

PRELIMINARY

nPAX-N2

NanoPax Miniature 2-Watt Pulsed Xenon Light Source



Features

- High radiant intensity
- Continuous spectrum UV-VIS-IR
- Stable output, 0.5% CV typical
- Long life expectation
- Precision aligned
- User adjustable output
- Compact integrated package

Applications

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

nPAX-N2 Precision Aligned Xenon Light Source for UV/VIS/NIR Applications

The new nPAX-N2 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, capacitor charging power supply, mounting flange, and precision arc alignment.

The nPAX-N2 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 excellent stability and small form factor make the nPAX-N2 family an ideal choice for Point-of-Care Analytical Instruments and Environmental Analytics.

nPAX-N2

Miniature 2-Watt Pulsed Xenon Light Source

nPAX-N2

Electrical Input Specifications	
Parameter	Specification
Voltage	11.0 to 15.0 VDC
DC Current	≤1 Amp avg.
Trigger	+5V, Pulse width 10uS -100uS. Optically isolated internal series resistor = 150Ω (20-50mA peak input)
V _{ref} (External Intensity Adjust)	0 to 4.7VDC Input = 400 to 600VDC Discharge Voltage
Input Connector	None – 5 Wire Flying Leads (24AWG, 20" Long)

Electrical Output	
Parameter	Specification
Voltage	400-600 VDC (voltage/output adjustable by turning potentiometer or supplying Vref input)
Power (Joules/sec)	2 Watts max (power = Joules x flash rate)
Standard Discharge Capacitor	0.047, 0.094, 0.141 μF
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*	≤1% CV
Lifetime	≥1x10 ⁹ flashes expected lifetime

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

Environmental	
Parameter	Specification
Operating Temperature	32 to 122°F (0 to 50°C), cooling may be required under some conditions - see user manual for details.
Storage Temperature	41 to 104°F (5 to 40°C)
Humidity	15-80% RH, non-condensing

Operating Conditions					
Model Number	Main Discharge Capacitor (μF)	Main Discharge Voltage (V)	Max. Average Input Energy per Flash (mJ)	Max. Repetition Rate (Hz)	Max. Average Power (W)
nPAX-N2A2-C	0.047	400	3.76	532*	2
		600	8.46	236	2
nPAX-N2A3-C	0.094	400	7.52	266	2
		600	16.92	118	2
nPAX-N2A4-C	0.141	400	11.28	177	2
		600	25.38	79	2

* Operation at 400V discharge above 475Hz requires 15VDC input Voltage.

Model Number Configuration: nPAX-N2AB-C	
Where:	
A = Window Material	1 - 225-2000+ nm (Borosilicate)* 2 - 190-2000+ nm (UV Glass)
B = Discharge Capacitor	2 - 0.047 μF
	3 - 0.094 μF
	4 - 0.141 μF
C = Input Connector	0 – Cable input connector

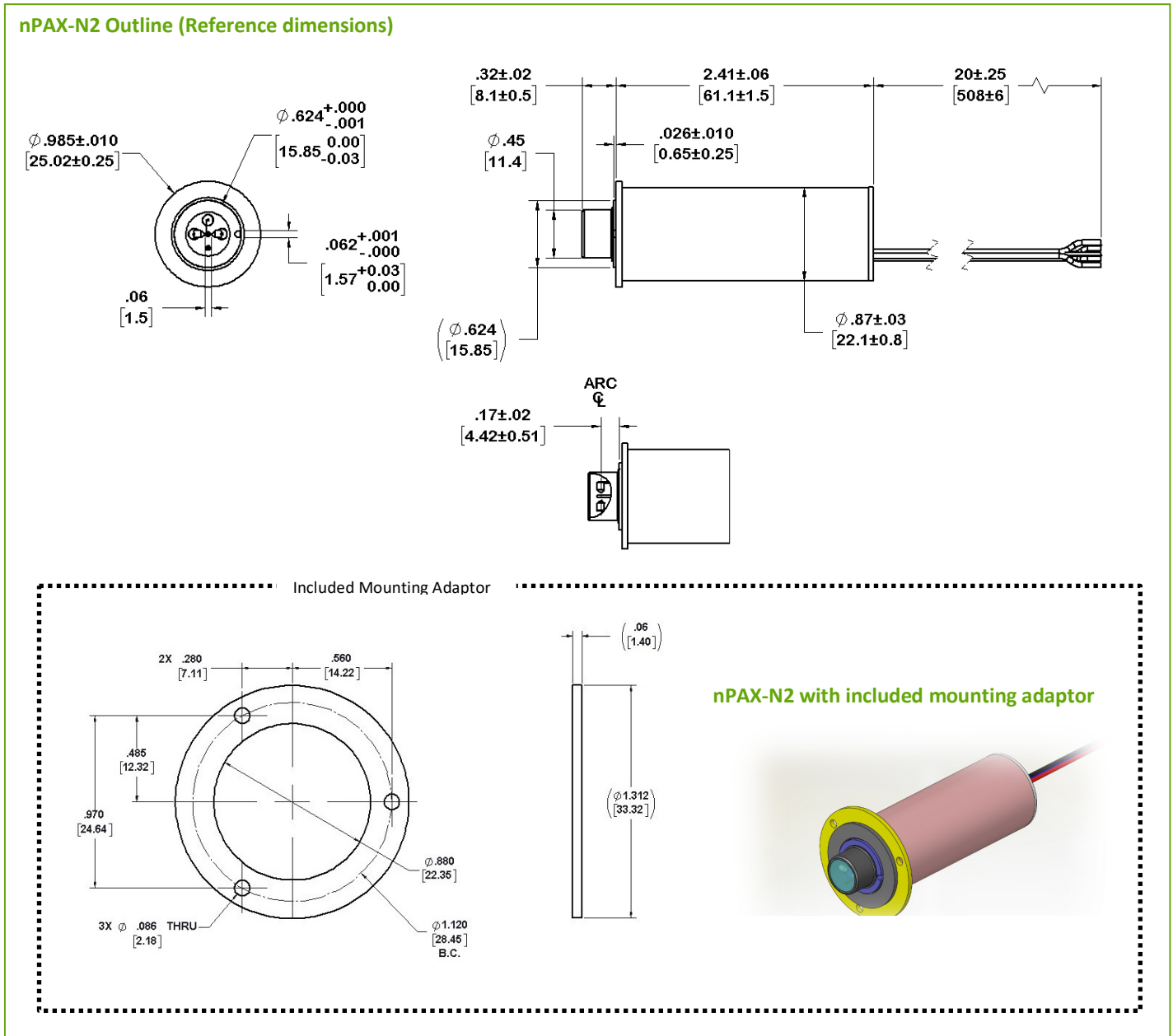
* Planned future option

Example: **nPAX-N224-0** UV glass window and 0.141 μF capacitor with cable input connector

nPAX-N2

Miniature 2-Watt Pulsed Xenon Light Source

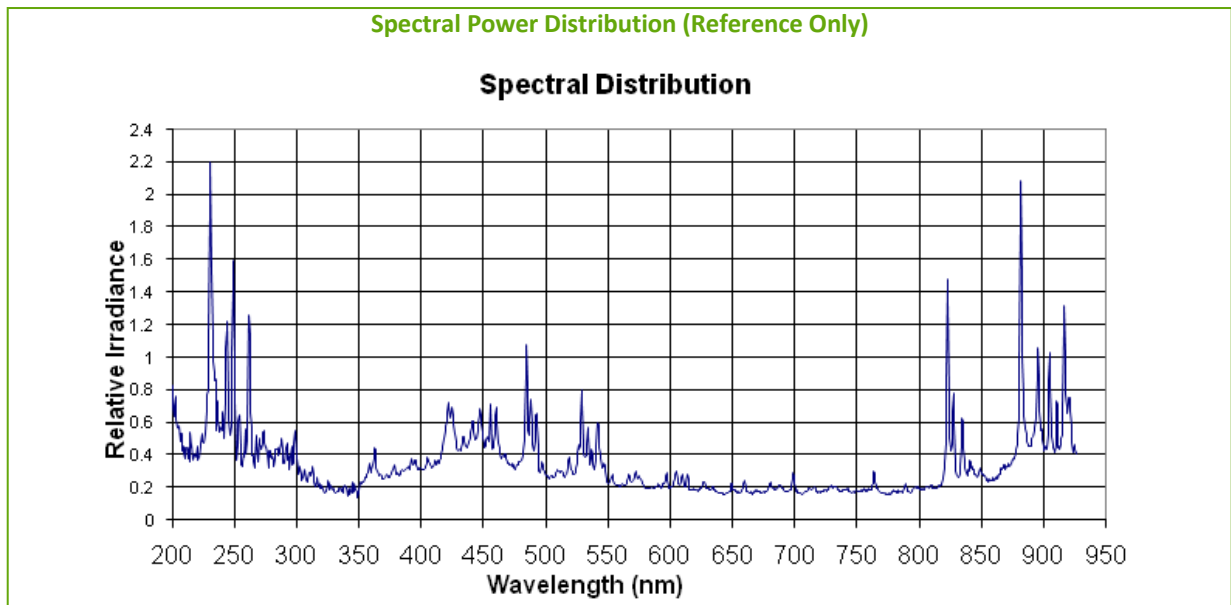
Mechanical Dimensions



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

nPAX-N2

Miniature 2-Watt Pulsed Xenon Light Source



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 5,000 employees in North America, Europe and Asia, serving customers across the world.