

LDD CW Laser Diode Drivers



The LDD series are the industrial standard for OEM laser diode drivers and are ideal for high power applications where economy is important and performance cannot be compromised. Compact size is possible due to the low-loss Zero Voltage Switching inverter and incorporation of planar magnetics. The LDD is virtually wire free.

Power factor is greater than 0.99 (1Ø models) and conducted emissions meet stringent European regulations. No additional line filters required to meet EN 55011 emission requirements.

The LDD series is designed with multiple safe guards to protect your expensive laser diodes. Rise and fall times are strictly controlled to reduce high voltage transients which could damage the laser diode.

ADVANTAGES

- Ideal for OEM applications
- Safe turn-on/turn-off
- Compact design
- Power factor correction (1Ø models)
- Auxiliary +15V/-15V/+5V
- Low conducted emissions, low leakage
- ROHS Compliant

Configurations:

- Output current to 300A
- Maximum output voltage to 200V
- Analog or RS232 interface
- Universal input for all world voltages
- CE and safety agency approved
- Available handheld controller



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LDD CW Laser Diode Drivers

Model	Poutmax	Ioutmax	Input Voltage	Size (L x W x H)
LDD-100-XX-YY	100 Watts	50 amps	100 to 240VAC ± 10%	7.5" x 5.8" x 2.6" 19 x 14.7 x 6.6 cm
LDD-150-XX-YY	150 Watts	60 amps		
LDD-250-XX-YY	250 Watts	80 amps		
LDD-600-XX-YY	600 Watts	100 amps		200-240VAC ± 10%
LDD-1000-XX-YY	1000 Watts			
LDD-1500-XX-YY	1500 Watts			
LDD-2500-XX-YY	2500 Watts	150 amps		13" x 8.5" x 3.4" 33.2 x 21.6 x 8.6 cm
LDD-3000-XX-YY	3000 Watts	200 amps		17" x 16.6" x 3.4" 43.2 x 42.2 x 8.6 cm
LDD-6000-XX-YY	6000 Watts	250 amps	200-240VAC ± 10% 3Ø 380-480VAC ±10% 3Ø Factory Configured	17.3" x 16.6" x 4.25" 43.9 x 42.2 x 10.8 cm

XX = maximum required output current, YY = maximum required compliance voltage
Maximum compliance voltage for LDD-2500 = 50V.

Specifications

INPUT

Voltage: See table above
Power Factor: >.98 (LDD-6000: ~t80%)

INTERFACE

Connector: 15 Pin "D" Sub Female
Current Program: 0-10V for 0-Max Current
Current Monitor: 0-10V for 0-Max Current
Voltage Monitor: 0-10V for 0-Max Voltage
(Optional RS232 interface available)

PERFORMANCE

Rise/Fall Time: >10msec standard (faster rise times available)
Current Regulation: <0.5% of Maximum output current
Current Ripple: <0.5% of maximum output current
Current Overshoot: <1% of maximum output current
Power Limit: Limited to maximum power with power fold-back circuit

ENVIRONMENT

Operating Temp: 0 to 40°C
Storage: -20 to 85°C
Humidity: 0 to 90% non-condensing
Cooling: Forced air

REGULATORY

LDD-100, LDD-150: EN60601
LDD-150/250/400: EMC 60950, EN55022
LDD-600/1000/1500: EN60601
LDD-3000: EN60950, EN55022
LDD-6000: EMC EN 61326

AUXILIARY OUTPUTS

+5V @ 100mA
+15V @ 200mA
-15V @ 100mA

Note: Performance cannot be guaranteed below 25% of rated output current.



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LDD-INTERFACE CONNECTOR TYPE: 15 PIN D-SUB FEMALE

Pin #	Pin Name	Functional Voltage Levels	Description
1	Enable (input) (note1)	High = RUN = +5V to +15V Low = OFF = 0V	The Enable function turns the output section of the power supply ON and OFF. When the power supply is enabled, current is delivered to the load as programmed via Iprogram(+), Pin 7. Rise times resulting from Enable are approximately 25msec.
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 (note:2)	The output voltage of the supply can be monitored by Vout Monitor. See note below
6	Iout Monitor (output)	0-10V = 0-Ioutmax	The output current of the supply can be monitored by Iout Monitor.
7	Iprogram (input)	0-10V = 0-Ioutmax	The power supply output current is set by applying a 0-10V analog signal to Iprogram(+). Note: Accuracy will be compromised when operating below 30% of the maximum value
8	Pulse Control (input) (pulsed function is also available on LDN series drivers)	TTL High = On TTL Low = Off Default = On (LDD-2500/3000/6000 only)	The output of the LDD-2500/3000/6000 may be pulsed by applying a TTL signal to Pulse Control, pin 8. The amplitude of the output current pulse is determined by the current level programmed via Pin 7, Iprogram(+). Rise fall times of <1msec are typical. Contact Lumina Power for faster rise and fall times.
10,11	+5V (output)		Auxiliary 100mA
12	-15V (output)		Auxiliary 100mA
13,14	+15V (output)		Auxiliary 200mA

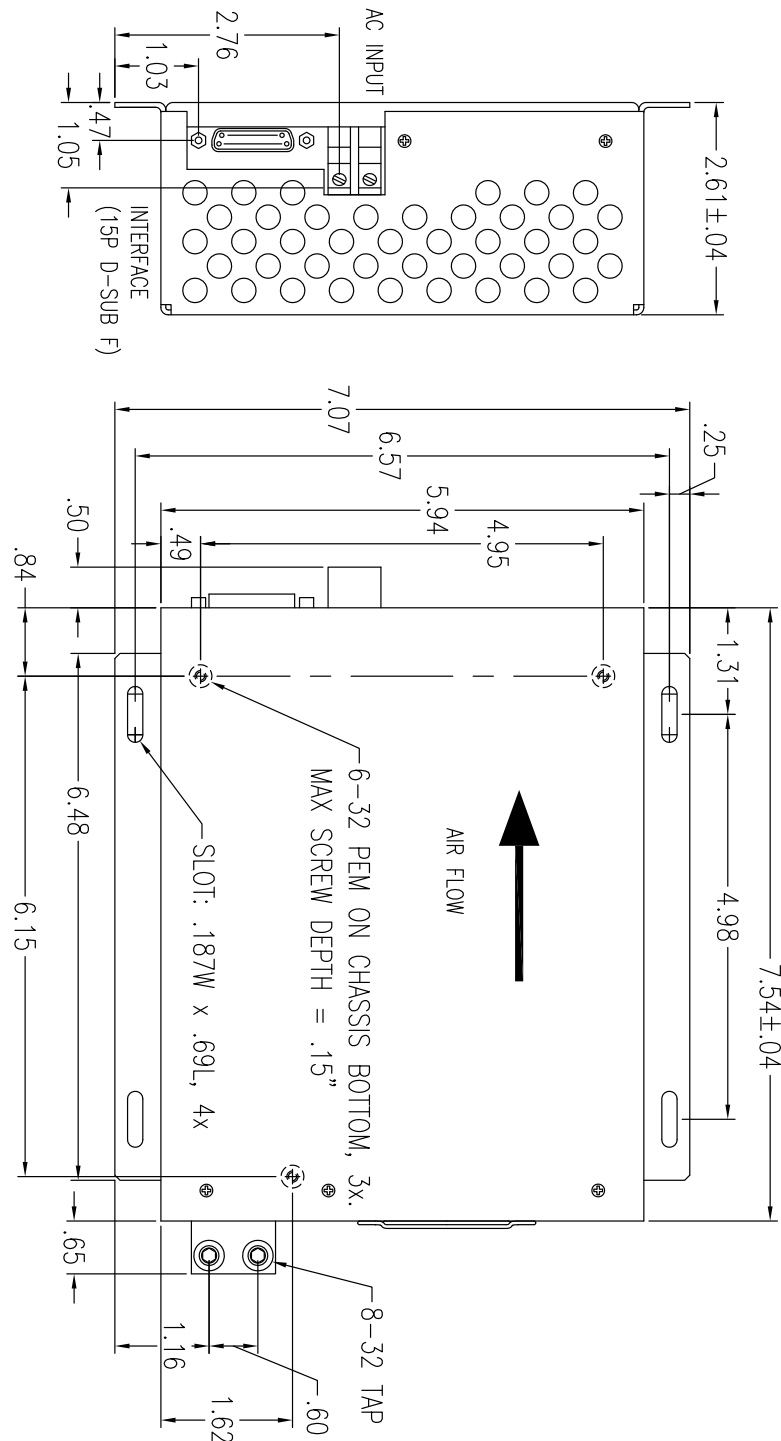
1. Always disable power supply (pin 1 low) prior to applying the mains voltage.
2. Pin 5 If maximum compliance voltage is less than 10V, Vout Monitor will read output voltage directly. If maximum compliance voltage is greater than 10V, then Vout Monitor will be scaled such that 0-10V = 0-Voutmax.
3. Applying a program voltage greater than 10.5 volts to Pin 7 (I-program) will latch power supply. Output current will not exceed 105% of rating.



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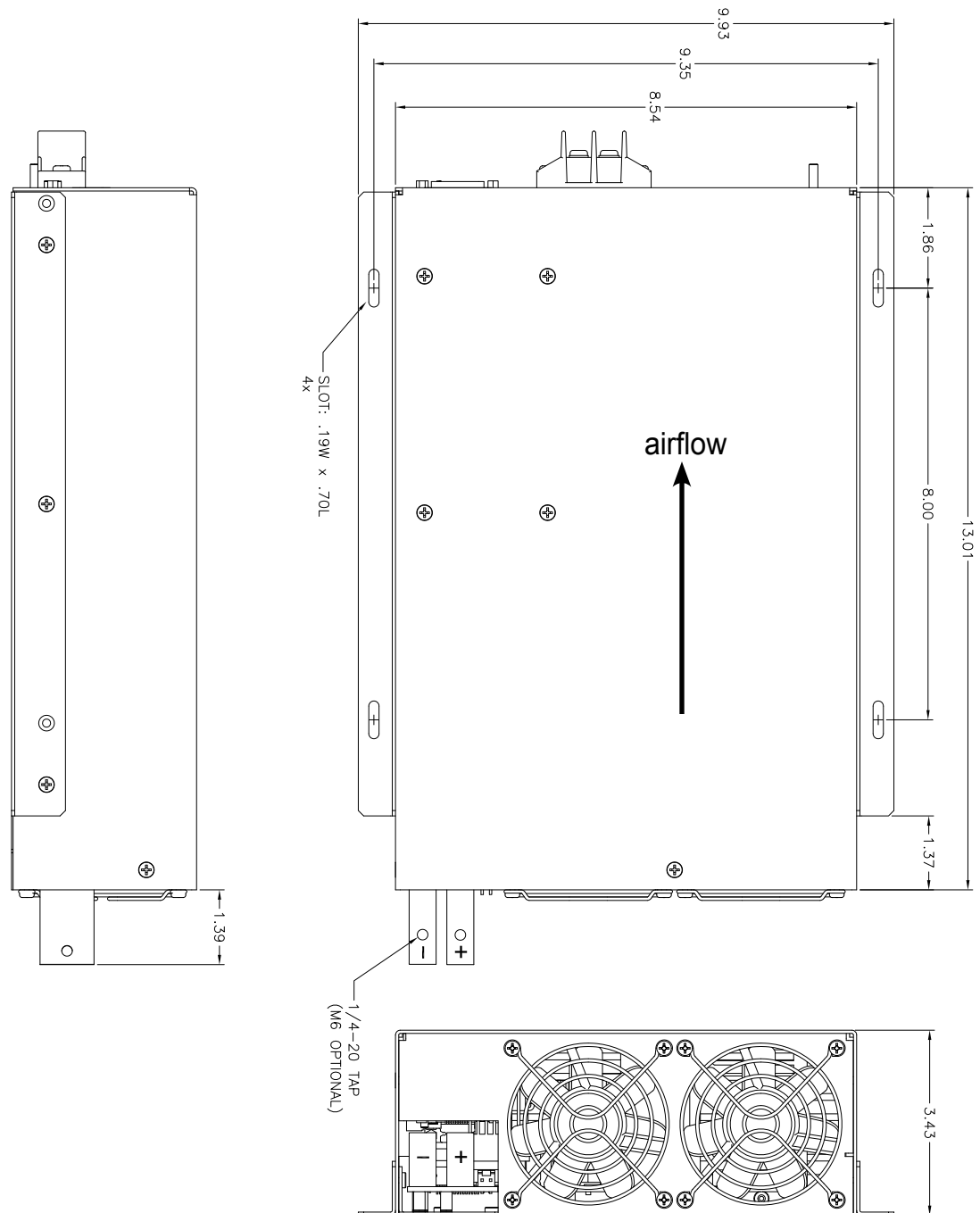
Outline Drawings

LDD-100/150/250

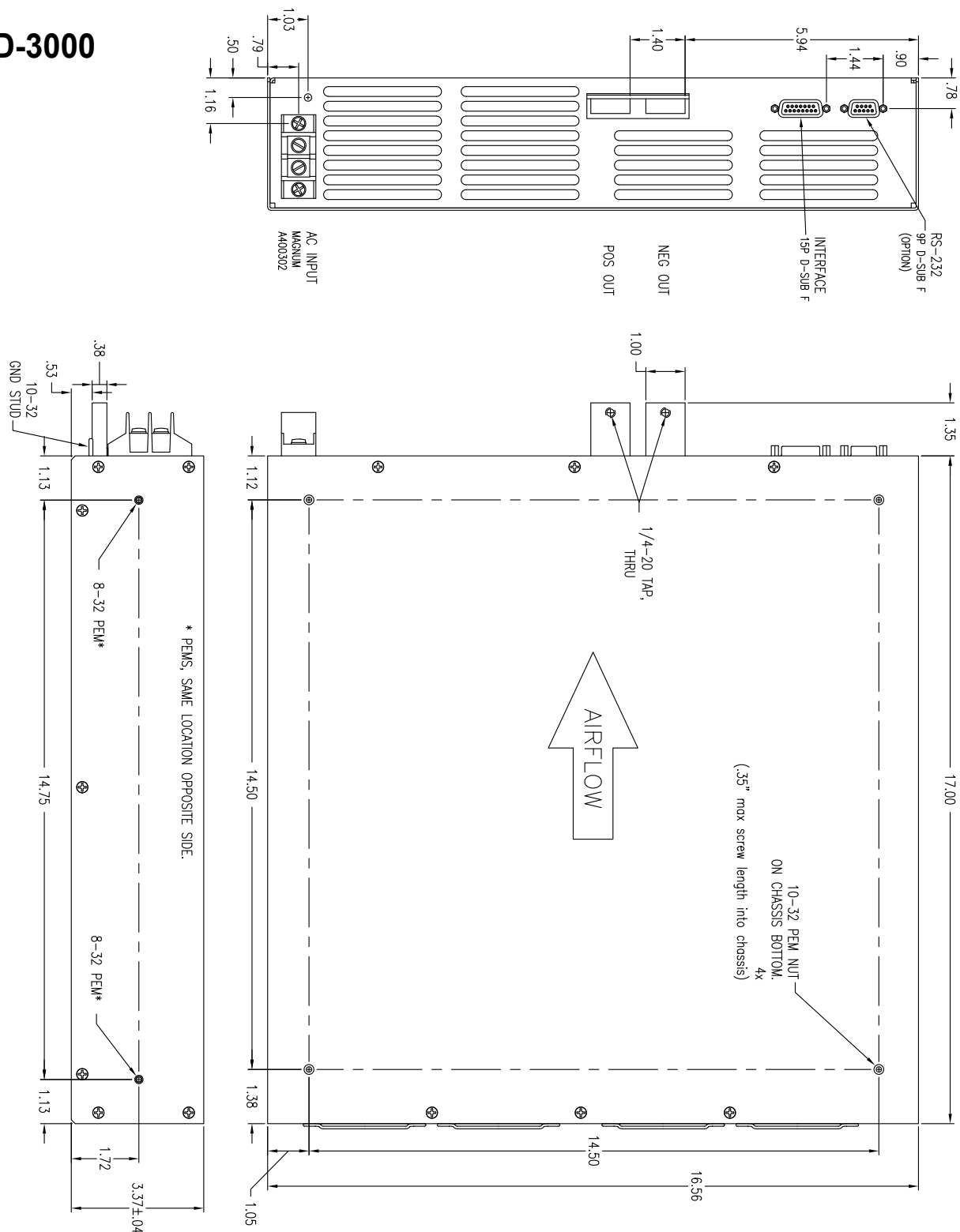


LDD CW Laser Diode Drivers

LDD-2500



LDD-3000



LDD CW Laser Diode Drivers

LDD-6000

