



MS-80 Albedometer

Technical Specifications

ISO 9060:2018 Class A (Secondary standard)

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

Quartz diffusor technology

ISO 17025 certified calibration

5 year warranty

MS-80 Albedometer consists of two MS-80 pyranometers and a special albedo kit with a glare screen to measure the albedo with the lowest uncertainty.

It is used in solar power plants with bifacial PV modules and in meteorological applications.

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.

| | MS-80 |
|--|-------------------------------------|
| ISO 9060:2018 | Class A |
| ISO 9060:2018 | (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 ² | +/- 1 W/m ² |
| Zero off-set b) 5K/hr | +/- 1 W/m ² |
| Complete zero off-set c) | +/- 2 W/m ² |
| Non-stability change/1 year | - |
| Non-stability change/5 years | +/- 0.5 % |
| Non-linearity at 1000W/m ² | +/- 0.2 % |
| Directional response at 1000W/m ² | +/- 10 W/m ² |
| 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 ² | +/- 0.2 % |
| Sensitivity | Approx. 10 μ V/W/m ² |
| Impedance | < 45000 Ω |
| Operating temperature range | -40 - 80 °C |
| Irradiance range | 0 - 4000 W/m ² |
| Wavelength range | 285 - 3000 nm (50% points) |
| Ingress protection IP | 67 |

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|-------------------------|----------------|
| Cable length | 10 m |
| Options | MS-80 |
| Cable length | 20 / 30 / 50 m |
| Ventilation unit | MV-01 |
| Datalogger | Dual channel |

Specifications are subject to change without further notice.