



# MS-80M-L

## Class A Pyranometer with RS-485 Modbus Communication



### Overview

The MS-80M, manufactured by EKO Instruments, is an innovative, next-generation ISO 9060 Class A spectrally flat and fast-response (secondary standard) pyranometer inspired by the combination of latest technologies and state-of-the-art thermopile sensor with an unprecedented, low zero-offset behavior; fast sensor response; Modbus RTU 485 output; and a five-year warranty and recalibration interval.

The MS-80M features a compact design with internal desiccation, single dome, isolated thermopile detector, quartz diffusor, immunity to offsets, ultra-low temperature dependency, and exceptional non-linearity characteristics. EKO instruments is the only ISO 17025 accredited pyranometer manufacturer in the world, enabling highest-quality calibration, compliant to international standards (ISO/IEC 17025/9847).

### Benefits and Features

- › ISO 9060 Class A spectrally flat and fast-response (secondary standard)
- › Exceptional stability, offset immunity, temperature dependency, and non-linearity
- › ISO 17025 certified calibration
- › Five-year warranty and recalibration interval

### Specifications

Sensor	Internal desiccation, single dome, isolated thermopile detector, quartz diffusor
Measurement Description	Monitors solar radiation for the full solar spectrum range
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>
Output	Digital (Modbus RTU)

Response Time	< 1 s (95%)
Zero Offset A	< 1 W/m <sup>2</sup> (response to 200 W/m <sup>2</sup> net thermal radiation)
Zero Offset B	±1 W/m <sup>2</sup> (response to 5 K/h change in ambient temperature)
Non-Stability	±0.5% change per 5 years
Non-Linearity	±0.2% (at 1000 W/m <sup>2</sup> )
Directional Response	±10 W/m <sup>2</sup> (at 1000 W/m <sup>2</sup> )

Spectral Selectivity	±3% (0.35 to 1.5 μm)
Temperature Response	<ul style="list-style-type: none"> <li>› &lt; 0.4% (-10° to +40°C)</li> <li>› &lt; 0.5% (-20° to +50°C)</li> </ul>
Tilt Response	< ±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
Sensitivity	~10 μV/W/m <sup>2</sup>
Power Supply	12 to 24 Vdc
Power Consumption	0.2 to 0.3 W
Ingress Protection	IP67

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

