GM8037 HIGH RESOLUTION FIBER GRATING SENSOR INTERROGATING SYSTEM

Technical Specifications v1.01
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UC INSTRUMENTS CORP.

GM8037 HIGH RESOLUTION FIBER GRATING SENSOR INTERROGATING SYSTEM

UC INSTRUMENTS' GM8037 high resolution fiber grating sensor interrogating system is a PC-based, compact size, high power, high accuracy, large dynamic range FBG sensors interrogating system and high accuracy optical spectrum analyzing system. The system includes an external device, PC-based application software and optional high performance laptop. With a build-in tunable laser source and two channel photo detectors (no additional light source is required), the system can performance a high accuracy FBG sensors interrogating and optical spectrum analyzer. It can be used for a wide variety of fiber optic sensors. The system provides users with a complete understanding of how the spectral shape of the fiber Bragg grating sensors react to varying physical conditions- rather than only reporting shifts in central wavelengths. This instrument is used both as the first step in the development of high-volume custom sensing systems and in long term field measurements. Two sensor channels allow simultaneous interrogation of multiple sensors on two fibers or both channel analysis. Either channel can be used to interrogate gratings in transmission or reflection and the system can be adapted to many types of sensors. All data can be transferred to an external PC via RS232 or USB communication ports.

It is a low-cost, high performance fiber Bragg grating (FBG) interrogation systems for various engineering and civil applications. It features PC-based, high accuracy, large dynamic range FBG sensors measurement ability and accuracy optical spectrum analyzing ability.

Features

- Spectrum measurement over 40 nm with 1 pm Scan-to-scan repeatability
- Two detectors enabling the measurement of sensors in transmission and reflection
- Built-in single board computer, display, and instrument control panel
- Display tension, pressure, temperature and other parameters in text and history curves per application apply to.
- Data is easily transferred to PC via RS232 or USB interface
- Light source, power sensor and data analyze were built into a single compact system.
- High accuracy, high optical power, long distance, multi-channel testing capability.

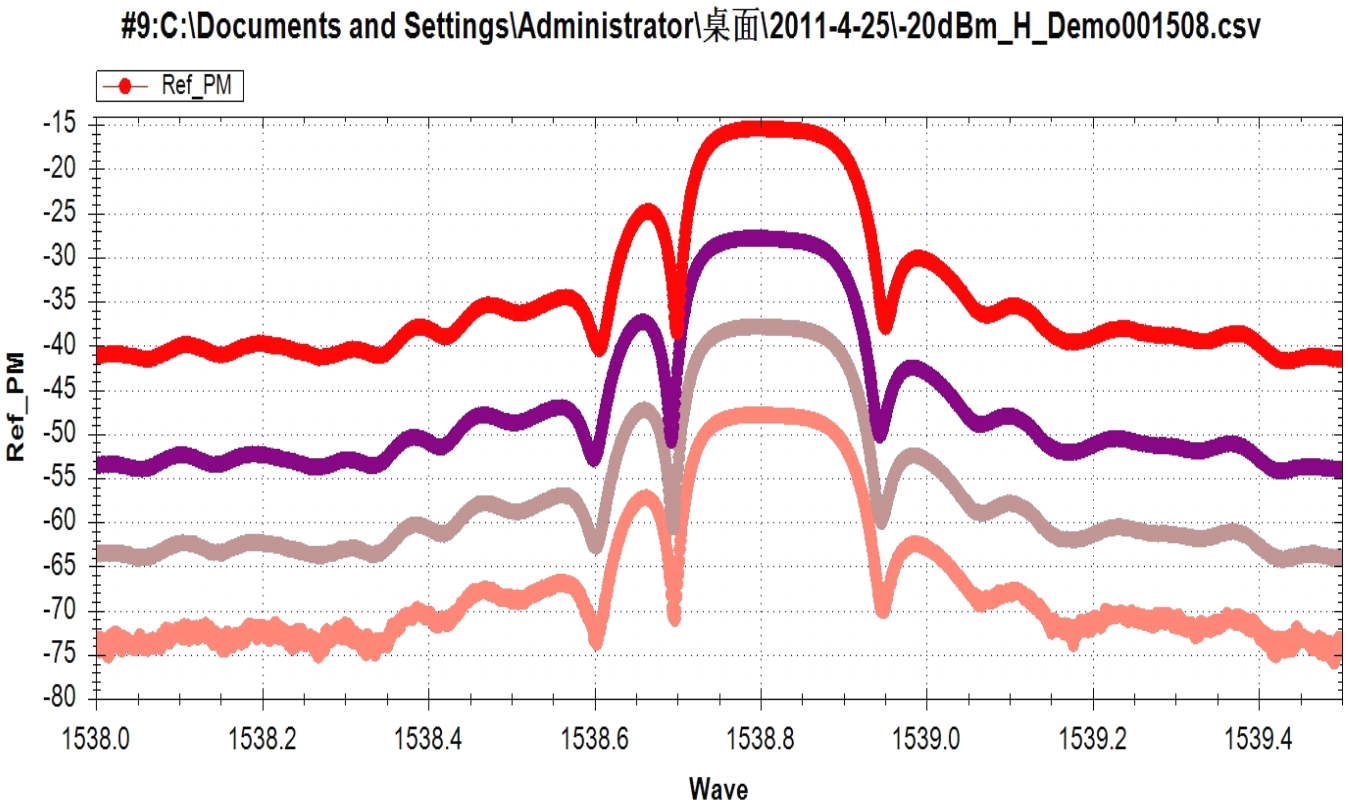
Applications

- Useful in the design and selection of fiber Bragg grating based sensors for strain, temperature, pressure, etc.
- High accuracy, resolution and full profile data provide comprehensive feedback on fiber Bragg grating and big dynamic range power sensor capabilities
- Built-in data aquire and analysis software functions provide high resolution, high accuracy fiber Bragg grating center wavelength measurements
- Full-spectrum measurements aid in understanding how sensors' characteristics change under various physical conditions
- Useful for analysis of a wide variety of passive optical sensors – FBGs sensor and other passive fiber optical components testing.

Specifications

Model #	***GM8037***
Build-in Laser Wavelength range	**1525.00 to 1566.00 nm**
Build-in Laser Output Power	>= 20 mW
Wavelength resolution	1.0 pm
Optical Channel Number	2 CH (up to 64 channels optional) ***
Maximum FBG sensor Per Channel	Full Spectrum 1525 ~ 1566 nm
Build-in Laser Wavelength repeatability	+/- 3 pm, typ. +/- 1 pm
Photo Sensor Dynamic Range	> 70 dB
Sweep speed	Up to 10 Hz
Connector	FC/APC
Typical grating configuration	Reflectivity: 90%, BW: 0.25nm
Communication Interface	RS232 and USB
Power	*AC 100 - 240 V ± 10%, 48 - 66 Hz, 100 VA max.*
Environmental *Storage temperature* *Operating temperature* *Humidity*	*−40° C to +80° C* *0° C to +45° C* *<95% R.H. from 0° C to +45° C*
Work Environmental	*−10° C to +70° C* *0° C to +45° C* *<95% R.H. from 0° C to +45° C*
Dimensions	*200 mm W, 105 mm H, 250 mm D*
Weight	*6.0 lbs*

***** Note: Per customers' request, we can also help customers integrate up to 128 channel system.**



A Real Fiber Grating Sensor Sweep Spectrum

UC INSTRUMENTS' Test and Measurement Support, Services and Assistance

UC INSTRUMENTS provides high performance, high value, low cost, affordable test and measurement instruments solution for our customers. Our extensive support sources can help you choose right UC INSTRUMENTS' products for your application and apply them successfully. Every instruments and system we sell a global warranty. All of our instruments with at least 12 months factory warranty.

Our Promise

All of UC INSTRUMENTS' test and measurement instruments and system will met its advertised performance and functionality. When you select UC INSTRUMENTS' products, we can verify if it is work properly, help with products operation, and provides the basic measurement assistance for the use of special capabilities.

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