

PhotriX™ OEM

O E M P Y R O M E T E R

Custom OEM Solutions

The PhotriX™ line of sensors from Luxtron offer best-in-class radiation pyrometry in an incredibly small package. With numerous features and options, a PhotriX system can be customized to meet the unique requirements of every OEM application.

With over 25 years experience providing temperature measurement solutions for the most demanding and hostile applications, Luxtron specializes in OEM integration. Our highly experienced team of applications engineers provide custom design and integration support to adapt Luxtron's technologies to your application. For more information on the PhotriX and other Luxtron temperature measurement products, visit our web site at www.luxtron.com.

Wavelengths Tailored for Precise Process Control

The PhotriX™ OEM is offered in three detector types, with differing wavelength sensitivity (spectral response) tailored for specific applications. Luxtron specializes in pyrometer solutions based on shorter wavelengths which offer many advantages including:

- Better sensitivity,
- Smaller measurement errors resulting from emissivity errors,
- Use of fiber optic cables in the collection optics, and
- Ability to detect silicon and other Semiconductor materials which are transparent above 1000nm

Detector Type	Spectral Response	Temperature Range*		Intended Purpose
		Min	Max	
XE	880 nm	195°C	3000°C	Compound Semiconductor (GaAs, InP, Single Crystal SiC)
XN	900 nm	190°C	3000°C	Semiconductor, Silicon wafer measurements
XW	700 - 1650 nm	15°C	630°C	Low temperature process measurements of metals, ceramics, and metal oxides

* Depends on configuration of optics. A single system may not cover entire range.

Optical Sensors for Every Application

The optics capture the thermal radiation from the measurement target and deliver it to the detector. The PhotriX™ collection optics can be configured in four distinct forms depending upon the application demands: (1) lightpipe, (2) lightpipe with flexible fiber optics, (3) lens and (4) lens with flexible fiber optics.

Lens Optics: Lens based optics measure a small spot on the target from greater distances. This allows the user to measure an object through a window or viewport when direct access is not otherwise available.

Lightpipe Optics: The lightpipe is an optical rod constructed of a single-crystal sapphire. Luxtron sapphire lightpipe optics are used for non-contact temperature measurements where the optics can be close to the target. Due to their versatility, lightpipes are ideal for difficult-to-reach targets. Lightpipes can access a target through a very small hole and survive harsh temperature and pressure environments.

Unique Advantages of Lightpipes

- Small size allows easy integration into process chambers,
- Superior light collection efficiency enables measurement of lower temperatures,
- Ability to collect light from a wide angle reduces emissivity and roughness errors,
- Sapphire material provides excellent survivability,
- Exposure to 2000°C
- Immune to EMI and most corrosive environments



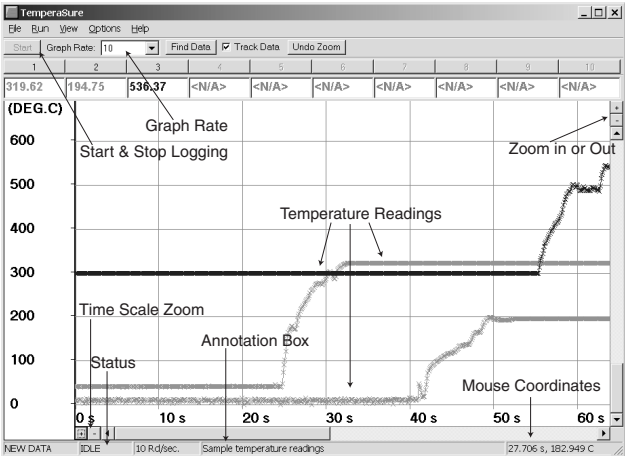
Designed for Ease-of-Use and Integration

PhotriX™ offers three outputs for control applications:

- RS-232
- RS-422
- Analog Output (0-10V or 4-20 mA)

Both RS-232 and RS-422 can output measurements at a rate of 1000 Hz. The analog output achieves 100 Hz.

The RS-232 interface can also be used with the PhotriX™ PC TemperaSure™ software, provided at no charge. TemperaSure™ software is a graphical user interface program that gives the user the ability to log / display temperature readings and view / configure probe settings.



Multiple PhotriX™ sensors can be networked together with an optional multi-channel interface box (MCIB).

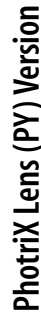
Specifications



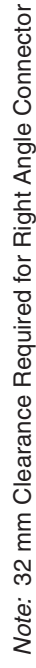
Model	LP			PY		
Input Optics	Lightpipe			Lens		
Wavelength	880nm	900 nm	700 -1650nm	880nm	900nm	700 -1650 nm
Full Width, Half Max (FWHM)	50nm	50nm		50nm	50nm	
Temperature Range *						
Minimum	195°C	190°C	15°C	270°C	265°C	50°C
Maximum	1350°C	1350°C	700°C	3000°C	3000°C	2800°C
Resolution	0.01°C	0.01°C	0.01°C	0.01°C	0.01°C	0.01°C
	above 300°C	above 300°C	above 85°C	above 400°C	above 400°C	above 150°C
Accuracy	± 1.5°C or 0.15 % of reading					
Repeatability	< 0.15°C per year drift					
Output	RS-232 (Standard); Analog Output (Optional)					
Ambient Range	10-60°C					
Dimensions	25.4 mm diameter, 115 mm length			35.0 mm diameter, 165 mm length		
Weight	310 grams			500 grams		
Power	110 / 220 VAC, 50 Hz and 60 Hz (also accepts 12 VDC)					
Available Accessories	Fiber Optic Cable Sensor Gas Purge Light Pipe Sheath			Fiber Optic Cable Multi-channel PC Interface		

* Temperature range is factory configured

- Tip of lightpipe positioned close to target,
- Stainless steel sleeve is used for mounting in high vacuum / pressure fittings,
- Sheaths of stainless steel, quartz, or sapphire are optional
- Purging gas can be used to protect against deposition onto the lightpipe optics.



- Custom spot sizes and working distances available per OEM requirements,
- Sensor mounted using integrated threads on body (English or Metric threads)



FaxBAK

Application Analysis

Name: _____

Date: _____

Company: _____

Preferred Contact Information (Phone or Email): _____

Brief Description of Application: _____

Temperature Measurement Range (indicate C or F): _____ to _____ Required Update Rate (Hz): _____ Hz

Details

Details of the Object to be Measured

Material _____ Size _____

Object is ☐ Stationary ☐ Moving. If Moving, Describe: _____

Surface is ☐ Specular (Mirror Like) ☐ Diffuse (Rough)

Emissivity is ☐ Known _____ ☐ Unknown ☐ Changes Due to _____

Details of the Surrounding Environment

Object is in ☐ Atmosphere ☐ Vacuum _____ Torr ☐ Pressure _____ Bar

☐ Plasma ☐ Vapor ☐ Dust ☐ Steam

Ambient Light ☐ Completely Dark ☐ Room Lights ☐ Laser Used, Wavelength _____

☐ Lamp Heating ☐ Tungsten / Halogen ☐ Arc Lamp ☐ Other _____

Access to Object

Viewport ☐ No ☐ Yes If Yes, View Diameter _____ and Distance to Object _____

Port or Feedthrough ☐ No ☐ Yes, if Yes, Type and Size _____

Describe Source of Heat: _____

Geometry

Please provide a simple sketch showing the application.

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Your local Luxtron sales representative is:



3033 Scott Boulevard, Santa Clara, CA 95054-3316
408.727.1600 tel 408.727.1677 fax
www.luxtron.com