FBGS
DRAW TOWER GRATINGS

Measurement Device
FBG-Scan 700 / 800

Fibre Bragg Gratings reinvented

Draw Tower Gratings (DTG®s) are produced during the drawing process of the fibre itself, before the primary coating is applied. This is a cost effective production process for high quality Fibre 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 700 and 800 are dynamic, high precision measurement devices for Fibre Bragg Grating (FBG) sensors. The system can measure up to 40 FBG sensors using 2 input channels. Both input channels are simultaneously monitored using an optical coupler at a scan rate up to 2000Hz.

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 Wave' software, which is used to the spectral information on a PC over USB 2.0 and calculate the peak wavelengths in real time. Additionally, the system is delivered with the 'ILLumiSense Strain' software which can be used to convert the wavelength data into temperature compensated strain data.

Features

- High dynamic range
- High sampling rate
- External triggering
- High number of 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

www.instrumentation.it
INSTRUMENTATION DEVICES SRL
Via Acquanera 29, 22100 COMO (Italy) tel. +39.031.525391 - fax +39.031.507984 - info@instrumentation.it

Standard Specification

Parameter	FBG-Scan	
	700	800
Optical		
Wavelength range	1525-1565 nm	1510-1590 nm
Minimum wavelength spacing[1]	0.4 nm	0.8 nm
Number of channels	2 (same optical line: 1x2 optical coupler)	
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	2000 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	260 mm x 230 mm x 60 mm	

[1] Based on FBG with FWHM of 100 pm.

[2] Higher absolute wavelength accuracies available on request.

Ordering information

Example:

F	B	G	-	S	C	A	N	-	X	0	0

Wavelength range	
7	1525-1565 nm
8	1510-1590 nm

FBGS International - Bell Telephonelaan 2H - B-2440 Geel
T: +32(0)14581191 - F: +32(0)14591514 - WWW.FBGS.COM - INFO@FBGS.COM