



**luzwavelabs**  
**LDC/E-lite**

Miniature laser controller with integrated laser mount

500 mA floating current driver (accepts any kind of laser: AG, CG or floating)  
temperature controller with 1mK stability and digital PID configuration  
integrated and interchangeable laser mount (butterfly, TO, custom...)



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V202007

All product specifications are subject to change without prior notice

# STATE-OF-THE-ART **PERFORMANCE**

## MAIN FEATURES

### HIGH PERFORMANCE CURRENT SOURCE

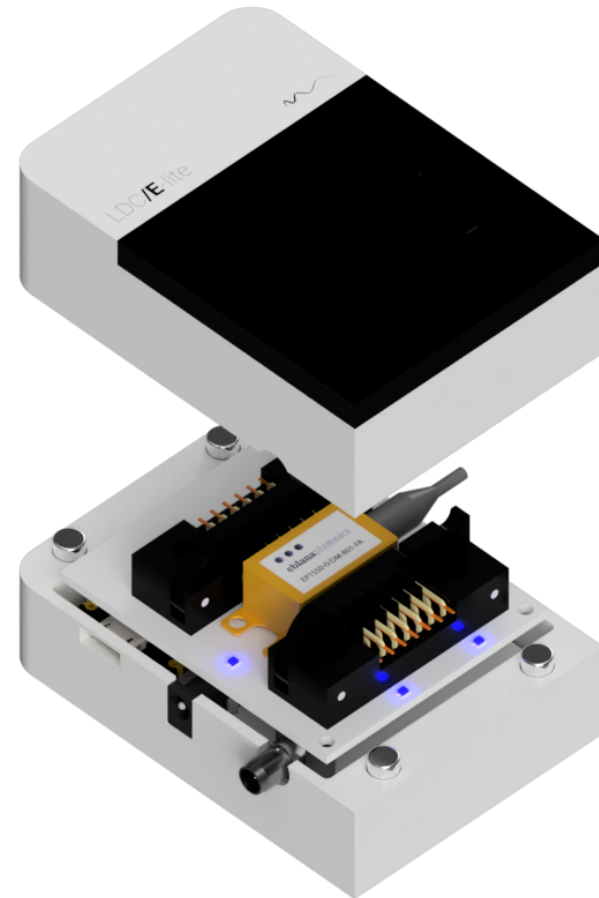
- + 500 mA maximum current
- + High stability
- + Floating, isolated output: compatible with any kind of laser: Cathode-Grounded, Anode-Grounded and floating
- + External modulation with 1 MHz bandwidth

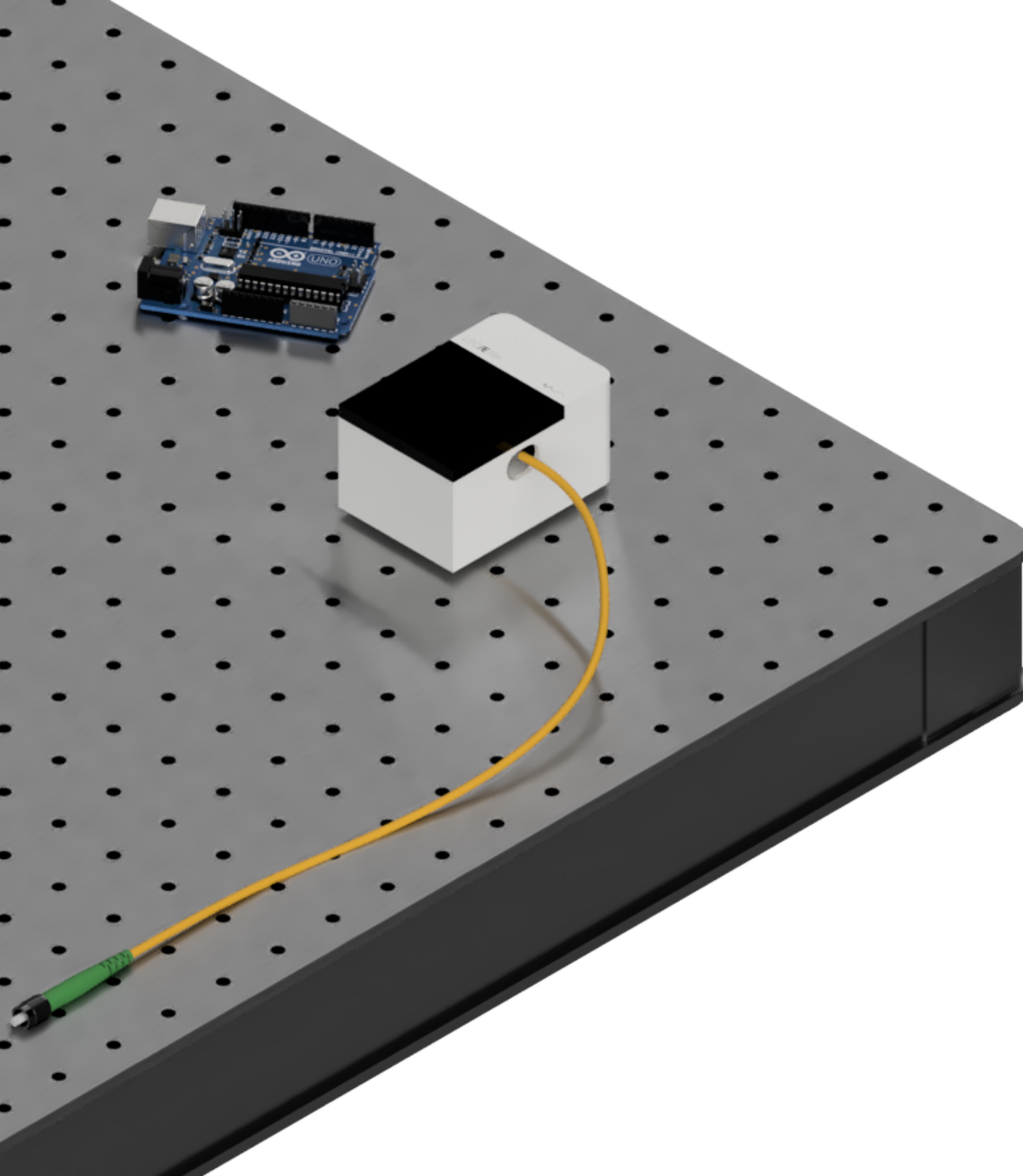
### HIGH STABILITY TEMPERATURE CONTROLLER

- + Down to 1 mK stability
- + High resolution measurement (24 bits)
- + 10-45 °C range
- + Digital PID
- + Graphical PID configuration
- + PID Autotune

### INTEGRATED LASER MOUNT

- + Interchangeable laser mount for compatibility with any kind of laser diode packages: 14-pin butterfly, 7-pin butterfly, TOs, custom pinout.
- + Zero-Insertion-Force (ZIF) sockets
- + Improved thermal management (70 oz PCB and thermal pad acting as heatsink)
- + Magnetic detachable cover for easy laser handling





## UNIQUE AND SMART **DESIGN**

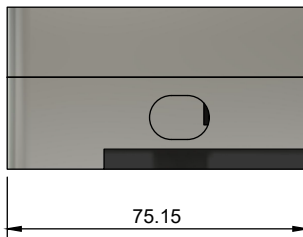
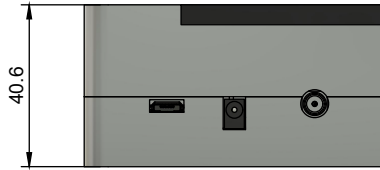
### SMART AND BEAUTIFUL DESIGN FOR BEST USER EXPERIENCE

- + Unique miniature design
- + Integrated magnets for optical table attachment
- + Compatible with powerbank 5V battery (with 2.5A capability)

### CONTINUOUS FUNCTIONALITY UPDATE OVER-THE-AIR

- + Wifi and USB connectivity
- + OTA updates with continuous improvements and added functionality

# TECHNICAL SPECIFICATIONS



Dimensions in mm

## CURRENT SOURCE

### Output current

Current range	0-500 mA
Maximum output voltage	5 V per channel (standard version)
Current resolution	8 $\mu$ A
Current noise density	<5 $\mu$ A
Output polarity	Floating output current. Compatible with any laser configuration: Cathode Grounded, Floating Anode-Cathode and Anode-Grounded lasers

### Protection features

Current limit	User selectable to any value in the selected range
ESD protection	Output relay. Anode and cathode are connected together in DISABLE channel state, Stand-by state and non-powered system state.
Open output detection	Auto disable for open output detection

### Output monitoring

Voltage measurement range	0-5 V
Voltage measurement resolution	12 bits

## TEMPERATURE CONTROLLER

### TEC controller

Current range	+ - 1 A
Maximum output voltage	5 V per channel (standard version)
Set temperature resolution	16 bits
Readout temperature resolution	24 bits
Temperature stability	+0.001 $^{\circ}$ C

### PID

Type	Digital
Configuration	GUI configuration with autotune capability

### Protection features

Current limit	User selectable to any value in the selected range
Auto shut off	In case TEC is not able to maintain temperature stability

## PHOTODIODE MEASUREMENT

Compatibility	The polarity is set in the mount for maximum flexibility. The laser mount is interchangeable and custom mounts can be ordered
Resolution	12 bits

## CONNECTIVITY

User Interfaces	Micro-USB, Wi-Fi
Updates	Over-The-Air (OTA) updates
Control software	Windows application. Web-based, multiplatform interface soon.

## POWER

Power input	5 VDC, 2 A minimum
Power connector	1.3 mm center pin, 4mm outer diameter, DC power jack

## GENERAL & OTHER

Dimensions	75.1 x 40.6 x 52.2 mm
Weight	TBD
Operating temperature	0 to 40 $^{\circ}$ C
Storage temperature	-40 to 70 $^{\circ}$ C
Custom mounts are available	