

# Litemeter LM2-485 PRO

Litemeter LM2-485 PRO is a digital photovoltaic pyranometer (or solar irradiance sensor) equipped with a monocrystalline silicon cell laminated in performance glass. Output: digital value of irradiance and temperature (RS485 bus interface). Manufacturing and Calibrations are done following the IEC 61215, IEC 60904-2; 60904-4; 60904-10 regulations.

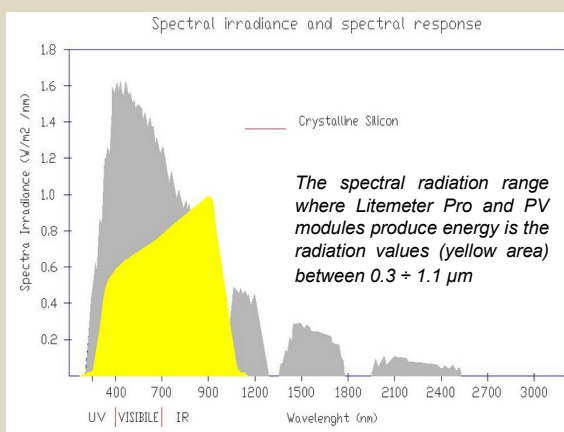
## Measurement features

Litemeter LM2-485 PRO has a **photovoltaic cell** which is laminated with **E.V.A. and a high performance anti-reflective glass for photovoltaic modules**. It guarantees a fair precision in the measurement of irradiance and provides a measurement of the indicative temperature of the photovoltaic modules next to it.

This sensor has an RS485 bus interface, using the well known industry standard protocol Modbus RTU.

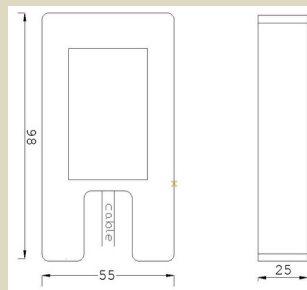
It is calibrated with our Primary Reference cell calibrated periodically by **ISFH Institute**, accredited by **Dakks**.

## Spectrum of interest



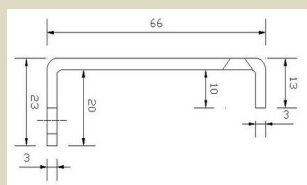
## Calibration

Each Litemeter LM2-485 PRO is calibrated for comparison with our Silicon Reference Cell calibrated periodically by ISFH Institute.



## 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 LM2-485 PRO is used where the monitoring system has RS485 input channels and a high accuracy in the calculation of the performance is not required.

LITEMETER SENSOR		
Product	<b>Litemeter LM2-485 PRO</b>	
Standard Reference	IEC 60904-2; IEC 60904-4; IEC 60904-10	
Output	Digital	
Input Range	Irradiance	$0 \div 1250 \text{ W / m}^2$
	Spectral range	$0,36 \mu\text{m} \div 1,14 \mu\text{m}$
	Temperature	$-30 \div +85 \text{ }^\circ\text{C}$
Output (digital RS485 standard Modbus RTU)	Irradiance	$0 \div 1250 \text{ W / m}^2$ (not compensated in temp.)
	Temperature	$-30 \div +85 \text{ }^\circ\text{C}^{(1)}$
Output precision	Irradiance	$\pm 5\%$ (2.5% @S.T.C. (25°C))
	Temperature	$\pm 1.0 \text{ }^\circ\text{C}$
	Response Time	$< 100\text{ms}$
Sensor Type	Solarimeter with digital output	
Supply	Ext. Current loop	$12 \div 30 \text{ Vdc}$
Electronics non-linearity	$< \pm 0,1 \%$	
Temperature drift. $0 + 85^\circ\text{C}$	$\approx +5 \%$ 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	60 cm or 3 m shielded cable $\varnothing 5.7 \text{ mm}$ , conductors $4 \times 0,25\text{mm}^2$ , UV and high temperature resistant	
Connector	4+1 GND loose pins (or M8 4 pin)	
Dimensions	98x55x25 mm without fixing bracket	
Weight	304 g	
IP code	IP 65	
(1): Note: the temperature value is predetermined at project stage and verified at the production stage.		

