FBGS
Tailored Fiber Optic Sensing
Components & Solutions

Measurement Device
FBG-Scan 915-EP

No compromise between number of channels and measuring performance.

INFO

We offer dynamic, high precision measurement devices for Fiber Bragg Grating (FBG) sensors. Available with different numbers of optical channels it allows our customers to measure strain, force, temperature, pressure and shape. Each measurement device comes with our ILLumiSense software.

Description

FBG-Scan 915-EP is FBGS' flagship platform for spectrometer-based FBG interrogation technology, combining 15 channels and the top performances of the FBG-Scan 90X product line. Engineered for the industry, dynamic and precise, it measures up to 50 sensing points per fiber and 15 channels per engine while delivering the unmatched precision of 0.3 pm @ full measurement speed.
The high-end interrogation unit suits temperature, strain and pressure sensing applications to monitor:
- large or multiple production installations or processes
- monitoring of civil and energy infrastructures

The system is supplied with the "ILLumiSense" software, which is used to visualize and process the FBG wavelengths and convert these data into engineered data such as temperature and strain data.

The system can be accessed remotely using one of the Ethernet connections. The Ethernet ports can also be used for streaming out the measured data over a network or for sending API commands to the ILLumiSense via a Web Server. However, access to the system, measurement software and data can also be done directly by connecting a keyboard, mouse and screen to the system (not included).

Features

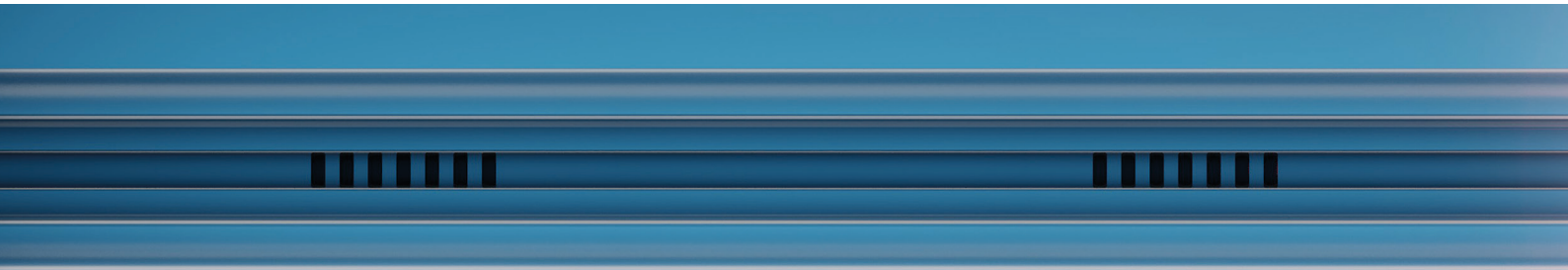
- Stand-alone FBG measurement system
- Connection for keyboard, mouse and screen (not included)
- 15 individual optical channels
- High wavelength stability of 0.3 pm @ full sampling rate
- Linearity: 3 pm
- Internal wavelength reference for high absolute wavelength accuracy

- No need for time of flight corrections to maintain wavelength accuracy
- Depolarized light source to reduce birefringence induced noise effects
- High dynamic range ≥ 30dB
- Simultaneously detection of sensors belonging to the same optical channel
- Built-in processing board for calculating engineered data
- Remote access through API and TCP/IP streaming
- Built-in watchdog timer
- 19” chassis / rack mountable using brackets

Specifications

Parameter	FBG-Scan 915-EP
Optical	
Number of channels	15
Wavelength range	1510 nm – 1590 nm
Wavelength precision (1δ)[1]	0.3 pm @ full measurement speed
Wavelength linearity	3 pm
Absolute wavelength accuracy[1]	10 pm (built-in wavelength reference)
Minimum wavelength spacing	0,8 nm
Dynamic range	>30 dB (user selectable control)
Sampling rate - all channels active	125 Hz
Sampling rate – 1 channel active	1000 Hz
Degree of polarization light source	≤ 5 %
Optical connector	LC/APC
Laser class (IEC 60825-1)	1
Electrical	
Communication	1x Ethernet
Additional PC interface	4x USB3.1 – 2x HDMI – 2x Ethernet
Trigger signal	NA
Power supply	110-240 V AC
Power consumption	< 60 W
Environmental	
Operating temperature	0 to 45°C
Operating humidity	0% to 80% RH, non-condensing
Mechanical	
Weight	5,4 kg
Dimensions (W x D x H)	43 x 37 x 4.4 cm (1U) (19inch rack mountable)

[1] Measured on a 200 GHz etalon with bandwidth of 120 pm FWHM.



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