



## MS-80 Pyranometer

### Technical Specifications

ISO 9060:2018 Class A (Secondary standard)

Sub-category "Fast response" and "Spectrally flat"

Quartz diffusor technology

ISO 17025 certified calibration

5 years warranty and recommended recalibration

MS-80 is a unique pyranometer compliant to the "Fast response" and "Spectrally flat" sub-category under ISO 9060:2018 Class A. The innovative patented design was inspired by the combination of latest technologies and state-of-the-art thermopile sensor, enabling a breakthrough in unprecedented low zero-offset behavior and fast sensor response.

The compact sensor with a single dome, based on an isolated thermopile detector and Quartz diffusor is immune to offsets and integrates all optional value-added functions such as a ventilator, heater and different industrial interfaces. The heater and ventilator are suggested, particularly in areas impacted by dew, frost, snow, and dust.

The MS-80A is an MS-80 with a built-in 4-20mA converter and MS-80M with built-in MODBUS converter. They are compatible with the industrial output standards. Due to the ultra-low temperature dependency and exceptional non-linearity

characteristics, the converter guarantees an optimal sensor performance, under any environmental conditions.

The MS-80 pyranometers are manufactured in a consistent way followed by strict quality inspection and performance evaluation. For each sensor, the directional response and temperature dependency are measured and validated through a measurement report that comes with the sensor. EKO provides a unique calibration compliant to the international standards defined by ISO/IEC17025/9847.

The sensor has a 5 year warranty, 5 year recommended re-calibration interval and no longer the requirement for the desiccant to be changed.

	<b>MS-80</b>
ISO 9060:2018	Class A
ISO 9060:1990	(Secondary Standard)
Sub-category "Spectrally flat"	Compliant
Sub-category "Fast response"	Compliant
Output	Analog (mV)
Response time 95%	< 0.5 Sec.
Zero off-set a) 200W/m <sup>2</sup>	+/- 1 W/m <sup>2</sup>
Zero off-set b) 5K/hr	+/- 1 W/m <sup>2</sup>
Complete zero off-set c)	+/- 2 W/m <sup>2</sup>
Non-stability change/1 year	-
Non-stability change/5 years	+/- 0.5 %
Non-linearity at 1000W/m <sup>2</sup>	+/- 0.2 %
Directional response at 1000W/m <sup>2</sup>	+/- 10 W/m <sup>2</sup>
Spectral error	+/- 0.2 %
Temperature response -10°C to 40°C	+/- 1 %
Temperature response -20°C to 50°C	+/- 1 %
Tilt response at 1000W/m <sup>2</sup>	+/- 0.2 %
Sensitivity	Approx. 10 $\mu$ V/W/m <sup>2</sup>
Impedance	< 45000 $\Omega$
Operating temperature range	-40 - 80 °C
Irradiance range	0 - 4000 W/m <sup>2</sup>
Wavelength range	285 - 3000 nm (50% points)
Ingress protection IP	67

<b>Cable length</b>	10 m
---------------------	------

<b>Options</b>	<b>MS-80</b>
<b>Cable length</b>	20 / 30 / 50 m
<b>Ventilation unit</b>	MV-01
<b>Albedo mounting kit</b>	MS-albedo Kit

Specifications are subject to change without further notice.