LITEMETER 1-10V PRO®

USER MANUAL

hw rev. RGB203D

GENERAL DESCRIPTION

The LITEMETER LM1-10V PRO is a solar irradiance sensor with strictly selected electronic components to ensure maximum precision also along temperature changes.
This sensor has two signal output in voltage: 0 ÷ 10 V for solar irradiance and 0 ÷ 10V for temperature. Moreover the solar irradiance signal is temperature compensated: this means that solar irradiance values are practically independent by cell temperature.

FEATURES

Measurements:
irradiance range: 0 ÷ 1200 W/m^2

Outputs
Voltage: 0 ÷ 10 V for ÷ 0 ÷ 1200W/m^2 factory calibrated
0 ÷ 10 V, for ÷ -20 ÷ 80°C (V = 1.84 + 0.092 x T[°C]) guaranteed by design

Output precision:
irradiance: ± 3,5%
Temperature ± 1,5°C

Working temperature: -30 ÷ +85 °C

Supply: 12 ÷ 30Vdc (see the scheme on page 2)

Encapsulation: small microprismatic glass for photovoltaic modules and E.V.A

Case: anodized aluminium with stainless steel screw-clamp to fix it on modules or montage profile

Wiring: 60 cm or 3m cable Ø 4.9 mm, conductors 4x 0,25mm^2, UV and high temperature resistant

Connectors: 4 + 1 GND loose pins (or M8 4 pin)

Dimensions: 98x55x25 mm, with mounting bracket 112x55x66 mm

PIECE'S LIST

- **Instrument with cable**
- **Aluminium fastening clamp**
- **Mounting screw for the fastening clamp**
- **Fixing screw fastening clamp-profile/modules**

CALIBRATION:

- Date:..... Operator: ……
- S/N:.....

Important : the case presents a hole with a diameter of a few mm, this hole is terminated by a transpiring membrane whose purpose is the barometric compensation to avoid condensation.
DON'T PERFORATE. WARRANTY VOID IF REMOVED OR PERFORATED.

MECHANICAL FASTENING
insert the solar sensor with its fastening clamp to the chosen frame of a PV module representative of the PV installation as shown in figure 1. Screw the below bolt of clamp with a wrench until it appear stable.

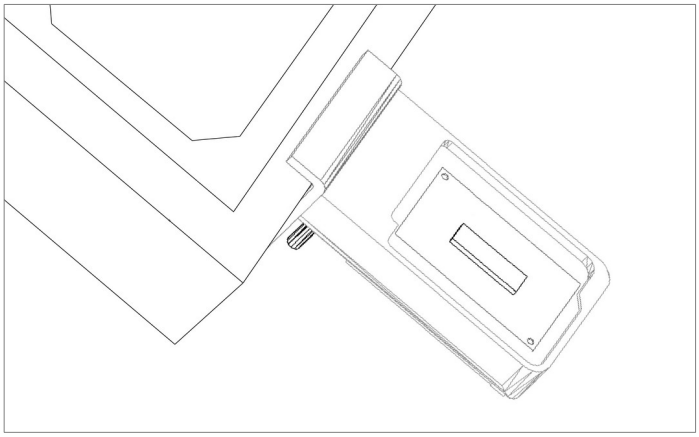

Fig. 1

CONNECTIONS
See table1 below. Once connected the irradiance values comes out instantly

#	Cable & TIP colour	Description
1	Red-White TIP	Power supply +12 ÷ 30Vdc
2	**Black-White TIP**	Power supply / Signal 0 Vdc
3	Yellow-White TIP	Irradiation value (0 ÷ 10V)
4	White/Yellow-White TIP	Temperature Value (0 ÷ 10V)
5	**Black-Blue TIP**	GND Ground

Tab. 1

Cabling: to get optimum ***sliding*** of the cable in wiring, we highly recommend use of ***sliding products.***

MEASUREMENT
The temperature value has to be converted with the formula: V = 1.84 + 0.092 x T [°C].

As every LM1-10V PRO is factory calibrated, it's not necessary to adjust gain and offset of datalogger but just insert pins on right positions of the datalogger with 0 ÷ 10V signal input provided.

The signals can be read also with a tester by selecting 0 ÷ 20Vcc range if supply Vdc is given to LM1-10V PRO solar sensor.

If in recording are encountered high level of interferences try disconnect GND wire (#5).

CALIBRATION
It is recommended to send to factory for verify calibration after 2 years of outdoor work.
Some “inclusions” may be present and clearly visible into the protective encapsulation resin. This is due to the resin coating process and do not affect overall performance and/or accuracy.

CONTACTS
Other Information about our solar devices are available at:
https://soluzionesolare.it/prodotti/

For technical support, contact:
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DICHIARAZIONE CE DI CONFORMITA'
CE DECLARATION OF CONFORMITY

Dichiara sotto la propria responsabilità che i nostri prodotti:
declares under our sole responsibility thet the our product:

LM1-10V PRO, LM1-420, LM1-C2, SUNMETER PRO
al quale si riferisce questa dichiarazione, è conforme alle norme europee armonizzate come pubblicato nella Gazzetta Ufficiale della CE, basato sul seguente standard:
to which this declaration relates, is in conformity with European Harmonised Standards as published in the Official Journal of the EC, based on the following standard:

[EMC – Emissions] EN 61326-2-1:2013 and EN 61326-2-3:2013;
[EMC – Immunity] EN 61326-2-1:2013 and EN 61326-2-3:2013;
IEC 61215, IEC60904-2, IEC60904-4; IEC60904-10;

Vicenza, 1 Janaury 2019

Il legale rappresentante
Legal rapresentative

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