LDM 4409

Temperature Controlled C-mount Fixture

Product Features

- Accepts C-mount laser diodes
- Temperature control range from +10°C to 85°C
- Quick device insertion and removal without special tools
- Optimized thermal resistance between the laser and mount
- 1mm clearance zone in front of the laser
- Compatible with ILX Lightwave current sources and temperature controllers

The LDM-4409 Laser Diode Mounting Fixture provides a compact, easy to use solution for mounting and temperature control of C-mount laser diodes. The 4409 features a temperature control range of +10°C to 85°C for lasers with up to 10W optical power. Optimized thermal resistance between the laser diode and the temperature controlled hot plate minimize the temperature rise of the laser.

The LDM-4409 has been optimized for pre and post burn-in characterization in R&D or manufacturing test applications. A unique spring loaded clamping mechanism facilitates device insertion and removal. A 1mm clearance zone in front of the C-mount device allows for measurement of highly divergent beams and easy integration into most measurement set-ups. These mounts are compatible with ILX Lightwave current sources and temperature controllers with standard laser and temperature controller connectors for quick setup.

ILX Lightwave
Laser Diode Instrumentation & Test Systems

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Active Temperature Control

For fast, accurate characterization of your C-mount devices, the LDM-4409 comes with an integrated 120W TEC and cooling fan. The high power TEC has the thermal performance to dissipate the head load associated with high power C-mount laser diodes.

Quick Device Insertion and Removal

The LDM-4409 incorporates a unique clamping mechanism for quick and effortless device insertion and removal without the need for any additional tools. The spring loaded device locates and clamps the C-mount device repeatably to cut down adjustment time of measurement devices and optics.

Repeatable, Low Thermal Resistance

Careful attention to the LDM-4409's mechanical design results in a low thermal resistance between the C-mount device and the mounting block. A spring loaded clamping mechanism provides repeatable, constant clamping pressure on the C-mount device. Further reduction in thermal resistance can be achieved by clamping the device with a #2-56 screw through the center of the device. Low thermal resistance eliminates measurement inconsistencies due to temperature differences between the mount and the device under test.

Unobstructed Access to the Front

The LDM-4409 design facilitates integration into optical test and measurment systems through a 1mm clearance zone from the front of the laser. Measurement devices such as integrating spheres as well as optics can be located in close proximity to the front of the laser.

Specifications

Laser Packages:	C-mount laser diode
Package Width:	6.35 +/- 1mm
Flying Lead Width:	7.75 +/- 1mm
Package Depth:	2.18mm to 3.16mm
Clearance Zone[1]:	1mm
Laser Clamping:	
Spring Loaded Clamp:	3.7 lb_f
Screw Clamp:	#2-56 x 3/16" socket head cap screw
Torque:	3 in-lbs.
Input Connectors	
Laser Diode Current:	Hybrid D-sub, female, 7W2
Case Temperature Control:	Hybrid D-sub, male, 7W2
Fan:	Female banana jacks, DC power jack
Ground:	Female banana jack
Laser Diode Connections	
Anode:	Laser mounting plate
Cathode:	Isolated clamp
Maximum Laser Current:	10A
Case Temperature Control	
Maximum Thermal Load[2]:	25W
Temperature Control Range[3]:	+10°C to 85°C
Sensor Type:	10kΩ NTC thermistor
TE Module Ratings:	Q_{max} = 78W I_{max} = 7.4A V_{max} = 16.4V DT_{max} = 70°C
Laser to Hot Plate	
Thermal Resistance:	≤3°C/W (clamp only) ≤0.75°C/W (with screw[4])
Thermal Resistance Repeatability:	±0.2°C/W (clamp only) ≤0.06°C/W (with screw[4])
Fan Supply:	5V DC @ 0.5A

GENERAL

Size (HxWxD):	152 mm x 102 mm x 78.7 mm (6" x 4" x 3.1")
Weight:	1.27 kg (2.8 lbs)
Thread for Post Mount:	#8-32 UNC
Regulatory Compliance:	RoHS

All specifications verified with 5V fan operating.

NOTES

1. From the front of the laser package.
2. Forced convection (fan operating)
3. 25W heat load @ 25°C ambient temperature. Maximum control temperature determined by TEC operating range.
4. Screw must be tightened to specified torque.

ORDERING INFORMATION

LDM-4409	Temperature Controlled C-Mount Laser Diode Mounting Fixture
CC-305S	Current Source/Laser Diode Mount Interconnect Cable
CC-368S	10A Current Source Interconnect Cable
CC-505S	TE Controller/Laser Diode Mount Interconnect Cable
CC-595S	5A TE/LDM Cable, terminated (for use with LDT-5948)
CC-595H	10A TE/LDM Cable, terminated (for use with LDT-5980)
MK-650	Optical Mounting Post
800127	5V DC Power Supply

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