

# MS-40S Pyranometer

Class C & Spectrally Flat



## 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.

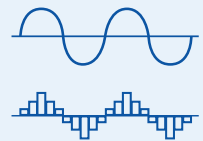
Built with the same unique S-Series features as the Class A MS-80S and Class B MS-60S, the MS-40S comes with EKO's 4-channel smart interface for compatibility with 99% of data loggers, DAQ, and SCADA systems, plus internal diagnostic sensors for remote visibility over internal temperature, humidity,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



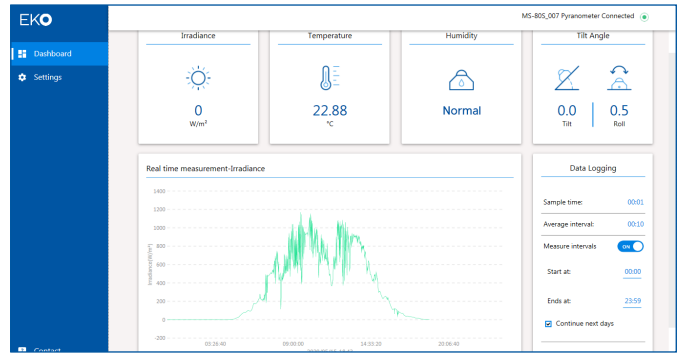
Level A EMI/EMC electronics surge filter & protection



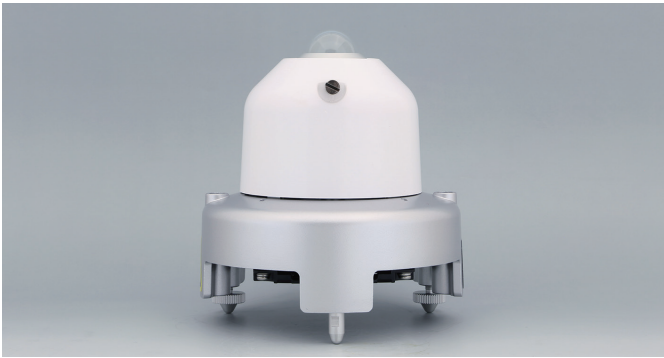
Internal Diagnostics for temperature, tilt, roll, and humidity

## 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.



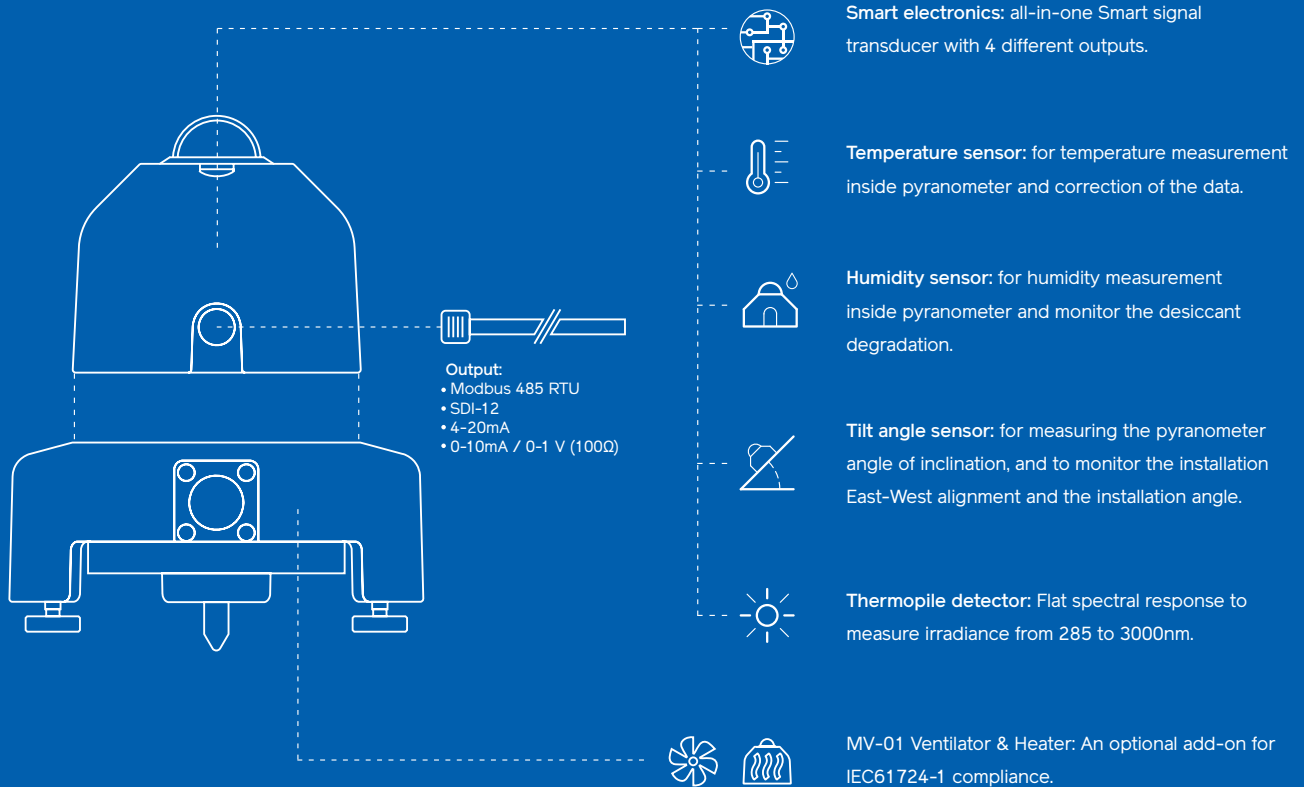
### MS-Albedo Kit

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



## Technical Features

Wavelength range (nm)	285 - 3000 (50% points)
Irradiance range (W/m <sup>2</sup> )	0 - 2000 W/m <sup>2</sup>
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.

With a range of products and services to suit every project or application requirement, explore EKO now, or get in touch to find out how EKO Instruments can help you.



Albedometers



Pyranometers



Pyrhelimeters



Spectro-Radiometers



Sky Imagers



DNI Sensors



Pyrgeometers



IV Measurement



Solar Monitoring Stations



Sun Trackers



Sensor Signal Converters



Heat Flux Sensors



UV Sensors



Temperature Sensors



Sky Scanners



Thermal Conductivity Testers

### EKO Instruments Co. Ltd

info@eko.co.jp  
+81-3-3469-6713

### EKO Instruments Sales India

info@eko.co.jp  
+91 9869047721

### EKO Instruments Europe B.V.

info@eko-eu.com  
+31-0-703050117

### EKO Instruments Sales China

info@eko-chn.com  
+81-3-3469-6713

### EKO Instruments USA Inc.

info@eko-usa.com  
+1-408-977-7751

**AUPAME**

www.aupame.com.br  
vendas@aupame.com.br

eko-instruments.com