



120 Amp Laser Diode Driver, 5 Volt Compliance Range

COMPLETE LASER DIODE PROTECTION

programmable soft-start current ramp
I & T limits, ESD & power surge clamps

CW & QCW MODES

qcw pulses 25 μ s - CW



USB, RS232 & INTUITIVE FRONT PANEL CONTROLS

set & monitor all functions from PC or main menu

120 Amp, 5 Volt Laser Diode Driver Laser Diode Bars and CCP Mounts

- o Current up to 120 A, Voltage up to 5 V
- o Optimized for Fiber-Coupled Laser Diode Bars and CCP-Style Mounted Devices from DILAS and Coherent.
- o Open Circuit Detection and Fast Shut-Down with Analog Control Loop
- o CW Mode and Integrated Quasi-CW Pulse Generator; Pulse Widths from 25 μ s to CW
- o Front-Panel Control and RS232 Remote Control; USB Optional



**LASER
DIODE
DRIVERS**

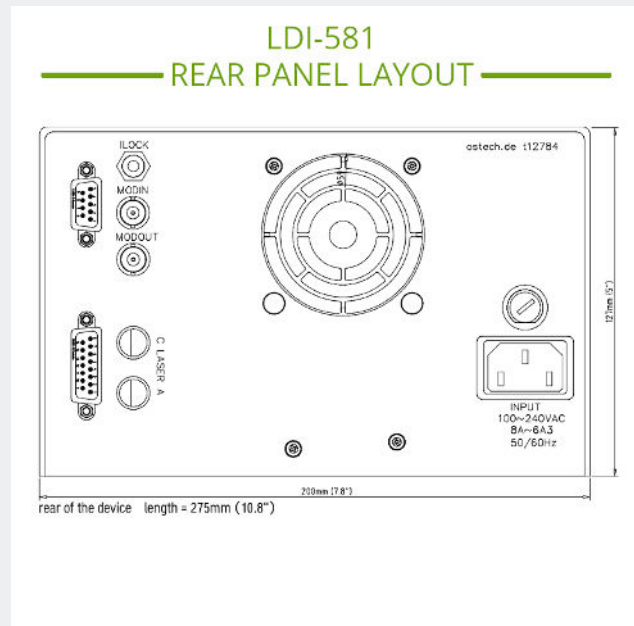
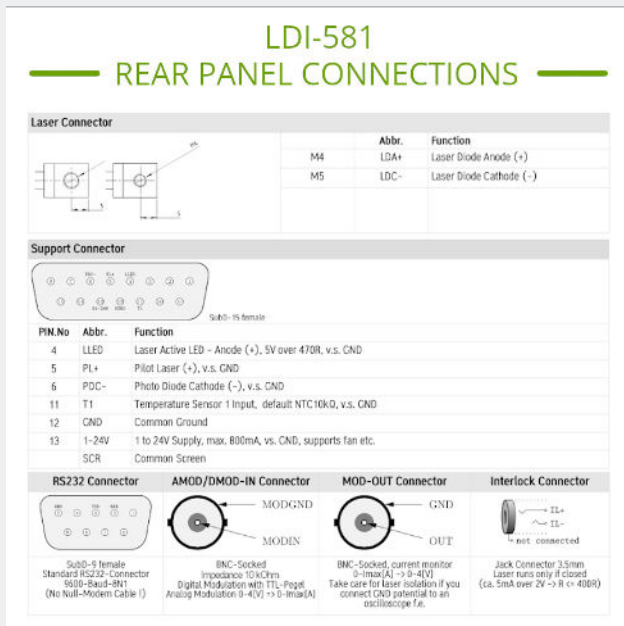
LDI-581 High Power Laser Diode Driver Overview

The LDI-581 driver offers 5 Volts compliance voltage at 120 Amps, and is designed specifically to safely drive fiber coupled bar modules and CCP style copper mount bars from companies such as DILAS and Coherent. The LDI-581 is easy and conveniently controlled by the front panel, or remotely via RS232, and USB control is available as an option.

Modulation, Internal Function Generator, and QCW Pulse Modes

The LDI-581 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 25 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, arrays, stacks, and multi-emitter devices. 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.

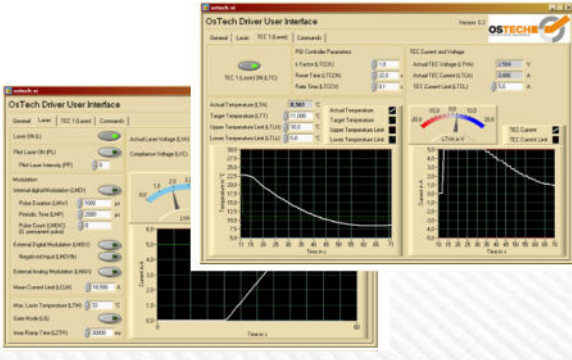
A back-panel safety interlock connector and safety key-switch ensure that the laser diode current is not switched on until the user has determined it is safe to do so.

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 'OsTech Driver User Interface' LabVIEW software. It features a control panel with various knobs and sliders for parameters such as 'Actual Laser Voltage', 'Target Temperature', and 'Upper Temperature Limit'. There are also several graphs showing 'Current vs. Time' and 'Temperature vs. Time' plots. The interface includes a 'Send' button and a 'Command' field for sending data to the device.



LDI-581 High Power Laser Diode Driver Specifications

LASER DIODE CURRENT OUTPUT

- Output Current Range: 0.00 - 120.00 Amps
- Compliance Voltage Range: 0.00 - 5.00 Volts
- Current Noise & Ripple (rms): $< \pm 0.5\%$ of Full Scale Current
- Current Setpoint Resolution: 30 mA
- Current Setpoint Accuracy: $\pm 0.5\%$
- Current Stability (4 hours): ≤ 300 ppm
- Current Limit Setpoint Accuracy: $\pm 2\%$
- Photodiode Current Measurement Accuracy: $\pm 0.5\%$
- Photodiode Current Measurement Range: 0.00 - 700 μ A

LASER DIODE PROTECTION FEATURES

- Soft-Start Current Ramp Factory Default Set to 300 Milliseconds; User Adjustable
- User-Programmable Current Limit
- Open Circuit Detection
- Short Circuit when Laser Diode Current Turned OFF
- ESD and Power Surge Clamp, AC Line Filter
- Reverse Voltage Transient Clamp
- Rear Panel Keylock Switch and Safety Interlock
- Front Panel e-Stop Button Emergency Shut-Down

QCW (QUASI-CW) MODE AND MODULATION

- Pulse Width Range $< 25 \mu$ s to CW, 10%-90% ($< 20 \mu$ s on request)
- Integrated Function Generator
- Pulse Time Base Accuracy: $\pm 1.0\%$
- QCW Mode Trigger: Internal (Integrated) Function Generator or External Trigger
- Modulation Input: BNC, Digital (TTL) or Analog, 10k Ω Impedance
- Modulation Input Voltage Range: 0 ~ 4 Volts (4V = Max Current)



LDI-581 High Power Laser Diode Driver Specifications

AUXILIARY FUNCTIONS AND CONNECTIONS

- Laser On/Off Status Indication (TTL; On = High), vs. Gnd
- Pilot Laser Output, vs. Gnd
- Photodiode Cathode, vs. Gnd
- External Cooling Fan Output (1 - 24 V, 800 mA), vs. Gnd
- External Temperature Sensor Input (NTC 10k Ω , vs. GND)

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: Threaded Lugs for Bolt-On Leads
- Auxiliary Functions Connector: SubD-15 female
- RS232 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: 127 mm (H) x 200 mm (W) x 275mm (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 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