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

manufactured for Laser Lab Source by OSTECH

70 Amp Laser Diode Driver, 5 Volt Compliance Range

Protection Features Optimized for High Power Laser Diode Bars and Arrays:

- user adjustable soft-start current ramp (default 300ms)
- high current power surge clamps & ESD surge clamps
- current limit and open circuit detection

70 Amp, 5 Volt Laser Diode Driver High Power Laser Bars and Arrays

- o Current up to 70 A, Voltage up to 5 V
- o Optimized for High Power Laser Diodes from nLight, II-VI, Lumentum, Coherent/Dilas, Lumics
- o CW Mode and Integrated Quasi-CW Pulse Generator; Pulse Widths from 29µs to CW
- o User-Programmable Soft-Start Current Ramp to Laser Diode Current Setpoint
- o Open Circuit Detection and Fast Shut-Down with Analog Control Loop

LASER DIODE DRIVERS

Laser Lab Source
a division of Research Lab Source Corporation

www.LaserLabSource.com
phone: 800-887-5065

670 South Ferguson
Bozeman, MT 59718

LDI-607 High Power Laser Diode Driver Overview

The LDI-607 laser diode driver is designed to precisely and safely bias a wide range of 980nm and 976nm pump lasers diode bars and arrays, such as those from nLight, Lumentum, and II-IV.

Modulation, Internal Function Generator, and QCW Pulse Modes

The LDI-607 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 (10k Ω input impedance).

The integrated function generator can be programmed to generate QCW pulses from 29 microseconds to CW. The QCW pulse mode feature is capable of delivering continuous pulses, single pulses, and pulse bursts which are internally or externally triggered.

LDI-607 REAR PANEL CONNECTIONS

Support Connector

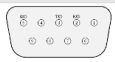
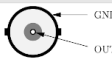
SubD- 15 female

PIN.No	Abbr.	Function
3	LUFGND	Fan Ground
4	LLED	Laser ON LED Anode (+) ILED ca.5mA, vs. GND
5	PL+	Pilot Laser (+), vs. GND
6	PDC-	Photo Diode Cathode (-) Input, vs. GND
11	T1	Temperature Sensor Input, vs. GND (default NTC 10k)
12	GND	Common Ground
13	S1-24V	1-24V adjustable Supply, max. 800mA, for fan etc., vs. LUFGND

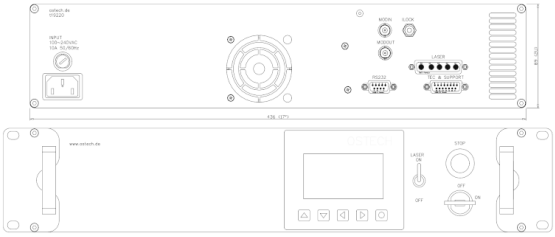
Laser Connector

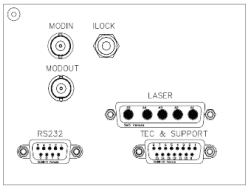
SubD-5W5 female

PIN.No	Abbr.	Function
A3; A4	LDA+	Laser Diode Anode (+)
A1; A2	LDC-	Laser Diode Cathode (-)
A5	n.c.	

RS232 Connector	AMOD/DMOD-IN Connector	MOD-OUT Connector	Interlock Connector
			
SubD-9 female Standard RS232-Connector (No Null-Modem Cable !)	Impedance 10 kOhm Digital Modulation with TTL-Pegel Analog Modulation 0-4[V] => 0-Imax[A]	BNC-Socked, current monitor 0-Imax[A] -> 0-4[V] Take care for laser isolation if you connect GND potential to an oscilloscope f.e.	Jack Connector 3.5mm Laser runs only if closed (ca. 5mA over 2V -> R <= 400R)

LDI-607 REAR PANEL LAYOUT





Laser Diode Protection Features

These current sources feature multiple levels of built-in laser diode protection which have been optimized for high power bars and arrays. Soft-start current, programmable current and temperature limits, and a fast and safe shut-down sequence keep your device protected at all times. Additionally, transient filters and AC line filters protect the laser against brown-out or black-out power conditions.

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, pilot laser, Laser-On Indicator LED, temperature sensor input, and an external cooling fan control.

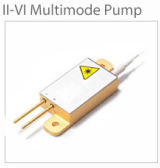
Optimized for High Voltage Multi-Chip Laser Diodes

nLight Element

Lumics LuOcean

Lumentum ST Series

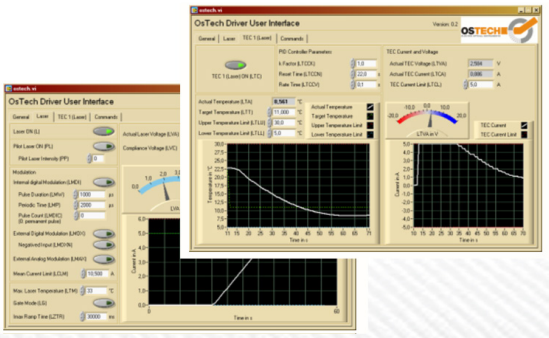
II-VI Multimode Pump



nLight Pearl

Coherent | Dilas Pump

LABVIEW DRIVERS



LDI-607 High Power Laser Diode Driver Specifications

LASER DIODE CURRENT OUTPUT (CW / QCW)

- Output Current Range: 0.00 - 70.00 Amps
- Compliance Voltage Range: 0.12 -5.00 Volts
- Current Noise & Ripple (rms): < ± 0.5% (of full scale current)
- Current Setpoint Resolution: 18 mA
- Current Setpoint Accuracy: ± 0.5%
- Current Stability (4 hours): ≤ 300 ppm
- Current Limit Setpoint Accuracy: ± 2%
- Photodiode Current Measurement Accuracy: ± 0.5%
- Photodiode Current Measurement Range: 0.00 - 700 µA

INTEGRATED LASER DIODE PROTECTION FEATURES

- Soft-Start Current Ramp Factory Default Set to 300 Milliseconds; User Adjustable
- 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
- Front Panel e-Stop Button Emergency Shut-Down

QCW PULSE MODE AND MODULATION

- QCW Pulse Width Range: < 29 µs to CW, 10%-90%
- Integrated QCW Pulse Generator, also Accepts External Trigger for QCW Pulses
- Pulse Time Base Accuracy: ± 1.0%
- Modulation Input: BNC, Digital (TTL) or Analog, 10kΩ Impedance
- External Modulation Input Voltage Range: 0 ~ 4 Volts

LDI-607 High Power Laser Diode Driver Specifications

AUXILIARY FUNCTIONS AND CONNECTIONS

- External Laser-ON LED Output (5 mA)
- Pilot Laser Output
- External Temperature Sensor Input
- External Cooling Fan Output (1 - 24 V, 800 mA)

USER INTERFACE AND CONNECTORS

- Front Panel: Alphanumeric LCD with Key Pad
- RS232 Standard, SubD-9, Female
- USB Optional: $95.00 (Option SVC-USB)
- LabView Drivers Included
- Laser Diode Connector: SubD-5W5, Female
- Auxiliary Functions Connector: SubD-15, Female
- Safety Interlock: Jack Connector, Stereo 3.5mm

DIMENSIONS AND POWER INPUT

- Power Input: Universal 100V ~ 240 VAC, 50/60 Hz
- Dimensions: 89 mm (H) x 482 mm (W) x 266 mm (L)
- Chassis Height: 2U (Standard Rack-Mount Units)

RECOMMENDED ACCESSORIES

- kab-39 Unterminated Connecting Cable -or-
  kab-231 Terminated Connecting Cable
- kab-141 Power Cable, 80 Amp: Sub-D5W5 (male) - Cable Lugs
- 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.

Laser Lab Source
670 S. Ferguson St., Suite 3
Bozeman, MT 59718 USA
800-887-5065
LaserLabSource.com

Ostech, GmbH
Plauener Str. 163-165 • Haus i • 13053
Berlin