



Americas: +1.919.597.7300
Europe: +46.31.420530
Asia: +86.755.2714.1166
ets.sales@lairdtech.com
www.lairdtech.com

The Q Series thermostatic controller is a microcontroller-based device that can be incorporated into a thermoelectric assembly (TEA) to add integrated temperature control. This controller functions as a cooling control device and features an adjustable temperature set point range from 0°C to 10°C. The Q Series controller provides a single directional temperature control for standard or custom thermostatic control with several input and output options. Custom configurations are available, however MOQ applies.

FEATURES

- Operation in cooling mode
- Regulation mode is ON/OFF at the programmed set point and hysteresis
- Input power range can accommodate 11 to 58 VDC, nominally 12 to 48 VDC
- Outputs are available for fan, thermoelectric module, NTC thermistor, tachometer sensor, overheating thermostat switch, alarm, and LED. Some features sold on custom configurations only

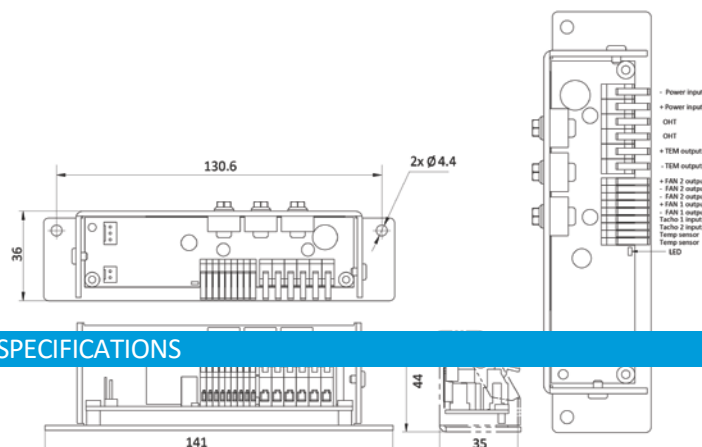
BENEFITS

- The controller's temperature set point can be adjusted with an internal potentiometer in the internal range of 30°C to 40°C
- Tachometer sensor inputs provided to measure the speed of two fans. Feature sold on custom configurations only
- Overheating thermostat switch input available to sense an over temperature condition and will turn off power to TEA. A thermostat is required for operation
- Alarm and LED outputs available to indicate functional status of controller

MARKETS

- Medical diagnostics
- Analytical instrumentation
- Photonics laser systems
- Electronic enclosure cooling
- Chillers (liquid cooling)

ISOMETRIC DRAWINGS



SPECIFICATIONS

| | |
|---|---|
| Power | |
| Voltage | 11 to 58 VDC |
| Current | 8 A without added cooling / 16 A with added cooling |
| Power | 786 W @ 48 VDC Max, 384 W @ 24 VDC Max, 192 W @ 12 VDC Max |
| User Interface | |
| | Onboard Potentiometer |
| Sensors | |
| Temp Sensor | NTC Thermistor |
| Fan Tachometer 1 | Use with fans w/ an open collector tachometer |
| Fan Tachometer 2 | Use with fans w/ an open collector tachometer |
| Outputs | |
| Thermoelectric Module | Supply voltage @ ≤16 A |
| Fan 1 | Supply voltage @ 2 A |
| Fan 2 | Supply voltage @ 2 A |
| Alarm Relay | Open collector, Opto-isolated |
| Overheating Thermostat | Overheating protection |
| LED | Status/Errors |
| Alarms | |
| Low Voltage | If voltage is lower than programmed minimum level the outputs are shut down after a programmed time |
| High Voltage | Outputs are shut down instantly |
| Tachometer 1 & 2* | If the RPM signal is lower than the programmed minimum level, error is indicated. |
| Max Voltage | VCEO = 35V, VECO = 6V |
| Max Current | Ic = 50 mA |
| Note: All programming of parameters are conducted by Laird Technologies | |
| Temperature Regulation: | |
| ON/OFF mode | Controller switches the TEM output between full power and zero power at the programmed set point and hysteresis |
| Programmed Control Set Point | Cooling at 35°C, Off at 32°C |
| Trim Range | ± 5°C |
| Accuracy | ± 1°C |
| Protection | |
| | Over and under voltage |
| | Reverse polarity |

* Feature sold on custom units only.

LAIRD-ETS-TC-18-QE-50-DATA-SHEET-101416

Any information furnished by Laird Technologies, Inc. and its agents is believed to be accurate and reliable. All specifications are subject to change without notice. Responsibility for the use and application of Laird Technologies materials rests with the end user. Laird Technologies makes no warranties as to the fitness, merchantability, suitability or non-infringement of any Laird Technologies materials or products for any specific or general uses. Laird Technologies shall not be liable for incidental or consequential damages of any kind. All Laird Technologies products are sold pursuant to the Laird Technologies' Terms and Conditions of sale in effect from time to time, a copy of which will be furnished upon request. © Copyright 2016 Laird Technologies, Inc. All Rights Reserved. Laird, Laird Technologies, the Laird Technologies Logo, and other marks are trademarks or registered trademarks of Laird Technologies, Inc. or an affiliate company thereof. Other product or service names may be the property of third parties. Nothing herein provides a license under any Laird Technologies or any third party intellectual property rights.