

1100 Series - High Stability Flashlamps

1100 Series Lite-Pac[®] Trigger Modules



Description

The 1100 Series Lite-Pac[®] Trigger Modules contain the socket interface and the high voltage elements necessary for operation of the Short Arc flashlamps. They are designed to operate from any 1100 Series supply. The Lite-Pac also contains EMI suppression circuitry to diminish radiated and conducted noise associated with high peak discharge currents. Epoxy encapsulation ensures overall operational and environmental stability as well as high voltage containment. Connections between the power supply and Lite-Pac[®] Trigger Module are made through shielded cables.

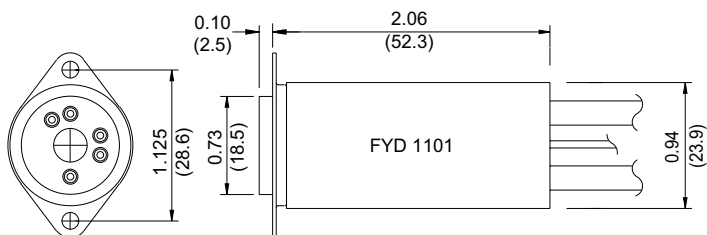
Several models of the 1100 Series Lite-Pac[®] Trigger Module are available which allow for various mounting configurations. For applications where long leads between the Lite-Pac[®] and power supply are required, the discharge capacitor is located within the Lite-Pac[®]. This insures the maximum transfer of energy into the flashlamp. When the discharge capacitor is located within the power supply or external to the Lite-Pac[®], it is recommended the leads of the the Lite-Pac[®] be kept as short as possible to limit lead impedance.



Flashlamp, Lite-Pac and Power Supply

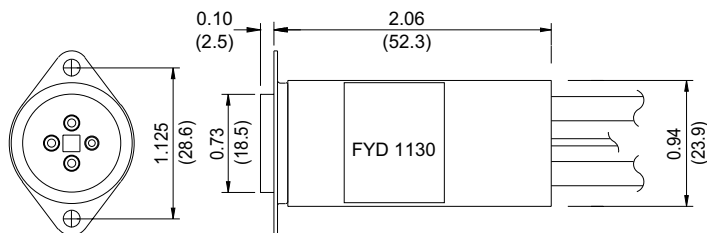
1100 Series Lite-Pac® Trigger Modules

FYD-1101 AND 1104



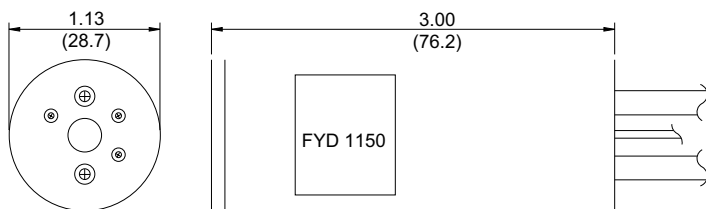
- Trigger input:** 0.1 μfd @ 180 volts
- Discharge energy:** 0.15 joules max.
- Discharge power:** 10 watts max.
- Lead length:** 12 inches (30.5) min.

FYD-1130



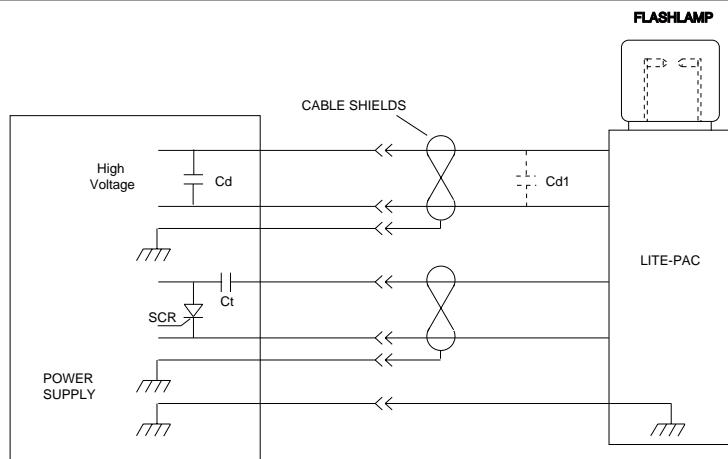
- Trigger input:** 0.1 μfd @ 180 volts
- Discharge energy:** 0.25 joules max.
- Discharge power:** 15 watts max.
- Lead length:** 12 inches (30.5) min.

FYD-1150 AND 1153



- Trigger input:** 0.1 μfd @ 180 volts
- Discharge energy:** 0.5 joules max.
- Discharge power:** 20 watts max.
- Lead length:** 12 inches (30.5) min.

1100 Series Lite-Pac®/Power Supply Connections

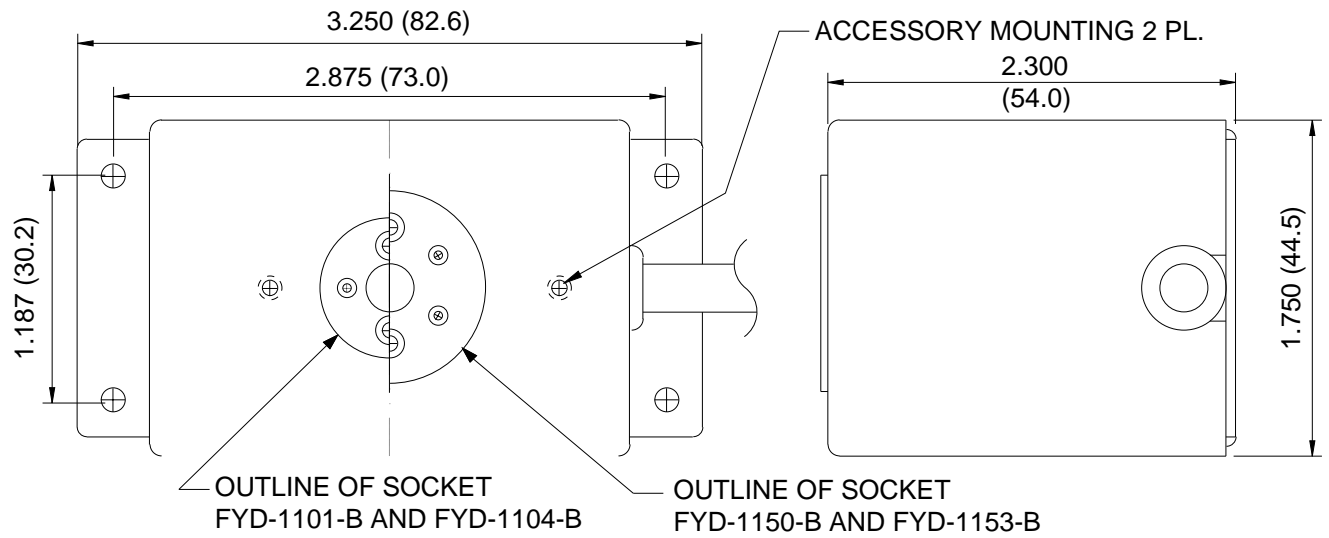


1. Cable shielding designed to be grounded at power supply end of cable.
2. Metal case of Lite-Pac® has a separate ground lead which is independent of anode-to-cathode return and cable shielding.
3. The power supply chassis should be grounded to earth/system ground.
4. Lite-Pac® leads are a part of the discharge loop and should be no longer than necessary to minimize circuit impedance.
5. Lite-Pacs® with internal discharge capacitors are supplied with a single, integrated shielded cable.

Cd: Power supply internal discharge capacitor. PS 1105 is .005 μfd. PS 1110 and PS 1120 are 0.1 μfd.

Cd1: Additional capacitance that may be added external to the power supply if required.

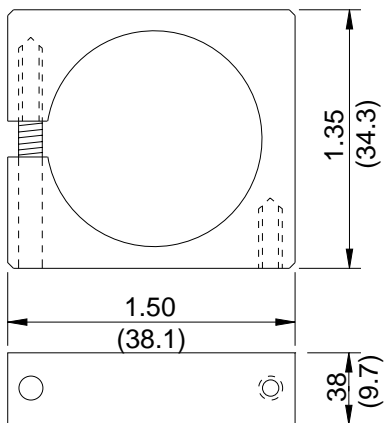
1100 Series Lite-Pac® Trigger Modules with Internal Discharge Capacitor



- Note: (1) Single, integrated shielded cable 12 inches (305) long minimum.
 (2) 0.5 μ fd internal discharge capacitor.
 (3) Trigger input, discharge energy, and discharge power characteristics are the same as shown on the opposite page.

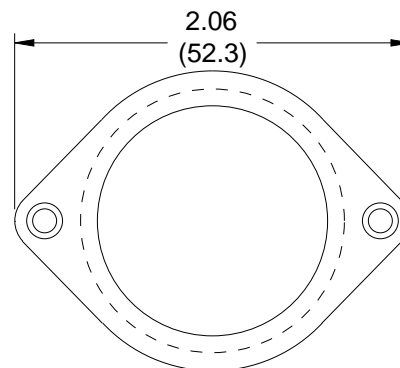
1100 Series Lite-Pac® Accessories

Mounting Clamp, FYD-1150



Part No. XP 0775

Flashlamp Clamp/Shield, FYD-1150-B



Part No. XP 0777

Outline Drawings or Specification Charts

| | | |
|----------------------------|--------|---|
| $E = \frac{1}{2} CV^2$ | where: | $E =$ Discharge energy (joules) |
| | | $C =$ Capacitance (microfarads) |
| | | $V =$ Discharge voltage (kilovolts) |
| $P_{AVG} = E F$ | | $P_{AVG} =$ Average power (watts) |
| | | $E =$ Discharge energy (joules) |
| | | $F =$ Flash rate (pulses per second) |
| $I_{PK} = V(C/L)^{1/2}$ | | $I_{PK} =$ Peak discharge current (keep below 1000 amps) |
| | | $L =$ Circuit inductance (use 0.5 μ H for best approximation) |
| $t_{1/3} = \pi (LC)^{1/2}$ | | $t_{1/3} =$ Pulse width at 1/3 peak. |

Note: Peak currents should be kept below 1000 amps. Exceeding this limit could cause envelope fracture, excessive electrode wear and premature darkening.

Caution

Some glass flashlamps are under high internal pressure, and, if broken, could result in glass particles being blown into the face and hand areas. To prevent injury, wear suitable protective devices such as safety glasses and/or face mask and gloves.

Some types of pulsed lamps generate intense ultraviolet radiation which, if not properly shielded from personnel in the area, will cause burns to any exposed skin and especially to the eyes. Do not expose any skin area or the eyes to the direct or reflected radiation of an operating lamp. If you have to view an operating lamp, always use protective covering for exposed skin area and ultraviolet-attenuating goggles for the eyes.

For more information email us at opto@perkinelmer.com or visit our web site at www.perkinelmer.com/opto

Note: All specifications subject to change without notice.

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