SR05
Digital second class pyranometer

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. SR05 is easy to mount and install. Various outputs are available, both digital and analogue, for ease of integration.

Introduction

SR05 is a digital ISO 9060 second class pyranometer for measurement of solar radiation received by a plane surface, in W/m², 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 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

Figure 1 SR05 with ball levelling and tube mount

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

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. 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.

SR05 specifications

<table>
<thead>
<tr>
<th>Measurand</th>
<th>hemispherical solar radiation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO classification</td>
<td>second class pyranometer</td>
</tr>
<tr>
<td>Calibration uncertainty</td>
<td>&lt; 1.8 % (k = 2)</td>
</tr>
<tr>
<td>Calibration traceability</td>
<td>to WRR</td>
</tr>
<tr>
<td>Spectral range</td>
<td>285 to 3000 x 10⁻⁹ m</td>
</tr>
<tr>
<td>Rated operating temperature range</td>
<td>-40 to +80 °C</td>
</tr>
<tr>
<td>Standard cable length</td>
<td>3 m</td>
</tr>
<tr>
<td>Rated operating voltage range</td>
<td>5 to 30 VDC</td>
</tr>
<tr>
<td>Levelling</td>
<td>ball levelling*</td>
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</tbody>
</table>

Output

Model SR05-DA1
- Communication protocol: Modbus over RS-485
- Digital output: irradiance in W/m², instrument body temperature in °C
- Analogue output: 0-1 V
- Transmitted range: 0-1600 W/m²

Model SR05-DA2
- Communication protocol: Modbus over TTL
- Digital output: irradiance in W/m², instrument body temperature in °C
- Analogue output: 4-20 mA current loop
- Transmitted range: 0-1600 W/m²
- * 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

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.

Figure 3

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

Are you interested in this product?
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About Hukseflux

Hukseflux takes measurement to the next level. Hukseflux sensors, systems and services are offered via our office in Delft, the Netherlands and local distributors worldwide.

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- view our complete range of solar sensors
- consult our pyranometer selection guide