

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

**l b s e n**  
p h o t o n i c s

The I-MON 256/512 OEM 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 direct interface to the diode array detector offers OEM integrators a cost efficient solution for building their FBG sensing systems.



**I-MON OEM**

**Interrogation Monitors  
for FBG sensor systems**

# I-MON OEM Interrogation Monitors

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

Applications
<b>OEM Interrogation monitor modules:</b>
• Vibration analysis
• Temperatures measurements
• Pressure monitoring
• Strain measurements

## I-MON software

The I-MON OEM series is available as a Developer's Kit including electronics and 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, which is interfaced to the customer's own electronics.

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

## Specifications

Parameter	I-MON 256 OEM	I-MON 512 OEM
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	-80 to -20 dBm	
Measurement frequency	35 kHz max.*	17 kHz max.*
Interface	Direct interface to 256/512 element InGaAs detector	
Temperature range	0 – 70 Degree C	
Size	21 x 50 x 66	23 x 58 x 71

(\*) 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.