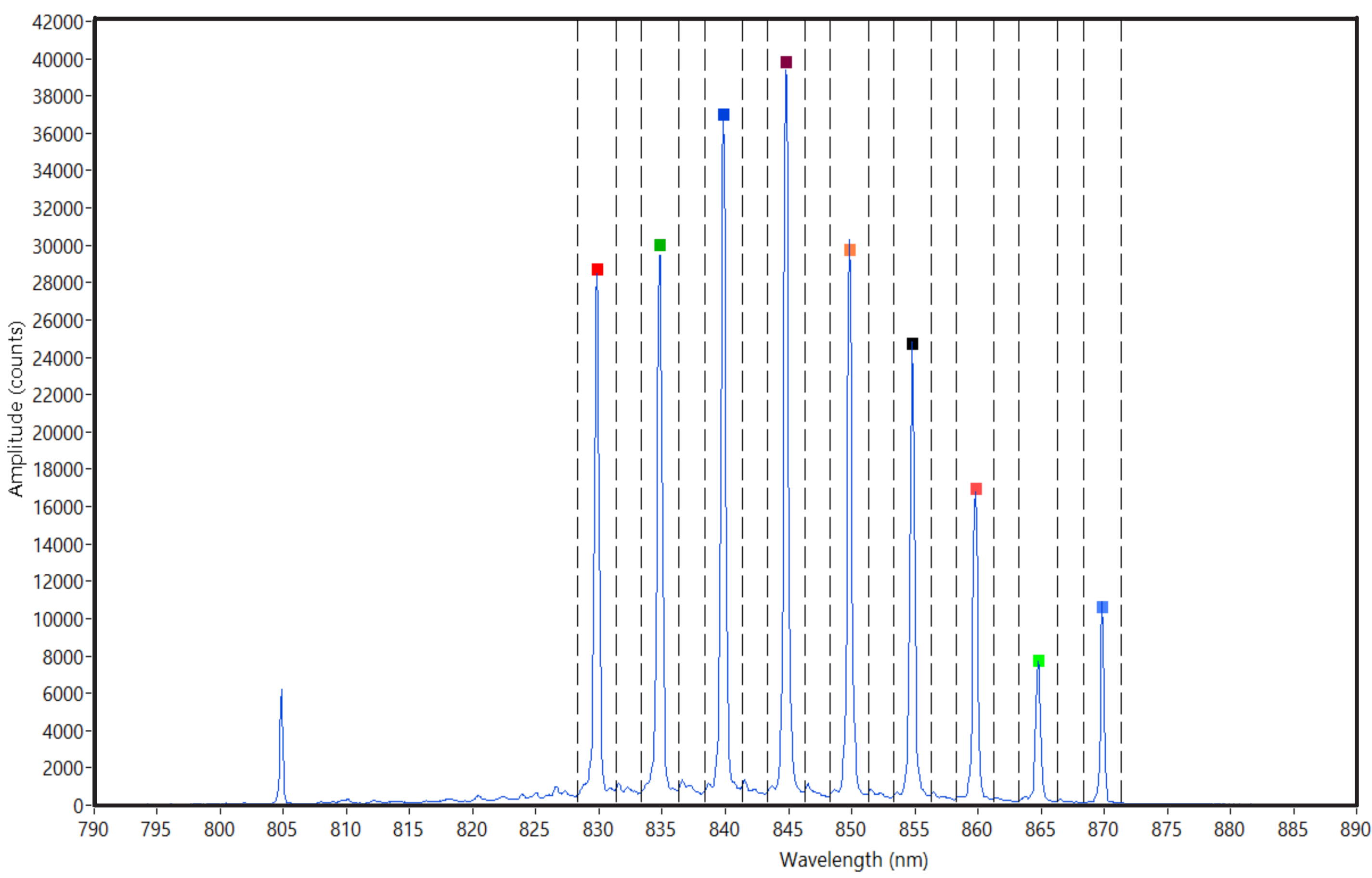
Used For

- Temperature
- Strain
- Pressure
- Force

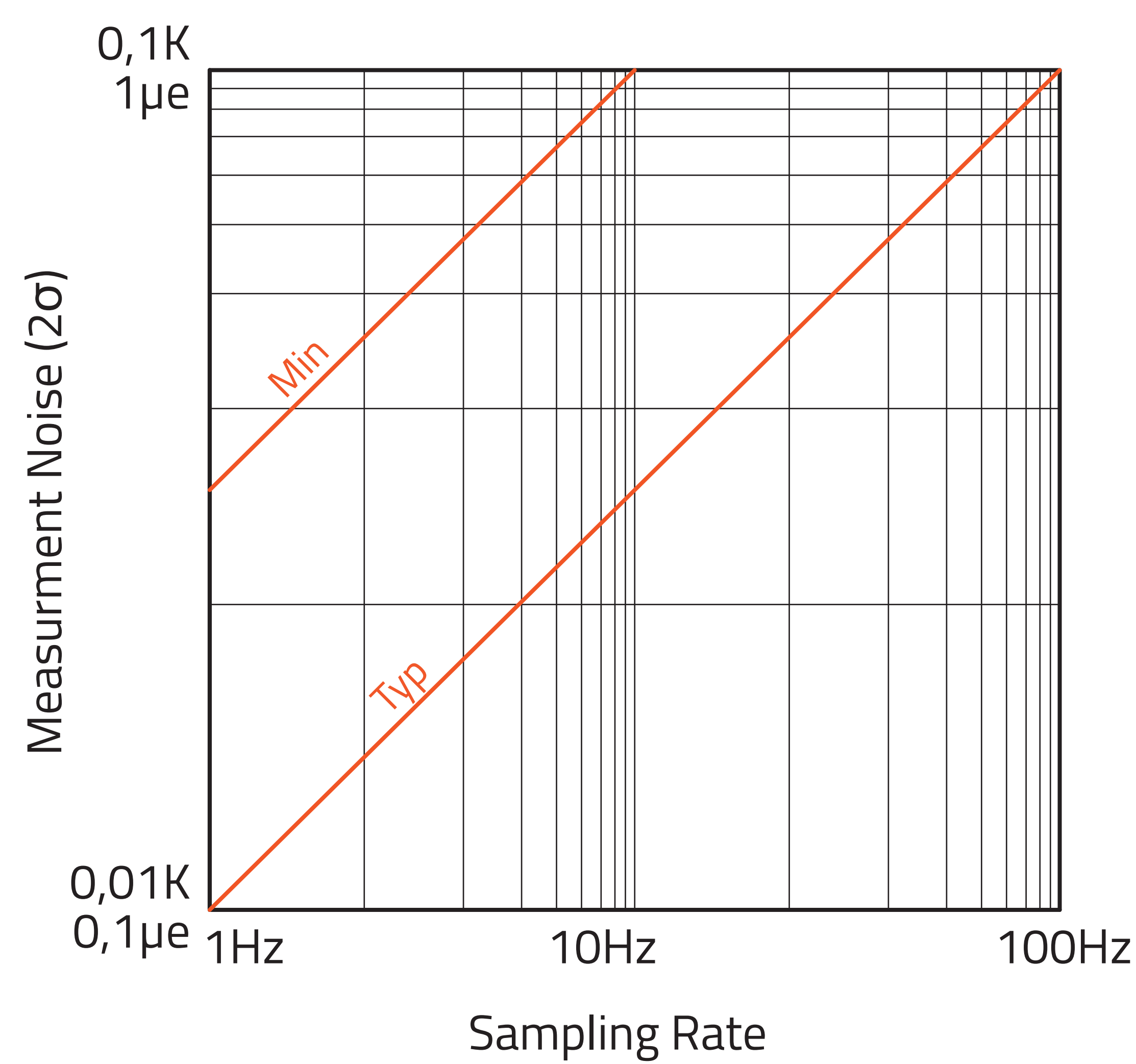
Applications

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

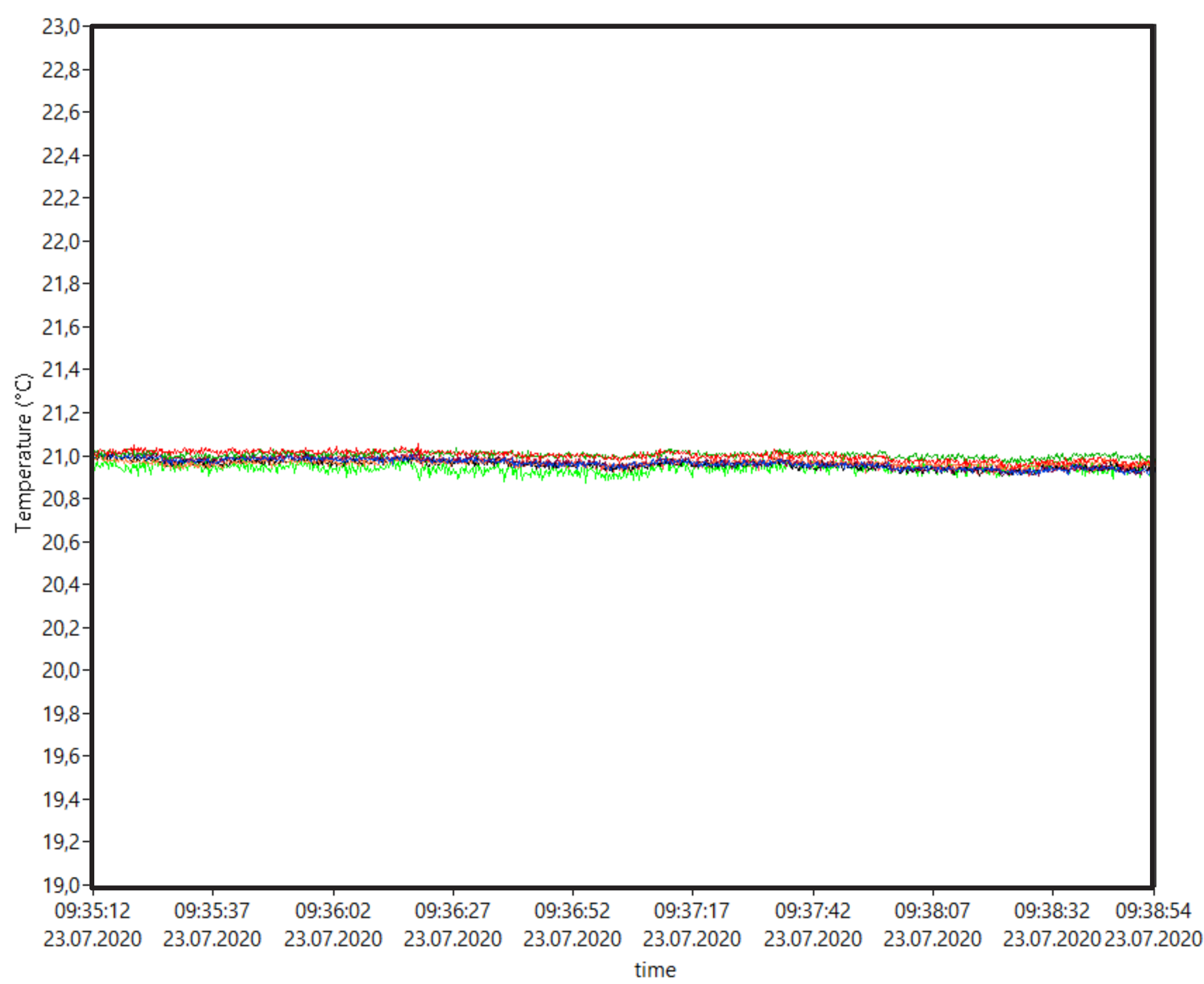
Exemplary FBG Spectrum @ 850nm



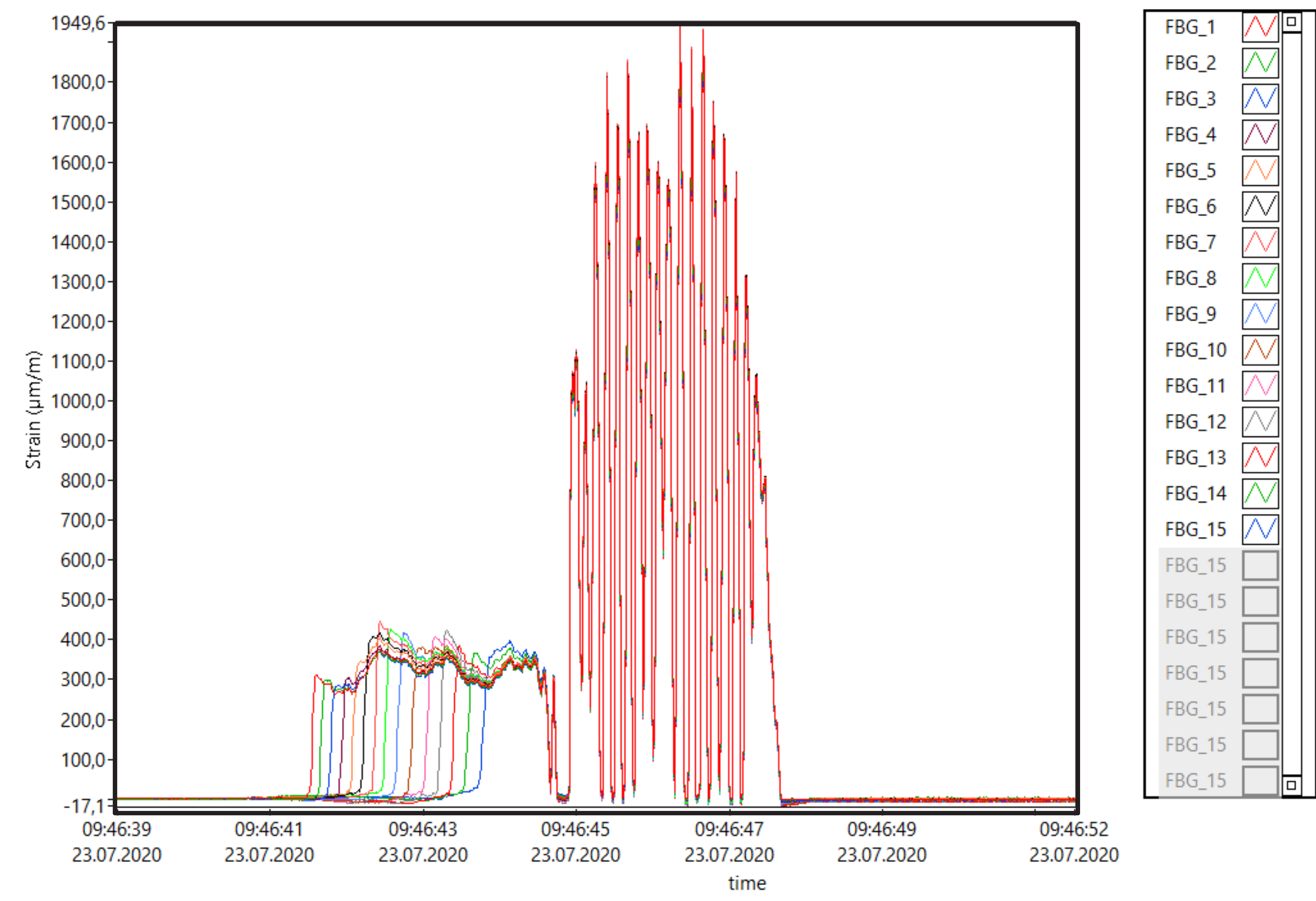
Precision vs. Sampling Rate



Stability at room conditions (Temperature)



Stroking/Pulling fiber with finger (Strain)



Technical Drawings

