

Advanced Weather Measurement with Solar Monitoring Precision



The **PVmet 200** is the most popular Weather Station for the commercial PV market world wide.

Leading inverter companies & EPCs worldwide choose PVmet Weather Stations for their versatility, reliability, precision & easy installation.

Why Choose RainWise?

- Sunspec Certified
- Optimized for Commercial & Utility grade PV applications
- Includes Global & Plane Of Array Irradiance sensor
- 1 or 2 Back of PV panel temp sensors
- Supports most Silicon Diode sensors
- Superior reliability
- Fast and easy installation, single mast concept

Industry Leading Configuration

Installation:

The PVmet 200 's compact, lightweight design makes installation quick and easy. Various mounting options are available, including the Mono Mount. The PVmet 200 is supplied with a detachable mast section that can be secured to an existing structure.

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 the connections. The cover is secured with 4 screws.

Customization:

The firmware in the PVmet 200 can be updated through the RS-485 port using a simple PC application. This feature ensures that the PVmet 200 can be kept up to date with the latest available firmware. In addition, RainWise can provide certain OEM firmware customization. This includes register configuration, specific defaults and protocols.

The PVmet 200 can also be customized to support OEM customer specific sensors.

Communications:

The PVMET-200 has a single, 2-wire, half duplex, RS-485 port. Termination can be enabled or disabled using a jumper located near the RS-485 screw terminals.

By default the PVMET-200 is configured to operate as a Modbus slave at address 60.

The Modbus register layout is compatible with SunSpec Ver 1.1. A simplified register set is located at address 200 for those that do not wish to use the SunSpec data format.

For users that wish to change settings, a configuration mode is provided. A simple terminal emulator application such as HyperTerminal is required to make changes.

Features & Options

The PVmet 200 Includes:

- Global Solar Irradiance Sensor
- Plane of Array Irradiance Sensor
- 1 Back-of-PV Panel Temp Sensor
- Ambient Air Temperature Sensor
- Wind Speed Sensor
- Wind Direction Sensor
- Modbus RS 485 Communication
- Sunspec Ver. 1.1 Certified

Sensors:

Ambient Air Temperature

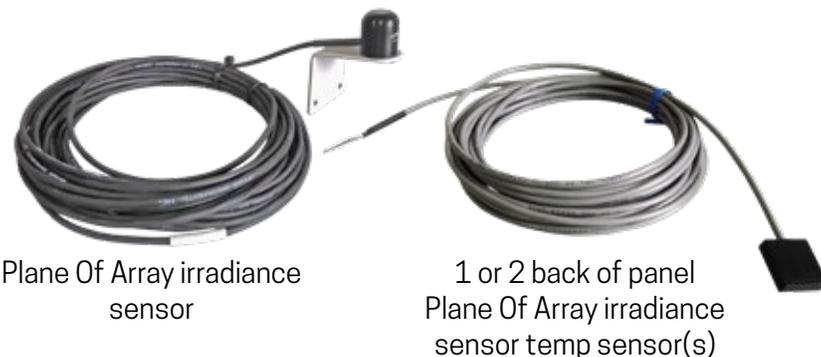
- Housed in a passive shield

Silicon Diode based Global Irradiance or Plane-of-Array Irradiance.

- The irradiance sensors provide global irradiance (horizontal) and Plane Of Array irradiance when installed to match the PV panel angle.

Back-of-Module Temperature.

- These 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-200 supports two sensors.



Performance Benefits

- Irradiance sensor can be configured for either Global or Plane of Array monitoring
- Easy set-up & fully assembled
- Tested tough
- Durable & weather resistant
- Optional 2nd Back of Panel Temp
- SunSpec certified
- Modbus RS-485 Communication
- Ethernet Modbus TCP option available
- Available with Private Labeling for OEM
- Wind Speed sensor
- Wind Direction Sensor

The Industry's Broadest Line

The PVMet 200 series is part of a family of professional grade PV monitoring devices specifically designed for utility, commercial and industrial solar arrays.



PVMet 75



PVMet 100



PVMet 150



PVMet 200



PVMet 500

PVMET 200 Specs

All specifications are to be assumed at 25°C unless otherwise specified.

Power Requirements

10 to 30 VDC at 50mA

Operating Environment

Temperature: -40° to 60°C (-40° to 140°F)
Relative Humidity: 0-100%, Condensing

Global and Plane-of-Array (POA) Irradiance Sensors

Sensor Range: 0 to 1750 W/m²
Accuracy: +/-5%
Cosine Response 45°: +/-1%
Cosine Response 75°: +/-5%
Operational Temperature: -25° to 55°C (-13° to 131°F)
Resolution: 1W/m²

Ambient Air Temperature Sensor

Range: -40° to 80°C (-40° to 176°F)
Accuracy: +/- 0.3°C (.54°F)
Thermal Time Constant: 30 sec.
Resolution: 0.1°C

Anemometer Speed Direction:

Range: 0 to 67 m/s
Range: 360°, No Deadband
Accuracy: Greater of 0.45 m/s or 5%
Accuracy: +/- 11.25°
Resolution: 1 m/s
Resolution: 22.5°
Threshold: 0.45 m/s at a 10% Deflection

Back of Module (BOM) Temperature Sensors:

Range: -40° to 80°C (-40° to 176°F)
Accuracy: +/- 0.3°C (.54°F)
Thermal Time Constant: 270 sec.
Cable Length: 7.62m (25 ft)
Resolution: 0.1°C

RS-485/422 Serial Port

Mode: 2-Wire Half Duplex
Connector: 4-Position Screw Terminal (A(-), B(+), Signal and Earth Ground)
Max Speed: 9600 Baud
Termination: 120 ohms (Internal Jumper Enable)

Materials:

Polyvinyl Chloride, Acrylonitrile Butadiene Styrene, Stainless Steel, Anodized Aluminum, Lexan®, Makrolon® 2658.

Electronics:

Lead-free RoHS Compliant

Packaged Dimensions:

73.99cm x 35.56cm x 20.32cm
(29" x 14" x 8")

Packaged Weight:

3.17 kg (7 lbs.)

Warranty:

2 Years