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Product Spotlight

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Automatic Weather Station AWS810 *Solar Edition*

Unlock lifetime solar power plant efficiency with smart solar irradiance and weather monitoring

The smart, secure and future-proof Vaisala Automatic Weather Station AWS810 *Solar Edition* combines reliable measurements with data collection, processing and connectivity so you can optimize every stage of your solar power plant for maximum performance.

AWS810 *Solar Edition* is a generational leap for solar irradiance and weather sensing. High-quality sensor data is included for global, diffuse and reflected solar irradiation including all key weather parameters, plus soiling sensors. The accurate, always-on and long-lasting design is IEC 61724-1 compliant and purpose-built to be trusted for a solar plant's entire operational lifespan.

The robust, modular design includes turnkey options for plug-and-play ease, while remote diagnostics reduces maintenance time with low life-cycle costs. Secure, end-to-end network management and comprehensive system security enables trusted weather observations — from hardware design to user interface including remote software updates.

Key benefits

Measure, plan and effectively predict performance

The accurate, always-on and long-lasting solution is IEC 61724-1 industry standard compliant and includes high-quality sensor data for global, diffuse and reflected solar irradiation, including all key weather parameters.

Get started fast with easy setup and low life-cycle costs

Get consistently accurate data from ruggedized, smart technology that is easy to deploy and maintain. The flexible and easy setup expands as your plant's needs change, while remote diagnostics and built in data validation keep performance high with low life-cycle costs.

Rely on secure, smart, turnkey features

Your data is secure and intact with end-to-end network management, comprehensive system security, self-diagnostics and remote network sensor monitoring. Data connectivity is seamless with the SCADA system and cloud-based asset management platform, and Modbus sensor mapping is compliant with SunSpec Alliance.

Operate with lifespan confidence

End-to-end weather and solar irradiance measurement data, advanced analytics and actionable digital insights cover the lifespan of your solar farm from development, construction and commissioning to operations and life-cycle management. Deepen your insights with historical solar data, real-time lightning data and near-term weather forecasts, and combine with satellite-derived data.

Key features

Connects to all standard / smart / high quality irradiance sensors from any manufacturer, from class A thermopile pyranometer to photodiode and reference cells, to collect global, direct and diffuse irradiance data and albedo

Includes PV module temperature plus all key weather parameters: wind speed, wind direction, ambient temperature, rain, and relative humidity to atmospheric pressure

Advanced data management for unrivaled scalability, security and intelligent data quality control

Seamless, flexible integration compatible with Vaisala sensors, third-party equipment and data services solutions

Modern, comprehensive security keeps data intact and prevents breaches

High efficiency with enhanced network management through remote diagnostics, updates, control and configuration management

Why Vaisala for renewable energy?

We are innovators, scientists, and discoverers who are helping fundamentally change how the world is powered. Vaisala elevates wind and solar customers around the globe so they can meet the greatest energy challenges of our time.

Our renewable energy solutions are guided by several key priorities:

- Thoughtful evolution in a time of change
- Making renewable energy smarter at every stage
- Extending our legacy of leadership

Vaisala is the only company to offer 360-degree renewable energy solutions — from sensors and systems to digital services and actionable intelligence — nearly anywhere on the planet. Every Vaisala solution benefits from our 85+ years of experience, pioneering deployments in 170+ countries, and unrivaled thought leadership.

Our innovation story, like the renewable energy story, continues.

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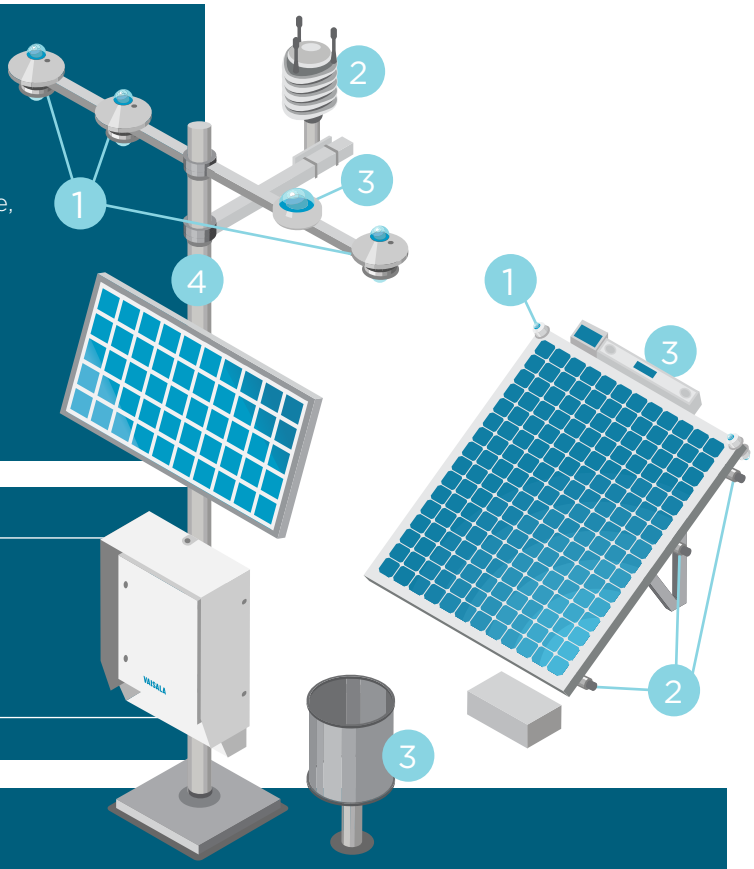
System components

AWS810 *Solar Edition* includes turnkey components for the most common solar power plant needs with different sensor configurations. Get exactly what your solar farm needs with options ranging from from a single GHI or GTI measurement to fully-equipped solar weather stations.

Main components

1. Solar irradiance sensors: Global Horizontal Irradiance (GHI) and Plane Of Array (POA)
2. Meteorological sensors: Wind speed, wind direction, ambient and PV module temperature, relative humidity, atmospheric pressure
3. Optional components: Albedometer, diffuse irradiation, rear-side POA, soiling sensor, rain gauge, reference cell interface, solar power
4. Powering and mechanics: Solar power, mains power, mast and sensor arm



Data logger components

- Powering with back-up battery
- Data management unit with ethernet and optional 4G modem and optional fiber optic
- Local data storage
- Sensor interfaces

Connections and interfaces

PV plant SCADA interface

- Quality controlled sensor data
- Local network with ethernet cable (default), fiber optic (optional), or serial (RS-485, optional)
- Modbus TCP/IP (Modbus Sunspec interface)

Local and remote user interface connection
DMU801 Web UI

- Maintenance and configuration
- Software update and restart
- Observation visualization
- Local data storage

Optional network management

- Vaisala Network Manager NM10
- Monitoring, events, alerts
- Metadata management
- Remote restart and centralized software updates

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Scan the code for more information