

Measurement Device FBG-Scan 704D / 804D

Fiber Bragg Gratings reinvented

Draw Tower Gratings (DTG®s) are produced during the drawing process of the fiber itself, before the primary coating is applied. This is a cost effective production process for high quality Fiber Bragg Gratings. This offers unique characteristics such as extremely high breaking strength, insensitivity to bending, spliceless array configurations and uniform coating coverage. FBG parameters and coating material can be selected based on customer needs.



Description

The FBG-Scan 704D and 804D are dynamic, precise measurement devices for Fiber Bragg Grating (FBG) sensors based on spectrometer technology. The system offers a cost effective solution and can measure up to 4 optical channels with 40 FBG sensors per channel. All sensors can be monitored with a scan rate of 500Hz.

The sampling is done using the internal clock or can be controlled by an external trigger signal to synchronise the measurements with other devices.

The system is supplied with the "ILLumiSense" software, which is used to visualise and save the spectral information on a PC over USB 2.0, calculate the peak wavelengths and convert the wavelength data into temperature and temperature compensated strain data.

Features

- Four individual optical lines
- High dynamic range
- High sampling rate
- External triggering
- 160 sensors can be connected
- Excellent wavelength precision

Laser Safety Information

This device is a Class 1 laser product according to IEC 60825-1 (2001).

CLASS 1
LASER PRODUCT

Standard Specification

Parameter	FBG-Scan	
	704D	804D
Optical		
Wavelength range	1525-1565 nm	1510-1590 nm
Minimum wavelength spacing ¹	0.4 nm	0.8 nm
Number of optical lines	4	
Wavelength precision	± 1 pm	
Absolute wavelength accuracy (EOL) ²	± 30 pm	± 40 pm
Dynamic range	30 dB with user selectable control	
Scan and report rate	500 Hz	
Optical connector	FC/APC	
Laser Class (IEC 60825-1)	1	
Electrical		
Communication	USB 2.0	
Trigger signal	TTL signal (3.3 V), SMA connector	
Power supply	5 VDC	
Environmental		
Operating temperature	10°C to 40°C	
Operating humidity	0% to 80%, non-condensing	
Storage temperature	-10°C to 60°C	
Storage humidity	0% to 95%, non-condensing	
Mechanical		
Dimensions (W x D x H)	260 mm x 230 mm x 60 mm	

¹ Based on FBG with FWHM of 100 pm.

² Higher absolute End Of Life wavelength accuracies available on request.

Ordering information

Example:

F	B	G	-	S	C	A	N	-	X	0	4	D
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Wavelength range	
7	1525-1565 nm
8	1510-1590 nm

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