

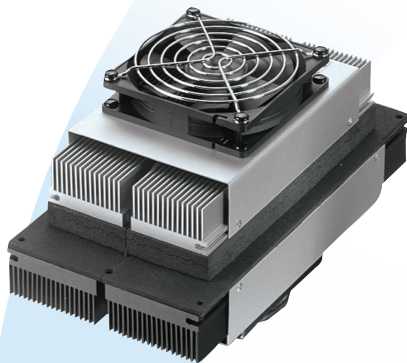
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AA-100 / AA-150 / AA-200 Outdoor Thermoelectric Cooler Assemblies



THERMOELECTRIC COOLING UNITS FOR OUTDOOR ENCLOSURES AND KIOSKS

Laird Technologies is the leading manufacturer of thermoelectric cooling assemblies with hundreds of thousands of units supplied in the field. Our broad range of outdoor cooling units have passed rigorous Telcordia test requirements conducted by our customers, such as earthquake resistance, salt fog, wind-driven rain, high temperature exposure, dust, etc.

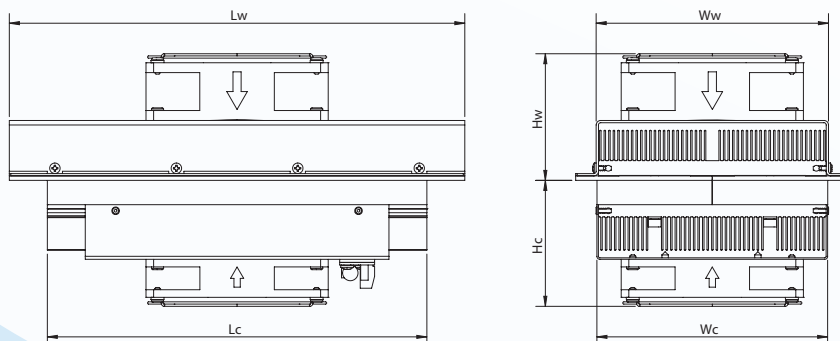
These outdoor units have the reputation for high reliability due to the selection of world class components such as major brand fans with the highest degree of environmental protection and lifetime guaranteed waterproof connectors, heavy duty anodization on the high-density heat sinks, overheat protection, and double environmental seals for the TE modules. TE Coolers are also known as Peltier and Solid State coolers.

FEATURES AND BENEFITS

- 100W, 150W, 200W capacities rated at $\Delta T_{amb} = 0^{\circ}\text{C}$, $T_{ext} = 32^{\circ}\text{C}$
- DC power options available for +24VDC and -48VDC
- Wide operating temperature range of -40°C to $+55^{\circ}\text{C}$
- Telcordia GR-487-CORE tested and verified by customers when integrated in telecom outdoor enclosures
- Gaskets, connectors, and fans provide a NEMA 4 seal for the enclosure
- UL60950 and UL50 approval obtained by customers when integrated in telecom outdoor enclosures
- Environmentally friendly solid state operation – no compressor or CFC refrigerants
- Cooling and heating in the same unit; optional temperature controller reverses the polarity of current to generate heating
- Optional equipment: sheet metal shrouds, power supplies, and spares

APPLICATIONS

- Outdoor telecom enclosures
- Outdoor kiosks and displays
- Harsh condition electronic cabinets
- Battery cabinets



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AA-100 / AA-150 / AA-200 Outdoor Thermoelectric Cooler Assemblies

SPECIFICATIONS	AA-100-...	AA-150-...	AA-200-...
Technical			
Technology	Thermoelectric (TE) modules, forced air, closed loop (non-mixing), filterless, non-refrigerant		
Cooling at $dT = 0^{\circ}\text{C}$, and nominal / float voltage. ¹	102/113W (348/386 Btu/h)	143/159W (488/543 Btu/h)	193/214W (659/731 Btu/h)
Heating ²	125W (427 Btu/h)	150W (512 Btu/h)	250W (853 Btu/h)
Voltage (nominal / maximum)	24/28 VDC 48/56 VDC	24/28 VDC 48/56 VDC	24/28 VDC 48/56 VDC
Grounding (all voltages)	Positive or negative		
Current draw, $\pm 10\%$ (nominal / startup)	5.6/7.2 A (24V version) 2.8/3.6 A (48V version)	7.9/10.0 A (24V version) 3.9/5.0 A (48V version)	11.3/14.3 A (24V version) 5.6/7.2 A (48V version)
Dimensions, cold side ($L_c \times W_c \times H_c$)	230 x 122 x 83 mm (9.1 x 4.8 x 3.3 in)	250 x 152 x 83 mm (9.8 x 6.0 x 3.3 in)	350 x 152 x 89 mm (13.8 x 6.0 x 3.5 in)
Dimensions, warm side ($L_w \times W_w \times H_w$)	300 x 152 x 78 mm (11.8 x 6.0 x 3.1 in)	300 x 180 x 84 mm (11.8 x 7.1 x 3.3 in)	400 x 180 x 89 mm (15.7 x 7.1 x 3.5 in)
Weight	4.1 kg (9.0 lbs)	5.1 kg (11.2 lbs)	6.6 kg (14.5 lbs)
Panel mounting	Through		
Fan life (L_{10} at $+40^{\circ}\text{C}$)	$\geq 70,000$ hours		
Number of connectors (with / without controller)	1/3		
Connector type (on unit / mating side)	On unit: AMP part number: 350777-1, 794269, 350547-6, 794270-1 Mating side: AMP part number : 350778-1, 350550-6, 794270-1		
Hi-pot testing	707 VDC		
Environmental			
Temperature range ³ (external ambient)	-40°C to $+55^{\circ}\text{C}$ (-40°F to $+131^{\circ}\text{F}$)		
Temperature range (internal enclosure)	-20°C to $+55^{\circ}\text{C}$ (-4°F to $+131^{\circ}\text{F}$)		
Degree of protection, enclosure ⁴	NEMA 4 (IP55)		
Degree of protection, unit ⁵	IP54		
Sound level (1m distance)	58 dB(A)	58 dB(A)	63 dB(A)
Controllers (optional)			
LK-81 – Thermostatic control (solid state)	Cooling, set point 25°C (77°F), $\pm 2^{\circ}\text{C}$ (3.5°F) Heating, set point 10°C (50°F), $\pm 2^{\circ}\text{C}$ (3.5°F)		
LK-81 – Low Voltage Disconnect / Re-connect (LVD / LVD-R)	25.0 / 26.0V, $\pm 0.5\text{V}$ (24 VDC versions) 50.2 / 51.4V, $\pm 0.5\text{V}$ (48 VDC version A) 47.0 / 49.0V, $\pm 0.5\text{V}$ (48 VDC version B)		
LK-81 – Regulation	ON/OFF		
Ordering codes			
24V, without controller	AA-100-24-44-00-XX	AA-150-24-44-00-XX	AA-200-24-44-00-XX
24V, with controller		AA-150-24-44-LK-XX	AA-200-24-44-LK-XX
48V, without controller	AA-100-48-44-00-XX	AA-150-48-44-00-XX	AA-200-48-44-00-XX
48V, with controller		AA-150-48-44-LK-XX	AA-200-48-44-LK-XX

¹ Cooling capacities at nominal / float voltage are rated at external temperatures of 32°C and 46°C respectively. Float voltage is defined as 27 and 54 VDC.

² Heating capacity is rated at external temperature of -40°C , nominal voltage, and $dT = -45^{\circ}\text{C}$.

³ Controller function shall not operate the external fan during heating mode.

⁴ The highest environmental protection level requires an external shroud and is defined as the protection level for the enclosure.

⁵ Rating for unit without protective shroud.

Note: The specified performance of any Laird Technologies cooling unit is dependent on how it is handled and incorporated into the final product. This includes elements such as the system design, insulation design, and assembly method. While Laird Technologies is able to provide general guidelines based upon our experience, it is ultimately the responsibility of the device manufacturer to validate each product and its performance for its intended use.

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