*PV*MET Weather Station
Comprehensive Environmental Monitoring Solution

The *PV*MET series of weather stations were designed to meet the needs of alternative energy power generation, specifically solar generation. These stations feature sensors and communication options that provide a powerful add-on to any solar power plant.

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

As with all *PV*MET stations, it includes a RS-485 Modbus interface and is SunSpec protocol compliant.

Features

- Irradiance sensor an 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

- Available with Private Labeling for OEM

Sensors & Options

Ambient Air Temperature.

Housed in a passive solar shield.

Pyranometer for Global Irradiance or Plane-of-Array Irradiance Monitoring

The new RainWise designed Amplified Silicon Pyranometer matches or exceeds the performance of the leading vendors of similar technology. The pyranometer's output amplification (0-2.5Volt) makes it's values easier to integrate. (*Note: Amplified Pyranomters are generally 25% more expensive than the standard non-amplified models, increasing the value of this station dramatically.*)

The pyranometer sensor can be mounted on top of the *PV*MET-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 sensor comes standard with 25ft of cable.

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 **PV**ᴍᴇᴛ**-75** supports two sensors; the second temperature sensor may be purchased separately.

Communications

The **PV**ᴍᴇᴛ**-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 **PV**ᴍᴇᴛ**-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 **PV**ᴍᴇᴛ**-75**'s compact, lightweight design makes installation quick and easy. Various mounting options are available, including the RainWise Mono Mount. The **PV**ᴍᴇᴛ**-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 **PV**ᴍᴇᴛ**-75** can be updated through the RS-485 port using a simple PC application. This feature ensures that the **PV**ᴍᴇᴛ**-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.