

Sunmeter PRO

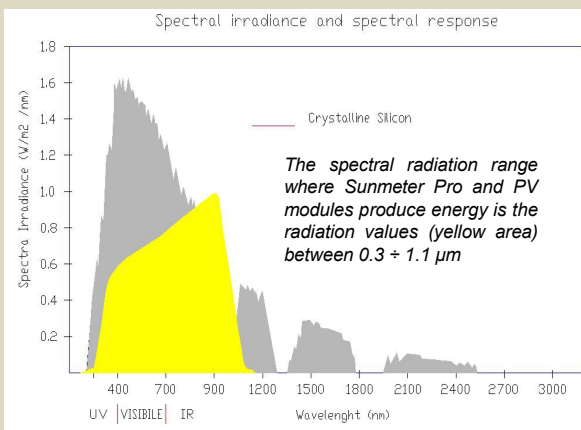
Sunmeter PRO is a digital photovoltaic pyranometer (or irradiation sensor) equipped with a monocrystalline silicon cell laminated with a performing glass. This sensor has a digital output (RS485 bus interface). Manufacturing and Calibrations are done following the **IEC 61215, IEC 60904-2; 60904-4; 60904-10 regulations.**

Measurement features

Sunmeter PRO has a **photovoltaic cell** which is laminated with a performing antireflective glass for photovoltaic modules and **E.V.A.** The advantage of the high linearity and stability of our monocrystalline cells is added to the photovoltaic glass; **these two features together improve the accuracy of the actual value measurement for all possible solar inclinations**; the duration has also improved. Comparative observations lead us to affirm that the measurement accuracy is $\geq \pm 2.1\%$.

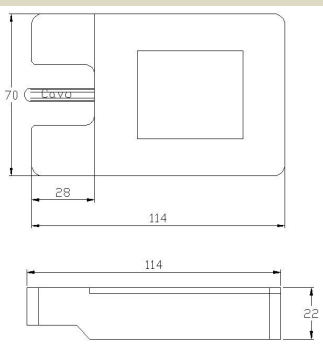
All Sunmeters are calibrated with our Primary Reference cell calibrated periodically by **Fraunhofer Institute** (DE), accredited by **Dakks**. Thanks to its performances, Sunmeter Pro is used to realize accurate measurement of solar radiation of medium-large PV systems.

Spectrum of interest



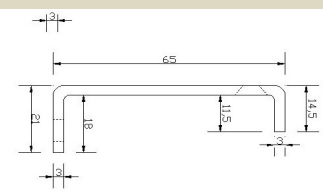
Calibration

Each SM PRO is calibrated for comparison with our Silicon Reference Cell referenced by Fraunhofer ISE Institute (DE)



Physical features

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



Most common uses

It's used to calculate **PIR** (Performance Ratio) of medium-large PV systems.

SUNMETER SENSOR		
Product	Sunmeter PRO	
Reference Standard	IEC 60904-2 IEC 60904-4 IEC 60904-10	
Output	Analogical and Digital	
Input Range	Irradiation	$0 \div 1250 \text{ W / m}^2$
	Spectral range	$0,3 \mu\text{m} \div 1,1 \mu\text{m}$
	Temperature	$-30 \div +85 \text{ }^\circ\text{C}$ (with external PT100)
Output	Digital	RS485, standard Modbus RTU protocol
Output precision	Irradiation	$\leq \pm 2.1 \%^{(2)}$
	Temperature	$\leq \pm 0.5 \text{ }^\circ\text{C}$
	Response Time	$< 100\text{ms}$
Sensor Type	Photovoltaic Pyranometer	
Supply	Ext. Current loop	$9 \div 32 \text{ Vdc}$ protected against reverse polarity, short circ.
Encapsulant	Glass + E.V.A. + Poliester	
Cable	50cm UV-resistant cable with Male connector	
Connectors	Male M12 8 pin, IP67 (main) Female M8 3pin, IP67 (temp. probe)	
	Female M12 8 pin, IP67 for field installation	
Dimensions	114x70x22 mm without fixing bracket	
IP grade	IP 65	
(2): Note: recalibration advised after 18-24 months and then after 2 years.		

