

	PYRANOMETER SMP SERIES				
SPECIFICATION	SMP3	SMP6	SMP10	SMP21	SMP22
Classification to ISO 9060:1990	Class C	Class B	Class A	Class A	Class A
Analogue output • V-version	0 to 1V	0 to 1V	0 to 1V	0 to 1V	0 to 1V
Analogue output range	-200 to 2000W/m ²	-200 to 2000W/m ²	-200 to 2000W/m ²	-200 to 2000W/m ²	-200 to 2000W/m ²
Analogue output • A-version	4 to 20mA	4 to 20mA	4 to 20mA	4 to 20mA	4 to 20mA
Analogue output range*	0 to 1600W/m ²	0 to 1600W/m ²	0 to 1600W/m ²	0 to 1600W/m ²	0 to 1600W/m ²
Serial output	RS-485 Modbus®	RS-485 Modbus®	RS-485 Modbus®	RS-485 Modbus®	RS-485 Modbus®
Serial output range	-400 to 2000W/m ²	-400 to 2000W/m ²	-400 to 4000W/m ²	-400 to 4000W/m ²	-400 to 4000W/m ²
Response time (63 %)	< 1.5 s	< 1.5 s	< 0.7 s	< 0.7 s	< 0.7 s
Response time (95 %)	< 12 s	< 12 s	< 2 s	< 2 s	< 2 s
Spectral range (20 % points)	285 to 3000nm	270 to 3000nm	270 to 3000nm	270 to 3000nm	210 to 3600nm
(50 % points)	300 to 2800nm	285 to 2800nm	285 to 2800nm	285 to 2800nm	250 to 3500nm
Zero offsets (unventilated)					
(a) thermal radiation (at 200 W/m ²)	< 15W/m ²	< 10W/m ²	< 7 W/m ²	< 7 W/m ²	< 3 W/m ²
(b) temperature change (5 K/h)	< 5W/m ²	< 4W/m ²	< 2 W/m ²	< 2 W/m ²	< 1 W/mm ²
Nonstability (change/year)	< 1%	< 1%	< 0.5%	< 0.5%	< 0.5%
Non-linearity (100 to 1000 W/m ²)	< 1.5%	< 1%	< 0.2%	< 0.2%	< 0.2%
Directional response (up to 80 ° with 1000 W/m beam)	< 20W/m ²	< 15W/m ²	< 10 W/m ²	< 10W/m ²	< 5 W/m ²
Temperature response	< 2% (-20 °C to +50 °C) < 4% (-40 °C to +70 °C)	< 1.5% (-20 °C to +50 °C) < 3% (-40 °C to +70 °C)	< 1% (-20°C to +50 °C) < 2% (-40 °C to +70 °C)	< 0.3% (-20°C to +50 °C) < 0.3% (-40 °C to +70 °C)	< 0.3% (-20°C to +50 °C) < 0.3% (-40 °C to +70 °C)
Spectral selectivity (350 to 1500 nm)	< 1%	< 1%	< 1%	< 1%	< 2%
Tilt response (0 ° to 90 ° at 1000 W/m ²)	< 1%	< 1%	< 0.2%	< 0.2%	< 0.2%
Field of view	180 °	180 °	180 °	180 °	180 °
Accuracy of bubble level	< 0.2 °	< 0.1°	< 0.1 °	< 0.1 °	< 0.1 °
Power consumption (at 12 VDC)	V-version: 55mW A-version: 100mW	V-version: 55mW A-version: 100mW	V-version: 55mW A-version: 100mW	V-version: 55mW A-version: 100mW	V-version: 55mW A-version: 100mW
Software, Windows™	Smart Sensor Explorer Software, for configuration, test and data logging.	Smart Sensor Explorer Software, for configuration, test and data logging.	Smart Sensor Explorer Software, for configuration, test and data logging.	Smart Sensor Explorer Software, for configuration, test and data logging.	Smart Sensor Explorer Software, for configuration, test and data logging.
Supply voltage	5 to 30VDC	5 to 30VDC	5 to 30VDC	5 to 30VDC	5 to 30VDC
Detector type	Thermopile	Thermopile	Thermopile	Thermopile	Thermopile
Operating and storage temperature range	-40 °C to +80 °C	-40 °C to +80°C	-40 °C to +80 °C	-40 °C to +80 °C	-40 °C to +80 °C
Humidity range	0 to 100%	0 to 100%	0 to 100%	0 to 100%	0 to 100%
MTBF (Mean Time Between Failures)	> 10 years	> 10 years	> 10 years	> 10 years	> 10 years
Ingress Protection (IP) rating	67	67	67	67	67
Onsite pyranometer uncertainty	Calculate with Suncertainty App	Calculate with Suncertainty App	Calculate with Suncertainty App	Calculate with Suncertainty App	Calculate with Suncertainty App

Recommended applications

Economical solution for efficiency and maintenance monitoring of PV power installations, routine measurements in weather stations, agriculture, horticulture and hydrology.

Good quality measurements for Solar Monitoring, hydrology networks, greenhouse climate control.

High performance for PV panel and thermal collector testing, solar energy research, solar prospecting, materials testing, advanced meteorology and climate networks.

Meteorological networks, reference measurements in PV monitoring, extreme climates, polar or arid.

Scientific research requiring the highest level of measurement accuracy and reliability under all conditions.