

MS-711 Spectroradiometer

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The new generation grating spectroradiometer MS-711 is designed to provide the most accurate solar spectral data outdoors. The MS-711 is a unique all weather sensor, without any moving parts. The detector core is temperature controlled to provide accurate irradiance measurement data within the spectral range from 300nm to 1100nm (UV / Visible / NIR).

MS-711 is accurately calibrated with traceability to the International Standards and issued with a calibration uncertainty budget. The rugged optical design of the diffusor and input optics make the MS concept superior to any fiber optic spectroradiometer which will be susceptible to mechanical vibration and handling. The MS spectroradiometers are designed for permanent installation, but are perfectly suited as a traveling reference.

MS-711 has a separate power supply unit and can be controlled through RS232 / 422 by a PC or data logger. The PC software provides different functions for operating, data management and visualisation. Through the open command protocol of the defined system control functions, software can be developed by the individual user. Measuring spectral irradiance is a must to understand the effect of the non-uniform energy distribution of the sun. Since the solar spectrum varies as a function of air-mass and composition of the atmosphere, the MS-711 reveals those details. While thermopile pyrheliometers and pyranometers are most suitable to quantify the total DNI or global radiation (W/m²), spectroradiometers give detail about the energy distribution (W/m²/nm), which is most important for PV or CPV cell research and performance analysis.

Features

- New Reference For Spectral UV - VIS - NIR
- High Optical Resolution <7nm
- Extended Operating Temperature Range -10 to 50°C
- Made For Outdoor Solar Research
- Robust Design No Moving Parts



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Specs

| | |
|-----------------------------------|---|
| Specifications (Typical) | MS-711 |
| Wavelength range | 300 to 1100 nm |
| Wavelength interval | 0.3 - 0.5nm |
| Optical resolution FWHM | < 7nm |
| Wavelength accuracy | +/- 0.2 nm |
| Cosine Response (Zenith: 0 ~ 80°) | < 5% |
| Temp. dependency (-10°C to 50°C) | < 2 % |
| Temp. control | 25°C ± 2°C |
| Operating temperature | -10 to 50°C |
| Exposure time | 10msec - 5sec Automatic adjustment |
| Dome material | Synthetic Quartz Glass |
| Communication | RS-422 (Between sensor and power supply) |
| Power requirement | 12VDC, 50VA (from the power supply) |
| Dimension | Diameter 220 x Height 197mm |
| Weight | 4.5 kg |
| Power Supply | |
| Input | AC100-240V, 50/60Hz, 50VA |
| Output | DC12V |
| Communication | RS-232C (Between power supply and PC) |
| Operating Environment | Temperature: -10 to 40°C, Humidity: 0 to 90 %RH *No condensation |
| Dimension | 320 (W) x 240 (D) x 80 (H) |
| Weight | 1kg |