SPECTRORADIOMETER

WISER I Spectroradiometer

Designed for Accuracy, Built for Outdoor Reliability

NIST Traceable Calibration

Overview

The WISER I Spectroradiometer configuration, combining the MS-711, measuring the spectral range from 300nm to 1100nm (UV-Visible-NIR), and the MS-712 for the near-infrared (NIR) range between 900nm and 1700nm, is designed to provide the most accurate outdoor solar spectral data.

With temperature-controlled sensor units and NIST traceable calibration, the WISER I delivers improved stability and long-term reliability, suitable for all-weather conditions and continuous outdoor use, with an operational temperature range of -10 to 50°C.

Often installed in fixed locations for meteorological, plant science, photovoltaic research, and material analysis applications, the WISER I is also suitable for use as a travelling reference, with separate power supplies for both sensors, a calibration uncertainty budget, and software, including 'Nami', developed exclusively by EKO for sensor management, data analysis, and visualisation.

Features

All-weather build for continuous outdoor use

Improved stability & long-term reliability

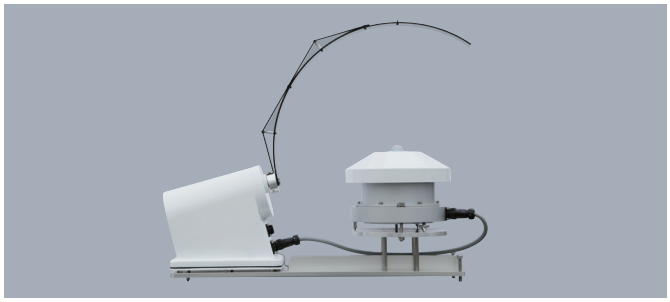
Broad measurement range, from 300nm to 1700nm

Compatible with STR-32G Sun Tracker and custom configurations

Specifications

	MS-711	MS-712
Measurement range	For ultraviolet - near infrared 300 ~ 1100 nm	For near-infrared 900 ~ 1700 nm
Wavelength Interval	0.3 ~ 0.5 nm	1.2 ~ 2.2 nm
Spectral Resolution	< 7nm	
Wavelength Accuracy	±0.2nm	
Temperature Dependency	<2%	±5%
Exposure time	10 ms ~ 5000 ms, automatically controlled	
Dome material	Synthetic Quartz	BK7
Communication	RS422 (between sensor and power supply unit)	
Operating Temperature	−10 ~ +50°C	−10 ~ +40°C
Dimension (Including cover & dome)	ϕ220 x 197 mm (MS-711) ϕ260 x 263 (MS-711F) W320 x D240 x H 80 mm (Power supply)	ϕ300x200 (MS-712) ϕ310x270 (MS-712F) W320 x D220 x H 120 mm (Power supply)
Weight	4.5kg (MS-711), 7.8kg (MS-711F) 1kg (Power supply)	7.5kg (MS-712), 11.3kg (MS-712F) 1kg (Power supply)
Power supply	Input : 100 ~ 240V AC, 50/60Hz Output : 12VDC (50W)	Input : 100 ~ 240V AC, 50/60Hz Output : 12VDC (50W), 5VDC (50W)
	Ventilator: 100VAC, 50/60Hz, 16/15W (Optional)	
Software Function	Data Measurement (Continuous, free exposure time) Data Saving (Personalized format, CSV format) Data Graphing (Tiled/Detailed display, Unit conversion) Data Calculation (PAR,PPFD , Illuminance , Integral)	

Related Products



RSB-01 Rotating Shadow Band

Compatible with all EKO Spectroradiometers, the RSB-01 Rotating Shadow Band is a compact, attractive, low-cost, all-weather spectral measurement alternative to conventional DNI, GHI, and GHI sun tracker systems. Recommended for applications with limited space and lower budgets.

MS-713 Spectroradiometer

Designed for solar research, the MS-713 covers the spectral range from 900nm to 2500nm. The MS-713 and MS-711 together can measure 98% of the integrated solar-terrestrial spectrum, perfect for ground validation of satellite spectral data, solar energy research and resource assessment. With NIST traceable calibration and active temperature control of the sensor unit, the MS-713 is a powerful, broad range, all-weather spectroradiometer.

MS-711 Spectroradiometer

A unique all-weather sensor, the MS-711 features a temperature-controlled detector, ensuring optimum performance in hot and cold conditions ranging from -10 to 50°C. Measuring the spectral range from 300nm to 1100nm (UV-Visible-NIR), the MS-711 comes with NIST traceable calibration, is compatible with EKO STR-Series sun trackers and can be set up in an albedometer configuration for measuring spectral albedo in bifacial PV installations.

MS-712 Spectroradiometer

The MS-712 measures the near-infrared (NIR) range between 900nm and 1700nm. With NIST traceable calibration, and active temperature control of the sensor unit, the MS-712 is a reliable all-weather spectroradiometer.

Compatible with EKO STR-Series sun trackers, the MS-712 is often paired with the MS-711, covering the spectral range from 300nm to 1700nm.

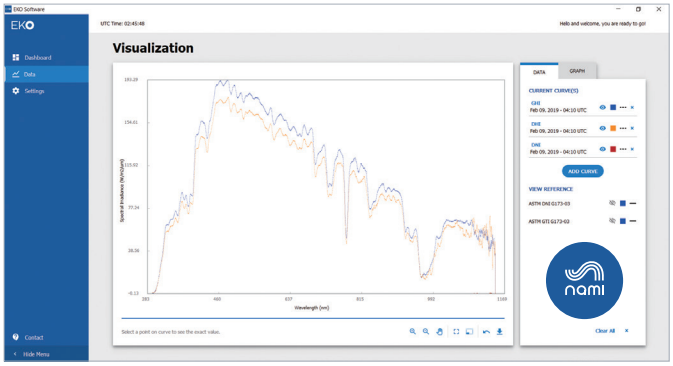
STR-32G Sun Tracker

The heavy-duty STR-32G Sun Tracker is the same size as other STR series sun trackers but can tackle higher torque and x4 the load without compromising precision and performance. The additional capacity makes the STR-32G the perfect option for all kinds of Global, Diffuse and Direct Radiation measurement sensors and spectroradiometers. The STR-32G, featuring integrated GPS and automated, easy setup, is designed for reliability and the very toughest environments and applications.

Software

Nami has been developed exclusively to assist with measuring and processing the data acquired by the MS-711.

Nami can be used to control and perform measurements with the MS-711, with or without the RSB-01 Shadow Band accessory, and is designed to help the user analyse the gathered data; to measure and visualise all three components of spectral irradiance easily and simultaneously.



Applications

The WISER I is a research-grade configuration, combining the MS-711 and MS-712 Spectroradiometers. A reference tool for UV-VIS-NIR measurements, the WISER I covers the spectral range from 300nm to 1700nm and is designed for meteorological, plant science, photovoltaic research, and material analysis applications that require the highest standards of accuracy and reliability.

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Use the QR code to visit our website, contact our team, or to find out more about the **WISER I Spectroradiometer**, other related products, and the full range of industry-leading EKO sensors and instruments.

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