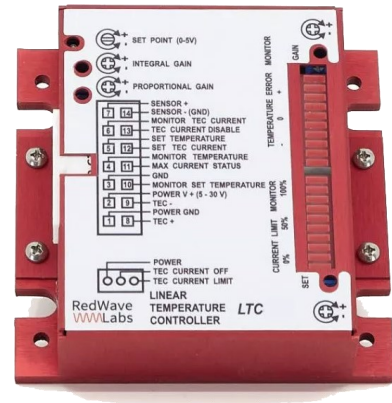


Introduction

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

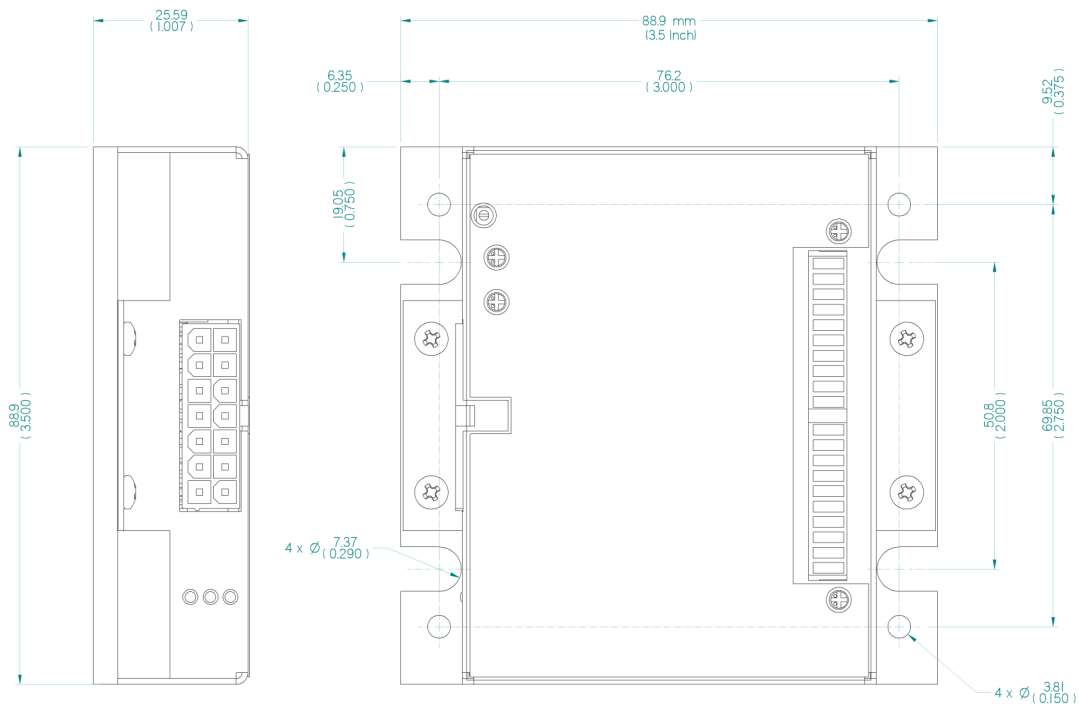
| | | | | |
|--------------------|---|--|----------------------|----------|
| Features | Linear Temperature Control for Thermo-Electric Elements and Resistive Heaters | | | |
| Applications | Laser, Detectors, Precision Instrument, OEM applications | | | |
| Specifications | Parameter | Value | | |
| | | 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 |