



## 20 Amp Laser Diode Driver, 30 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 $\mu$ s - CW



### USB, RS232 & INTUITIVE FRONT PANEL CONTROLS

set & monitor all functions from PC or main menu

### 20 Amp, 30 Volt Laser Diode Driver High Power Laser Bars and Arrays

- o Current up to 20 A, Voltage up to 30 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 30 $\mu$ s to CW
- o Front-Panel Control and RS232 Remote Control; USB Optional
- o Open Circuit Detection and Fast Shut-Down with Analog Control Loop



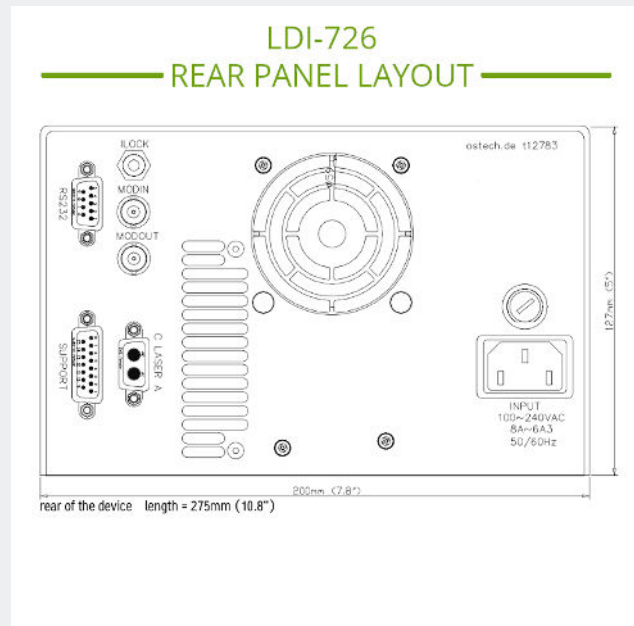
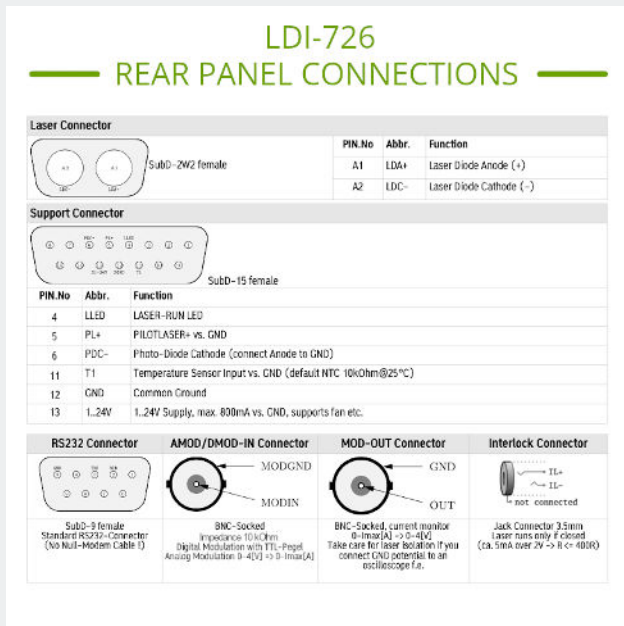
**LASER  
DIODE  
DRIVERS**

## LDI-726 High Power Laser Diode Driver Overview

The LDI-726 driver offers 30 Volts compliance voltage at 20 Amps for laser diodes connected in series, laser diode stacks and multi-emitter devices. On request, the current and voltage can be configured to match any customer specified range with a total of 600 Watts of output power to the laser. The LDI-726 was designed for multi-emitter pumps, and are used to safely bias 8XX through 9XXnm pumps with output power levels from 20 Watts to 300 Watts from companies such as Lumentum and II-VI laser.

## Modulation, Internal Function Generator, and QCW Pulse Modes

The LDI-880 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 30 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'. The interface includes a 'Send' button and a 'Command' field for sending data to the device.



## LDI-726 High Power Laser Diode Driver Specifications

### LASER DIODE DRIVER OUTPUT (CURRENT AND VOLTAGE SOURCE)

- Output Current Range: 0.00 - 20.00 Amps
- Compliance Voltage Range: 0.00 - 30.00 Volts
- Current Noise & Ripple (rms):  $< \pm 0.5\%$  of Full Scale Current
- Current Setpoint Resolution: 5 mA
- Current Setpoint Accuracy:  $\pm 0.5\%$
- Current Stability (4 hours):  $\leq 200$  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; Fast, Safe Shut-off
- 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

### MODULATION AND QCW (QUASI-CW) MODE

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



## LDI-726 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 Temperature Sensor Input (NTC 10k $\Omega$  @ 25°C), vs. Gnd
- External Cooling Fan Output (1 - 24V, 800 mA) , 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: SubD-2W2, Female
- 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 200mm (W) x 275 mm (L)

### RECOMMENDED ACCESSORIES

- kab-39 Unterminated Connecting Cable -or- kab-231 Terminated Connecting Cable
- kab-286 Unterminated Power Cable -or- kab-297 Terminated Power 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.



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