



OEM Laser Diode Source System

808nm, 50 Watt Fiber-Coupled Output



808nm Fiber-Coupled Laser Diode OEM Turn-Key Source System

- o Includes Fiber-Coupled 808nm Laser Diode
- o Fully Adjustable Operating Parameters
- o CW Mode and Integrated Quasi-CW Pulse Generator; Wide Ranging Pulse Widths
- o User-Programmable Soft-Start Current Ramp to Laser Diode Current Setpoint
- o Comprehensive Safety Features to Protect the Laser Diode, Controller, and Operator



**LASER
DIODE
SOURCES**

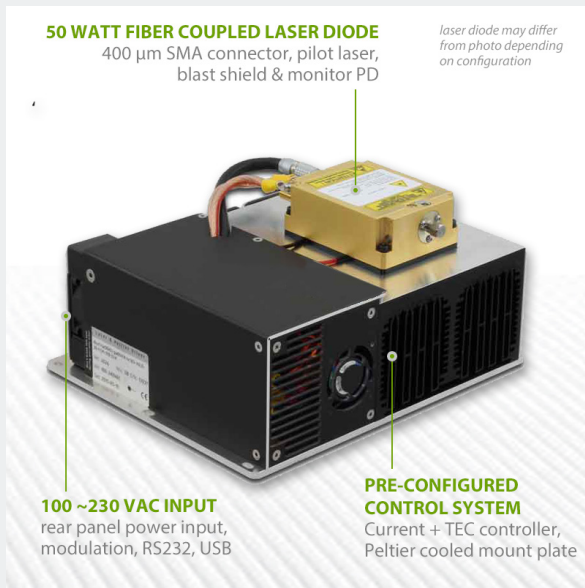


LDX-808nm-50W-OEM OEM Laser Diode Source System

The LDX-808nm-50W-OEM fiber-coupled laser diode source is a preconfigured, plug-and-play OEM light-source solution. The system includes the laser diode driver, the Peltier-based mount controller, the mount, interconnect cables, and the laser diode. The system is configured before delivery, with safety limits pre-set, to provide plug-and-play operation upon delivery.

Modulation, Internal Function Generator, and QCW Pulse Modes

The source system operates in CW (continuous wave) mode, and also provides flexible modulation capabilities and a QCW mode. The controller has an internal function generator which can be used to drive quasi-CW pulses in continuous, single, and burst-mode. There is an input for analog or TTL digital modulation. In QCW mode, the user can also set pulses to trigger from a remote TTL signal source. The modulation bandwidth and pulse widths are based on the laser driver capabilities, defined in the specifications table.



LDX-808nm-50W-OEM REAR PANEL LAYOUT

Isolated Industrial - Support Connector		
		Sub-D25, female Isolated industrial interface - isolated RS485 & USB optional
PIN No	Abbr.	Function
1	XI_ILOCK	Interlock Output max. 12V 100mA
2	XI_LON	Laser On - TTL - Output High = Laser On (pull-up resistor at 5V with 270R for LED f.e.)
3	XI_SYSDOK	System OK - TTL - Output High = Laser, Temp. & System OK (pull-up resistor at 5V with 270R)
5	XI_VREF	External Reference 5V \pm 1% max. 20mA - as potentiometer supply f.e.
6	XI_SUP-12	External Supply -12V max. 250mA
7	XI_SUP+12	External Supply +12V max. 250mA
8	XI_SUP5V	External Supply 5V max. 250mA
9	XI_MODE0	TTL -Input - multirunose mode select input
10	XI_MODE1	TTL -Input - multirunose mode select input
11	XI_LaserOff	TTL -Input - Laser ON - TTL-Low = Laser On - internally pulled up
12	optional SUP_FAN	Universal Supply - 2V-22V up to 800mA for external Fan etc. (1 not isolated)
13	optional SUP_GND	Universal Supply GND (1 not isolated)
14	XI_ILOCK	Interlock Input - has to closed to XI_ILOCK
15	MOD_DM0D	Modulation Digital Input TTL
16	MOD_GND	Modulation GND
17	MOD_ANALOG	Modulation Analog Input 0-4V \rightarrow 0A-I _{max} (Ri=19kOhm for 0-10V signal out 19kOhm in series)
18	XTX	RS232-Tx
19	XRX	RS232-Rx
20,21	XCND	External GND
4,22,23,24,25	n.c.	Reserved pins, do not connect!

Mains Connector	
	MAINS INPUT: 3 Pin, 5.08mm, with Friction Lock, 16-24 AWG MOLEX HousingNo: 10013036 TerminalNo: 8701031



OEM System Components Deliver Application Flexibility

This OEM source system delivers a compact and flexible solution for laboratory and R&D applications, or in protected mounting environments where access to the laser diode is prevented. The system can be controlled remotely via RS232, or by the optional USB interface. The open mount and fully accessible laser diode provides added flexibility, and even allows for changing the source laser as application requirements change.

Extensive Laser Diode Protection Features

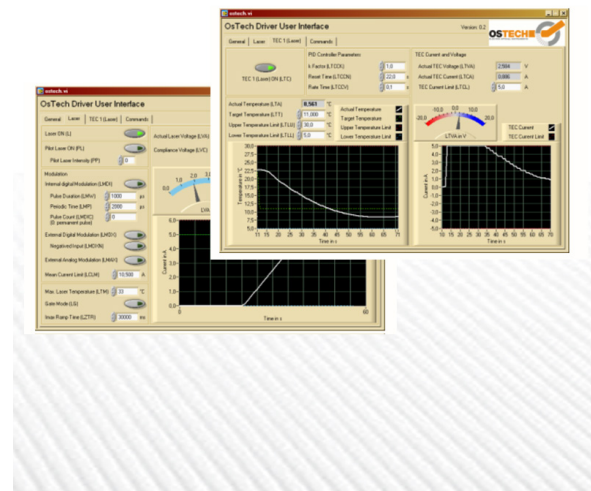
These control systems provide a high degree of laser diode protection to ensure the laser is protected. Soft-start current, pre-programmed and adjustable current and temperature limits, and a fast and safe shut-down sequence keep the laser and the system protected at all times. Additionally, transient filters and AC line filters protect against damage from brown-out or black-out power conditions.

INTEGRATED LASER DIODE

Standard Product Includes DILAS 808nm, 50 Watt
Fiber Coupled Laser Diode M1F-552.1
ALSO AVAILABLE WITH EQUIVALENT LUMICS LASER DIODE



LABVIEW DRIVERS





LDX-808nm-50W-OEM High Power Laser Diode Source Specifications

INTEGRATED LASER DIODE SPECIFICATIONS

- Laser CW Output Power: 0 - 50 Watts
- Center Wavelength: 808nm (+/-3nm)
- Laser Spectral Line Width (FWHM): 4 nm (typ)
- Laser Fiber Termination: HP-SMA905 (rear panel output)
- Laser Fiber Numeric Aperture: 0.22
- DILAS Laser Module



CONTROL UNIT LASER DIODE PROTECTION FEATURES

- Soft-Start Current Ramp Factory Default Set to 300 Milliseconds
- Soft-Start Current Ramp to Setpoint (User Programmable)
- 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
- Factory Pre-Set Upper Temperature Limit
- Open Circuit Detection and Fast Shut-Down

TEC CONTROL UNIT TEMPERATURE CONTROLLER AND TEC COOLED LASER DIODE MOUNTING PLATE SPECIFICATIONS

- Cooling Design: Peltier (TEC) Cooled Laser Diode Mounting Plate
- Laser Temperature Setpoint: User Adjustable within Factory Pre-Set Range (Upper Limit Pre-Set to Protect Laser)
- TEC Control Loop Algorithm: Full P.I.D., User-Adjustable Parameters
- P.I.D. Variables: Factory Pre-Set for Optimum Performance
- Laser Diode Upper & Lower Temperature Limits: Factory Pre-Set
- Control Unit Waste Heat Removed by Forced-Air



LDX-808nm-50W-OEM High Power Laser Diode Source Specifications

MOUNTING PLATE AND HEAT SINK

- Cooling Method: TEC-Peltier Coolers, Fan for Waste Heat Removal
- Heatsink Fan Driven by Controller
- Mounting Plate Hole Footprint: DILAS Package Style
- Mounting Plate Integrated Thermistor: 10 k Ω

QCW PULSING MODE AND MODULATION SPECIFICATIONS

- QCW Pulse Rise and Fall Time: < 25 μ s to CW (< 10 μ s on request)
- QCW Trigger: Internal Function Generator or External Trigger
- QCW Pulse Modes: Continuous Pulses, Single Pulses, Bursts
- Pulse Time Base Accuracy: \pm 1.0%
- Modulation Signal: Accepts External Digital (TTL) or Analog
- Modulation Input on d-Sub Connector; Input Impedance 10K Ohm
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- Modulation Input Voltage Range: 0 ~ 4 Volts (4V = Max Current)
- Analog Modulation Bandwidth: 1 Hz – 20 kHz

SYSTEM DIMENSIONS AND POWER REQUIREMENT

- RS485 Industrial Interface, LabView Drivers Included
- USB Optional: \$125.00 (Option SVC-USB)
- Input Power: Universal 110V ~230 VAC, 50/60Hz
- Dimensions: 190mm x 226mm x 84mm (control unit)



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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