

CMP 21



CMP 21 is a research grade instrument that exceeds the requirements for an ISO Secondary Standard pyranometer. It is similar to CMP 11 but has individually optimised temperature compensation. A standard 10 kΩ thermistor sensor is fitted to monitor the housing temperature; a Pt-100 thermocouple sensor is optional. Each instrument is supplied with its own temperature and directional (cosine) response data.

CMP 21 is the choice for scientific use and in top level solar radiation monitoring networks such as the Baseline Surface Radiation Network (BSRN) of the World Meteorological Organisation. The excellent temperature dependence makes CMP 21 particularly suitable for reference measurements in extreme climates, from deserts to the Antarctic.

Article	Part number
CMP 21 Pyranometer • 10 K • 10 m cable	0362920-012
Options for CMP 21	
CMP 21 Pyranometer • 10 K • 25 m cable	0362920-014
CMP 21 Pyranometer • 10 K • 50 m cable	0362920-015
CMP 21 Pyranometer • 10 K • plug only, no cable	0362920-018
CMP 21 Pyranometer • Pt-100 • 10 m cable	0362920-022
CMP 21 Pyranometer • Pt-100 • 25 m cable	0362920-024
CMP 21 Pyranometer • Pt-100 • 50 m cable	0362920-025
CMP 21 Pyranometer • Pt-100 • plug only, no cable	0362920-028
CMP 21 Pyranometer • AMPBOX • 10 K • 10 m cable	0362920-812
CMP 21 Pyranometer • AMPBOX • 10 K • 25 m cable	0362920-814
CMP 21 Pyranometer • AMPBOX • 10 K • 50 m cable	0362920-815
CMP 21 Pyranometer • AMPBOX • 10 K • plug only, no cable	0362920-818
CMP 21 Pyranometer • AMPBOX • Pt-100 • 10 m cable	0362920-822
CMP 21 Pyranometer • AMPBOX • Pt-100 • 25 m cable	0362920-824
CMP 21 Pyranometer • AMPBOX • Pt-100 • 50 m cable	0362920-825
CMP 21 Pyranometer • AMPBOX • Pt-100 • plug only, no cable	0362920-828
100 m cable	On request
<i>Note: AMPBOX is adjusted so that 4 - 20 mA output = 0 - 1600 W/m²</i>	

CMP 21 Albedometer
CMP 21 Scientific Secondary Standard Albedometer
A Secondary Standard Albedometer can be self-assembled by ordering: 2x CMP 21 Pyranometer + 1x CMF 1 or CMF 2 Mounting Fixture + 1x Glare Screen Kit
<i>Note: CMP 21 Albedometer can be used with the AMPBOX but it has two individual outputs, so 2x AMPBOX are required. Each AMPBOX is adjusted so that 4-20 mA output = 0-1600 W/m²</i>
<i>Note: Glare Screen Kit cannot be fitted when CVF 3 Ventilation Unit is used</i>

Specifications	
ISO CLASSIFICATION	Secondary Standard
Response time (95 %)	< 5 s
Zero offsets (a) thermal radiation (200 W/m ²) (b) temperature change (5 K/hr)	< 7 W/m ² < 2 W/m ²
Non-stability (change/year)	< 0.5 %
Non-linearity (0 to 1000 W/m ²)	< 0.2 %
Directional error (at 80 ° with 1000 W/m ² beam)	< 10 W/m ²
Temperature dependence of sensitivity	< 1 % (-20 °C to +50 °C)
Tilt error (at 1000 W/m ²)	< 0.2 %
Other specifications	
Sensitivity	7 to 14 µV/W/m ²
Impedance	10 to 100 Ω
Level accuracy	0.1 °
Operating temperature	-40 °C to +80 °C
Spectral range (50 % points)	310 to 2800 nm
Typical signal output for atmospheric applications	0 to 15 mV
Maximum irradiance	4000 W/m ²
Temperature sensor	10 K Thermistor (optional Pt-100)

Accessories for CMP 21	Part number
Desiccant Refill Pack , minimum order 10 packs	2643951
Extended Temperature Test for CMP 21 Temperature dependence from -40 °C to +50 °C in 10 steps of 10 °C	0999920-3
CVF 3 Ventilation Unit Recommended to reduce offsets and frequency of dome cleaning	See accessories
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
CMF 2 Mounting Fixture For 1 or 2 ventilated or unventilated radiometers (1 upper / 1 lower) Diameter 220 mm. Mounting rod 350 mm long x 16 mm Ø	0362701
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 <i>Note: CM 121B can not be used with CVF 3 ventilation unit</i>	0346900
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 3 <i>Note: AMPBOX is adjusted so that 4 - 20 mA output = 0 - 1600 W/m²</i>	0346901
Glare Screen Kit Sun protection screen for downward facing radiometers with fixings	0305722
METEON + CMP 21 Pyranometer • 10 m cable	0362920-712