

MLT331 Light Meter Probe

Transducer Series

Description

The MLT331 is a fast response, directional specific, visible light meter probe. It contains a fast response silicon photodiode that is active in the visible region of the RF spectrum, and produces a voltage that is proportional to the logarithm of the incident light intensity. Light enters the probe through a Fresnel lens and the diode is positioned within the protective housing to prevent stray light from the side reaching active area of the diode. It can be mounted using a clamp or stand and the cable is terminated in a BNC connector.



Application

The probe can be used to measure visible light intensity over a wide dynamic range associated with:

- 1) direct sunlight
- 2) internal lighting from powered lamps, or
- 3) light associated with the growth of plants or algae
- 4) changes of intensity with distance from source

The probe needs to be pointing or facing the direction of the light source to maximise the light reaching the active surface of the probe.

The probe outputs a current that is linear with incident visible light levels over the range 10^{-12} W to 10^{-2} W. When used with an ML330 Light Meter pod, the probe outputs a signal from 0 – 200 000 lux, that is proportional to the illuminance on the active area of the probe, (One lux is the amount of light received per unit of surface area (1 lux = 1 lumen [lm]/ m²). Illuminance varies inversely with the square of the distance from the source, such that if the distance from the source is doubled, then the illuminance is reduced by a quarter.

For “white” light like sunlight, that is distributed over the visible spectrum, there are approximately 250 lumens per watt, or 4mW/lumen.

1 lux ~ 4 mW/m² ~ 10 000 photons/(μm² s) (“white” sunlight)

The probe is not water proof.

Caution

Read "Statement of Intended Use" on our website or in "Getting Started with PowerLab" before use.

Specifications

Photodiode

Range:	10^{-12} W to 10^{-2} W
Active area:	6.7 mm ²
Rise time:	<<1 ms
Spectral sensitivity:	320-760 nm (peak 560 nm)
Connector:	BNC
Cable Length:	800 mm
Lens:	Fresnel
Housing:	11 mm OD

Note: Not Water Proof

Typical Light Intensity

1 lux	Moonlight
400 lux	A brightly lit office
400 lux	Sunrise or sunset on a clear day.
1 000 lux	1 klx Typical TV studio lighting
32 000 lux	32 klx Sunlight on an average day (min.)
100 000 lux	100 klx Sunlight on an average day (max.)

Ordering Information:

MLT331 Light Meter Probe

For use with:

ML330 Light Meter Pod