PowerCool Series Thermoelectric Cooler Assembly

The DA-024-12-02 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. It has a maximum $Q_c$ of 21.1 Watts when $\Delta T = 0$ and a maximum $\Delta T$ of 34 °C at $Q_c = 0$.

**Features**
- Compact design
- Precise temperature control
- Reliable solid-state operation
- Low noise
- RoHS-compliant

**Applications**
- Medical Diagnostic and Analytical Instrumentation
- Thermoelectric Coolers and Assemblies for Medical Applications
- Liquid Cooling Options for PET and SPECT Scanners
- Cooling for Centrifuges
- High-Performance Liquid Chromatography (HPLC)

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**ELECTRICAL AND THERMAL PERFORMANCE**

**Heat Pumped at Cold Side ($Q_c$)**
- Tambient = 35°C | $T_{control} = 20°C$

**Operating Current (Amps)**

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- Tambient = 35°C | $T_{control} = 20°C$

**Operating Voltage (Volts)**
SPECIFICATIONS

Operating Temperature Range
-10 °C to 48°C

Supply Voltage
12.0 VDC nominal / 15.0 VDC maximum

Current Draw
2.4 A running / 2.8 A startup

Power Supply
29.0 Watts

Performance Tolerance
10%

Fan MTBF
50,000 hours

Weight
0.30 kg

MOUNTING HOLE LOCATION

WIRING SCHEMATIC

Electrical Connections:
- TEM+ : Pink
- TEM- : Green
- FAN+ : Purple
- FAN - : Blue

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

NOTES

1 For indoor use only

2 Units are generally maintenance free, however occasionally it is recommended to clean the heat sinks and fans of debris. This is best done with compressed air.

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