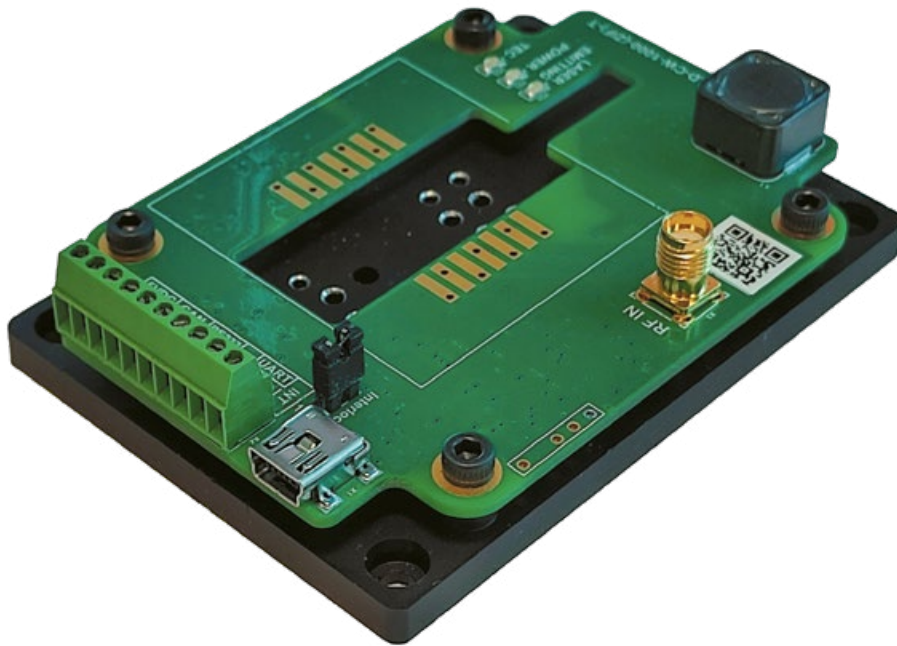


PLD-CW-1000-TII

CONSTANT CURRENT LASER DIODE DRIVER



Key Features

- Unified design for 10/14 pin Butterfly Type II Laser Diode
- Constant Current mode
- Output Current up to 1000 mA
- Compliance voltage up to 3V
- Low current ripple
- High current stability
- USB, RS-232, CAN, UART interfaces
- LabView compatible
- Python libraries
- Analog RF 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-1000-TII is a constant current laser diode driver for powering 14-pin butterfly laser diode modules for applications, which require operation in low-signal RF modulation mode. The driver provides 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 1.5 A and voltage capability of 4 V.

The main parameters of PLD-CW-1000-TII (output current, temperature set, monitor photodiode signal) are controlled by computer interface. The GUI can control multiple drivers connected by CAN/USB hub.

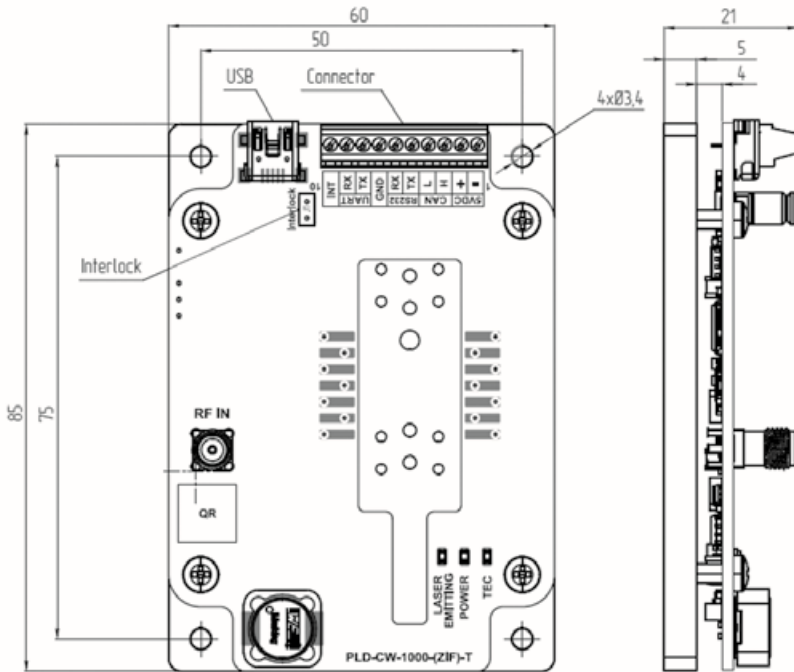
The PLD-CW-1000-TII has landing pads for soldering a butterfly laser diode directly into driver board and large heat sink for stable heat dissipation.

Specifications

Parameter	Min.	Typ.	Max.	Units
INPUT				
Voltage	4.8	5.0	5.2	V
Current	-	-	2	A
RF modulation*	0.005	-	500	MHz
OUTPUT				
Current	-	-	1000	mA
Current Regulation Step	-	0.1	-	mA
Current Ripple	-	-	1	%
Current Stability	-	-	0.2	%
Current Set Accuracy	-	-	1	%
Compliance Voltage	1	-	3	V
TEC current setting range	-1.5	-	+1.5	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			

* Performance depends upon laser diode characteristics

Dimensions and Connections



PIN	Name	Description
1	-	Device ground
2	+	5VDC Power input
3	H	CAN bus high
4	L	CAN bus low
5	TX	RS232 port transmit
6	RX	RS232 port reception
7	GND	Device ground
8	TX	UART port transmit
9	RX	UART port reception
10	INT	INTERLOCK

INTERLOCK

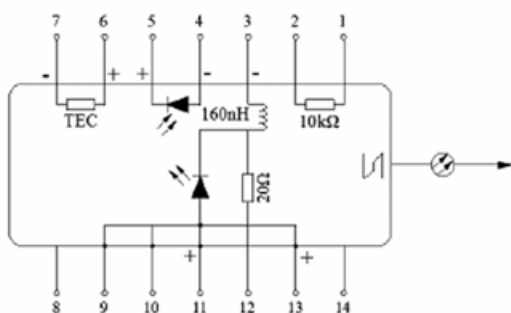
Connect to the external interlock circuit. Open: device is locked. Closed: device is operational.

Internally pulled up to 3.3V by 1kΩ 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 Type 2 (Telecom)



No	Description	No	Description
1	Thermistor	8	NC
2	Thermistor	9	Case Ground
3	Laser dc Bias (Cathode) (-)	10	Case Ground
4	Monitor PD Anode (-)	11	Laser Anode (+), Case Ground
5	Monitor PD Cathode (+)	12	Laser RF Cathode (-)
6	Thermoelectric Cooler (+)	13	Laser Anode (+), Case Ground
7	Thermoelectric Cooler (-)	14	NC