SP-12 Solar Weather Station

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Features and Benefits

- A combined turn-key solution for solar resource measurement
- Supports SCADA integration with real-time measurement data from Modbus TCP/IP
- Easy to order, configure, and install
- Low power requirements and robust, industrial-grade instruments support remote operation in harsh weather conditions
- Smaller data file sizes and remote access capability reduce transmission and field service costs

Overview

The SP-12 Solar Weather Station is a turn-key solar measurement system designed for utility-scale solar resource assessment and solar generation plant operational applications.

Flexible and Economical

The SP-12 comes in several configurations to economically and efficiently support different measurement requirements, and can be customized to suit specialized needs.

The SP-12 includes a 2-meter tower, booms, solar sensors, and complete installation instructions.

Nomad 3 Data Logger

At the heart of the SP-12 system is the Nomad 3 data logger. Designed for renewable energy measurement appliations and already in use at hundreds of wind energy installations, the Nomad 3 is rugged and reliable, stands up to harsh climates, has low power requirements, and reduces transmission costs with small data file sizes.

Nomad 3 is simple to install and operate. It offers 12 measurement channels to support not only solar resource data logging but also the other environmental measurements needed for ground-level resource assessment. Hermetically sealed electronics, robust industrial-grade connectors, and state-of-the-art

Nomad 3 Data Logger

lightning protection make Nomad 3 an excellent choice for demanding climate and weather conditions.

WXT536 Multi-weather Sensor

An excellent choice for ground-level resource assessment, the WXT536 is Vaisala's next-generation multi-weather sensor. It combines multiple weather measurements - air pressure, temperature, humidity, rainfall, wind speed, and wind direction - in one state-of-the-art, cost-efficient package. Compact and lightweight, the WXT536 is easy to install and has no moving parts.

WXT536 Multi-weather sensor

Technical Features and Specifications

Measurement Platform

Nomad 3 data logger with GPRS / 3G data transfer, ModBus TCP/IP SCADA

1-second data sampling

10 minute records for all inputs and math functions

User-enabled 1 minute average data

20W solar panel and 12Ah battery

Data Delivery Options

SKYSERVE WEB SERVICE

Vaisala operated system free for Nomad 3 users

Fleet management and data visualization tool

Data updated every 10 minutes during day, or determined by user-defined parameter

Access through secure Internet page

FTP SERVER

Data delivered directly from Nomad 3 data logger to FTP server

FTP server address set to logger

Data transfer once a day

SCADA CONNECTION

Real-time measurement data from Modbus TCP/IP

All options can be active simultaneously

Standard Configuration

Complete solar weather station configured to support best-practice solar resource assessment.

INCLUDES:

Nomad 3 Data Logger

20W solar panel

12-volt, 12Ah battery box with solar charge regulator

WXT536 multi-weather sensor - measures:

· wind speed
· wind direction
· ambient temperature
· humidity
· pressure
· rainfall

2 Kipp & Zonen SMP10 Secondary standard pyranometers

Thermistor for panel temperature measurement

2-meter tower

2 1-meter sensor booms

OPTIONAL ADDITIONS:

Screw foundation

Pyranometer tilt mount

Redundant pyranometers

Basic Configuration

A more economical version of the weather station with fewer measurement parameters.

INCLUDES:

Nomad 3 Data Logger

20W solar panel

12-volt, 12Ah battery box with solar charge regulator

WMS301 wind sensor

Thermistor and radiation shield for ambient temperature measurement

1 Kipp & Zonen SMP10 Secondary standard pyranometer

Thermistor for panel temperature measurement

2-meter tower

2 1-meter sensor booms

OPTIONAL ADDITIONS:

Rain gauge

Screw foundation

Redundant pyranometers

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