

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.

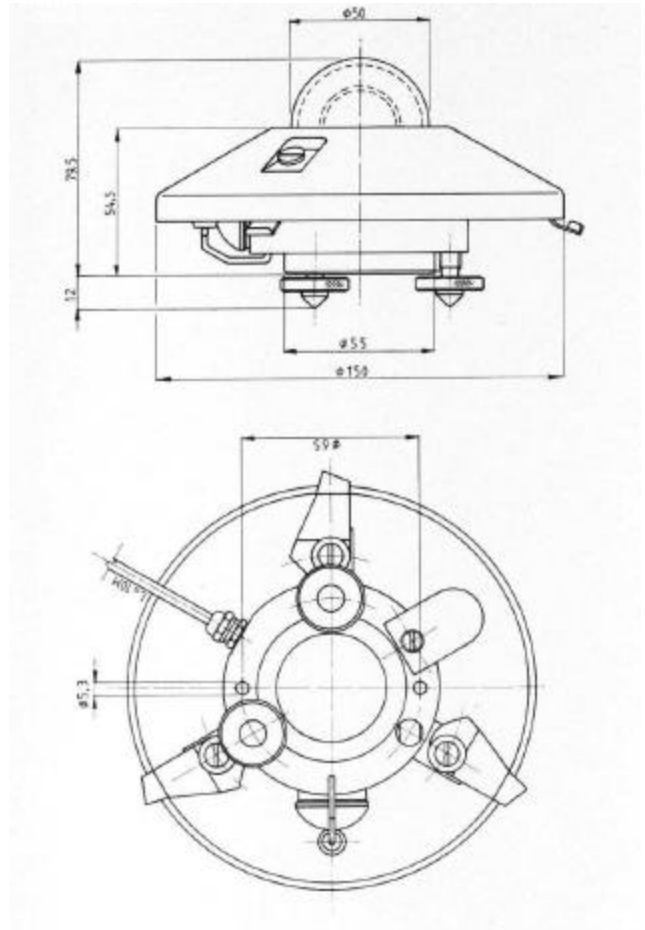
Every solar radiation sensor is supplied with a certificate of calibration (WRR Traceable - World Radiometric Reference Standard) indicating each instrument's sensitivity.



SPECIFICATIONS

| | |
|---|---|
| Response time (95%) | 18 s |
| Zero-offset due to thermal radiation | $\pm 15 \text{ W/m}^2$ at 200 W/m^2 |
| Zero-offset due to temperature changes | $\pm 4 \text{ W/m}^2$ at 5°K/h temperature change |
| Non-stability (change per year) | $\pm 1\%$ |
| Non-linearity (1000 W/m^2) | $\pm 1.2\%$ |
| Directional error at 1000 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 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° 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 W/m^2 |
| Weight | 0.85 kg |

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



Climatronics Corporation
 140 Wilbur Place
 Bohemia, NY 11716-2404

TEL: 631-567-7300
 FAX: 631-567-7585
 E-Mail: sales@climatronics.com

Rev. 25 Feb 2004