MBH-Series Benchtop Laser Diode Controllers

LASER DIODE DRIVER CONTROLLER

- Three Models Available:
  - 15 Amp, 10 Volt (MBH-1510)
  - 30 Amp, 10 Volt (MBH-3010)
  - 12 Amp, 40 Volt (MBH-1240)
- Fast Crowbar Circuit Protection
- Soft-Start Current Ramp, Current Limit, Reverse Voltage Protection
- NTC Thermistor Input for Laser Over-Temperature Fast Shut-Down
- GUI Control Software Included

A Division of Laser Lab Source
LaserDiodeSource.com | LaserDiodeControl.com | LaserDiodeTechnologies.com

800-887-5065

Precision Benchtop Laser Diode Controller

The MBH-Series are precision high power laser diode drivers designed and optimized for driving high power pump laser diodes. The high compliance voltage range multi-single chip emitters or high power LED arrays. These drivers are delivered in three different models, all providing high current and high voltage for a wide range of applications. They can be set to run in CW mode or QCW mode.

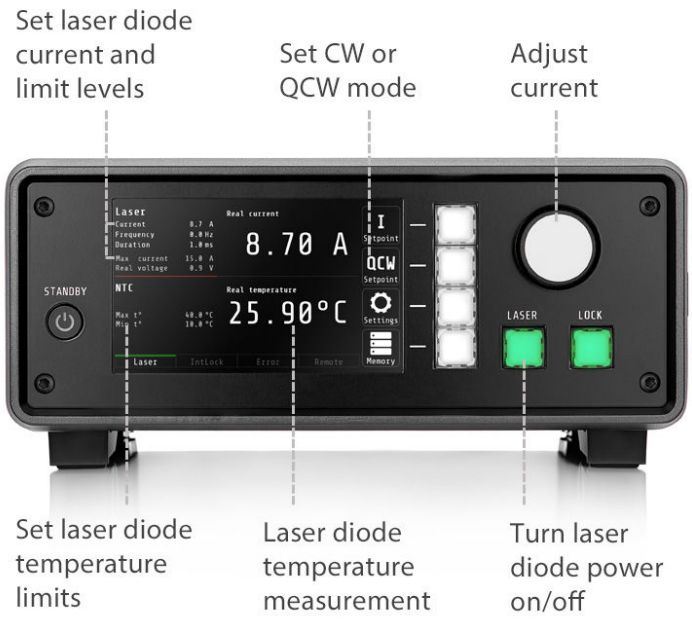
Enchanced Protection for High Power Pump Laser Diodes

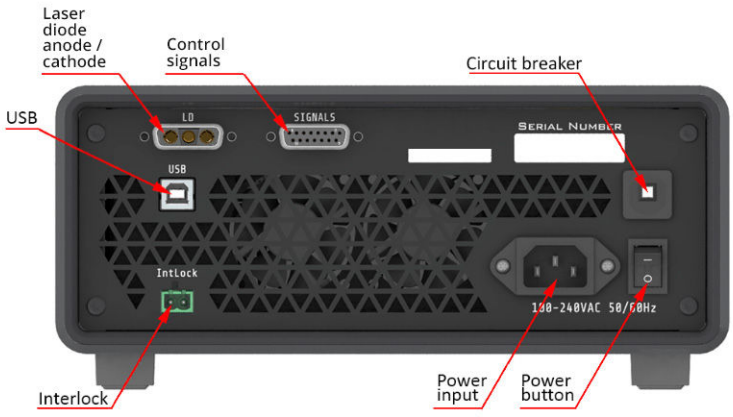
These drivers are designed with extensive safety features to protect your laser diode:

- NTC thermistor input to prevent laser over-heat damage
- Soft-start current ramp
- Over-current protection and fast-shutdown
- Reverse current protection
- ESD and transient protection
- Programmable current limit
- External safety interlock input

Versatile and Simple User Interface and Controls

The MBH-Series laser diode drivers are operated by an easy-to-use front panel interface. The touch-screen panel is intelligently organized, and the buttons and control knob increase operator efficiency. Up to nine user-programmed presets can be saved and easily recalled. The driver includes a USB interface and control software for simple remote control. Custom control software can easily be written following SCPI (Standard Commands for Programmable Instruments) protocol.


Set laser diode current and limit levels
Set CW or QCW mode
Adjust current
Laser
Real current
8.70 A
Setpoint
QCW
Setpoint
Settings
Memory
NTC
Real temperature
25.90°C
STANDBY
LASER
LOCK
Laser
IntLock
Error
Remote
Set laser diode temperature limits
Laser diode temperature measurement
Turn laser diode power on/off


REAR PANEL
Laser diode anode / cathode
Control signals
Circuit breaker
USB
LD
SIGNALS
SERIAL NUMBER
USB
IntLock
100-240VAC 50/60Hz
Interlock
Power input
Power button

SOFT START CURRENT RAMP TO SET-POINT

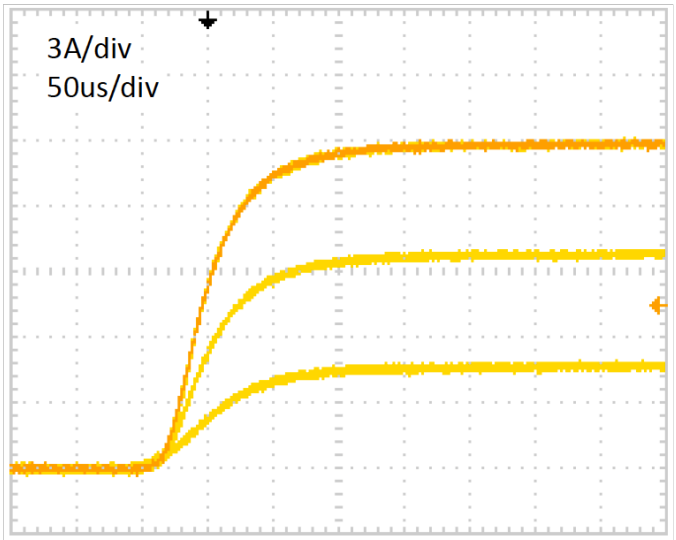
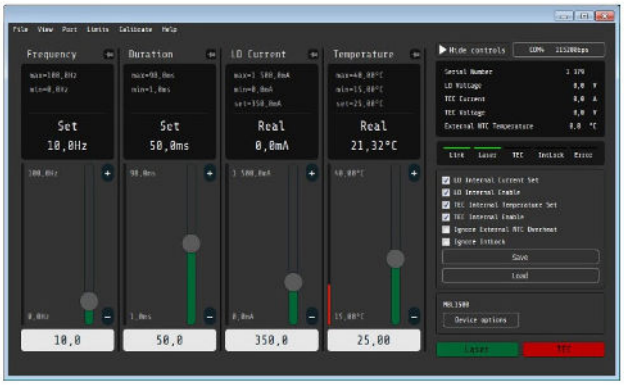


Figure 5 – Typical start up sequence MBH1240

INCLUDES CONTROL SOFTWARE
SIMPLE TO USE GRAPHICAL USER INTERFACE
/ PC CONNECTS THROUGH REAR PANEL USB



MBH-1240 SPECIFICATIONS

CURRENT, VOLTAGE SPECIFICATIONS

- Output Current Range (CW): 0 – 12 Amps
- Output Voltage Range (CW): 0.7 – 40 Volts
- Current Setpoint Resolution: 0.01 A
- Current Rise Time (Iout = 7.5A): min – 60µs; max – 100µs
- Current Rise Time (Iout = 15A): min – 60µs; max – 100µs
- Current Fall Time: min – 30µs; max – 80µs
- Current Stability: < 0.1 %
- Current Setpoint Absolute Accuracy: <1 %

MBH-1510 SPECIFICATIONS

CURRENT, VOLTAGE SPECIFICATIONS

- Output current LD (I): 0 – 15 A
- Output voltage LD (V): 0.7 – 10 V
- Setpoint Resolution: 0.01 A
- Rise Time (Iout = 7.5A): min – 150µs; max – 500µs
- Rise Time (Iout = 15A): min – 140µs; max – 500µs
- Fall Time: min – 250µs; max – 1200µs
- Current Stability: < 0.1 %
- Current Setpoint Absolute Accuracy: <1 %

MBH-3010 SPECIFICATIONS

CURRENT, VOLTAGE SPECIFICATIONS

- Output current LD (I): 0 – 30 A
- Output voltage LD (V): 0.7 – 10 V
- Setpoint Resolution: 0.01 A
- Rise Time (Iout = 7.5A): min – 300µs; max – 700µs
- Rise Time (Iout = 15A): min – 300µs; max – 600µs
- Fall Time: min – 300µs; max – 1500µs
- Current Stability: < 0.1 %
- Current Setpoint Absolute Accuracy: <1 %

MBH-SERIES GENERAL SPECIFICATIONS

LASER DIODE PROTECTION

- Soft-Start Current Ramp
- Over-Current Protection Fast Shutdown
- Reverse current protection
- Crowbar Circuit Protection
- ESD and transient protection
- External Interlock Connector
- Laser Diode Temperature Measurement with Over-Temp Shutdown

SYSTEM SPECIFICATIONS

- Universal AC Power Input: 100 ~ 240 VAC, 50/60Hz
- Air Cooled (no water)
- Dimensions: 257 x 271 x 117 mm
- Weight: 3.6 kg

USER INTERFACE

- Front Panel (Touch Screen and Buttons)
- USB with Software Included

WARRANTY PERIOD

- 1-Year Full Warranty

PRODUCT WARRANTY:

This product is sold with a full one year warranty. The warranty includes all parts and labor. It is warrantied to be free from defects in material and workmanship for a period of one year from the date of shipment. The warranty does not include damage to the product due to customer mishandling or use of the product outside of its specified maximum ratings.

INSTALLATION SUPPORT OR TECHNICAL SUPPORT FOR THIS PRODUCT:
800-887-5065 extension 1
contact@laserdiodesource.com

LASER DIODE TECHNOLOGIES

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