



# 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	› ISO 17025 Class A pyranometer
Measurement Description	Monitors solar radiation for the full solar spectrum range	Output Modbus RTU over RS-485 (digital)
ISO Classification	› ISO 9060 Class A spectrally flat and fast-response pyranometer (secondary standard)	Sensitivity ~10 $\mu\text{V}/\text{W}/\text{m}^2$
		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	$\pm 1 \text{ W/m}^2$ (response to 5 K/h change in ambient temperature)
Non-Stability	$\pm 0.5\%$ change per 5 years
Non-Linearity	$\pm 0.2\%$ (at $1000 \text{ W/m}^2$ )
Directional Response	$\pm 10 \text{ W/m}^2$ (at $1000 \text{ W/m}^2$ )
Spectral Selectivity	$\pm 3\%$ (0.35 to $1.5 \mu\text{m}$ )

Temperature Response	$\gg < 0.8\%$ ( $-10^\circ$ to $+40^\circ\text{C}$ ) $\gg < 1\%$ ( $-20^\circ$ to $+50^\circ\text{C}$ )
Tilt Response	$< \pm 0.2\%$ (0 to $90^\circ$ at $1000 \text{ W/m}^2$ )
Operating Temperature Range	$-40^\circ$ to $+80^\circ\text{C}$
Irradiance Range	0 to $4000 \text{ W/m}^2$
Spectral Range	285 to $3000 \text{ nm}$

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



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