

Product Information Packet

Model AHP-270CPHC

Solid State Cold/Hot Plate

Part #1-L095-1-001

Thank you for your purchase. Information has been enclosed regarding the installation, specifications, and wiring of your solid-state assembly. Please read and follow all instructions carefully before installation. Only qualified technicians should install this equipment.

If you have any questions regarding your equipment, please do not hesitate to call us at 773-342-4900, and we will be happy to assist you. We are open from 8:00 am-4:30 pm Central Time.

Included in this packet you will find:

Product Literature and Specifications

Assembly Drawing # SK140535

Wiring Drawing # SK141132

Installation Drawing # SK140536

Warranty Information

The logo for Teca, featuring the word "teca" in a bold, lowercase, sans-serif font. The letter "t" is stylized with a vertical line extending upwards from its stem.

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AHP-270CP Cold/Hot Plate

Air Cooled

General Purpose 12 VDC, 24 VDC
64 Watts

FEATURES

- Compact (only 6" X 4.75" X 4.4")
- Mounts and operates in any orientation: horizontal, vertical, etc.
- Low vibration and noise
- No moving parts except fan
- Environmentally safe
- No compressor, fluorocarbons or filters
- Heat via reverse polarity
- Virtually maintenance-free operation
- Weight 3.8 LBS. (1.7 KG)

INCLUDES

- Mounting gasket
- Mounting hardware
- Power input leads

OPTIONS

- Adaptable for TC-3400 controller
- Adaptable for TC-3500 H-Bridge controller (24VDC only)
- Stainless steel exterior housing



PERFORMANCE RATINGS

Cooling	64 WATTS
Cooling COP	0.67
Heating	> 96 Watts

SPECIFICATIONS

MODEL	PART NUMBER	NOTES	PERFORMANCE RATING WATTS	VOLTAGE VDC	CURRENT AMPS.	TEMP. CONTROL	OPERATING AMBIENT °C
AHP-270CPHC	1-L094-1-001	Heat/Cool	64	12	8	None	-10/+60
AHP-270CPHC	1-L095-1-001	Heat/Cool	64	24	4	None	-10/+60

Heat function via reverse polarity (requires controller with H-Bridge)

AHP-270CP

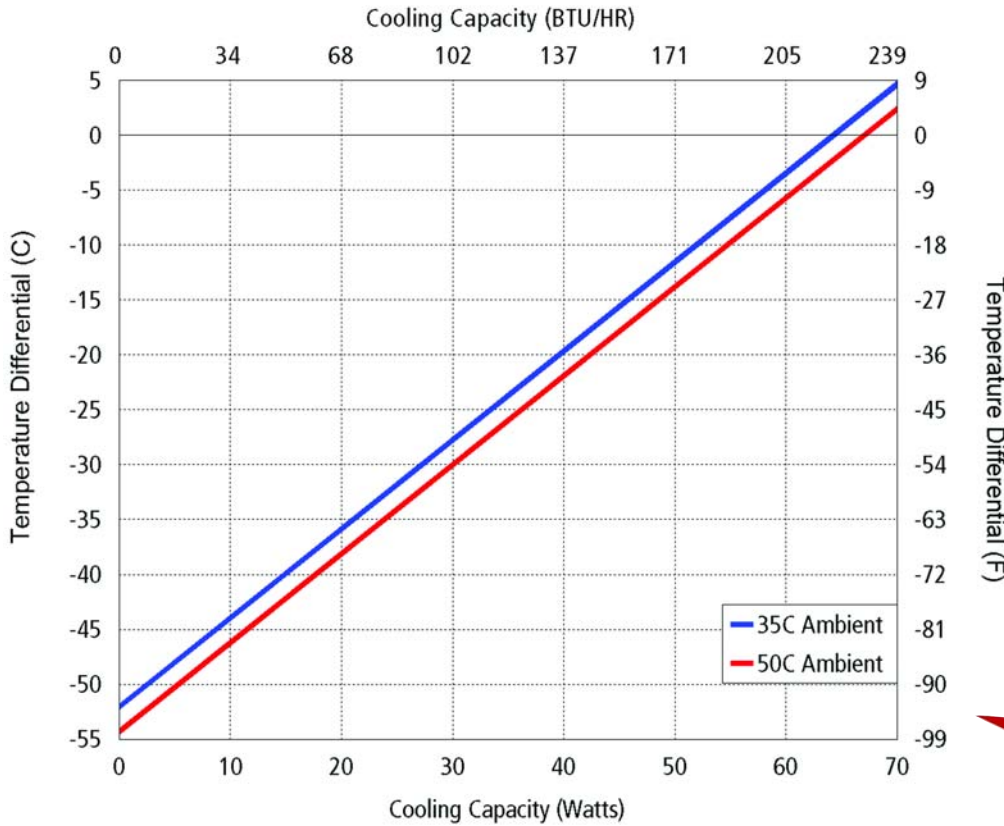
ENVIRONMENTS

Bench Top, Factory, Industrial, OEM

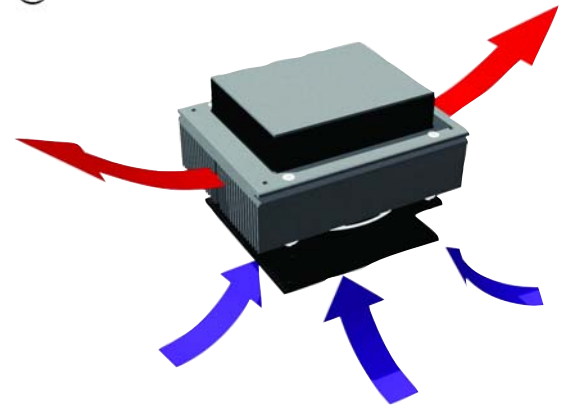
COOLING CAPACITY

64 Watts @ 0 °C ΔT

PERFORMANCE CURVE

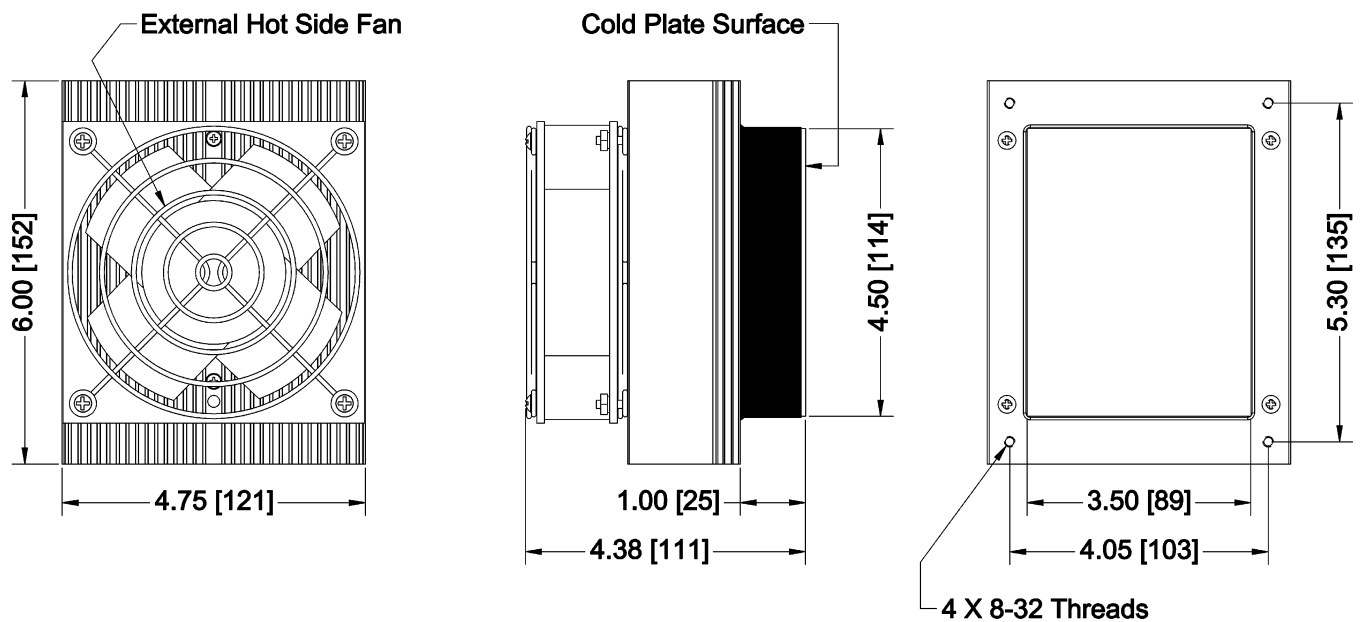


Equation of Line: $y = \Delta T(^{\circ}C)$ $x = \text{Capacity (Watts)}$		
Ambient Temp	35°C	50°C
Cold Plate	$y = 0.81x - 52$	$y = 0.81x - 54.3$

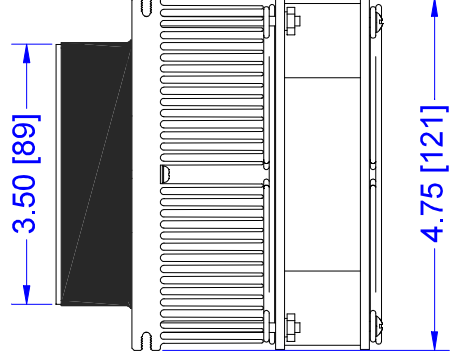
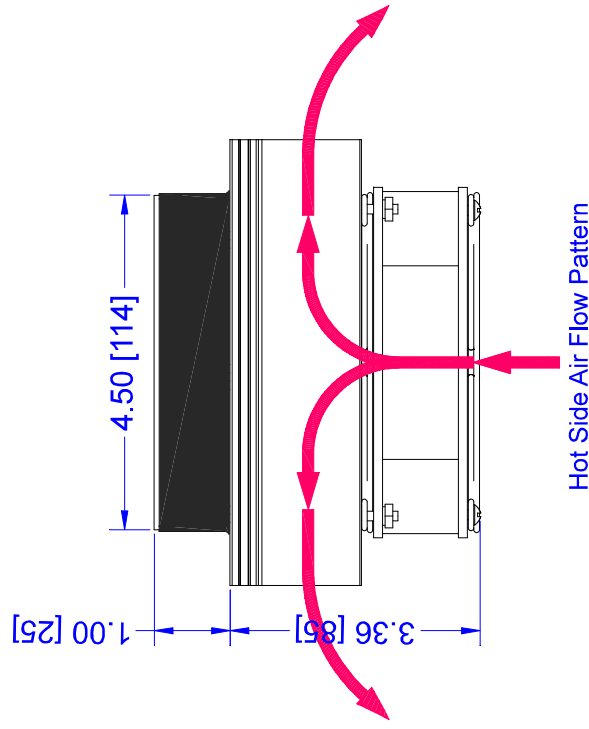
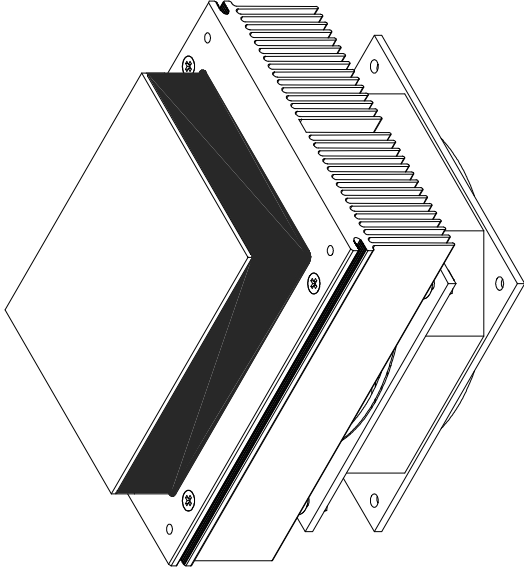
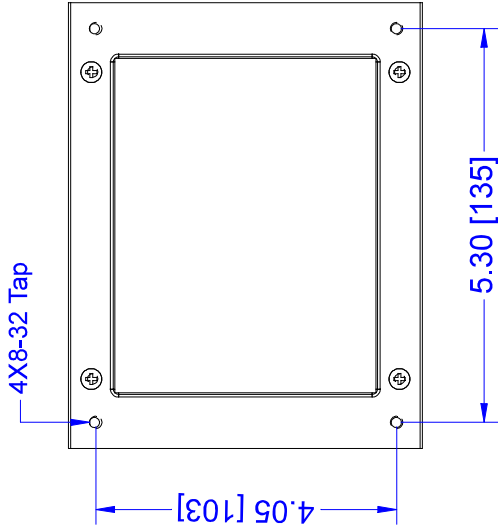


Air Flow Pattern

DIMENSIONS



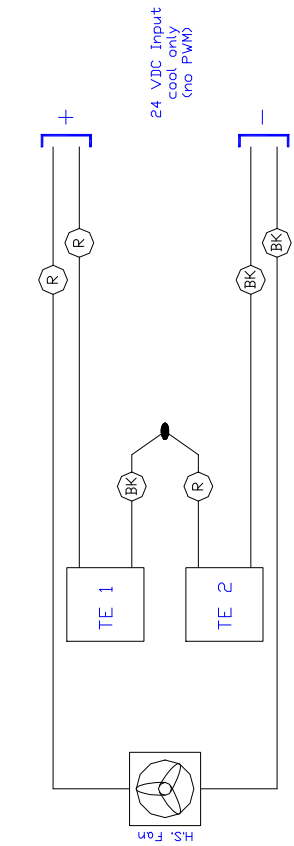
Dimension does not include hardware and sealant.
 Hardware and gasket included but not shown.
 Dimensions: Inches [Millimeters]



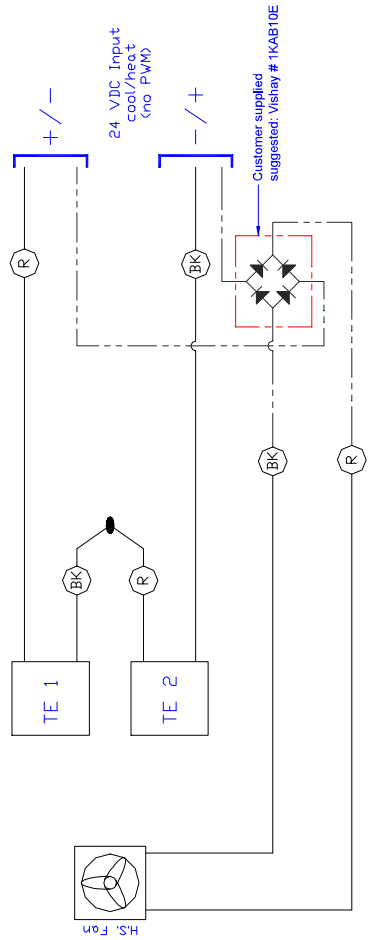
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FINISH:

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
DECIMALS .XX +/- ANGLE +/-
.XXX +/- FRACTION +/-
MATERIAL:

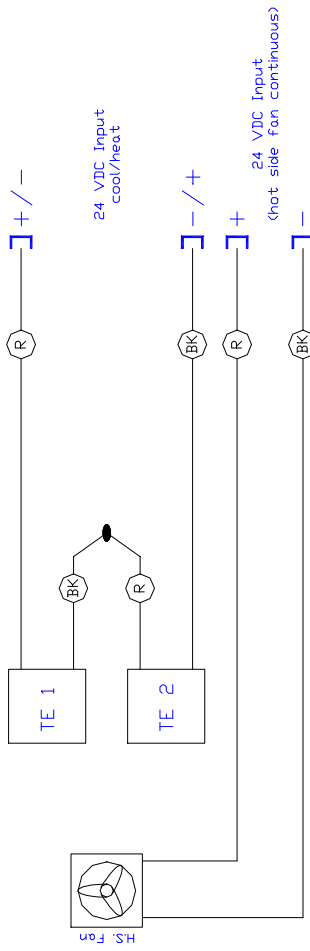
THERMOELECTRIC COOLING AMERICA CORP. AHP-250CP, AHP-270CP SERIES THERMOELECTRIC COLD PLATE		DRAWN BY: AA DATE: 05/13/2014 D9190	DRAWING # SK140535 SCALE	REV LEVEL SHEET
FINISH:	DESCRIPTION	Date	APPROVED	MASTER: MASTER



24 VDC, Cool only (no PWM)
fan cycles with TE



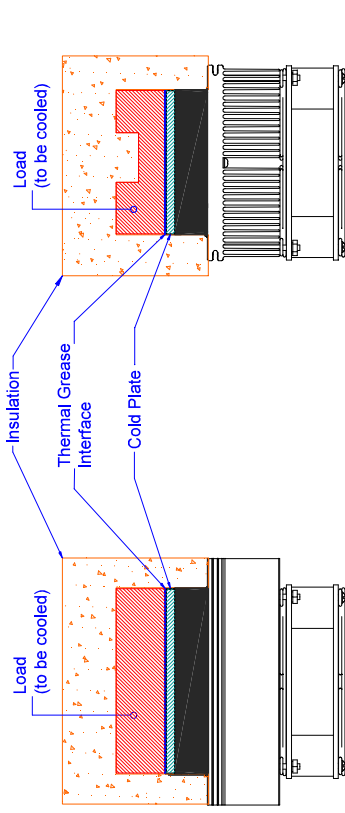
24 VDC, Heat/Cool via polarity reversal (no PWM)
hot side fan reverse polarity protected
and cycles with TE



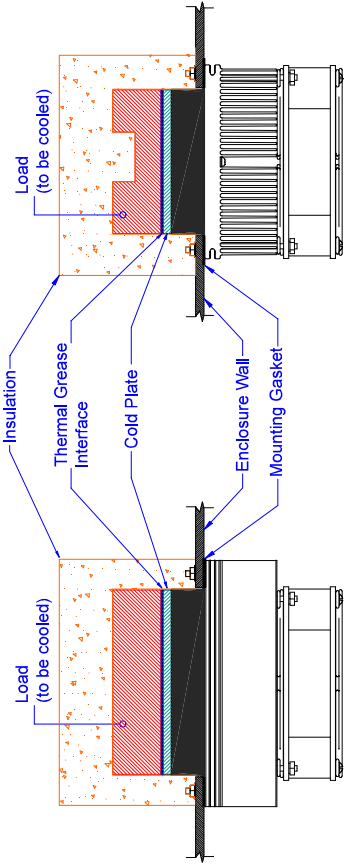
24 VDC, Heat/Cool via polarity reversal
hot side fan on continuous

REV	DESCRIPTION	Date	APPROVED									
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<p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:</p> <table border="1"> <tr> <td>DECIMALS</td> <td>ANGLE</td> <td>FRACTION</td> </tr> <tr> <td>.XX +/-</td> <td>+/-</td> <td>+/-</td> </tr> <tr> <td>.XXX +/-</td> <td></td> <td>+/-</td> </tr> </table>				DECIMALS	ANGLE	FRACTION	.XX +/-	+/-	+/-	.XXX +/-		+/-
DECIMALS	ANGLE	FRACTION										
.XX +/-	+/-	+/-										
.XXX +/-		+/-										
<p>MATERIAL:</p>												
<p>FINISH:</p>												
<p>OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES</p>												
<p>DATE: 11/18/2014</p>												
<p>DRAWN BY: AA</p>												
<p>DRAWING # SK141132</p>												
<p>SCALE</p>												
<p>MASTER: MASTER</p>												
<p>REV LEVEL</p>												
<p>SHEET</p>												

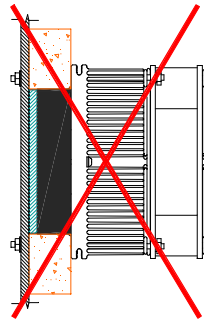
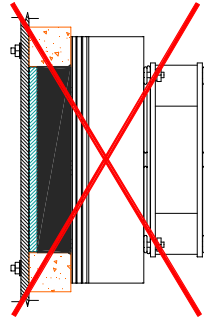
THERMOELECTRIC COOLING AMERICA CORP.
 AHP-250CP, AHP-270CP (24 VDC)
 TYPICAL WIRING



METHOD A



METHOD B



Note: Do not use this method. Over compression may cause irreversible damage to the thermoelectrics and void the warranty.

INSTALLATION INSTRUCTIONS

- 1- Choose Mounting Method (A or B).
- 2- Prepare mounting surface/component as indicated. Ideal component surface flatness is ± 0.001 T.I.R.
- 3- Spread an even, approximately 10 MIL, layer of thermal grease (Dow type 340 or equivalent) on both thermal contact surfaces (component and cold plate). A speedball rubber roller works well for this.
- 4- Install unit without sliding against mating surface, rotate slightly to "seat" them.
- 5- Fit insulation around cold plate surfaces as required.
- 6- If desired, caulk insulation to seal and secure insulation.
- 7- Connect power per appropriate wiring diagram.

REV	DESCRIPTION	Date	APPROVED
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<p>FINISH:</p>			
<p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:</p>		<p>DECIMALS ANGLE +/- .XX +/- FRACTION +/- .XXX +/- +/-</p>	
<p>MATERIAL:</p>		<p>DRAWING # REV LEVEL SK140536 AA</p>	
<p>DATE: 05/14/2014</p>		<p>SCALE MASTER: SK140535</p>	
<p>THERMOELECTRIC COOLING AMERICA CORP.</p>			
<p>AHP-250CP, AHP-270CP SERIES</p>			
<p>INSTALLATION INSTRUCTIONS</p>			

LIMITED WARRANTY

In the event a defect in material or workmanship is discovered in any of TECA's products within one year after the date they are delivered to Buyer, and if: (a) TECA is notified of the defect in writing by certified mail within 14 days of the date of discovery; (b) TECA may then either, at its sole discretion, inspect the product at Buyer's location, or require that the product be made available at Buyer's expense at TECA's premises for TECA's inspection within 14 days of the date of notification; and (c) the products are defective and the defects result from faulty materials and/or workmanship and not in any way from accident, misuse, misapplication, mishandling, modification, or alteration by the Buyer or the shipper, then TECA shall, at its sole option, repair or exchange defective products free of charge to Buyer, or credit to buyer the price of the defective products. ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE EXCLUDED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL TECA BE LIABLE FOR ANY CLAIM BASED UPON BREACH OF EXPRESS OR IMPLIED WARRANTY OR ANY OTHER DAMAGES WHETHER SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, LOST PROFITS, BUSINESS INTERRUPTION, OR LOSS OF BUSINESS OR CUSTOMER RELATIONSHIPS.

RETURNED GOODS, RESTOCKING CHARGES

In order to return merchandise for any reason (repair, replacement, or credit) a return authorization number must be issued by TECA. New merchandise may not be returned for credit beyond 60 days from shipment. Charges for incidental or other damages may also be made. All returned goods must be sent freight prepaid. A restocking charge of 15% will apply. On special equipment and custom modified equipment orders, additional incremental cancellation charges may be made.