

# LDDHC High Current Diode Drivers



The LDDHC series is a new family of OEM laser diode drivers designed for the emerging high power laser diode industry. With output currents to 200amps the LDDHC series is available in 3 power levels and a wide range of compliance voltages.

Compact size is possible due to the low-loss Zero Voltage Switching inverter and incorporation of planar magnetics. The LDDHC is virtually wire free. Power factor is greater than 0.99 and conducted emissions meet stringent European regulations. No additional line filter is required to meet emission requirements.

The LDDHC family has been designed with the knowledge that a high power laser diode is an expensive device. Rise and fall times are strictly controlled to reduce high voltage transients which could damage the laser diode.



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## Advantages

- Output Currents to 200A
- Ideal for OEM applications
- Safe turn-on/turn-off
- Compact design
- Power factor correction
- Low conducted emissions
- Auxiliary +15V/-15V/+5V
- Low leakage
- RoHS Compliant

## Models

LDDHC-600	600 watts
LDDHC-1000	1000 watts
LDDHC-1500	1500 watts

# LDDHC Series Laser Diode Drivers

## Specifications:

### Input Voltage

LDDHC-600/1000	100 to 240VAC $\pm$ 10% 50/60Hz
LDDHC-1500	200 to 240VAC $\pm$ 10% 50/60Hz
Power Factor:	>.98
Efficiency:	>80%

### Interface

Connector:	15 Pin "D" Sub Female	
Enable:	+5V to +15V (High=run)	
Current Program:	0-10V for 0-Max Current	For more information contact us at: 978-241-8260
Current Monitor:	0-10V for 0-Max Current	sales@luminapower.com
Voltage Monitor:	0-10V for 0-Max Voltage	www.luminapower.com

### Performance

Rise/Fall Time:	<1 ms. Standard (10% to 90% full Current) (<600us. Available)
Line Regulation:	<0.5% of maximum output current
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

### Dimensions

10.2"L x 8.0"W x 2.6"H (25.9 x 20.3 x 6.6 cm)  
Weight: 8 pounds  
(Contact customer Service for outline drawings)

### Environment

Operating Temp:	0 to 40°C
Storage:	-25 to 85°C
Humidity:	0 to 95% non-condensing
Cooling:	Forced air

### Regulatory

Safety:  
ANSI/UL 60950-1, CSA C22.2 No 60950-1, CENELEC EN 60950-1, IEC 60950-1, UL 60601-1, CAN/CSA C22.2No 601.1-M90

### Emissions/Immunity:

FCC 47CFR Class A, CISPR 11 Group 1 Class A, IEC 61000-3-2, IEC 61000-3-3, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-11

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## LDDHC-INTERFACE CONNECTOR TYPE: 15 PIN D-SUB FEMALE

Pin #	Pin Name	Functional Voltage Level	Description
1	Enable (input) (Note: 1)	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 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 overtemp 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(+).
8	Pulse Control (input)	TTL High = On TTL Low = Off Default = On	The output of the LDDHC 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 200mA
12	-15V (output)		Auxiliary 200mA
13,14	+15V (output)		Auxiliary 200mA

1. Upon application of AC input voltage output current will be 0 regardless of Pin 1 setting. Enable pin 1 to output current.
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. Voltage readings greater than 10.5 volts will latch power supply. Output voltage will not exceed 105% of rating.