

Litemeter LM1-10V PRO

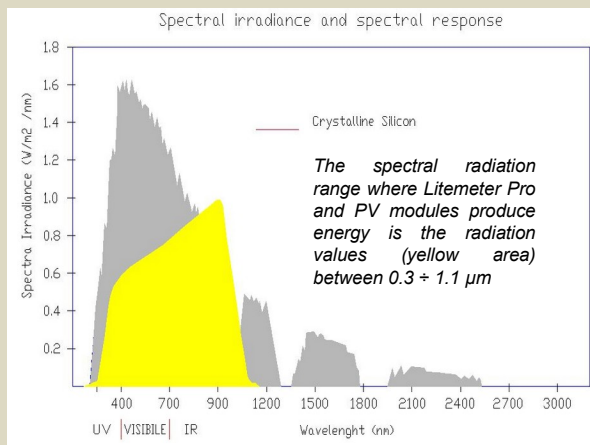
Litemeter **LM1-10V PRO** is an analog photovoltaic pyranometer (or solar irradiance sensor) with a monocrystalline silicon cell laminated in performance glass. It is equipped with two signal outputs, one for irradiance and one for temperature. Manufacturing and Calibrations are done following the **IEC 61215, IEC 60904-2; 60904-4; 60904-10 regulations**.

Measurement features

Litemeter **LM1-10V PRO** has a **photovoltaic cell** which is laminated with **E.V.A. and a high performance anti-reflective glass for photovoltaic modules**.

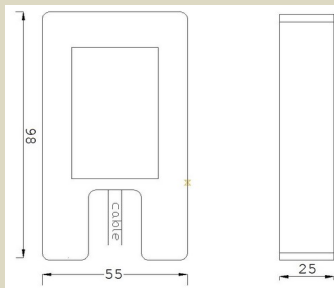
It guarantees the maximum precision in the measurement of irradiance and provides a measurement of the indicative temperature of the photovoltaic modules next to it. The sensor has two signal outputs in voltage: $0 \div 10$ V, one for solar irradiance and one for temperature. This Litemeter also has another feature: the solar irradiance signal is temperature compensated; so the solar irradiance values are independent of cell temperature. All Litemeters are calibrated with our Primary Reference cell calibrated periodically by **ISFH Institute**, accredited by **Dakks**.

Spectrum of interest



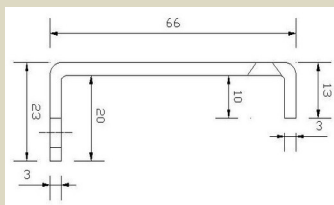
Calibration

Each Litemeter LM1-10V PRO is calibrated for comparison with our Silicon Reference Cell calibrated periodically by ISFH Institute and a HP34410A Multimeter.



Physical features

Silicon sensor laminated in glass, anodized aluminum housing, high durability, practical mounting bracket with screw clamp, UV-resistant cable.



Most common uses

Litemeter LM1-10V PRO is used in medium-sized PV systems.

| LITEMETER SENSOR | | |
|---|---|---|
| Product | Litemeter LM1-10V PRO | |
| Standard Reference | IEC 60904-2 IEC 60904-4 IEC 60904-10 | |
| Output | 2 analog channels | |
| Input Range | irradiance | $0 \div 1200 \text{ W/m}^2$ |
| | Spectral range | $0.3 \mu\text{m} \div 1.1 \mu\text{m}$ |
| | Temperature | $-30 \div +85 \text{ }^\circ\text{C}$ |
| Output | Irradiance | $0-10 \text{ V}$ for $0-1200 \text{ W/m}^2$ factory calibrated |
| | Temperature | $0 \div 10 \text{ V}$ for $-20 \div 80 \text{ }^\circ\text{C}$ ($V=1.84 + 0.092 \times T[^\circ\text{C}]$) guaranteed by design |
| Output precision | Irradiance | $\pm 3.5\%$ |
| | Temperature | $\pm 1.5 \text{ }^\circ\text{C}$ |
| | Response Time | $< 100 \text{ ms}$ |
| Sensor Type | Solarimeter with 2 analog channels | |
| Supply | Ext. Current loop | $12 \div 30 \text{ Vdc}$ |
| Electronics non-linearity | $< \pm 0.1 \%$ | |
| Temperature drift. $-30 \div 90 \text{ }^\circ\text{C}$ | $< \pm 0.5 \%$ at 1000 W/m^2 | |
| Overall measurement uncertainty | $\pm 2.4 \%$ @ 1000 W/m^2 | |
| Uncertainty reference cell | $\pm 1.2 \%$ (ISFH , accredited by Dakks) | |
| PV cell | monocrystalline silicon | |
| Encapsulant | Glass + E.V.A. + Poliester | |
| Cable | 60cm or 3 m shielded cable $\varnothing 4.9 \text{ mm}$, conductors $4 \times 0.25 \text{ mm}^2$, UV and high temperature resistant | |
| Connector | $4 + 1 \text{ GND}$ loose pins (or M8 4 pin) | |
| Dimensions | 98x55x25 mm without fixing bracket | |
| Weight | 304 g | |
| IP code | IP 65 | |