CAMPBELL SCIENTIFIC®
WHEN MEASUREMENTS MATTER

SR20-D2-L
Digital Class A Pyranometer

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		(response to 200 W/m^2 net thermal radiation)
Measurement Description	Monitors solar radiation for the full solar spectrum range	Zero Offset B	$\leq \pm$ 2 W/m^2 (response to 5 K/h change in ambient temperature)
ISO Classification	Spectrally flat Class A (secondary standard) pyranometer (ISO 9060:2018)	Non-Stability	$\leq \pm$ 0.5% change per year
		Non-Linearity	$\leq \pm$ 0.2% (100 to 1000 W/m^2)
WMO Performance Level	High-quality pyranometer	Directional Response	$< \pm$ 10 W/m^2
Response Time	4.5 s	Spectral Selectivity	$< \pm$ 3% (0.35 to 1.5 x 10^{-6} m)
Zero Offset A	5 W/m^2 (unventilated), 2.5 W/m^2 (ventilated)	Temperature Response	$< \pm$ 0.4% (-30° to +50℃)

For comprehensive details, visit: www.campbellsci.com/sr20-d2-l

Tilt Response	$< \pm 0.2\%$ (0 to 90° at 1000 W/m^2)		Field of View (FOV)	180°
Heater	No heater available		Measurement Range	-400 to 4000 W/m^2
Steady-state Zero Offset	❭ $< \pm 0.8$ W/m^2 (-40° to +80℃) ❭ $< \pm 0.5$ W/m^2 (at +20℃)		Spectral Range	285 to 3000 x 10^{-9} m (20% transmission points)
Calibration Uncertainty	$< 1.2\%$ (k=2)		Sensitivity	Digital output
Level Accuracy	$< 0.1°$ (bubble entirely in ring)		Output Definition	Running average over 4 measurements (refreshed every 0.1 s)
Operating Temperature Range	-40° to +80℃			