



ULN

Diode Laser Modules

ULN-Series diode laser modules are designed for applications that require particularly low noise or mode-hop, noise-free operation. Sophisticated drive electronics are used to ensure low noise output. Typical RMS noise is 0.06% or better for detector bandwidth from 10 Hz to 10 MHz, with practically no warm-up time.

The ULN-Series features an alternative solution to the mode-hop problem. Rather than regulate temperature, a special modulation is used to force the laser into a multi-longitudinal mode.

While a normal laser will operate in a single-mode longitudinal or oscillate between two strong modes, the modulation creates several modes of lower intensity. As the laser temperature increases, these modes move like a caterpillar across the wavelength spectrum. The movement does not allow abrupt changes, so the system operates as if there were no mode-hops.

The result is low RMS noise (~0.06%), which is stable over changes in temperature and the life of the diode laser module.

- ULN stabilizes both power and noise during temperature changes (note that wavelength varies with the standard temperature coefficient of the diode, ~0.2 nm/°C).
- ULN controls noise over the lifetime of the laser and will not develop mode-hop noise as the laser ages.
- ULN does not change the spatial qualities of the laser beam, so the beam can be focused to the same spot size, profile and shape.

FEATURES

- Ultra-low noise (ULN)
- RMS noise <0.06% for bandwidths of 10 Hz to 10 MHz
- Circular beam
- No mode-hop noise
- No warm-up period
- Wavelength 635 nm with 5 mW
- Long lifetime

APPLICATIONS

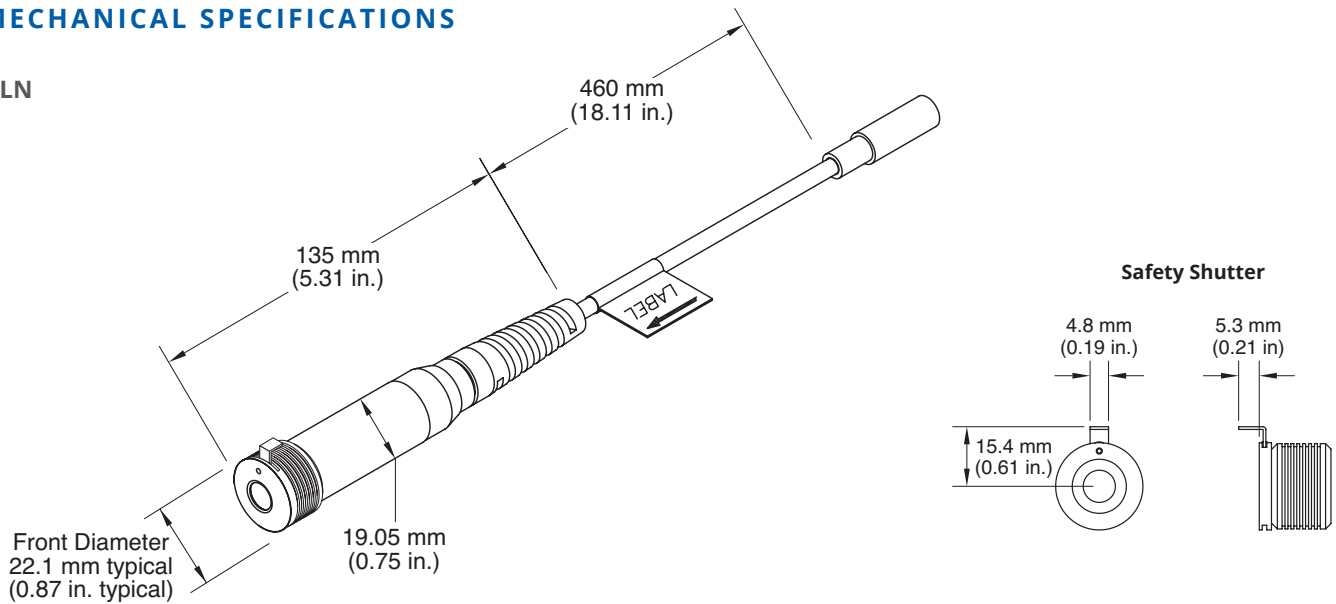
- Genomics
- Particle Counting
- Flow Cytometry
- Confocal Microscopy
- Spectroscopy



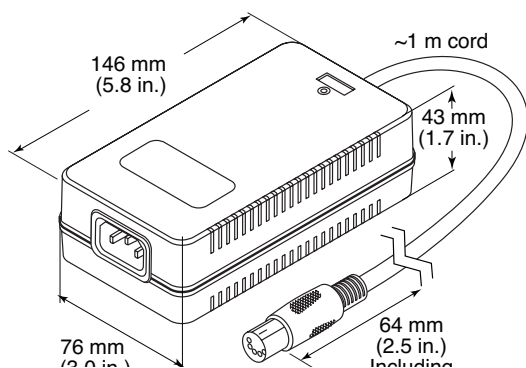
SPECIFICATIONS	ULN 635 nm 5 mW
Wavelength (nm)	635 +7/-2
Power (mW)	5
CDRH Class	Class IIIb, Non-Conforming
IEC 60825-1	3b
Spot Size (mm)	1
Divergence (mrad)	1
Laser Drive	Ultra-Low Noise (ULN)
Power Supply	Included (dual voltage)
Connector	5-pin DIN
Part Number	31-0144-000

MECHANICAL SPECIFICATIONS

ULN



ULN Power Supply



Variable Angle Diode Laser Mount

0221-449-00

Mount, ULN

Variable Angle, 1/4-20 inch Base, 19 mm Bore

Variable Angle Diode Laser Mount

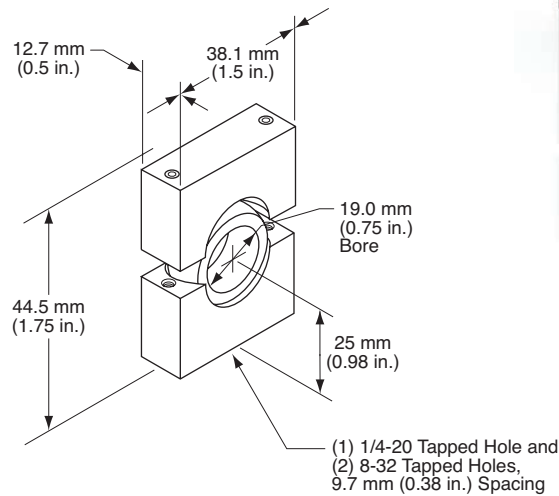
This simple mount acts as combined heat sink, electrical insulator and variable angle mount for 19.0 mm ULN lasers. The lasers are held firmly in a spherical-surface brass ring by two small set screws. This ring is clamped between two insulating blocks forming a “ball and socket” arrangement. Two socket-head screws can be loosened to allow easy angular adjustment of the module ($\pm 15^\circ$ range) and quick, rigid locking in position.

FEATURES

- Simple tip/tilt and lock in place mechanism
- Adjustable angle through about ± 15 degrees

MECHANICAL SPECIFICATIONS

ULN Variable Angle Mount



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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice. Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all ULN Diode Laser Modules. For full details of this warranty coverage, please refer to the Service section at www.Coherent.com or contact your local Sales or Service Representative. Printed in the U.S.A. MC-XXX-17-0M1117 Copyright ©2017 Coherent, Inc.

