



MS-80U Pyranometer

Technical Specifications

ISO 9060:2018 Class A (Secondary standard)

Most compact and light weight (200 grams) Class A pyranometer

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

Quartz diffuser technology

ISO 17025 certified calibration

MS-80U is the most compact and light weight Class A pyranometer on the market. It was designed for special applications which require an ISO 9060:2018 Class A pyranometer with "Fast response" and "Spectrally flat". 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 MS-80U can be used on drones for measuring the vertical albedo irradiance profile. The compact and light weight sensor (200 grams) has a single dome, an isolated thermopile detector and Quartz diffuser to guarantee low offset characteristics, which is important in application where strong temperature gradients can be expected. During the flight the irradiance and body temperature can be accurately measured with any analog data acquisition system.

The MS-80U 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.

| | MS-80U |
|--|-------------------------------------|
| 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/m² | +/- 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/m² | +/- 0.2 % |
| Directional response at 1000W/m² | +/- 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/m² | +/- 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 |
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|----------------------------|----------------|
| Options | MS-80U |
| Cable length | 20 / 30 / 50 m |
| Ventilation unit | MV-01 |
| Albedo mounting kit | MS-albedo Kit |

Specifications are subject to change without further notice.