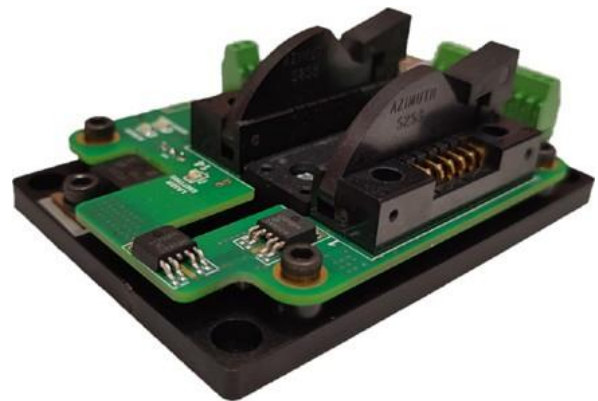


PLD-CW-2000 PLD-CW-2000-ZIF

CONSTANT CURRENT LASER DIODE DRIVER



Key Features

- Special Design for 10/14 pin Butterfly Laser Diode
- Constant Current Mode
- Output Current up to 2000 mA
- Compliance voltage up to 3 V
- Low current ripple
- High current stability
- Control interfaces USB, RS-232, CAN
- LabView compatible
- Python libraries
- Analog and Digital full current amplitude modulation
- Optical power stabilization mode
- On-Board TEC Controller
- 5Vdc Input Power
- Completed by Heatsink
- Compact Size 85 mm × 60 mm × 21 mm

Description

The PLD-CW-2000/PLD-CW-2000-ZIF is a constant current laser diode driver for powering 10/14-pin butterfly laser diode modules for applications, which require precision low ripple constant current regulation.

The driver circuitry operates from a single 5Vdc power source. The driver supplies a bidirectional proportional-integral-derivative (PID) thermoelectric cooler controller (TEC) with current capability of 4A and voltage capability of 4V.

The main parameters of PLD-CW-2000/PLD-CW-2000-ZIF (output current, temperature set, monitor photodiode signal) are controlled

by computer interface. The GUI can control multiple drivers connected by CAN/USB hub.

The driver supports full amplitude modulation of drive current by an external analog 0...5V and TTL signals.

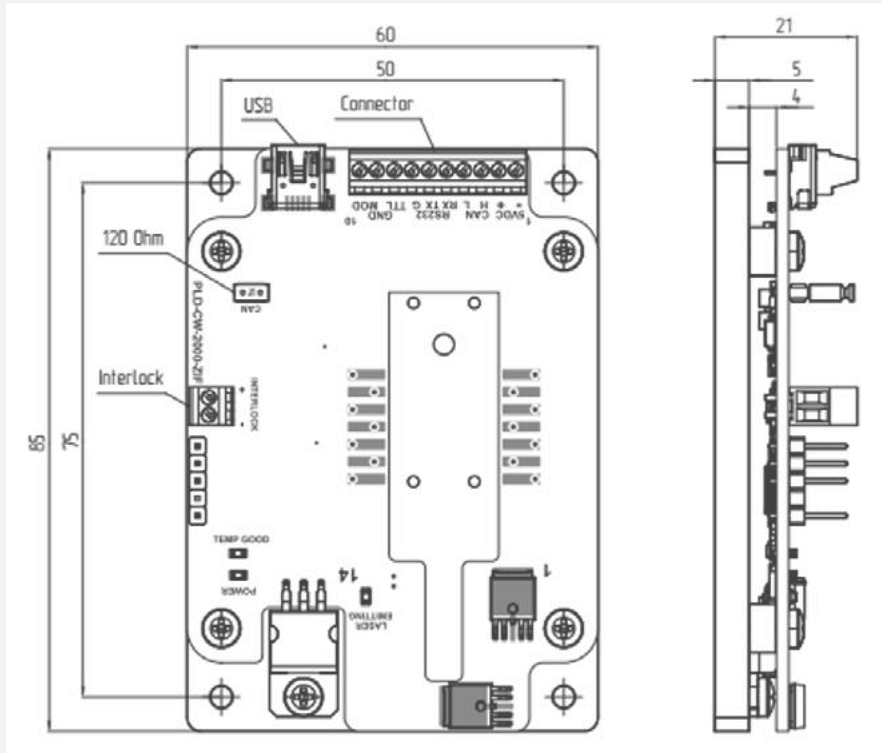
Driver has landing pads for soldering a butterfly laser diode directly into driver board and large heat sink for stable heat dissipation.

Specifications

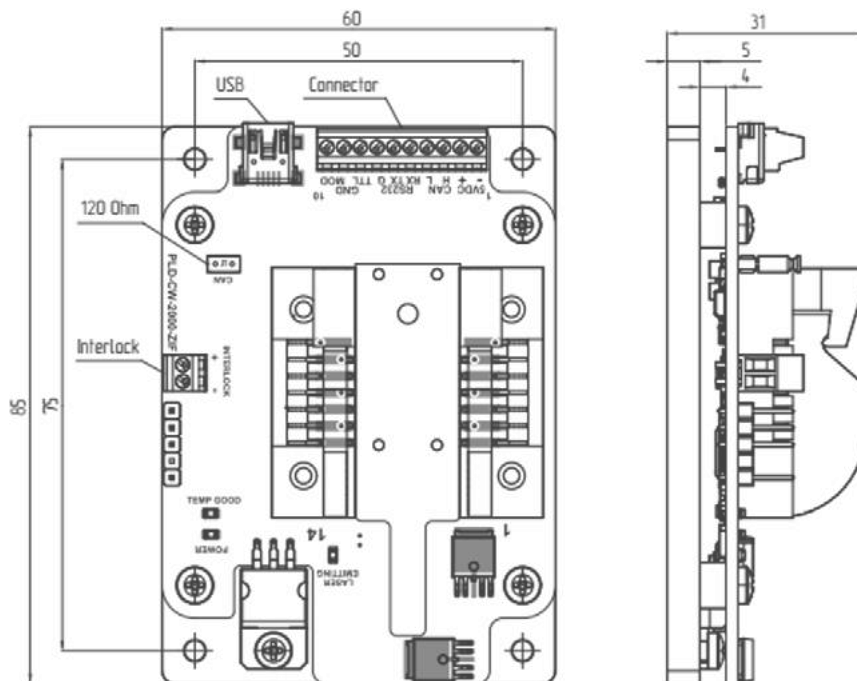
Parameter	Min.	Typ.	Max.	Units
INPUT				
Voltage	4.8	5.0	5.2	Vdc
Current	-	-	3	A
OUTPUT				
Current	-	-	2000	mA
Current Regulation Step	-	0.1	-	mA
Current Ripple	-	-	0.1	%
Current Stability	-	-	0.2	%
Current Set Accuracy	-	-	1	%
Compliance Voltage	1	-	3	V
TEC current setting range	-4	-	+4	A
TEC Voltage	1	-	4	V
TEC Temperature Set	5	25	50	°C
TEC Temperature Step	-	0.1	-	°C
TEC Temperature Accuracy	-	-	0.1	%
TEMPERATURE				
Operating	+10	-	+50	°C
Storage	-20	-	+70	°C
Humidity, Non-Condensing	-	-	95	%
CONNECTIONS				
Power and interface connector	Terminal block (1-282834-0 TE connectivity)			
USB	Mini-USB, Type B (1734035-1 TE connectivity)			
Interlock	Terminal block (282834-2 TE connectivity)			
MECHANICAL				
Size	85 × 60 × 21 mm			
Weight, not more	160 g			

Dimensions and Connections

PLD-CW-2000



PLD-CW-2000-ZIF



Interface connector pinout

PIN	Function	Description
1	GND	Device ground
2	+5VDC	Power input
3	CANH	CAN bus high
4	CANL	CAN bus low
5	RS232 RX	RS232 interface port RX
6	RS232 TX	RS232 interface port TX
7	GND	Device ground
8	TTL	Trigger input. Connect to the external TTL signal generator for triggering output current. The amplitude of external trigger must be 3.3 V to 5 V range. Input impedance is 500 Ω. Choose “External” mode by PC software and press “ON/OFF” button to activate triggering output current by external input. Current amplitude sets by PC software. Maximum frequency of external triggering signal is 3 kHz.
9	GND	Device ground
10	MOD	Analog modulation input. Connect to the external analog voltage or external sinusoidal signal generator for control output current. 0÷5 V analog input correspond to 0÷2 A output current. Current setpoint is 400 mA/V. Input impedance is 400 Ω. Choose “ANALOG” mode by PC software and press “ON/OFF” button to activate output current and control it by analog input. Maximum frequency of external sinusoidal signal is 3 kHz, that supports 2 A modulation amplitude. The modulation amplitude gets smaller at higher frequency.

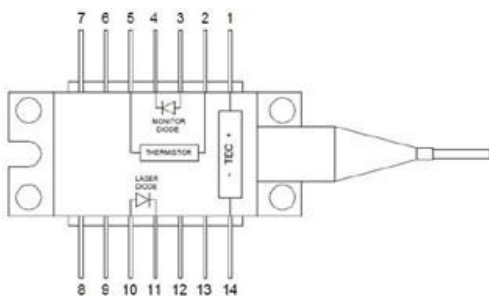
INTERLOCK

Connect to the external interlock circuit. Open: device is locked. Closed: device is operational. Internally pulled up to 3.3 V by 1 kΩ resistor. Use open collector or dry contact.

Note: The laser emission can only be started when the interlock circuit is closed

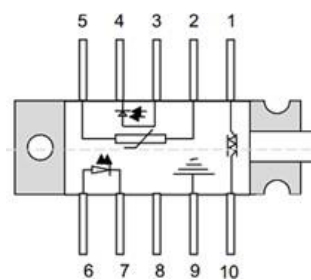
Compatible Laser Pinout

14-pin Butterfly package



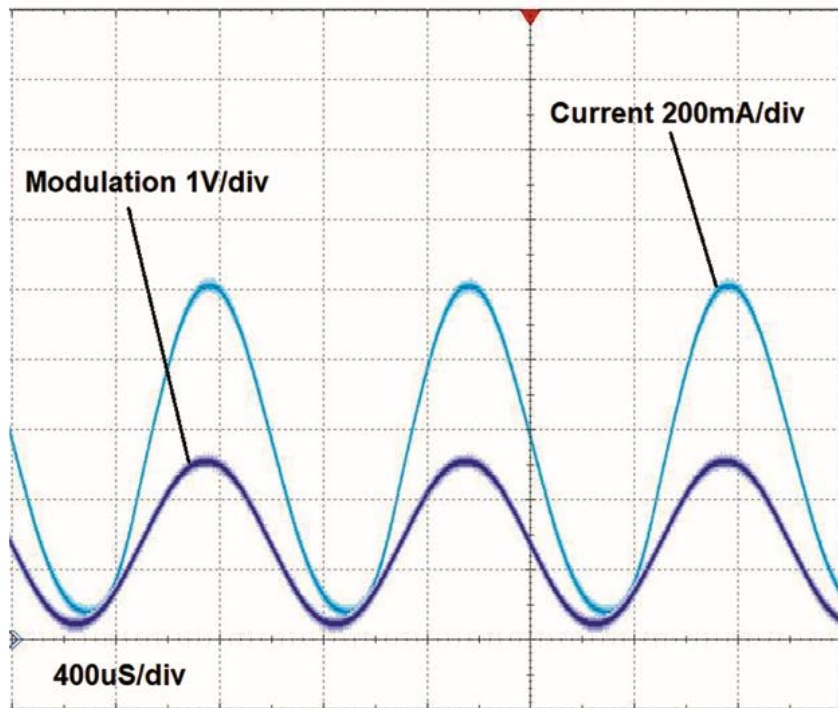
No	Description	No	Description
1	TEC Anode	8	n/c
2	Thermistor	9	n/c
3	Monitor PD Anode	10	LD Anode
4	Monitor PD Cathode	11	LD Cathode
5	Thermistor	12	n/c
6	n/c	13	n/c
7	n/c	14	TEC Cathode

10-pin Butterfly package

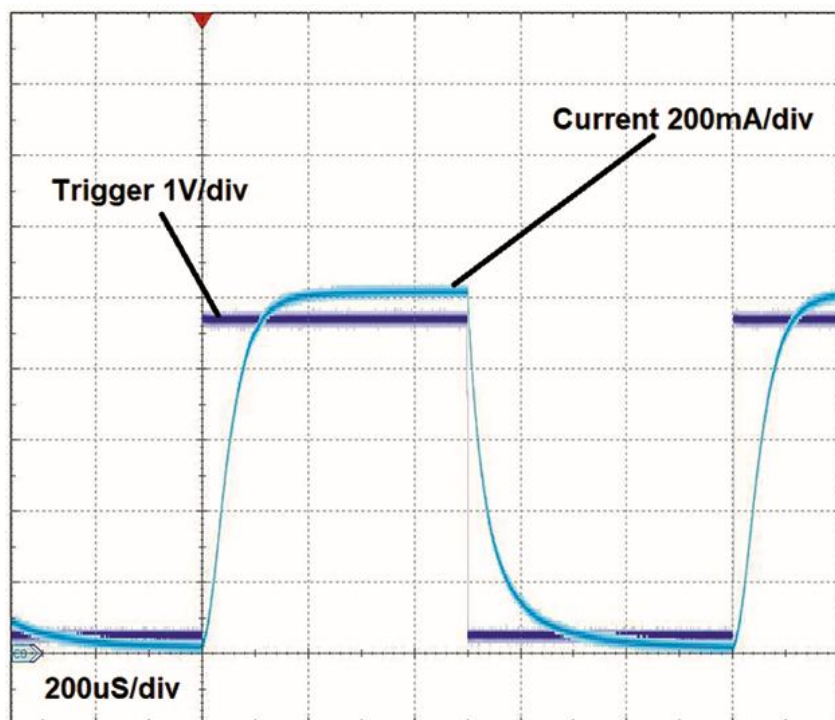


No	Description	No	Description
1	TEC (+)	6	Laser anode (+)
2	Thermistor	7	Laser cathode (-)
3	Monitor anode (-)	8	NC
4	Monitor cathode (+)	9	Package ground
5	Thermistor	10	TEC (-)

Typical Performance Characteristics



1. Output current waveform, modulated by external sinusoidal signal generator with frequency 1kHz



2. Output current waveform, modulated by external trigger signal generator with frequency 1kHz.
Current amplitude is set at 1A by PC software