



ML-01 Si-Pyranometer

Technical Specifications

ISO 9060:2018 Class C

Sub-category "Fast response"

Same spectral response as a PV module

Accurate solution for PV performance ratio monitoring

Low temperature dependency

The ML-01 Si-sensor complies to ISO 9060:2018 Class C. The ML-01 Si-sensor can be categorized 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 it within any application using it with or without a mounting plate. For global horizontal measurement applications, the sensor can be mounted in the horizontal position with a standard removable mounting plate with a spirit level and leveling feet. The Mono-Silicon detector with UV resistant diffuser gives a cosine response also at low solar elevation angles. Besides the effects of soiling or

water deposition on top of the diffuser will be minimized due to the cone shape geometry. The ML-01 pyranometers are manufactured in a consistent way followed by strict quality inspection and performance evaluation. EKO provides a unique calibration compliant to the international standards defined by ISO/IEC17025/9847. The sensor has 2 years warranty with 2 years re-calibration interval are recommended.

	ML-01
ISO 9060:2018	Class C
ISO 9060:1990	Not compliant
Sub-category "Spectrally flat"	Not compliant
Sub-category "Fast response"	Compliant
Output	Analog (mV)
Response time 95%	< 1 ms
Zero off-set a) 200W/m ²	0 W/m ²
Zero off-set b) 5K/hr	0 W/m ²
Complete zero off-set c)	0 W/m ²
Non-stability change/1 year	+/- 2 %
Non-linearity at 1000W/m ²	< 0.2 %
Directional response at 1000W/m ²	< 10 W/m ²
Spectral error	+/- 3.07 %
Temperature response -10°C + 40°C	< 0.15 %/°C
Tilt response	0 %
Sensitivity	Approx. 50 μV/W/m ²
Impedance	50 Ω
Wavelength range	400 - 1100 nm
Operating temperature range	-30 - 70 °C
Irradiance range	0 - 2000 W/m ²
Cable length	5 m