

PRODUCT ANNOUNCEMENT

FLUKE®

Date: 4 January, 2021

Fluke Irradiance Meter, FLK-IRR1-SOL

Make the critical measurements needed for installing, testing, maintaining, and reporting on solar panels or photovoltaic systems with one, easy-to-use tool.

The Fluke IRR1-SOL Irradiance Meter has been designed from the ground up to simplify the installation, commissioning and troubleshooting of photovoltaic arrays, measuring irradiance, temperature, and inclination of the solar array in a single handheld tool.

With a rugged, compact design, a protective carrying case and an easy-to-read, high-contrast LCD screen to read measurements in direct sunlight, the IRR1-SOL can go where you go.



The simple user interface, **instantaneous solar irradiation** measurements and built-in **temperature sensor** make it easy to help meet the IEC 62446-1 requirements for testing, documenting, and maintaining photovoltaic systems. Additionally, the **integrated compass** and **inclination sensor** allow you to quickly measure and document roof and site orientation, pitch, and panel tilt while surveying, installing, or adjusting an installation.

VALUE PROPOSITION

- **Irradiance Measurement:** the high precision mono-crystalline solar sensor allows for instantaneous irradiation measurements up to 1400 W/m²
- **Temperature measurement:** using either the built-in temperature sensor or the external suction mount temperature probe to measure ambient and panel temperature
- **Integrated compass:** measure and document roof or site orientation
- **Inclination sensor:** measure roof and PV panel tilt when surveying, installing, or adjusting the installation.
- **Carry it everywhere:** equipped with a practical shoulder strap case, safely climb to elevated places keeping your hands free

Customer Applications

Use the Fluke IRR1-SOL Irradiance meter for:

Photovoltaic system design and surveying

To find the expected production at a site, determine your solar resource while taking shading into account. The solar resource is measured in peak sun hours: the number of hours per day where 1,000 watts per square meter of solar array is generated. Location, time of day, season and weather conditions all influence peak sun hours. Use the Fluke IRR1-SOL to determine the actual solar irradiance (Watts/m²) and shading at the site to develop a baseline.



Measuring

Once your system is installed, make sure it is operating as designed by measuring its electrical characteristics and the actual power output of the array. The performance of a photovoltaic array is based on its current-voltage (IV) curve. Use the IRR1-SOL in conjunction with a multifunction tester to calculate the IV curve of your power output.



Comparing and diagnosing

Even when installed correctly, a photovoltaic system may not be producing the expected electrical production. For the photovoltaic system to produce the expected output, it is important to ensure that the system is receiving the right amount of irradiance energy to generate DC voltage fed into the inverter.



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