



Benchtop Laser Diode Source System

976nm, 45 Watt Fiber-Coupled Output



976nm Fiber-Coupled Laser Diode Benchtop Turn-Key Source System

- o Includes Fiber-Coupled 976nm 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**

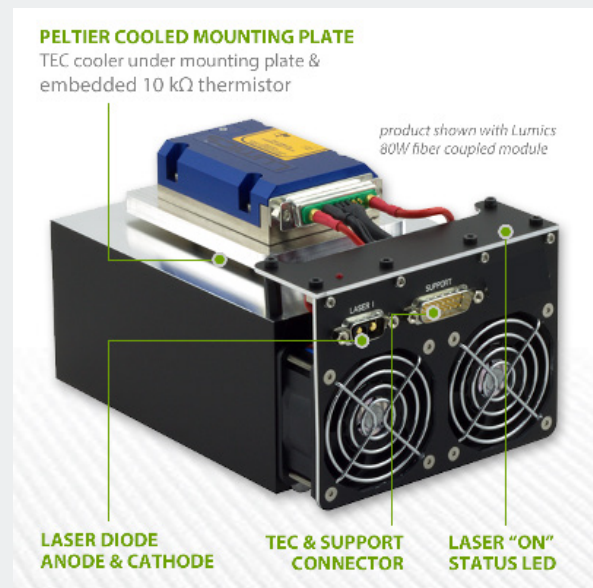


LDX-976nm-45W Benchtop Laser Diode Source System

The LDX-976nm-45W Benchtop fiber-coupled laser diode source is a preconfigured, plug-and-play benchtop 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.





Discrete System Components Deliver Application Flexibility

This benchtop source system delivers a compact and flexible solution for laboratory and R&D applications. The system is easily operated by the intuitive front-panel and keypad, and 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.

Comprehensive 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.

COMPLETE LASER DIODE PROTECTION
programmable soft-start current ramp
I & T limits, ESD & power surge clamps

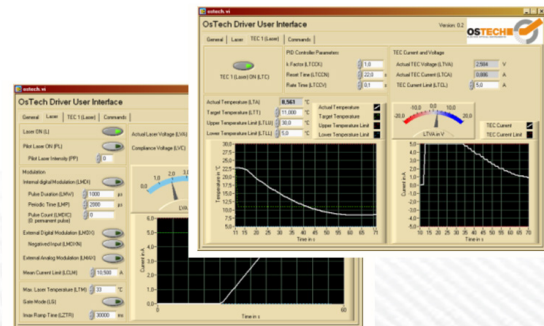
CW & QCW MODES
qcw pulses 25µs - CW



INTUITIVE FRONT PANEL CONTROLS

set/monitor functions from RS232, USB or main menu

LABVIEW DRIVERS





LDX-976nm-45W Benchtop Laser Diode Source Specifications

LASER DIODE SPECIFICATIONS (TYPICAL @ 25°C)

- Output Power, CW: 0 - 45 Watts, User Adjustable
- Center Wavelength: 976 nm (± 3 nm)
- Spectral Width (FWHM): 3 nm
- Laser Diode Model: Jenoptik 45CPXF-1L



LASER DIODE FIBER OUTPUT SPECIFICATIONS

- Core Diameter: 400 μ m
- Fiber NA: 0.22
- Fiber Connector: SMA905, Free Standing Fiber Tip

CONTROL UNIT LASER DIODE PROTECTION FEATURES

- Factory Pre-Set Maximum Current Limit; User Adjustable
- Factory Pre-Set Upper Temperature Limit; User Adjustable
- Soft-Start Current Ramp Factory Default Set to 300 Milliseconds
- Soft-Start Current Ramp to Setpoint (User Adjustable)
- ESD and Power Surge Clamp Reverse Voltage
- Reverse Voltage Transient Clamp
- AC Line Filter
- Keylock Switch and Safety Interlock
- Short Circuit when Laser Diode Current Turned OFF
- Open Circuit Detection

CONTROL UNIT TEC CONTROLLER SPECIFICATIONS

- TEC Control Loop Algorithm: Full P.I.D.
- Temperature Sensor Inputs: 10 k Ω Thermistor, NTC, PT100, PT1000
- Temperature Range: -25°C to 150°C
- Pre-Set Temperature Control Range: 15 °C - 30 °C



LDX-976nm-45W Benchtop Laser Diode Source Specifications

MOUNTING PLATE, HEAT SINK & CABLES

- Cooling Method: TEC-Peltier Coolers, Dual Fans for Waste Heat Removal
- Heat Sink Fan Rated Input Voltage 24 VDC (supplied by controller)
- Heat Sink Fan Rated Input Current: 300 mA (supplied by controller)
- Laser Mounting Plate Area: 105 mm x 75 mm
- Laser Mounting Plate Hole Footprint: Jenoptik 45CPXF-1L
- Includes 1 x 1.5 meter Current Interface Cable (100A rated)
- System Includes 1 x 1.5 meter TEC Control Interface Cable

USER INTERFACE

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

CONTROL UNIT QCW AND MODULATION SPECIFICATIONS

- QCW Pulse Width: 20 μ s to CW
- Pulse Time Base Accuracy: \pm 1.0%
- 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
- Modulation Input (BNC): Digital (TTL) or Analog Modulation
- Modulation BNC Input Impedance: 10K ohm
- -----
- Modulation Input Voltage Range: 0 ~ 4 Volts (4V = Max Current)
- Analog Modulation Depth: >50:1

CONTROL UNIT DIMENSIONS AND POWER REQUIREMENT

- Power Input: Universal 100 ~ 230 VAC, 50/60 Hz
- Control Unit Weight (total): ~ 10 kg
- Controller Dimensions: 275 mm x 200 mm x 127 mm



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