

The [PMA2107](#) detector gives an accurate measurement of non-weighted UVB+UVA ultraviolet radiation from sunlight or artificial light sources. The detector has angular response very close to an ideal cosine function (Lambertian response,) making it suitable for measurements of diffuse radiation or radiation generated by extended sources. The measured irradiance can be displayed in mW/cm^2 as well as a W/m^2 . High dynamic range allows measurements of very weak signals down to $0.001 \text{ mW}/\text{cm}^2$, as well as very strong irradiances up to (max) $200 \text{ mW}/\text{cm}^2$. The angular response of the PMA2107 sensor is cosine corrected, and suitable for measurements of diffuse radiation or radiation from extended sources.



Applications

- Industrial and Laboratory Radiometry
- Phototherapy
- Environmental Monitoring
- Psoriasis Treatment Monitoring
- Materials Testing
- UVB + UVA Transmission Measurements
- Agricultural
- Biological Studies

Features and Benefits

- High Sensitivity
- Excellent Long-term Stability
- Cosine Corrected
- NIST Traceable Calibration
- Radiometric Units
- Weatherproof/Waterproof Chassis Available
- CE Compliant

Common Sources of UVB+UVA Include:

- Low Pressure Fluorescent Lamps
- High Pressure Mercury and Metal Halide Lamps
- High Pressure Xenon Lamps
- Sunlight



SOLAR[®] LIGHT

Digital Sensors UVB+UVA Sensor PMA2107

Measures Ultraviolet Radiation
from 280 to 400nm



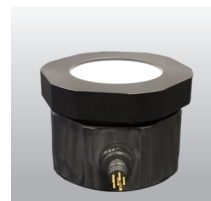
Standard Chassis - IP60
1.8" (45.8mm) High x 1.6" (40.6mm) Diameter



Weatherproof Standard Chassis - IP68
Can be submersed up to 3 meters deep
1.8" (45.8mm) High x 1.6" (40.6mm) Diameter



Low Profile Chassis - IP60
0.8" (21mm) High x 1.6" (40.6mm) Diameter



Waterproof Underwater Chassis - IP68
Can be submersed up to 100 meters deep
3.3" (83.4 mm) High x 4.7" (119.7 mm) Diameter

Options:

- Tripod Mounting Plate
- Weatherproof Chassis (submersible up to 3 meters)
- Low Profile Chassis
- Waterproof Underwater Chassis (submersible up to 100 meters)
- OEM Chassis for High Quantity Applications
- Analog Model Also Available (Model PMA1107)

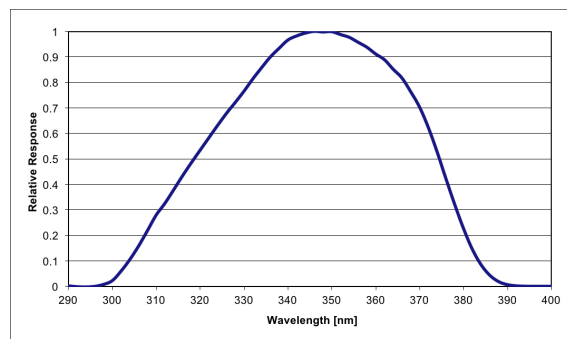


Fig. 1. Linear Spectral Response

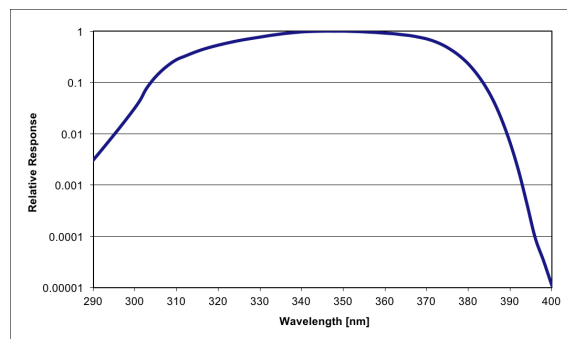


Fig. 2. Log Spectral Response

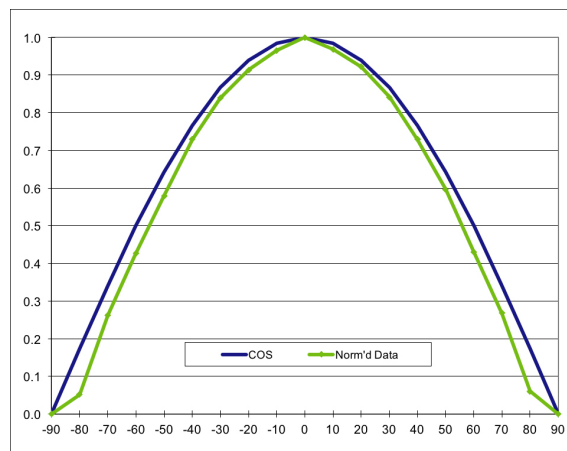


Fig. 3. Cosine Response

SPECIFICATIONS

Spectral Response	280-400nm, Follows Figure 1
Cosine Response	5% for Angle $\leq 40^\circ$ (Standard Chassis)
Range	<i>*See model chart on the next page</i>
Display Resolution	<i>*See model chart on the next page</i>
Operating Environment	32 to 120°F (0 to +50°C)
Temperature Coefficient	Negligible
Cable Length	<i>*See cable length chart below</i>
Dimensions and Weight	<i>*See outline drawings</i>

REFERENCES

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

Part Number: 210008

Revision Level: A

Specifications subject to change without notice.

CABLE LENGTHS

Standard Chassis	6ft Straight Cable (1.82m) (Custom Lengths Available)
Weatherproof Chassis	15ft Standard Cable (4.57m) (Custom Lengths Available)
Waterproof Underwater Chassis	Cable Length by Request. Specify up to 100 Meters.
Low Profile Chassis	6ft Straight Cable (1.82m) (Custom Lengths Available)

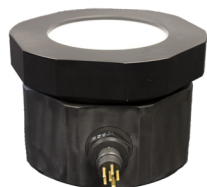
Partial Model Selection Chart



STANDARD CHASSIS - IP60		
Model	Range	Display Resolution
PMA2107C	2 [mW/cm ²], 20 [W/m ²] or 2,000 [μW/cm ²]	0.001 [mW/cm ²], 0.001 [W/m ²] or 0.01 [μW/cm ²]
PMA2107B	20 [mW/cm ²], 200 [W/m ²] or 20,000 [μW/cm ²]	0.001 [mW/cm ²], 0.01 [W/m ²] or 0.1 [μW/cm ²]
PMA2107	200 [mW/cm ²] or 2,000 [W/m ²]	0.001 [mW/cm ²] or 0.01 [W/m ²]



WEATHERPROOF CHASSIS - IP68		
Model	Range	Display Resolution
PMA2107C-WP	2 [mW/cm ²], 20 [W/m ²] or 2,000 [μW/cm ²]	0.001 [mW/cm ²], 0.001 [W/m ²] or 0.01 [μW/cm ²]
PMA2107B-WP	20 [mW/cm ²], 200 [W/m ²] or 20,000 [μW/cm ²]	0.001 [mW/cm ²], 0.01 [W/m ²] or 0.1 [μW/cm ²]
PMA2107-WP	200 [mW/cm ²] or 2,000 [W/m ²]	0.001 [mW/cm ²] or 0.01 [W/m ²]



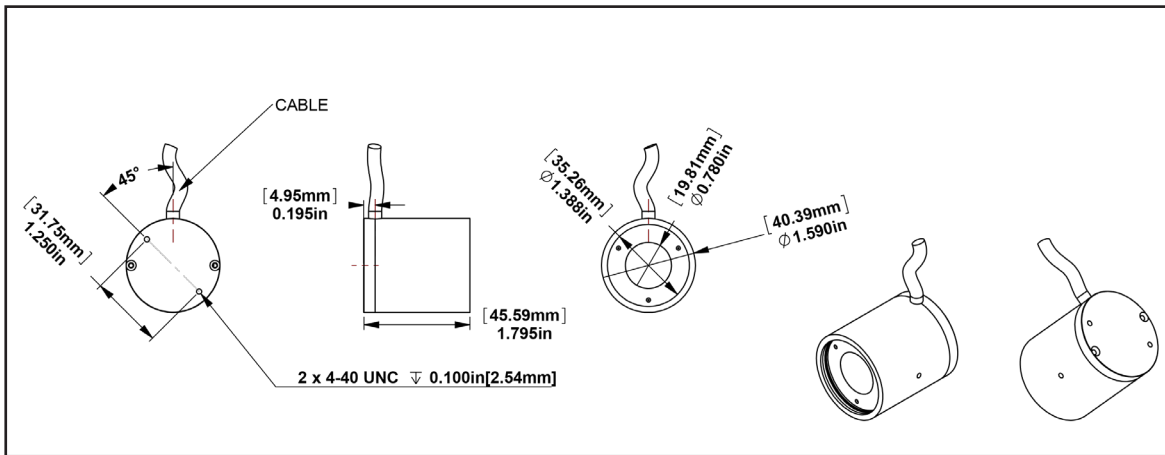
WATERPROOF UNDERWATER CHASSIS - IP68		
Model	Range	Display Resolution
PMA2107C-UW	2 [mW/cm ²], 20 [W/m ²] or 2,000 [μW/cm ²]	0.001 [mW/cm ²], 0.001 [W/m ²] or 0.01 [μW/cm ²]
PMA2107B-UW	20 [mW/cm ²], 200 [W/m ²] or 20,000 [μW/cm ²]	0.001 [mW/cm ²], 0.01 [W/m ²] or 0.1 [μW/cm ²]
PMA2107-UW	200 [mW/cm ²] or 2,000 [W/m ²]	0.001 [mW/cm ²] or 0.01 [W/m ²]



LOW PROFILE CHASSIS - IP60		
Model	Range	Display Resolution
PMA2107C-F	2 [mW/cm ²], 20 [W/m ²] or 2,000 [μW/cm ²]	0.001 [mW/cm ²], 0.001 [W/m ²] or 0.01 [μW/cm ²]
PMA2107B-F	20 [mW/cm ²], 200 [W/m ²] or 20,000 [μW/cm ²]	0.001 [mW/cm ²], 0.01 [W/m ²] or 0.1 [μW/cm ²]
PMA2107-F	200 [mW/cm ²] or 2,000 [W/m ²]	0.001 [mW/cm ²] or 0.01 [W/m ²]

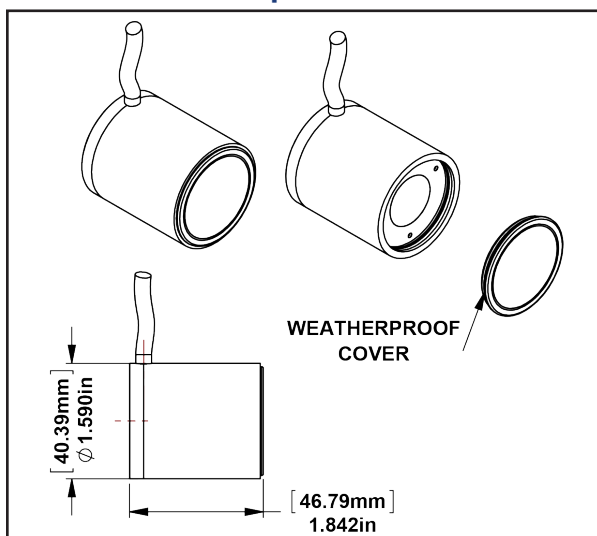
Custom ranges, cable lengths, and cable types are available upon request – please consult factory for details

Standard Chassis



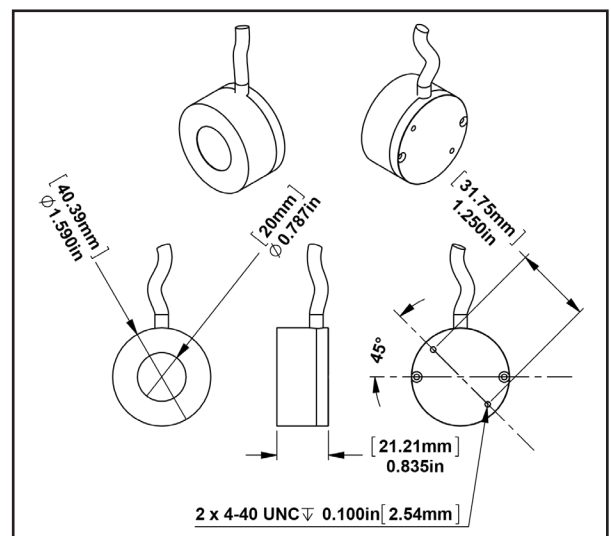
Est. Weight: 4 oz. (113 g)

Weatherproof Chassis



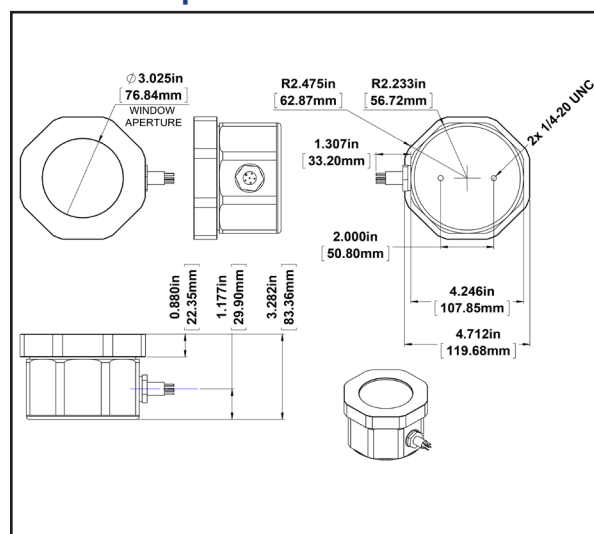
Est. Weight: 4.2 oz. (119 g)

Low Profile Chassis



Est. Weight: 2.2 oz. (62 g)

Waterproof Underwater Chassis



Est. Weight: 3.7 lbs. (1678 g)

Since 1967, Solar Light Company, Inc. has been recognized worldwide as America's premier manufacturer of Precision Solar Simulators and Light Sources, Light Measurement Instrumentation, UV Transmittance Analyzers, Meteorological Instrumentation, and Digital and Analog Sensors. Our advanced line of UV, visible, and IR radiometers and light meters measure laboratory, industrial, environmental, and health related light levels with NIST traceable accuracy. Column ozone, aerosol, and water vapor thickness measurements, in addition to long-term global ultraviolet radiation studies all over the world are performed using our atmospheric line of instrumentation. Solar Light also provides NIST traceable spectroradiometric analyses, calibrations for light meters and light sources, accelerated ultraviolet radiation degradation testing of materials, and OEM instrumentation and monitors. Please visit our website for more details, specifications, and pictures!



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