High Performance TE-Cooled Backthinned Ethernet Communication Spectrometer

SM303N







SM303N

High Performance TE-Cooled Backthinned Ethernet Communication Spectrometer

- Scientific-grade High Performance
- Extremely Low Dark Noise and Stray Light for Spectrophotometer/ Spectroradiometer
- High Signal to Noise Ratio (SNR)
- High Ultra-Violet Quantum Efficiency
- High Speed Data Acquisition
- Optical Dark Option (Auto Shutter)
- Communication over long distance
- OnBoard averaging average up to

65,535 spectra

- OnBoard Memory(Volatile) 50,000 spectra
- Interface Ethernet, USB, RS232(Custom)
- Digital Gain/Offset 1024 step

SPECTRAL PRODUCTS



The Choice for Low Signal Level Applications

Spectral Products is offering the new SM303N TE cooled back-thinned 1024 pixel array CCD spectrometer. The SM303N provides high quantum efficiency in UV and high dynamic range. It is ideal for UV/VIS/NIR spectrometry that requires a very high signal to noise ratio and/or high dynamic range, like photoluminescence, Raman spectroscopy, measurement of photometric and radiometric values of light sources(LED, OLED, solar cell, etc) applications

The back-thinned CCD has excellent sensitivity to UV and allows deep UV application. Well-designed housing allows up to an 850nm measurement window from 200nm to 1050nm (smaller measurement window sizes increase spectral resolution and light sensitivity) with very low stray light. The TE cooled detector also helps measure very low light signals by reducing the noise level during long integration times. Thanks to the high dynamic range and low noise level, the SM303N is also ideal for radiometric measurement applications.

The SM303N stores 50,000 spectra with onboard memory. Spectrometer data acquisition is possible without data loss due to readout time. This function is expected to be utilized in various applications when time synchronization is important.

Software support includes SDKs and DLLs for developing dedicated applications and Windows OS-based spectrum acquisition and analysis software (SMProMX).

Specifications :

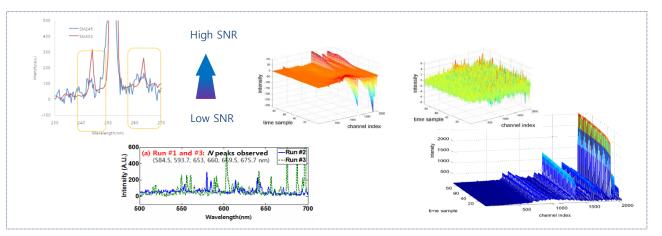
Dimensions173 mm X 120 mm X 79.8 mm (6.81" X 4.72" X 3.14")Weight2.0 kg (4.4lbs)Fiber Optic ConnectorSMA905 NA = 0.22 Optical Fiber InputDetectorDetectorHamamatus S7031-1006S (TE Cooled Backthinned FFT CCD)CoolingOne Stage TE(thermo-electric) Cooling(-10°C)Spectral Response Range200 - 1050 nmPixels1044 X 64 pixels (Total)Pixels1044 X 64 pixels (Total)Pixels24 µm X 24 µmActive Area24.576 mm X 1.392 mmFull Well Capacity320 ke - (vertical), 1000 ke - (horizontal)Quantum Efficiency>90 % @ 650mOptical SpecificationOptical SpecificationOptical SpecificationOptical Resolution0.3-7 nm, dependent on the spectral range, slit width, and fiber core diameterDarkAuto ShutterDarkOptical SpecificationOnise Ratio1000 : 1Stray Light< 0.05 % AVG	Physical Dimension	
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Operating SystemWindows 7/10 (32/64 bit)SoftwareSMProMX		
Software SMProMX	Operating System	· ·
Software Development Kit Visual C++ DLL /LabVIEW VI SDK		SMProMX
	Software Development Kit	Visual C++ DLL /LabVIEW VI SDK

Applications

SPECTRAL PRODUCTS

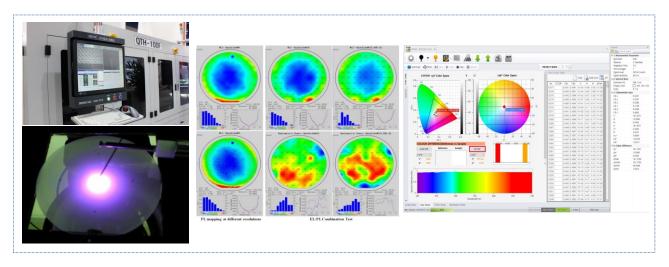
Low Spectrum Signal Detection with High Accuracy

- High accurate optical monitoring and diagnostics of low spectrum intensity signals
- Acquisition of stable time trends of intensity signals with the help of internal TE(thermo-electric) cooling



Measurement of Photometric and Radiometric Values

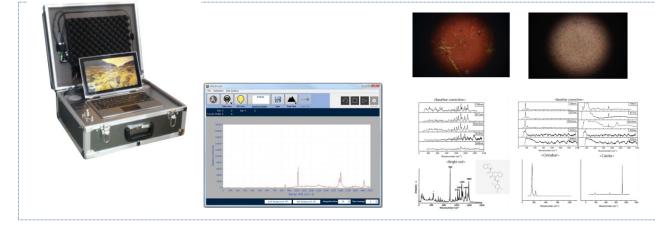
- Quantitative measurement and analysis of photometric and radiometric values for light sources
- Optical Sensor of Testers for real-time monitoring and quality control for LED/OLED fabrication



Spectral Products

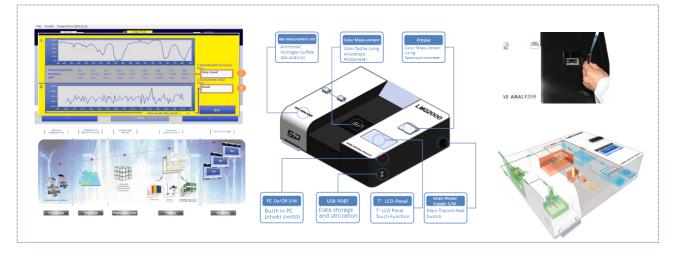
Raman Spectrum Analysis

- High sensitive and stable measurements of low-intensity Raman scattering signals
- Customization for field usage in various scientific and industrial application

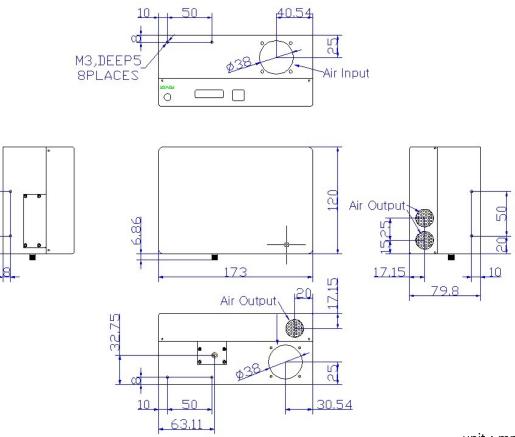


Real Time High Accuracy UV/VIS Spectrophotometer

- Real-time high accurate measurement of transmission and absorbance of solid, and liquid samples
- Convergence with gas detection sensors for environmental and agricultural monitoring purposes







unit : mm

Ordering Information : Please indicate product number plus description when ordering **SM303N** High Performance TE-Cooled Backthinned Ethernet Communication Spectrometer

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