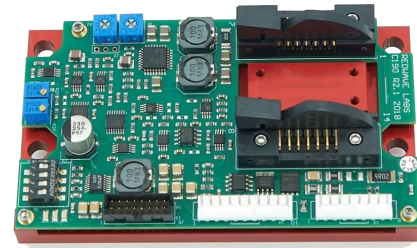


Introduction

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

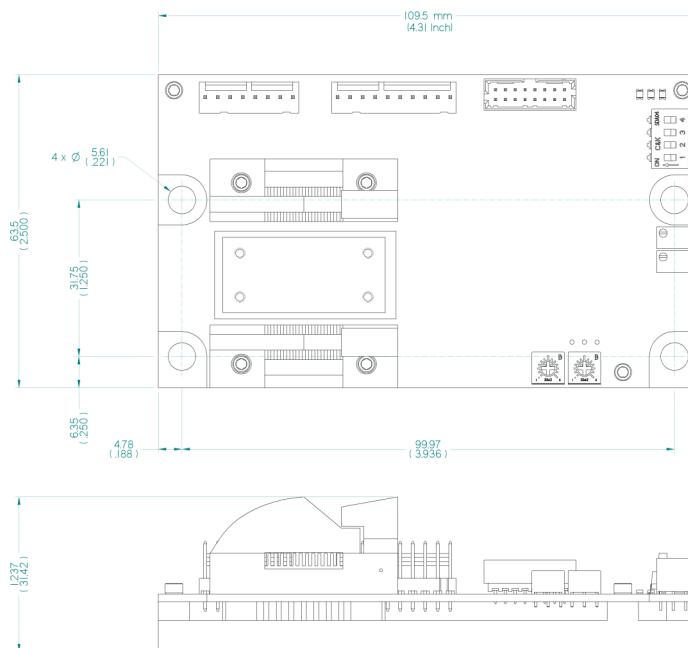
Features	Laser Controller C190 provides full control for semiconductor laser including laser diode control and integrated temperature control.	
Applications	Spectroscopy, Laser, Precision Instrument, OEM applications	
Specifications	Parameter	Value
Power	Dual	+5 V, 1.5 A;
	Laser current	0 - 500 mA.
Laser Current Control	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
	Voltage range	0 --> 5 V
	Input impedance	10 kOhm
	Laser External Control	Modulation coefficient (I const)
3dB Bandwidth		3 ns, electrical
TTL modulation, rise / fall-time		100 ns
Interlock		Yes
TEC current		0 ... +- 1.5A
TEC control	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	

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

Absolute Maximum Ratings

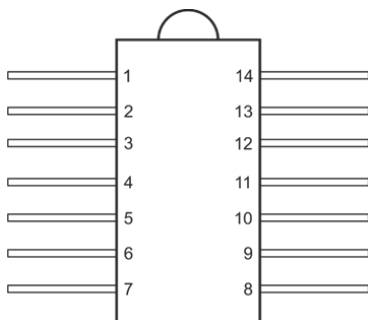
Symbol	Parameter	Ratings	Unit
V_{dd1}	Supply positive voltage / Laser driver and TEC	+5±10%	Volt
T_{op}	Operational Temperature	-40 to 85	Deg C
T_{st}	Storage Temperature	-55 to 100	Deg C

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