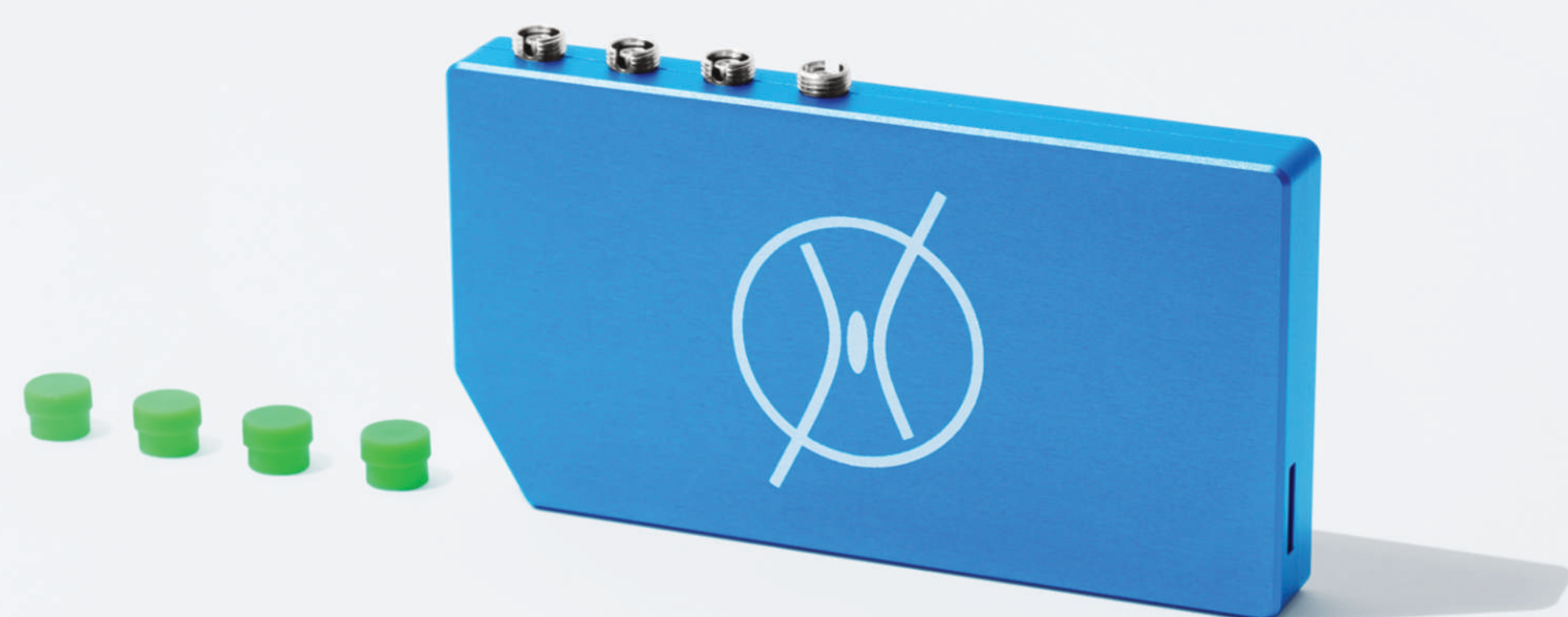


# FiSpec FBG X400



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

## Overview

With an unprecedented small size, the FBG X400 integrates all necessary components for the analysis of up to 120 fiber Bragg 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 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       | 4                       |
| FBG Sensors per Channel  | 30                      |
| Sampling Rate            | 1 - 100Hz (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             |

## Physical Properties

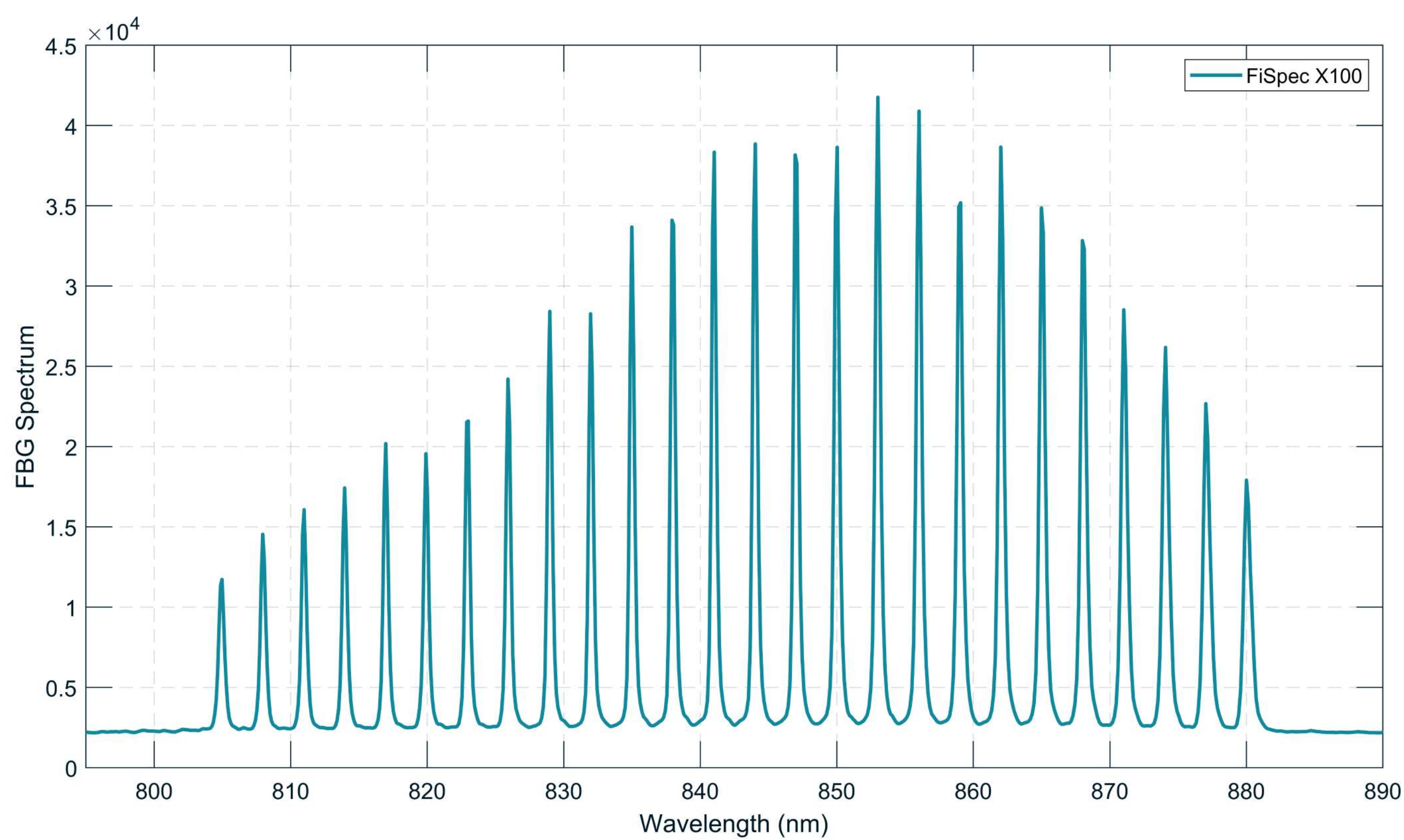
|                       |                     |
|-----------------------|---------------------|
| Operating Temperature | 0 - 60°C            |
| Storage Temperature   | 0 - 80°C            |
| Dimensions            | 123 x 68.5 x 15.3mm |
| Weight                | 120g                |
| Power Consumption     | 1,5W                |

## Communication

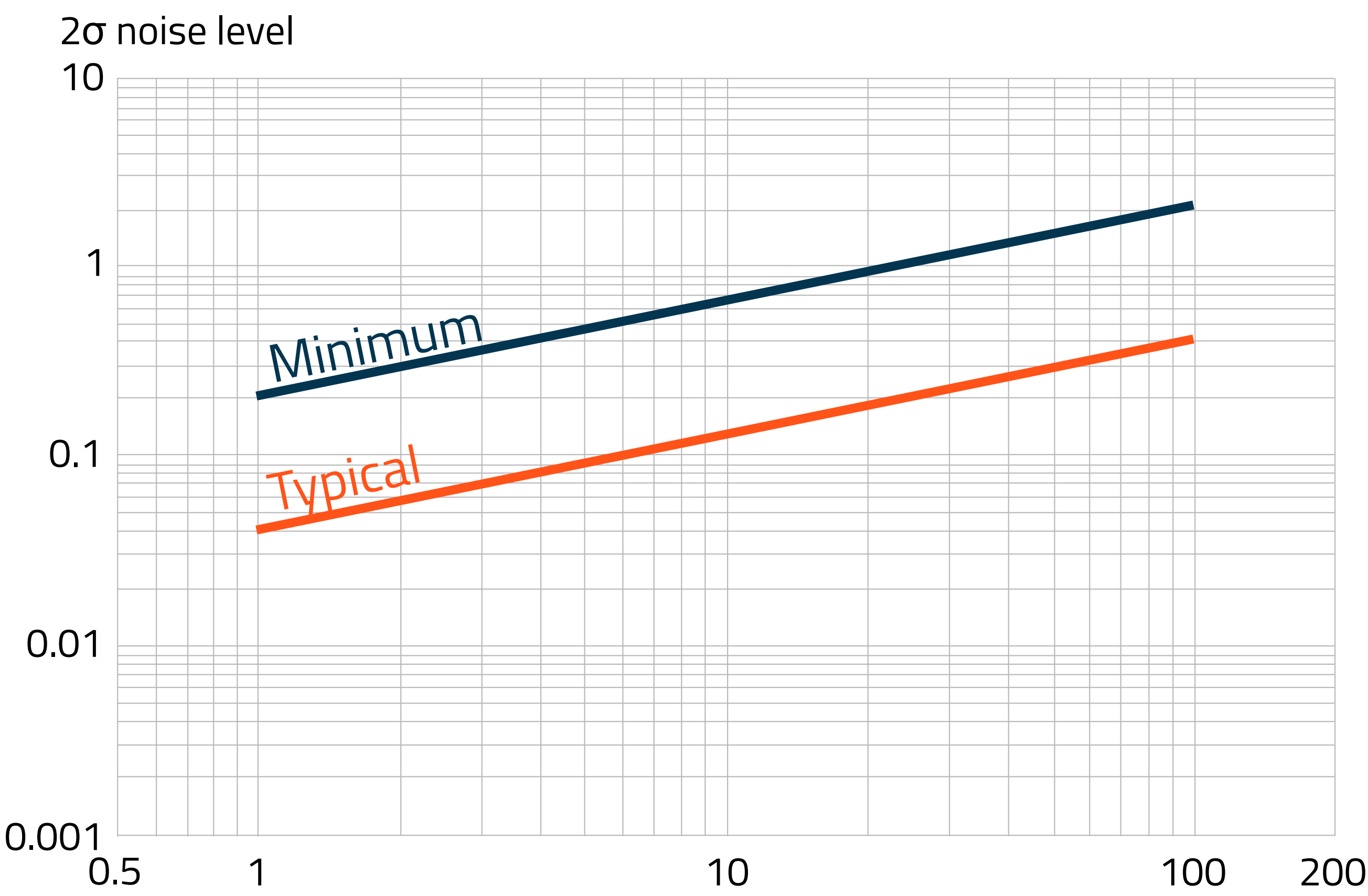
|                   |                             |
|-------------------|-----------------------------|
| Optical Interface | FC/APC                      |
| Interface         | USB, UART (RS-232)          |
| Software Protocol | User Data Protocol (UDP)    |
| Hardware Protocol | Direct Serial Communication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



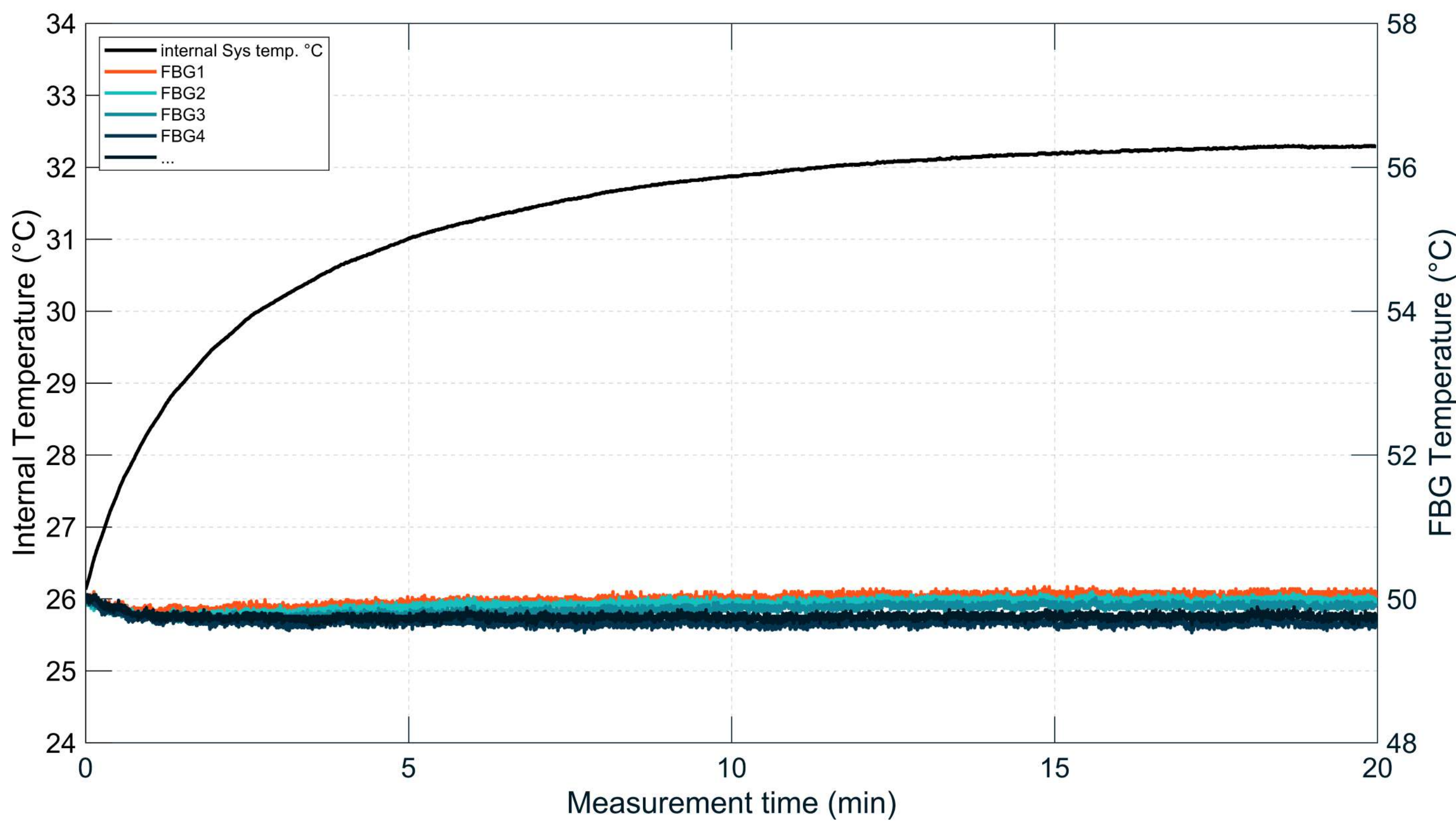
Exemplary FBG Spectrum @ 850nm



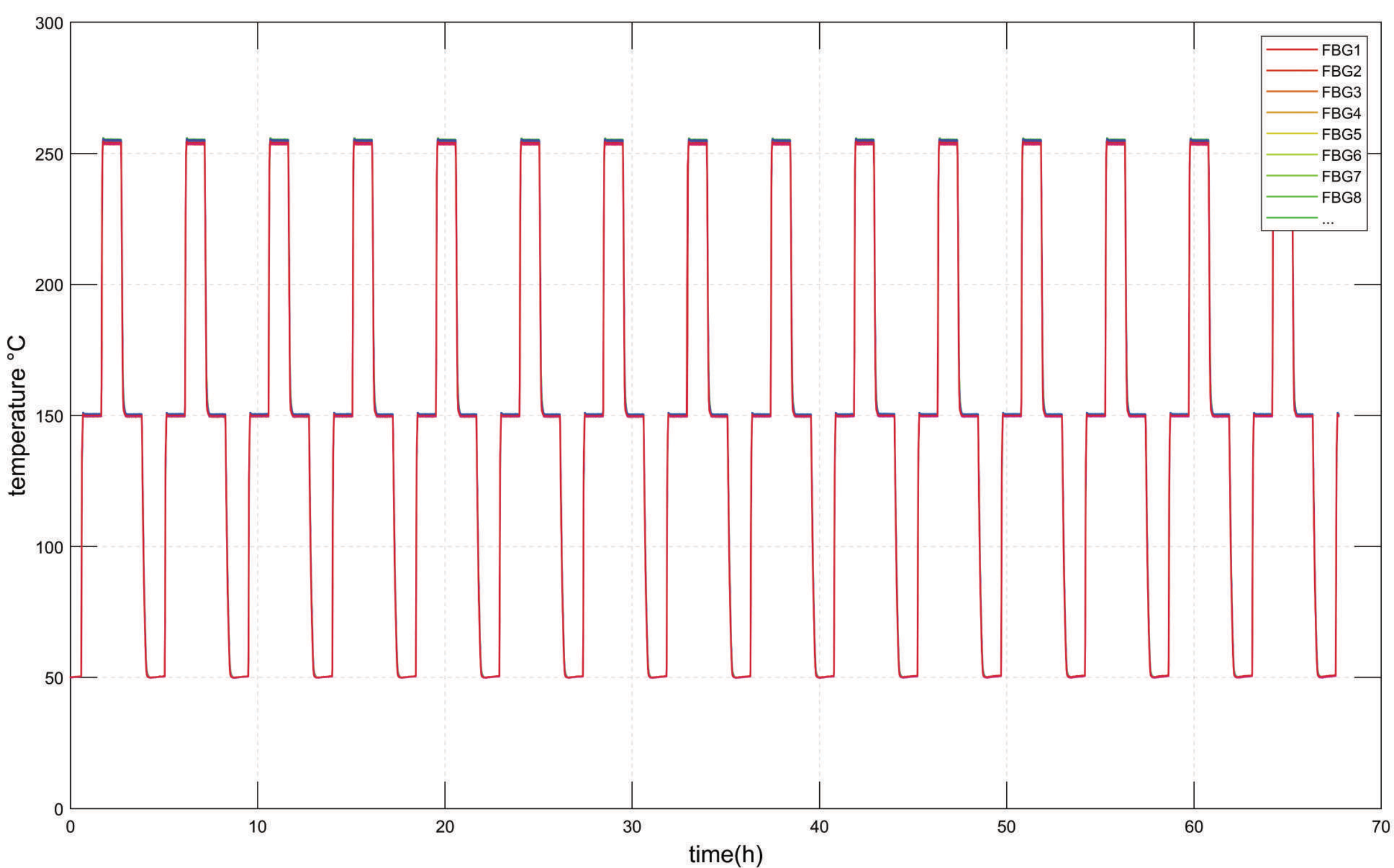
Precision in (°C) vs. Sampling Rate (Hz)



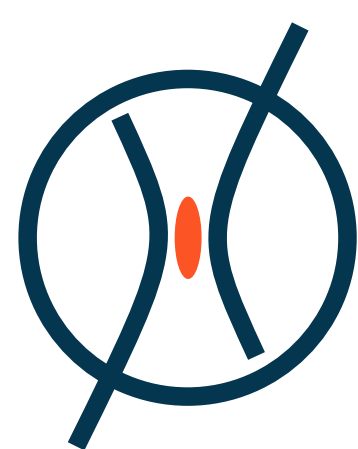
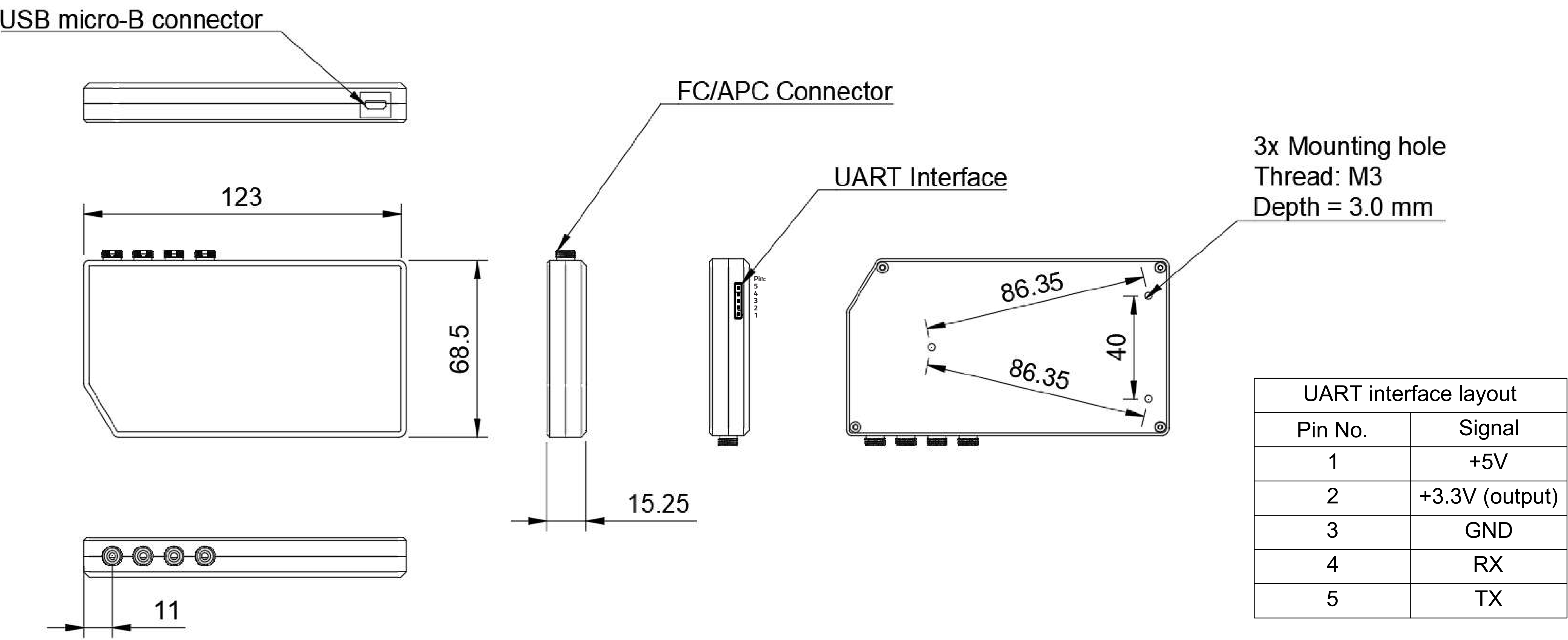
Heat-up Behaviour



High Repeatability



Technical Drawings



FiSens®

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