

MS-700 Spectroradiometer

Technical Specifications

Reference for spectral VIS - NIR

Optical resolution <10nm

Operating temperature range -10 to 40°C

Made for outdoor solar research

Robust design no moving parts

The grating spectroradiometer MS-700 is designed to provide the most accurate solar spectral data outdoors. The MS-700 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 350nm to 1050nm (Visible-NIR).

MS-700 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 spectroradiometer concept superior to any fiber optic spectroradiometer which will be susceptible to mechanical vibration and handling. The spectroradiometers are designed for permanent installation but are perfectly suited as a traveling reference.

MS-700 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 visualization. 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-700 reveals those details. While thermopile pyrhemometers 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.

	MS-700
Wavelength range	350 - 1050 nm (50% points)
Optical resolution FWHM	< 10 nm
Wavelength accuracy	+/- 0.3 nm
Directional response at 1000W/m²	< 7 %
Temperature response -10°C to 50°C	< 2 %
Temp. control	25 °C
Operating temperature range	-10 - 40 °C
Exposure time	10 - 5000 msec
Dome material	Quartz
Communication	RS-422 / 232C
Power supply	12VDC / 50VA
Dimensions mm	220 (D) x 197 (H)
Weight	4.5 kg
Ingress protection IP	65
Power supply (Power Adapter)	100-240VAC, 50/60Hz
Power consumption	50 W
Power supply operating conditions	-10 to 40°C / 0 to 90 %RH
Power supply dimensions (mm)	320 (W) x 240 (D) x 80 (H)
Power supply weight	1 kg
Program	Analysis software WSDAc
OS	Microsoft Windows 7/8/9/10
Functions	Display and analyze data
Cable length	10 m

Field of View FOV	180 °
Options	MS-700
Cable length	20 / 30 m

Specifications are subject to change without further notice.