



## MS-57 Pyrheliometer

### Technical Specifications

ISO 9060 First Class Pyrheliometer

Ultra fast <0.2s response detector

Lowest measurement uncertainty

ISO17025 / 9059 Outdoor calibration

Window heater to prevent dew and frost

The new MS-57 pyrheliometer was inspired by the latest development of the MS-80 pyranometer, enabling a breakthrough in unprecedented low thermal offset behavior and fast thermopile response (< 0.2s / 95%). MS-57 First Class is a direct normal incidence (DNI) solar irradiance sensor. Also known as a pyrheliometer, it is used as a reference sensor for routine operation on a Solar Tracker. The all-weather MS-57 is responsive to solar irradiance in the spectral range from 200 - 4000nm and works under the most extreme conditions in a temperature range from -40°C - 80°C. The integrated low power window heater can prevent dew deposition or frost on the outside window.

Each MS-57 is calibrated outdoors and tested at EKO upon manufacture against EKO's reference sensors, which are fully traceable to the WRR (World Radiometric Reference). The recommended period of recalibration can be extended to 5 years, which is typically 2 years for other sensor models in the market. The long-term stability of the sensor responsivity is

less than 0.5% in a period of 5 years which makes it unique.

The MS-57 pyrheliometers are manufactured in a consistent way followed by strict quality inspection and performance evaluation. For each sensor the temperature dependency are measured and validated through a measurement report that comes with the sensor. EKO provides a unique outdoors calibration compliant to the international standards defined by ISO/IEC17025/9059.

	<b>MS-57</b>
<b>ISO 9060 classification</b>	First Class
<b>Output</b>	Analog (mV)
<b>Response time 95%</b>	< 0.2 Sec.
<b>Zero Offset A 200W/m<sup>2</sup></b>	0 W/m <sup>2</sup>
<b>Zero Offset B 5K/hr</b>	< 1 W/m <sup>2</sup>
<b>Non-stability change/1 year</b>	-
<b>Non-stability change/5 years</b>	< 0.5 %
<b>Non-linearity at 1000W/m<sup>2</sup></b>	< 0.2 %
<b>Spectral selectivity 0.35-1.5µm</b>	+/- 1 %
<b>Temperature response -20°C to 50°C</b>	< 0.5 %
<b>Tilt response at 1000W/m<sup>2</sup></b>	< 0.2 %
<b>Sensitivity</b>	Approx. 7 µV/W/m <sup>2</sup>
<b>Impedance</b>	< 15000 Ω
<b>Operating temperature range</b>	-40 - 80 °C
<b>Irradiance range</b>	0 - 4000 W/m <sup>2</sup>
<b>Wavelength range</b>	200 - 4000 nm
<b>Ingress protection IP</b>	67
<b>Cable length</b>	10 m

<b>Options</b>	<b>MS-57</b>
<b>Cable length</b>	20 / 30 m

Specifications are subject to change without further notice.