GS-1290-X High-Sensitivity Spectroradiometer

PRODUCT SUMMARY

Gamma Scientific announces the GS-1290-X Series, an advanced, high-speed spectroradiometer family that combines the leading-edge sensitivity of back-side-thinned CCD detector technology with Gamma Scientific's industry-renowned RadOMA opto-electrical platform. The GS-1290-X features millisecond measurement speed, exceptional low-light measurement capability and superior blue-light region sensitivity over conventional front-illuminated CCD-based systems. The GS-1290-X is ideally suited for applications including retroreflective-material color measurement, LED color measurement, display measurement and light-source measurement.

The GS-1290-X represents the state-of-the-art in speed and accuracy in a commercially available spectroradiometer. Measurements that required five or more seconds in the past with photodiode-array or optical multi-channel analyzer (OMA) detector technology can now be performed in a matter of milliseconds – with greater precision and repeatability. In addition, any application that demands high sensitivity in the blue-light region will benefit from this system – its sensitivity is at least two times greater than front-illuminated CCD-based systems.

Part of the RadOMA platform family – a durable optoelectrical design proven in hundreds of facilities worldwide – the GS-1290-X shares the same feature-rich functionality as its siblings. This includes three models covering a very wide spectral range from ultraviolet to the near infrared (260 nm to 900 nm, 380 nm to 810 nm or 300 nm to 1100 nm); interchangeable system components for easy customization; Automatic Dynamic Range Optimization that ensures system electrical gains are always set for the best results; USB and ethernet interface; and Gamma Scientific's powerful 32-bit Light Touch spectral data acquisition and analysis software package.

FEATURES

- *Exceptional accuracy via high-resolution bandwidth coverage*
- *Superior wavelength and color accuracy via low thermal expansion coefficient materials*
- *Near-real-time measurement*
- *High resolution: 0.4 nm/pixel*
- *Spectral ranges: 260-900 nm, 300-1100 nm, and 380-810 nm*
- *USB and Ethernet interface*
- *Windows-based control/analysis software*
- *NIST-traceable accuracy.*
- *Self-calibrated* ***The system never has to be***
- ***returned for calibration****.*

APPLICATIONS

- *Spectral and photometric/color output of displays*
- *LED measurements*
- *Colorimetry of paper, textile and printed samples*
- *Source color temperature*
- *Reflectance and transmittance of materials and samples*
- *Human factors and vision research*
- *Compliance testing*
- *Medical and dental color measurement*
- *R&D and manufacturing*

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GS-1290-X High-Sensitivity Spectroradiometer

SPECIFICATIONS

Detector and Wavelength Specifications*			
Model Number	**GS-1290-1**	**GS-1290-2**	**GS-1290-3**
Pixel Elements	1024 x 128 Backside-thinned CCD	1024 x 128 Backside-thinned CCD	1024 x 128 Backside-thinned CCD
Spectral Range (nominal)	260-900 nm	300-1100 nm	380-810 nm
Wavelength Resolution	0.6 nm/element	0.9 nm/element	0.4 nm/element
Spectral Bandwidth	Built-In User Selectable Nominal HPBW		
	10 nm	20 nm	10 nm
	5.0 nm	10 nm	5.0 nm
	2.5 nm	5.0 nm	2.5 nm
	1.8 nm	2.7 nm	1.4 nm
	1.2 nm	1.8 nm	1.0 nm
Wavelength Repeatability	0.02 nm	0.03 nm	0.02 nm
Wavelength Accuracy	< 1 nm	< 1 nm	< 0.5 nm

Specifications* Below Apply to All Models	
Calibration	User-Calibration: System never has to be returned to the factory
Stray Light at 8 Bandwidths from HeNe Laser Line	Less than 1×10^{-4}
Shutter	Electric Operation
Electrical Resolution	16 Bit
Detector Hermetic Seal	Standard
Detector Cooling Range	20° C to -5° C ±0.1° C
Luminance Accuracy (2856 K)	± 1% of calculated luminance
Color Accuracy (2856 K)	CIE 1931xy x= ± 0.0005 y= ± 0.0005
Computer Interface	USB 2.0
Control Software	Light Touch RadOMA ® for Windows ® or stand-alone DLL package for customized software integration
Dimensions:	
Height	11.8" (29.9 cm)
Width	6" (15.1 cm)
Length	12.1" (30.8 cm)
Weight	10 lbs (4.6 kg)

*** NOTE: Preliminary Specifications**

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