



DAQ SYSTEMS FOR FIBER BRAGG  
GRATING (FBG) SENSORS

# HBK Optical Measurement Solutions

Get the most accurate measurements with optical technology.  
FBG sensors are easy to install, electromagnetically safe and can also be used in highly explosive atmospheres.  
Having the right interrogator in place is important to get the best out of your measurements.  
Suitable for large scale sensing networks with many different sensor types, HBK's optical interrogators provide precise and high resolution, static and dynamic measurements 24/7 through reliable software interfaces.

## MEASUREMENT DATA YOU CAN TRUST: RELIABLE DATA ACQUISITION IN DEMANDING ENVIRONMENTS

Suitable for a wide range of applications, HBK optical interrogators offer the reliability for short- or long-term measurements with a large number of sensors.

Our interrogators use proprietary BraggMETERTM technology, a sweep laser-based measurement that allows accurate and absolute detection of Fiber Bragg Grating based sensors with static and dynamic acquisition sampling rates. Operating with the Smart Peak Detection (SPD) algorithm, HBK optical interrogators ensure top results in coping with dense sensing networks where different reflectivity or high loss sensors coexist on the same line.

### FS42PI Portable BraggMETER



Best suited for a large number of applications, on-site or short-term in laboratories. This is the perfect tool to use for system deployment and commissioning or for short term tests.

- Compact optical interrogator with embedded software, battery operation and touchscreen interface
- Extended battery life reducing setup time
- Easy transportation with carrying bag and all-in-one operation
- Self-maintenance prevents lengthy downtimes

#### Main Specifications:

- 1 S/s acquisition rate 0.5 pm resolution and 1 pm measurement stability achieved with absolute NIST traceable reference
- 4 optical connectors with parallel acquisition
- 125 sensors per optical connector (500 sensors total)
- Operating temperature range 0 °C (32 °F) to 50 °C (122 °F)
- 6 hour autonomy and interchangeable batteries
- Local data logging, optical spectrum viewing and saving

### QuantumX MXFS



Based on the reliable QuantumX platform, MXFS can be used as a stand-alone device or synchronized with other modules for purely optical or hybrid measurement systems, covering many different applications.

- Easy integration by 'Plug and Measure'
- Flexible and efficient data acquisition via the powerful catman® software. Compatible with MX Assist, CommonAPI and LabVIEW
- Compatible with most common communication protocols and with analog digital control signals through combination with other QuantumX modules

#### Main Specifications:

- 100 S/s or 2000 S/s selectable acquisition rates, with multiple filters and data output rate options
- Sub picometer resolution and 3 pm signal stability (at 100 S/s, doubled for 2000 S/s)
- 8 optical connectors with 16 channels with parallel acquisition
- Measurements of up to 128 channels per device
- Scalable optical or hybrid measurements with NTP or PTP synchronization

