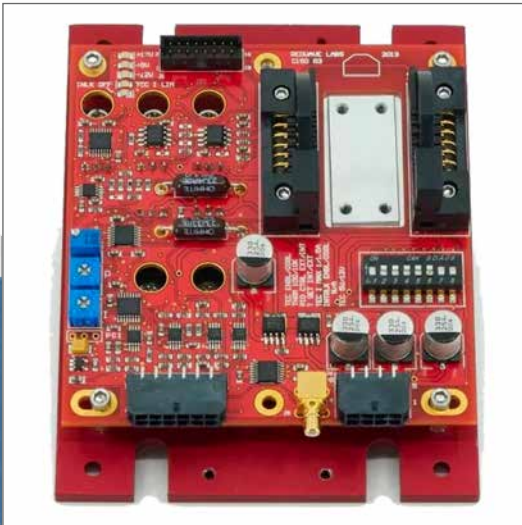


# Datasheet

## C150 - Laser Diode Controller 250mA, Type-2 Pin Configuration



*This product is sold  
and supported  
in the USA by*



**LASER LAB SOURCE**  
marketplace for **Scientists & Engineers**

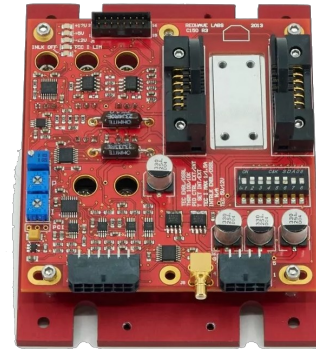
**[contact@LaserLabSource.com](mailto:contact@LaserLabSource.com)**

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**800.877.5065**

## Introduction

The C150 combines an integrated temperature driver and laser driver in one package. Temperature control is fully linear; a separate power supply can be used for the laser TEC. TEC control can be via the built-in PI loop or an external signal. The laser driver has an analog bandwidth of 250 kHz; a separate fast TTL compatible switching is provided via a SMB connector. The laser current has a hardware limit of 250 mA which cannot be exceeded without customization.



## Specification

Features	Laser diode control with integrated temperature control	
Applications	Spectroscopy, Laser, Precision Instrument, OEM applications	
Specifications	Parameter	Value
Power	Dual	Option 1: +12 V/2 A -12 V/0.5 A Option 2: +12V/0.5 A -12V/0.5A +5V /1.5A
Laser Current Control	Laser current	0 - 250 mA. Hardware limit. Can be modified for customized versions
	Compliance voltage	> 4.0 V
	Setting accuracy	2 % fs
	Noise (RMS)	< 2 $\mu$ A
	Drift	< 20 $\mu$ A
	Temperature coefficient	50 ppm/C
	Current limit	250 mA
	Setting accuracy of current limit	2 % fs
Laser External Control	Voltage range	0 to 10 V
	Input impedance	10 kOhm
	Modulation coefficient (I const)	20 mA/V
	3dB Bandwidth	DC ... 250 kHz
	TTL modulation, rise / fall-time	250 ns
	Interlock	Yes
TEC control	TEC current	0 ... $\pm$ 1.0 A /1.5 A
	TEC voltage	> 8.0 V
	Max output power	12 W
	Current limit	1 A or 1.5 A
	Input sensor	Thermistor 10 kOhm or 100 kOhm at 25 C
	PID control	Internal PI control or External direct TEC current control
Connectors	Laser	Integrated Azimuth Electronics 14 pin connector with heat sink. NEL DFB laser pinout. Can be replaced with optional DB15 connector.
	Power	Molex MicroFit 8 pin.
	Control	Molex MicroFit 12 pin.
Dimensions (WxHxD)	120 x 92 x 30 mm	
Weight	350 g	
Storage Temp	-55 to 100 C	
Operating Temp	-40 to 85 C	

RedWave Labs Ltd keeps improving its products and therefore some specifications can vary.

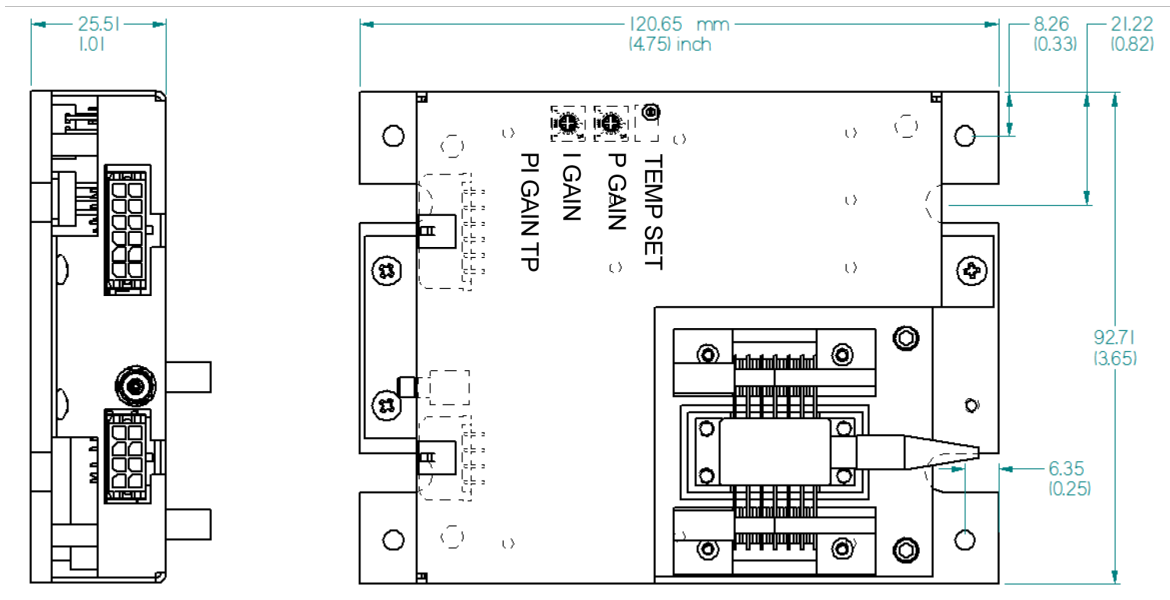
## Training and support

Remote training and support are available. Please contact info@redwavelabs.com for more information.

## Absolute Maximum Ratings

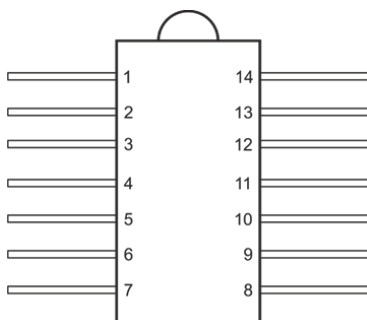
Symbol	Parameter	Ratings	Unit
V <sub>dd1</sub>	Supply positive voltage / Laser driver and TEC	+12±10%	Volt
V <sub>dd2</sub>	Supply positive voltage / Separate TEC rail	+5;+10%;-0%	Volt
V <sub>ee</sub>	Supply negative voltage / Laser driver and TEC	-12 ± 10%	Volt
T <sub>op</sub>	Operational Temperature	-40 to 85	Deg C
T <sub>st</sub>	Storage Temperature	-55 to 100	Deg C

## Mechanical Information



Parameter	Value	Unit
Length	4.75 (120.65)	Inch (mm)
Width	3.65 (92.7)	Inch (mm)
Height	1.01 (25.1)	Inch (mm)
Weight	350	gram

## Pin Layout



1	TH+	14	Not in use
2	TH-	13	LD+
3	Not in use	12	LD-
4	Not in use	11	LD+
5	Not in use	10	Not in use
6	TEC+	9	Not in use
7	TEC-	8	Not in use