

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 through 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

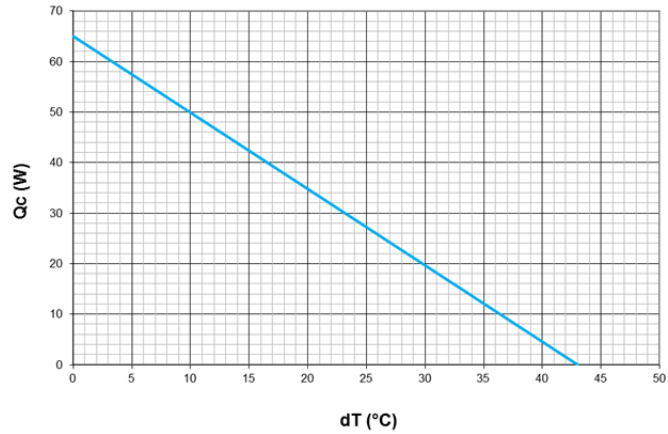
Europe: +46.31.420530

Asia: +86.755.2714.1166

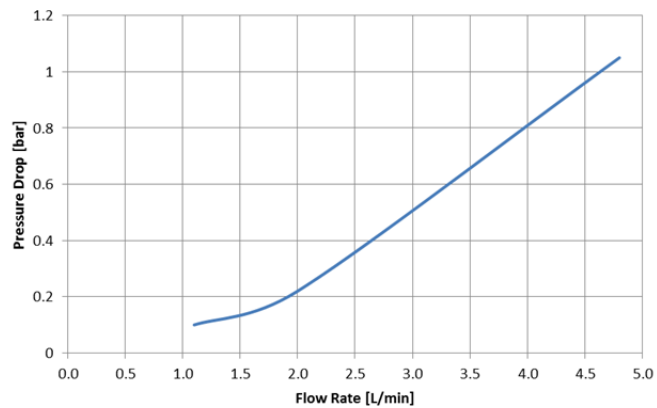
ets.sales@lairdtech.com

www.lairdtech.com

Qc vs dT



Pressure Drop vs Flow Rate



SPECIFICATIONS

TECHNICAL

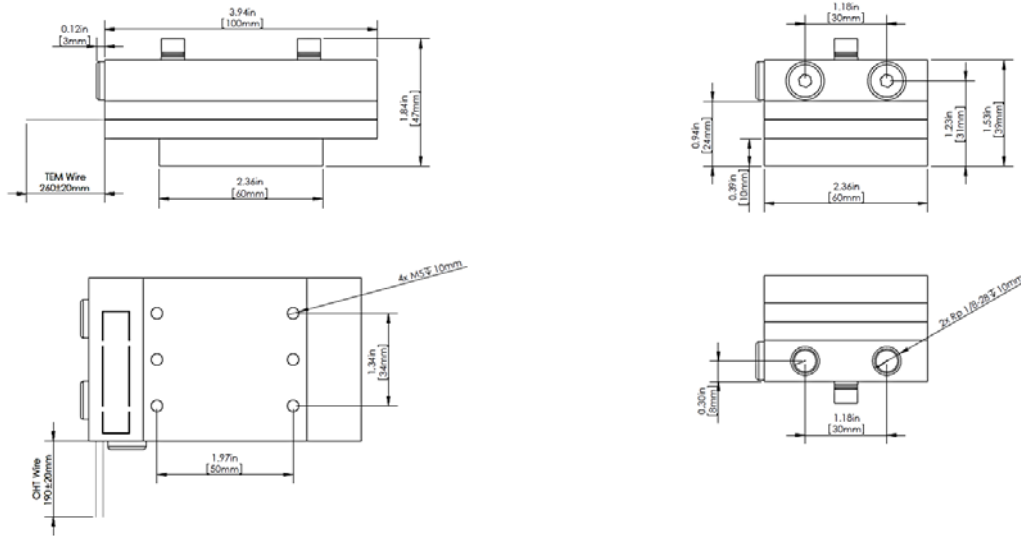
| | |
|--|--|
| Technology | Thermoelectric modules, liquid cooling, closed loop (non-mixing), filter less, non-refrigerant |
| Cooling at $\Delta T = 0^{\circ}\text{C}$ | 65 W (222 Btu/h) |
| Voltage (nominal / maximum) ¹ | 12/15 VDC |
| COP (Coefficient of Performance) | 72% |
| Grounding (all voltages) | Positive or negative |
| Current draw, $\pm 10\%$ (nominal / startup) | 3.9/4.3 A |
| Weight | 0.4 kg (0.9 lbs) |
| Connector type (on unit / mating side) | TEM: Leads, 20 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 buildup under dew point conditions.

THR-DS-DL-060-12-00-00-00_083115

Any information furnished by Laird 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 materials rests with the end user, since Laird and its agents cannot be aware of all potential uses. Laird makes no warranties as to the fitness, merchantability or suitability of any Laird materials or products for any specific or general uses. Laird, Laird Technologies, Inc or any of its affiliates or agents shall not be liable for incidental or consequential damages of any kind. All Laird 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 2014 Laird Technologies, Inc. All Rights Reserved. Laird, Laird Technologies, the Laird 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 or any third party intellectual property rights.



DL-060-12-00-00-00

Direct-to-Liquid Thermoelectric Assembly

THR-DS-DL-060-12-00-00-00_083115

Any information furnished by Laird 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 materials rests with the end user, since Laird and its agents cannot be aware of all potential uses. Laird makes no warranties as to the fitness, merchantability or suitability of any Laird materials or products for any specific or general uses. Laird, Laird Technologies, Inc or any of its affiliates or agents shall not be liable for incidental or consequential damages of any kind. All Laird 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 2014 Laird Technologies, Inc. All Rights Reserved. Laird, Laird Technologies, the Laird 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 or any third party intellectual property rights.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Laird:](#)

[DA-160-24-02-00-00](#) [DA-024-12-02-00-00](#) [AAC050-24-22-00-00](#) [DA-038-12-02-00-00](#) [DAC060-24-02-00-00](#) [DA-014-12-02-00-00](#) [AA-034-12-22-00-00](#) [DAC035-12-02-00-00](#) [DA-024-24-02-00-00](#) [DL-060-12-00-00-00](#) [DL-210-24-00-00-00](#)