MLB Mercury Lamp Power Supplies

The MLB series Mercury lamp ballasts are designed for the OEM customer. MLB power supplies provide a precise constant power output that will track the varying impedance of the mercury lamp for stable light output. Combined with our "Short Pulse" igniter the system is offered in a wide range of voltage and current combinations and will operate lamps from all manufacturers.

Compact size is possible due to the low-loss Zero Voltage Switching inverter and incorporation of planar magnetics. Power factor is greater than 0.99 (1Ø models) and conducted emissions meet stringent European regulations. No additional line filter is required to meet EN 55011 emission requirements.

The MLB Lamp Ballasts set the standard for reliable lamp ignition and long term high power operation in a low cost, compact package. All 5 models offer precision regulation and the lowest ripple specifications in the industry.

Advantages

Models from 650 to 5000 watts
Constant Power Output
Reliable "Short Pulse" Ignition
Power Factor Correction (1Ø models)
Low conducted emissions
Low Ripple < 0.5%

Applications

Semiconductor Processing
UV Sterilization
UV Curing
Medical Applications

Lumina Power, INC.

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MLB Mercury Lamp Power Supplies

Model	Pout max	Iout max	V lamp	Input Voltage	Size
MLB-650	650 watts	35 A		100 to 240 VAC	8.9" x 5.8" x 2.7" 226 x 147 x 69mm
MLB-1000	1000 watts	50A	15 to 150 V (Depending upon lamp model)		10.6" x 8.2" x 3" 269 x 208 x 76mm
MLB-1500	1500 watts	75A		200 to 240 VAC	
MLB-2500	2500 watts	150A			13" x 8.5" x 3.4" 33.2 x 21.6 x 8.6 cm
MLB-3000	3000 watts	150A			17" x 16.6" x 3.4" 431 x 422 x 108mm
MLB-5000	5000 watts	170A		200 to 440VAC 3Ø (selectable)	17.3" x 16.6" x 4.25" 439 x 422 x 108mm

Specifications

Input Voltage: See table:
All input voltages   ± 10%, 50/60Hz
Power Factor: >.98 (1Ø Models)
Efficiency: >80%

Interface   (See interface description page 3)
Connector: 15 Pin "D" Sub Female

Ignition/Boost

Boost Voltage: 250V
Boost Energy: 500 mj.
Ignition Voltage: Up to 45kV (~1uSec rise time)
Igniter Polarity: Positive or Negative (Factory Set)
Ignition Energy: 65mj.
Igniter Dimensions: 5.5" x 3.6" x 2.6", 140 x 92 x 66mm

Performance

Line Regulation: <0.2% of maximum output current
Current Regulation: <0.5% of Maximum output current
Current Ripple: <0.5% of maximum output current
Power Limit: Limited to maximum power with power
                        fold-back circuit

Environment

Operating Temp: 0 to 40$^{\text{o}}$C
Storage: -25 to 85$^{\text{o}}$C
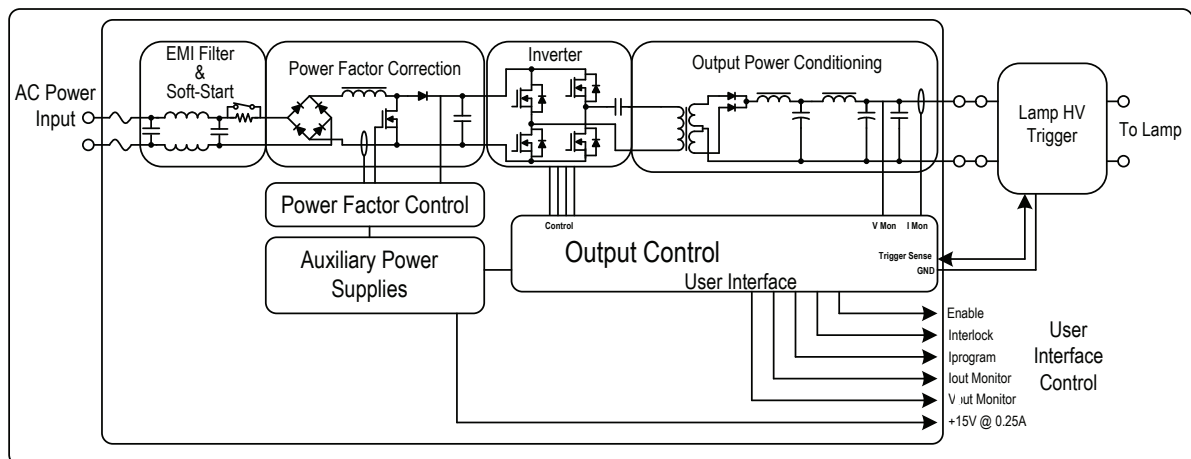Humidity: 0 to 95% RH non-condensing
Cooling: Forced air

Note: MLB-5000 can be upgraded to 7kW. Contact customer service for details. Units can also be paralleled for higher power applications.

MLB Short pulse igniter

Short Pulse high energy igniters operate from power supply output. Reliable automatic lamp ignition.

Also Available: The XLB-series short-arc lamp power supplies designed with constant current output to operate Xenon lamps. Contact customer service or visit our website for more details.

For low power applications from 75 to 300 watts please refer to the XLB-150/300 data sheet.

Interface

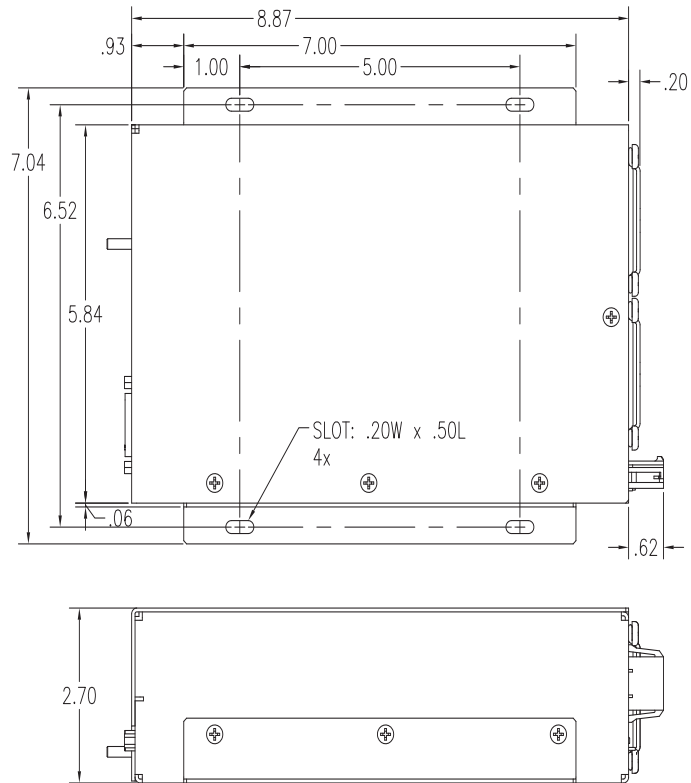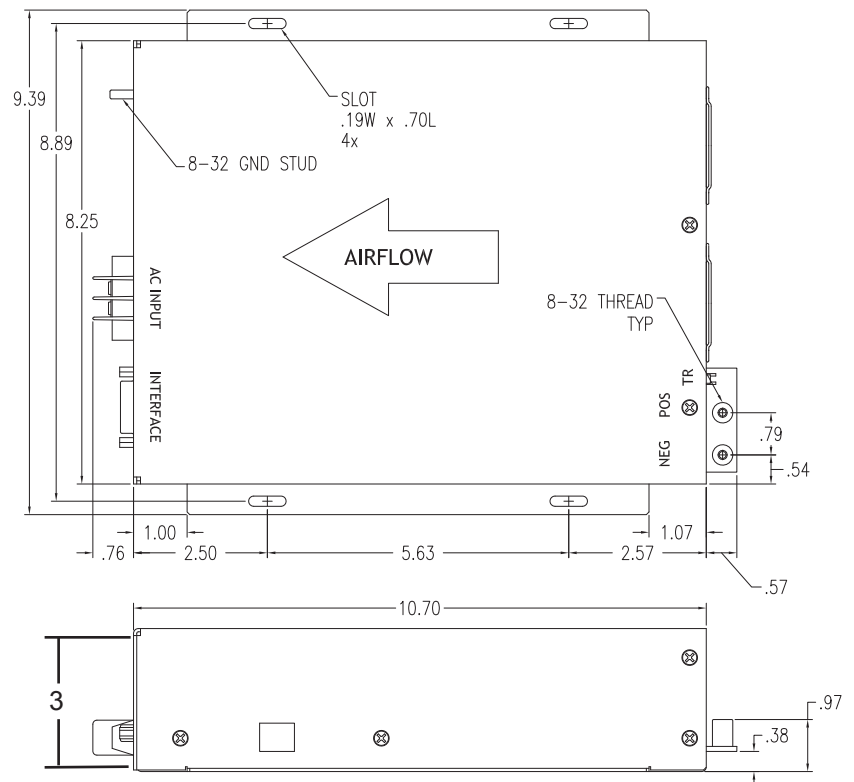| Pin #	Pin Name	Functional Voltage Level	Description
1	Lamp On/Off (input) (Note: 1)	High = RUN = +5V to +15V Low = OFF = 0V	The Lamp On/Off function is the control function which turns the lamp on and off. When the lamp is turned on, a trigger and boost sequence will ignite the lamp and deliver power as programmed via Iprogram, Pin 7.
2.	Current Limit	Analog Level Default =10 V (not available on MLB-650)	The Current Limit Pin is used to limit the output current of the supply. The pin can be pulled lower through the use of an external resistor to Gnd to limit the output current of the supply. The default setting is set to 105% of Ioutmax.
3	Interlock (Input)	Open = OFF Connect to GND = RUN	The Interlock function can be connected to external interlock switches such as door or over-temp switches.
4,9, 15	GND		Interface Return
5	Vout Monitor (output)	0-10V = 0-Voutmax	The output voltage of the supply can be monitored by Vout Monitor.
6	Iout Monitor (output)	0-10V = 0-Ioutmax	The output current of the supply can be monitored by Iout Monitor.
7	Pprogram (input)	0-10V = 0-Poutmax	The power supply output power is set by applying a 0-10V analog signal to Iprogram(+).
8	Lamp Status	High = lamp off = 15V Low = lamp on = 0V	The status of the lamp can be monitored using this pin
13,14	+15V (output)		Auxiliary 250mA

MLB Series Block Diagram
(power factor corrected models)

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Outline Drawings (dimensions in inches)

MLB-650

MLB-1000/1500

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MLB-2500

SLOT: .19W x .70L
4x

1/4-20 TAP
(M6 OPTIONAL)

9.93
9.35
8.54

1.86
8.00
13.01
1.37

1.39

3.43

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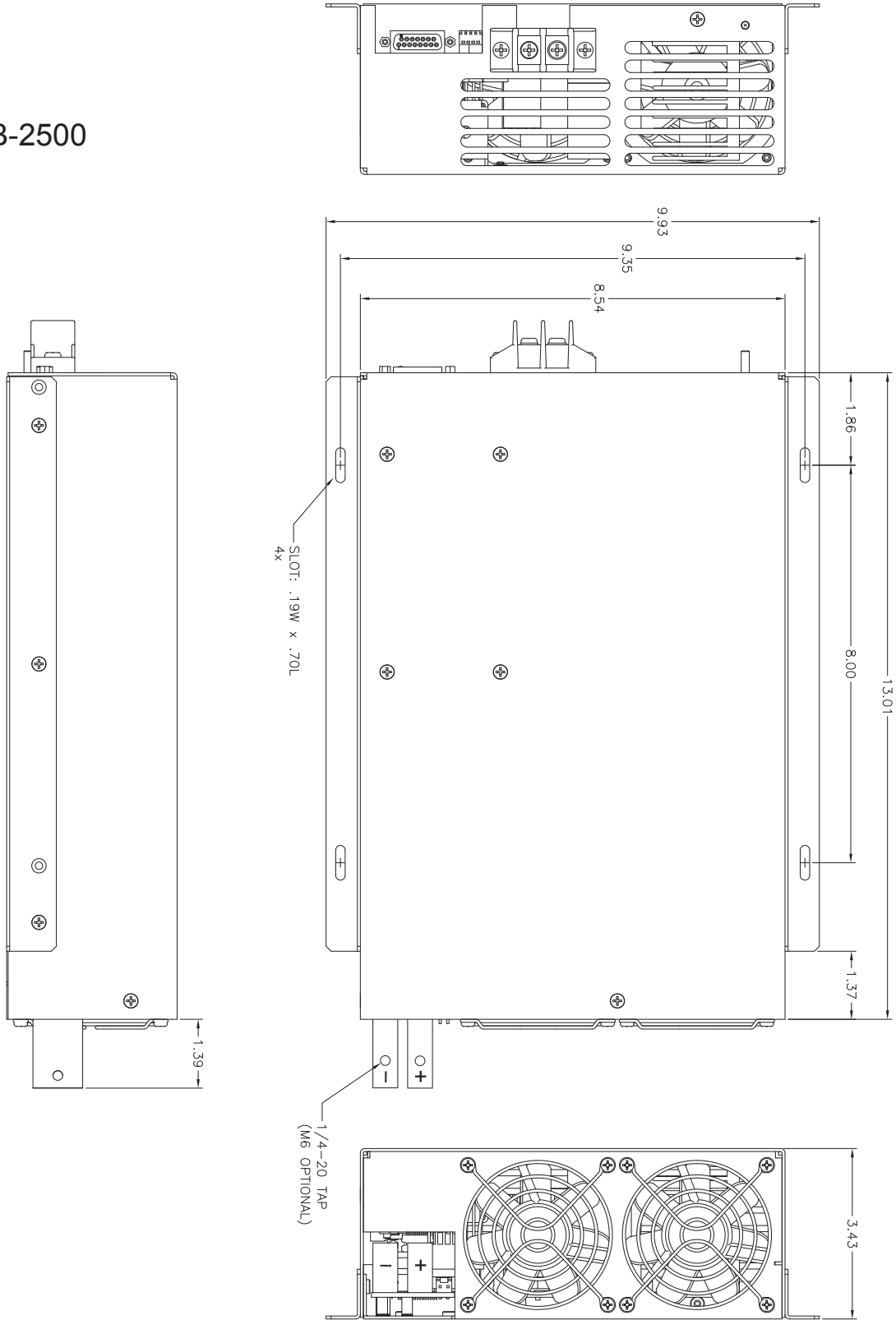
Outline Drawings (dimensions in inches)

MLB-3000

MLB-5000

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