

# Litemeter LM1-10V PRO

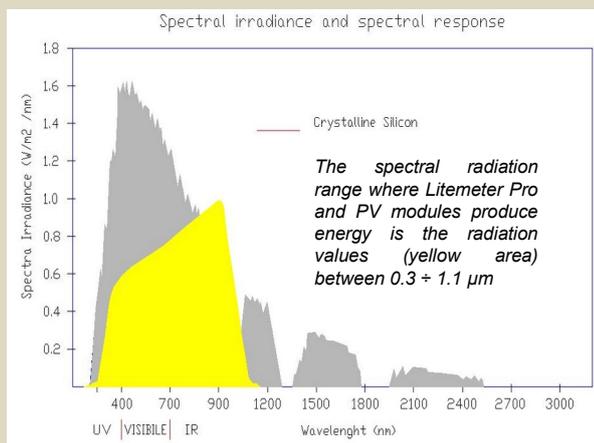
Litemeter **LM1-10V PRO** is an analog photovoltaic pyranometer (or solar irradiance sensor) with a monocrystalline silicon cell laminated in performance glass. It is equipped with two signal outputs, one for irradiance and one for temperature. Manufacturing and Calibrations are done following the **IEC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

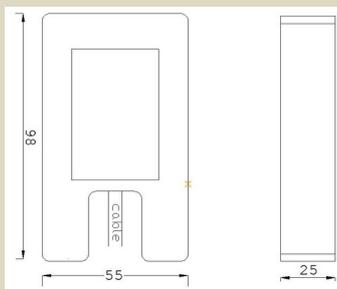
It guarantees the maximum precision in the measurement of irradiance and provides a measurement of the indicative temperature of the photovoltaic modules next to it. The sensor has two signal outputs in voltage:  $0 \div 10$  V, one for solar irradiance and one for temperature. This Litemeter also has 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



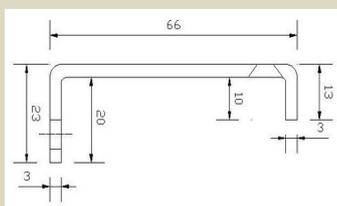
## Calibration

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 $-20 \div 80^\circ\text{C}$ ( $V=1.84 + 0.092 \times T[^\circ\text{C}]$ ) 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. $-30 + 90^\circ\text{C}$	$< \pm 0,5 \%$ at $1000 \text{ W/m}^2$	
Overall measurement uncertainty	$\pm 2,4 \%$ @ $1000 \text{ W/m}^2$	
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	$98 \times 55 \times 25 \text{ mm}$ without fixing bracket	
Weight	304 g	
IP code	IP 65	