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WHEN MEASUREMENTS MATTER

MeteoPV
Solar Resource Platform

Distributed PV Monitoring

Ideal for distributed solar resource monitoring

Overview

The MeteoPV Solar Resource Platform delivers key photovoltaic (PV) resource data used in PV system analysis and performance assessment. It is the only purpose-built PV resource data platform on the market, and it is ideal for distributed PV monitoring and as a secondary weather station 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

- Five-minute setup with intuitive browser-based user interface
- Internal data storage for backup of critical meteorological data
- 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 a PV plant with IEC Class 4 integrated surge and ESD protection
- SCADA ready with Modbus RTU and Modbus TCP/IP

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 RTU 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 into 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.

The MeteoPV hosts an intuitive onboard user interface accessed by a web browser. The browser-based interface simplifies the initial 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 @ 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
SCADA Interface Protocol	Modbus TCP/IP
Sensor Interface Port	Half-duplex RS-485
Sensor Interface Protocol	Modbus RTU over RS-485

For comprehensive details, visit: www.campbellsci.eu/meteopv

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