In partnership with CEA and Gsolar

pv magazine group
show the world how good your modules are!

pv magazine test

In times of high price pressure and overcapacity, the PV market is tougher than ever. Stand out from the crowd with a quality test seal from pv magazine.

What do we offer?
The test’s origin:
Starting in 2011, pv magazine published extensive tests on more than 20 modules in collaboration with Solarpraxis and TÜV Rheinland, under the label PV+Test.

Now:
 pv magazine has updated the test for 2017, offering for the first time 100% third-party witnessing of the process. This is a first in the PV industry, which, until now, has conducted testing by one party with no outside expert witnesses.

The test will involve a comprehensive series of testing procedures, including the following:

3 PID (Potential Induced Degradation) resistance
3 Low irradiance and temperature behavior
3 Outdoor test
3 Optional: LID (Light Induced Degradation) resistance, especially relevant to PERC modules

The added value of pv magazine test:
3 An economic way of demonstrating your reliability to investors
3 Measurements performed in a 1st class laboratory in China
3 Expert third-party witnessing of all testing procedures by Clean Energy Associates, a well-known advisory firm that has audited more than 125 manufacturers in the industry.

Is this of interest to you?
For more details about pv magazine test, and to receive a quotation, please contact our Sales Team:

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**How does the module test work?**

**Program flowchart**

1. **Supplier** provides a list of 2,000 (minimum) serial numbers of PV modules of the same product type.
2. **CEA** randomly selects 5* modules to be shipped for testing.
3. **Supplier** packages samples in strong wooden box.
4. **G-shock** sticker with serial number ID is attached on the box.
5. **CEA** records photos of the box, and G-shock sticker.
6. **Supplier** ships the box with samples to Gsolar’s lab.
7. **Gsolar engineers** examine the box and sticker.
8. Is either 1) the box damaged or 2) sticker redisplayed?
   - **Yes**: **Gsolar notifies CEA to send engineer for inspection**.
   - **No**: **Random selection by CEA of the modules that will be assigned to each of the sequences A to D**.
9. **5* modules**
   - **Visual Inspection**
   - **EL imaging**
   - **Recording of values and calculation of scores**
10. **Low irradiance test**
    - **Pmax** measurement at 200 W/m², 25 °C
    - **Pmax** temperature coefficient measurement
      - **Pmax** at 1 sun irradiance, 60 °C, 50 °C, 40 °C, 30 °C
11. **PID test**
    - 96 hours at 85 °C, 85% RH, at nominal voltage ±1.000V ±1.500V
    - **EL imaging**
12. **Outdoor test**
    - Monitoring of system values (energy yield).
13. **LID test**
    - Exposure in LID chamber at 80 kWh/m².
    - **EL imaging**
14. **Recording of values and calculation of scores**

**Results** will be published in **pv magazine**.

* LID option: 5 modules if LID test is performed (1 module is spare, in case a module is accidentally damaged in the lab).

Comprehensive third-party expert witnessing included throughout. Details may differ if LID option included.

**Gsolar grade** will be defined by **CEA**.

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**VERY GOOD**

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**gv magazine** publishes test results and issues seal to supplier.
What you get from it?

For you as a module manufacturer pv magazine test presents an ideal marketing opportunity to demonstrate the quality and reliability of your modules!

**Boost your reputation** among investors by participating in pv magazine test!

**Benefit** from pv magazine’s international reach:
- Results will be published on the leading online sites in English, German, Chinese & Spanish
- Optional: receive customized print-outs to give directly to your customers.
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