PVmet-100 Station

Technical Specifications

Turn-key PV Solar monitoring station

Irradiance in plane of a PV array

PV back-panel temperature

Ambient temperature

MODBUS RTU 485 (Sunspec®)

The PVmet-100 is our standard model option which features sensors specific to PV power generation. Standard measurement parameters (Irradiance, PV back-panel temperature, Ambient temperature). PVmet is an innovative sensor platform for PV monitoring, which is developed by Rainwise Inc. and provided by EKO.

This low cost station is compact and simple to install and to connect to any inverter or SCADA system. As with all PVmet stations it includes a RS-485 Modbus interface (Sunspec® certified).

PVmet series are turn-key, easy to install and can be deployed under harsh environmental conditions. EKO provides a unique radiometer calibration compliant to the international standards defined by ISO/IEC17025/9847.

Various mounting options are available, including the Mono Mount. The PVmet is supplied with a detachable mast section that can be bolted to an existing structure.

Back module temperature sensors are attached to the back of the PV panel using thermal conductive adhesive tape. They provide accurate panel temperatures, an important parameter for efficiency monitoring. One sensor is shipped with each system. The PVmet supports two sensors.

All electrical connections are made using screw terminals. Standard sensors are factory installed. As a user/installer the only connections required are power, communications and external BOM sensors. Removing the front cover accesses all connections. The cover is secured with 4 screws.

	PVmet-100
Pyranometer (POA)	ML-01
Ambient Temperature	AT-01
Back module temperature	BPT-01
Power requirements	10 to 30 VDC at 50mA
Operating Environment	- 40° to 60°C
Relative humidity	0-100%, Condensing
Communication	RS-485/422 Serial Port
Communication interface	2-Wire Half Duplex
Communication speed	9600 Baud

Option	PVmet-100
Communication	Ethernet Modbus TCP

	AT-01
Operating temperature range	-40 - 80 °C
Accuracy	+/- 0.3 °C
Response time 95%	30 Sec.
Resolution	-

	BPT-01
Operating temperature range	-40 - 80 °C
Accuracy	+/- 0.3 °C
Response time 95%	270 Sec.

Resolution	-
Cable length	6.2 m

	ML-01
ISO 9060:2018	Class C
Sub-category "Spectrally flat"	Not compliant
Sub-category "Fast response"	Compliant
Output	Analog (mV)
Response time 95%	< 1 ms
Zero off-set a) 200W/m²	0 W/m²
Zero off-set b) 5K/hr	0 W/m²
Complete zero off-set c)	0 W/m²
Non-stability change/1 year	+/- 2 %
Non-linearity at 1000W/m²	< 0.2 %
Directional response at 1000W/m²	< 10 W/m²
Spectral error	+/- 3.07 %
Temperature response -10°C + 40°C	< 0.15 %/°C
Tilt response	0 %
Sensitivity	Approx. 50 µV/W/m²
Impedance	50 Ω
Wavelength range	400 - 1100 nm (50% points)
Operating temperature range	-30 - 70 °C
Irradiance range	0 - 2000 W/m²
Cable length	5 m

Options	ML-01
Leveling Plate	Optional

Specifications are subject to change without further notice.