



Distributed PV Monitoring

Ideal for POA Sunstations

Overview

The MeteoPV Solar Resource Platform delivers key photovoltaic (PV) resource data used in PV system analysis and performance assessment. It is a Modbus datalogger, and is ideal for distributed PV monitoring and as a plane-of-array (POA) sunstation on large solar farms.

Built for PV monitoring, the MeteoPV scales to the purpose, size, and complexity of the performance data requirements with

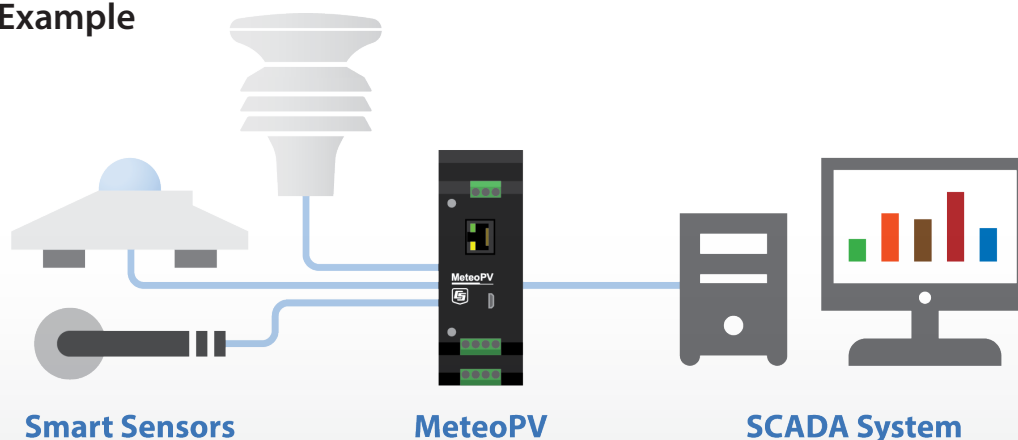
industry standard pyranometers, reference cells, back-of-module temperature sensors, and compact all-weather sensors.

For deployment efficiency and error elimination, an onboard, browser-based, easy-to-understand user interface verifies proper sensor operation and SCADA communication. A PDF installation report containing site data, sensor metadata, and configuration data is generated to simplify sensor documentation and traceability.

Benefits and Features

- Lower soft costs with 5-minute setup with intuitive browser-based user interface
- No coding required
- Small footprint and DIN-rail mounting for integration with combiner boxes or other control panels
- Campbell Scientific reliability and quality
- Compatible with industry-standard pyranometers, reference cells, back-of-module temperature sensors, and compact weather sensors
- Designed to exceed the life of your PV plant with integrated surge and ESD protection
- SCADA ready with Modbus RTU and Modbus TCP/IP

Application Example



More info: 435.227.9120

campbellsci.com/meteopv



Technical Description

The MeteoPV communicates with smart pyranometers, reference cells, back-of-module temperature sensors, and compact weather sensors, making it a flexible and easy-to-use POA sunstation solution. The Modbus datalogger protocol over RS-485 is used to interface with the sensors, while Modbus TCP/IP protocol is used to communicate with the local SCADA system or other data collection platform. A Modbus map is built-in to the MeteoPV, providing aggregation of sensor readings and valuable metadata from one source.

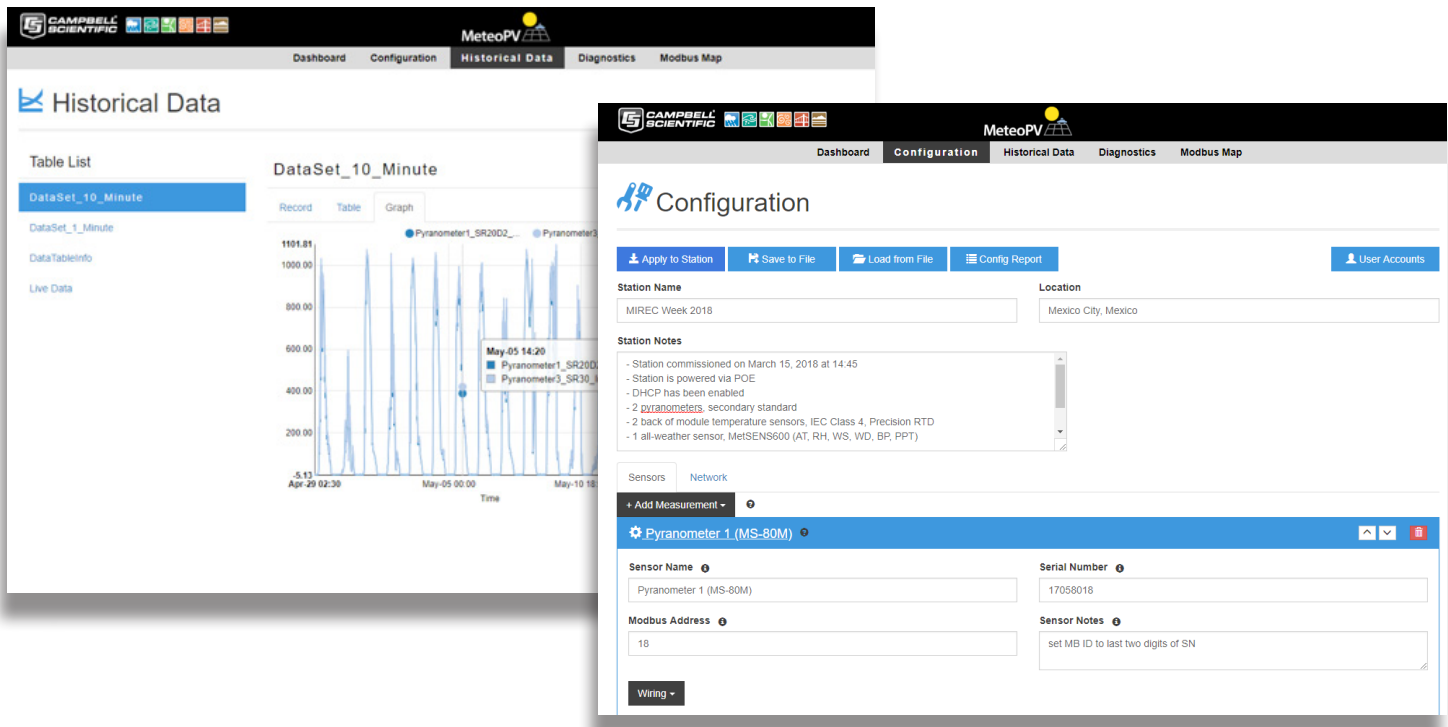
With its small footprint and DIN-rail mounting, the MeteoPV is ready for integration with existing combiner boxes or other control panels. Power-over-Ethernet compatibility is a convenient method for supplying power without needing additional power supplies.

Installation and commissioning are straightforward without the headache of navigating, configuring and addressing multiple sensor interfaces or generic gateway devices.

User Interface

The MeteoPV hosts an intuitive onboard user interface accessed by a web browser. The browser-based interface simplifies the ini-

tial communication configuration and long-term sensor management. Simply connect, select your sensors, and start measuring.



Specifications

- › CPU: ARM Cortex M4, running at 144 MHz
- › Operating Voltage: 9 to 30 Vdc
- › Operating Temperature Range: -40° to +70°C
- › Power Consumption at 12 Vdc: ~30 mA (not including sensors)
- › Isolated Sensor Power: 12 Vdc, 800 mA
- › Isolated POE: 802.3af Compliant
- › EMC Immunity IEC 61000-4-2 Class 4
- › USB Micro B, 2.0 full-speed 12 Mbps for computer connection
- › SCADA Interface
 - ♦ Port: RJ45 jack 10/100Base-TX, full and half duplex Auto-MDIX, magnetic isolation and TVS surge protection
 - ♦ Protocol: Modbus TCP/IP
- › Sensor Interface
 - ♦ Port: Half duplex RS-485
 - ♦ Protocol: Modbus Datalogger over RS-485
- › Compatible Sensors
 - ♦ Campbell Scientific: CS240DM, MetSENS series, CS325DM
 - ♦ EKO: MS-80M
 - ♦ Hukseflux: SR30, SR20-D2
 - ♦ Kipp and Zonen: SMP series
- › View the EU Declaration of Conformity document at: www.campbellsci.com/meteopv