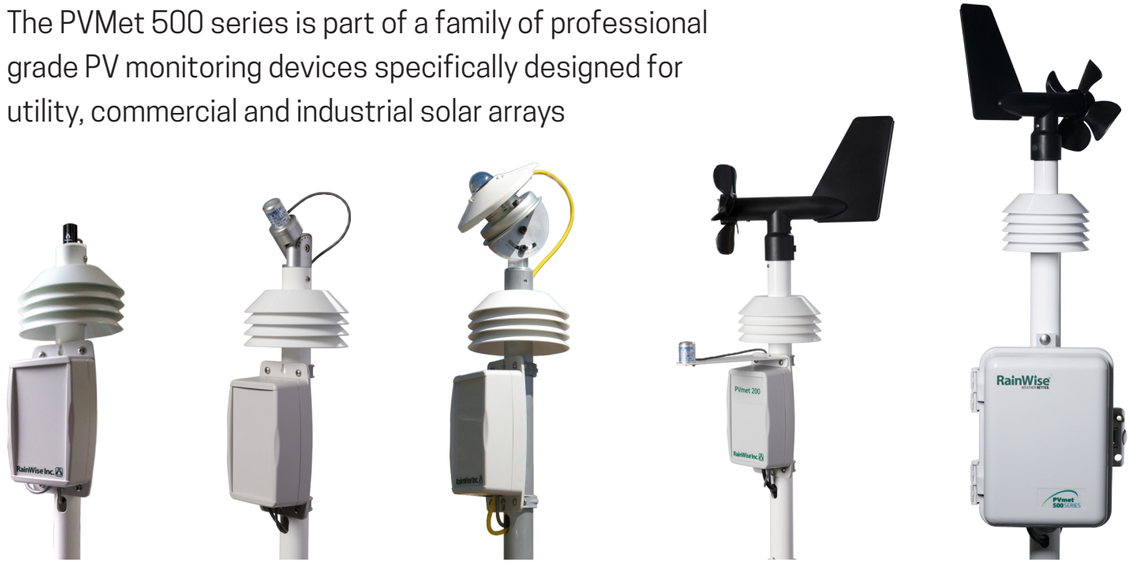
# The Industry's Broadest Line

The PVMet 500 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 500 Specs

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

**Operating Environment**

| | |
|---|---|
| Temperature: | -40°C to 60°C (-40 to 140°F) |
| Humidity: | 0-100% Condensing |
| Protection Level Housing: | IP65 |

**Ambient Air Temperature Sensor**

| | |
|---|---|
| Range: | -40°C to 70°C (-40 to 158°F) |
| Accuracy: | ± 0.4°C (0.5°F) |
| Thermal Time Constant: | 30 sec. |
| Resolution: | 0.1°C |

**Relative Humidity**

| | |
|---|---|
| Range: | 0 to 100% |
| Accuracy: | ± 5% |
| Resolution: | 1% |

**Barometric Pressure**

| | |
|---|---|
| Range: | 552 to 1084 hPa (mbar) |
| Accuracy: | ± 1.7 hPa (mbar) |
| Resolution: | 1 hPa (mbar) |

Optional data logger can be provided.

**PV Panel Temperature Sensors:**

| | |
|---|---|
| Range: | -40°C to °80C (-40 to 176°F) |
| Accuracy: | ± 0.3°C (0.54°F) |
| Thermal Time Constant: | 270 sec. |
| Cable Length | 7.62m (25 ft) |

**Pyranometer Options:**

Silicon Diode
Second Class Thermopile
First Class Thermopile
Secondary Standard Thermopile

**Anemometers:**

Mini Aervane:

| | | |
|---|---|---|
| Speed | Range: | 0 – 67 m/s (150 mph) |
| | Accuracy: | Greater of 0.45m/sec. (1 mph) or 5% |
| Threshold: | | 0.45m/sec. (1 mph) |
| Direction | Range: | 360° |
| | Resolution: | 22.5° |
| Accuracy: | | +/- 22.5° |
| Threshold: | | 0.9 m/sec. (2 mph) at a 10° deflection. |

**CV7 Ultrasonic Wind:**

| | |
|---|---|
| Wind module sensitivity: | 0.13 m/s |
| Wind module resolution: | 0.05 m/s |
| Wind module dynamic: | 0.13 m/s - 41.6 m/s |
| Direction sensitivity: | ± 1.5° |
| Direction resolution: | 1° |
| Direction accuracy: | >3m/s = ± 1° |
| Speed accuracy: | >3m/s = ± 2% |

**Rain Gauge**

| | |
|---|---|
| Range: | 0 mm/hr to 762 mm/hr |
| Accuracy: | ±2% at 25 mm/hr |
| Resolution: | 0.254 mm. |

**RS-485 Specifications**

| | |
|---|---|
| Mode: | 2-wire half duplex |
| Connector: | 4-position screw terminal, (A,B, signal and earth ground) |
| Max Speed: | 9600 bps |
| Termination: | 120 ohms (internal jumper enable) |

**Electrical power**

| | |
|---|---|
| Voltage: | 10-30VDC |
| Current: | 150mA Peak, 50mA nominal |

# Advanced Weather Measurement with Solar Monitoring Precision


**PVMet 500** – the world's first compact and customizable multi-function professional grade weather station specifically designed for PV efficiency monitoring

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

## Why Choose RainWise?

- Fully Sunspec compliant
- Optimized for Commercial & Utility grade PV applications
- Supports all Thermopile standards & classes, including albedo monitoring, support most Silicon Diode sensors
- Modular architecture
- Fast and easy installation, all necessary Stainless steel hardware included

# Industry Leading Configuration

The PVMet 500 series supports up to three irradiance sensors in any combination of thermopile and silicon diode technologies, configured to monitor global, plane of array albedo (bifacial PV) and diffused parameters. The series also supports up to three back-of-panel temperature sensors.

Our precision pole brackets comes with mounting hardware included



Optional rain gauge available in either PVC plastic or Aluminum (RGA)

# Features & Options

## Base Model Sensors Include:

- Ambient Temperature
- Relative Humidity
- Barometric Pressure

## Supports

- (3) Irradiance Sensors all classes and standard of Thermopile & Silicon Diode technologies
- Irradiance sensors can be configured to monitor Global, Plane Of Array, Albedo (bifacial PV) & Diffused parameters.
- (3) Back-of-Panel Temp Sensors

## Sensors

- Ultra Sonic Anemometer windspeed and direction (Optional)
- Mini-Aervane Anemometer windspeed and direction (Optional)
- Ambient Temperature (Standard)
- Relative Humidity (Standard)
- Barometric Pressure (Standard)
- Rain Gauge (Optional) PVC/Plastic & Aluminum (RGA) version

The PVMet 500 series is multi Sensor Weather Station with one RTU Modbus communication protocol.

## Performance Benefits

- Can accept precision solar sensors for efficient monitoring from Thermopile, including First Class, Second Class, and Secondary Standard to the economica Silicon Diode irradiance sensors.
- Meets the IEC-61724-1 standard for PV Monitoring Systems
- Easy set-up & fully assembled
- Tested Tough
- Durable & weather resistant
- Optional add-on sensors
- SunSpec certified or compliant
- Integration via Modbus RTU interface using RS-485
- Ethernet Modbus TCP option available



RainWise® WEATHER BETTER.