LASER LAB SOURCE
marketplace for **Scientists & Engineers**

manufactured for Laser Lab Source by OSTECH

20 Amp Laser Diode Driver, 6 Volt Compliance Range

20 Amp, 6 Volt Laser Diode Driver
High Compliance Voltage Range

- Current up to 20 A, Voltage up to 6 V
- Optimized for Fiber-Coupled and Free-Space Pump Laser Diodes from nLight, Lumentum, Coherent/Dilas, Lumics, II-VI
- CW Mode and Integrated Quasi-CW Pulse Generator; Pulse Widths from 2µs to CW
- Open Circuit Detection and Fast Shut-Down with Analog Control Loop
- User-Programmable Soft-Start Current Ramp to Laser Diode Current Setpoint

LASER
DIODE
DRIVERS

Laser Lab Source
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LDI-187 High Power Laser Diode Driver Overview

The LDI-187 high-compliance laser diode driver is designed to precisely and safely bias a wide range of high power fiber-coupled and free-space lasers, such as nLight, Lumentum, and II-IV. The LDI-187 also drives multi-emitter devices wired for series operation.

Modulation, Internal Function Generator, and QCW Pulse Modes

The LDI-187 operates in CW (continuous wave) mode, and also provides flexible modulation capabilities and a QCW mode. On the backpanel is the BNC input for an analog or TTL digital modulation, DC up to 25 kHz (10k Ω input impedance).

The controller has an internal function generator which can be used to drive quasi-CW pulses in continuous, single, and burst-mode. In QCW mode, the user can also set 25µs-to-CW pulses to trigger from a remote TTL signal source.

LDC-187
REAR PANEL CONNECTIONS

Laser & Peltier Connector

PIN.No	Abbr.	Function
1;2;7;8	LANO+	Laser Diode Anode(+)
4	LLED	Laser Active LED - Anode (+), 5V over 470R, v.s. GND
5	PL+	Pilot Laser (+), v.s. GND
6	PDC-	Photo Diode Cathode (-), v.s. GND
9;10;14;15	LCAT-	Laser Diode Cathode (-)
11	T1	Temperature Sensor 1 Input, default NTC10kΩ, v.s. GND
12	GND	Common Ground
13	1-24V	1 to 24V Supply, max. 500mA, vs. GND, supports fan etc.

RS232 Connector	AMOD/DMOD Connector	Interlock Connector
 SubD-9, female	 MODGND, MODIN, BNC	 IL+, IL-, not connected, Jack Connector 3.5mm
Standard RS232-Connector connected to PC 9600-Baud-8N1 (No Null-Modem Cable !)	Impedance 10 kOhm Digital Modulation with TTL-Pegel Analog Modulation 0-4[V] => 0-Imax[A]	Interlock - Laser runs only if closed (ca. 5mA over 2V -> $R_{contact}$ <400R)

LDC-187
REAR PANEL LAYOUT

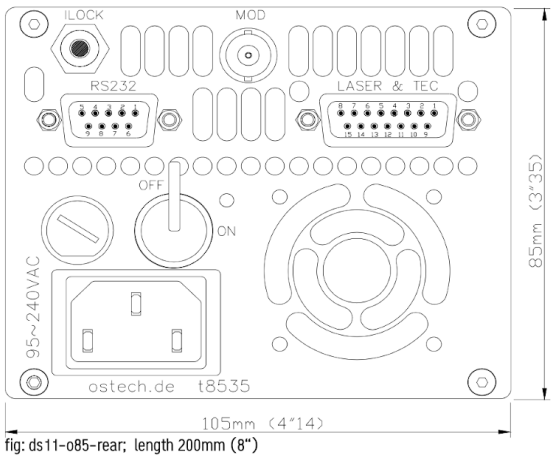


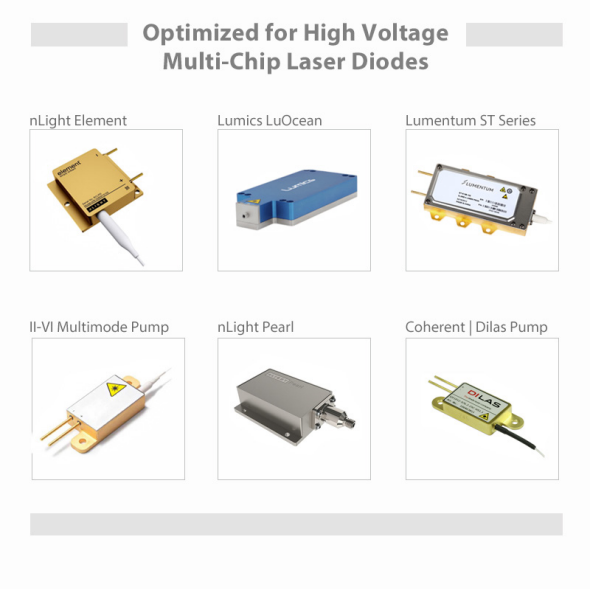
fig: ds11-085-rear; length 200mm (8")

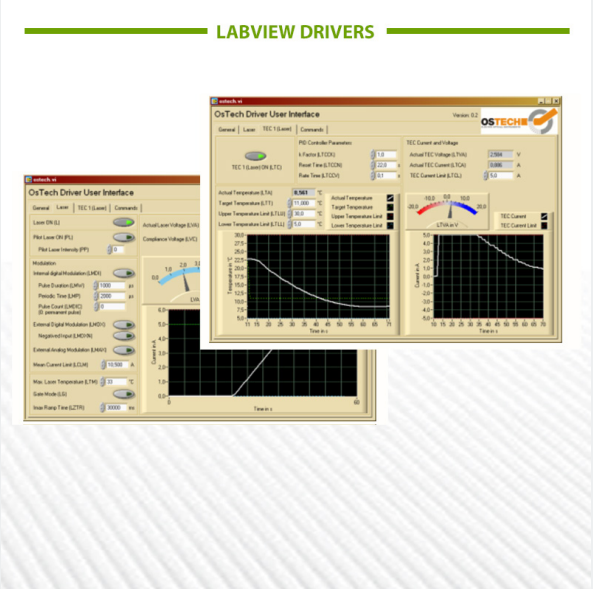
Laser Diode Protection Features

This driver includes industry-leading protection features to make sure that your high power device is not damaged by AC line power surges, over-current, reverse transients and multiple other potential sources of harm to the laser. Soft-start current, programmable current and temperature limits, and a fast and safe shut-down sequence keep your device protected at all times.

A back-panel safety interlock connector and safey key-switch ensure that the laser diode current is not switched on until the user has determined it is safe to do so.

The 15-pin D-sub provides access to a range of ancillary control functions, including external photodiode measurement, Laser-On Indicator LED, temperature sensor input, and an external cooling fan control.





LDI-187 High Power Laser Diode Driver Specifications

LASER DIODE CURRENT OUTPUT

- Current Output Range: 0.00 - 20.00 Amps
- Compliance Voltage Range: 0.00 - 6.00 Volts
- Current Noise & Ripple (rms): < ± 0.5% of Full Scale Current
- Current Setpoint Resolution: 5 mA
- Current Stability (4 hours): ≤ 300 ppm
- Current Limit Setpoint Accuracy: ± 2%

INTEGRATED LASER DIODE PROTECTION FEATURES

- Programmable Soft-Start Current Ramp to Set Point (300ms Default)
- Independent Pilot Laser Output (5V, 150mA max)
- User-Programmable Current Limit
- Open Circuit Detection
- ESD and Power Surge Clamp, AC Line Filter
- Reverse Voltage Transient Clamp
- Rear Panel Keylock Switch and Safety Interlock
- Short Circuit when Laser Diode Current Turned OFF

QCW AND MODULATION

- Minimum QCW Rise and Fall Time: 2µs (< 1µs on request)
- QCW Pulse Width: User Adjustable 2µs to CW, 10%-90% (< 1µs on request)
- External Modulation Input Voltage Range: 0 ~ 4 Volts
- Modulation Bandwidth: 25 kHz
- Modulation Input: BNC, Digital (TTL) or Analog, 10kΩ Impedance
- QCW Trigger: Internal Pulse Generator or External

LDI-187 High Power Laser Diode Driver Specifications

AUXILIARY FUNCTIONS

- Laser-On External LED Indicator: 5mA Output
- Pilot Laser Anode, vs. GND
- Temperature Sensor Input: 10kΩ NTC Thermistor
- External Fan Control Circuit, 1 - 24V, 300mA (max)
- Photodiode Input, Measurement Range: 0.00 - 700 µA
- Photodiode Current Measurement Accuracy: ± 0.5%

USER INTERFACE AND CONNECTORS

- Front Panel: Alphanumeric LCD with Key Pad
- RS232 Standard
- USB Optional: $95.00 (Option SVC-USB)
- LabView Drivers Included
- Laser and Peltier Connector: SubD-15, Female
- RS-232 Connector: SubD-9, Female
- Safety Interlock: Jack Connector, Stereo 3.5mm

DIMENSIONS AND POWER INPUT

- Power Input: Universal 100V ~ 240 VAC, 50/60 Hz
- Dimensions: 85mm (H) x 105mm (W) x 200mm (L)

RECOMMENDED ACCESSORIES

- kab-39 Unterminated Connecting Cable -or-
  kab-231 Terminated Connecting Cable
- acc-417 USB-RS232 Converter

Product Sales and Service

Orders for this product are fulfilled by LaserDiodeControl.com, part of the Laser Lab Source group. It is manufactured for Laser Lab Source by OsTech, GmbH.

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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