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Solar Mobile Laboratory | PV Mobile Lab

Enertis Applus+ PV Mobile Laboratory is a solar laboratory that brings the most accurate solar testing and solar inspection techniques for solar PV modules directly on-site at solar plants, minimizing downtime at operating PV installations.

Pioneered, designed, and patented by Enertis Applus+ in 2012, it is currently available in Europe, North America, Chile, Brazil, and Australia.

THE Applus+ SOLUTION

The PV Mobile Laboratory has been developed to allow our solar energy experts to carry out quality control inspections on solar PV modules directly at the plants, eliminating the risks associated with module shipping and transportation to conventional stationary laboratories and avoiding energy production losses due to module unavailability.

The PV Mobile Laboratory is equipped with a solar simulator and with the most advanced technology for bifacial and large solar PV module testing. Its capabilities include:

- Maximum Power Determination (or flash) tests to determine the output power of a PV module at Standard Test Conditions (STC).
- Electroluminescence tests that allow for the detection of internal defects in the PV modules, such as breaks/micro-cracks in cells, short-circuited cells, bus/ finger contact-based defects, etc. with a high spatial resolution.
- Infrared thermography tests are carried out with portable high-resolution infrared cameras. This is the only test carried out outside of the PV Mobile Laboratory.
- Electrical Insulation Measurement tests to check that no electrical breakdowns occur and that conducting elements in a module are sufficiently isolated from the frame.

Enertis Applus+ is accredited IEC/ISO 17025 by ENAC to perform solar testing on the PV Mobile Lab and all tests conducted with the PV Mobile Laboratory are based on

International Standards. We are completely independent of manufacturers, aiming to provide solar testing and optimization services in an utterly unbiased way.

Target customers

The PV Mobile Laboratory provides support to PV plant owners and the tests carried out allow for a comprehensive monitoring of PV modules' quality conditions, being performed during the commissioning and operational stages of a project.

These tests can be performed in the post-installation phase, after the module's initial exposure, to monitor its annual degradation, after extreme wind, hail, or storm events, or to identify causes of under-performance.

Key customer benefits

- The inherent risks associated with the preparation of modules for shipping and their transportation to conventional stationary laboratories are eliminated. These operations pose a risk as photovoltaic modules can suffer damage during the handling and transportation process.
- It improves time efficiency since photovoltaic modules are inspected directly on-site, and energy production losses due to module unavailability are significantly reduced.
- All tests conducted with the Photovoltaic Mobile Laboratory are based on International Standards, and we are independent of manufacturers, providing solar testing services impartially.
- Both bifacial and large-format modules can be tested.