



## Fiber Laser Diode Controller Electronics and Mounting Modules



### CCS-FIBER-LASER / Dual LD Controller

- o Two Channel Butterfly Control & Mounting Module
- o Optimized for Fiber Laser Development
- o Pump Laser: 1500 mA CW Current Source
- o Seed Laser: CW 800 mA or Pulsed 3500 mA
- o USB Interface, Includes Programming Tools, Software Suite, DLL Library, and GUI



## LOW NOISE LASER DIODE CONTROLLER AND MOUNTING MODULE FOR FIBER LASERS

These fully integrated two-channel laser diode control and mounting modules are designed for precision control of two butterfly laser diodes for a wide range of fiber laser applications.

The two laser controller channels are perfectly suited to driving high power single-mode laser diodes for fiber laser: a 1500mA pump laser diode controller, and a CW/pulsed controller driving up to 3500mA at up to 200MHz pulse repetition rate. Both laser controller channels include precision thermoelectric temperature control, and zero-insertion force sockets for butterfly laser diodes.

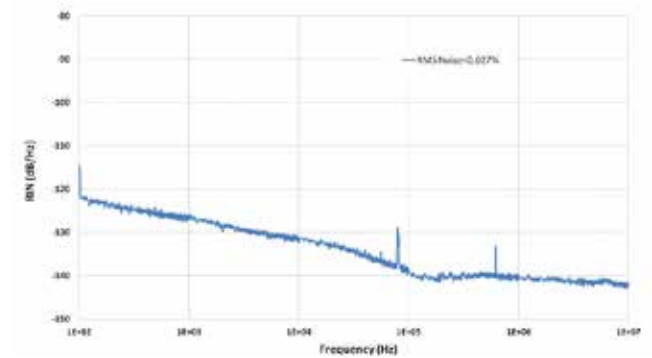


### FIBER LASER-SPECIFIC FEATURE SET

This two-channel laser driver is well suited for nearly any type of fiber laser architectures : Mode-locked, Q Switch, MOPA, EOM modulation, Gain Switch, Microchip oscillators etc. The controller delivers the high performance necessary for fiber lasers in terms of noise, precision, response time, interlocks etc.

Each laser control channel is equipped with a high-stability temperature controller to ensure the highest level of power and wavelength stability.

The controller includes a powerful set of features for fiber laser applications: up to six photodiode inputs, pulse synchronization, and it can be conveniently interfaced to AeroDIODE high power laser diode drivers for 10 Watt - 200 Watt multi-emitter laser diodes. The controller can be programmed for a carefully sequenced fiber laser start-up procedure.



### A 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 drive 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.

## GRAPHICAL USER INTERFACE INCLUDED

Configuration and operation of the controller is streamlined and simplified by providing control over the critical operating parameters of the controller: peak pulse current, pulse width, frequency, triggering, and other driver parameters are available.

The GUI also provides control over laser diode temperature, and includes operational safety limits to help protect the laser diode from damage.

In addition to providing real-time control over the laser diode, the GUI displays real-time operating status of the controller and laser diode operating parameters.

**Simple User Control of all Laser Diode Parameters through USB Interface and GUI Software**





## CCS-FIBER-LASER / Dual LD Controller Performance Specifications

### DUAL LASER DIODE CURRENT SOURCE

- **Channel 1 Specifications:**
- CW Output Current: 0 mA - 1500 mA
- Noise Level: 0.03% RMS
- Adjustment Precision: 0.05 mA
- Current Stability: 0.01%
- Temperature Stability: < 10 mK
- **Channel 2 Specifications:**
- CW Current: 0 mA - 800 mA
- Pulsed Current: 0 mA - 3500 mA
- Pulse Duration: 1 ns to CW
- Pulse Jitter: < 10 psec
- Pulsed Repetition Rate: 0 - 200 MHz
- Adjustable CW Offset in Pulsed Output Mode (Channel 2)

### TEC CONTROLLER & MOUNTING SOCKET

- Zero Insertion Force Mounting Socket with Clamping Arms
- Low Thermal Resistance Anodized Aluminum Butterfly Mount
- Adaptable to All Butterfly Laser Diode Pin Configurations
- Diode Chip Temperature Range: 10°C to 55°C
- Temperature Sensor Compatibility: NTC Thermistors
- 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)



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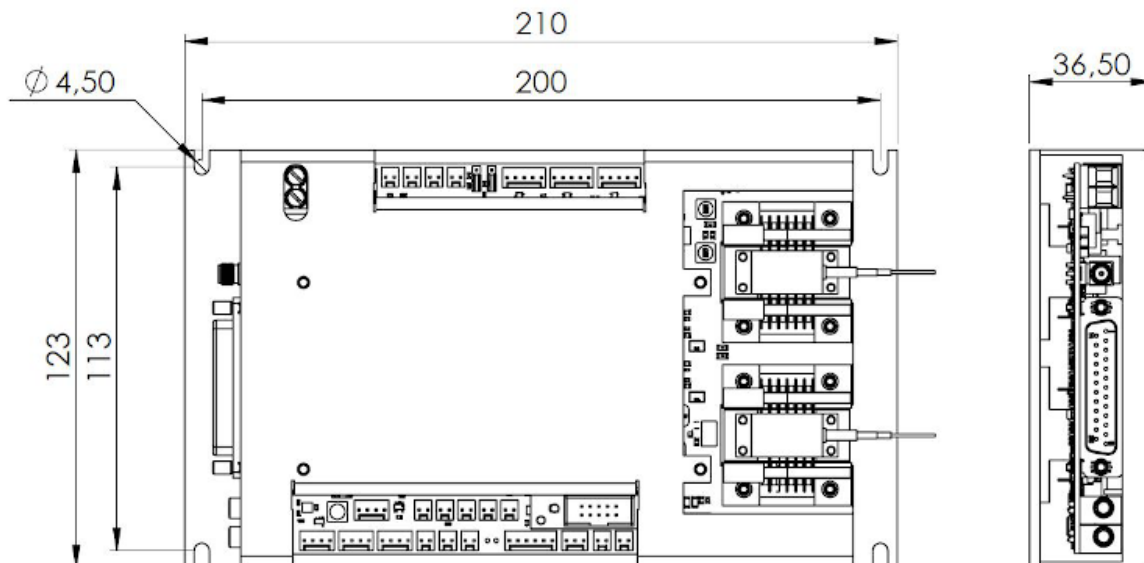
### ADDITIONAL FEATURES

- Pulse Picker Synchronization Tool
- Up to Six Photodiode Inputs (Optional)
- Feature Set Designed for Fiber Laser Architectures
- Interface Capability for up to Three 10 Watt - 200 Watt Multi-Emitter Laser Diode Controllers

### GENERAL SPECIFICATIONS

- Dimensions: 210 mm x 123 mm x 36.5 mm
- Power Supply: +24 VDC, 8 A
- PC Interface: USB with GUI and Control Software
- USB Cable: Micro-Connector to Standard PC USB Connector Included

## CCS-FIBER-LASER Dimensions





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 product due to mishandling or use of the product outside of its specified maximum ratings.



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