# SOLAR<sup>®</sup> LIGHT

### Digital Sensors Temperature Sensor PMA2166

Measures Temperature Between -200-1260°C

Solar Light's Model PMA2166 Digital Thermocouple Probe is available in a K type thermocouple element, which is plugged into a socket mounted on an easy to hold plastic handle. The socket accepts both standard OST and subminiature SMP probes. The PMA2166 can be used with any thermocouple of the designated type. The thermocouple element is sealed in a stainless-steel envelope forming an 8" (23 cm) long insertion probe, and its operation is based on the Seebeck effect. In general, this function is non-linear. The Seebeck coefficient in microVolts/°C is temperature-dependent. Knowing this function and the voltage generated by the thermocouple, a temperature differential can be calculated. In order to know the absolute temperature of one of the junctions, the temperature of the other one has to be known. The PMA2166's reference junction is thermally coupled with a calibrated semiconductor temperature transducer that generates a signal proportional to the temperature. Solar Light's Model PMA2100 Dual-Input Data Logging Radiometer calculates the thermocouple temperature differential and adds it to the reference junction temperature.



### **Applications**

- Laboratory and Industrial Measurements
- Environmental Monitoring
- Metallurgy
- Heating and Air-Conditioning
- Agriculture

#### Features and Benefits

- Wide Temperature Range
- Linearization Formula Programmed into the Sensor
- Excellent Long-term Stability
- Selectable Units
- Convenient Plastic Molded Handle
- Interchangeable Probes



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SPECIFICATIONS	
Temperature Range	-200-1260°C (-330-2300°F)
Temperature Accuracy	±2°C
Stability	Better than 0.1%/year
Display Resolution	1°
Units	°F, °C, K
Diameter	Handle - 1.5" (38.1 mm)
	Sensor - 0.125" (3.18 mm)
Dimensions and Weight	10 oz. (280 grams)
Cable Length	5ft (1.5m)

SL/Sensors/PMA2166\_11/2017 Specifications subject to change without notice.

**Temperature Sensor PMA2166** 



Est. Weight: 10 oz. (280 kg)



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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!



**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.

