



# MS-80SH-L

## Class A Spectrally Flat and Fast-Response Pyranometer with Integrated Dome Heater



### Overview

The MS-80SH, manufactured by EKO Instruments, is an innovative, next-generation ISO 9060 Class A spectrally flat and fast-response (secondary standard) pyranometer. The pyranometer features a compact design with internal desiccation, a single dome over a quartz diffusor, a thermally isolated thermopile detector, negligible thermal offsets, ultra-low temperature dependency, and exceptional non-

linearity characteristics. The MS-80SH has a five-year warranty and recalibration interval.

EKO instruments is the longest-operating ISO 17025-accredited pyranometer manufacturer in the world. This allows for the highest-quality calibration and for Campbell Scientific to comply with international standards (ISO/IEC 17025 for ISO 9847).

### Benefits and Features

- › ISO 9060 Class A spectrally flat with fast response (secondary standard)
- › Integrated dome heater for dew and frost mitigation as per IEC 61724-1:2021 Class A monitoring requirements
- › Ability to be combined with MV-01 external heater and ventilator in more harsh conditions
- › Industry-leading stability
- › ISO 17025-certified calibration
- › Five-year warranty and recalibration interval

### Specifications

Sensor	Internal desiccation, single-dome, isolated thermopile detector, quartz diffusor	Output	Modbus RTU over RS-485 (digital)
Measurement Description	Monitors solar radiation for the full solar spectrum range	Sensitivity	~10 $\mu\text{V}/\text{W}/\text{m}^2$
ISO Classification	<ul style="list-style-type: none"> <li>› ISO 9060 Class A spectrally flat and fast-response pyranometer (secondary standard)</li> <li>› ISO 17025 Class A pyranometer</li> </ul>	Response Time	< 1 s (95%)
		Zero Offset A	< 1 $\text{W}/\text{m}^2$ (response to 200 $\text{W}/\text{m}^2$ net thermal radiation)
		Zero Offset B	$\pm 1 \text{ W}/\text{m}^2$ (response to 5 K/h change in ambient temperature)
		Non-Stability	$\pm 0.5\%$ change per 5 years

Non-Linearity	$\pm 0.2\%$ (at 1000 W/m <sup>2</sup> )
Directional Response	$\pm 10$ W/m <sup>2</sup> (at 1000 W/m <sup>2</sup> )
Spectral Selectivity	$\pm 3\%$ (0.35 to 1.5 $\mu\text{m}$ )
Temperature Response	$\gg < 0.8\%$ (-10° to +40°C) $\gg < 1\%$ (-20° to +50°C)

Tilt Response	$< \pm 0.2\%$ (0 to 90° at 1000 W/m <sup>2</sup> )
Operating Temperature Range	-40° to +80°C
Irradiance Range	0 to 4000 W/m <sup>2</sup>
Spectral Range	285 to 3000 nm
Ingress Protection	IP67

For comprehensive details, visit: [www.campbellsci.com.au/ms-80sh-l](http://www.campbellsci.com.au/ms-80sh-l) 