Offered by
LASER LAB SOURCE

manufactured by KVANT Scientific Lasers

488nm, 200mW Output, Integrated NICHIA Laser Diode Source

LDX-488NM-200MW
Turn-Key Laser Diode Source

- o Integrated NICHIA NDS4216 Laser Diode
- o Linear Polarization, Beam Structure TEM_{00}
- o Turn-Key Operation
- o Preconfigured Controller Included
- o Optional Benchtop Controller with Output Current and Temperature Control Capability
- o Optional Fiber-Coupled Output

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LDX-488NM-200MW SCIENTIFIC LASER DIODE SOURCE MODULE

These scientific series lasers offer up to 200 mW of output power at a Cyan-colored center wavelength of 488 nm. Designed for high stability and long-term reliability, the source laser diode is a TO-can Nichia NDS4216 laser diode integrated into a high performance thermal housing. These units are shipped fully calibrated & pre-tested with the matching current source and temperature controller as well as the required interface cables.

BUILT IN LASER DIODE PROTECTION

These units offer multiple layers of protection for the internal Nichia laser diode: an integrated LASORB diode on the current supply board offers a fail-safe clamp of the current / voltage to the integrated laser diode; pre-set current and temperature limits. The LASORB was designed to eliminate the possibility of power surges and ESD damaging the laser.

The bias current range is preset to prevent the possibility of over driving the laser source, and the unit has an over-temperature shut down feature based on feedback from a sensor located against the laser package header.

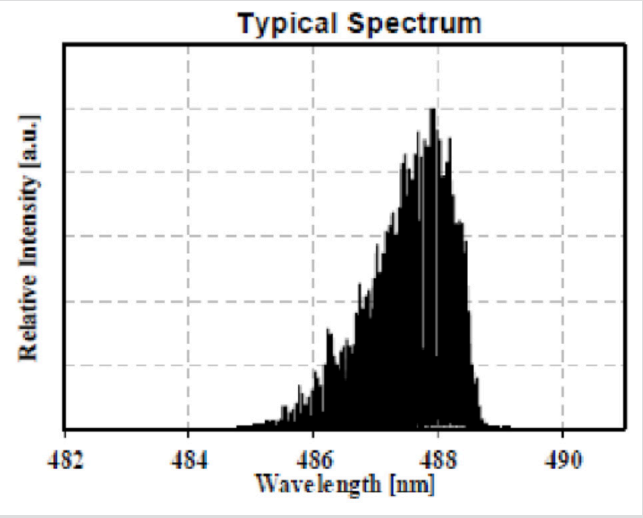
LASER DIODE CONTROL UNIT

The scientific laser source module includes a precision laser diode current and temperature controller unit. This controller is programmed with preset current and temperature limits to protect the laser diode. A front-panel adjustment knob on the front panel provides control of the laser output power level.

LIST PRICE INCLUDES LASER DIODE CURRENT / TEMPERATURE CONTROLLER UNIT

User adjustable current & laser output power controller with amplitude adjustment knob on front panel

Pre-set current limit & temperature limits keep laser diode in safe operating range; ESD & surge clamps protect laser diode from all power surges



OPTICAL OUTPUT SPECIFICATIONS

- Center Wavelength: 488 nm (± 5 nm)
- Adjustable Optical Optical Output Power: 0mW to 200 mW
- Beam Divergence (half angle, mrad): 0.2 mrad
- Spatial Mode: Single Mode, TEM00
- Optical Power Stability (@ambient +/- 2 °C): < 0.5 % (8hrs)
- Beam Diameter (@ $1/e^2$): 4mm
- Polarization: Linear
- Mode Quality, M^2: ~ 1
- Maximum Modulation Frequency: 10 kHz
- RMS Noise (100 Hz to 10 MHz): <0.3%
- Operating Temperature Range: 10°C - 40°C
- Internal Source Laser Diode: NICHIA part number NDS4216

PACKAGING & POWER SUPPLY DETAILS

- Laser Enclosure Dimensions (L x W x H): 92 mm x 61 mm x 46 mm
- Control Unit: Included Current and Temperature Controller Unit: User Adjustable Laser Diode Drive Current; Pre-Set Operating Temperature Set Point
- Computer Interface: None
- Includes Factory Pre-Set Upper Operating Temperature Limit for Protection of Source Laser

FIBER PATCH CABLE OUTPUT OPTION

- Fiber-Coupled Model Number: LDX-488NM-200MW-KVAFC
- Fiber Core Diameter Options: 50, 105, or 200 um
- Collimating Lens Adapter: Included
- Default Beam Diameter Setting Ex-Collimator: 4mm (other on request)
- Includes front Panel Adapter Plate with FC/UPC Connector

FIBER COUPLED OUTPUT OPTION - KVAFC The scientific laser module can be ordered with option KVAFC, a precision adapter that enables connection of an output fiber.

The source can be ordered with the KVAFC option, with Low-OH fiber with 50 µm, 105 µm, or 200 µm core diameter. The fiber connector is FC/UPC; other connectors may be available on request.

* Power Loss Associated with Fiber-Coupled Output: Note that when a free-space laser diode is coupled to fiber there is approximately 15% - 20% loss associated with fiber fixturing and the collimating optics. The power loss can be reduced to about 10% by removing the collimating optics mounted in the laser head.

BENCHTOP CONTROLLER LDC-405

The optional LDC-405 Benchtop Controller provides control of the laser drive current in order to adjust the laser output power. The temperature of the integrated laser diode can also be adjusted in order to fine-tune the laser output wavelength.

The benchtop controller hosts a modulation input, al-lowing the laser output to be modulated up to 10 kHz.

PRODUCT SALES AND SERVICE:
Orders for this product are fulfilled by Laser Lab Source in North America and select international regions. It is manufactured by KVANT.

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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