

# MS-21SH

WISG traceable calibration



## Overview

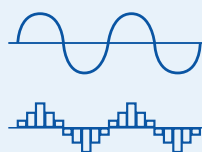
Research-grade, accurate, and robust, the MS-21SH measures longwave downwelling radiation and longwave net radiation from  $4.5\mu\text{m}$  to  $42\mu\text{m}$  and delivers superior stability independent of the sensors' operating temperature.

MS-21SH, with its low power consumption integrated solid-state dome heater to prevent condensation or morning frost, is one of the best value sensors available; ideal for hard to reach locations, and monitoring networks with restricted access.

Now standard to all S-Series sensors, offering visibility over internal temperature, humidity, tilt, and roll angle; helping to ensure optimum performance without the need for regular physical checks.

Calibration is WISG (World Infra-Red Standard Group) traceable and conducted outdoors, adhering to best practice methods for pyrgeometer calibration. The universal sensor design allows seamless integration with MV-01 and other EKO products and accessories. Use Hibi software for effortless setup and configuration, ensuring optimal performance and flexibility.

## Features



Smart sensor interface



Low temperature dependency, excellent stability



Designed & built for ultra-low window heating



5-year warranty & EKO quality guarantee

Specifications

| Parameters                         | MS-21SH                                                                                                    |
|------------------------------------|------------------------------------------------------------------------------------------------------------|
| Wavelength range                   | 4.5 to 42μm                                                                                                |
| Response time 95% output           | < 18 Sec                                                                                                   |
| Window heating offset              | < 4 W/m <sup>2</sup>                                                                                       |
| Zero offset B                      | < 1 W/m <sup>2</sup>                                                                                       |
| Temperature response               | < 1 % (-20 to +50°C)                                                                                       |
| Operating temperature              | -40 to +80°C                                                                                               |
| Field of view                      | 180°                                                                                                       |
| Bubble level accuracy              | 0.1°                                                                                                       |
| Sensor diagnostics                 | Relative Humidity ± 2%   Temp. ± ±0.5°C   Tilt Angle ± 1°                                                  |
| Detector temperature sensor        | PT100 Class A                                                                                              |
| Environmental protection (IP Code) | IP67 Equivalent (IEC60529)                                                                                 |
| Weight                             | 0.7 kg                                                                                                     |
| Output                             | Modbus RTU, SDI-12                                                                                         |
| Alert signal                       | Alert is issued when the internal humidity and current of the dome heating of the pyrgeometer is abnormal. |
| Supply voltage                     | 8 to 30 VDC                                                                                                |
| Power consumption                  | With heating < 1.4W / Without heating < 0.2W                                                               |

Application

The MS-21SH Pyrgeometer, a BSRN compatible network pyrgeometer, is essential for energy balance studies and climate change monitoring. It accurately tracks increasing Earth temperatures caused by rising CO<sub>2</sub> and Methane levels. Designed for TIER1 meteorological stations, the MS-21SH ensures precise data collection for critical environmental monitoring and trend detection.

QR

Use the QR code to visit our website, contact our team, or to find out more about the **MS-21SH** and our full range of industry-leading, high-quality, scientific and meteorological measurements.



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