



## Overview

The SR20-D2, manufactured by Hukseflux Thermal Sensors, is an ISO 9060:2018 spectrally flat Class A (secondary standard) digital pyranometer that measures solar short-wave radiation in a full hemisphere of the sky. It connects directly to a Campbell Scientific data logger and is designed for Modbus

RTU applications that require high measurement accuracy in demanding applications such as scientific meteorological observation networks and utility scale solar-energy-power production sites.

## Benefits and Features

- ▶ Low temperature dependence
- ▶ Onboard digital temperature sensor
- ▶ Ultra robust connector, desiccant holder, and sun screen
- ▶ Temperature dependence characterized and supplied for each instrument
- ▶ Directional response tested on each instrument
- ▶ Digital output (Modbus RTU)

## Specifications

Sensor	High-quality blackened thermopile protected by two glass domes	Zero Offset A	5 W/m <sup>2</sup> (unventilated), 2.5 W/m <sup>2</sup> (ventilated) (response to 200 W/m <sup>2</sup> net thermal radiation)
Measurement Description	Monitors solar radiation for the full solar spectrum range	Zero Offset B	≤ ± 2 W/m <sup>2</sup> (response to 5 K/h change in ambient temperature)
ISO Classification	Spectrally flat Class A (secondary standard) pyranometer (ISO 9060:2018 )	Non-Stability	≤ ± 0.5% change per year
WMO Performance Level	High-quality pyranometer	Non-Linearity	≤ ± 0.2% (100 to 1000 W/m <sup>2</sup> )
Response Time	4.5 s	Directional Response	< ± 10 W/m <sup>2</sup>

Spectral Selectivity	< ± 3% (0.35 to 1.5 x 10 <sup>-6</sup> m)
Temperature Response	< ± 0.4% (-30° to +50°C)
Tilt Response	< ± 0.2% (0 to 90° at 1000 W/m <sup>2</sup> )
Heater	No heater available
Steady-state Zero Offset	<ul style="list-style-type: none"> <li>› &lt; ± 0.8 W/m<sup>2</sup> (-40° to +80°C)</li> <li>› &lt; ± 0.5 W/m<sup>2</sup> (at +20°C)</li> </ul>
Calibration Uncertainty	< 1.2% (k=2)
Level Accuracy	< 0.1° (bubble entirely in ring)

Operating Temperature Range	-40° to +80°C
Field of View (FOV)	180°
Measurement Range	-400 to 4000 W/m <sup>2</sup>
Spectral Range	285 to 3000 x 10 <sup>-9</sup> m (20% transmission points)
Sensitivity	Digital output
Output Definition	Running average over 4 measurements (refreshed every 0.1 s)

For comprehensive details, visit: [www.campbellsci.com/sr20-d2-l](http://www.campbellsci.com/sr20-d2-l) 

