

Ultra Fast (Non Contact) Pyrometer for Demanding Industrial Processes



Benefits

- High Signal-to-Noise Ratio
- 1 kHz sampling speed
- 1 mm spot size
- $\pm 1.5^{\circ}\text{C}$ or 0.15% of Reading Accuracy
- $< 0.15^{\circ}\text{C}$ per year drift

Applications

- Control of Rapid Thermal Processing Applications
- Monitoring of Crystal Growth
- Temperature Monitoring of Fast Moving Processes
- Control of Vacuum Furnace Processes

Best Signal-to-Noise Ratio in the Industry

The PhotriX™ Pyrometer from LumaSense Technologies offers the most precise non-contact measurements for industrial environments requiring closed loop control of thermal processes. Targeted at applications involving rapid thermal ramps, assembly lines with fast-moving objects, and applications with very small targets the PhotriX™ offers unparalleled precision at ultra high speeds.

Superior Performance

Temperature measurements in many industrial-heating applications require repeatability as well as high resolution. The PhotriX™ system offers unmatched precision and speed made possible by its superior signal-to-noise ratio (SNR). The higher sampling speed (up to 1kHz) enables faster ramp rates of processes leading to higher throughput. The innovative design of the PhotriX™ also makes it exceptionally stable for long process cycles and its repeatable performance ensures consistent product quality. In addition, lightpipes can be added to access vacuum chambers and corrosive environments.

Minute Spot Size

The best-in-class SNR of the PhotriX™ allows it to make precise measurements while viewing very small spot sizes on the target material, as small as 1 millimeter. This unique feature combined with PhotriX's high speed offers unmatched spatial resolution of measurements for very small targets (e.g., filaments, wire, etc.) and targets with obstructed views.

Production Proven

Packaged in a rugged and compact enclosure, the PhotriX™ system is designed for convenient integration into industrial equipment and processes. The sensor is protected in a stainless steel housing that is easily mounted using the incorporated threaded body.

Standard System Includes

- PhotriX™ Electronics with Anti-reflective Coated Lens
- Communication Interface Module (CIM)
- Software for PC that Performs Data Acquisition, Graphing and Setup Interface
- 4m Cable to Connect CIM to Sensor
- 3m RS-232 Interface Cable to Connect CIM to PC
- Universal Power Supply
- Calibration Certificate
- Manual

PhotriX™ Temperature Sensor

Specifications

Temperature Range	Standard Spot	Mini-Spot
Minimum	65°C	125°C
Maximum	1100°C	2800°C
Resolution 0.01°C Above	150°C	250°C
Wavelength	700 to 1650nm *	
Accuracy	±1.5°C or 0.15% of Reading	
Speed	Up to 1 kHz	
Repeatability	<0.15°C per Year Drift	
Output	RS-232 (Standard); Analog Output (Optional)	
Ambient Range	10°C to 60°C	
Dimensions	33.6mm Diameter, 178mm Length	
Power	Universal Power Supply (also accepts 12VDC)	

*Other single wavelengths available for silicon and compound semiconductor.

Target Materials

The wavelengths that the PhotriX™ operates at are suitable for the following targets:

- Metal Oxides
- Ceramics
- SiO₂
- SiC
- Graphite
- Metals

Working Distance*	Standard Spot Size (dia.)	Mini Spot Size (dia.)
75mm	2.0mm	1.0mm
150mm	3.8mm	1.5mm
300mm	7.5mm	2.5mm
500mm	12.5mm	3.5mm
1000mm	25.0mm	8.0mm

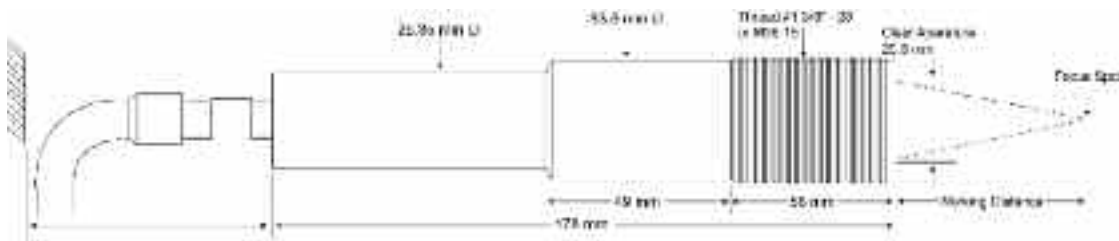
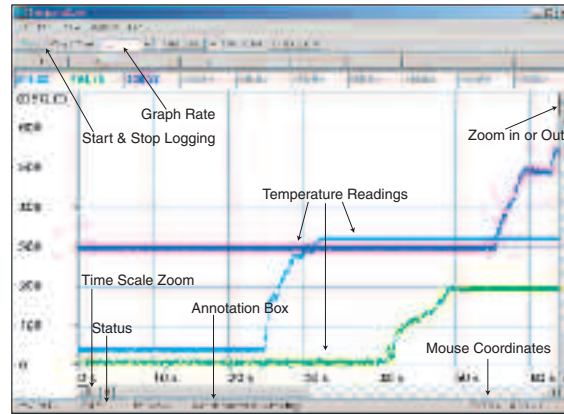
* Custom working distances available for surcharge

Available Accessories

- Lightpipes (Temperature Range 15°C to 1350°C)
- Multi-channel PC Interface
- Analog Output Module
- Carrying Case
- Fiber Optic Extensions

Software

The PhotriX™ TemperaSure™ software is included and provides a graphical interface to change settings and log and/or display data. The software is not required for operation after setup is complete.



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