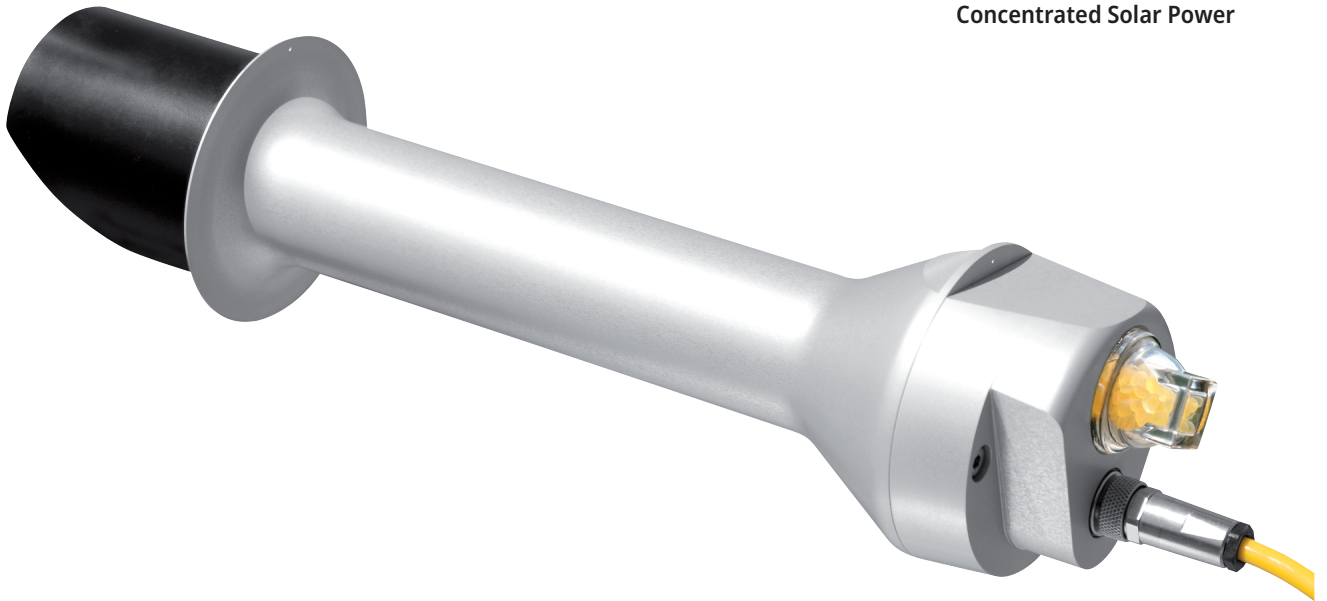


Applications

Weather Services and Research
Meteorology
Concentrated Solar Power



Pyrheliometer

For direct normal incidence solar radiation measurement

Most accurate DNI measurement for CSP

Used in the global BSRN network

ISO 9060 Class A

Analogue and digital outputs

5 year warranty

Field of view of 5°

A pyrheliometer is an instrument designed specifically to measure DNI (Direct Normal Incidence) with a field of view of 5°. This is achieved by the shape of the collimation tube, with precision apertures, and the detector design.

Analogue or digital outputs

CHP 1 Pyrheliometer is a pyrheliometer that offers reliability and durability without requiring any power. The analogue outputs allow easy connection to virtually

any data logger. SHP1 has a Modbus® interface plus amplified analogue output, improved response time and temperature corrected measurement data

Pyrheliometers mounted on sun trackers

A pyrheliometer needs to be pointed accurately at the sun at all times. Kipp & Zonen sun trackers provide a stable mounting to keep the pyrheliometer pointing at the sun to accurately measure DNI.

Whilst every effort has been made to ensure the accuracy of this specification, we cannot accept responsibility for damage, injury, loss or expense from errors or omissions. In the interest of technical improvement, this specification may be altered without notice.

For pricing or any further information, please contact Omni Instruments Ltd.

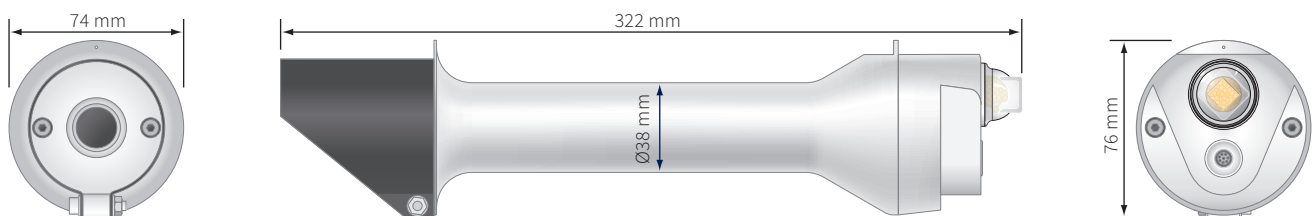
Technical Specifications

	CHP1	SHP1
Classification to ISO 9060:1990	Class A	Class A
Sensitivity	7 to 14 $\mu\text{V}/\text{W}/\text{m}^2$	-
Expected output range (0 to 1400 W/m ²)	10 to 20 mV	-
Maximum operational irradiance	4000 W/m ²	-
Analogue output • V-version	-	0 to 1 V
Analogue output range*	-	-200 to 2000W/m ²
Analogue output • A-version	-	4 to 20 mA
Analogue output range*	-	0 to 1600 W/m ²
Serial output	-	RS-485 Modbus®
Serial output range	-	-400 to 4000 W/m ²
Response time (63 %)	< 1.7 s	< 0.7 s
Response time (95 %)	< 5 s	< 2 s
Spectral range (50 % points)	200 to 4000 nm	200 to 4000 nm
Zero offsets (unventilated) (b) temperature change (5 K/h)	< 1 W/m ²	< 1 W/m ²
Non-stability (change/year)	< 0.5 %	< 0.5 %
Non-linearity (0 to 1000 W/m ²)	< 0.2 %	< 0.2 %
Required sun tracker accuracy	< 0.5 ° from ideal	< 0.5 ° from ideal
Weight (excluding cable)	0.9 kg	0.9 kg
Slope angle	1 ° \pm 0.2 °	1 ° \pm 0.2 °
Temperature response	< 0.5 % (-20 °C to +50 °C)	< 0.5 % (-30 °C to +60 °C)
Field of view	5 ° \pm 0.2 °	5 ° \pm 0.2 °
Power consumption (at 12 VDC)	-	V-version: 55 mW A-version: 100 mW
Software, Windows™	-	Smart Sensor Explorer Software, for configuration, test and data logging
Supply voltage	-	5 to 30 VDC
Operating and storage temperature range	-40 °C to +80 °C	-40 °C to +80 °C
Humidity range	0 to 100 %	0 to 100 %
Ingress Protection (IP) rating	67	67
Recommended applications	High performance direct radiation monitoring for meteorological stations or concentrated solar energy applications	High performance direct radiation monitoring for meteorological stations or concentrated solar energy applications

Note: The performance specifications quoted are worst-case and/or maximum values.

* adjustable with Smart Explorer Software

Dimensions



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Measurement and data acquisition solutions

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