



**NEW SOURCE
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LDD-50 50W CW Laser Diode Driver

Advantages

- *Ideal for OEM applications
- *Controlled Turn-On/ Turn-Off
- *Compact design
- *Universal Input
- *Low conducted emissions

The LDD-50 is a low cost CW laser diode driver designed for the emerging high power laser diode industry. Maximum power capability is 50W with output current capability up to 15A. This unit is ideal for medium power laser diode applications.

The driver has been designed with universal input circuitry which permits operation off any AC input voltage in the world.

The LDD-50 interface permits programming and monitoring of the current as well as monitoring the output voltage. Rise and fall times are strictly controlled to reduce high voltage transients which could damage the laser diode.

Leakage current is less than 500uA and conducted emissions meet stringent European regulations. No additional line filter is required to meet EN 55011 emission requirements.



Units can be configured for output current capability up to 15A with maximum power output of 50W.

LDD-50 CW Laser Diode Driver

Model	P _{out_max}	Output Current	Input Voltage	Size (L x W x H)
LDD-50-XX-YY XX = I _{out_max} YY = V _{out_max}	50W	2A to 15A (Maximum output power 50W)	90-260VAC	6.75" x 3.63" x 3.63" 17.1 x 9.2 x 9.2 cm

Input

Voltage: 85-264VAC , 47 – 440Hz
120 – 300VDC

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

Performance

Voltage compliance: 50W/I_{out_max}
CW Current Regulation: 0.5% of Maximum output current
CW Current Ripple: <0.5% of maximum output current
Turn-On Overshoot: <1% of maximum output current
Power Limit: Limited to maximum power with power fold-back circuit
Pulse Width Range: 5msec to CW
Max Rep Rate: 1kHz
Typical Rise/Fall Time: 5msec – factory adjustable (10% to 90% Full Current)

Environment

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

Regulatory

Leakage Current: <500uA
EMI: FCC Class B

LDD-50 Interface

Connector Type: 15 pin D-sub Female
(Refer to Figure 2, LDD-50 Interface Schematic)

Pin #	Pin Name	Functional Voltage Level	Description
1	Enable (input)	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	GND		Referred to (-) output of power supply.
5	Vout Monitor: (output)	0-10V = 0-Vout max (see note below)	The output voltage of the supply can be monitored by Vout Monitor .
6	Iout Monitor (output)	0-10V = 0-Iout max	The output current of the supply can be monitored by Iout Monitor .
7	Iprogram(+): (input)	0-10V = 0-Iout max	The power supply output current is set by applying a 0-10V analog signal to Iprogram(+) .
8	N/C		
9	GND		Referred to (-) output of the power supply.

Note: 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 $0-10V = 0-V_{out_{max}}$.