

SMP3



SMP3 is our entry level smart pyranometer. It is ISO Second Class, with the same housing and detector design as the passive CMP 3 model. SMP3 is equipped with a smart interface. There are two versions, one has an analogue output of 0-1 V, the other has 4-20 mA. Both have a 2-wire RS-485 interface with Modbus® (RTU) protocol. All the outputs are protected against short-circuits.

SMP series pyranometers have analog outputs that allow easy connection to virtually any data logger without the need for sensitive mV inputs. Modbus® interfaces directly to RTU's, PLC's, SCADA systems, industrial networks and controllers. An integrated temperature sensor and polynomial functions provide correction for the temperature sensitivity of the detector. The response time is improved and the output ranges are standardised.

Using Modbus® a range of instrument status and configuration information is available, with user-selectable options. SMP pyranometers have extremely low power consumption, so that internal heating does not affect the detector performance, and they operate from a wide range of supply voltages.

SMP3 is ideal for solar energy performance monitoring and for the new generation of all-digital automatic weather stations.

Article	Part number
SMP3-V Smart Pyranometer • 0-1 V version • 10 m cable	0374900-102
Options for SMP3-V	
SMP3-V Smart Pyranometer • 0-1 V version • 25 m cable	0374900-104
SMP3-V Smart Pyranometer • 0-1 V version • 50 m cable	0374900-105
SMP3-V Smart Pyranometer • 0-1 V version • plug only, no cable	0374900-108
100 m cable	On request

Article	Part number
SMP3-A Smart Pyranometer • 4-20 mA version • 10 m cable	0374900-202
Options for SMP3-A	
SMP3-A Smart Pyranometer • 4-20 mA version • 25 m cable	0374900-204
SMP3-A Smart Pyranometer • 4-20 mA version • 50 m cable	0374900-205
SMP3-A Smart Pyranometer • 4-20 mA version • plug only, no cable	0374900-208
100 m cable	On request

Instruments for:
METEOROLOGY
HYDROLOGY
WATER QUALITY
AIR QUALITY
INDOOR CLIMATE
VENTILATION



Specifications

ISO 9060:1990 CLASSIFICATION	Second Class
Response time (63 %)	< 1.5 s
Response time (95 %)	< 12 s
Zero offsets	
(a) thermal radiation (200 W/m ²)	< 15 W/m ²
(b) temperature change (5 K/hr)	< 5 W/m ²
Non-stability (change/year)	< 1 %
Non-linearity (0 to 1000 W/m ²)	< 2.5 %
Directional error (up to 80 ° with 1000 W/m ² beam)	< 20 W/m ²
Temperature dependence of sensitivity	< 3 % (-20 °C to +50 °C)
Temperature dependence of sensitivity	< 5 % (-40 °C to +70 °C)
Tilt error (at 1000 W/m ²)	< 1 %

Other specifications

Analogue output	-V version: 0 to 1 V -A version: 4 to 20 mA
Analogue output range	-V version: -200 to 2000 W/m ² -A version: 0 to 1600 W/m ²
Digital output	2-Wire RS-485
Digital output range	-400 to 2000 W/m ²
Digital communication protocol	Modbus®
Supply voltage	5 to 30 VDC
Power consumption (at 12 VDC)	-V version: 55 mW -A version: 100 mW
Level accuracy	1 °
Operating temperature	-40 °C to +80 °C
Spectral range (50 % points)	300 to 2800 nm

Accessories for SMP3

Accessories for SMP3	Part number
Mounting Rod Screw-in 300 mm long x 12 mm Ø	0338720
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	0362700
CMB 1 Mounting Bracket In combination with mounting rod for easy attachment to a pole or a wall	0369701
CM 121B Shadow Ring for unventilated radiometers Manually adjusted device provides diffuse sky irradiance measurement	0346900
<i>Note: SMP3 cannot be used with CVF 3 Ventilation Unit</i>	
<i>Note: SMP3 cannot be used with Glare Screen Kit</i>	

SMP3 Albedometer

SMP3 Second Class Albedometer

An ISO Second Class Albedometer can be self-assembled by ordering:
2x SMP3 Pyranometer + 1x Mounting Rod