CAMPBELL SCIENTIFIC
WHEN MEASUREMENTS MATTER

Solar Radiation Sensors

Pyranometers, quantum sensors, and net radiometers

The solar radiation sensors that Campbell Scientific offers come in a variety of designs: pyranometers, net radiometers, quantum sensors, and pyrheliometers. These sensors measure various aspects of the energy imparted by the sun on the Earth's surface. A leveling fixture fitted with a bubble level may be required to accurately install solar radiation sensors.

	ISO Classification	*Spectral Range*	*Sensitivity*	*Operating Temperature Range*
CS320 Digital Thermopile Pyranometer Popular 	Class C (second class)	385 to 2105 nm (50% points)	0.057 mV/W/m^2	-50° to +50°C
CS310 Quantum (PAR) Sensor Popular 	—	389 to 692 nm ±5 nm (wavelengths where response is greater than 50% of maximum)	0.01 mV per µmol m^{-2} s^{-1}	-40° to +70°C
SR20-T2-L ISO Secondary Standard Pyranometer with 10K Thermistor Popular 	Spectrally flat Class A (secondary standard) pyranometer (ISO 9060:2018)	285 to 3000 x 10^{-9} m (20% transmission points)	7 to 25 x 10^{-6} V/(W/m^2)	-40° to +80°C

		ISO Classification	*Spectral Range*	*Sensitivity*	*Operating Temperature Range*
SR30-L Secondary Standard Pyranometer with RS-485 Modbus Communications and Integrated Heating and Ventilation Popular		Hemispherical Solar Radiation: Spectrally flat Class A (secondary standard) ISO 9060:2018	Hemispherical Solar Radiation: 285 to 3000 x 10^{-9} m	Hemispherical Solar Radiation: Digital output	Hemispherical Solar Radiation: -40 to +80°C (rated)
CMP10-L ISO Secondary Standard Pyranometer Popular		Class A (secondary standard)	285 to 2800 nm	7 to 14 µV/W/m^2	-40° to +80°C
SMP10-L Radiation Sensor with Digital RS-485 Output Popular		Class A (secondary standard)	285 to 2800 nm (50% points)	2-wire RS-485 Modbus	-40° to +80°C
SR05-L ISO 9060 Second Class Pyranometer with Analog and RS-485 Modbus Communications		Spectrally flat Class C (second class) ISO 9060:2018	285 to 3000 x 10^{-9} m	—	-40° to +80°C
LP02-L Pyranometer		ISO 9060:2018 spectrally flat Class C (second class)	285 to 3000 nm	15 µV/W/m^2 (nominal)	-40° to +80°C
SR11 First Class Pyranometer		Class B (first class)	285 to 3000 nm	15 µV/W/m^2 (nominal)	-40° to +80°C
SR20-D2-L Digital Secondary Standard Pyranometer		Spectrally flat Class A (secondary standard) pyranometer (ISO 9060:2018)	285 to 3000 x 10^{-9} m (20% transmission points)	Digital output	-40° to +80°C

		ISO Classification	*Spectral Range*	*Sensitivity*	*Operating Temperature Range*
MS-80-L Secondary Standard Pyranometer		❱ ISO 17025 Class A pyranometer ❱ ISO 9060 Class A spectrally flat and fast-response pyranometer (secondary standard)	285 to 3000 nm	~10 µV/W/m^2	-40° to +80°C
CMP3-L Pyranometer with Sun Shield		Class C (second class)	300 to 2800 nm	5 to 20 µV/W/m^2	-40° to +80°C
CMP6-L Pyranometer		Class B (first class)	285 to 2800 nm	5 to 20 µV W^{-1} m^2	-40° to +80°C
CMP11-L Pyranometer		Class A (secondary standard)	285 to 2800 nm	7 to 14 µV/W/m^2	-40° to +80°C
CMP21-L Pyranometer		Class A (secondary standard)	285 to 2800 nm	7 to 14 µV/W/m^2	-40° to +80°C
CS301 Pyranometer		Class C (second class)	360 to 1120 nm	0.2 mV/W/m^2	-40° to +70°C
SP230SS Heated Pyranometer		Class C (second class)	360 to 1120 nm (wavelengths where response is 10% of maximum)	0.2 mV/W/m^2	-40° to +70°C
CS325DM-L Silicon Irradiance Reference Sensor		—	—	—	-35° to +80°C
NR-LITE2-L Net Radiometer		—	0.2 to 100 µm	10 µV W^{-1} m^2 (nominal)	-40° to +80°C

		ISO Classification	Spectral Range	Sensitivity	Operating Temperature Range
SN500SS Net Radiometer		—	❱ Pyrgeometer : 5,000 to 30,000 nm ❱ Pyranometer: 295 to 2685 nm (downward-looking) ❱ Pyranometer: 385 to 2105 nm (upward-looking)	❱ Pyranometer: 0.057 mV per W/ m^2 (upward-looking) ❱ Pyrgeometer : 0.12 mV per W/ m^2 ❱ Pyranometer: 0.15 mV per W/ m^2 (downward-looking)	-50° to +80°C and 0 to 100% humidity
NR01-L 4-Component Net Radiometer		—	❱ Pyrgeometer: 4500 to 50,000 nm ❱ Pyranometer: 305 to 2800 nm	10 to 40 µV W^{-1} m^2	-40° to +80°C
CNR4-L 4-Component Net Radiometer		—	❱ Pyranometer : 305 to 2800 nm ❱ Pyrgeometer: 4500 to 42,000 nm	5 to 20 µV W^{-1} m^2	-40° to +80°C
CHP1-L Pyrheliometer		—	200 to 4000 nm	7 to 14 µV/W/m^2	-40° to +80°C
LI200R-L Pyranometer		—	400 to 1100 nm	0.13 kW m^{-2} mV^{-1} (typically)	-40° to +65°C
LI190R-L Quantum (PAR) Sensor		—	400 to 700 nm	Typically 5 to 10 µA per 1000 µmoles s^{-1} m^{-2}	-40° to +65°C

For comprehensive details, visit: www.campbellsci.com/solar-radiation

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