

## Pyranometer EKO MS-80

ISO 9060 Secondary Standard + IEC 17025 calibration



### Description

- ISO 9060 Secondary Standard + IEC 17025 calibration
- 5-year warranty and re-calibration period
- Fast response time < 1s @ 95%
- Exceptional long-term stability  $\pm 0.5\%$ /5 years
- MS-80 with analog voltage output

The MS-80 Secondary Standard pyranometer was inspired by the combination of latest technologies and state-of-the-art thermopile sensors, enabling a breakthrough in unprecedented low zero-offset behaviour and fast sensor response. The compact sensor with single dome, based on a isolated thermopile detector and Quartz diffuser is immune to offsets and integrates all optional value added functions such as a ventilator, heater and different industrial interfaces. The heater and ventilator are recommended, particularly over areas impacted by dew, frost, snow, and dust.

MS-80 is designed with analog voltage output. The analogue MS-80 pyranometer can be used as a reference sensor to measure the global broad-band solar radiation with a high accuracy. With excellent temperature response and non-linearity characteristics, it provides optimal performance throughout the year.

## Specifications

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	Pyranometer MS-80	Pyranometer MS-80A	Pyranometer MS-80M
Order No.	S64170	S64150	S64160
Classification	ISO 9060 Secondary Standard	ISO 9060 Secondary Standard	ISO 9060 Secondary Standard
Output	Voltage (mV)	Current (4 ... 20 mA)	Modbus RTU
Sensitivity	~ 10 $\mu\text{V}/\text{W}/\text{m}^2$	~ 10 $\mu\text{V}/\text{W}/\text{m}^2$	~ 10 $\mu\text{V}/\text{W}/\text{m}^2$
Resolution	-	< 0.5 $\text{W}/\text{m}^2$	< 0.5 $\text{W}/\text{m}^2$
Wavelength range	285 ... 3000 nm		
Max. operational irradiance	4000 $\text{W}/\text{m}^2$		
Response time (95%)	< 0.5 s	< 1.5 s	< 1 s
Response time (99%)	< 1 s	< 2 s	< 1 s
Zero offset			
(a) thermal radiation (200 $\text{W}/\text{m}^2$ )	1 $\text{W}/\text{m}^2$		
(b) temperature change (5k/hr)	$\pm 1 \text{ W}/\text{m}^2$		
Non-linearity	$\pm 0.2 \%$		
Long-term stability	$\pm 0.5 \%$ / 5 years		
Direction response	$\pm 10 \text{ W}/\text{m}^2$		
Temperature response (-20 ... +50°C)	< 1 %	< 0.5 %	< 0.5 %
Tilt response @ 1000 $\text{W}/\text{m}^2$	$\pm 0.2 \%$		
Impedance	approx. 45 $\text{k}\Omega$	-	-
Operating temperature	-40 ... +80 °C		
Power supply		12 ... 24 V DC $\pm 10 \%$	12 ... 24 V DC $\pm 10 \%$
Power consumption		0.08 ... 0.75 W	< 1.25 W
Cable length	10 m		
Weight	0.4 kg	0.43 kg	
Protection class	IP67		
Warranty	5 years		
Manufacturer	EKO Instruments		
Accessory	Thies Universal Amplifier (Order-No. S05000)	M83572	M83750
	MV-01 ventilator / heater (Order-No. S64060)		

Delivery includes IEC 17025 calibration certificate.

## Sensor connection diagram