

ML - 01 Si - Pyranometer

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The ML-01 Si-sensor is the link between the reference cell and broadband thermopile pyranometer. Compared to the reference sensors it has a proper cosine response and it is relatively compact, but benefits from the same characteristics as a PV module (Response time, Spectral and temperature response).

The ML-01 is an industrial grade solar sensor specially made for Performance ratio measurements as well as irradiance measurement applications for the meteorological, agricultural and environmental studies. The compact dimensions of the sensor body make it easy to integrate within any application using it with or without the mounting plate. For global horizontal measurement applications the sensor can be mounted in horizontal position with the standard removable mounting plate with spirit level and leveling feet.

The Mono-Silicon detector with UV resistant diffuser give a cosine response also at low solar elevation angles. The effects of soiling or water deposition on top of the diffuser will be minimized due to the cone shape geometry. ML-01 is calibrated according to the international calibration method applied to PV reference cells (25°C / AM1.5G 1000W/m² AAA Solar Simulator (IEC 60904-3). All EKO radiation sensors are traceable to World Radiation Reference (WRR).

The low output Voltage of the sensor can be easily converted to a 4-20mA current or higher Voltage using the MS-4..20mA converter. The mV/mA converter can be pre-programmed and optimized within the operating range compatible with common measurement equipment.

Features

- Fast Response Time (10ms)
- CIE Photopic Response
- Glass Dome Plus Diffuser Optics
- Low Temperature Dependency



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Specs

Specifications (Typical)	ML-01
ISO 9060 classification	N/A
Response time 95%	< 1 ms
Zero offset - Thermal radiation (200W/m ²)	0 W/m ²
Zero offset - Temperature change (5K/hr)	0 W/m ²
Non-stability (change/year)	± 2 %
Non-linearity (at 1000W/m ²)	< 0.2 %
Directional response error (0 - 80°)	< 10 W/m ²
Spectral selectivity (0.35-1.5μm)	Si- Photo diode response
Temp. response (for 50°C band)	< 0.15 %/°C
Tilt response (at 1000W/m ²)	0 %
Sensitivity (μV/W/m ²)	50
Impedance (Ω)	50
Operating temperature range (°C)	- 30 to +70
Cable length	5 m
Wavelength range (nm)	400 - 1100 (Mono-Crystalline)
Mounting Plate	Standard