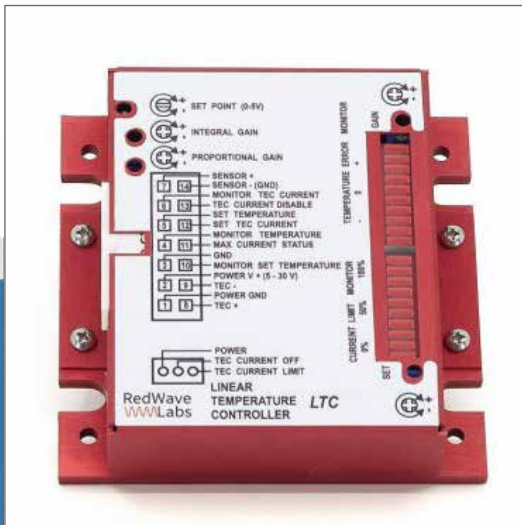


Datasheet

LTC-Series - Linear TEC Controller



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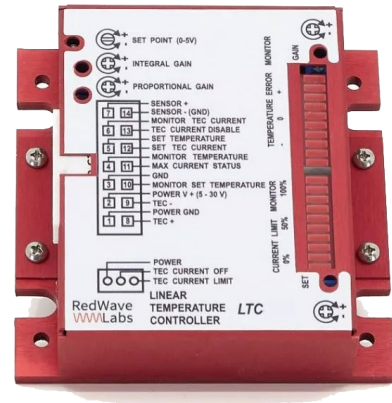
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Introduction

RedWave Labs Linear Temperature Controllers come in three versions: LTC25, LTC50 and LTC100 with maximum current capabilities of 2.5A, 5A and 10A respectively, single supply operation (+5 to 30V) and temperature stability down to 0.001K. All models feature a variable current limiter up to the maximum current, various sensor capabilities (thermistors, RTDs, AD590, LM335), variable P-I setting, LED monitors and remote shut-down.



Specification

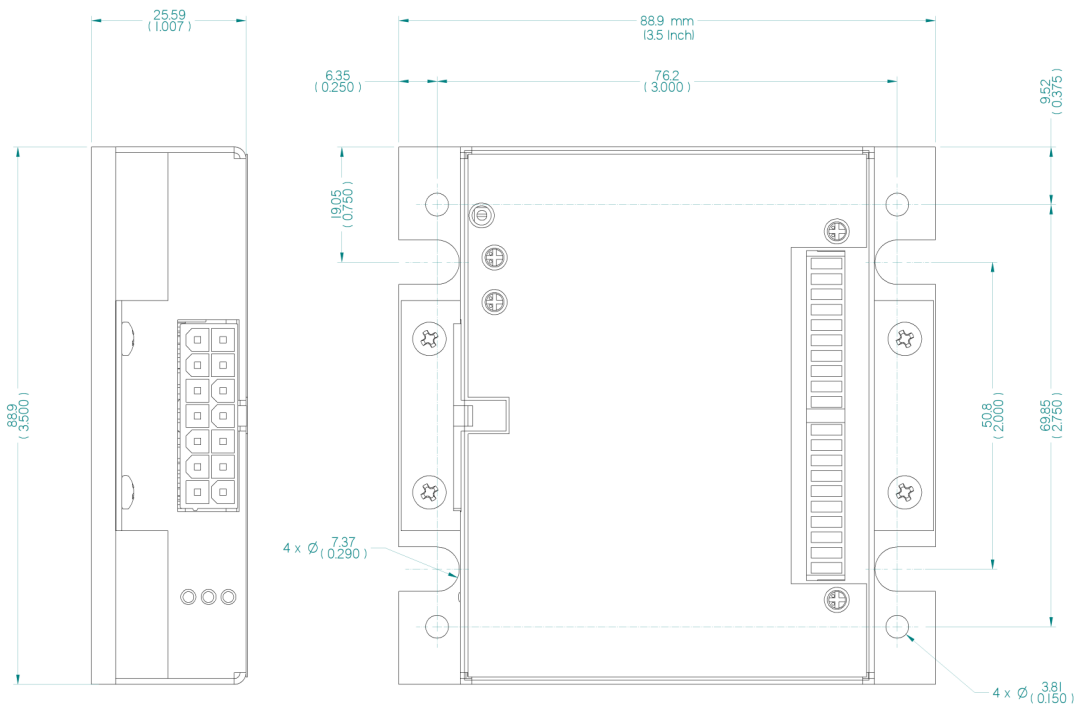
Features	Linear Temperature Control for Thermo-Electric Elements and Resistive Heaters			
Applications	Laser, Detectors, Precision Instrument, OEM applications			
Specifications	Parameter	Value		
		LTC 100	LTC50	LTC25
Power	Single	+5 V to 30 V (Vdd)		
Input sensor	NTC, PTC thermistor	10µA, 100µA, 200µA, 1 mA activation current		
	AD590	1µA/K output, LTC has 10.0 KOhm load resistor		
	RTDs	1mA, 10mA activation current		
	LM135	10 mV/K output, 1 mA activation current		
	Compliance voltage	Smaller of 5V or Vdd-0.5V		
Temperature	Internal Set point	11 turn potentiometer 0-5V, jumper selected		
	External Set point	0-5 V through 14 pin connector, jumper selected		
	Stability Over 1 hour	0.001 C (with 20 K thermistor)		
Output	Bipolar current	+/-10A	+/-5A	+/-2.5A
	Current limit	Symmetrical 0 to Imax		
	Compliance voltage	Vdd-2.5V	Vdd-1V	Vdd-0.5V
	P-I control	Proportional (2-100 A/V) and Integral (0.55-5 A/(V x sec))		
	Heat dissipation	60 W maximum without heatsink		
	Security	Disable current if sensor voltage drops below 0.4V		
	Connector	14 pin Molex MiniFit		
	Monitor	Current limit	10 bar LED 0 to Imax	
	Set point error	Coarse indication of set point error with variable gain		
Dimensions (WxHxD)	89 x 89 x 28 mm			
Weight	195 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 _{dd}	Supply voltage	+5 to 30	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	3.50 (88.9)	Inch (mm)
Width	3.50 (88.9)	Inch (mm)
Height	1.0 (25.5)	Inch (mm)
Weight	195	Gram