Offered by
LASER LAB SOURCE

manufactured by OEM Tech
LASER ELECTRONICS

OEM Laser Diode Driver Module
100 Amp, 1000 Watt CW / Pulsed Output

LDD-1000 Laser Diode Driver

- o User Adjustable Output Current
- o Factory Configured Maximum Current for Optimum Operational Efficiency
- o Simple Configuration Reduces Setup Time and Integration Costs
- o Up to 1 kHz Digital Modulation Rate
- o Additional Models Available at 600 Watt, 1500 Watt, and 2000 Watt Output Power
- o Optional RS-232 Interface Board, and Optional Stand-Alone Interface Board

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OEM LASER DIODE DRIVER MODULE

The LDD-1000 is a medium-power pulse-mode or CW-mode laser diode driver, designed for use in OEM applications, and delivering up to 1000 Watts output power.

The driver is packaged in a compact and rugged protective metal case, and includes integrated fans for cooling the module electronics. A minimum number of electrical connections are required to operate the LDD-250, ensuring a fast and efficient configuration overall lower integration cost.

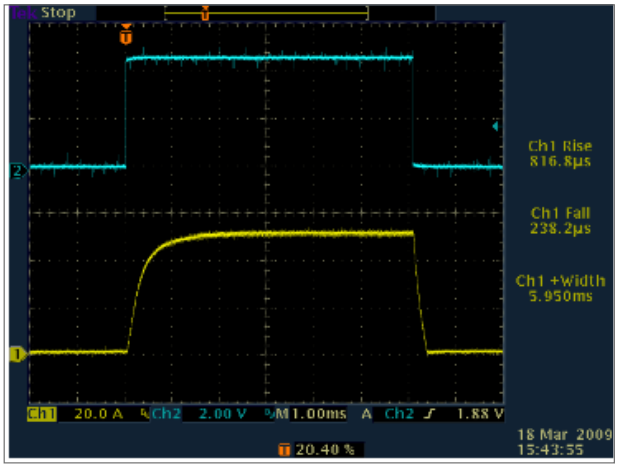
FACTORY CONFIGURED FOR MAXIMUM OPERATING EFFICIENCY

The LDD-1000 is capable of driving up to 100 Amps. In order to ensure the highest operating efficiency, the driver is factory configured according to the application requirements.

At the time of order, the maximum current and maximum voltage requirements are set at the factory, with a maximum output power $P_{MAX} = I_{MAX} * V_{,MAX} = 1000$ Watts. In operation, the output current is user-adjustable from 0 A to the I_{MAX} determined by the user.

DIGITAL MODULATION CAPABILITY

The LDD output can be modulated up to 1 kHz by applying a TTL modulation signal to the Output ON/OFF pin. The frequency and width of the input pulse determines the output pulse shape.

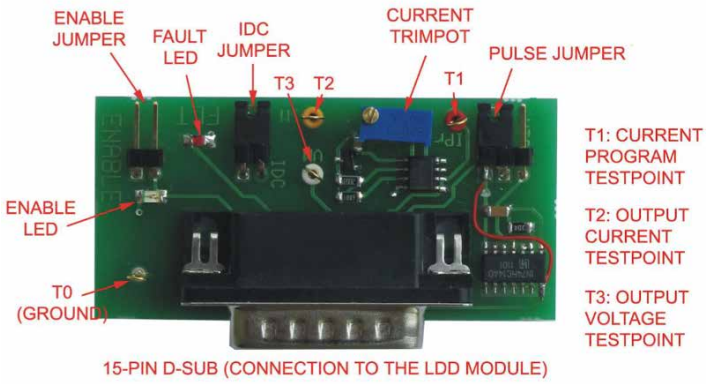


MULTIPLE OPERATION INTERFACE MODES

In OEM applications, the LDD laser driver is controlled by custom external circuity. Two other control options are available:

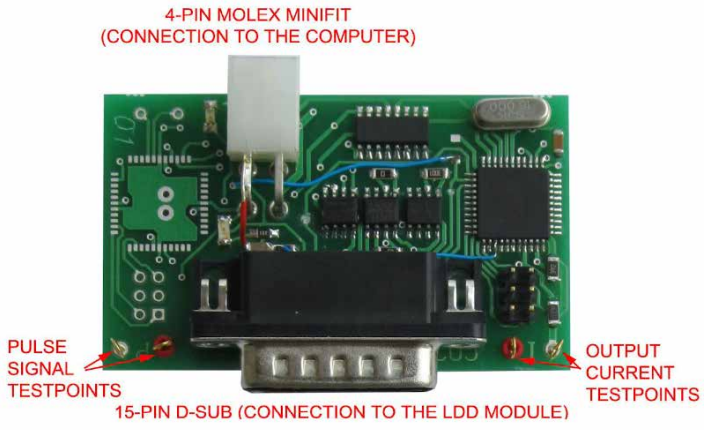
An optional stand-alone control PCB is available, purchased separately, that provides configuration jumpers, monitor voltage test points, and the current adjustment trimpot. Order the control PCB under part number –STA.

–STA Stand Alone Control Interface Board



The laser driver module can be controlled by RS-232 using an interface board that connects to the 15-pin D-Sub connector. The command list is short and easy to use in custom-written application software. The RS-232 interface PCB is ordered with part number –RS232.

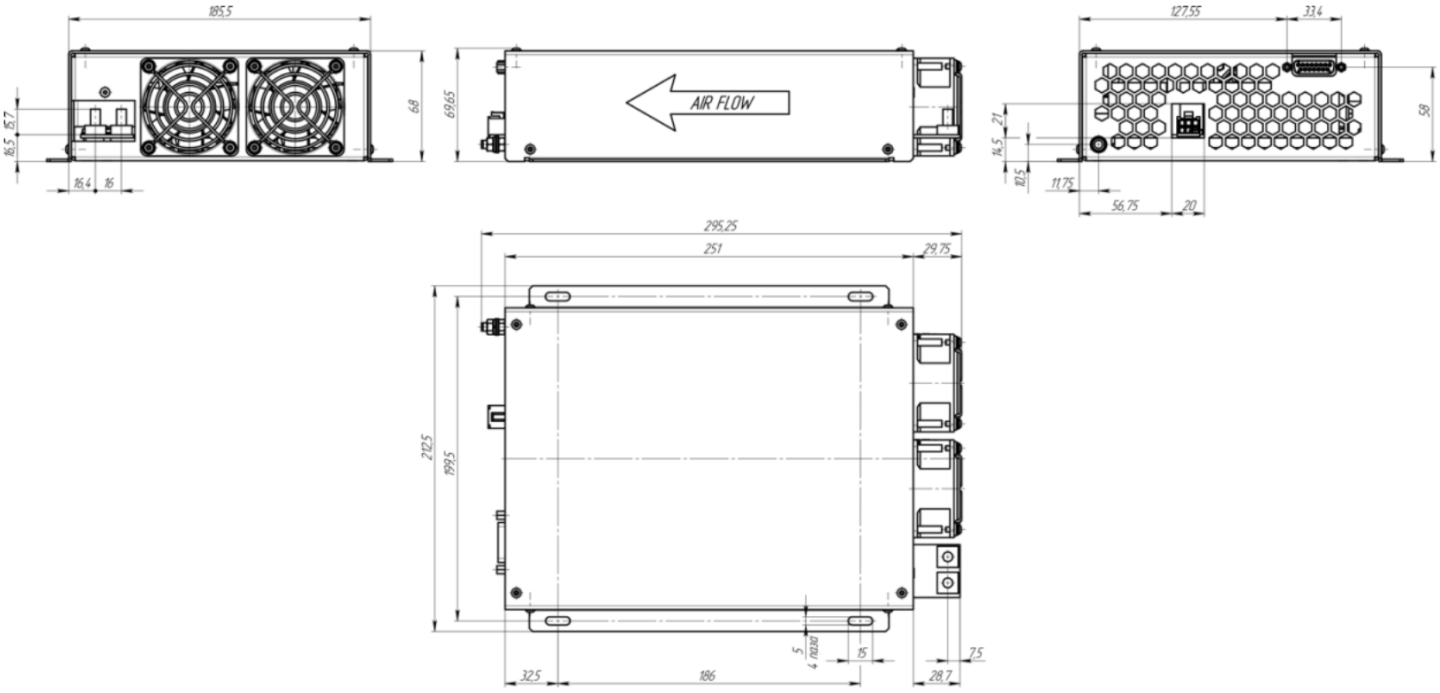
–RS232 Interface Board for RS-232 Communications



ADDITIONAL POWER OPTIONS AVAILABLE

The LDD-Series laser diode drivers are available in other models of 600 W, 1500 W, and 2000 W output power. All models are factory configured to the customer's maximum output current I_{MAX} and voltage requirements in order to maximize operating efficiency. On all models the output current is user adjustable from 0 to I_{MAX}.

LDD-1000 SERIES MODULE DIMENSIONS



LDD-1000 COMPLETE SPECIFICATIONS

OUTPUT SPECIFICATIONS

- Max. Output Current is Factory Configured to Custom Requirements
- Output Current is User Adjustable up to the Programmed Maximum
- Design Output Current Range: 10 A to 100 A
- Output Power: 1000 W (max)
- Max. Output Voltage is Factory Configured to Custom Requirements, up to V_{max} = 1000 / I_{max}
- Current Regulation Accuracy: < 1% I_{max}
- Current Value Error: < 1% I_{max}
- Current Overshoot: < 1 % I_{max}

MODULATION SPECIFICATIONS

- Rise/Fall Time: < 1 ms (10% to 90% full current), < 500 µs on request
- Digital Modulation Frequency: DC - 1 kHz

CONTROL INTERFACE

- Connector: 15-Pin D-Sub Female
- Current Setpoint: 0 - 10 V, Proportional to I_{max}
- Current Monitor: 0 - 10 V, Proportional to I_{max}
- Voltage Monitor: 0 - 10 V, Proportional to I_{max}*
- *Voltage monitor corresponds to output voltage when V_{max} <10 V; or to ½, ¼, (etc) of output voltage when V_{max} is 20 V, 40 V, etc
- Optional Stand Alone Control Interface Board (Option –STA)
- Optional RS-232 Control Interface Board (Option –RS232)

OUTPUT GROUNDING DETAILS

- By default, both OUTPUT negative and INTERFACE return are internally connected to the chassis ground. Laser diodes with the anode connected to the case should not be used with the LDD-1000. Modifications with floating output are available on request.

LDD-1000 GENERAL SPECIFICATIONS

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- Power Factor Correction: > 0.98 (active)
- Power Supply: 200-240 VAC, 50/60 Hz or 100-240 VAC, 50/60 Hz
- Current Draw: < 12 A
- Dimensions: 296 mm x 213 mm x 70 mm
- Operating Temperature: 0 – 40°C
- Storage Temperature: -20 – 60°C
- Humidity: 0 – 90% Non-Condensing
- Weight: 2.9 kg
- Leakage Current at Output Off: < 150 µA
- Safety Certificate Available on Request: IEC60950, IEC60601-1
- Case Fault Voltage: 4000 VAC
- EMC Certificate Available on Request: IEC 60601-1-2 or EN 55011/CISPR 11

PRODUCT SALES AND SERVICE:

Unlimited phone and email support is provided for products purchased through Laser Lab Source. Orders for this product are fulfilled by Laser Lab Source in North America and select international regions. It is manufactured by OEM Tech, Poland.

PRODUCT WARRANTY:

This product is sold with a full one-year warranty. It is warrantied to be free from defects in material and/or workmanship for a period of one year from the date of shipment.

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