

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



The I-MON 256/512 High Speed Interrogation Monitors offer kHz 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 provides easy setup with a laptop, 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.



# **I-MON High Speed**

## **Interrogation Monitors**

### **for FBG sensor systems**

# I-MON High Speed Interrogation Monitors

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

Applications
<b>Stand-alone Interrogation monitor and/or OEM Interrogation monitor modules:</b>
• Vibration analysis
• Temperatures measurements
• Pressure monitoring
• Strain measurements

## I-MON software

The I-MON High Speed comes with a 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 processing of the

individual FBG sensor peaks. The FBG sensor peaks are measured by a diode array, and the embedded electronics provides Ethernet interface.

\* US patents no.: 6,842,239 and 6,978,062

## Specifications

Parameter	I-MON 256 HS	I-MON 512 HS
Wavelength range	1525 - 1570 nm	1510 – 1595 nm
Max no. of FBG's and spacing	>37 at 1200 pm	>70 at 1200 pm
Wavelength fit resolution	<0.5 pm	
Repeatability (over any pol state)	3 (5 max.) pm	
Wavelength linearity	5 (typ.) pm	
Wavelength drift	1 (3 max.) pm/ Degree C*	
Dynamic range	30 dB	
Input optical power range	-75 to -25 dBm	
Measurement frequency	35 kHz max.	17 kHz max.
Interface	GigE	
Power supply	5 VDC, 3A	
Temperature range	0 – 50 Degree C	
Size	124 x 94 x 59 mm	

(\*) 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.