Global Radiation

Sensors to measure solar radiation

The global radiation is the total sun radiation which irradiates on the earth. It is compiled of direct sun radiation and indirect radiation which shines through clouds, water- and dust particles (diffuse or sky radiation). It comprises a spectral area from 200 until more than 3000nm. Diverse sensors can be applied for radiation measurement according to the meteorological and climatological needs.

Pyranometer DK-RM 1

Pyranometer for easy application to determine global radiation in short-wave range, for use with data loggers, control and regulatory systems.

Technical details

- **Measuring element/-principle** Si-photodiode
- **Measuring range** 0 ... 1250 W/m²; nonlinearity: ±3 %
- **Spectral range** 0.3 ... 1.1 µm
- **Operating temperature** -30 °C ... +60 °C
- **Output** 0 ... 100 mV
- **Protection** IP 65
- **Dimensions** 59 x 68 x 65 mm (wxhxd)

Star Pyranometer 8101

Star pyranometer for professional gathering of global radiation data in short-wave range. A dry part in the inner of the sensor prevents from water condensation. The horizontal mounting is easily done with three setscrews. The sensor corresponds to the international standards set by the World Meteorological Organization (WMO). As an option ventilation and heating can be attached to the sensor so that a save use throughout the whole year is ensured.

Technical details

- **Measuring element/-principle** temperature difference measurement
- **Measuring range** 0 ... 1500 W/m²; linearity: < 0.5 %

- **Spectral range** 0.3 ... 3 µm
- **Operating temperature** -40 °C ... +60 °C
- **Output** 15 µV/Wm²
- **Protection** IP 65
- **Dimensions** ø 159 mm; height 75 mm

Net Radiometer CNR4

Net radiometer for most precise and reliable measurement of short-wave and long-wave radiation. It is used to determine direct and reflexive radiation. Further functions are: radiation balance, albedo, temperature of the atmosphere, temperature of the ground.

Features and advantages

- Short-wave and long-wave measurement
- High reliability and accuracy
- Very low maintenance needed
- Option with heating