

SolAqua, Inc.

Solar Irradiance Digital Meter

The DS-05A solar meter brings 'point and read' simplicity to the measurement of solar irradiance. Just turn the meter on, point the sensor at the sun and obtain a reading in Watts/m².



Technical Specifications

The DS-05A solar meter provides an accurate reading (3%) from 0 - 1200 Watts/m² when they are pointed at the sun. Resolution is 1 W/m², maximum display reading is 1999. The irradiance value is presented on a 0.75" easy-to-read LCD display. The meter is (2.5" x 4.5" x 1.0" inches) (6.4 x 11.4 x 2.5 cm) and weighs (less than 5 ounces) (140 g) with 9-V battery.

PV Sensor: The meter uses a polycrystalline silicon PV cell as the sensor. The cell is mounted on the top end of the meter, perpendicular to the display. The sensor responds to a spectrum bandwidth of approximately 0.3-1.1 microns. The meter is intended for outdoor measurements of natural sunlight. The PV sensor is located behind a plastic diffuser.

Meter Calibration: Meters are calibrated on clear days in natural sunlight and adjusted to a reference cell periodically calibrated with pyranometers at Sandia National Laboratories. Meters are pointed directly at the sun for calibration with the plastic protection cover in place. Off-angle calibration is not done. However, empirical data indicate meter-to-meter performance remains consistent up to 40 degrees off-angle from the direct normal. Beyond 40 degrees the readings start to diverge and may reach 10 - 15% when pointed 70-80 degrees away from the sun. The meters are calibrated in groups and records are not maintained.

Care of your Meter: The meters are designed for use in the field but you should treat them as you would your voltmeter; avoid dropping them, do not leave them out in the rain. They are not sealed for continuous exposure to weather. The LCD display may darken if exposed to direct sunlight for a prolonged period.

Meter Repair: If your meter is damaged or malfunctions, contact us for instructions about repair or return. A repair charge may assessed if your meter is more than one year old.

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