



## I-MON 256 OEM

### Interrogation monitors for 1550 nm FBG sensor systems

**Cost efficient, high-resolution spectrometers ideally suited OEM Integrators of FBG sensing systems**

The I-MON 256 OEM Interrogation Monitor offer real-time spectrum monitoring of Fiber Bragg Grating (FBG) sensors in the 1550 nm wavelength range at line scan rates up to 34 kHz. High spectrometer resolution combined with broad wavelength range provides high-resolution interrogation monitors allowing measurement of a large number of FBG sensors.

A direct interface to the 256 pixel InGaAs detector offers OEM integrators a cost efficient solutions for building their FBG sensing systems.

Features
High measurement frequency
Broad wavelength range
High resolution
Large dynamic range
Compact size
No moving parts

Applications
OEM Interrogation monitor modules:
- Vibration analysis
- Temperature measurements
- Pressure monitoring
- Strain measurements

## I-MON software

The I-MON 256 OEM Series is available as a Developer's Kit including software providing plug-and-play operation.

## Operating principle

The Ibsen I-MON Interrogation Monitors build on patented (\*) Ibsen high-resolution spectrometer technology, utilizing Ibsen fused silica transmission gratings. The I-MON splits the wavelength spectrum spatially to allow for parallel

processing of the individual FBG sensor peaks. The FBG sensor peaks are measured by a diode array.

(\*) US patents no's.: 6,842,239 and 6,978,062

## About Ibsen Photonics

Ibsen Photonics is building its portfolio of high resolution spectrometer modules on more than 20 years of experience in diffractive optics. Ibsen Photonics also has a leading position within holographic Phase masks that increase manufacturability of fiber Bragg gratings, DFB lasers and integrated optics for leading telecommunication companies worldwide.

Ibsen Photonics welcomes partnerships with original equipment manufacturers based on the Ibsen highresolution spectrometer technology. Ibsen Photonics is a privately held company.

## Specifications

Parameter	Unit	I-MON 256 OEM
Max no. of FBG's and spacing		> 37 at 1200 pm
Wavelength range	nm	1525 - 1570
Wavelength fit resolution	pm	< 0.5*
Repeatability (over any pol state)	pm	3 (5 max.)
Wavelength linearity	pm	5 (typ.)
Wavelength drift	pm/°C	1 (3 max.)**
Dynamic range	dB	30*
Input optical power range	dBm	-80 to -20*
Measurement frequency	kHz	34 max.*
Interface		Direct interface to 256 element InGaAs detector
Temperature range	°C	0 - 70
Size	mm	23 x 51 x 67

(\*) Depending on customer electronics

(\*\*) Note that by applying temperature control or temperature correction the wavelength accuracy over the entire temperature range can be improved.

Specifications are subject to change without prior notice. Design and specifications can be modified to suit a range of customer requirements