

Solar Light's **Model PMA1110 Analog UVA sensor** provides fast and accurate irradiance measurement in the UVA region, with spectral response in the 320nm to 400nm range. Its Teflon diffuser assures an angular response close to a cosine function (Lambertian response,) making it suitable for measuring diffused radiation or radiation from extended sources. This sensor is ideal for laboratory applications measuring mercury, xenon, metal halide, or fluorescent lamps (commonly used for UVA studies,) as well as sunlight. Several packages are available for different types of environments, including standard, low profile, weatherproof, waterproof, and high volume applications.



### Applications

- Laboratory and Industrial Radiometry
- UV Curing, Printing, and Photolithography
- Skin and SPF Testing
- Clinical Studies
- Phototherapy
- Environmental Monitoring

### Features and Benefits

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

### Common Sources of UVA Include:

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





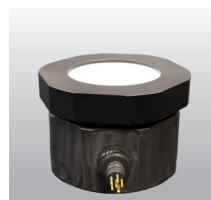
**Standard Chassis - IP60**  
1.8" (45.8mm) High x 1.6" (40.6mm) Diameter



**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



**OEM Chassis - IP60**  
1.6" (40.6mm) High x 1.3" (32mm) 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
- Digital Model for interface with PMA Series Meters (Model PMA2110)

SPECIFICATIONS	
<b>Spectral Response</b>	320-400nm, Figure 1
<b>Cosine Response</b>	5% for Angle $\leq 40^\circ$ (Standard Chassis)
<b>Output Signal/Range</b>	*See model chart on the next page
<b>Input Power</b>	*See model chart on the next page
<b>Operating Environment</b>	32 to 120°F (0 to +50°C)
<b>Temperature Coefficient</b>	Negligible
<b>Cable Length</b>	*See model chart on next page
<b>Dimensions and Weight</b>	*See outline drawings

Part Number: 210028

Revision Level: C

Specifications subject to change without notice.

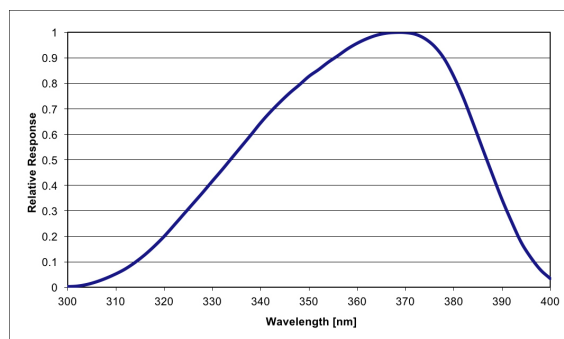


Fig. 1. Linear Spectral Response

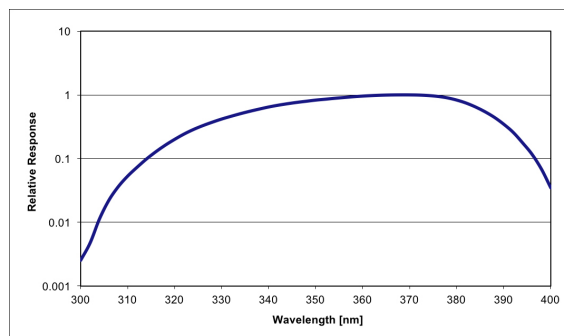


Fig. 2. Log Spectral Response

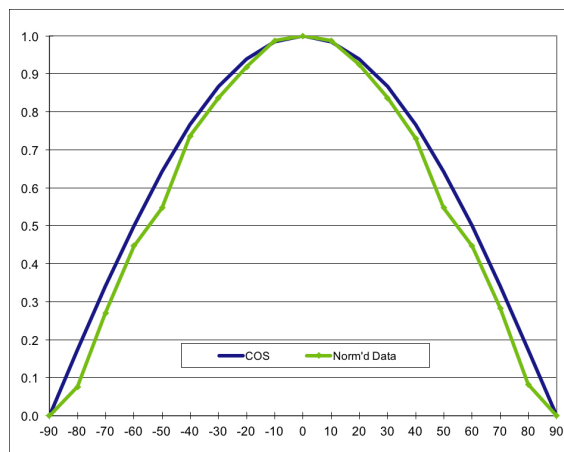
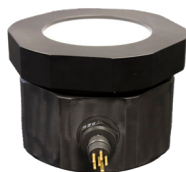


Fig. 3. Cosine Response

### Partial Model Selection Chart



STANDARD CHASSIS - IP60				
Model	Input Power	Output Signal	Range	Cable Type
PMA1110C	± 5-12 VDC @ <1 mA	*0-5 VDC	2 [mW/cm <sup>2</sup> ], 20 [W/m <sup>2</sup> ] or 2,000 [μW/cm <sup>2</sup> ]	6' cable stripped/tinned
PMA1110L	± 5-12 VDC @ <1 mA	*0-5 VDC	20 [mW/cm <sup>2</sup> ], 200 [W/m <sup>2</sup> ] or 20,000 [μW/cm <sup>2</sup> ]	6' cable stripped/tinned
PMA1110-S-05-20	9-24 VDC @ 30 mA	0-5 VDC	20 [mW/cm <sup>2</sup> ] or 200 [W/m <sup>2</sup> ]	Pigtail w/ 2 meter detachable cable
PMA1110-S-420-20	9-24 VDC @ 70 mA	4-20 mA	20 [mW/cm <sup>2</sup> ] or 200 [W/m <sup>2</sup> ]	Pigtail w/ 2 meter detachable cable
PMA1110	± 5-12 VDC @ <1 mA	*0-5 VDC	200 [mW/cm <sup>2</sup> ] or 2,000 [W/m <sup>2</sup> ]	6' cable stripped/tinned
PMA1110A	± 5-12 VDC @ <1 mA	*0-5 VDC	20,000 [μW/cm <sup>2</sup> ] or 200 [W/m <sup>2</sup> ]	6' cable stripped/tinned



WATERPROOF UNDERWATER CHASSIS - IP68				
Model	Input Power	Output Signal	Range	Cable Type
PMA1110A-UW	± 5-12 VDC @ <1 mA	*0-5 VDC	20,000 [μW/cm <sup>2</sup> ] or 200 [W/m <sup>2</sup> ]	Customer to define length required



WEATHERPROOF CHASSIS - IP68				
Model	Input Power	Output Signal	Range	Cable Type
PMA1110C-WP	± 5-12 VDC @ <1 mA	*0-5 VDC	2 [mW/cm <sup>2</sup> ], 20 [W/m <sup>2</sup> ] or 2,000 [μW/cm <sup>2</sup> ]	6' cable stripped/tinned
PMA1110L-WP	± 5-12 VDC @ <1 mA	*0-5 VDC	20 [mW/cm <sup>2</sup> ], 200 [W/m <sup>2</sup> ] or 20,000 [μW/cm <sup>2</sup> ]	6' cable stripped/tinned
PMA1110-WP-05-20	9-24 VDC @ 30 mA	0-5 VDC	20 [mW/cm <sup>2</sup> ] or 200 [W/m <sup>2</sup> ]	Pigtail w/ 2 meter detachable cable
PMA1110-WP-420-20	9-24 VDC @ 70 mA	4-20 mA	20 [mW/cm <sup>2</sup> ] or 200 [W/m <sup>2</sup> ]	Pigtail w/ 2 meter detachable cable
PMA1110-WP	± 5-12 VDC @ <1 mA	*0-5 VDC	200 [mW/cm <sup>2</sup> ] or 2,000 [W/m <sup>2</sup> ]	6' cable stripped/tinned
PMA1110A-WP	± 5-12 VDC @ <1 mA	*0-5 VDC	20,000 [μW/cm <sup>2</sup> ] or 200 [W/m <sup>2</sup> ]	6' cable stripped/tinned



LOW PROFILE CHASSIS - IP60				
Model	Input Power	Output Signal	Range	Cable Type
PMA1110C-F	± 5-12 VDC @ <1 mA	*0-5 VDC	2 [mW/cm <sup>2</sup> ], 20 [W/m <sup>2</sup> ] or 2,000 [μW/cm <sup>2</sup> ]	6' cable stripped/tinned
PMA1110L-F	± 5-12 VDC @ <1 mA	*0-5 VDC	20 [mW/cm <sup>2</sup> ], 200 [W/m <sup>2</sup> ] or 20,000 [μW/cm <sup>2</sup> ]	6' cable stripped/tinned
PMA1110-F-05-20	9-24 VDC @ 30 mA	0-5 VDC	20 [mW/cm <sup>2</sup> ] or 200 [W/m <sup>2</sup> ]	Pigtail w/ 2 meter detachable cable
PMA1110-F-420-20	9-24 VDC @ 70 mA	4-20 mA	20 [mW/cm <sup>2</sup> ] or 200 [W/m <sup>2</sup> ]	Pigtail w/ 2 meter detachable cable
PMA1110-F	± 5-12 VDC @ <1 mA	*0-5 VDC	200 [mW/cm <sup>2</sup> ] or 2,000 [W/m <sup>2</sup> ]	6' cable stripped/tinned
PMA1110A-F	± 5-12 VDC @ <1 mA	*0-5 VDC	20,000 [μW/cm <sup>2</sup> ] or 200 [W/m <sup>2</sup> ]	6' cable stripped/tinned

\*0 to Supply -0.5 Volts

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

### Partial Model Selection Chart



OEM CHASSIS - IP60				
Model	Input Power	Output Signal	Range	Cable Type
PMA1110-007-05-20	9-24 VDC @ 30 mA	0-5 VDC	20 [mW/cm <sup>2</sup> ] or 200 [W/m <sup>2</sup> ]	Bulkhead w/ 2 meter detachable cable
PMA1110-007-420-20	9-24 VDC @ 70 mA	4-20 mA	20 [mW/cm <sup>2</sup> ] or 200 [W/m <sup>2</sup> ]	Bulkhead w/ 2 meter detachable cable

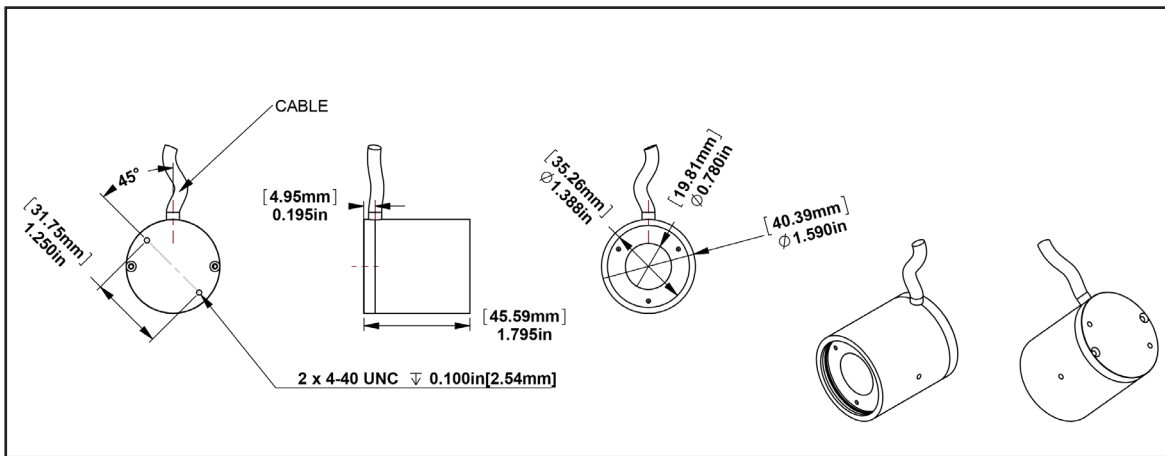
Custom ranges, cable lengths, and cable types are available upon request – please consult factory for details

### Analog Wiring Chart

WIRE COLOR	PMA11xx-420	PMA11xx-05	PMA11xx
White	Power Ground*	Signal Out 0-5 VDC	Signal Out 0 to Vin-0.5 VDC
Blue		Power Ground	Power Ground
Green			Analog Ground
Red			Vin +5-12 VDC
Orange			Vin -5-12 VDC
Yellow			Signal Out 0 to Vin-0.5 VDC
Black		Analog Ground	
Pink		Vin 9-24 VDC	
Brown	Vin 9-24 VDC*		
Bare or Braid		Shield	Shield
A/C Plug			

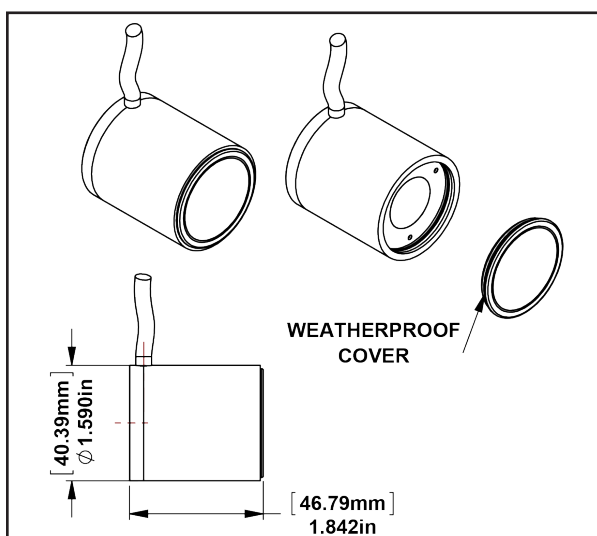
\*Current meter is connected in series with power supply and sensor

## Standard Chassis



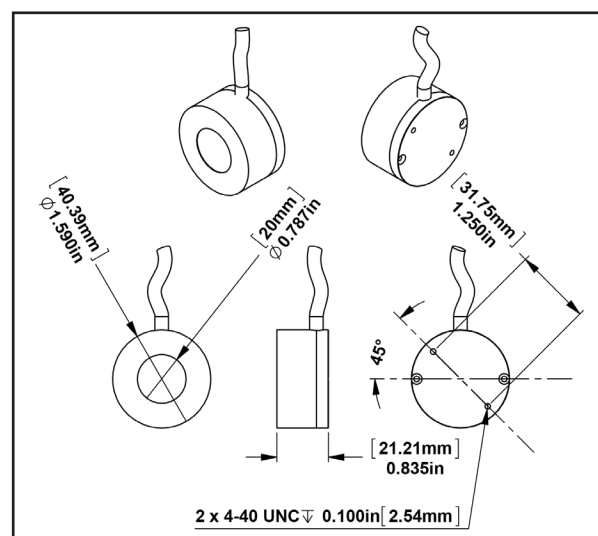
Est. Weight: 4 oz. (113 g)

## Weatherproof Chassis



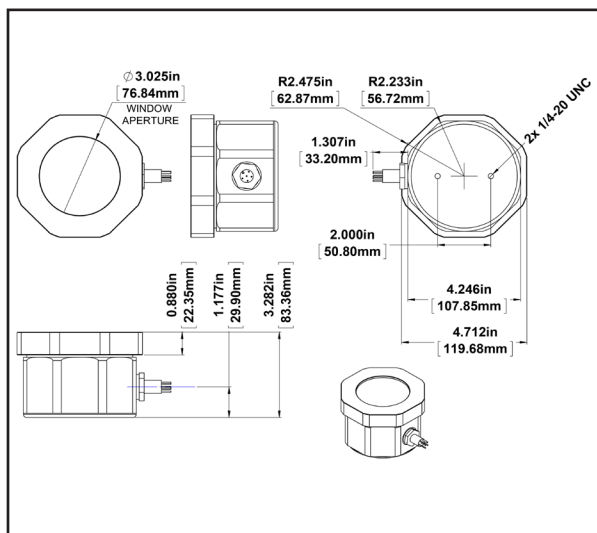
Est. Weight: 4.2 oz. (119 g)

## Low Profile Chassis



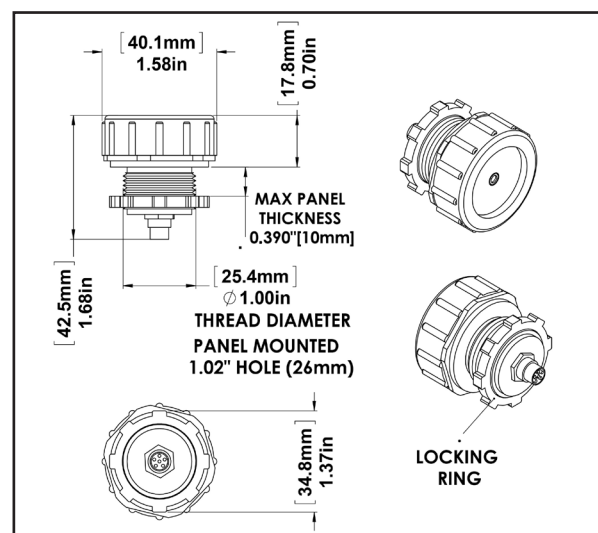
Est. Weight: 2.2 oz. (62 g)

## Waterproof Underwater Chassis



Est. Weight: 3.7 lbs. (1678 g)

## OEM Chassis



Est. Weight: 1.2 oz. (34 g)

Since 1967, Solar Light Company, LLC 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!



**State Of The Art Solar Simulators** available in 150-1000+ watt UV or AM variations for a variety of applications including PV Cell Testing, Materials Testing, Pre-Irradiation for *In Vitro* Broad Spectrum Sunscreen Testing, SPF Testing, and much more.



**Multi-Functional Professional Grade Radiometers** available with and without data logging, and compatible with over 130 Solar Light PMA-Series Sensors to measure UV, Visible and IR wavelengths. Specialty Meters also available to measure UV Radiation, SUV/UVA, Scotopic/Photopic Spectra, and much more.



**Advanced NIST-Traceable Sensors** for accurate measurement of UVA, UVB, UVA+B, UVC, Visible, IR, Photostability, Temperature, and Custom Wavelength – well over 130 models in both digital and analog configurations, all compatible with our Radiometers.



**Ultraviolet Transmittance Analyzers** available as complete integrated turnkey systems to meet the latest ISO24443 requirements.



**Handheld Ozonometers and Sunphotometers** for fast and dependable Column Ozone, Aerosol, and Water Vapor Thickness measurements, in addition to long-term global ultraviolet radiation studies.