UNIVERSAL LIGHTPROBE™ SENSOR TROUBLESHOOTING CHECKLIST

All products are fully tested prior to shipment, and all Universal LightProbe Sensors have patented voltage power protection up to 40 volts and can withstand reverse polarity to-18 volts.

!! Do not use solder on output pins. This will invalidate the warranty
!! Do not use "rubbing" alcohol to clean fiber-optic probe tips.

Problem	Possible Solutions:
No Output From Sensor Pins	• Universal LightProbe Sensors have power voltage protection up to +40 volts and can withstand reverse polarity up to -18 volts. If a voltage greater than 40 volts is applied to the power pin, or if power is applied to the 'Int.', 'Color', or "S" signal pins, the Sensor will become nonfunctional. • Excessive heat can cause permanent damage to the Sensor. • Electrostatic discharge can also damage the Sensor.
Sensor Becomes Warm or "Hot"	• If power is applied to the output pins - "Int", "C" or "S" - the Sensor's circuiting may be damaged and the Sensor becomes warm. Such damage to the Sensor cannot be repaired.
Over-ranging: Output on the Intensity ("Int.") pin is 4+ volt. LED is too bright.	• Increase the air-gap between the fiber-optic probe tip and the LED under test. • If using a Wide-Aperture fiber-optic probe, switch to a Small-Aperture fiber-optic probe. • If neither of the above steps achieve better results, check Application Note 35: Sensor-Sensitivity Chart. Switch to a 'Low-Sensitivity' or 'Very-Low Sensitivity' Sensor if necessary.
Inconsistent Intensity Readings	• When the LED is turned off, the output on the Intensity ("Int.") pin should read approximately 0 to 10mV, and for Spectra and Penta Sensors, the output on the "Color" pin should read 500mV. If not, ambient light or other sources of light (e.g. barcode illuminator lamps) are being sensed and need to be eliminated. • Inconsistent readings may also be the result of exposure to electro-static discharge. Sensors should be used in a static-free environment.

Continued:

PO Box 751 • South Freeport, ME 04078 USA | Phone (207) 865-9181 • Fax (207) 510-8039
www.optomisticproducts.com
info@optomisticproducts.com

UNIVERSAL LIGHTPROBES™ SENSOR TROUBLESHOOTING CHECKLIST

Continued:

Problem	Possible Solutions:
Under-ranging: Output on the Intensity ("Int.") pin is 50mV or less, and/or erroneous or inconsistent outputs are received on the Color ("C") pin, or "0" volts output on the "S" pin. Multiple possible causes	• **LED too dim:** Reduce the air-gap between the fiber-optic probe tip and the LED under test, and/or switch to a Wide-Aperture Fiber-Optic Probe and/or a Penta High-Sensitivity Sensor. • **Mis-alignment:** Ensure the fiber-optic probe tip is centered over the LED under test. If it cannot be centered, try a Wide-Aperture or a Very-Wide-Aperture Fiber-Optic Probe, which may compensate for mis-alignment issues. • **Fiber-Optic Probe damage:** Cuts, splices and excessively sharp bends can cause a significant drop in the sensitivity of the Sensor. • **Fiber-Optic Probe tip must be clean:** Use only clean compressed air, such as "Dust-Off", and not factory-compressed air, to clean the tips. Do not use rubbing or isopropyl alcohol. • **Correct Current:** Use a constant d.c. current source set to the normal operating current for the LED as indicated on the LED manufacturer's data sheet. Pulse-width modulation is not recommended. Alternatively, drive the LED via the current-limiting resistor on the circuit-board under test using the d.c. supply voltage normally applied to the circuit board. ***!! DO not apply a voltage across the LED to turn it on.*** • **For dim LEDs,** allow up to 500mS after the LED is switched on before reading the Sensor output; the LED should remain on during that period. • **If none of the above steps achieve better results, check Application Note 35:** Sensor-Sensitivity Chart. Switch to a Penta High-Sensitivity Sensor or, if only ON/OFF test required, the Ultra-High Sensitivity Sensor.

PO Box 751 • South Freeport, ME 04078 USA | Phone (207) 865-9181 • Fax (207) 510-8039
www.optomisticproducts.com
info@optomisticproducts.com