



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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Direct-to-Liquid Thermoelectric Assembly



Thermoelectric cooling unit for medical and industrial applications

The Direct-to-Liquid Series thermoelectric assembly (TEA) offers dependable, compact performance by cooling objects via liquid to transfer heat. Heat is absorbed through a cold block and dissipated thru a second liquid heat exchanger. The thermoelectric modules are custom designed to achieve a high coefficient of performance (COP) to minimize power consumption. This product series is available in a wide range of cooling capacities and voltages. Custom configurations are available, however, MOQ applies.

The liquid heat exchanger is designed to accommodate distilled water with glycol. Corrosion resistant turbulators are enclosed inside channels to increase heat transfer. Mating port adaptors are sold separately.

FEATURES

- Compact form factor
- Reliable solid-state operation
- Precise temperature control
- Bi-metal thermostat for overheat protection
- RoHS compliant

APPLICATIONS

- Medical Diagnostics
- Industrial Lasers
- Medical Lasers
- Analytical Instrumentation

Americas: +1.919.597.7300

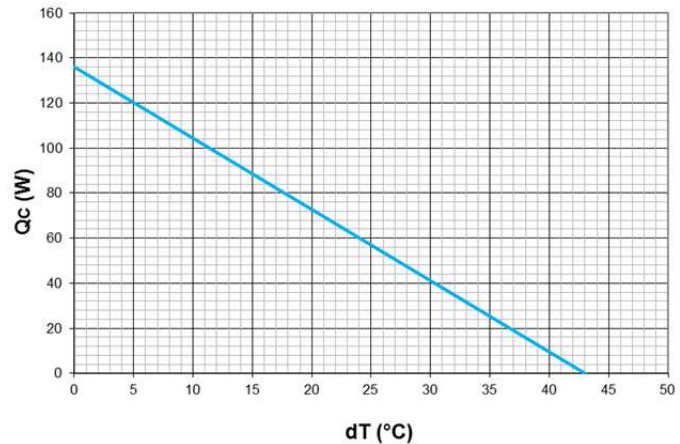
Europe: +46.31.420530

Asia: +86.755.2714.1166

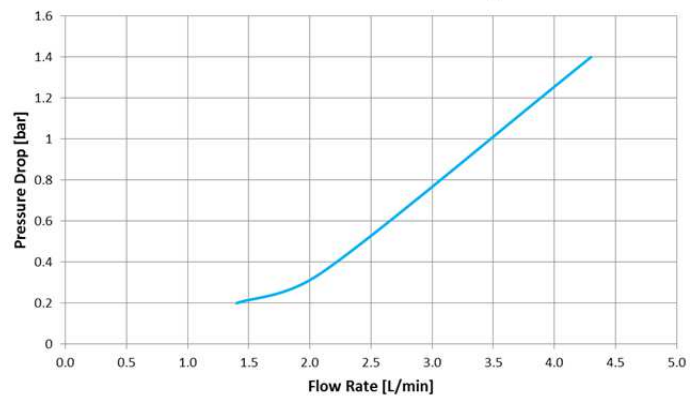
ets.sales@lairdtech.com

www.lairdtech.com

Qc vs dT



Flow Rate vs Pressure Drop



SPECIFICATIONS

TECHNICAL

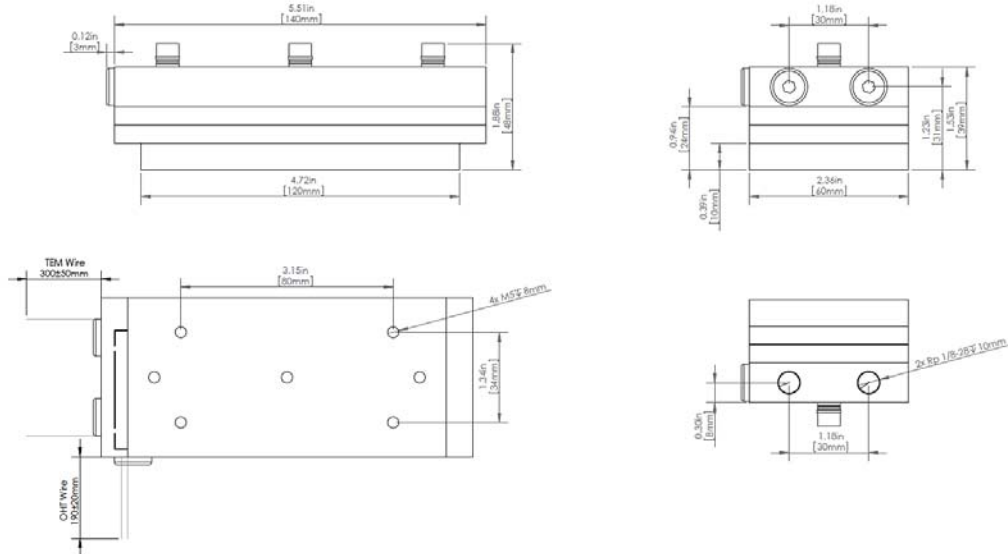
Technology	Thermoelectric modules, liquid cooling, closed loop (non-mixing), filterless, non-refrigerant
Cooling at $\Delta T = 0^{\circ}\text{C}$	135W (461 Btu/h)
Voltage (nominal / maximum) ¹	24/28 VDC
COP (Coefficient of Performance)	73%
Grounding (all voltages)	Positive or negative
Current draw, $\pm 10\%$ (nominal / startup)	4.1/4.7 A
Weight	0.7 kg (1.5 lbs)
Connector type (on unit / mating side)	TEM: Leads, 18 AWG, Red/Black OHT: Leads

ENVIRONMENTAL

Temperature range	-40°C to +62°C (-40°F to +143°F)
Hi-Pot Test	750 VDC
Over temp Thermostat	75°C \pm 5°C (167°F \pm 41°F) on hot side heat sink

1) Max ripple 5%

MECHANICAL DRAWING



For overheating protection, the cooler is equipped with a bimetal thermostat. The maximum rating for the thermostat is 8 A dc. For systems with 8 A or less, the thermostat can be connected directly in series with the thermoelectric modules (TEMs). Otherwise, connect the TEMs to the power source through a relay of suitable rating which state is controlled with the bimetal thermostat.

Note: Cold block requires insulation to minimize moisture build-up under dew point conditions.

THR-DS-DL-120-24-00-00-00_083115

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Direct-to-Liquid Thermoelectric Assembly

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