

# Product Information Packet

## Model AHP-300CPHC

Solid State Heat/Cool Cold Plate

Part #1-7095-1-000

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 8:30 am-5:00 pm Central Time.

Included in this packet you will find:

Product Literature and Specifications

Assembly Drawing # 301-B-A48

Wiring Drawing # 301-B-E48

Installation Drawing # 301-B-F5

Warranty Information



**ThermoElectric Cooling America Corporation**  
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# AHP-300CP AHP-150CP

Air Cooled

## Thermoelectric Cold Plate

General Purpose VDC Input

### FEATURES

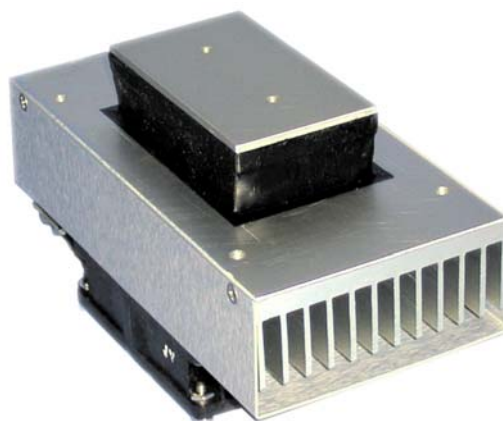
- Direct contact cooling as much as 56 °C below room temperature
- No compressor, fluorocarbons or filters
- Virtually maintenance-free operation
- Mounts in any orientation
- Works with TC-3500

### INCLUDES

- Cold plate accessory tapped holes
- Machined surface
- Terminal strip for wire hook up



AHP-300CP



AHP-150CP

### SPECIFICATIONS AHP-300CP

MODEL	PART NUMBER	NOTES	PERFORMANCE RATING BTU/HR	VOLTAGE VDC	CURRENT AMPS.	WEIGHT LBS. (KG)	TEMP. CONTROL	OPERATING AMBIENT °C
AHP-300CP	1-7097-0-000	Cool only	290-330	12/24/48	12/6/3	6(2.7)	none	-10/+70
AHP-300CPHC	1-7094-1-000	Heat/Cool	290-330	12	12	6(2.7)	none	-10/+70
AHP-300CPHC	1-7095-1-000	Heat/Cool	290-330	24	6	6(2.7)	none	-10/+70
AHP-300CPHC	1-7097-1-001	Heat/Cool Rev. Pol.*	290-330	12/24/48	12/6/3	6(2.7)	none	-10/+70

### SPECIFICATIONS AHP-150CP

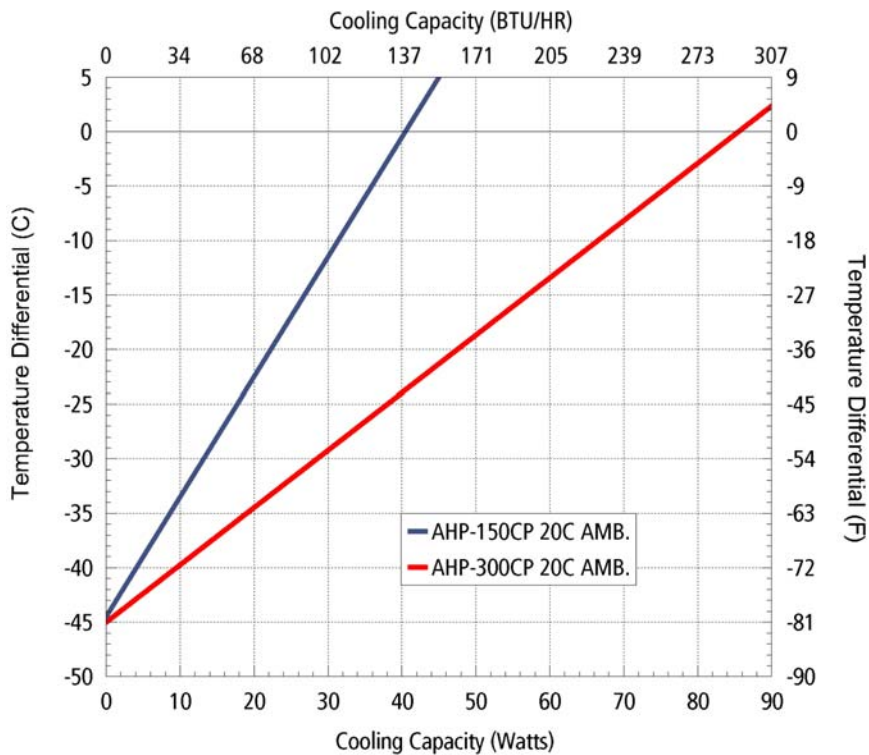
MODEL	PART NUMBER	NOTES	PERFORMANCE RATING BTU/HR	VOLTAGE VDC	CURRENT AMPS.	WEIGHT LBS. (KG)	TEMP. CONTROL	OPERATING AMBIENT °C
AHP-150CP	1-8098-0-000	Cool only	140-160	12/24	6/3	2.5(1.2)	None	-10/+70
AHP-150CPHC	1-8094-1-000	Heat/Cool	140-160	12	6	2.5(1.2)	None	-10/+70
AHP-150CPHC	1-8095-1-000	Heat/Cool	140-160	24	3	2.5(1.2)	None	-10/+70
AHP-150CPHC	1-8098-1-001	Heat/Cool Rev. Pol.*	140-160	12/24	6/3	2.5(1.2)	None	-10/+70

Note: Options for temperature control, consult factory.

\* Reverse polarity unit can be used with external TC-3500 controller see P. 112

See also , "Power Supplies" , P. 117

## PERFORMANCE CURVE



Cold Plate - Air Cooled

## AHP-300CP

### ENVIRONMENTS

Bench Top, Laboratory, Industrial

### COOLING CAPACITY

85 Watts @ 0 °C ΔT

## AHP-150CP

### ENVIRONMENTS

Bench Top, Laboratory, Industrial

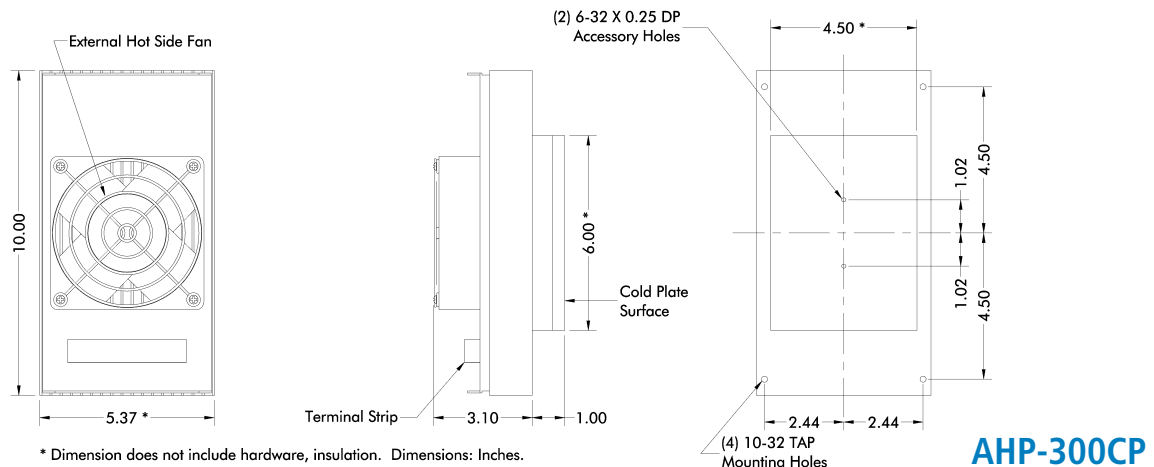
### COOLING CAPACITY

40 Watts @ 0 °C ΔT

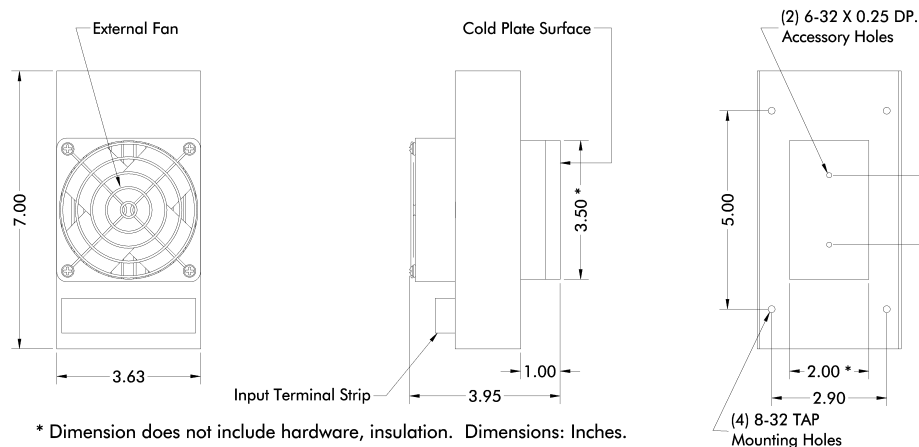
Equation of line:  $y = \Delta T(^{\circ}\text{C})$   $x = \text{Capacity (Watts)}$

Ambient Temp	20°C	40°C	60°C
300CP Cold Plate	$y = .526x - 45.0$	$y = .526x - 48.0$	$y = .526x - 51.0$
150CP Cold Plate	$y = 1.1x - 44.5$	$y = 1.1x - 48$	$y = 1.1x - 51.5$

## DIMENSIONS



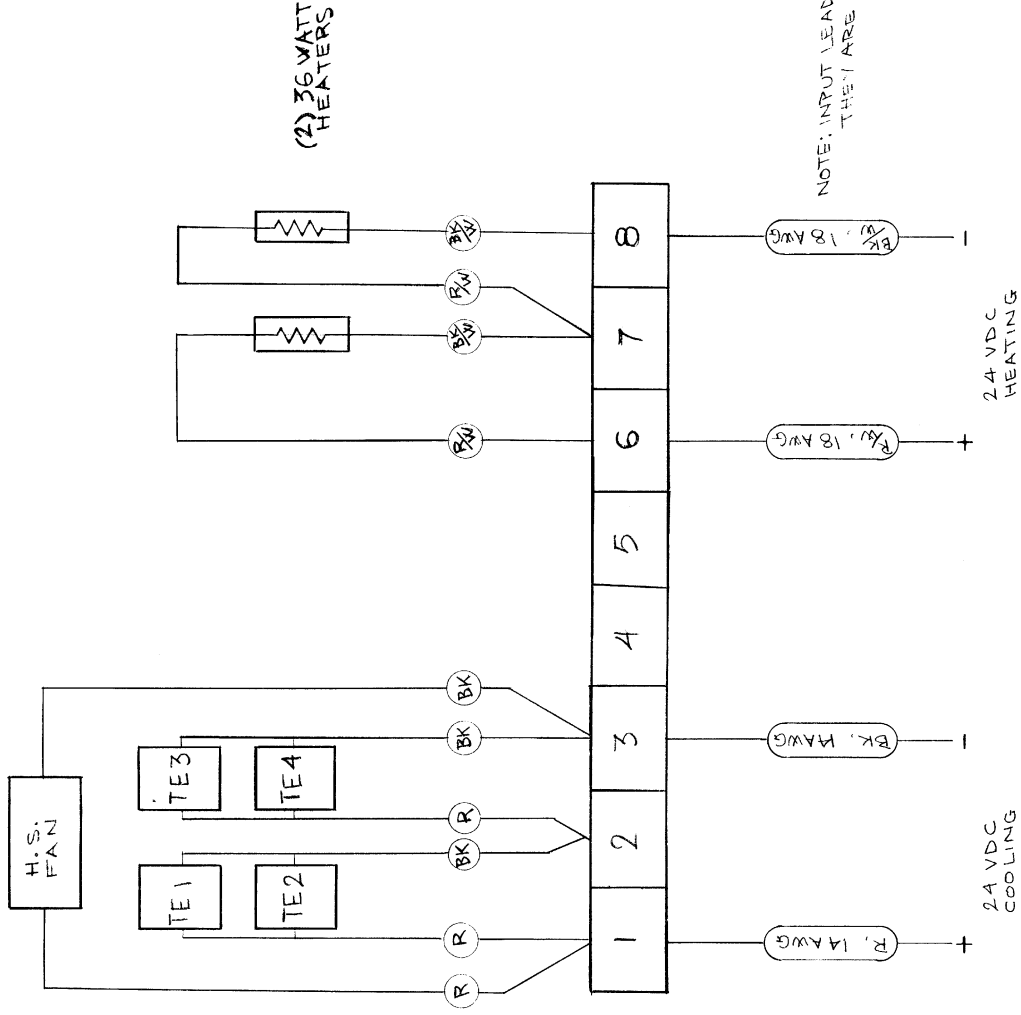
**AHP-300CP**



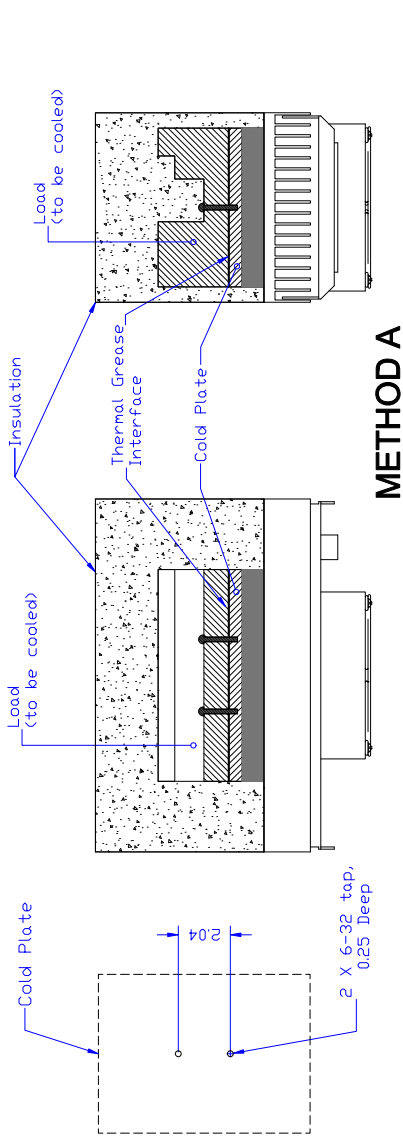
**AHP-150CP**



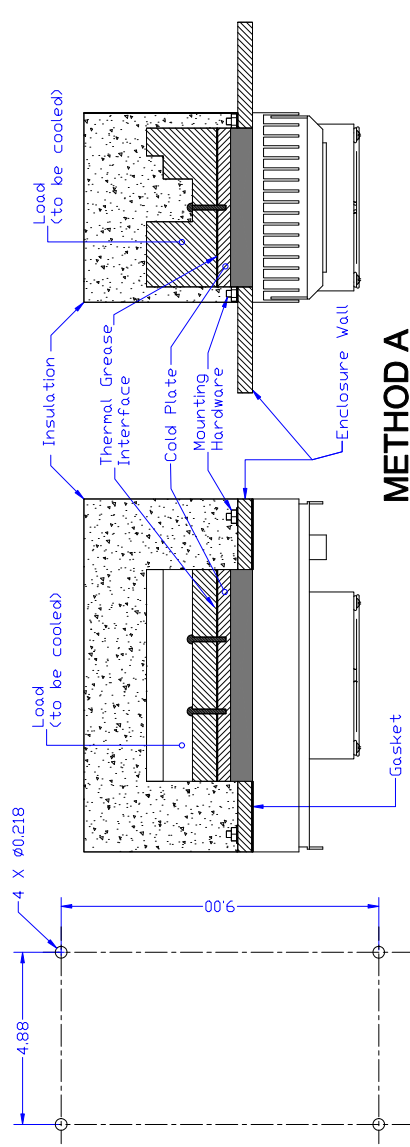
LTR	DESCRIPTION	DATE	APPROVED
A	ADD. INPUT LEADS SPECS.	10-7-97	RA



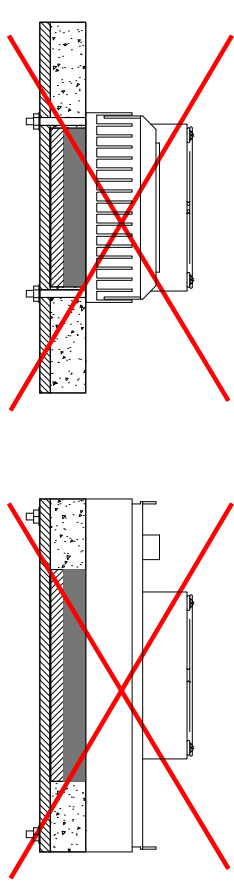
<b>leca</b> ThermoElectric Cooling America Corp.		AHP-300 CPHC 24 VDC WIRING DIAGRAM	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES .XX ± .015 .XXX ± .005	MATERIAL FINISH	APPROVALS DATE 7/19/96	SIZE B
DRAWN RA	CHECKED	DRAWING NO. 301-B-E48	SCALE DA052
		SHEET 1	OF 1



METHOD A



METHOD A



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  $\pm 0.001$  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 using stainless steel screws and lock washers if available. Rotate slightly to "seat" them. Torque screws until snug. Do not overtighten.

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.

INFORMATION DISCLOSED HEREIN IS THE CONFIDENTIAL PROPERTY OF TECA CORP. RECIPIENT SHALL NOT USE THE INFORMATION IN ANY UNAUTHORIZED MANNER. FINISH:	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:		THERMOELECTRIC COOLING AMERICA CORP.	
	DECIMALS XX +/-	ANGLE +/-	AHP-300CP	INSTALLATION INSTRUCTIONS
	FRACTION +/-		DRAWN BY: AA	DRAWING #
01/13/2010		DATE	301-B-F5	REV. LEVEL
D0371		SCALE	MASTER	SHEET

## 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.