

## LDP-CW 50-05

### Driver for High Power Laser Diodes

Rev. 1905

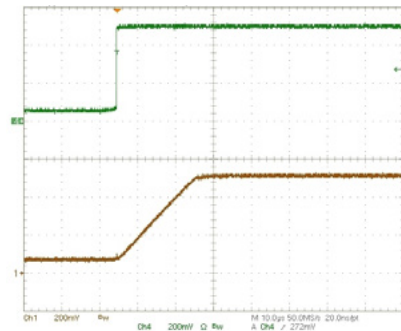
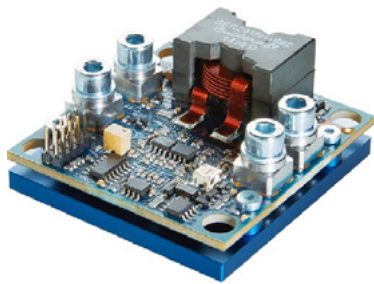


Figure: Current monitor output, scale: 10A/Div

### Product Description

The LDP-CW 50-05 is a very affordable, compact and efficient current supply to drive laser diodes. The capability ranges from continuous output current to analog modulated waveforms like sinusoidal, rectangular or triangular. The modulation is only limited by the  $di/dt$  of the inductor. Its intended field of application is laser soldering and welding as well as generic surface treatment and show lasers. The innovative current regulation concept of the LDP-CW 50-05 produces, compared to the commonly used linear regulation concept, considerably less losses. Hence, only one supply voltage is needed for the control logic and the power stage. The current consumption drawn from the power supply only needs to cover the average laser power and is typically much less than 40 A.

- Output current: 1 .. 50 A
- Compliance voltage: 1 .. 5 V
- Coverage of cw range
- Analog modulation up to 16 kHz
- Half brick size OEM module
- Several protective features
- High efficiency

### Technical Data\*

Output current	1 .. 50 A
Max. compliance voltage	5 V
Current ripple	< 400 mA
Ripple frequency	> 200 kHz
Current overshoot	< 1 %
Analog modulation (10 A <sub>pp</sub> )	< 16 kHz
Current settling time (full-scale)	< 60 µs
Current setting input	0 .. 2 V external (25 A/V)
Current monitor	25 A/V
Voltage monitor	0.1 V/V
Supply voltage	4 .. 6 V DC (at least 1 V above compliance voltage)
Max. power dissipation	30 W
Dimensions in mm	60.9 x 57.8 x 29
Weight	154 g
Operating temperature	0 to +55 °C

\* Specifications measured with a fast recovery diode instead of a laser diode. Technical data is subject to change without further notice.

Designed to shield your laser diode from damage, the LDP-CW 50-05 features a number of powerful protective safeguards:

- Innovative current regulation concept actively prevents laser diode from overshoots and overcurrent
- Integrated Soft Start
- Overtemperature shutdown
- Enable/Disable input
- Driver status output
- Shunt MOSFETs short the output clamps in case of an error
- Protection of the laser diode against reverse currents

Optional Accessories: LDP-C BOB