

DA PowerCool Series, DA-045-24-02

Thermoelectric Assembly



POWERCOOL SERIES DIRECT-TO-AIR THERMOELECTRIC ASSEMBLY

The DA PowerCool Series is a Direct-to-Air thermoelectric assembly (TEA) that uses impingement flow to transfer heat. It offers dependable, compact performance by cooling objects via conduction. Heat is absorbed through a cold plate and dissipated through a high density heat exchanger equipped with an air ducted shroud and brand name fan. 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 and moisture protection options are available, however, MOQ applies.

FEATURES

- Compact design
- Precise temperature control
- Reliable solid-state operation
- DC operation
- RoHS compliant

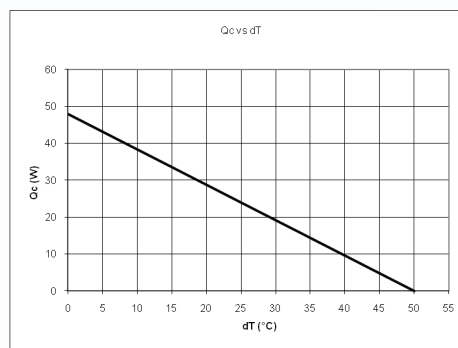
APPLICATIONS

- Analytical instrumentation
- Medical diagnostics
- Photonics laser systems
- Industrial instrumentation
- Food and beverage cooling

Specifications

Cooling Power Q_{cmax} (W)	48
Running Current (A)	2.5
Startup Current (A)	3.5
Nominal Voltage (V)	24
Max Voltage (V)	30
Power Input (W)	60
Operating Temperature (°C)	-10 to 46
Weight (kg)	1.2
MTBF (fans – hrs)	50,000
Performance Tolerance	±10%

PERFORMANCE CURVE



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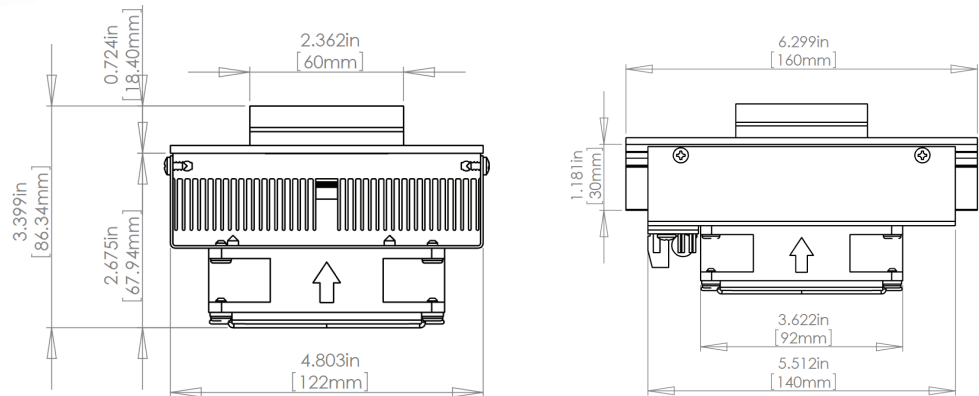
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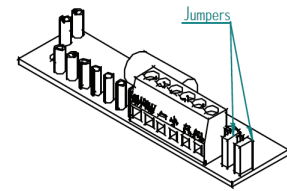
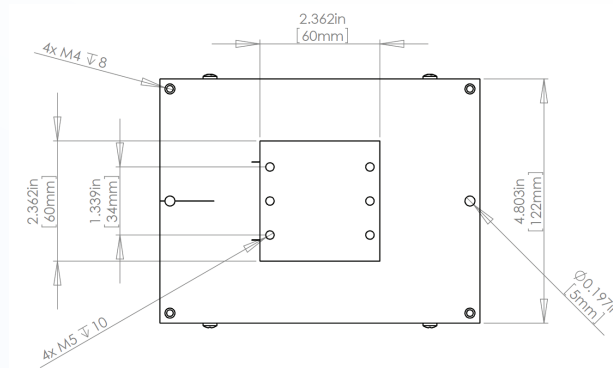
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ISOMETRIC DRAWINGS



MOUNTING HOLE LOCATION



NOTES

For indoor use only.
Thermally Conductive Grease enclosed.
Overheating Thermostat: $75^{\circ}\text{C} \pm 5^{\circ}\text{C}$
on hot side heat sink surface

WIRING SCHEMATIC

Electrical connections

"+" :+ TEM
 "- " :- TEM
 "F+" :+ Fan(s)
 "F-" :- Fan(s)

To use single supply. Lift the jumpers and rotate 90° to short-cut the pin pairs. Connect the unit to "+" & "-".

Warning: Single supply not applicable in heating mode or with PWM-regulation.

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