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

manufactured for Laser Lab Source by OSTECH

Turn-Key Laser Diode Source System
808nm, 100W, 200µm Fiber Coupled Output

808nm Laser Diode Source System

- Adjustable Output Power up to 100 Watts
- 200µm Detachable Fiber-Coupled Output
- Factory-Set Safety Limits Protect the Laser Diode for Long Operating Lifetime
- CW and QCW Operating Modes with Internal Trigger and External Trigger Input
- TEC-Cooled Internal Laser Diode Mount
- Air-Cooled System, No Cooling Water Needed

LASER DIODE SOURCES

Laser Lab Source
a division of Research Lab Source Corporation

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

670 South Ferguson
Bozeman, MT 59718

100W Fiber-Coupled Laser Diode Source System 808nm Output

The model LDX-808NM-100W source and control systems are high performance, pre-configured fiber-coupled laser diode systems designed for R&D lab and manufacturing applications. An integrated 100 Watt, 808 nm fiber-coupled source is precisely controlled to provide a high stability output through 200µm-core multi-mode fiber.

Flexible User Controls via Front Panel or Remote Connection

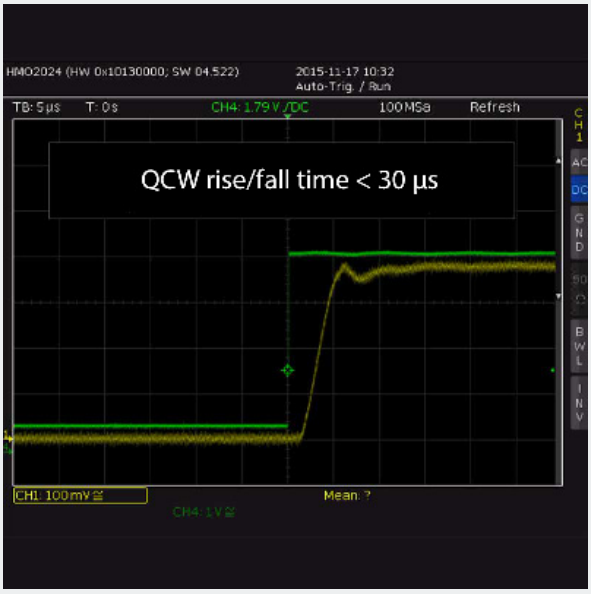
Users have full control of the laser through a touch-key front panel menu and LCD display, or through the rear-panel digital interface. Laser output power can be adjusted in the optical domain (Watts) if the user chooses the automatic power (APC) control mode, or by adjusting the current level (ACC mode). The user also has control over the laser temperature set-point within the safe operating range. The LDX system can be controlled remotely by RS232 or by USB, and include LabView drivers. Sequencing software is also available for pre-programming multi-step tests.

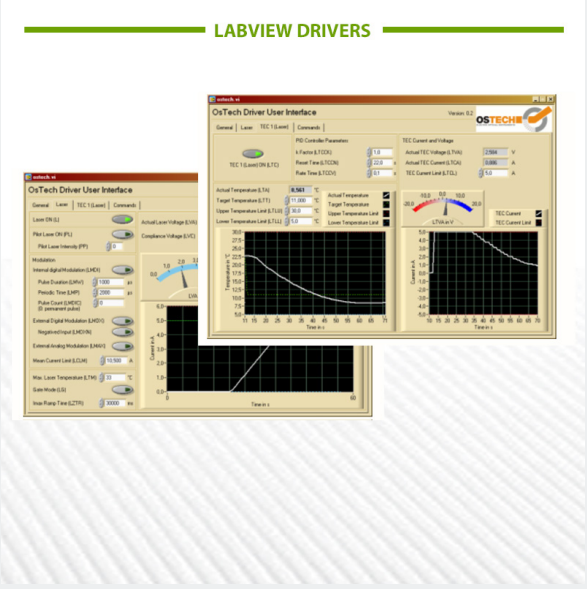
QCW and CW Modes with Internal Function Generator and External Trigger

In addition to CW mode, the LDX series offer QCW and modulation modes. The control unit ships with an internal function generator which can be used to set the quasi-CW pulses. Also, the user can use an external source to trigger QCW pulses. The control unit will accept either TTL or analog modulation.

Laser Diode Protection Features for High Reliability

These source and control systems are built with protection features designed specifically for high power lasers. They are pre-configured with a 300 millisecond soft-start current ramp to the desired laser output power set point. Additionally, the user can set any ramp time period from 300 msec up to 10 seconds. These protection circuits are optimized for lasers with optical output power levels from 50 Watts to 300 Watts. Other protection features include a factory set upper temperature limit and a maximum current and voltage limit. All limits are set to the safe operating range specifications for the specific laser installed in the system.





LDX-808nm-100W Turn-Key Laser Diode Source System

OPTICAL OUTPUT: LASER DIODE SPECIFICATIONS (TYPICAL @ 25°C)

- Center Wavelength: 808 nm (+/-3 nm)
- CW Output Power (min): 100 Watts
- Spectral width (FWHM): < 4 nm
- Numerical Aperture: NA 0.22
- Fiber Core Diameter: 200 µm
- Fiber Connector: SMA905
- Red Pilot Laser: Included

CONTROL UNIT LASER DIODE PROTECTION FEATURES

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

CONTROL UNIT TEMPERATURE CONTROLLER AND PELTIER COOLED LASER MOUNTING PLATE SPECIFICATIONS

- TEC Cooled Laser Mounting Plate, Air Cooled Base Assembly
- Laser Diode Mounting Plate Material: Nickel Plated Copper
- Laser Temperature Setpoint: Adjustable within Factory Set Range
- TEC Control Loop Algorithm: Full P.I.D.
- P.I.D. Variables: Factory Pre-Set for Optimum Performance
- Laser Diode Upper & Lower Temperature Limits: Factory Pre-Set
- Control Unit Waste Heat Removal Method: Forced Air

LDX-808nm-100W Turn-Key Laser Diode Source System

QCW PULSE AND MODULATION SPECIFICATIONS

- QCW Mode Rise and Fall Time: < 30 µs, (< 10µs on request)
- QCW Pulse Trigger: Internal Function Generator or External Trigger
- QCW Trigger: Internal Function Generator or External Trigger
- QCW Pulse Modes: Continuous Pulses, Single Pulses, Bursts
- QCW Pulse Time Base Accuracy: ± 1.0%
- Modulation Signal: Accepts External Digital (TTL) or Analog
- Modulation Input Connector: BNC, Input Impedance 10K ohm
- ----------
- Modulation Input Voltage Range: 0 ~ 4 Volts (4V = Max Current)
- Analog Modulation Bandwidth: 1 Hz – 20 kHz

FIBER OUTPUT

- Fiber Core Diameter: 200 µm
- Numerical Aperture: 0.22
- Fiber Connector: SMA905
- Fiber Patch Cord: Optional (request pricing)

CONTROL UNIT / SYSTEM DIMENSIONS AND POWER REQUIREMENT

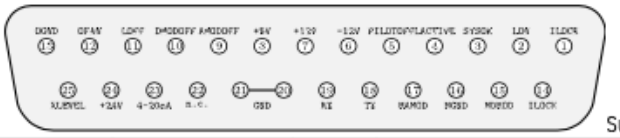
- 3U Standard Units High, Standard 19 Inch Rack Width
- Dimensions: 132.5 mm (h) x 482 mm (w) x 340 mm (l)
- Input Power: Universal 110V ~230 VAC, 50/60Hz
- Rack Mount Brackets: Included
- Bench-top Folding Feet: Included

USER INTERFACE

- Front Panel LCD, Full Alphanumeric Display with Key Pad
- RS232 Standard, LabView Drivers Included
- USB Optional; Inquire
- GUI Control Software Included

LDX-808nm-100W System Auxiliary Functions Connector

Support Connector - Isolated Industrial Interface - 2nd version

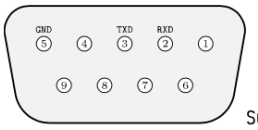
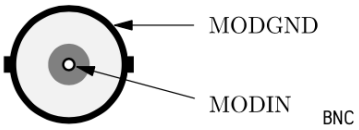


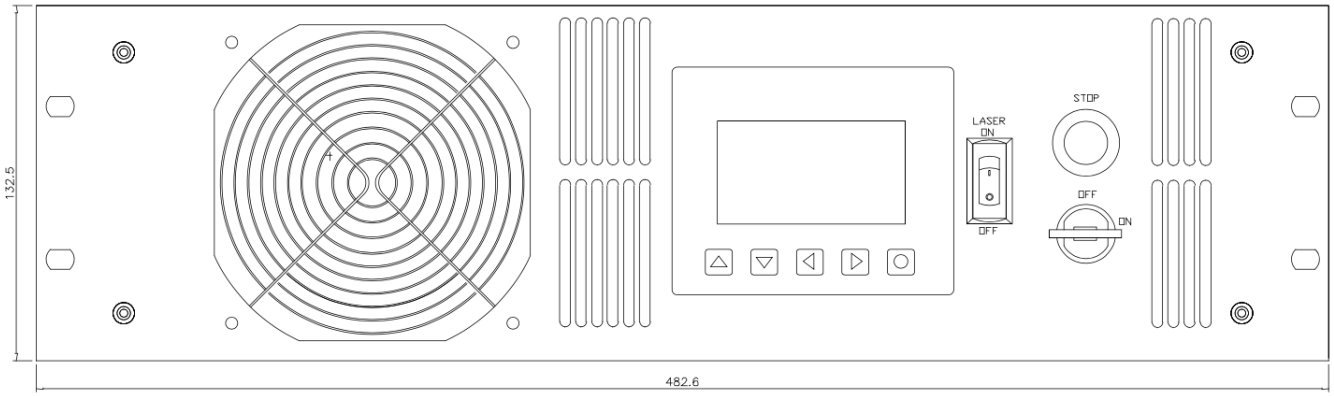
SubD25-female

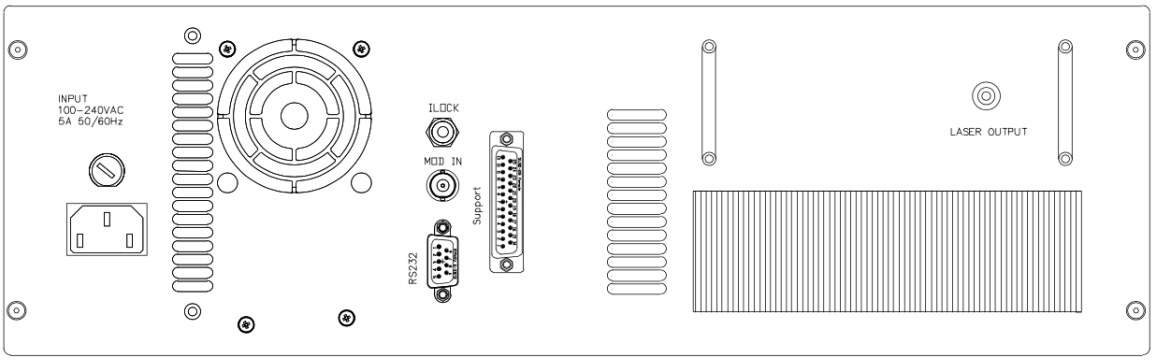
PIN.No	Abbr.		Function
1	ILOCK	out	Output Interlock Output max. 12V 10mA (connect to pin14) to close Interlock
2	LON	out	Output Laser On - High = Laser is in On State [1]
3	SYSOK	out	Output System Ok - High = System OK - Laser Ready for Operatioin [1]
4	LACTIVE	out	Output Laser Active - High = Laser Is Emitting [1]
5	PILOTOFF	in	If your Laser has a pointer device it's switched ON when - LOW [3]
6	-12V	sup	Supply Output -12V max. 250mA for free usage [2]
7	+12V	sup	Supply Output +12V max. 250mA for free usage [2]
8	+5V	sup	Supply Output +5V±1% max. 250mA for free usage [2]
9	AMODOFF	in	Input if LOW = xternal analogue modulation is ON (is changable) [3]
10	DMODOFF	in	Input if LOW = xternal digital modulation is ON (is changable) [3]
11	LOFF	in	Input Laser-OFF - Low = Laser is ON [3]
12	OFAN	sup	optioinal (Fan) Supply - 2V..22V up to 1A for external Fan [7]
13	OGND	sup	optional IGND [7]
14	ILOCK	in	Interlock Input - has to be connected to XO_ILOCK (connect to pin1) to close Interlock
15	MDMOD	in	Input Digital Modulation [4]
16	MGND	sup	Modulation GND
17	MAMOD	in	Input Analog Modulation Input [4] [5]
18	TX	in	RS232-Tx [2]
19	RX	out	RS232-Rx [2]
20,21	GND	sup	Xternal GND
22	n.c.		
23	4-20mA	in	Additional 4..20mA Analogue Modulation Input [7]
24	+24V	sup	Supply Output +24V max. 80mA for free usage [2]
25	XLEVEL	in	Input for Logical Output Level [6]

[1] Logic Output, High Level = XLEVEL (default =5V), LOW Level < 1V, see [6]
[2] vs. XGND
[3] Input internally pulled-up, Input is tolerant up to 24V for High-level
[4] vs. XMOD_GND
[5] 0-4V → 0A-Imax (Ri=10kOhm, for a 0-10V input signal put 15kOhm in series)
[6] XLEVEL is default 5V = TTL-Level, to change Output High level to 12V connect XLEVEL to +12V
or to change Output High level to 24V connect XLEVEL to +24V
[7] vs. IGND Signals are NOT! isolated! Take care!
- current state from 2017-08-01

LDX-808nm-100W System Connectors and Dimensions

RS232 Connector	AMOD/DMOD Connector	Interlock Connector
 SubD-9, female		 M8-round connector Binder Sensor series 768 · 718 ordering# 09-3391-00-04 fits with ordering# 99-3376-00-04
Standard RS232-Connector connected to PC 9600-Baud-8N1(No Null-Modem Cable !)	Input Impedance 10 k Ohm Digital Modulation with TTL-Pegel Analog Modulation 0-4[V] => 0-Imax[A]	2 circuit Interlock - Laser runs only if both circuits are closed IL1+Pin1, IL1-Pin2, IL2+Pin3, IL2-Pin4





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.

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