Global Solar Radiation Sensor

Model: SR05

Description:

Solar radiation sensor that is applied in general observations. pyranometer measures the solar radiation received by a plane surface from a 180 ° field of view angle. This quantity, expressed in W/m2, is called "hemispherical" solar radiation. The solar radiation spectrum extends roughly from 285 to 3000 x 10-9 m. By definition a pyranometer should cover that spectral range with a spectral selectivity that is as "flat" as possible.

In an irradiance measurement by definition the response to "beam" radiation varies with the cosine of the angle of incidence; i.e. it should have full response when the solar radiation hits the sensor perpendicularly (normal to the surface, sun at zenith, 0 ° angle of incidence), zero response when the sun is at the horizon (90 ° angle of incidence, 90 ° zenith angle), and 50 % of full response at 60 ° angle of incidence.

A pyranometer should have a so-called "directional response" (older documents mention "cosine response") that is as close as possible to the ideal cosine characteristic. The pyranometer is easy to mount and install. This sensor offers analogue millivolt output. . It is ideal for general solar radiation measurements in (agro-)meteorological networks and PV monitoring.

Specifications:

Measurand: hemispherical solar radiation
Measurement Range 0 to 2000 W/m²
Spectral Range approx.: 285 to 3000 x 10^{-9} m
Sensitivity (nominal): 10 x 10^{-6} V/(W/m²)
WMO estimate on achievable accuracy for daily sums: 10%
WMO estimate on achievable accuracy for hourly sums: 20%
Rated operating temperature range: -40 to +80 °C
ISO classification second class pyranometer
Calibration uncertainty < 1.8 % (k = 2)
Calibration traceability to WRR
Output: Current: mV
Cable length: 3m
ISO 9060:2018 classification: spectrally flat Class C (second class)
IEC 61724-1:2017 compliance: Class C

Applications:

- Determining evapotranspiration rates, Energy Balance, Global radiation as well as monitoring Solar Power Panels.
- meteorology / climatology

SR05 pyranometers employ a thermopile sensor with black coated surface, one dome and an anodised aluminium body with visible bubble level. Optionally the sensor has a unique ball levelling mechanism and tube mount (Sold Extra), for easy installation. SR05 has a variety of industry standard outputs, both digital and analogue. Version SR05-A1 offers a conventional analogue millivolt output.

1105/1, Salempur Rajputana Industrial Estate
Roorkee - 247667, Haridwar, Uttarakhand, INDIA
Tel:+91-7088-772-772, vhydromet@yahoo.com

Represented by:

***** Drawing & specifications are subjected to change at any time without prior notice as per manufacturing suitability.***