

## **μPAX-2** **2-Watt Pulsed Xenon Light Source**



*μPAX-2 Pulsed Xenon Light Source for UV/Vis/NIR Applications*

The μPAX-2 from Excelitas Technologies is a 2 Watt Pulsed Xenon Light Source which has been designed to combine an innovative new lamp design with state-of-the-art circuitry and components into a packaged light source which provides microsecond-duration pulses of broadband light with exceptional arc stability. The compact, integrated solution contains the flash lamp, trigger circuit, and power supply in an EMI-suppressant enclosure.

The μPAX-2 offers a wide range of flash energy levels and 2 Watts maximum power in a compact, pre-aligned module. It utilizes Excelitas' high stability short arc Xenon flash lamps. Known for their stability and long life characteristics, these Xenon lamps generate light over a continuous spectrum from ultraviolet to infrared.

The compactness, low power level with controlled peak and in-rush currents, excellent stability and small form factor make the μPAX-2 family an ideal choice for UV/Vis spectrophotometers and point-of-care analytical instruments.

### **Features**

- High radiant intensity
- Continuous spectrum UV-VIS-IR
- High Stability, <0.5% CV typical
- Long life expectation:  $1.0 \times 10^9$  flashes
- External and internal reference voltage control
- Regulated trigger voltage
- Battery operable
- Precision alignment
- Integrated package—flash lamp, trigger circuit and power supply, all in a compact, EMI suppressant enclosure
- CE marked and RoHS compliant
- Cable accessories available
- SMA adaptor option available

### **Applications**

- UV/Vis Spectrophotometer
- Point-of-care Analytics
- Environmental Analysis
- Absorption Analysis
- Fluorescence Trigger
- Immunoassays
- Microplate Readers

# μPAX-2

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### μPAX-2

Electrical Input Specifications	
Parameter	Specification
Voltage	11 to 15 VDC
DC Current	<1 Amp avg.
Inrush Current	2 Amps peak
Trigger	+5V, 20-50mA peak input, Pulse width 10uS -100uS. Optically isolated internal series resistor = 150Ω
V <sub>ref</sub> (External Intensity Adjust)	Cable Connector: 0 to 5VDC = 600 to 400VDC Flying Leads Connector: Not applicable
Intensity Selection	User Selectable (see user manual)
Mating Input Connector	Hirose Electric Co. Ltd 3540-10P-CV(50)* Flying leads

\*Cable accessories available

Electrical Output	
Parameter	Specification
Voltage	400-600 VDC adjustable ( $\pm 2\%$ at limits for external control)
Power (Joules/sec)	2 Watts max. (power = joules x flash rate)
Standard Discharge Capacitor	0.047, 0.094, 0.141 $\mu$ F
Flash Rate (Hz)	$F_{max} = 2/E$ , where $E=1/2CV^2$

Light Output	
Parameter	Specification
Spectral Range	See lamp type in configuration table below
Stability*	$\leq 1\%$ CV (<0.5% typical)
Lifetime	$\geq 1 \times 10^9$ flashes expected lifetime

\* CV or Coefficient of variation is defined as:  $CV\% = (\text{Standard Deviation of 20 Flashes}) / (\text{Mean of 20 Flashes})$ . Operating conditions: 0.141  $\mu$ F discharge capacitor. Maximum discharge voltage, 20 Hz flash rate, 335-345nm, average of 50 CV measurements (i.e. total of 1000 flashes). As shipped performance.

Environmental	
Parameter	Specification
Operating Temperature	32 to 122°F (0 to 50°C), cooling required under some conditions - see user manual for details.
Storage Temperature	-40 to 194°F (-40 to 90°C)
Humidity	95% RH, non-condensing
Safety Compliance	CE marked

Operating Conditions					
Part Number	Main Discharge Capacitor ( $\mu$ F)	Main Discharge Voltage (V)	Max. Average Input Energy per Flash (mJ)	Max. Repetition Rate (Hz)	Max. Average Power (W)
μPAX-2A2-C	0.047	400	3.76	532	2
		600	8.46	236	2
μPAX-2A3-C	0.094	400	7.52	266	2
		600	16.92	118	2
μPAX-2A4-C	0.141	400	11.28	177	2
		600	25.38	79	2

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## 2-Watt Pulsed Xenon Light Source

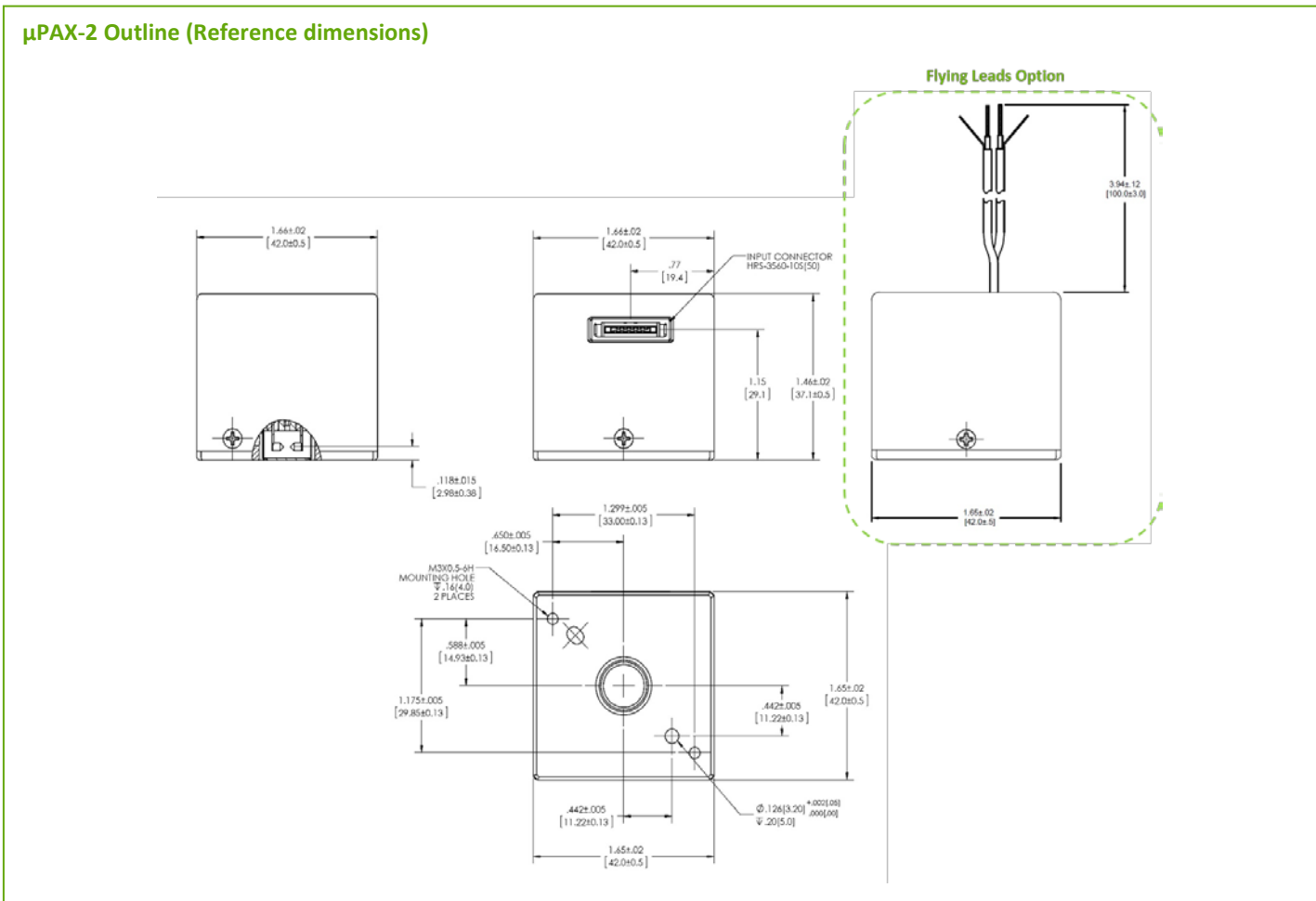
Part Number Configuration: <b>μPAX-2AB-C</b>	
<b>Where:</b>	
<b>A = Window Material</b>	<b>1</b> - 225-2000+ nm (Borosilicate)* <b>2</b> - 190-2000+ nm (UV Glass) <b>3</b> - 120-2000+ nm (MgF2)* <b>4</b> - 160-2000+ nm (Sapphire)*
<b>B = Discharge Capacitor</b>	<b>2</b> - 0.047 μF <b>3</b> - 0.094 μF <b>4</b> - 0.141 μF
<b>C = Input Connector</b>	<b>0</b> - Cable input connector <b>F</b> - Flying leads connector

\* Contact Excelitas Applications Engineering

Example: **μPAX-224-0** UV glass window and 0.141 μF capacitor with cable input connector

- SMA Adaptor Option Available
- Cable Accessories Available

### Mechanical Dimensions

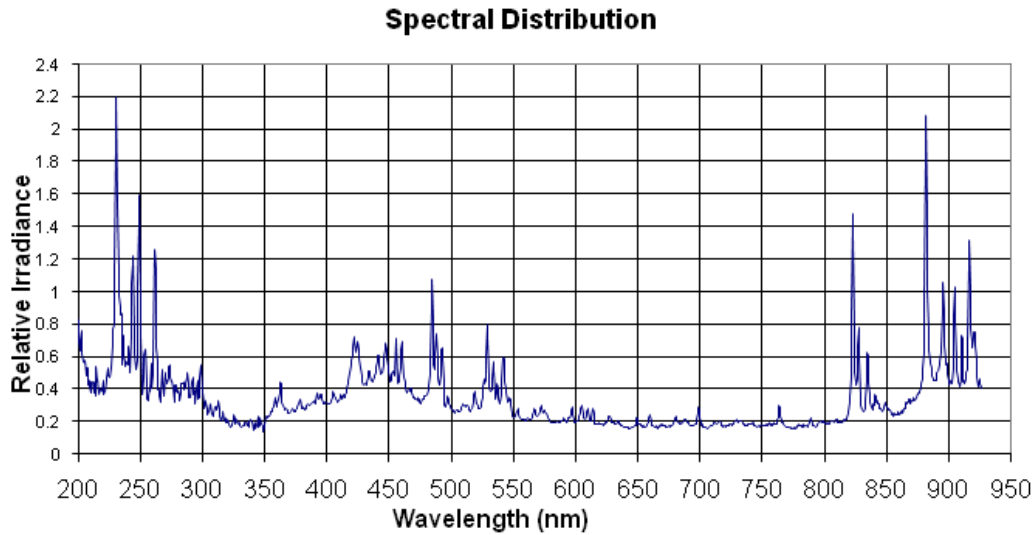


NOTE: All values are nominal; specifications subject to change without notice.

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### Spectral Resolution (Reference Only)



### About Excelitas Technologies

Excelitas Technologies is a global technology leader focused on delivering innovative, customized solutions to meet the lighting, detection and other high-performance technology needs of OEM customers.

From analytical instrumentation to medical lighting clinical diagnostics, industrial, safety and security, and aerospace and defense applications, Excelitas Technologies is committed to enabling our customers' success in their specialty end-markets. Excelitas Technologies has approximately 5,500 employees in North America, Europe and Asia, serving customers across the world.

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