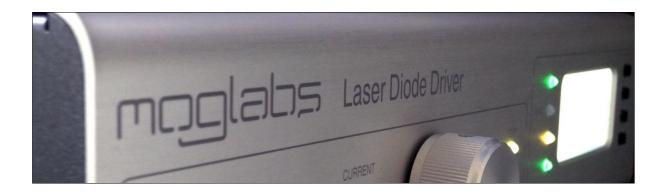
LDD605 Laser Diode Driver



The LDD605 laser diode driver is a combination current and temperature controller with sophisticated front-panel menu operation and plain text computer command interface via ethernet and USB. A high-precision low-noise current source drives a wide range of diodes at up to 6 amps. The precision temperature controller, with flexible computer-defined PID response, provides 60 W capacity for a wide range of TEC devices. The LDD605 is designed for use with our MOA series of tapered amplifiers and high-power diodes for lasers and fibre amplifiers.

Features

- Low noise diode driver, 6 A at up to 6 V
- Precision temperature controller
- Fully adjustable digital PID temperature servo
- Peltier TEC driver, 60 W
- Current modulation, 40 kHz bandwidth
- External control via USB and ethernet
- Text command

Applications

- Laser cooling and trapping
- Bose-Einstein condensation
- Quantum optics: pump-probe
- Electromagnetic transparency and slow light
- Time and frequency standards
- Laser spectroscopy
- Physics teaching labs

Laser Diode Driver

Specifications LDD605 Rev 0.20

Current

Output current LDD: 0 – 6A, ±1mA display/set point resolution

Set-point accuracy <0.5% Error

Noise TBD

Compliance voltage 6V@6A

External modulation 0 – 40kHz (–3dB), 10mA/V, max 10Vp-p

Temperature

Range -20°C to +80°C, ±0.01°C display/set point resolution

Set-point accuracy ±5 mK/°C

TEC power $\pm 5A, \pm 12V$ (60W)

Stability ±5mK/°C

Sensor NTC $10k\Omega$ (provided), reads °C in all cases

Computer interface

Ethernet 10/100 TP, RJ45

USB2.0, plug type USB-A

Safety Features

Key Front panel key required for laser operation

Interlock Rear interlock (3.5mm mono jack) for quick laser current disable

Current limit Laser current limit to avoid accidental diode over current

Temperature limit High and low limits on temperature to ensure safe operation

Power and dimensions

IEC input 100/110/120V or 220/240V, 50/60 Hz, 1A

Dimensions 250mm x 79mm x 292mm (WxHxD), 2.4kg

General

Current connector DE15 high density - 15 pin connector

Temperature connector DE9 - 9 pin connector

Display type 128 x 64 LCD Graphic Display