

# PAX-10™

## 10-Watt Precision-Aligned Pulsed Xenon Light Source



### Overview

The PAX-10™ by Excelitas is a Precision-Aligned Pulsed Xenon Light Sources offering a full 10 Watts of power. It's compact design integrates the flash lamp, trigger circuit, and power supply in an EMI-suppressant enclosure.

The PAX-10 features a pre-aligned arc position precisely located relative to a datum feature on the mounting surface of the case. This pre-aligned arc position allows for “plug and play” field replacement, eliminating alignment time and reducing OEMs’ costs and machine down time.

The PAX-10 utilizes Excelitas’ reliable pulsed Xenon flashlamp technology, delivering high radiant intensity over a continuous spectrum from the ultraviolet to the infrared. It provides a long life rating of over a billion flashes and is available in two arc orientations with user-selectable analog or digital intensity control.

The PAX family is the ideal pulsed Xenon light source for clinical diagnostics, invitro diagnostics, life sciences, drug discovery, proteomics, and analytical instrumentation applications.

## PRODUCT NOTE

### PAX Family of Precision-Aligned Xenon Light Sources

#### Features and Benefits

- Precision alignment-arc position precisely located (+/- 0.05 mm, 0.002 inches) relative to datum feature on the mounting surface
- Ease of installation and convenient “plug and play” field replacement
- 10 Watts average power
- Long life: >1.0 x 10<sup>9</sup> flashes
- Spectral range from 120 to 2000+ nm
- Available in two arc orientations
- Integrated package—flash lamp, trigger circuit and power supply, all in a robust EMI suppressant enclosure
- Flexible mounting
- User selectable analog or digital intensity control
- CE Marked and RoHS compliant

#### Applications

- Absorption analysis
- Immunoassay modules
- Fluorimetry
- Spectroradiometry
- Liquid chromatography
- Colorimetry
- UV/VIS/NIR applications

## Input Specifications

Parameter	Specification
Voltage	11-28 VDC
DC Current	2 A maximum
Inrush Current	4 A peak maximum
Trigger <sup>1</sup>	+5 V, 20-50 mA peak input, 10-100 μs pulse width, leading edge trigger
Vref (Vo/Vref = 210)	1.9 to 4.76 VDC or 12 bit serial interface
Analog or digital control	External switch selectable
Internal/External Intensity Adjust	External switch selectable
Input Connector	9-pin D-sub

**NOTE 1:** Optically Isolated: Internal series resistor = 150 Ω

## Part Number Configuration PAX-10AB-C\*

<b>A = Arc Orientation</b>	0 - vertical 1 - horizontal
<b>B = Lamp Type</b>	1 - 1.5 mm arc length, 225 - 2000+ nm 2 - 1.5 mm arc length, 190 - 2000+ nm 3 - 1.5 mm arc length, 120 - 2000+ nm 4 - 3.0 mm arc length, 225 - 2000+ nm 5 - 3.0 mm arc length, 190 - 2000+ nm 6 - 3.0 mm arc length, 120 - 2000+ nm
<b>C = Discharge Capacitor</b>	1 - 0.10 μF 2 - 0.15 μF 3 - 0.22 μF 4 - 0.33 μF

**\* Part Number Example:**  
PAX-10 03-1 = vertical arc,  
1.5 mm arc length with  
120 nm cutoff and 0.10 μF capacitor

## Electrical Output

Parameter	Specification
Main Discharge Voltage	400-1000 VDC +/- 2%
Power	10 Watts
Standard Discharge Capacitors	0.10, 0.15, 0.22, 0.33 μF
Flash Rate (Hz)	Fmax = 10/E where E = 1/2CV <sup>2</sup>

## Light Output

Parameter	Specification
Spectral Range	120-2000 + nm
Stability <sup>2</sup>	< 1% CV
Life time	> 1 x 10 <sup>9</sup> Flashes

**NOTE 2:** Operating conditions: 0.33 μF discharge capacitor. 1000 VDC discharge voltage. 10 Hz flash rate.

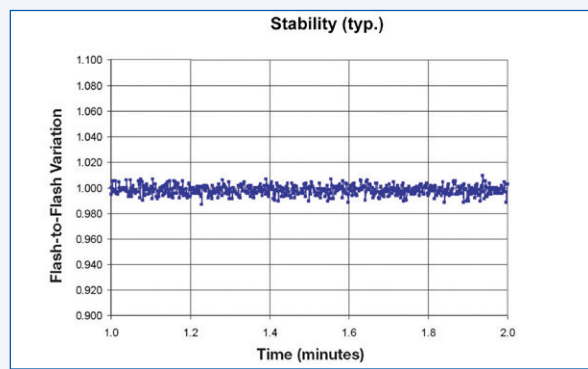
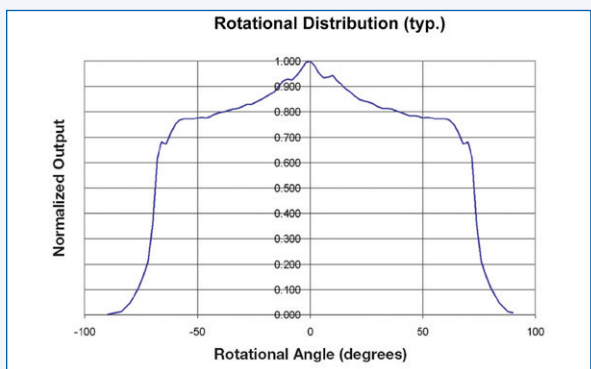
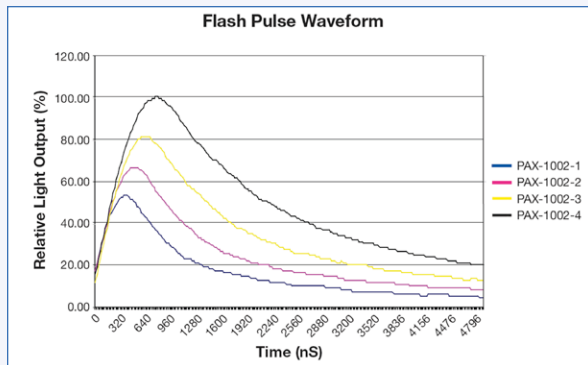
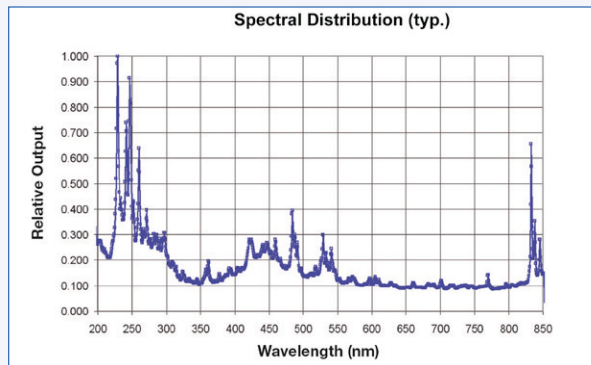
## Environmental

Parameter	Specification
Operating temperature	0 to 40 °C
Storage temperature	-40 to 90 °C
Humidity	95% RH, non-condensing
Safety Compliance	CE Marked

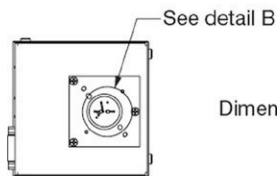
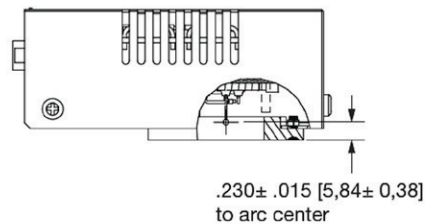
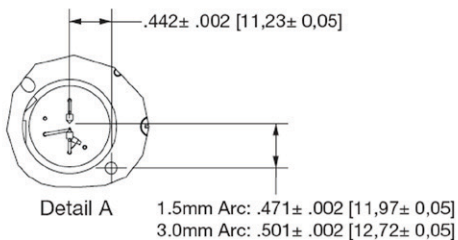
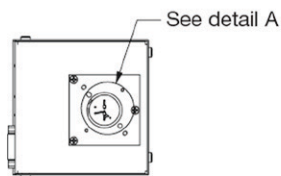
## Operating Conditions

Part Number	Main Discharge Capacitor (μF)	Main Discharge Voltage (V)	Maximum Input Energy per Flash (mJ)	Maximum Repetition Rate (Hz)	Maximum Average Power (W)
PAX-10AB-1	0.10	400	8	1250	10
		600	18	556	
		1000	50	200	
PAX-10AB-2	0.15	400	12	833	10
		600	27	370	
		1000	75	133	
PAX-10AB-3	0.22	400	17.6	568	10
		600	39.6	252	
		1000	110	91	
PAX-10AB-4	0.33	400	26.4	378	10
		600	59.4	168	
		1000	165	60	

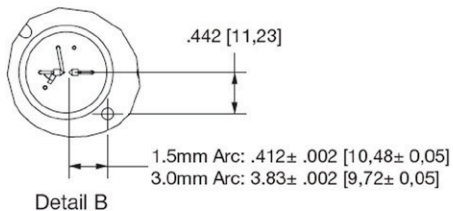
Characteristics



PAX-10 Precision Arc Alignment



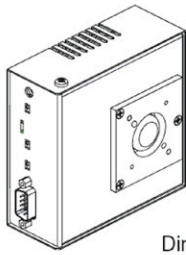
Dimensions: in [mm]



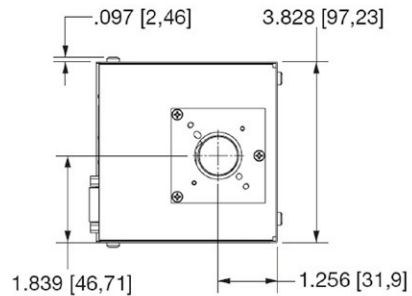
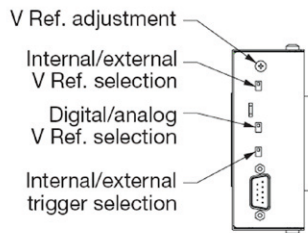
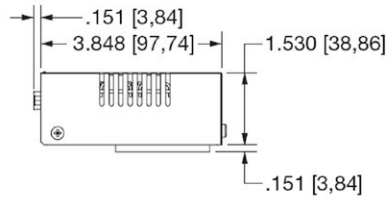
Notes

1. Precision mounting requires dowel pins (pin to protrude .150" ± .025, pin Ø.1250/.1255).
2. Mounting kit available as an accessory.
3. Alignment provided from pin center to theoretical intersection of electrode tip.

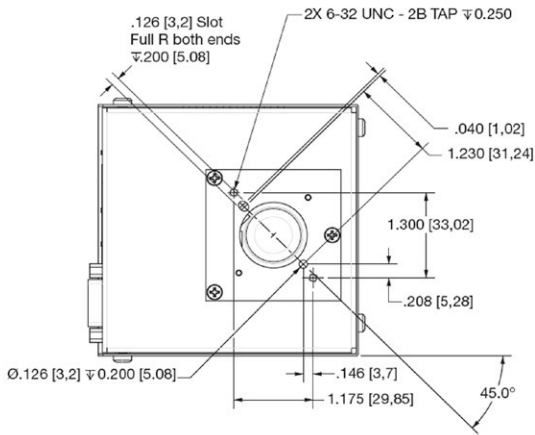
## Mechanical Outline



Dimensions: in [mm]



## Mechanical Dimensions



## Ordering Information

Excelitas has designed an easy to use Evaluation Kit for testing the PAX-10 in your application.

To request additional information, receive a quote, or place an order for the PAX-10, please contact your Customer Support team or visit our website at [www.excelitas.com](http://www.excelitas.com).

All values are nominal; specifications are subject to change without notice.

**Excelitas Technologies**  
35 Congress Street  
Salem, Massachusetts 01970 USA  
Telephone: (+1) 978.745.3200  
Toll free: (+1) 800.950.3441  
Fax: (+1) 978.745.0894  
[generalinquiries@excelitas.com](mailto:generalinquiries@excelitas.com)  
[www.excelitas.com](http://www.excelitas.com)

**Excelitas Technologies GmbH & Co. KG**  
Wenzel-Jaksch-Str. 31  
D-65199 Wiesbaden  
Germany  
Telephone: (+49) 611 492 430  
Fax: (+49) 611 492 165

**Asia Headquarters  
Excelitas Technologies**  
47 Ayer Rajah Crescent #06-12  
Singapore 139947  
Telephone: (+65) 6775-2022  
Fax: (+65) 6775-1008



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