



MS-40S Pyranometer

Technical Specifications

ISO 9060:2018 Class C (Second class)

"Spectrally flat"

Quartz diffusor technology

ISO 17025 certified calibration

5 years warranty and recommended recalibration

The MS-40S is an ISO 9060:2018 Class C pyranometer which is based on EKO's universal sensor platform. This sensor can be used in many meteorological networks and professional small scale PV sites where solar radiation is taken seriously.

The MS-40S with smart sensor technology and onboard diagnostic functions now standard for all smart sensors. Preserve the high accuracy of the sensor while complying with the various output standards used in the industry. The new Smart signal transducer which allows selecting from 4 types of output in one unit. The new electronics ensure a great benefit for system integrators who work with various industrial interface standards.

The MS-40S with Smart transducer will also have additional features such as internal temperature and humidity sensors and a tilt sensor for remote sensor diagnostics. These additional internal sensors will help the user to monitor the stability of the irradiance

sensors as well as to ensure its proper installation and maintenance practices.

Solar irradiance is calculated by relating the pyranometer sensitivity with the input voltage then convert the result to a digital signal for the Modbus 485 RTU and SDI-12 outputs. In the case of the 4-20mA and 0-10mA/0-1V outputs, the results is converted into a current corresponding to the solar irradiance within the specified range. Temperature and Linearity Compensation Functions are embedded to maximize the sensor performance.

The MS-40S can be used with the optional MV-01 ventilator / heater or can be combined with the optional mounting kit for albedo measurements.

The MS-40S pyranometers are manufactured in a consistent way followed by strict quality inspection and performance evaluation. EKO provides a unique calibration compliant to the international standards

defined by ISO/IEC17025/9847.

The sensor has a 5 years warranty with a 2 years re-calibration interval recommended and it is no longer necessary to change the desiccant.

	MS-40S
ISO 9060:2018	Class C
ISO 9060:1990	Second Class
Sub-category "Spectrally flat"	Compliant
Sub-category "Fast response"	Not compliant
Output	Digital (Modbus RTU)
Response time 95%	< 18 Sec.
Zero off-set a) 200W/m²	+/- 12 W/m ²
Zero off-set b) 5K/hr	+/- 5 W/m ²
Complete zero off-set c)	+/- 17 W/m ²
Non-stability change/1 year	+/- 1.5 %
Non-linearity at 1000W/m²	+/- 1 %
Directional response at 1000W/m²	+/- 20 W/m ²
Spectral error	+/- 0.16 %
Temperature response -10°C to 40°C	+/- 3 %
Temperature response -20°C to 50°C	+/- 3 %
Tilt response at 1000W/m²	+/- 1 %
Sensitivity	-
Impedance	-
Operating temperature range	-40 - 80 °C
Irradiance range	0 - 2000 W/m ²
Wavelength range	285 - 3000 nm
Ingress protection IP	67
Cable length	10 m

Power supply	5 - 36 VDC
Power consumption	< 0.2 W
Additional signal processing errors	< 1.7 W/m ²

Options	MS-40S
Cable length	20 / 30 / 50 m
Ventilation unit	MV-01
Albedo mounting kit	MS-albedo Kit

Specifications are subject to change without further notice.