

A close-up, low-angle shot of solar panels, showing the grid lines and the reflective surface of the cells, extending towards the horizon under a bright sky.

5 ways an automatic weather station improves solar power plant performance

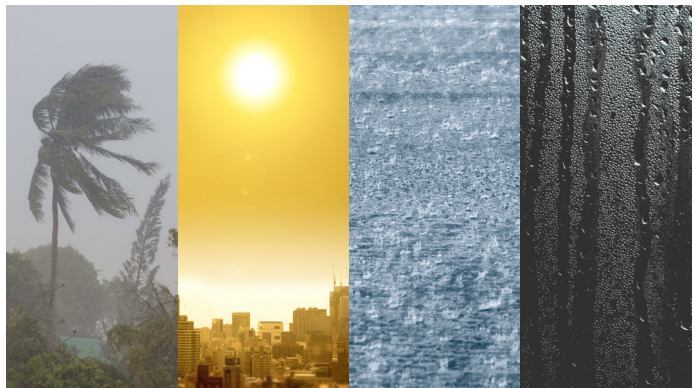
Continuous performance monitoring is critical for making the most of every phase of a solar power plant — from development, construction and commissioning to operations and life-cycle management.

Equipped with smart solar irradiation and weather monitoring, automatic weather stations are purpose-built for this task, provide highly accurate measurements that make it easy to proactively maintain optimal performance.

Here are five ways an automatic weather station improves solar plant performance for maximum output and return on investment.

1 Real-time, accurate and reliable data

Automatic weather stations collect the solar irradiance and weather data that is essential for solar plant maintenance and optimization: PV module temperature plus wind speed and direction, ambient temperature, rain, and relative humidity to atmospheric pressure. With it, operators can spot and fix small problems to avoid expensive repairs and downtime while maximizing power output.



2 Data connectivity



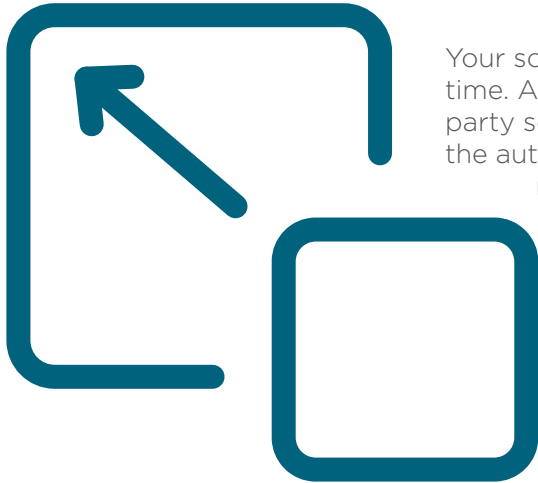
Solar performance data is only as usable as it is accessible. Always-on automatic weather stations make it easy to track performance with end-to-end network management, comprehensive system security, self-diagnostics and remote network sensor monitoring. Data connectivity is seamless with SCADA systems and cloud-based asset management platforms.

3 Rugged and weatherproof design

Automatic weather stations are built to last the entire lifespan of a solar farm. Intelligent power control ensures continuous measurement even during power outages. Soiling sensor, self-diagnostics and remote network sensor monitoring help you maintain PV panels efficiently. Remote diagnostics and built-in data validation keep performance high with low life-cycle costs.



4 Scalability



Your solar power plant's needs change over time. Adding high-quality additional or third-party sensors is a simple process, thanks to the automatic weather station's advanced data management. Design flexibility and intelligent data quality control keep lifetime costs low.

5 Optimizing every stage of your solar power plant

Vaisala's Automatic Weather Station 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.



Smarter at every stage

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