



## 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 29 $\mu$ s 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**

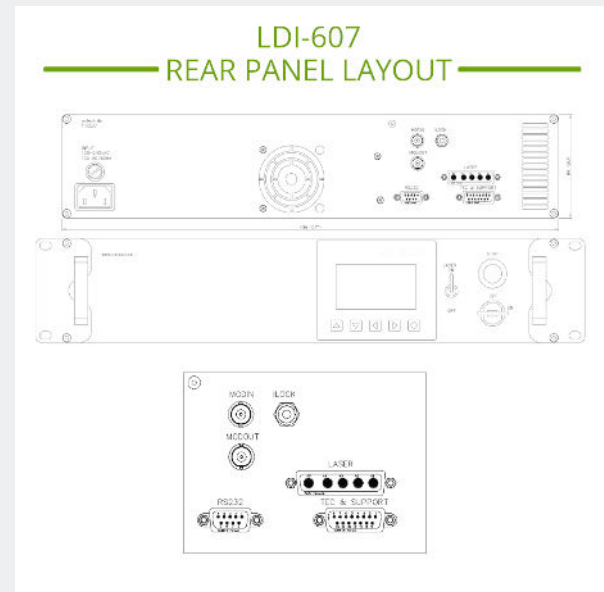
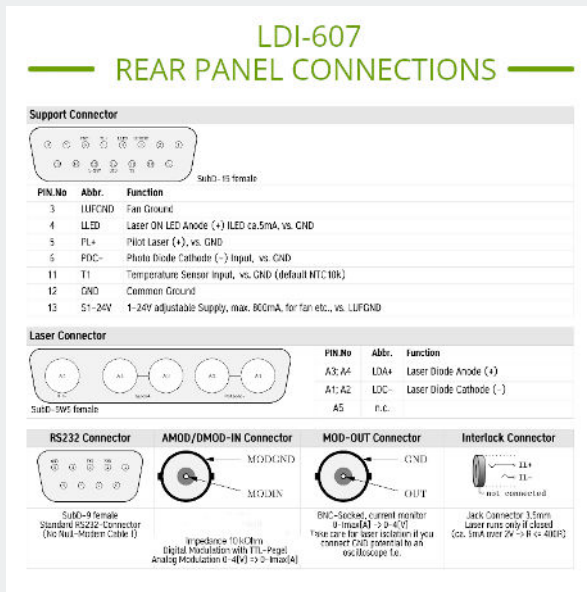
## LDI-607 High Power Laser Diode Driver Overview

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  $\Omega$  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.






## 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.

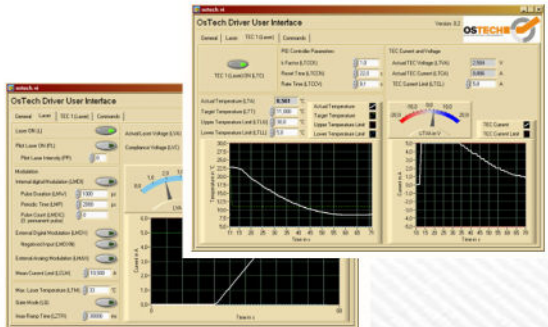
A back-panel safety interlock connector and safety key-switch ensure that the laser diode current is not switched on until the user has determined it is safe to do so.

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**

<p>nLight Element</p> 	<p>Lumics LuOcean</p> 	<p>Lumentum ST Series</p> 
<p>II-VI Multimode Pump</p> 	<p>nLight Pearl</p> 	<p>Coherent   Dilas Pump</p> 

**LABVIEW DRIVERS**



The screenshot displays the OnTech Driver User Interface, a LabVIEW-based control software. It features several control panels for monitoring and adjusting laser diode parameters. Key elements include:

- Control Panels:** Sliders and buttons for setting parameters like Laser On/Off, Pilot Laser, and various temperature limits (Actual, Upper, Lower).
- Graphs:** Real-time plots showing temperature (°C) and current (mA) over time, with data points and trend lines.
- Readouts:** Digital displays for current, voltage, and power levels.
- Buttons:** Controls for 'Laser On', 'Laser Off', and 'Reset'.



## 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):  $< \pm 0.5\%$  ( of full scale current )
- Current Setpoint Resolution: 18 mA
- Current Setpoint Accuracy:  $\pm 0.5\%$
- Current Stability (4 hours):  $\leq 300$  ppm
- Current Limit Setpoint Accuracy:  $\pm 2\%$
- Photodiode Current Measurement Accuracy:  $\pm 0.5\%$
- Photodiode Current Measurement Range: 0.00 - 700  $\mu$ A

### 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:  $< 29 \mu$ s to CW, 10%-90%
- Integrated QCW Pulse Generator, also Accepts External Trigger for QCW Pulses
- Pulse Time Base Accuracy:  $\pm 1.0\%$
- Modulation Input: BNC, Digital (TTL) or Analog, 10k $\Omega$  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 warranted 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