

# AC-140 Peltier-Thermoelectric Air Cooler



- Can be used with a wide variety of TE Technology temperature controllers.
- Anodized heat sink and environmentally sealed external fan.
- Maintains enclosure at NEMA 4 rating.
- High coefficient of performance at low temperature differences.
- Ideal for telecommunications equipment and electronic enclosures where the cooler's power supply is located inside the enclosure.
- Input wires are routed on the cold side of the cooler, making it easy to power via wiring from inside the enclosure.
- Can easily be customized for production-sized orders to meet your exact requirements.
- CE marked, RoHS compliant.

**TE** TECHNOLOGY, INC.®

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**Expert Engineering, Precision Manufacturing: *Quality Thermal Solutions Delivered***

# AC-140 Specifications

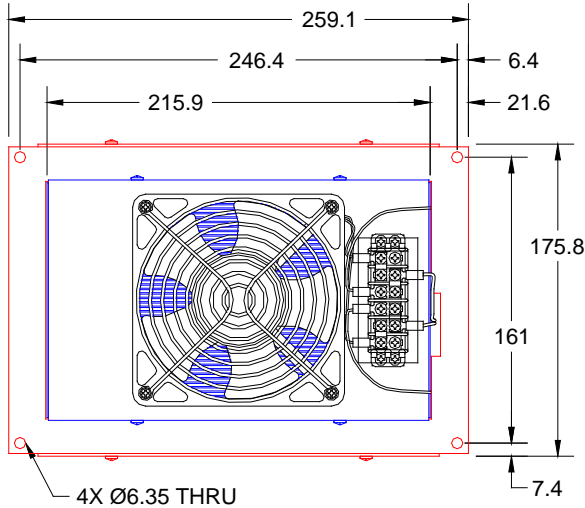
TE Power (typical) <sup>1</sup> :	24 VDC at 4.7 A	NEMA Rating:	4
TE Power (maximum) <sup>2</sup> :	24 VDC at 6.9 A	(Hot-side fan is rated IP68)	
Cold-side Fan Power:	24 VDC at 0.22 A	Weight (kg):	7.8
Hot-side Fan Power:	24 VDC at 1.0 A		

Please review the product manual: *Thermoelectric Cooling Assembly (TCA) Instruction Manual*, FAQ's and related technical information, and ordering information posted on our web site before purchasing or using this product.

Performance is based on unrestricted air flow to fans and from air-flow outlets. Do not operate if the ambient, enclosure air, heat sink, or cold sink temperatures exceed 70 °C. Do not operate fans at air temperatures below -10 °C.

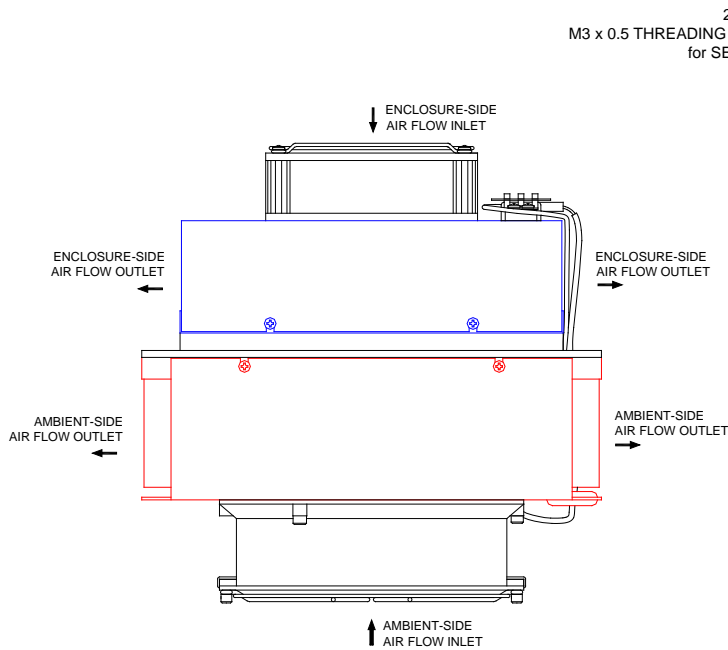
<sup>1</sup>Current is rated at +25 °C ambient, +25 °C internal, maximum heat removal. At -5.7 °C internal, the typical current is 4.2 A.

<sup>2</sup>Current, at steady-state operation under-worst case conditions, is rated at -10 °C ambient, +70 °C internal, maximum heat removal.

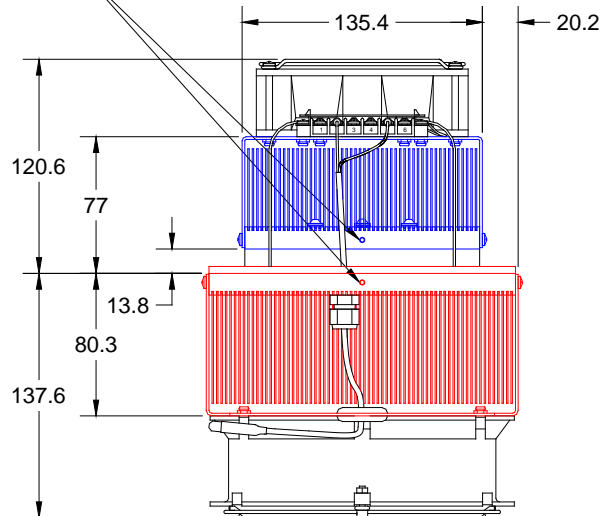


NOTE: 1. ALL DIMENSIONS IN MILLIMETERS  
2. COLD SIDE SHOWN IN BLUE;  
HOT SIDE SHOWN IN RED

A 3D PDF, .igs, and .sldprt solid models are also available from the website. Contact TE Technology for 3D solid models in STEP or SAT format.



25 DEEP HOLE with  
M3 x 0.5 THREADING TAPPED 9.7 DEEP  
for SENSOR MOUNTING



RoHS Compliant  
Directive 2011/65/EU



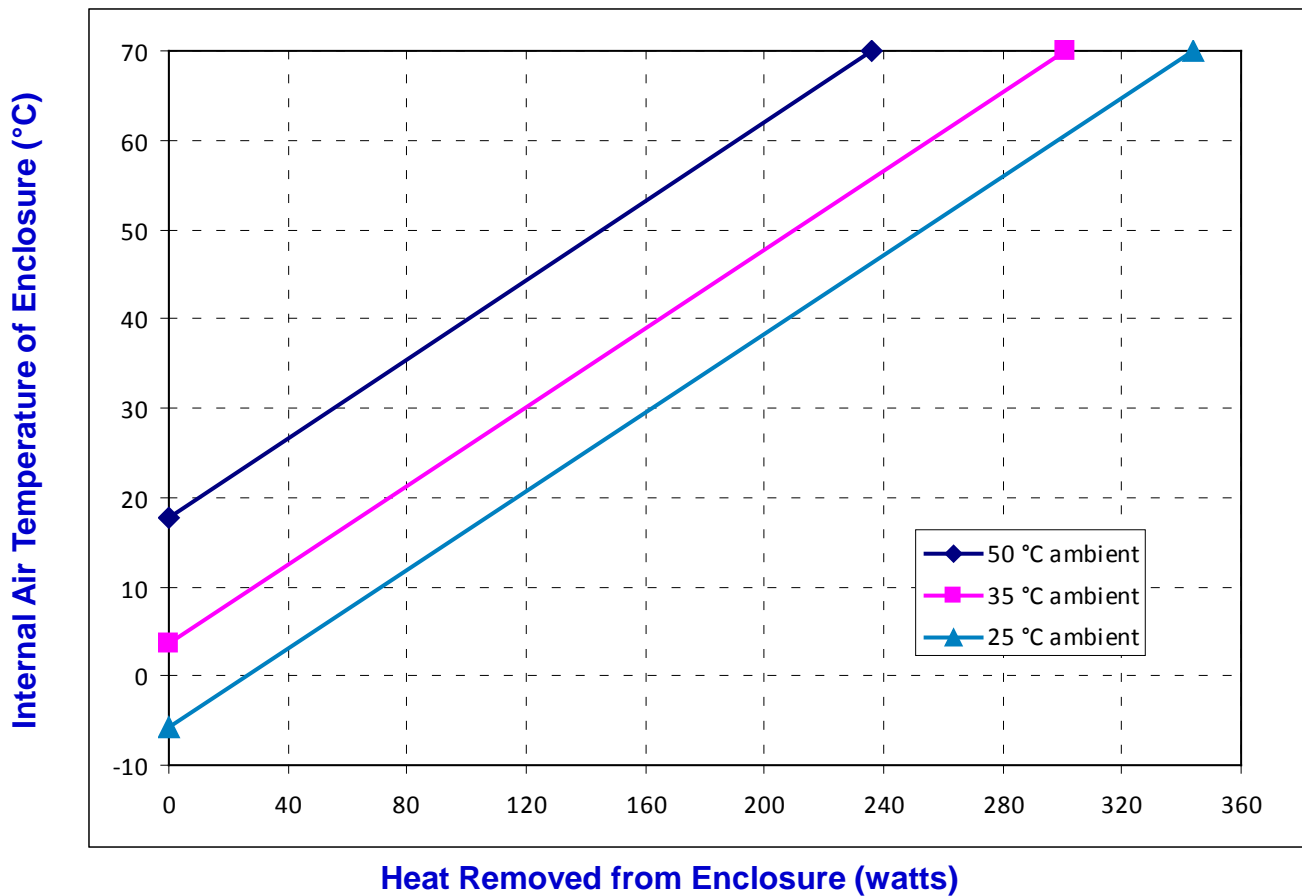
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## AC-140 Cooling Performance Graph

(removing heat from enclosure)



### How to use the Performance Graph:

#### 1. Select Performance Line.

The diagonal lines shown represent cooling performance at the indicated ambient air temperature (inlet to ambient-side fan). If the cooler is to operate at a different ambient, then you must sketch in a new performance line. This can be drawn parallel to one of the existing lines, using the distance between the existing lines as a scale to properly locate the new line. →

#### 2. Select Enclosure Temperature.

Draw a horizontal line on the graph corresponding to the desired internal air temperature of the enclosure until it intersects with the performance line corresponding to the ambient temperature at which the cooler is to operate. →

NOTE: heating performance is not shown. Contact TE Technology, Inc. if you require this information.

#### 3. Determine Cooling Capacity.

The maximum amount of heat that the cooler can remove from the enclosure is determined by the intersection point (determined in the previous step). *If the heat load exceeds the cooling capacity, then the cooler will not be able to maintain the desired enclosure temperature. If the heat load is less, then the cooler can operate with less input power.*

Example: You need to maintain the enclosure at 15 °C while in a 25 °C ambient. The cooler can remove a maximum of approximately 95 W of heat from the enclosure. If the heat load (internally generated heat plus the heat gain through insulation, solar, vapor condensation, etc.) in the enclosure exceeds this, you would need more coolers and/or a larger cooler.

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