



# Met One Instruments, Inc.

## SOLAR MONITORING WEATHER STATION

### FEATURES

- Measures global, horizontal, plane of array, and background irradiance
- Measures wind speed, wind direction, ambient temperature, and relative humidity
- Includes a surface mounted thermistor or RTD probe to measure solar panel temperature
- Delivered as a preprogrammed, integrated system for simple installation
- Utilizes a 455C or AutoMet 580 Data Logger
- Supports TCP/IP, DHCP configuration
- Supports serial (RS-232C/422/485, MODBUS) and analog (0-1V, 0-5V, 4-20mA) output
- Modular and easily customized for all renewable energy generation systems



### SYSTEM DESCRIPTION

Met One Instruments' Solar Monitoring System is an automated weather station specifically designed for solar resource assessment and solar farm power generation monitoring. The system is easily customized with accessories for additional measurements, wireless communications, and remote operation.

The Solar Monitoring Weather Station includes common meteorological sensors, mounting accessories, a data logger or signal translator installed in a NEMA 4X enclosure, power supply, and communications hardware.

In the standard configuration, the data logger's NEMA enclosure and sensors are mounted to a heavy-duty expandable 10-ft tripod, but can easily be affixed to any lattice or monopole tower. The equipment can be powered from an AC source (100 to 240 VAC, 50/60 Hz) or a solar panel power system.

The standard sensor array includes two pyranometers, a combined air temperature and relative humidity sensor, wind

speed and wind direction sensors, and surface mounted temperature sensors to measure solar panel temperature.

Common enhancements include a rain gauge, a barometric pressure sensor, a pyrheliometer, and first class or secondary standard pyranometers.

### TYPICAL APPLICATIONS

- Solar Resource Assessment
- Power Generation Monitoring
- Solar Farm Commissioning
- Ambient Weather Monitoring
- Research and Development

## STANDARD COMPONENTS

The following products are included with each Met One Instruments' Solar Monitoring Weather Station:

- Two Pyranometers with 35-ft cables and prewired connectors
- 034B Wind Speed and Wind Direction Sensor with a 15-ft cable and a prewired connector
- 083E-1-35 Relative Humidity & Ambient Air Temperature Sensor with a 15-ft cable and prewired connector
- 5980 Naturally Aspirated Radiation Shield.
- Surface Mounted Thermistor to Measure Solar Panel Temperature
- 455C Series Data Logger or AutoMet 580 in NEMA 4X Enclosure (Includes 12 VDC Power Supply)
- 905 Tripod (Expandable from 6-ft to 10-ft) supplied with Lightning Rod and Guy-Wires
- Mounting Accessories for Wind Sensor and Pyranometers

## ADDITIONAL SENSORS & ACCESSORIES

- 092 Barometer (600 to 1100 hPa) with 5-FT Cable
- 370 Rain Gauge (8-in Diameter, 0.01-in Calibration)
- ES-642 Ambient Dust Monitor (0 to 100 mg/m<sup>3</sup>, 0.1 to 100 micron)
- MX-136 Battery Backup System (Includes 36Ahr Battery & Charger in NEMA Enclosure)
- MX-120/140 Remote Solar Power System (Includes 20/40W Panel & 36Ahr Battery in NEMA Enclosure)

## LOGGER & TELEMETRY ACCESSORIES

- 500038 Ethernet Interface & Compact Flash Module for IMP-Series Data Logger
- MX-991 Spread Spectrum Radio Kit (900 MHz, Requires Line of Site)
- MX-911 Cellular Digital Modem Kit for GPRS or CDMA

## SOFTWARE

- 550117 LOGGERNET Data Logger Support Software
- 550311 Visual Weather, Weather Station Software



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