

- Measurement of solar irradiance
- Specifications to ISO 9060 and IEC 60904 standards
- Widely used within World Meteorological Organisation scientific programmes



## Description

The Kipp & Zonen range of thermopile-based pyranometers is respected around the world for the measurement of solar irradiance to World Meteorological Organisation and ISO 9060:1990 standards. The instruments are used in meteorological research, solar energy research, material testing, climate control in greenhouses, building physics, science and many other applications.

The CMP series of pyranometers have ergonomic features to facilitate installation, maintenance, and exchange for recalibration.

A waterproof socket is fitted for the signature yellow signal cable, which is available in a range of lengths. The integral bubble level is raised to the top of the housing and can be viewed without removing the sun shield. The screw-in drying cartridge can be reactivated with convenient refill packets.

## Important

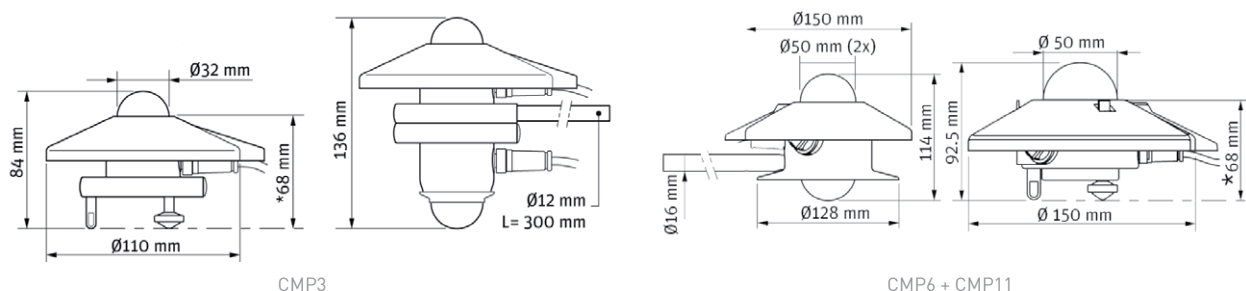
If calibrated pyranometers are installed, please enter the values given in the calibration protocol. If the value in the calibration protocol is given as sensitivity, the slope value has to be calculated as follows:

$$\text{Slope } [W/m^2/V] = \frac{1}{\text{Sensitivity } [\mu V/[W/m^2]]} \cdot 10^6$$

If the sensitivity is given in  $\mu V/[W/m^2]$ , it has to be converted to  $[W/m^2]/V$  for the slope value. Thus the result of the formula has to be multiplied by  $10^6$  (from  $\mu V$  to  $V$ ).

For Example: If the sensitivity is  $12.09 \mu V/[W/m^2]$ , the calculated slope is  $82712 [W/m^2]/V$ .

## Dimensional Drawing



## Kipp & Zonen Pyranometer CMP Series

**S61100 / S61110 / S61120**  
(P6341 / P6342 / P6343)



### Specifications

	Pyranometer CMP3	Pyranometer CMP6	Pyranometer CMP11
Order No.	S61100	S61110	S61120
Classification	Second Class, ISO 9060 & WMO	First Class, ISO 9060 & WMO	Secondary Standard, ISO 9060 & WMO
Slope	200000 [W/m <sup>2</sup> ]/V	200000 [W/m <sup>2</sup> ]/V	100000 [W/m <sup>2</sup> ]/V
Offset	0	0	0
Response time (95%)	18s	18s	5s
Zero offset			
(a) thermal radiation (200 W/m <sup>2</sup> )	<15 W/m <sup>2</sup>	<12 W/m <sup>2</sup>	<7 W/m <sup>2</sup>
(b) temperature change (5k7hr)	<5 W/m <sup>2</sup>	<4 W/m <sup>2</sup>	<2 W/m <sup>2</sup>
Non-linearity (0 ... 1000 W/m <sup>2</sup> )	<1%	<1%	<0.2%
Temperature dependence of sensitivity	<5% (-10 ... +40°C)	<4% (-10 ... +40 °C)	<1% (-10 ... +40 °C)
Sensitivity	5 ... 20 μV/W/m <sup>2</sup>	5 ... 20 μV/W/m <sup>2</sup>	7 ... 14 μV/W/m <sup>2</sup>
Level accuracy	1°	0.1°	0.1°
Operating temperature	-40 ... +80 °C	-40 ... +80 °C	-40 ... +80 °C
Spectral range (50% points)	300 ... 2800 nm	285 ... 2800 nm	285 ... 2800 nm
Typical signal output for atmospheric applications	0 ... 20 mV	0 ... 20 mV	0 ... 15 mV
Max. irradiance	2000 W/m <sup>2</sup>	2000 W/m <sup>2</sup>	4000 W/m <sup>2</sup>
Cable length	10m	10m	10m

Delivery includes calibration certificate.

### Sensor Connection

Sensor	Plug PIN No.	Wire Colour (Kipp & Zonen)	Meteo-40 Analog Voltage	Supply Sensor
Solar irradiance Output voltage	1	red	Ax	
	2	blue	Bx	
Shield (Housing)				Main Ground (GND)

Last Modification: 22 July 2012