Offered by
LASER LAB SOURCE

manufactured by KVANT Scientific Lasers

Fiber-Coupled Laser Diode Source
Integrated 405nm NICHIA NDV4B16 Laser Diode

LDX-405NM-300MW-KVAFC
Fiber-Coupled Laser Diode Source

- Integrated Nichia NDV4B16 Laser Diode
- 300mW Free-Space Output Power
- ~250mW Ex-Fiber Output Power
- Choice of Low-OH Optical Fiber Core Size
- Temperature-Regulated Laser Head
- Turn-Key Operation
- Preconfigured Controller Included
- Optional Benchtop Controller with Output and Temperature Control Capability

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LDX-405NM-300MW-KVAFC – FIBER-COUPLED LASER DIODE SOURCE MODULE

These scientific series lasers deliver up to 300 mW of output power (free-space configuration) at a center wavelength of 405 nm. The source is a Nichia NDV4B16 laser diode integrated to provide long-term high stability performance. These units are shipped fully calibrated & pre-tested with the matching current source and temperature controller as well as the required interface cables.

VERSATILE OPTICAL FIBER COUPLING SYSTEM

The KVAFC feature couples the optical fiber to the collimated free-space output port. Due to the physics of optical fiber coupling, the ex-fiber output power is approximately 15% – 20% lower than the collimated free-space output. The collimator can be removed from the laser head, which reduces the fiber-coupling loss to about 10%. This versatility allows increased efficiency for fiber-only applications, and provides flexibility for applications where both free-space and fiber-coupling are required.

CAREFUL DESIGN AND FEATURES PROTECT NICHIA LASER DIODE SOURCE

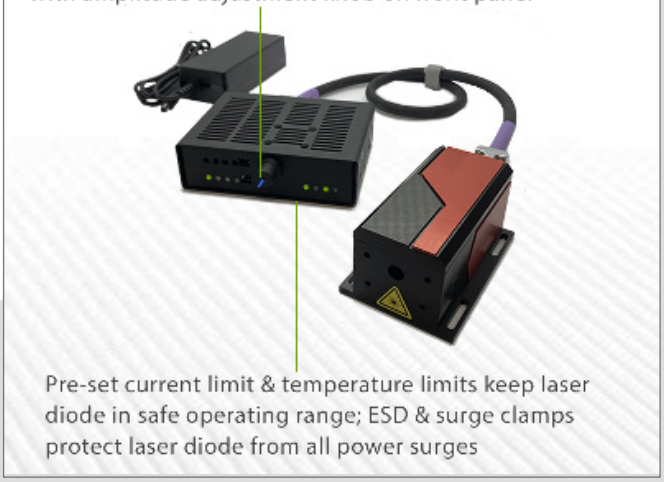
The control system is designed with multiple layers of protection for the internal Nichia laser source: an integrated LASORB diode on the current supply board offers a fail-safe clamp of the current / voltage to the integrated laser diode; and pre-set current and temperature limits. The LASORB eliminates the possibility of power surges and ESD damaging the laser.

The preset drive current range prevents the possibility of over-driving the laser diode, and the controller has an over-temperature shut down feature based on feedback from a sensor located against the laser package.

INCLUDED 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



OPTICAL SPECIFICATIONS

- Center Wavelength: 405nm
- Center Wavelength Tolerance: ±5nm
- User Adjustable Output Power: 0 - 300 mW *
- Power Stability (@ ambient ± 2 °C): < 0.5 % (8hrs)
- Maximum modulation frequency: 10 kHz
- RMS noise (100 Hz to 10 MHz): <0.3%
- Minimum Operating Temperature: 10°C
- Maximum Operating Temperature: 40°C
- Spectral Linewidth: ~ 0.5 nm
- * See Note Regarding Light Coupling Power Loss

FIBER-COUPLED OUTPUT

- Contact Us To Discuss Fiber Termination Options
- Fiber Core Diameter Options: 50, 105, or 200 um
- Fiber Connector: FC/PC (others on request)
- Collimating Lens Adapter: Included
- Default Beam Diameter Setting Ex-Collimator: 4mm (other on request)

LASER CLASS

- Laser class according to IEC 60825-1 standard: 3B

PACKAGING, POWER SUPPLY AND CONTROL UNIT

- Laser Enclosure Dimensions (L x W x H): 87 mm x 60 mm x 45 mm
- Control Unit: Included Current and Temperature Controller Unit: User Adjustable Laser Diode Drive Current; Pre-Set Operating Temperature Set Point
- Includes Factory Pre-Set Upper Operating Temperature Limit for Protection of Source Laser
- Optional Benchtop Laser Diode Controller

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, allowing the laser output to be modulated up to 10 kHz.

STANDARD CONTROLLER FUNCTIONALITY

The scientific laser module includes a current and temperature control unit, pre-programmed with current and temperature limits to protect the Nichia laser diode in the laser head. This standard controller is well suited to many applications.

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, Bratislavia, Slovakia.

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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