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Find the *Perkin Elmer PS-1120-1* at our website: *Click HERE*

1100 Series
Power Supplies



Description

The 1100 Series Power Supplies are designed to obtain optimum performance from the 1100 Series High Stability Short Arc Xenon Flashlamps and Lite-Pac® Trigger Modules. These power supplies are well regulated, have low ripple, and are DC input operated. Each power supply contains the circuits to charge the discharge capacitor as well as the trigger switching circuits required to operate the Lite Pac®.

Power supply requirements vary by application and discharge power levels. PerkinElmer Optoelec-tronics offers several standard units to operate all Flashlamps and Lite-Pacs. The flashlamp, Lite-Pac®, and power supply inter-face is shown below.



Flashlamp, Lite-Pac and Power Supply

PerkinElmer™
optoelectronics.

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Inputs

	PS 1105	PS 1110	PS 1120
Voltage (VDC)	11–14	11–28	15–28
DC Current (amps)	1.4 @ 12V	1.3 @ 12V	1.4 @ 24V
Peak Current (amps)	3.5 @ 12V	3.5 @ 12V	3.5 @ 12V
Trigger	(1)	(2)	(2)
Opto Isolated	yes	yes	yes
Vref (Vo/Vref = 100)	n/a	4.5 – 6.0	4.0 – 10.0
EMI Suppression	no	(3)	(4)

Note: (1) Power supply is inhibited for the duration of the input current pulse plus the recharge delay, otherwise same as (2).
(2) 20 to 50 ma peak input; 10 to 100 µsec pulse width; leading edge trigger, internal series resistor 150 Ohms.
(3) Inductor and filter capacitor for power input. All inputs through shielded connector. Internal (shielded) output connector.
(4) Same as (3) but with full filtering on power input lines. (common-mode inductor; capacitive coupling to ground).

Output, Discharge

	PS 1105	PS 1110	PS 1120
Voltage (DC) (Vo)	600 ± 2%	450 – 600 ± 2%	450–1000 ± 2%
Power (watts) (joules/sec.) (1)	10	10	20
Line Regulation	1%	1%	1%
Ripple (2)	1%	0.5%	0.5%
Internal Discharge Capacitor (µfd)	0.005	0.1	0.1 (3)
Recharge Delay (µsec)	200	200	200

Note: (1) Refer to charge rate curves on facing page.
(2) Peak to peak maximum with standard internal discharge capacitor at maximum output.
(3) Standard value is 0.1 µfd. 0.25 and 0.5 µfd available.

Output, trigger

	PS 1105	PS 1110	PS 1120
SCR Voltage (DC)	175 ± 15	150 – 200	175 ± 15
Trigger Capacitor (µfd)	0.1	0.1	0.1
Trigger rate (Hz max.)	300	300	1000

Environmental

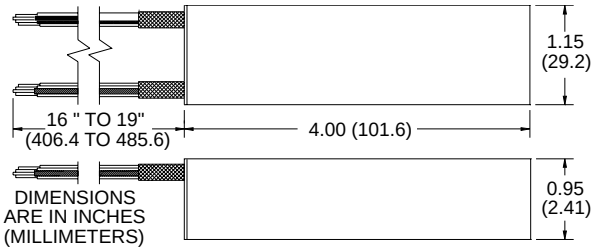
Operating Temperature	32 to +122ºF (0 to +50ºC)
Storage Temperature	–40 to +194ºF (-40 to +90ºC)
Shock and Vibration	1.5 G, 5 – 200 Hz (MIL-STD-810C

Mechanical

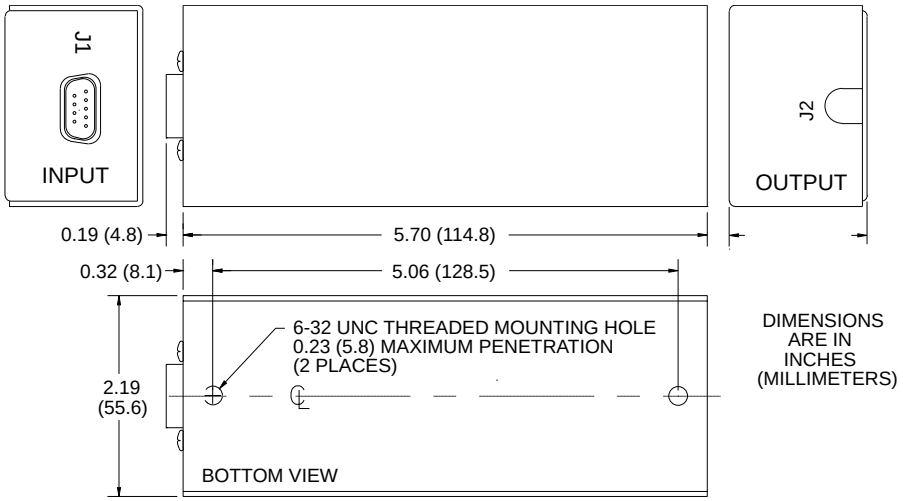
	PS 1105	PS 1110	PS 1120
Weight	6.5 oz. (180g)	14.5 oz. (410g)	22.5 oz. (635g)
Input Connector	n/a (leads)	9 PIN "D"	9 PIN "D"
Output Connector	n/a (leads)	Wago Term. Strip	Wago Term. Strip
Enclosure	Plastic	Metal	Metal

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PS-1105 Dimensions

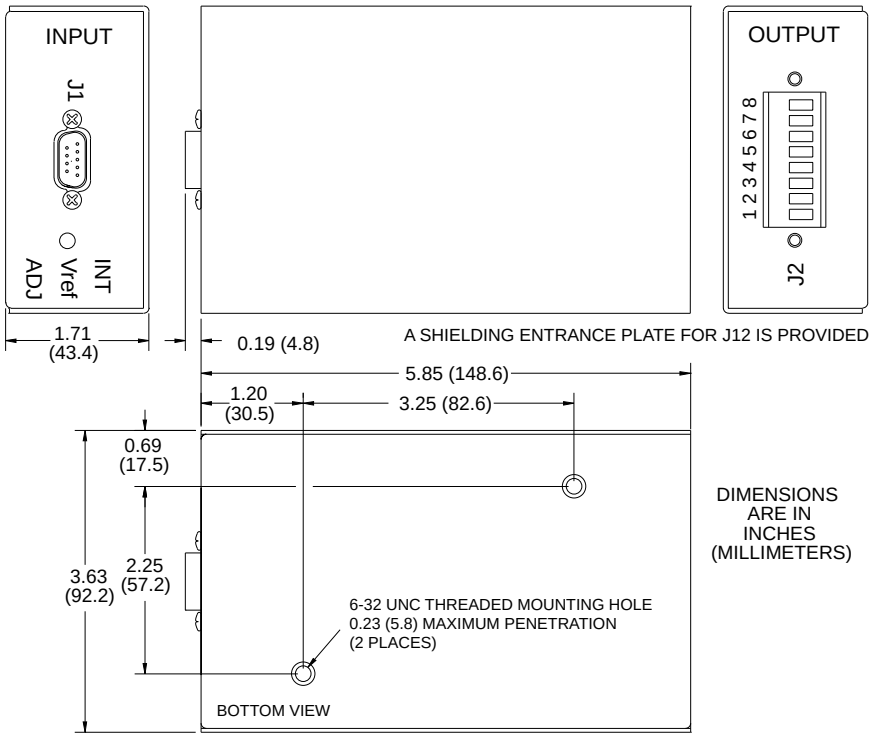


PS-1110 Dimensions



(MATING INPUT CONNECTOR SUPPLIED)

PS-1120 Dimensions



(MATING INPUT CONNECTOR SUPPLIED)

Outline Drawings or Specification Charts

E	=	$1/2\ CV^2$	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 0.5µH 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.

USA:
PerkinElmer Optoelectronics
35 Congress Street
Salem, MA 01970
Toll Free: (800) 950-3441 (USA)
Phone: (978) 745-3200
Fax: (978) 745-0894

Europe:
PerkinElmer Optoelectronics
Wenzel-Jaksch-Str. 31, D-65199
Weisbaden, Germany
Phone: +49 (0) 611-492-437
Fax: +49 (0)611-492-159

Asia:
PerkinElmer Optoelectronics
47 Ayer Rajah Crescent #06-12
Singapore 139947
Phone: +65 775 2022
Fax: +65 775 1008

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