



The PowerCool Series direct-to-air thermoelectric assembly is a high performance thermoelectric based heat pump. It is designed to temperature control small chambers used in medical diagnostics or sample storage compartments in analytical instrumentation. This unique design offers a high performance hot side heat dissipation mechanism that convects heat more efficiently than conventional heat exchanger technologies.

The design utilizes custom thermoelectric modules to maximize cooling capacity and premium grade fans to reduce noise. Moisture resistant insulation is used to keep condensation from penetrating into the TEM cavity. This unit operates on 48 VDC and is designed for indoor lab use environment. Custom configurations available upon request.

Laird Manufacturer Part Number: 387002415

FEATURES

- High Performance
- Compact Form Factor
- Reliable Solid-State Operation
- RoHS Compliant

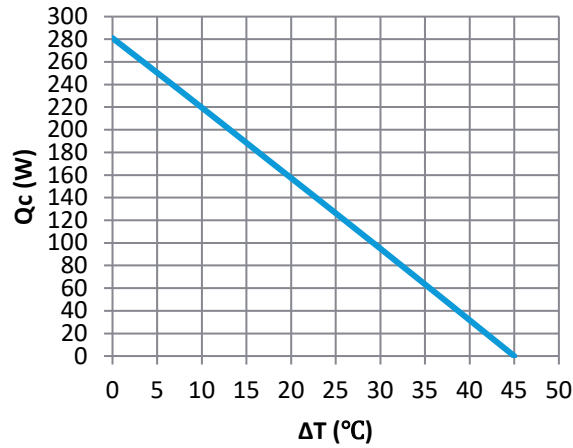
APPLICATIONS

- Analytical storage compartment temperature control
- Medical diagnostic chamber refrigeration

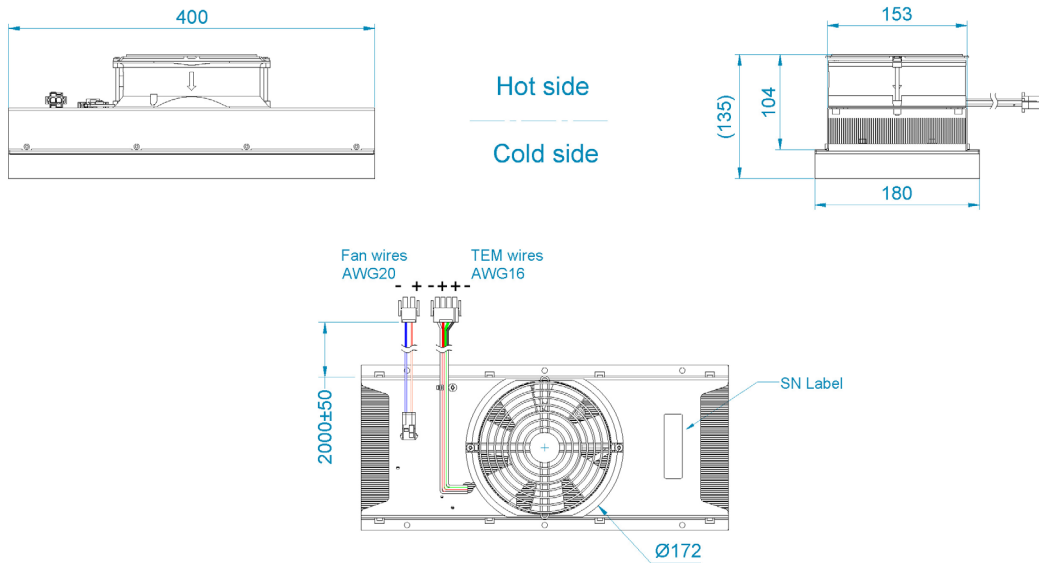
TECHNICAL SPECIFICATIONS	
TEA Model	DA-280-48-02-00-00
Heat Transfer, Cold Side	Direct
Heat Transfer, Hot Side	Air
Cooling Power @ $\Delta T=0^{\circ}\text{C}$ and $T_a=25^{\circ}\text{C}$, Tolerance $\pm 10\%$ - W	281
TEM Input Power	
Voltage, Nominal, - VDC	48
Current, Nominal/Initial @ $\Delta T=0^{\circ}\text{C}$ and $T_a=25^{\circ}\text{C}$, Tolerance $\pm 10\%$ - A	5.6/6.5
Fan Input Power	
Voltage, Nominal - VDC	24
Current, Nominal - A	0.7
Fan Noise - dBA	60
Dimensions (L x W x H) - mm	
Weight - kg	6.194
Operating Temperature - $^{\circ}\text{C}$	-20 to 55
Packaging	Individual cardboard box

PERFORMANCE QC VS ΔT

TEA performance at Ta=25°C

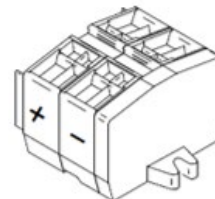


ISOMETRIC DRAWINGS



ELECTRICAL CONNECTIONS 48 VDC (CAGE CLAMP)

OBJECT	WIRE TYPE	COLOR	POLE
TEM +	18 AWG	Red	1
TEM -		Black	2
FAN +		Red	3
FAN -		Black	4



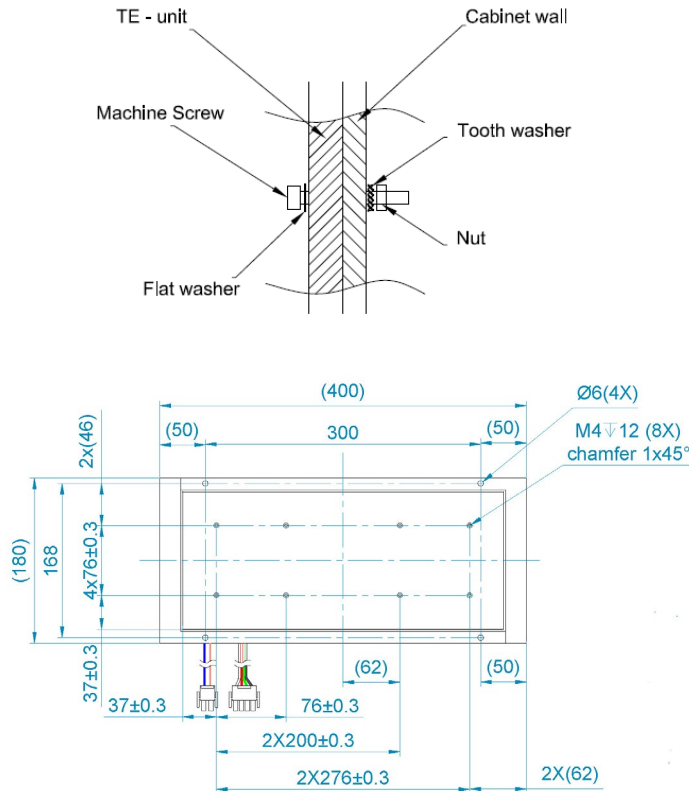
Warning: Do not reverse current or use PWM-regulation on fan supply.

SERVICE

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.

INSTALLATION INSTRUCTIONS

1. The TE assembly must be protected from external force or violence.
2. The power line to the assembly needs to be protected by a fuse. The fuse rating should be of at least the nominal current of the assembly 150% of rated current for at least 60 seconds. This is valid at $T_a=35^{\circ}\text{C}$. Fuse ratings for other ambient temperatures ($X^{\circ}\text{C}$) can be calculated $I[X^{\circ}\text{C}]=I[35^{\circ}\text{C}]/(1+0.005*(X-35))$. This is valid when regulating with an ON/OFF regulation. At rapid temperature cycling where this is applied, need for even higher fuse ratings.
3. Cooled parts need to be isolated from air humidity to minimize risk for condensation and thermally insulated for best performance.
4. Max ripple on supplied power =5%.
5. Switching power to TEMs at frequencies between 0.01 Hz to 5 kHz will render premature failure of modules and must be avoided.



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С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

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- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

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- Регистрацию проекта у производителя компонентов.
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- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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