

# PAX-10M™

10-Watt Precision-Aligned, Modular, Xenon Light Source



## Overview

The PAX-10M by Excelitas is the newest addition to the PAX family of Precision-Aligned Pulsed Xenon Light Sources. It offers a full 10 Watts of power in a compact, modular design with a remote flash head. This allows for easier integration in space-limited applications.

The PAX-10M 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-10M utilizes Excelitas’ proven pulsed Xenon flash lamp technology, delivering high radiant intensity over a continuous spectrum from the ultraviolet to the infrared. It provides a long life rating over a billion flashes and is available with user-selectable analog or digital intensity control.

The PAX-10 Family is the ideal pulsed Xenon light source for clinical diagnostics, invitro diagnostics, life sciences, drug discovery, proteomics, and analytical instrumentation applications.

## 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 replaceable lamp module
- Long Life: >1.0 x 10<sup>9</sup> flashes
- 10 Watts average power
- Spectral range from 190 to 2000+ nm
- Compact system with remote flash head
- Flexible arc orientation and mounting
- User selectable analog or digital intensity control
- Internal pulse generator for self check
- CE Marked & 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 $\mu$ s pulse width, leading edge trigger |
| Vref (Vo/Vref = 210)               | 1.9 - 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   |

| 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 $\mu$ F |
| Flash Rate (Hz)               | Fmax = 10/E where E = 1/2CV    |

| Light Output           |                               |
|------------------------|-------------------------------|
| Parameter              | Specification                 |
| Spectral Range         | 190-2000+ nm                  |
| Stability <sup>2</sup> | <1% CV                        |
| Life time              | > 1 x 10 <sup>9</sup> Flashes |

**NOTE 2:**  
Operating conditions:  
0.33  $\mu$ F discharge capacitor. 600 VDC discharge voltage. Connector cable length of 15". 10 Hz flash rate.

NOTE 1: Optically Isolated: Internal series resistor = 150  $\Omega$

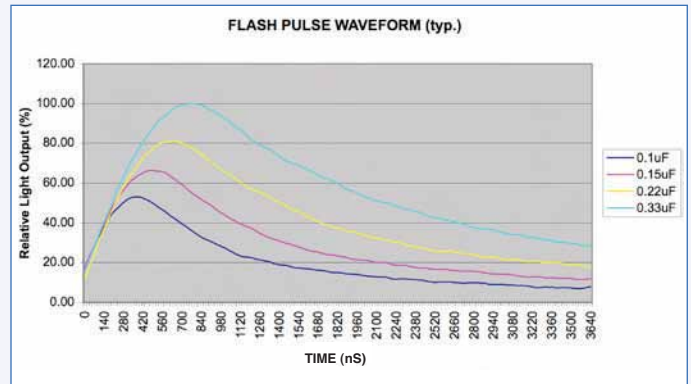
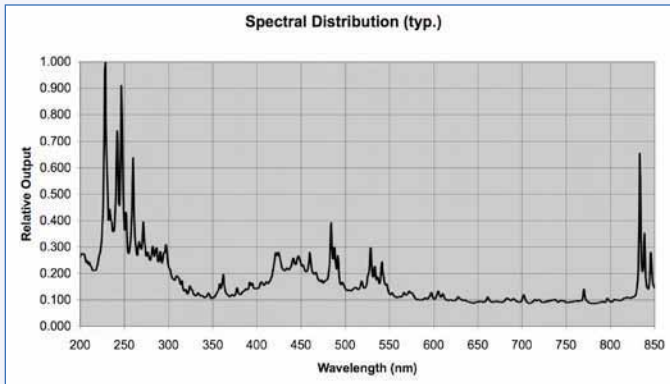
| Part Number Configuration PAX-10MA-B |  |
|--------------------------------------|--|
| A = Lamp Type                        | 1 - 1.5 mm arc length, 225-2000+ nm<br>2 - 1.5 mm arc length, 190-2000+ nm<br>4 - 3.0 mm arc length, 225-2000+ nm<br>5 - 3.0 mm arc length, 190-2000+ nm |
| B = Discharge Capacitor              | 1 - 0.10 $\mu$ F<br>2 - 0.15 $\mu$ F<br>3 - 0.22 $\mu$ F<br>4 - 0.33 $\mu$ F   |

\* Part Number Example: PAX-10M2-1 = 1.5 mm arc length with 190 nm cut off and 0.10  $\mu$ F capacitor

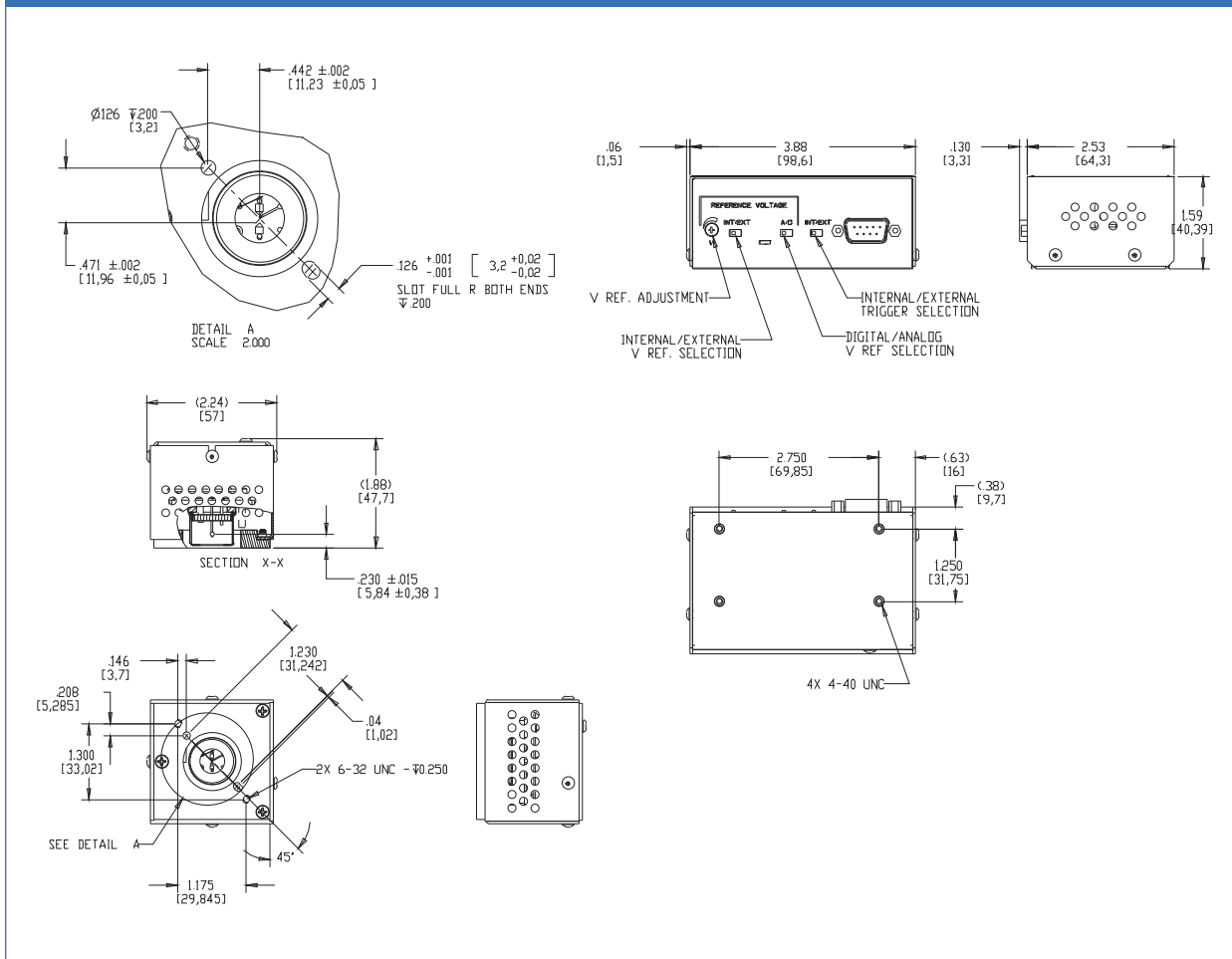
| Environmental         |   |
|-----------------------|---|
| Parameter             | Specification   |
| Operating temperature | 0 to 40 °C  |
| Storage temperature   | -40 to 90 °C  |
| Humidity              | 95% RH, non-condensing                                |
| Safety Compliance     | EU Low Voltage Directive 73/23/EEC, EN61010-1:2001-02 |

| Operating Conditions |                                     |                            |                                     |                              |                           |
|----------------------|-------------------------------------|----------------------------|-------------------------------------|------------------------------|---------------------------|
| Part Number          | Main Discharge Capacitor ( $\mu$ F) | Main Discharge Voltage (V) | Maximum Input Energy per Flash (mJ) | Maximum Repetition Rate (Hz) | Maximum Average Power (W) |
| PAX-10MA-1           | 0.1                                 | 400                        | 8                                   | 1250                         | 10                        |
|                      |                                     | 600                        | 18                                  | 556                          |                           |
|                      |                                     | 1000                       | 50                                  | 200                          |                           |
| PAX-10MA-2           | 0.15                                | 400                        | 12                                  | 833                          | 10                        |
|                      |                                     | 600                        | 27                                  | 370                          |                           |
|                      |                                     | 1000                       | 75                                  | 133                          |                           |
| PAX-10MA-3           | 0.22                                | 400                        | 18                                  | 568                          | 10                        |
|                      |                                     | 600                        | 40                                  | 252                          |                           |
|                      |                                     | 1000                       | 110                                 | 291                          |                           |
| PAX-10MA-4           | 0.33                                | 400                        | 26                                  | 378                          | 10                        |
|                      |                                     | 600                        | 60                                  | 168                          |                           |
|                      |                                     | 1000                       | 165                                 | 60                           |                           |

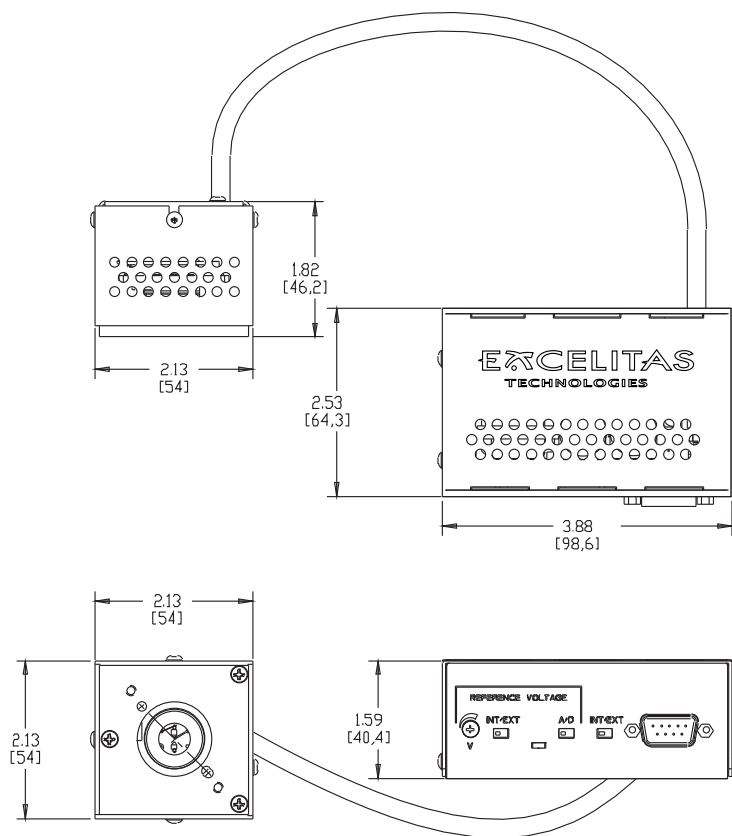
Characteristics



Precision Arc Alignment and Mounting



Mechanical Outline



NOTE: Standard cable length is 15 inches.  
Alternate cable lengths available upon request.

## Ordering Information

To request additional information, receive a quote, or place an order for the PAX-10M, 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.

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