



1500mA Board-Level Low Noise Laser and TEC Controller with Butterfly Mounting Module



TDLAS-OEM / Control and Mount Module

- o Low Noise Control & Mounting Module for Butterfly Package Laser Diodes
- o Optimized for Tunable Diode Laser Absorption Spectroscopy (TDLAS) and Gas Sensing Applications
- o 1500 mA Current Source, 14 Watt TEC Controller, plus Butterfly Mounting Socket
- o Models for Type 1 and Type 2 Pin Configurations
- o USB Interface, Includes Programming Tools, Software Suite, DLL Library, and GUI

LOW NOISE LASER DIODE CONTROLLER FOR TDLAS/GAS SENSING

These fully integrated laser diode control and mounting modules are designed for precision control of single mode laser diode modules in research labs and for product integration. The low noise version is offered as a solution with noise performance that is perfectly suited to gas-sensing and TDLAS applications.

PRECISION TEMPERATURE CONTROL FOR MAXIMUM WAVELENGTH STABILITY

The controller is equipped with a high-stability temperature controller to ensure the highest level of power and wavelength stability. The temperature controller delivers up to 14 W power to the TEC.

COMPREHENSIVE LASER DIODE PROTECTION

The integrated laser diode protection circuits protect your device at all times. The user-set current limit and user-set temperature limit clamp both the bias current and the operating temperature to prevent damage to the laser. Soft-start current ramp to the user defined current set-point protects the laser from the possibility of thermal shock or current surges.

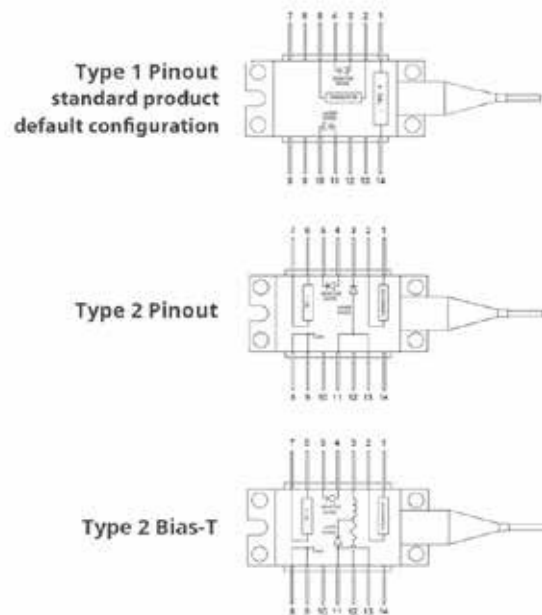
Finally, the integration of the mounting socket directly with the current source eliminates the need for cables and connectors from the current path, which greatly reduces the likelihood of ESD damage to the laser from plugging and unplugging cables, and prevents external electronic noise affecting the diode drive current signal.

USB INTERFACE AND VERSATILE CONTROLLER SOFTWARE

The controller is equipped with a USB interface, and delivered with easy-to-use GUI software. Several software control libraries are provided for custom control software development, including Labview, DLLs, Hexa, and Python.

MULTIPLE PIN CONFIGURATIONS AVAILABLE

The TDLAS-OEM laser diode controller is available in two preconfigured pin configurations: T1 for Type-1, and T2 for Type-2. The standard pin configuration is T1; if you require the T2 configuration, please contact us and order TDLAS-OEM-T2.





TDLAS-OEM / Control and Mount Module Performance Specifications

LASER DIODE CURRENT SOURCE

- Output Current: 0.00 mA - 1500.00 mA
- Output Compliance Voltage Maximum: 4.8 Volts
- Current Set-Point Resolution (@ 100 mA): 0.0025 mA
- Current Stability (24 hour): Better than 15 ppm
- Back-Facet Monitor: Yes (Variable Gain)
- External Photodiode Measurement: Yes (Variable Gain)
- Modulation Bandwidth: 100 kHz
- Internal Modulation: Square, Triangle, Sine
- External Modulation: 0 - 20 mA/V

TEC CONTROLLER & MOUNTING SOCKET

- Zero Insertion Force Mounting Socket with Clamping Arms
- Low Thermal Resistance Anodized Aluminum Butterfly Mount
- Standard Pre-Configured Wiring for Type 1;
Type-2 Available (Please Inquire)
- TEC Current: ± 3 A
- TEC Voltage: 4.6 V
- Temperature Sensor Compatibility: NTC Thermistors
- Temperature Control Stability (typ): 0.001°C
- TEC Control Loop Type: Bipolar

LASER DIODE PROTECTION

- User Set Current Limit
- User Set Temperature Limit
- Safety Interlock
- Soft-Start Ramp to Current Set-Point
- Transient and ESD Surge Clamp
- Closed Short Circuit (when laser OFF)



TDLAS-OEM / Control and Mount Module Performance Specifications

MODULATION, USER INTERFACE AND POWER INPUT

- PC Interface: USB with GUI and Control Software
- Analog Voltage Control Input: 0 to 5 V (DC to Full Output Current)
- Side Panel Manual Control Adjustment Knob
- External Modulation Bandwidth: DC ~ 100 kHz (500 kHz on request)
- Modulation Transfer Function: 20 mAV

DIMENSIONS AND INCLUDED PARTS

- Dimensions: 170 mm x 126.8 mm x 32.5 mm
- Weight: < 0.5 kgs
- Power Supply: +24 VDC Power Supply Included
- USB Cable: Micro-Connector to Standard PC USB Connector Included

PIN CONFIGURATION MODEL NUMBERS

- TDLAS-OEM-T1 (type 1 pin configuration)
- TDLAS-OEM-T2 (type 2 pin configuration)
- TDLAS-OEM-T2B (type 2 pin configuration for Bias-T lasers)



Offered by
LASER LAB SOURCE



LASER
DIODE
CONTROLLERS



PRODUCT SALES AND SERVICE:

Unlimited phone and email support is provided for products purchased through Laser Lab Source. Orders for this product are fulfilled by Laser Lab Source in North America and select international regions. It is manufactured by AeroDIODE, Talence, France.

PRODUCT WARRANTY:

This product is sold with a full one-year warranty. It is warranted to be free from defects in material and/or workmanship for a period of one year from the date of shipment. The warranty does not cover damage to the to the product due to mishandling or use of the product outside of its specified maximum ratings.



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