

# SOLAR RADIATION SENSOR

## FEATURES

- **First-class Pyranometer (WMO)**
- **Good Cosine/Directional Response**
- **Excellent Long-Term Stability**
- **Good Linearity Performance**
- **Low Dome Thermal Offset Error**
- **Fast Response**
- **Moderate Cost**

Suitable for the measurement of solar irradiance on a plane surface, the solar radiation sensor is designed to output a millivolt signal that is directly proportional to the incoming solar irradiance. The solar radiation sensor delivers a high accuracy pyranometer used throughout meteorological networks and by many research institutions around the world.

The solar radiation sensor incorporates a radial 64 thermocouple sensing element, imprinted on a thick-film substrate, housed under Schott glass domes. The sensor's all-weather design incorporates a built-in bubble level, offering the highest leveling accuracy in the industry.

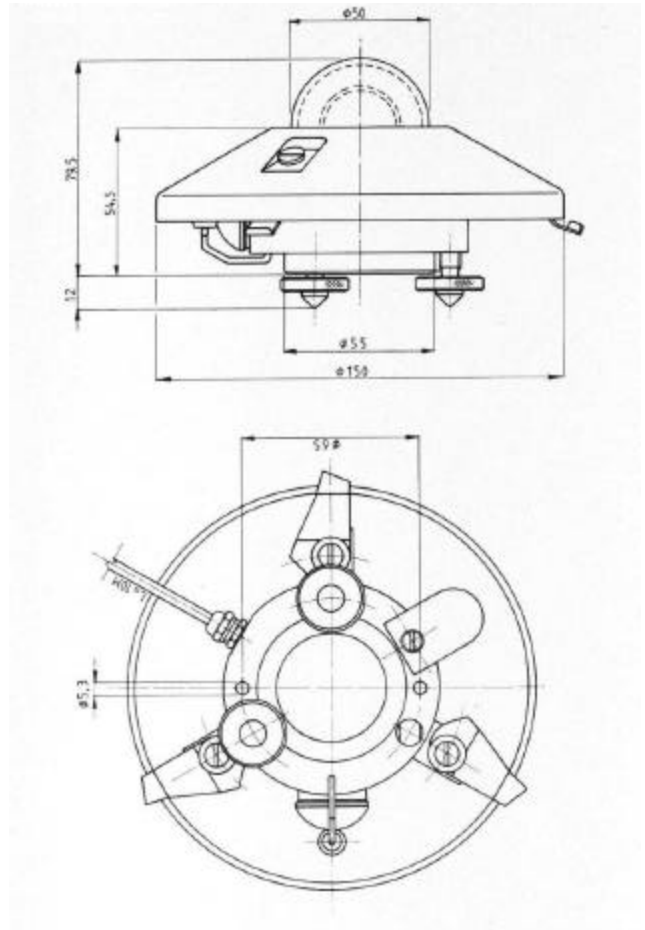
Every solar radiation sensor is supplied with a certificate of calibration (WRR Traceable - World Radiometric Reference Standard) indicating each instrument's sensitivity.



## SPECIFICATIONS

Response time (95%)	18 s
Zero-offset due to thermal radiation	$\pm 15 \text{ W/m}^2$ at $200 \text{ W/m}^2$
Zero-offset due to temperature changes	$\pm 4 \text{ W/m}^2$ at $5^\circ\text{K/h}$ temperature change
Non-stability (change per year)	$\pm 1\%$
Non-linearity ( $1000 \text{ W/m}^2$ )	$\pm 1.2\%$
Directional error at $1000 \text{ W/m}^2$ (cosine response)	$\pm 20 \text{ W/m}^2$
Temperature dependence of sensitivity	$\pm 2\%$ ( $-10$ to $+40^\circ\text{C}$ )
Tilt response ( $1000 \text{ W/m}^2$ )*	$\pm 1.5\%$
Sensitivity	$9\text{-}15 \mu\text{V/Wm}^{-2}$
Impedance	$70\text{-}100 \text{ ohm}$
Level Accuracy	$\pm 0.5^\circ$
Operating temperature	$-40^\circ$ to $+80^\circ\text{C}$
Cable length	10 m
Spectral range (50% points)	$305\text{-}2800 \text{ nm}$
Signal Output	$0 - 25 \text{ mV}$
Maximum irradiance	$2000 \text{ W/m}^2$
Weight	0.85 kg

\* Tilt response applies only when the sensor is out of the horizontal plane.



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Rev. 25 Feb 2004