

[OELDD-MCU-2A-4V]

Programmable Laser Diode Driver

Features:

- Design for 14-pin Butterfly (BTF) laser diodes
- Driving current up to 2 A
- Forward voltage of laser diode up to 4.2 V
- Power efficiency of more than 90 %
- Current stability of less than ± 0.5 %
- Slow-start current ramp
- Integrated TEC controller with 24-bit ADC
- Overheat protections with fast shutdown
- CW mode operation
- Display of the current level in real-time
- USB and dual USART ports
- Time-scheduled operation
- 44 commands instructions
- Touchscreen interface available
- Computer controlled or stand-alone operation

Applications:

- CW Fiber Laser
- Fiber Amplifier
- Fiber Sensing
- Biomedical
- Instrumentation
- Industry
- Material Process



OELDD-MCU-2A-4V



OELDD-MCU-2A-4V-TS

Product description:

The OELDD-MCU-2A-4V Programmable Laser Diode Driver from O/E Land Inc. is a compact, highly efficient programmable driver, capable of providing precise current regulation for 14-pin Butterfly (BTF) laser diodes. Featuring a high-quality 24-bit A/D converter, it ensures exceptional current stability, making the device highly reliable for long-term operations. The driver utilizes a microprocessor (MCU), providing a fully programmable solution with continuous mode operation. It can be enabled using the provided control software (GUI), controlling ports, or through serial commands (44 commands available for current and temperature settings, system diagnosis, power modulation).

With defined minimum and maximum output current settings, this driver is ideal for applications such as CW pump laser diodes, reducing ASE noise and achieving high signal-to-noise ratios. The built-in slow-start current ramp minimizes thermal shock to the laser diode during power-up, preventing potential damage. Reliable overheat protection, with automatic shutdown triggered by temperature exceeding preset limits, is ensured by a total of two built-in thermistors. The drive is also equipped with some safety features, like overcurrent protection, overtemperature shutdown and laser overheat protection.

The driver can operate in stand-alone (manual) mode or be controlled via USB using the included GUI software, making it suitable for diverse applications like CW fiber lasers, pulsed fiber lasers, fiber amplifiers, and fiber sensing systems.

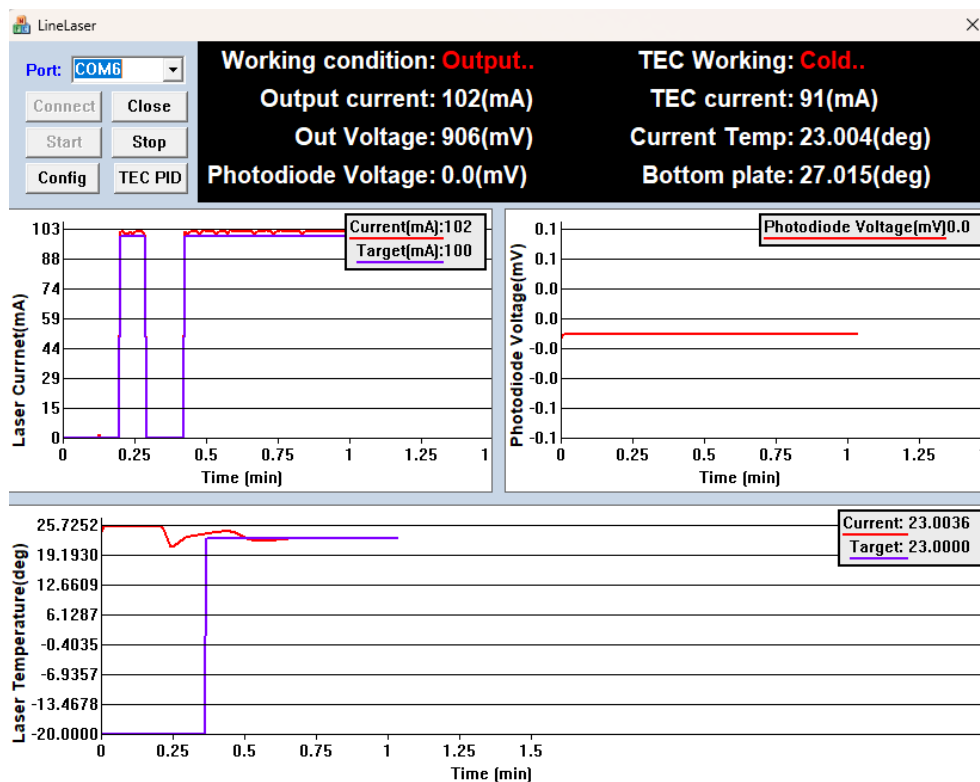
Product specifications:

Parameters	Unit	OELDD-MCU-2A-4V
Laser diode output current (max) (CW)	A	2
Laser diode output voltage (max) (CW)	V	4
TEC output current (max) (CW)	A	6.8
TEC output voltage (max) (CW)	V	8
Laser Power Output (average)	W	5.8
Power supply requirements (DC)	V	12
Power efficiency	%	> 90
Current stability	%	± 0.5
Temperature Stability	°C	0.001
Modulation Response	μs	10
Slow start	s	Yes
Slow start delay timer	s	0-4000
Laser Diode overheat protection with shutdown function	-	Yes, 2 built-in thermistors (PCB)
Communications ports	-	USB; USART
Computer control	-	Yes, with user interface and USB
Stand-alone mode (manual operation)	-	Yes, with toggle switch
Control touch screen	-	Yes (optional)
Dimensions (LxW)	mm	220 x130

User Interface:

The user interface allows customers to fully control the settings and the operational parameters of the driver.

The main window of the interface includes several fields of control.



Ordering number:

OELDD-MCU-2A-4V-(T)			
Examples:			
OELDD-MCU-2A-4V	Standard version		
OELDD-MCU-2A-4V-T	With optional control touch-screen display		