

MS-80S Pyranometer

Class A, Spectrally Flat & Fast Response



Overview

Designed for scientific research, industrial applications, and photovoltaic system performance monitoring, the MS-80S builds on the revolutionary design of the original MS-80 Class A pyranometer, bringing our state-of-the-art thermopile detector and Quartz diffusor technology together with new internal diagnostics and a unique 4-channel smart interface.

Combined with a 5-year warranty and industry-first 5-year calibration interval, the MS-80S is the best-in-class for accuracy, speed and reliability; and, as one of the only top tier 'fast-response' and 'spectrally flat' Class A pyranometers with unprecedented low zero-offset behaviour available, it's the standout choice for every application.

Features



<0.5s Super-Fast Response



<1W/m² Record Lowest Zero Offset A, and <0.5% Lowest Non-Stability over 5-Years



Level A EMI/EMC Electronics Surge Filter & Protection



5 Year Warranty & Recommended Recalibration Interval



Smart 4-channel Analog & Digital Interface



Internal Diagnostics for temperature, tilt, roll, and relative humidity

Detailed Description

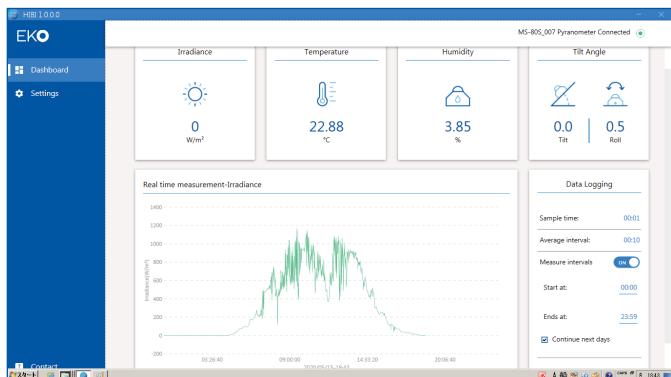
The MS-80 set new industry standards on launch in 2016 and remains a class-leader for ISO 9060:2018 Class A solar sensors today, one of the few Class A pyranometers, before the MS-80S, in the top tier 'fast-response' and 'spectrally flat' sub-categories, with unprecedented low zero-offset behaviour, and a 5-year recalibration interval.

The MS-80S builds on this achievement with the addition of a new 4-channel smart interface that allows the MS-80S to easily connect to any analogue or digital measuring system, giving users a choice with Modbus 485 RTU and SDI-12 for digital outputs; alongside 4-20mA and 0-10mA (0-1V) analogue options; while the new internal diagnostic system offers visibility over internal temperature, humidity, tilt and roll angle; helping to ensure optimum performance without the need for regular physical checks.

These new features, along with EKO's unique 5-year recalibration interval, make the MS-80S the best value Class A sensor available; an ideal solution for complex networks, hard to reach locations, and monitoring stations with restricted access.

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-80S the most accessible Class A pyranometer available. Easy to use, deploy, and maintain.



Accessories



MV-01

Achieve IEC 61724-1 compliance with the MV-01 ventilator and heater, an optional add-on that keeps the MS-80S free from dew, ice and snow. Proven in challenging environmental conditions, the MS-80S 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

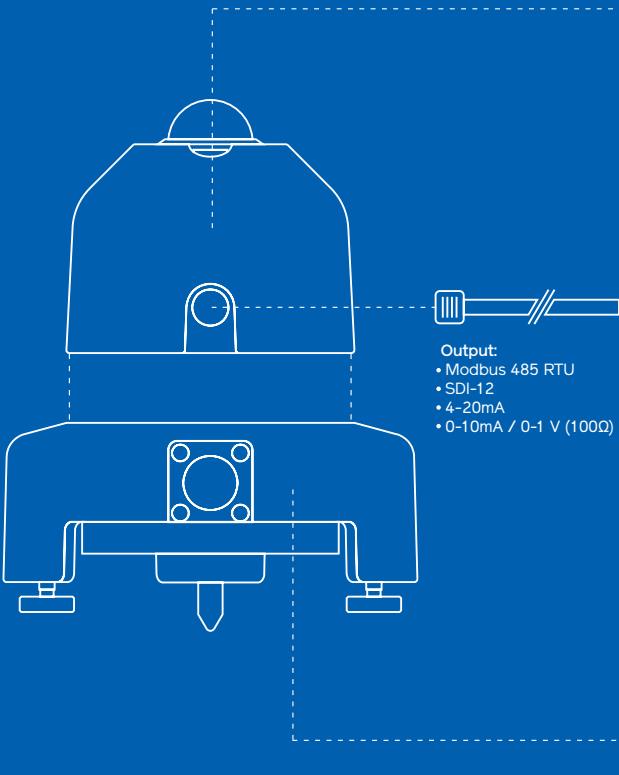
The MS-Albedo kit can be used with any MS or S-Series EKO pyranometer, allowing two pyranometers to be deployed for albedo or reflected irradiance measurements for Bi-facial PV applications. The robust aluminium and stainless steel parts provide a reliable solution for easy, on-site assembly.



Solar Monitoring Station

Combine the class-leading MS-80S with EKO's ultra-accurate MS-57 pyrheliometer & the STR-Series automated sun tracker for second-to-none GHI, DHI & DNI measurements for PV site evaluation, performance monitoring, and cell optimisation.

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.

ISO Specifications

ISO 9060:2018 Parameters	CLASS A	MS-80S
Response time 95%	<10s	<0.5s
Zero offset A - Thermal Radiation (200W/m ²)	± 7W/m ²	± 1W/m ²
Zero offset B - Temperature change (5K/hr)	± 2W/m ²	± 1W/m ²
Zero offset C - Total zero off-set	± 10W/m ²	± 2W/m ²
Non-stability (change/year)	± 0.8%	< 0.5%/5 years
Non-linearity (100 to 1000W/m ²)	± 0.5%	± 0.2%
Directional Response (at 1000W/m ² 0 to 80°)	± 10W/m ²	± 10W/m ²
Spectral Error	± 0.5%	± 0.2%
Temperature Response (-20°C to 50°C)	± 1%	± 0.5%
Tilt Response (0-90° 1000W/m ²)	± 0.5%	± 0.2%
Additional Signal Processing error	± 2W/m ²	< 1 W/m ²

Applications



The MS-80S Class A pyranometer is designed for scientific research, industrial applications, photovoltaic system performance monitoring, and any application requiring the highest standard of accuracy possible.

Built to last, with a 5-year warranty, 5-year recalibration interval, low-zero offset, and incredible stability, the MS-80S is the standout choice for utility-scale applications and other large-scale projects.



QR

Use the QR code to visit our website, contact our team, or to find out more about the **MS-80S**, other related products, and the full range of Class and industry-leading S-Series pyranometers.



Technical Features

Wavelength Range (nm)	285 to 3000
Irradiance range (W/m ²)	0 to 4000
Nominal Sensitivity (μ V/W/m ²)	N/A
Signal Output	Modbus 485 RTU / SDI-12 4-20mA / 0-10mA / 0-1V*
Sensor Diagnostic	Relative Humidity \pm 2% Temp. \pm 0.1% / Tilt Angle \pm 1°
Nominal Impedance	N/A
Operating temperature	-40 to 80°C
Supply voltage	5 - 30 VDC
Power Consumption	< 0.2 W
Ingress Protection	IP 67
Calibration traceability / uncertainty	ISO 17025 / WRR / < 0.7% (k = 1.96)
Standard Cable Length	10m (Optional lengths 20m, 30m, 50m)

*Configurable with external 100Ω precision shunt resistor

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