PYRANOMETERS

MS-40S Pyranometer

Class C & Spectrally Flat

5 Years Standard Warranty | ISO.17025 Calibration | Class C ISO.9060:2018 Compliant

Overview

The S-Series MS-40S ISO 9060:2018 Class C pyranometer is a cost-efficient part of the most accurate, reliable and robust family of pyranometers in the world, and the class-leading solution for system integrators, agrometeorological networks, and professional small-scale PV sites.

Built with the same unique S-Series features as the Class A MS-80S and Class B MS-60S, the MS-40S comes with EKO's 4-channel smart interface for compatibility with 99% of data loggers, DAQ, and SCADA systems, plus internal diagnostic sensors for remote visibility over internal temperature, humidity, tilt and roll angle; ensuring optimum performance with reduced maintenance costs.

With Level A EMI/EMC electronic surge filter and protection, 5-year warranty, lifetime desiccant, and ISO 17025 accredited calibration, the MS-40S is the toughest, most reliable, and advanced Class C pyranometer available.

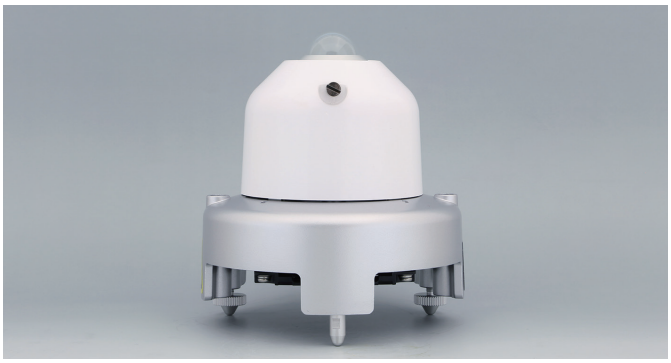
Features

- 5-year warranty & recommended 2-year recalibration interval
- Smart 4-channel Analog & Digital Interface
- Level A EMI/EMC electronics surge filter & protection
- Internal Diagnostics for temperature, tilt, roll, and humidity

Software

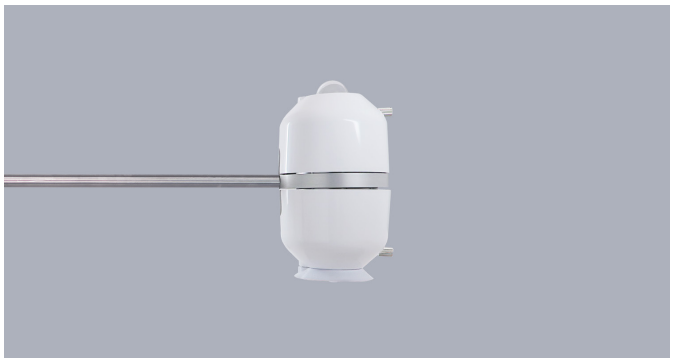
With 'Hibi', a new, custom-built programme developed by EKO, users can connect their pyranometer with a standard laptop for real-time access to the internal diagnostics, custom settings, and irradiance data, helping to make the MS-40S the most accessible Class C pyranometer available. Easy to use, deploy, and maintain.

Accessories



MV-01

Meet IEC 61724-1 standards with the MV-01 ventilator and heater, an optional add-on that helps to reduce sensor soiling and keeps the MS-40S free from dew, ice and snow. Proven in challenging environmental conditions, the MS-40S plus MV-01 is the go-to option globally for rooftop solar stations, solar parks of all sizes, and large weather monitoring sensor networks.



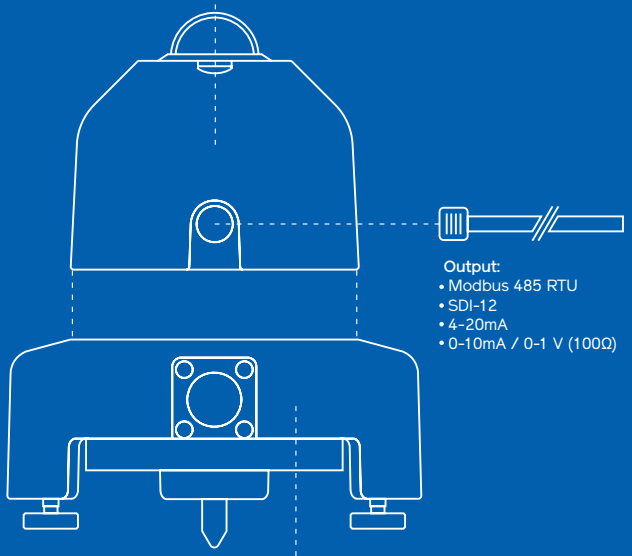
MS-Albedo Kit

The MS-Albedo kit can be used with any combination of MS or S-Series EKO pyranometers, compliant with IEC 61724-1:2021, to be deployed for albedo or reflected irradiance measurements for Bi-facial PV applications. The robust aluminium and stainless steel parts provide a reliable solution for easy, on-site assembly.

ISO Specifications

ISO 9060:2018 Parameters	CLASS C	MS-40S
Response time 95%	<30s	<18s
Zero offset A - Thermal radiation (200W/m²)	± 30W/m²	± 12W/m²
Zero offset B - Temperature change (5K/hr)	± 8W/m²	± 5W/m²
Zero offset C - Complete zero off-set	41W/m²	± 17W/m²
Non-stability (change/year)	± 3%	± 1.5%
Non-linearity (100 to 1000W/m²)	± 3%	± 1%
Directional response (at 1000W/m² | 0 to 80°)	± 30W/m²	± 20W/m²
Spectral error (Spectral selectivity ± 3%)	± 5%	± 0.2%
Temperature response (-20°C to 50°C)	± 4%	± 4%
Tilt response (0-90° | 1000W/m²)	± 5%	± 1%
Additional signal processing error	± 10W/m²	± 1W/m²

Feature Diagram



Smart electronics: all-in-one Smart signal transducer with 4 different outputs.

Temperature sensor: for temperature measurement inside pyranometer and correction of the data.

Humidity sensor: for humidity measurement inside pyranometer and monitor the desiccant degradation.

Tilt angle sensor: for measuring the pyranometer angle of inclination, and to monitor the installation East-West alignment and the installation angle.

Thermopile detector: Flat spectral response to measure irradiance from 285 to 3000nm.

MV-01 Ventilator & Heater: An optional add-on for IEC61724-1 compliance.

Technical Features

Wavelength range (nm)	285 - 3000 (50% points)
Irradiance range (W/m²)	0 - 2000 W/m²
Signal output	MODBUS 485 RTU, SDI-12, 4-20mA, configurable 0-10mA / 0-1V*
Sensor diagnostic	Internal Humidity Status, Temp. ±0.5°C / Tilt Angle ± 1°
Operating temperature	-40 to 80 °C
Supply voltage	5 - 30 VDC
Power consumption	< 0.2 W
Standard cable length	20 / 30 / 50 m

*with external optional 100Ω precision shunt resistor

Application

The MS-40S is ideal for agrometeorological networks, professional small-scale PV sites where solar radiation is taken seriously, and for system integrators working with various industrial interface standards.

With the same industry-leading build quality, internal diagnostics, 4-channel analog & digital interface, and electronic surge protection as the Class A MS-80S, and Class B MS-60S, the MS-40S is a cost-effective option for larger applications aiming to deploy a wide network of sensors on a budget.

QR

Use the QR code to visit our website, contact our team, or to find out more about the **MS-40S**, other related products, and the full range of Class and industry-leading S-Series pyranometers.

Explore EKO

Made in Japan for over 90 years, EKO solar energy sensors and environmental instruments are built on a legacy of innovation, an uncompromising commitment to quality, and industry-leading accuracy.

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