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Find the Excelitas / Perkin Elmer LS-1130-3 at our website: **Click HERE**
1100 Series
High-Stability Short Arc Xenon Flashlamps

FX-1100 Series Flashlamps from Excelitas provide exceptional arc stability.

The 1100 Series Short Arc Xenon Flashlamps from Excelitas Technologies are unconfined arc flashlamps which produce microsecond duration pulses of broadband light of high radiant intensities. Capable of operating at high repetition rates, these small flashlamps generate light over a continuous spectrum from ultraviolet to infrared. Exceptional arc stability and life characteristics will make the 1100 Series Flashlamps indispensable in precision photometry, radiometry, and spectroradiometry. When coupled with the 1100 Series Trigger Modules and highly regulated-low ripple power supplies, the short arc flashlamps make ideal sources of pulsed light for clinical and invitro diagnostics, life sciences, drug discovery, proteomics, analytical instrumentation, and machine vision applications.

The 1100 Series offer a broad range of lamps that range in power from 10 Watt glass-bodied lamps to 20 Watt metal can lamps. The FX-1160 Series metal can lamp also uses an internal, hemi-spherical reflector to increase usable light output by more than 40% over non-reflector lamps. All these lamps, when mated with the appropriate trigger module and power supply, will provide lighting solutions for the most demanding applications.

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Key Features
- Exceptional arc stability
- High radiant intensity
- Continuous spectrum UV-VIS-NIR
- Long life
- High repetition flash rates
- Low heat radiation
- Microsecond flash durations
- Various envelope features
- Now warm up period
- High efficiency in the UV and blue
- Simple fiber optic coupling
- Small size

Applications
- Absorption analysis
- Immunoassay modules
- Fluorimetry
- Spectroradiometry
- Liquid and gas chromatography
- Colorimetry
- UV/VIS/NIR applications
- Machine vision
## 1100 Series

**High-Stability Short Arc Xenon Flashlamps**

### 1100 Series

<table>
<thead>
<tr>
<th>Type</th>
<th>Arc Length (mm)</th>
<th>Spectral Distribution (nm)</th>
<th>Window Material</th>
<th>Energy per Flash(^1) (joules)</th>
<th>Average Power (watts)(^2)</th>
<th>Voltage (Vdc)</th>
<th>Flash Rate(^3) (Hz)</th>
<th>Life (^4) (flashes)</th>
<th>Jitter (ns)</th>
<th>Stability (^5)</th>
<th>Power Supply</th>
<th>LitePac Type</th>
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</table>

\(^1\) Input Energy or E = 1/2C\(_V\)^2, where E = Discharge Energy (Joules), C = Discharge Capacitor Value, and V = Discharge Voltage.

\(^2\) Maximum Average Power or \(P_{ave} = EF\), where E = Discharge Energy and F = Rate of flashes per second. NOTE: Additional cooling required when operation above 40 Watts.

\(^3\) Flash rate must be set so as not to exceed 10/20 Watts Average Power.

\(^4\) Life is primarily a function of input energy per flash (E=1/2C\(_V\)^2) but is also influenced by average power and peak current. See curves on following page for typical lamp performance.

\(^5\) Typical for most operating conditions. Lamp output stability is dependent on a number of variable including input energy, flash rate, optics design, trigger module and power supply.

\(^6\) The hemispherical reflector internal to the FX-1160 should not be confused with competitive types employing paraboloids or ellipsoids in which all of the forward direct light is non-recoverable and becomes a serious source of optical scattering. Excelitas’ FX-1160 has an electrode orientation which does not block the forward light emission and therefore does not cause a “black hole” in the output beam profile. The optical design of the FX-1160 is ideal for use with lenses and fiber bundles, and provides the additional advantage of reduced optical noise by preventing back-plane scattering caused by the pin base.

**CAUTION!** Care should be taken when inserting or removing lamps from their sockets. Excessive side force placed on the pins of the lamp could cause the seal around the pins to crack and the lamp to leak resulting in lamp failure.

**CAUTION!** Glass Lamps - Caution should be taken not to mount or attached any type of hardware to the body of lamp. This could cause the lamp to crack.

**CAUTION!** Metal Can Lamps - Caution needs to be taken not put excessive or uneven force on the body of the lamp. This can cause failures with the glass to metal seals. Please consult an application engineer for suggestions on lamp mounting.

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1100 Series
High-Stability Short Arc Xenon Flashlamps

Mechanical Dimensions

FX-1100 Outline

FX-1150 & FX-1160 Outline

FX-1160 Optical Profile

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Spectral Distribution

Life vs. Input Energy

Life vs. Wavelength
1100 Series
High-Stability Short Arc Xenon Flashlamps

Circuit Equations

\[ E = \frac{1}{2} CV^2 \]

where:

- \( E \) = Discharge energy (joules)
- \( C \) = Capacitance (microfarads)
- \( V \) = Discharge voltage (kilovolts)

\[ \text{PAVG} = \frac{E}{F} \]

\[ \text{PAVG} = \text{Average power (watts)} \]

\[ IPK = \frac{V(C/L)^{1/5}}{} \]

\[ IPK = \text{Peak discharge current (keep below 1000 amps)} \]

\[ t_{1/3} = \pi (LC)^{1/3} \]

\[ t_{1/3} = \text{Pulse width at 1/3 peak.} \]

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

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 medical lighting to analytical instrumentation, 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 3,000 employees in North America, Europe and Asia, serving customers across the world.
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