

SV-SR05

Digital second class pyranometer

SV-SR05 is the most affordable digital pyranometer meeting ISO 9060 requirements. It is ideal for general solar radiation measurements in (agro-)meteorological networks and PV monitoring. SV-SR05 is easy to mount and install. Various outputs are available, both digital and analogue, for ease of integration.



Figure 1 SV-SR05 with ball levelling and tube mount



Figure 2 Easy levelling of SV-SR05 on its tube mount with ball levelling

Introduction

SV-SR05 is a digital ISO 9060 second class pyranometer for measurement of solar radiation received by a plane surface, in W/m^2 , from a 180° field of view angle.

Different configurations are available, depending on its mounting and the output needed.

The combination of easy installation and its cost makes SV-SR05 ideal for installation in (agro-) meteorology networks and PV power plant monitoring.

Benefits

- Industry standard digital outputs: easy implementation and servicing
- Easy mounting and levelling
- Pricing: second class pyranometers finally affordable for large networks

SV-SR05 design

SV-SR05 pyranometer employs a thermopile sensor with black coated surface, one dome and an anodised aluminium body with visible bubble level. Optionally the sensor has a unique ball levelling mechanism and tube mount, for easy installation. SV-SR05 has a variety of industry standard outputs, both digital and analogue: SR05-DA1 offers Modbus over RS-485 and 0-1 V output, SR05-DA2 offers Modbus over TTL and 4-20 mA current loop output.



Figure 3 'Exploded view' of SV-SR05 The optional ball levelling and tube mount allow for easy installation. The cable (standard 3 m) has an M12-A connector.

Suggested use

- general solar radiation measurements
- (agro-)meteorological networks
- PV power plant monitoring

Standards

Applicable instrument classification standards are ISO 9060 and WMO-No. 8.

See also

- view our complete [range of solar sensors](#)
- consult our [pyranometer selection guide](#)

SV-SR05 specifications

| | |
|-----------------------------------|---|
| Measurand | hemispherical solar radiation |
| ISO classification | second class pyranometer |
| Calibration uncertainty | < 1.8 % (k = 2) |
| Calibration traceability | to WRR |
| Spectral range | 285 to 3000 x 10 ⁻⁹ m |
| Rated operating temperature range | -40 to +80 °C |
| Standard cable length | 3 m |
| Rated operating voltage range | 5 to 30 VDC |
| Levelling | ball levelling* |
| Output | |
| Model SR05-DA1 | |
| Communication protocol | Modbus over RS-485 |
| Digital output | -irradiance in W/m ² -instrument body temperature in °C |
| Analogue output | 0-1 V |
| Transmitted range | 0-1600 W/m ² |
| Model SR05-DA2 | |
| Communication protocol | Modbus over TTL |
| Digital output | -irradiance in W/m ² -instrument body temperature in °C |
| Analogue output | 4-20 mA current loop |
| Transmitted range | 0-1600 W/m ² |
| * Optional | with / without tube mount |

Options

- cable lengths: 10, 20 m
- extension cable with connector pair: 10, 20 m
- with ball levelling
- with ball levelling and tube mount (for tube diameters 25 – 40 mm)
- OEM versions



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