

Programmable Laser Diode Controller

Description

OELDC-MCU-100 is an MCU controlled, programmable, laser diode controller manufactured and released from **O/E Land Inc.**. This OEM device comes with a user friendly software interface, where user can set drive current or TEC current to precisely control the optical output. After programming, this driver can be disconnected from the computer and it will work as stand-alone device. (There is a toggle switch to choose between computer controlled or stand-alone operation.) OELDC-MCU-100 can be used for driving laser diodes in DC or pulsed mode. Most attractive feature of this device is that, it can be programmed to control laser output power temperature simultaneously and independently.

In standard modulation option user can choose between CW, sinusoidal, triangular or rectangular signal as drive current at any set value of temperature. In arbitrary modulation option, this device can be programmed for generating more complex arbitrary drive current or temperature tuning.

Another important feature of this device is that it can monitor output power of laser diode and display it on real time.

Features

- Software interface
- Computer controlled and stand-alone operation (toggle switch to select between them)
- CW or pulse mode operation
- Adjust laser diode current by computer or by potential meter on board
- Adjust TEC current by computer or by potential meter on board
- Arbitrary modulation for laser diode current
- Arbitrary modulation for TEC temperature
- Both current and temperature programmable
- Real-time display laser output power
- Real-time display of current and temperature
- Socket connector for separate laser diode mount board
- Stable work performance
- Cost effective

Application

- Optical pumping
- Laser diode driving
- Pulsed laser
- CW laser
- Tunable laser diode

Specifications:

Parameter	Value
Modulation Waveforms	CW, Sinusoidal, Triangular, Rectangular, Arbitrary
Maximum DC drive current	1000 mA
Maximum pulse drive current (peak)	1000 mA
Maximum pulse rate	60 KHz
Minimum pulse width	1.6 μ s
Drive current stability	0.3%
Maximum TEC current	2.4 A
Communication interface	USB port
Power supply	5 V DC
Dimension	60 x 60 mm



Figure 1: OELDC-MCU-100



Figure 2: Computer Software interface of OELDC-MCU-100



Figure 3: OELDC-MCU-100 connected with separate laser mount PCB

Note: Other specifications are available upon request, All specifications are subject to change without notice