3S-TP-MB
Thermopile Pyranometer

Thermopile Pyranometer

The Thermopile Pyranometer is part of the SEVEN meteorological sensors range, which includes professional and intelligent measuring sensors with a digital interface for environmental and industrial applications such as PV plants.

It is designed to accurately measure the Global Horizontal Irradiance.

The measured irradiance is transmitted to the data loggers and receiver units via a 2-wire RS485 bus with Modbus RTU protocol.

SEVEN products use reliable and high-quality components to provide accurate meteorological information in environmental and industrial applications.

Benefits and Features

- High Accuracy; Class A (Class B and Class C optional)
- Follows recommendations of the WMO
- Fully compliant with ISO 9060:2018
- Fast & Simple to Install
- Integrated levelling device for perfect positioning
- Rugged housing with low temperature response
- Protected against overpower
- Fully electrically isolated from any mounting surface
- Report of Calibration in accordance with the ISO 9847:1992
- SEVEN Remote Setup Service
- SEVEN Customer Support
- High reliability - 5-year warranty

Models

3S-TP-MB

The pyranometers are all based on the thermopile principle, very precise. This model provides data via RS485 Modbus-RTU output. The thermopile pyranometer is made in a way that the electrical system is totally isolated from the housing, making it possible to mount the pyranometer on any surface, including metal ones, without the need of isolation. This Model is produced as Spectrally Flat Class A according to the ISO 9060: 2018.

3S-TP-MB-B

The pyranometers are all based on the thermopile principle, very precise. This model provides data via RS485 Modbus-RTU output. The thermopile pyranometer is made in a way that the electrical system is totally isolated from the housing, making it possible to mount the pyranometer on any surface, including metal ones, without the need of isolation. This Model is produced as Spectrally Flat Class B according to the ISO 9060: 2018.

3S-TP-MB-C

The pyranometers are all based on the thermopile principle, very precise. This model provides data via RS485 Modbus-RTU output. The thermopile pyranometer is made in a way that the electrical system is totally isolated from the housing, making it possible to mount the pyranometer on any surface, including metal ones, without the need of isolation. This Model is produced as Spectrally Flat Class C according to the ISO 9060: 2018.

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Revision 1.0

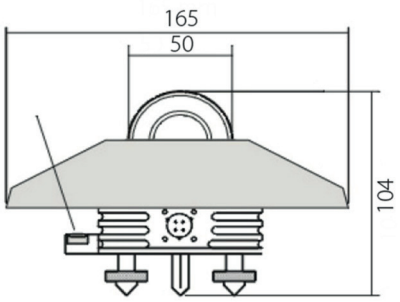
3S-TP-MB
Thermopile Pyranometer

Technical Specifications

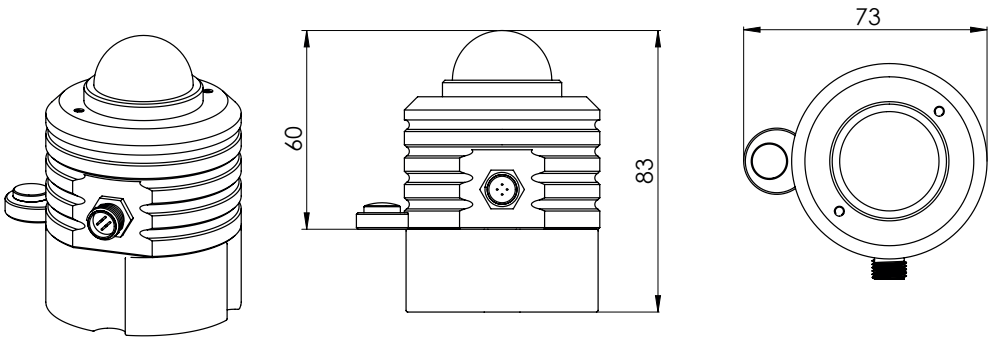
	3S-TP-MB	3S-TP-MB-B	3S-TP-MB-C
Sensor Type	Thermopile		
Classification as per ISO 9060:2018	Spectrally Flat Class A	Spectrally Flat Class B	Spectrally Flat Class C
Measuring Range	0 - 2000 W/m2		
Spectral range (50%)	283 - 2800 nm		300 - 2800 nm
Response time (95%)	< 5 s	< 10 s	< 20 s
Zero offsets: **a) Thermal radiation (at 200 W/m²)** **b) Temperature change (5 K/h)**	< |±7| W/m2 < |±2| W/m2	< |±10| W/m2 < |±4| W/m2	< |±15| W/m2 < |±4| W/m2
Non-stability (change/year)	< |±0,5| %	< |±1| %	
Non-linearity	< |±0,2| %	< |±1| %	< |±1,5| %
Response according to the cosine law	< |±10| W/m2	< |±18| W/m2	< |±20| W/m2
Spectral error	< |±0,2| %	< |±0,5| %	< |±2| %
Temperature response (-10…+40 °C)	< 1 %	< 1,5 %	< 3 %
Tilt response	< |±0,2| %	< |±2| %	
Accuracy of levelling device	< 0.1°		< 0.2°
Output	Digital RS485-Modbus RTU (Analog options available)		
Power Supply	5 to 30 VDC		
Electrical Connection	3 m LIYYC11Y PUR Cable, UV and weather resistant		
Operating Temperature Range	-40°C to +80°C		
Dimensions	Ø 165 x 104 mm		Ø 73 x 83 mm
IP Rating	IP 67		
Shade Disk	Included		On Request

Technical Drawings

Technical Drawing of 3S-TP-MB & 3S-TP-MB-B



Technical Drawing of 3S-TP-MB-C



Note: All dimensions are in mm.

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