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™-200 is our commercial model option**. It features sensors specific to PV power generation. This low cost station is compact and simple to install.

As with all **PVmet™** stations it includes a RS-485 Modbus interface.

Features

- Adjustable Solar Global Irradiance Sensor
- Plane-of-Array Irradiance Sensor
- Back-of-PV Panel Temp Sensor
  (A second back-of-panel sensor may be added for an additional charge)
- Ambient Air Temperature Sensor
- Wind Speed sensor
- Wind Direction Sensor

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

Sensors & Options

Ambient Air Temperature
Housed in a passive solar shield.

Global Irradiance
The irradiance sensor is adjustable and can be set to provide global irradiance.

Plane-of-Array Irradiance
A separate plane-of-array sensor is supplied with a mounting bracket to attach to the side of the PV panel.

PVmet™ – 200

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, but the **PVmet™-200** supports two sensors if desired.

Wind Speed and Direction
A mini-aervane anemometer provides both wind speed and direction information.

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 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™-200** 's compact, lightweight design makes installation quick and easy. Various mounting options are available, including the RainWise 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.

For OEM customers the **PVmet™-200** can be supplied with factory installed power and communication cable. This completely eliminates the need for the installer to remove the cover.

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.