# LDM 49800 Series

## High Power Fiber Coupled Laser Diode Mount

## Product Features

- Accommodates 2-pin, 6-pin, 8-pin and 14-pin packages
- Temperature control range from 15°C to 85°C
- Up to 60W total heat dissipation
- Configurable for any butterfly module pin-out
- Compatible with ILX current sources and temperature controllers
- Case temperature control models
- Optical table mounting

The LDM-49800 Series Laser Diode Mounts provide a compact, easy-to-use solution for testing high power fiber coupled packaged laser diodes. The series provides convenient mounting for 2-pin modules and 6-pin, 8-pin, and 14-pin butterfly devices with or without an internal TE module. A case temperature control model is available for temperature controlling uncooled lasers over a temperature range of 15°C to 85°C. A water cooled heat sink allows the 49800 series to dissipate up to 60W.

Fixture design and precision machining result in low, repeatable thermal resistance between the fiber-coupled module and 49800 minimizing the temperature difference between the laser and the fixture.

The LDM-49800 mounts are compatible with ILX Lightwave current sources and temperature controllers through interconnect cabling for quick setup in R&D or manufacturing environments. Optical table positional mounting is made possible through ANSI and metric spaced mounting holes on the base of the mount.

# Versatile High Power Laser Diode Mounting Fixture for Fiber Coupled Modules

ILX Lightwave®

A Newport Corporation Brand

# LDM 49800 Series

## High Power Fiber Coupled Laser Diode Mount

## Specifications

| | |
|---|---|
| Laser Packages: | 2-pin modules and 6-pin, 8-pin, 14-pin fiber coupled butterfly packages |
| 49840 Laser Dimensions: | |
| 6-pin: | 19mm x 15mm |
| 8-pin: | 12.7mm x 21.84mm |
| 14-pin: | 12.7mm x 30mm |
| 49840 Maximum Pin Width: | 1.25mm |
| 49860 2-pin Module Compatibility: | JDS Uniphase, Lumics, Oclaro, EM4 |
| Maximum Laser Current: | |
| 49840: | 12A |
| 49860: | 20A |
| Maximum Thermal Load: | |
| 49840: | 60W |
| 49860: | 40W |
| Laser Clamping: | #6-32 UNC, slotted thumbscrew |
| Laser to Hotplate | |
| Contact Thermal Resistance[1]: | $\leq 0.10^{\circ}C in^2 * W^{-1}$ |
| Repeatability[1]: | $\pm 0.01^{\circ}C in^2 * W^{-1}$ |
| Connectors | |
| Laser Diode Current: | Hybrid D-sub, female, 7W2 |
| Internal TEC: (49840/49840T only) | 9-pin, D-sub, male |
| Case Temperature Control: | Hybrid D-sub, male, 7W2 |
| Case Temperature Measurement: (w/o case temperature control) | 15-pin D-sub, male |
| Ground: | Female banana jack |
| Water Connectors: | 1/8" NPT to 1/4" nipple, barbed for 1/4" tubing |
| Water Pressure Drop: | 5 psi at 1.0 GPM |
| Temperature Sensor: | 10kΩ NTC thermistor |
| Cold Plate Thermal Resistance[2]: | 0.25°C/W @ 1.0 GPM |
| 49840T Case Control: | Solid State, Thermoelectric |
| Thermal Load: | 60W |
| Temperature Control Range[3]: | 15°C to 85°C |
| TE Module[4]: | |
| $I_{max}$: | 14.6A |
| $V_{max}$: | 15.4V |
| 49860T Case Control: | Solid State, Thermoelectric |
| Thermal Load: | 40W |
| Temperature Control Range[3]: | 15°C to 85°C |
| TE Module[4]: | |
| $I_{max}$: | 8.5A |
| $V_{max}$: | 15.4V |

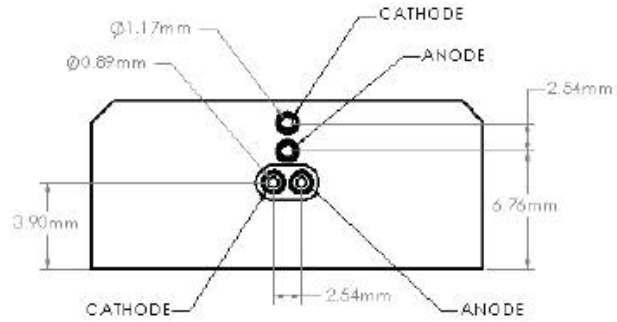
## GENERAL

| | |
|---|---|
| Size (H x W x D): | 31.8mm x 102mm x 140mm |
| Weight: | |
| LDM-49840: | 2.05 lbs (0.93 kg) |
| LDM-49840T: | 2.05 lbs (0.93 kg) |
| LDM-49860: | 2.12 lbs (0.96 kg) |
| LDM-49860T: | 2.12 lbs (0.96 kg) |
| Regulatory Compliance: | RoHS |

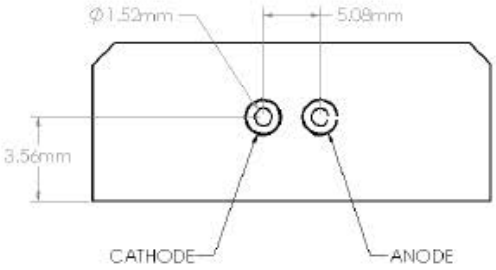
## NOTES

1. Clamp screws tightened to 2 in*lbs torque. To find thermal resistance in °C/W, multiply by surface area of laser diode package base.
2. LDM-49860 only, defined as (hotplate temperature - inlet water temperature)/thermal load.
3. Control range at maximum thermal load. Mount can control down to 0°C at lower heat loads. See tech note "LDM-49800T Temperature Control". Assumes 20°C water temperature and 1.0 pgm (3.79 liter/min). Lower control temperatures can be achieved with lower water temperatures for any given heat load.
4. Module ratings based on a single TE module at 25°C operating temperature. For optimizing TEC current limits on a temperature controller, see application note #14: "Optimizing TEC Drive Current".

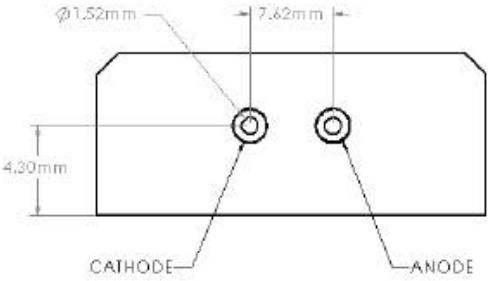
In keeping with our commitment to continuing improvement, ILX Lightwave reserves the right to change specifications without notice or liability for such changes.




LDM-4986001 - 49860 Terminal Block, Type 1




LDM-4986002 - 49860 Terminal Block, Type 2




LDM-4986003 - 49860 Terminal Block, Type 3

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