

Solar Light's [Model PMA2160 Thermistor Temperature Probe Interface](#) permits a wide variety of Solar Light Thermistor Temperature Probes to be attached to our Model PMA2100 Dual-Input Data Logging Radiometer. The thermistor probes are factory calibrated, so they can be easily interchanged without compromising accuracy of the measurement. The probes attach to the PMA2160 interface via RJ12 connector. Some of the Probes available include:

Model PMA2161K Surface Temperature Probe can be used in situations where the temperature of a solid mass is needed, such as heatsinks or to monitor skin temperature.

Model PMA2162K Miniature Temperature Probe is used for general purpose temperature measurements.

Model PMA2163K Stainless Steel Immersion Probe is used for soil temperature measurements.

Model PMA2164K Stainless Steel Air / Gas Probe is used for air and gas temperature measurements.

The relationship between temperature and the resistance of the thermistor is highly non-linear. However, using the widely accepted Steinhart-Hart formula programmed into the PMA2160 interface, the PMA2100 Radiometer linearizes this relationship, and calculates temperature to the accuracy of 0.35°C.



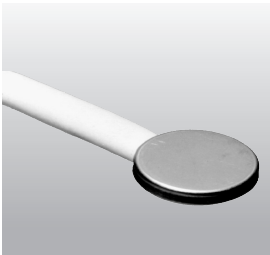
Applications

- Laboratory and Industrial Temperature Measurements
- Environmental Monitoring
- Clinical Studies
- Temperature Sensor Calibration

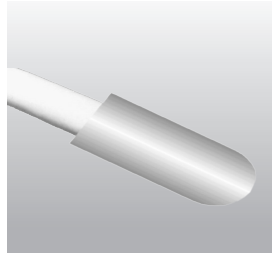
Features and Benefits

- Wide Temperature Range
- 0.35°C Accuracy
- Excellent Long-Term Stability
- Interchangeable Probes
- Probes for Various Media Available
- Selectable Units
- Fast Response
- Small Size

Measures Temperature in a Range of
-40 to +150°C with High Accuracy and Stability



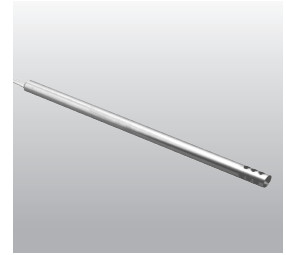
PMA2161K
Surface Temperature Probe
0.375" (9.525mm) Diameter
0.125" (3.175mm) High



PMA2162K
Miniature Temperature Probe
0.155" (3.937mm) Diameter
0.375" (9.525mm) Long



PMA2163K
Stainless Steel Immersion Probe
0.125" (3.175mm) Diameter
6.0" (152.4mm) Long



PMA2164K
Stainless Steel Air / Gas Probe
0.5" (12.7mm) Diameter
6.0" (152.4mm) Long

SPECIFICATIONS

| | |
|--------------------------------|-----------------------------------|
| Temperature Range | PMA2161K: -40 to +150°C |
| | PMA2162K: -40 to +80°C |
| | PMA2163K: -40 to +150°C |
| | PMA2164K: -40 to +150°C |
| Display Resolution | 0.1°F, 0.1°C, 0.1K |
| Temperature Accuracy | ±0.35°C within 0-70°C, Figure 1 |
| Stability | Better than 0.02°C/Year, Figure 2 |
| Self Heating Power | Less than 100 [µW] |
| Units | °F, °C, K |
| Cable | 4 ft. Straight Cable (1.2m) |
| Dimensions & Weight | *See outline drawing |

REFERENCES

Fraden J., "AIP Handbook of Modern Sensors Physics, Design and Applications"

Part Number: 210023

Revision Level: A

Specifications subject to change without notice.

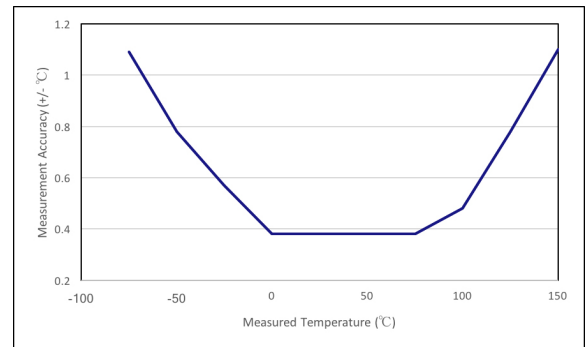


Fig. 1. Accuracy of Temperature Measurement

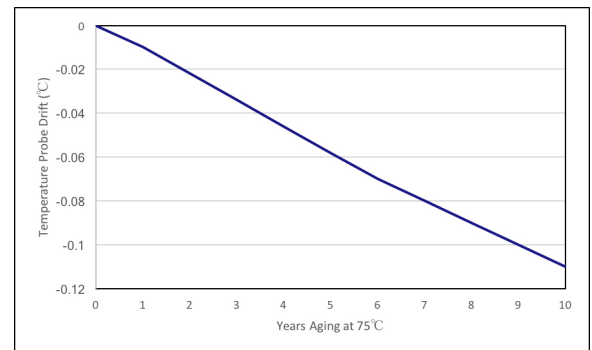
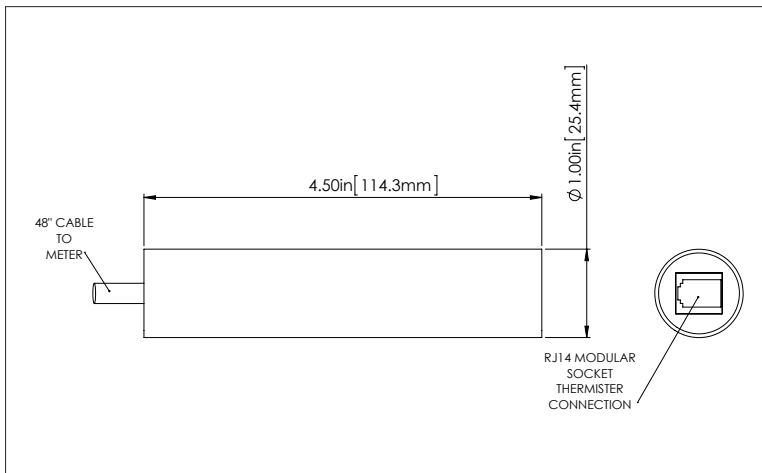


Fig. 2. Typical Longterm Drift of the Thermistor Sensor

Thermistor Temperature Probe PMA2160



Est. Weight: 10 oz. (280 kg)

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.