



## I-MON High Speed Interrogation monitors for 1550 nm FBG sensor systems

**High speed, high-resolution spectrometers ideally suited for demanding FBG sensing systems**

The I-MON 256/512 High Speed Interrogation Monitors offer real-time spectrum monitoring of Fiber Bragg Grating (FBG) sensors in the 1550 nm wavelength range at line scan rates up to 35 kHz. High spectrometer resolution combined with broad wavelength range provides high-resolution interrogation monitors allowing measurement of a large number of FBG sensors.

A GigE interface and data acquisition software are providing easy set-up with a PC, and the I-MON can act as a stand-alone monitor in combination with a customer selected light source. External synchronization input enables exact timing.

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 High Speed comes with LabVIEW based 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

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

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

## 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 phase masks for FBG manufacturing, holographic fused silica transmission gratings, and spectrometers.

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

## Specifications

Parameter	Unit	I-MON 256 HS	I-MON 512 HS
Max no. of FBG's and spacing		> 37 at 1200 pm	> 70 at 1200 pm
Wavelength range	nm	1525 - 1570	1510 - 1595
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		-75 to -25
Measurement frequency	kHz	35 max.	17 max.
Interface			GigE
Power supply			5 VDC, 3A
Temperature range	°C		0 - 50
Size	mm		124 x 94 x 59

(\*) 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