

### GENERAL DESCRIPTION

The LITEMETER 420 TC PRO (LM1-420 TC PRO) is a calibrated cell **temperature compensated** with strictly selected electronic components to ensure maximum precision.

Its monocrystalline silicon cell is laminated with small microprismatic glass for photovoltaic modules and E.V.A., this improves its durability and stability of measurements over time.

His output signal is 4-20 mA to ensure reliability and a continuous signal that testifies a correct working. To know more about signal line reliability, refer to paragraph 4 of our document downloadable at this link:

<https://soluzionesolare.com/products/analog-solar-radiation-sensor-litemeter-current-pro/>

### FEATURES

#### Measurements:

irradiance range:  $0 \div 1200 \text{ W/m}^2$

#### Outputs:

Current:  $4 \div 20\text{mA}$ , calibration report below  
(max output: 25mA)



#### Output precision:

irradiance:  $\pm 3\%$  Temperature compensated

#### Working temperature:

$-25 \div +80 \text{ }^\circ\text{C}$

#### Supply:

by current loop, compliance voltage  $9 \div 30 \text{ V dc}$  (see scheme on page 2)

#### Encapsulation:

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

#### Case:

anodized aluminium with screw-clamp to fix it on modules or montage profile

#### Wiring:

50 cm cable UV resistant

#### Connectors:

female circular M8 3 pin IP67 degree

#### Dimensions:

98x55x25 mm, with mounting bracket 112x55x66 mm

### PIECE'S LIST

- LM1-420 PRO
- M8 3 pin male connector (specify when ordering)
- Aluminium fastening clamp
- Mounting screws for the fastening clamp
- Fixing screw for fastening clamp on profile/modules

### CALIBRATION:

- Date: ..... Operator: .....

- S/N: .....

- ..... mA @0  $\text{W/m}^2$  STC [pin 3]

- ..... mA @ 1200  $\text{W/m}^2$  STC [pin 3]

## CONNECTIONS

The connector is a female 3 pin M8 standard. The male connector is not included, but it can be found in commerce: anyhow, if you desire it you can order it to us.

The IP67 3-pin circular female connector carries all the signals from the LM1-420 TC PRO as in Tab. 1 and Fig. 1, that shows a front view of the female connector wired to the sensor (or a back side view of the male connector):

#	Name	Description	Cable colors
1	-	-	-
2	-	-	-
3	SUPPLY +Vin	Power supply input, + 9...30Vdc - See tab. 2	Blue
4	I out (-)	Current Output ( - )	Black

Tab. 1

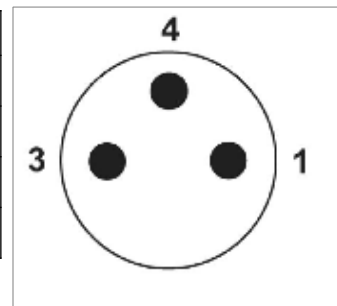


Fig. 1

The compliance voltage depends by the burden resistor (datalogger input impedance) with the relation:  $\text{voltage} = 8 + \text{impedance} \cdot 0.02$

The voltage supply has to be equal or greater than compliance voltage.

Verify the input impedance of your DataLogger. Here below a table given to see DataLogger compatibility:

Input burden [Ohm]	Min. supply voltage [V cc]
20	8
100	10
150	11
250	13
500	18
1000	28

Tab. 2

## MEASUREMENT

The signal can be read with an amperometer placed in series to the output pole of the instrument, or with a datalogger with a 4-20 mA input.

## CALIBRATION

It is recommended to calibrate this instrument after the first year of use and successively, each three years.

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.

**Important: for monitoring bifacial PV modules, please specify when ordering, a sealed cover will be provided. For bifacial application 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.**

## CONTACTS

For further information, please contact us:

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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 that the our product:*

**LM1-10V PRO, LM1-420, LM1-420 PRO, LM1-C2, SUNMETER PRO**  
ai quali si riferisce questa dichiarazione, sono conformi 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, 60904-4; 60904-10

Vicenza, 1 January 2019

Il legale rappresentante  
*Legal representative*

  
A. Calatroni

