Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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Q Series, TC-18-QE-50

Temperature Controller

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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

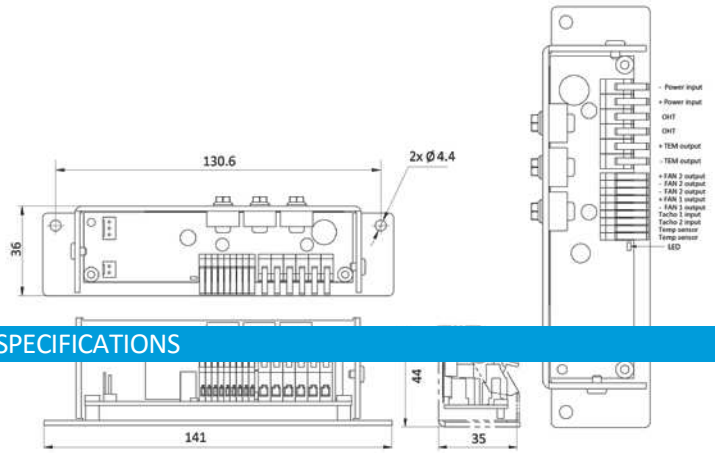
BENEFITS

- 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 lover 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