



## 60 Amp Laser Diode Driver, 12 Volt Compliance Range



### 60 Amp, 12 Volt Laser Diode Driver for High Power Multi-Mode Lasers

- o Current up to 60 A, Voltage up to 12 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 25 $\mu$ 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**









## 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.

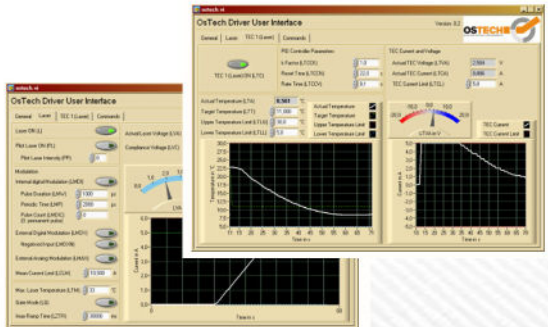
A back-panel safety interlock connector must be installed to prevent the laser diode current being switched on. The interlock allows the user to ensure the environment is safe for the laser and the user.

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 a central control panel with various input fields and buttons for parameters such as 'Actual Laser Voltage', 'Actual TEC Voltage', 'Actual TEC Current', 'Actual Temperature', 'Upper Temperature Limit', 'Lower Temperature Limit', and 'Compliance Voltage'. There are also several graphs showing temperature and current over time, and a 'Laser On' indicator.



## LDI-595 High Power Laser Diode Driver Specifications

### LASER DIODE DRIVER CURRENT OUTPUT

- Output Current Range: 0.00 - 60.00 Amps
- Compliance Voltage Range: 0.12 -12.00 Volts
- Current Noise & Ripple (rms): < 1% of full scale current
- Current Setpoint Resolution: 15 mA
- Current Setpoint Accuracy:  $\pm 0.5\%$
- Current Stability (4 hours):  $\leq 100$  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 to Setpoint (User Programmable)
- Soft-Start Current Ramp Factory Default Set to 300 Milliseconds
- User-Programmable Current Limit
- Open Circuit Detection
- ESD and Power Surge Clamp, AC Line Filter
- Reverse Voltage Transient Clamp
- Short Circuit when Laser Diode Current Turned OFF
- Temperature Limits (Upper and Lower)
- Safety Interlock Connection

### QCW PULSE MODE AND MODULATION

- Pulse Rise / Fall Time: < 25 $\mu$ s, 10%-90%
- Integrated QCW Pulse Generator, Also Accepts External Trigger for QCW Pulses
- QCW Mode 1: User Adjustable Pulse Width and Repetition Rate using Internal Pulse Generator
- QCW Mode 2: External Trigger to Internal Pulse Generator: Rising Edge Triggered QCW Pulse with Internally Adjusted Pulse Width
- Modulation Input: BNC, Digital (TTL) or Analog, 10k $\Omega$  Impedance
- Modulation Input Voltage Range: 0 ~ 4 Volts (4V = Max Current)



## LDI-595 High Power Laser Diode Driver Specifications

### AUXILIARY FUNCTIONS

- Temperature Sensor Input: 10k $\Omega$  NTC Thermistor
- Photodiode Cathode (Analog Connected to Gnd)
- Pilot Laser Anode, vs. Ground: (4 - 5V, 150 mA)
- Modulation Input
- Electronic Safety Interlock
- RS232 Connections
- External Fan Control Circuit, 2 - 24V, 800mA (max)

### USER INTERFACE AND CONNECTORS

- RS232 Standard (*USB Adapter Optional - Price \$125.00*)
- LabView Drivers Included
- Laser Diode Anode / Cathode Output Connector: DB-9W4, Female
- Support and Peltier Connector: SubD-15, Female
- Main Power Connector: MOLEX Housing 10013036; Terminal 8701031

### DIMENSIONS AND POWER INPUT

- Power Input: Universal 90V ~ 230 VAC, 50/60 Hz
- Dimensions: 85 mm (H) x 105 mm (W) x 200 mm (L)

### RECOMMENDED ACCESSORIES

- kab-39 Unterminated Connecting Cable -or-  
kab-231 Terminated Connecting Cable



## 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.



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