

SOLAR INVERTERS

ABB monitoring and communications

VSN800 Weather Station



The VSN800 Weather Station automatically monitors site meteorological conditions and photovoltaic panel temperature in real-time, transmitting sensor measurements to the Aurora Vision® Plant Management Platform.

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01
VSN800-12 Weather
Station

The VSN800 contains the essential environmental sensor set needed for solar monitoring. The expanded sensor set enables plant management across a broad range of plant sizes. VSN800 is a companion to the VSN700 Data Logger, where it is fully compatible and integrates seamlessly with the Aurora Vision® Plant Management Platform.

Shipped preconfigured and ready for installation requiring no special tools

The VSN800 Weather Station is delivered ready for installation and requires the installer to mechanically mount the modules on a user-supplied mast, connect power and communication, and initialize the automatic system commissioning process from the VSN700. No special software, or on-site calibration is required.

The all-in-one weather station reduces the installation, support and maintenance cost while improving the robustness and manageability of the PV plant monitoring solution.

The basic sensor set provides data needed to calculate a performance ratio allowing a plant operator to track solar array performance against expected energy production.

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02
VSN800-14 Weather
Station

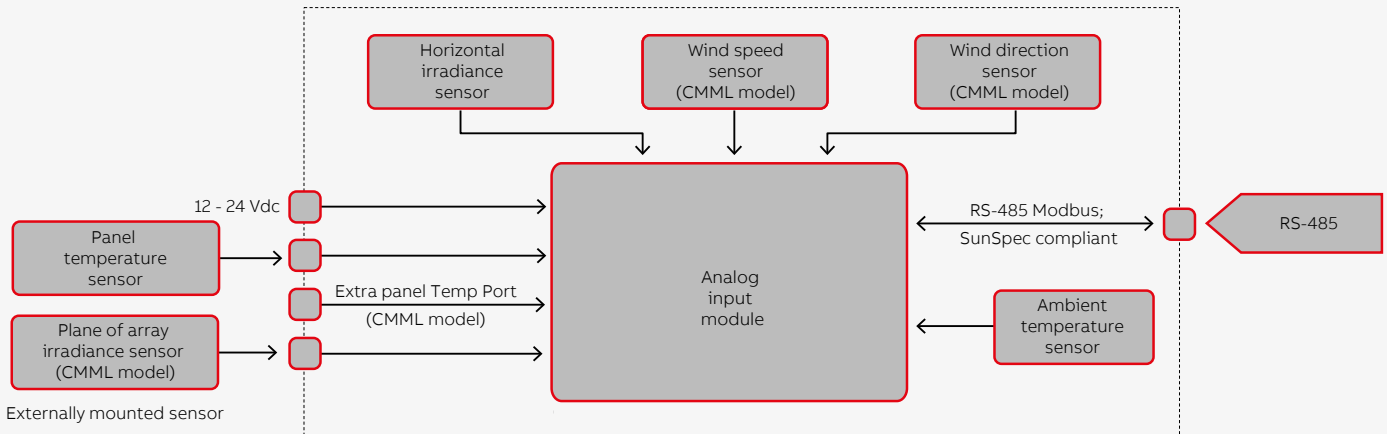
The advanced sensor set improves monitoring of weather conditions that can effect energy production. The extra irradiance sensor for mounting at the plane of the array allows more accurate measurement of irradiance that is incident in the plane of the solar panels.

The wind speed and direction sensor gives the operator information about how the wind may be cooling the panels and some indication of how much dust may be accumulating on the panels.

Highlights

- Two models offered for basic and advanced sensor sets
- VSN800-12 includes a basic sensor set: ambient temperature, solar irradiance, and back of module temperature
- VSN800-14 includes additional advanced sensors: plane of array irradiance and wind direction and speed
- Sensors, data acquisition unit, and RS-485

ABB VSN800 Weather Station block diagram



Technical data and types

		VSN800 Weather Station	
Type code		VSN800-12	VSN800-14
Sensors			
Ambient temperature		Range -40°F to 176°F (-40°C to 80°C) Accuracy +/- 0.54°F (0.3°C)	
PV panel temperature		Range -40°F to 176°F (-40°C to 80°C) Accuracy +/- 0.54°F (0.3°C) Cable length 25 ft (7.62 m)	
Solar radiation		Range 0 to 1750 W/m ² Accuracy +/- 5% Temperature range -13°F to 131°F (-25°C to 55°C)	
Number of radiation sensors		1 horizontal	1 horizontal, 1 plane of array
Wind direction		N/A	Range 360 degrees Accuracy +/- 22.5° Threshold 2 MPH (0.89 m/s) Temp range -40°F to 140°F (-40°C to 60°C)
Wind speed		N/A	Range 0 to 150 MPH (0 to 67 m/s) Accuracy is Greater of 1 mph (0.45 m/s) or 5% Threshold 2 MPH (0.89 m/s) Temp range -40°F to 140°F (-40°C to 60°C)
Communication			
Serial port		RS-485 2 wire, modbus RTU, SunSpec compliant	
Terminal block		#22 - #18 AWG	
Recommended cable		Belden #1120A or equivalent	
Power supply			
DC power supply input		10-30 VDC, 50mA	
Terminal block		Accepts AWG #22 - #18	
Compliance			
EMC		FCC Part 15, Subpart B; ICES-003; EN 61326-1:2006; Emission class B, Immunity is class A	
Enclosure		UL 94 V-2, ROHS compliant, IP65	
Humidity		0 to 100% Condensing	
Physical parameters			
Dimensions H x W x D		0.53 m x 0.13 m x 0.12 m (20.9" x 5.1" x 4.7")	0.63 m x 0.25 m x 0.33 m (24.8" x 9.8" x 13")
Weight		0.8 kg (1.75 lbs)	3.2 kg (7 lbs)
Ambient temperature range		-13°F to 131°F (-25°C to 55°C)	
Mounting		Pole or tripod	
Warranty			
Standard warranty		Two years	

Remark. Features not specifically listed in the present data sheet are not included in the product

For more information please contact your local ABB representative or visit:

www.abb.com/solarinverters
www.abb.com

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