

LASER DIODE MOUNTS

To ensure the most stable operating environment and provide outstanding protection for your laser diode, Thorlabs offers a number of mounts designed for various popular laser diode packages. From 5.6mm and 9mm devices to 14-pin butterfly lasers, we have a mount available for just about every application.

With two thermo-electric elements and embedded temperature sensors, the TCLDM9 offers a versatile mount for 5.6mm and 9mm packages. At half the size, the LDM21 is available for applications where space is limited.

The LM14S2 is our versatile 14-pin butterfly mount. Compatible with both Telecom and Pump-type laser diodes, this mount comes with the ability to reconfigure the pins for any type of butterfly laser, and it is also compatible with many two-port electro-optic devices.

Thorlabs' line of collimation and focusing tubes with optics offer precision mounts for standard 9mm and 5.6mm laser packages.

The SR9 Series of strain relief and ESD protection products offers a convenient and safe means of connecting your 5.6mm or 9mm laser diode to our line of Laser Diode Controllers.



The LM14S2 Butterfly Laser Diode Mount is designed to operate with all lasers and two-port electro-optic devices in a 14-pin "butterfly" package. The top surface includes heat sink fins and a recessed region to mount the laser diode, resulting in a very low-profile package.

The LM14S2 includes a laser diode "TEC Lockout" feature, which disables the laser when the TEC Controller is not active.* It is designed to allow up to 5A laser current and 5A TEC current**.

This mount also provides Zero Insertion Force Sockets (ZIF), a remote interlock connection, and an LED to indicate that the laser diode is enabled.

Two modules come with the package: the first is preconfigured for both Type-1 and Type-2 lasers, and the second is a user-configurable module designed to allow custom wiring of the mount. A Bias-T Adapter is also included with the product, allowing for RF modulation of butterfly lasers specifically designed with this capability.

The LM14S2 is pin-for-pin compatible with all Thorlabs' Benchtop Laser Diode Controllers and TEC Controllers, and most of our Platform Laser and TEC Controllers as well, eliminating the need for custom-made interface cables.

- Zero Insertion Force (ZIF) Sockets
- Easy Integration With Thorlabs' Laser Diode and TEC Controllers
- Compact Low-Profile Design
- TEC Lockout Protection Circuit

* TEC Lockout only functions with Thorlabs Laser and TEC Controllers and can be easily bypassed if not required.
 **The TEC Controller requires that the laser package have an integrated TE cooler and thermal sensor.



The TCLDM9 mount is ideal for temperature-controlled operation of all 3-pin and 4-pin laser diodes in 9mm (TO-18) and 5.6mm (TO-46) packages, as well as our fiber coupled pigtailed lasers. It includes a Bias-T for RF modulation of the laser current up to 500MHz, and can be easily integrated into any existing optical setup. The mount can be adapted to the polarity of the laser and monitor diodes by miniature switches located at the top.

The mount features holes on the bottom surface and the front plate. The bottom surface has #8-32 and M4 mounting holes, and the front plate has tapped holes to mount our ER-series Cage Assembly Rods.

The LDM21 Miniature TEC-Cooled Laser Diode Mount measures half the size of our TCLDM9 mount, and is capable of accepting both 5.6mm and 9mm laser diode packages.

With an integrated thermal electric cooler element and a 10kW thermistor, this mount keeps laser wavelengths stabilized by precisely holding the case temperature to within 0.002°C.

The small size of the LDM21 makes this mount ideal for optical setups where space is limited. Completely compatible with our extensive line of Laser Diode and TEC Controllers, this mount can operate with all standard laser diode pin configurations.

The front side of the mount has a standard 1.035- 40 thread, making it compatible with our SM1 Series of optical components and allowing for the addition of collimating or focusing optics. The back side of the mount accepts DB9 inputs from a laser current source and TEC controller.

*TEC Lockout only functions with Thorlabs lasers and TEC controllers and can be easily bypassed if not required.



Thorlabs' line of collimation and focusing tubes with optics offers precision mounts for standard 9mm and 5.6mm laser packages. Lasers can be easily replaced, and the lens mounts have adjustable focus. The packages include a main tube, an optic, a retaining ring, a rubber O-ring, and an adapter (for the 5.6mm packages). The collimation tubes feature a diffraction-limited aspheric optic with a multi-layer broadband AR coating.

The SR9 Series of strain relief and ESD protection products offers a convenient and safe means of connecting 5.6mm or 9mm laser diodes to our line of Laser Diode Controllers.

Each model comes with a laser socket mounted to a small Printed Circuit Board. The PCB contains a Schottky diode to clamp any reverse voltages that might appear across the laser diode, as well as a Zener diode to shunt any excessive voltages or ESD away from the diode.

The series is available with or without a DB9 connector. All SR9x-DB9 models are pin compatible with our LDC200C and LDC340 Series Laser Controllers.

Mounts for Butterfly Laser & Electro-Optic Packages

LM14S2



The LM14S2 mount is designed to operate with all lasers and two-port electro-optic devices in a 14-pin "butterfly" package. The top surface includes heat sink fins and a recessed region to mount the laser diode, resulting in a very low-profile package.

The LM14S2 includes a laser diode "TEC Lockout" feature, which disables the laser when the TEC Controller is not active.* It is designed to allow up to 5A laser current and 5A TEC current. This mount also provides **Zero Insertion Force Sockets (ZIF)**, a remote interlock connection, and an LED to indicate that the laser diode is enabled.

This package comes with two modules, each plugging into the connector at the bottom of the mount. The first module is preconfigured for both Type-1 and Type-2 lasers, and the second is user-configured to allow custom wiring of the mount. A Bias-T Adapter is also included with the product, allowing for RF modulation of butterfly lasers specifically designed with this capability.

The LM14S2 is pin-for-pin compatible with all Thorlabs' Benchtop Laser Diode Controllers and TEC Controllers, and most of our Platform Laser and TEC Controllers as well, eliminating the need for custom-made interface cables.

Thorlabs' LM14S2 mount is capable of facilitating operation and temperature stabilization of all commercially available laser modules in 14-pin butterfly packages and a variety of electro-optic devices. This mount offers:

- Zero Insertion Force (ZIF) Sockets
- Easy Integration with Thorlabs' Laser Diode and TEC Controllers
- Compact, Low-Profile Design
- TEC Lockout Protection Circuit
- Compatible with One-and Two-Port Devices

Specifications

- **Maximum Laser Current:** 5A
- **DC Input Resistance:** 0Ω
- **Polarity of Laser Diode:** AG
- **Polarity of Monitor Diode:** Floating
- **Maximum TEC Current:** 5A
- **Temperature Sensor:** Thermistor¹
- **Temperature Range (at 25°C With 2A TEC Current):** 0 - 70°C²
- **Temperature Coefficient of Heat Sink:** 3°C/W
- **Dimensions:** 3.5" x 3.5" x 1.25"

1 - Integrated into laser package
2 - Depending on laser diode used

* TEC Lockout only functions with Thorlabs' Lasers and TEC controllers and can be easily bypassed if not required. The TEC controller requires that the laser package have an integrated TE cooler and thermal sensor.

Collimation Packages



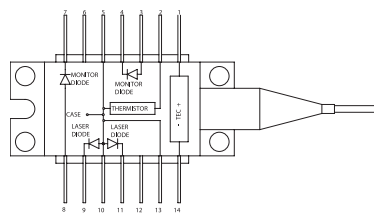
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Pin Assignment of the 14-Pin Sockets

Pin #	Connector (Type-1)	Pin #	Connector (Type-2)
1	TEC anode	1	Thermistor ground
2	Thermistor	2	Thermistor
3	PD anode	3	LD cathode (DC)
4	PD cathode	4	PD anode
5	Thermistor ground	5	PD cathode
6	n.c.	6	TEC anode
7	PD cathode	7	TEC cathode
8	PD anode	8	LD anode, ground
9	LD cathode	9	LD anode, ground
10	LD anode, ground	10	n.c.
11	LD cathode	11	LD anode, ground
12	n.c.	12	LD cathode (RF)
13	LD anode, ground	13	LD anode, ground
14	TEC cathode	14	n.c.

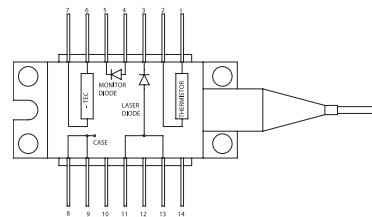


LM14S2: Shown With a Two Port Electro-Optic Device



TYPE 1 PUMP LASER DIODE

*View shows alternate locations for monitor and laser diodes



TYPE 2 TELECOM LASER DIODE

ITEM #	\$	£	€	RMB	DESCRIPTION
LM14S2	\$ 315.00	£ 198.50	€ 293.00	¥ 3,008.30	Universal 14-Pin Butterfly Laser Diode Mount