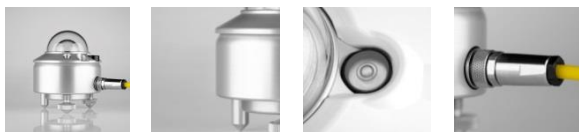


SMP 21



The SMP 21 is a secondary standard pyranometer that combines the sensor technology from the CMP 21, has the RS-485 Modbus® interface, analogue output, low maintenance and 5 year warranty (*).

The SMP 21 has an internal desiccant that will last for at least 10 years. This minimizes maintenance significantly. The interval for dome cleaning can be extended, and the quality of measurements maximized, by fitting SMP 21 with the CVF 4 ventilation unit.

The SMP 21 has Modbus® RTU interface, amplified analogue output, improved response time and individual temperature corrected measurement data. The SMP 21 is supplied with individual measured cosine response data. The wide and low power supply range from 5 to 30 VDC makes integration in meteorological and solar energy stations easy. The SMP 21 is protected against over voltage, reversed polarity and short circuiting.

Thanks to standardized output and connections of every SMP 21, exchanging instruments for recalibration is easy. SmartExplorer Windows™ software for data logging, display of data and Modbus® address setting is provided as standard.

(*) This product will need to be registered by the end-user within 6 months of purchase to activate the warranty extension.

Specifications	
Classification to ISO 9060:1990	Secondary Standard
Spectral range (50% points)	285 to 2800 nm
Analogue output • V-version Analogue output range	0 to 1 V -200 to 2000 W/m ²
Analogue output • A-version Analogue output range	4 to 20 mA 0 to 1600 W/m ²
Serial output	RS-485 Modbus®
Serial output range	-400 to 4000 W/m ²
Response time (63%) Response time (95%)	< 1,7 s < 5 s
Zero offsets (a) thermal radiation (at 200 W/m ²) (b) temperature change (5 K/h)	< 7 W/m ² < 2 W/m ²
Non-stability (change/year)	< 0,5% (-20°C to +50°C)
Non-linearity (100 to 1000 W/m ²)	< 0,2%
Directional response (up to 80 ° with 1000 W/m ² beam)	< 10 W/m ²
Spectral selectivity (350 to 1500 nm)	< 3%
Temperature response	< 1% (-20°C to +50°C)
Tilt response (0° to 90 ° at 1000 W/m ²)	< 0,2%
Field of view	180°
Accuracy of bubble level	< 0,1°
Supply voltage	5 to 30 VDC
Power consumption (at 12 VDC)	-V version: 55 mW -A version: 100 mW
Detector type	Thermopile
Software, Windows™	Smart Sensor Explorer Software, for configuration, test and data logging
Operating temperature range	-40°C to +80°C
Storage temperature range -	-40°C to +80°C
Humidity range	0 to 100% non-condensing
Ingress Protection (IP) rating	67

Part Number	Instrument
0374930-102	SMP 21-V Smart Pyranometer 0 to 1 V version • 10 m cable
0374930-104	SMP 21-V Smart Pyranometer 0 to 1 V version • 25 m cable
0374930-105	SMP 21-V Smart Pyranometer 0 to 1 V version • 50 m cable
0374930-100	SMP 21-V Smart Pyranometer 0 to 1 V version • no plug, no cable
0374930-202	SMP 21-A Smart Pyranometer 4 to 20 mA version • 10 m cable
0374930-204	SMP 21-A Smart Pyranometer 4 to 20 mA version • 25 m cable
0374930-205	SMP 21-A Smart Pyranometer 4 to 20 mA version • 50 m cable
0374930-200	SMP 21-A Smart Pyranometer 4 to 20 mA version • no plug, no cable

Part Number	Accessories
0999920-3	Extended Temperature Test for CMP 21 Temperature response from -40°C to +50°C in 10 steps of 10°C
See accessories	CVF 4 Ventilation Unit Recommended to reduce offsets and frequency of dome cleaning
0362700	CMF 1 Mounting Fixture For 1 or 2 unventilated radiometers (1 upper / 1 lower) Diameter 88 mm. Mounting rod 350 mm long x 16 mm Ø
0362703	CMF 4 Mounting Fixture For 1 or 2 ventilated or unventilated radiometers (1 upper / 1 lower) Length 375 mm, width 280 mm. Mounting rod 350 mm long x 20 mm Ø
0367718	Adjustable Tilt Pyranometer Mounting Kit For a SMP 21 pyranometer to measure tilted diffuse radiation Zenith angle can be adjusted from 0° to 90° with graduated scale
0369701	CMB 1 Mounting Bracket In combination with mounting rod for easy attachment to a pole or a wall
0346900	CM 121B Shadow Ring for unventilated radiometers Manually adjusted device provides diffuse sky irradiance measurement Note: CM 121B cannot be used with CVF 4 Ventilation Unit
0346901	CM 121C Shadow Ring for ventilated radiometers Manually adjusted device provides diffuse sky irradiance measurement Mounts the radiometer at the correct height when used with a CVF 4
0305722	Glare Screen Kit Sun protection screen for downward facing radiometers, with