

PVmet™ Weather Station

Comprehensive Environmental Monitoring Solution

The RainWise PVmet™ family of weather stations offers a powerful add-on to any solar plant monitoring system. Featuring accurate sensors and standard communication integration, the PVmet™ is an economical addition to insure the highest PV panel output.

The **PVmet™-150** is our **Precision Utility** Grade model for users who require the highest caliber sensors for exceptionally accurate data. The **PVmet™-150** uses a precise second-class thermopile pyranometer allowing for dependably bankable data and is mounted on a tilting bracket to provide global or plane-of-array measurements. The **PVmet™-150** is available with ISO 9060:1990 and WMO second-class, first class and secondary standard pyranometers. These well-designed and affordable stations are sturdy, compact and simple to install.

Features

- Adjustable Solar Irradiance Sensor for Global or Plane-of-Array Monitoring
- 1 or 2 x Back-of-PV Panel Temp Sensor(s)
- Ambient Air Temperature Sensor

- Modbus RS-485 Communication
- Ethernet Modbus TCP Option Available
- SunSpec Certified

- Additional Irradiance Sensor Option
- Available with Private Labeling for OEM



Sensors & Options

Ambient Air Temperature.

Housed in a passive solar shield.

Global Irradiance or Plane-of-Array Irradiance.

The irradiance sensor is adjustable and can be set to provide global irradiance (when horizontal) or 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™-150** supports two sensors. The second may be purchased separately.

Communications

The **PVmet™-150** 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™-150** is configured to operate as a Modbus slave at address 60. The Modbus register layout is compatible with SunSpec protocol. 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.

Installation

The **PVmet™-150's** compact, lightweight design makes installation quick and easy. Various mounting options are available, including the RainWise Mono Mount. The **PVmet™-150** is supplied with a detachable mast section that can bolt 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™-150** can be updated through the RS-485 port using a simple PC application. This feature ensures that the **PVmet™-150** 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™-150** can also be customized to support customer specific sensors. This service is only available to volume OEM customers.