Sensors • Low Cost Germicidal UVC Detectors

PMA2122B

Need info for this area

Applications

- Water Treatment Plants
- Purification Systems
- Environmental Testing

Features and Benefits

- High Sensitivity
- Dynamic Range $2*10^5$
- Excellent Long-Term Stability
- Cosine Corrected
- NIST Traceable Calibration
- Ease of Use
- Selectable Units

The PMA2122 Germicidal UV detector provides fast and accurate irradiance measurements of the effective germicidal radiation. Ultraviolet radiation at 253.7nm has been used in germicidal applications for several decades. The PMA 2122 is designed to be used with the PMA2100 or PMA2200 UV meters / Radiometers.

These Detectors need to be used with a radiometer Analog versions are available and can be used with any 0-5VDC and 4-20mA recording devices.

The PMA1122 Germicidal UV detectors are designed for Industrial applications. The robust casing enables it to operate in aggressive environments, and also offers a low cost option for high volume users. Designed with a standard 1" thread, the sensor easily fixes into electrical boxes with 1" "knock-out" sections.

Microorganisms (bacteria) ,usually in air or water, can be killed using UV or a combination of UV and ozone. The UV producing lamps in the purification systems must be monitored to insure that the bacteria are receiving a lethal dose of germicidal UV radiation. The expensive UV lamps can be monitored to get maximum life out of the lamp before replacement. The germicidal UV detector can also be used to insure that the proper lamp has been installed after replacement.

SOLAR® LIGHT

Calibration

Any Calibration?

Terry because there are two photos for this, how do we want to handle specs and photos?

Specifications	
Spectral Response	349-261nm, Figure 1
Angular Response	5% for Angles <60°
Range	200 [mW/cm2] or 2000 [W/m^2]
Display Resolution	0.001 [MED/Hr], 0.01[µW/cm^2]
Operating Environment	32 to 120 °F (0 to +50 °C) No Precipitation
Temperature Coefficient	<0.1% /°C for Solar Radiation
Cable	6 ft. Straight Cable (1.82m)
Diameter	1.6" (40.6mm)
Height	1.8" (45.8mm)
Weight	7.1 oz. (200 grams)
Irradiance from Typical Sources	Solar Radiation, 30°. SZA, 3mm Ozone Clear Sky: Approx. 4m µW/cm^2 (4.3 MED/Hr)
15W Xenon Lamp at 8"	Approx. 0.05 µW/cm^2 (1MED/Hr)
Solar Simulator Model 16S	50 µW/m^2 (250 MED/Hr)
Ordering Information	
PMA2122B	UV-A Detector with LLG Adaptor
See list of accessories for mounting hardware available	

References

[1] The biological effects of UV-A radiation - Edited by F. Urbach and R.W. Gange, Praeger Publishers, New York, 1986
[2] Nichodemus F., "Self study manual on optical radiation measurements", NBS Technical Note 910-1 (1976)

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U.S.Pat.5,946,641• U.S.Pat.5,790,432

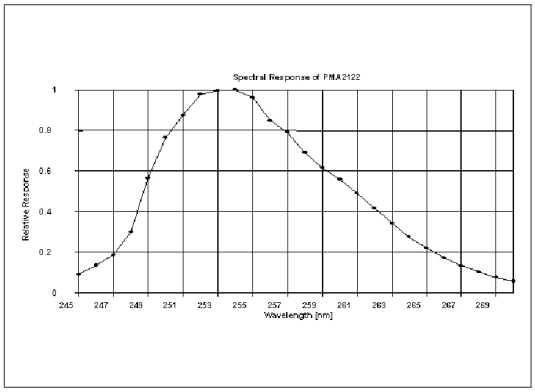

Fig. 1. PMA2122B Spectral Response

Specifications

- Spectral response 249-261nm, figure 1
- **Angular response** 5% for angles <60°
- **Range** 0.01 µW/cm^2 to 2000 µW/cm^{2}0.1 mW/m^2 to 20,000 mW/m^2 0.001 mW/cm^2 to 20 mW/cm^2 (PMA2122G)
- **Display resolution** 0.01 µW/cm^{2}0.1 mW/m^2 0.001 mW/cm^2 (PMA2122G)
- **Operating environment** 32 to 120 °F (0 to +50 °C) no precipitation
- **Cable** 5ft (1.5m)
- **Diameter** 1.6" (40.6 mm) [PMA1122-OEM; 1.58" (40.1mm)]
- **Height** 1.8" (45.8 mm) [PMA1122-OEM; 1.23" (31.2mm)
- **Weight** 7.1 oz. (200 grams)