

Introduction

Redwave Labs Laser Controller C190 comes with integrated temperature driver and laser driver in one package. TEC control can be done via built-in PI loop or external signal. Laser driver can drive up to 500 mA with. CW and pulse operation set via TTL line. Pulse amplitude control through internal pot or externally.



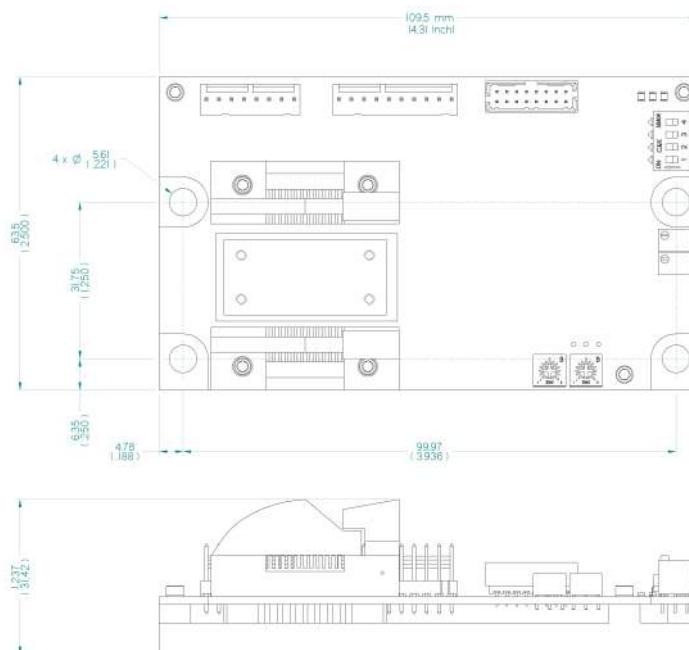
Specification

Features	Laser Controller C190 provides full control for semiconductor laser including laser diode control and integrated temperature control.	
Applications	Spectroscopy, Laser, Precision Instrument, OEM applications	
Specifications	Parameter	Value
Power	Dual	+5 V, 1.5 A;
Laser Current Control	Laser current	0 - 500 mA.
	Compliance voltage	0.8- 3.0 V
	Setting accuracy	2 % fs
	Noise (RMS)	<0.5%
	Drift	1 μ s -CW
	Temperature coefficient	TTL external
	Current limit	0 - 500 mA
	Setting accuracy of current limit	External and internal
Laser External Control	Voltage range	0 --> 5 V
	Input impedance	10 kOhm
	Modulation coefficient (I const)	100 mA/V
	3dB Bandwidth	3 ns, electrical
	TTL modulation, rise / fall-time	100 ns
	Interlock	Yes
TEC control	TEC current	0 ... +- 1.5A
	TEC voltage	> 3.0 V
	Max output power	4 W
	Current limit	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.
	Power	TBD
	Control	TBD
Dimensions (WxHxD)	120 x 92 x 30 mm	
Weight	350 g	
Storage Temp	-55 to 100 C	
Operating Temp	-40 to 85 C	

Absolute Maximum Ratings

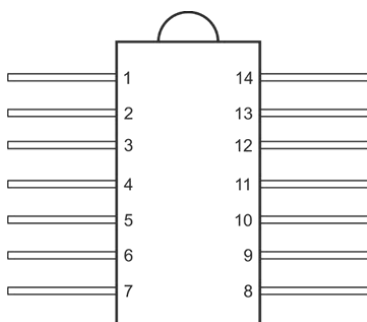
Symbol	Parameter	Ratings	Unit
V _{dd1}	Supply positive voltage / Laser driver and TEC	+5±10%	Volt
T _{op}	Operational Temperature	-40 to 85	Deg C
T _{st}	Storage Temperature	-55 to 100	Deg C

Mechanical Information



Parameter	Value	Unit
Length	4.31 (109.5)	Inch (mm)
Width	2.5 (63.5)	Inch (mm)
Height	1.237 (31.42)	Inch (mm)
Weight	350	gram

Pin Layout



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