

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™-75 is an aggressively priced model**, featuring RainWise's own amplified silicon irradiance sensor and other sensors specific to PV power generation. The **PVmet™-75** low cost station is compact and simple to install. The price level makes it feasible for both residential and commercial PV monitoring projects.

Features

- Proprietary Irradiance sensor can be configured for either 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 Compatible



Sensors & Options

Ambient Air Temperature.

Housed in a passive solar shield.

Global Irradiance or Plane-of-Array Irradiance.

The RainWise irradiance sensor can be mounted on top of the **PVmet™-75** sensor assembly for Global mode, or it can be mounted to match the Photo Voltaic panel angle with the included bracket for Plane-Of-Array mode. The irradiance sensor comes with 25ft of cable for mounting options.



PVmet™ -75

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™-75** supports two sensors. The second may be purchased separately.



Communications

The **PVmet™-75** 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™-75** 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™-75**'s compact, lightweight design makes installation quick and easy. Various mounting options are available, including the RainWise Mono Mount. The **PVmet™-75** is supplied with a detachable mast section that can be bolted 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 all connections. The cover is secured with 4 screws.

Customization

The firmware in the **PVmet™-75** can be updated through the RS-485 port using a simple PC application. This feature ensures that the **PVmet™-75** 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.