

Product Features

DIL, Mini-DIL versions with case temperature control

Butterfly versions for 7-pin, 13-pin, and 14-pin packages

Easy insertion and removal of laser packages

Configurable laser pin-out

Standard laser current and temperature control connectors

Bias-T modulation option (LDM-4982 and LDM-4984)

Case temperature control option

The LDM-4980 Series of Laser Diode Mounts provide a compact, easy-to-use solution for laser diode fixturing. These mounts are available in DIL, mini-DIL, and butterfly laser diode package versions. Butterfly versions are available for 7-pin, 13-pin, and 14-pin packages. This series of mounts accommodates most telecom laser module types including CW, direct modulated (Bias-T), 2.5 Gb/s, and 10 Gb/s laser modules.

Each mount features ILX Lightwave's standard 9-pin D-sub input connectors with pin designations to accommodate virtually any laser diode pin configuration. Zero insertion force (ZIF) sockets and spring-loaded clamps facilitate ease of mounting. Bias-T options include a 50Ω SMA input connector and circuitry for directly modulating the laser drive current.

The case temperature control option is available for all of these laser diode mounts and comes standard on the LDM-4982M. Case temperature control is ideal for applications requiring tight temperature stability, different case temperatures, or for testing laser diodes at a wider temperature range than can be accomplished with the internal TEC alone.

The LDM-4980 Series offers a high-value solution for demanding applications, such as laser diode testing and characterization, and are ideal for use with ILX Lightwave instrumentation.



Compact, convenient, and flexible
laser diode mounts



LDM 4980 Series

Telecom
Laser Diode
Mounts

LDM 4980 Series

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Mounts

CW or Direct Modulated Lasers

LDM-4982 DIL Laser Mount



Dual-In-Line (DIL)

Compatible with 14-pin DIL laser modules, the LDM-4982 employs a zero insertion force (ZIF) socket for ease-of-installation. This mount can be ordered with the Type-A Bias-T circuitry option.

ORDERING OPTIONS

By Request: Integrated Case Temperature Control
By Request: Integrated Bias-T Circuitry

Call ILX Lightwave for details on By Request options.

LDM-4982M Mini-DIL Laser Mount



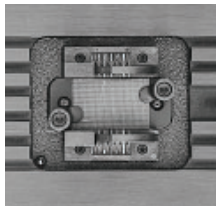
Mini-DIL

Compatible with 8-pin mini-DIL laser modules, the LDM-4982M employs a zero insertion force (ZIF) socket for ease-of-installation. The mount comes standard with case temperature control.

Temperature Control Range: -5°C to 85°C¹
Sensor Type: 10kΩ thermistor
Size (H x W x D): 39.39mm x 139.70mm
x 139.70mm
1.55" x 5.5" x 5.5"

1) Minimum temperature of 1.5 Watts

LDM-4984 14-pin Butterfly Mount

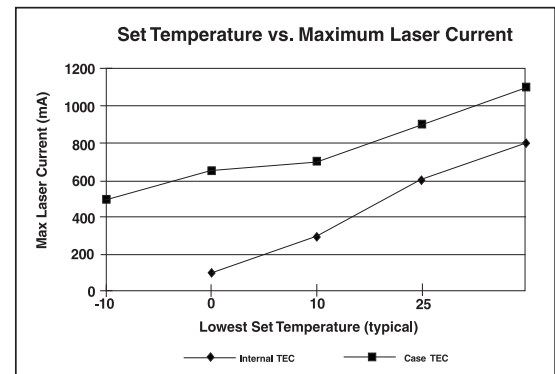


14-Pin Butterfly

The LDM-4984 is compatible with 14-pin butterfly laser modules. Optionally, integrated Bias-T circuits can be ordered.

ORDERING OPTIONS

LDM-4984T Mount with Case Temperature Control
LDM-4984-BTB Mount with Integrated Bias-T Circuitry
LDM-4984T-BTB Mount with Case Temperature Control and Integrated Bias-T Circuitry



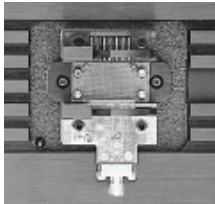
The LDM-4980 series mounts stabilize temperature under a variety of load conditions.

LDM 4980 Series

Telecom
Laser Diode
Mounts

Internally Modulated Lasers

LDM-4984RF 14-pin 2.5GHz Butterfly Mount



*14-Pin Internal Bias-T
Modulated*

The LDM-4984RF is compatible with internal Bias-T modulated 14-pin butterfly laser modules. The specially designed RF modulation input block interfaces a 50Ω modulation source to

internally-modulated lasers with a 25Ω input impedance on pin 12. A trim-capacitor is mounted on the RF block to optimize the modulation characteristics for your application. Pin configuration information is shown on the last page of this datasheet.

MODULATION SPECIFICATIONS

Modulation Bandwidth: 10MHz to >2.5GHz
Flatness to 2.5 GHz: ±1.5dB
Max. Modulation Current: 140mA rms
Input Connector: 50Ω SMA
Laser Input Impedance: 25Ω

ORDERING OPTIONS

LDM-4984TRF Mount with Case Temperature Control

LDM-4983 13-pin (and 7-pin) Butterfly Mount



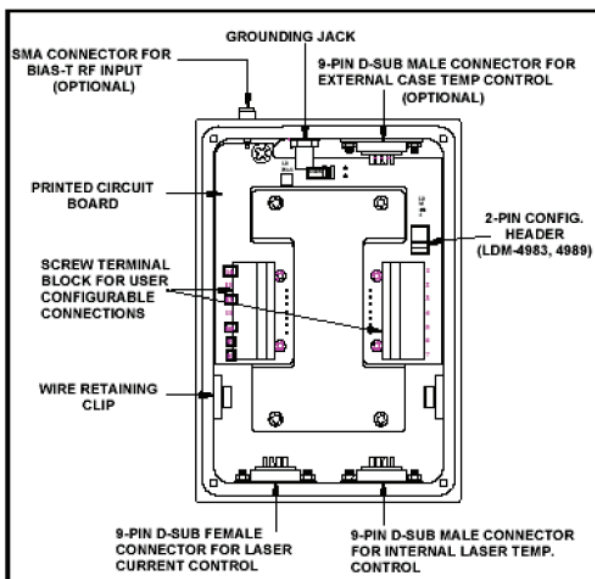
13/7-Pin 10 Gb/s Package

The LDM-4983 is designed for “one-sided butterfly” packages that have the modulation input on one side and seven or thirteen pins on the other side. These packages are typically used for 10 Gb/s internally

modulated laser modules. A special electrical terminal allows you to configure the potential of the hotplate and laser module case (grounded, floating, or at a specified potential).

ORDERING OPTIONS

LDM-4983T Mount with Case Temperature Control



The LDM-4980 Series includes a variety of standard and optional features. The diagram to the left shows the mount with the bottom cover removed, showcasing the optional Bias-T and external case temperature control connections.

LDM 4980 Series

Telecom
Laser Diode
Mounts

Specifications

INPUT CONNECTORS

- 1) Laser Diode Current (Female 9-pin)
- 2) Internal Laser Temp Control (Male 9-pin)
- 3) Mount Temperature Control Option (Male 9-pin)

OPERATING CURRENT

Maximum Laser Diode Current: 2.0A

CASE TEMPERATURE CONTROL OPTIONS

Temperature Control

Range:¹ -5°C to 50°C
 Sensor Type: 10 k Ω thermistor
 TE Module Ratings: $Q_{max} = 14W$
 $I_{max} = 6.0A$
 $V_{max} = 4.2V$
 $\Delta T_{max} = 70^{\circ}C$
 Size: Adds approx. 1.5" to width and 0.3" to height

BIAS-T OPTION

Modulation Bandwidth²: 10–800MHz
 Input Impedance: 50 Ω
 RF to DC Isolation: 40 dB min @ 10 MHz
 VSWR: 1.2:1 typical
 Maximum DC Voltage: 25V
 Maximum RF Input Power: 20 dBm
 Maximum DC Current: 500 mA
 Connector: SMA

GENERAL

Size (HxWxD): 32mm x 102mm x 140mm
 1.25" x 4.0" x 5.5"
 Size (with TE-550 option): 39mm x 140mm x 140mm
 1.55" x 5.5" x 5.5"
 Weight: 0.64 kg (1.4 lbs)

NOTES

- 1 Typical temperature control range at 20°C ambient. Actual range will depend on thermal power from laser module, ambient temperature, and whether or not the mount is affixed to optical table (¼–20 screws included with case temperature control option).
- 2 Actual optical modulation bandwidth and flatness are dependent upon laser used.

ORDERING INFORMATION

LDM-4982	DIL Laser Mount
LDM-4982M	Mini-DIL Laser Mount with Case Temperature Control
LDM-4983	13-pin and 7-pin Butterfly Mount
LDM-4983T	Includes Case Temperature Control
LDM-4984	14-pin Butterfly Mount
LDM-4984T	Includes Case Temperature Control
LDM-4984-BTB	Includes Integrated Bias-T Circuitry
LDM-4984T-BTB	Includes Case Temperature Control and Integrated Bias-T Circuitry
LDM-4984RF	14-pin 2.5 GHz Butterfly Mount
LDM-4984TRF	Includes Case Temperature Control
MB-400	LDM-4980 Series Mounting Plate

Bias-T and 2.5Gbits/s Pin Configuration Guide

Circuit Type	Mount Integrated Bias-T	2.5Gbits/s Internally Modulated Lasers
Package Type	Butterfly	Butterfly-RF
Mount Option	LDM-4984-BTB LDM-4984T-BTB	LDM-4984RF LDM-4984TRF
PIN 1	*	*
PIN 2	*	*
PIN 3	*	*
PIN 4	*	*
PIN 5	*	*
PIN 6	*	*
PIN 7	*	*
PIN 8	*	Laser Anode/Case
PIN 9	*	Laser Anode/Case
PIN 10	Laser Anode/Case	Laser Anode/Case
PIN 11	Laser Cathode	Laser Anode/Case
PIN 12	*	Modulation (AC in)
PIN 13	*	Laser Anode/Case
PIN 14	*	Laser Anode/Case

* User configurable pin assignment. All pins are configurable on other mount versions.



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