

# Product Information Packet

## Model AHP-301CP

120 VAC Solid State Cold Plate

for Remote Temperature Controller

Part #1-7050-0-000

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-A50

Wiring Drawing # 301-B-E67

Installation Drawing # 301-B-F4

Warranty Information



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# AHP-301CP

Air Cooled

# Solid-State Cold Plate

## FEATURES

- Direct contact cooling as much as 52°C below room temperature
- Weighs only 11 lbs. (5.0 kg)
- Compact bench top units
- No compressor, fluorocarbons or filters
- Virtually maintenance-free operation
- Stainless steel exterior housing
- Integral temperature controller option (shown)
- Mounts in any orientation

## INCLUDES

- Cold plate accessory tapped holes
- Rubber feet
- Power input cord
- Machined cold plate surface

## APPLICATIONS

Cooling of components in telecom, labs, factories, etc.



Shown above is the AHP-301CPHC with integral TC-3300 temperature control.

## SPECIFICATIONS

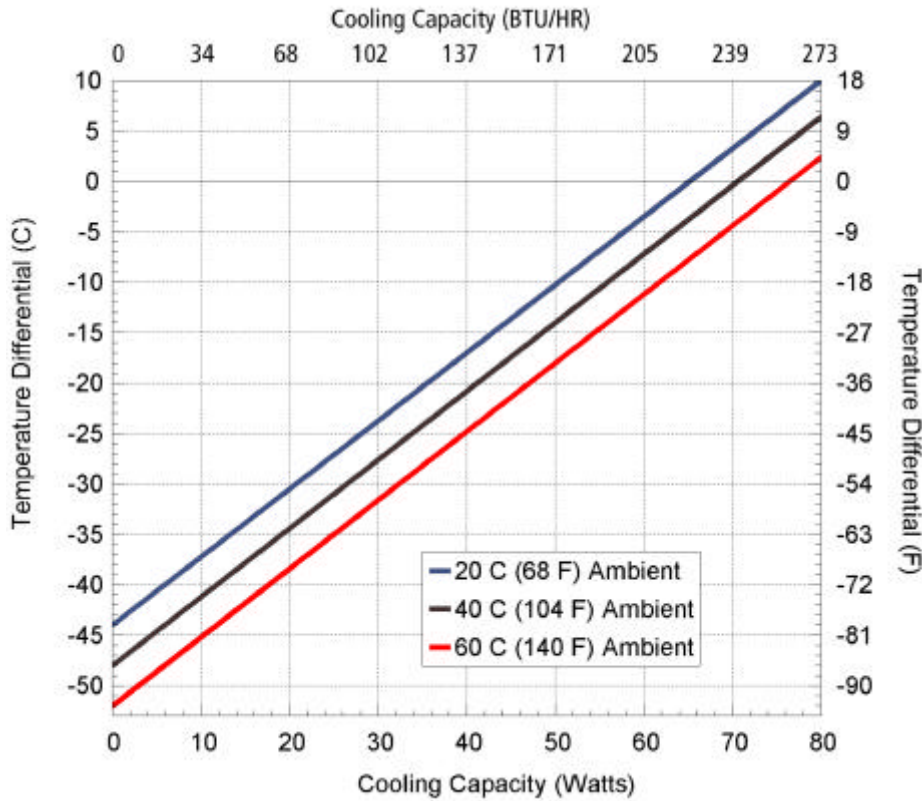
MODEL	PART NUMBER	NOTES	PERFORMANCE RATING BTU/HR	VOLTAGE VAC 50/60 Hz	CURRENT AMPS.	WEIGHT LBS. (KG)	TEMP. CONTROL *	OPERATING AMBIENT °C
AHP-301CP	1-7090-0-000	Cool only	225-265	120	1.2	11(5)	none	-10/+70
AHP-301CP	1-7050-0-000	Cool only	225-265	120	1.2	11(5)	OPT*	-10/+70
AHP-301CP	1-70D0-0-000	Cool only	225-265	120	1.2	12(5.5)	TC-3300^	-10/+70
AHP-301CPHC	1-7050-1-000	Heat/Cool	225-265	120	1.2	11(5)	OPT*	-10/+70
AHP-301CPHC	1-70D0-1-000	Heat/Cool	225-265	120	1.2	12(5.5)	TC-3300^	-10/+70
AHP-301CP	1-7092-0-000	Cool only	225-265	240	0.6	11(5)	none	-10/+70
AHP-301CP	1-7052-0-000	Cool only	225-265	240	0.6	11(5)	OPT*	-10/+70
AHP-301CP	1-70D2-0-000	Cool only	225-265	240	0.6	12(5.5)	TC-3300^	-10/+70
AHP-301CPHC	1-7052-1-000	Heat/Cool	225-265	240	0.6	11(5)	OPT*	-10/+70
AHP-301CPHC	1-70D2-1-000	Heat/Cool	225-265	240	0.6	12(5.5)	TC-3300^	-10/+70

\*OPT; Unit is set up for TC-3300 controller (or similar).  
Controller not included.

^ TC-3300 Temperature controllers are integral (built in).

# AHP-301CP

## PERFORMANCE CURVE



Equation of line: $y = \Delta T(^{\circ}\text{C})$ $x = \text{Capacity (Watts)}$			
Ambient Temp	20°C	40°C	60°C
Cold Plate	$y = .68x - 44.0$	$y = .68x - 48.0$	$y = .68x - 52.0$

## ENVIRONMENTS

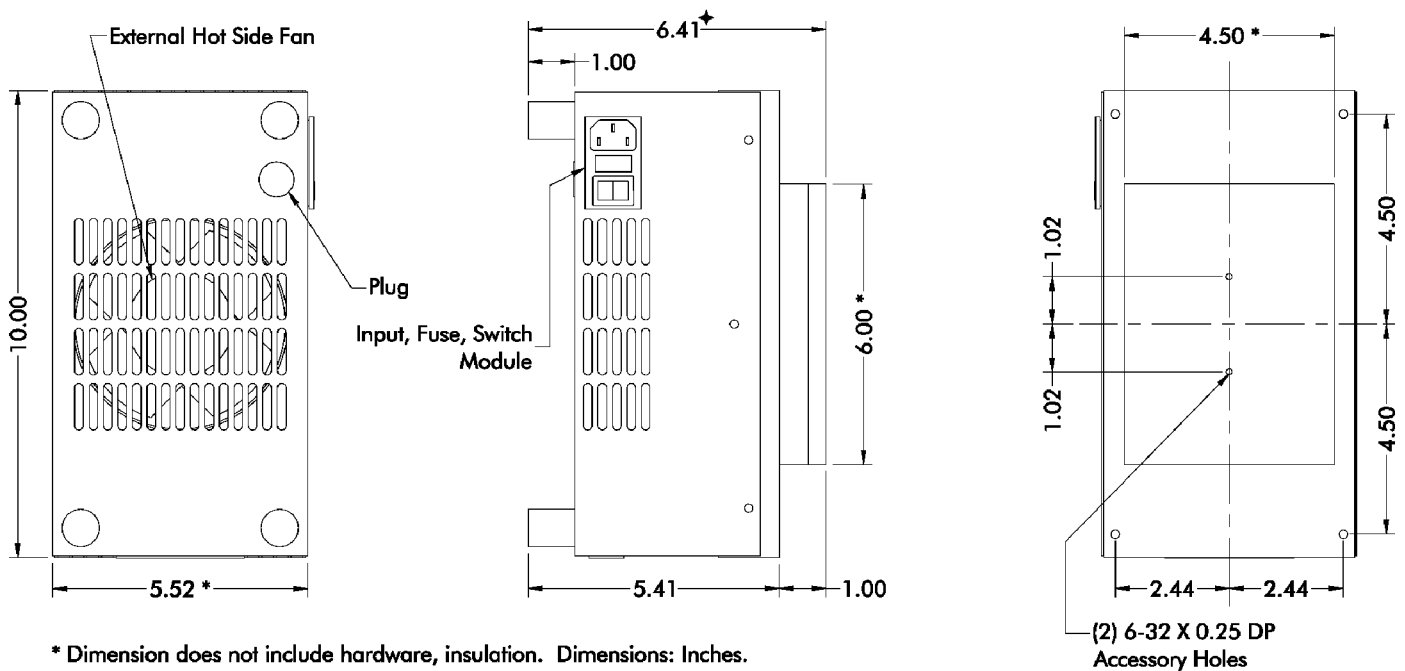
Bench top  
Laboratory  
Industrial

## COOLING CAPACITY

70 Watts @ 0 °C ΔT

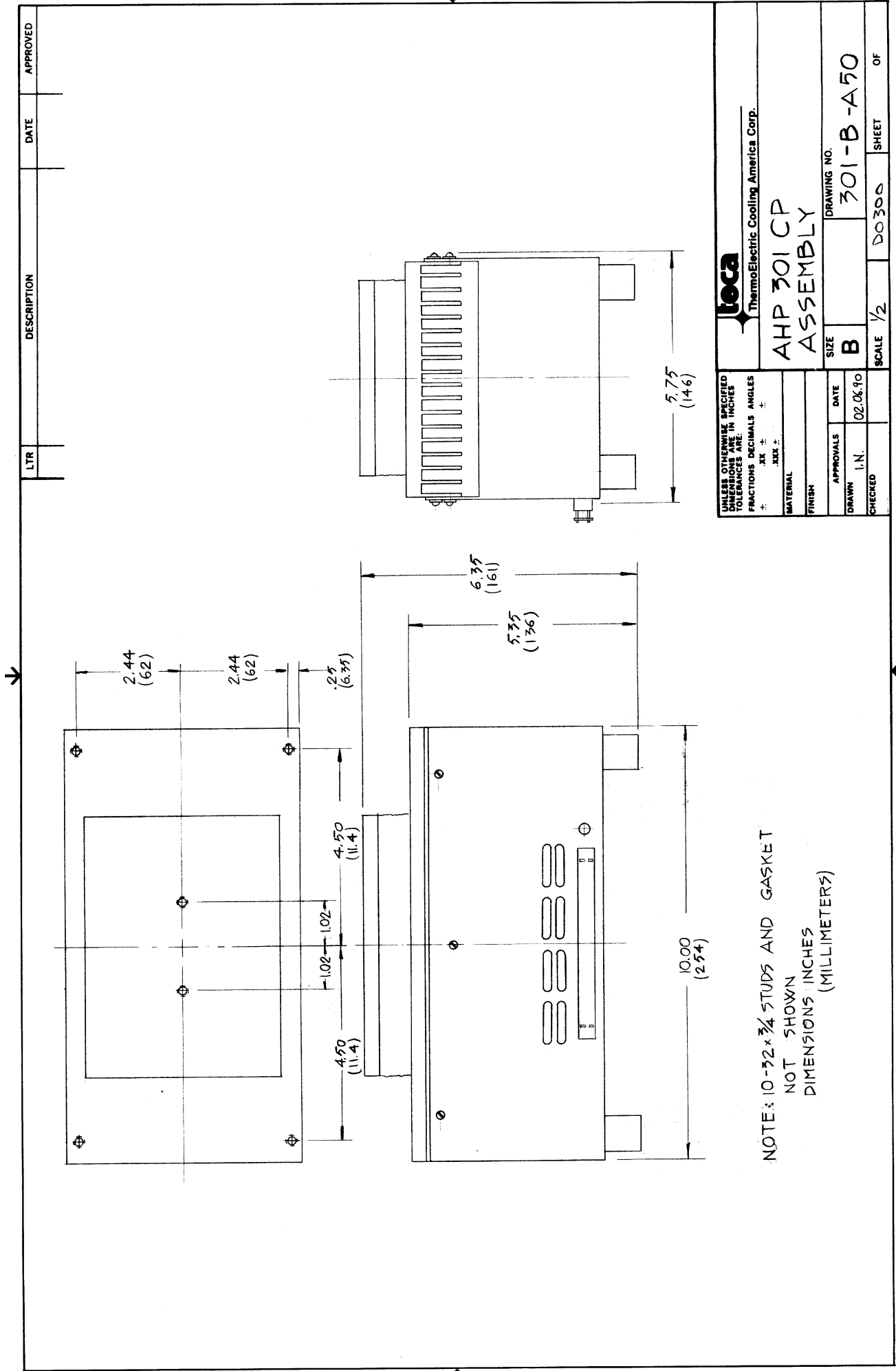
The **Model AHP-301CP** is the smallest cold plate offered with integral power supply and temperature controller.

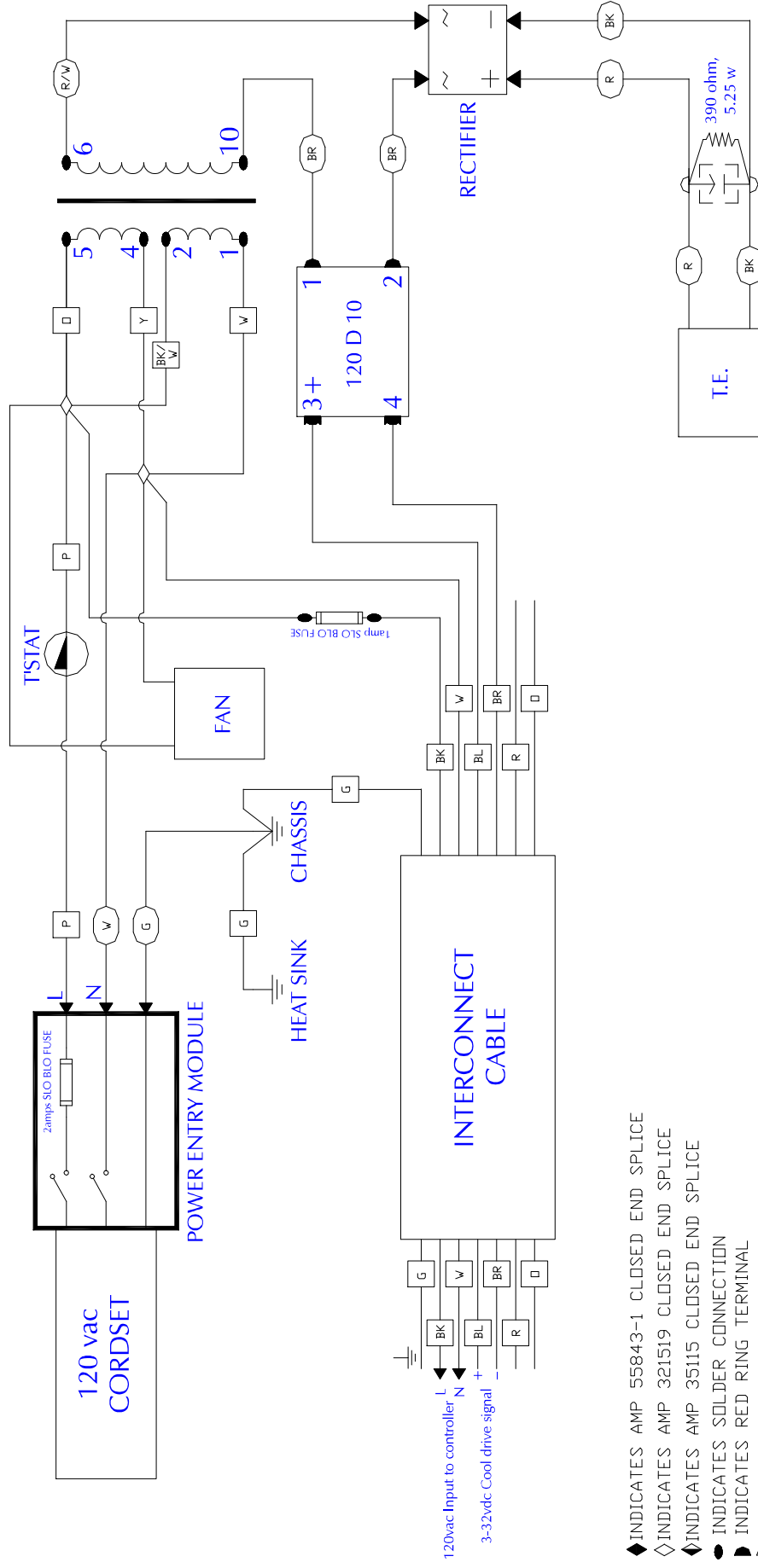
## DIMENSIONS



\* Dimension does not include hardware, insulation. Dimensions: Inches.

† Dimension is 7.20 with integral TC-3300 temperature control.

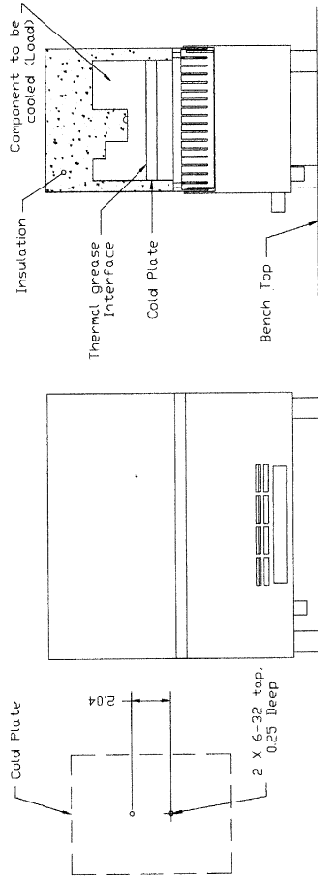




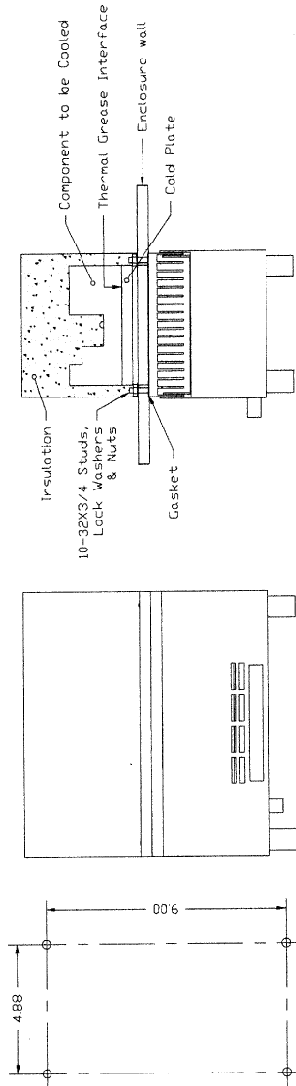
- |   |   |
|---|---|
| ◆ | INDICATES AMP 55843-1 CLOSED END SPLICE |
| ◇ | INDICATES AMP 321519 CLOSED END SPLICE  |
| ◊ | INDICATES AMP 35115 CLOSED END SPLICE   |
| ● | INDICATES SOLDER CONNECTION             |
| ⬤ | INDICATES RED RING TERMINAL             |
| ▷ | INDICATES BLUE RING TERMINAL            |
| ◁ | INDICATES YELLOW RING TERMINAL          |
| ■ | INDICATES SMALL RED RING TERMINAL       |
| □ | INDICATES SMALL BLUE RING TERMINAL      |
| ▣ | INDICATES RED FORK TERMINAL             |
| ▢ | INDICATES BLUE FORK TERMINAL            |
| ◀ | INDICATES RED QUICK CONNECT             |
| ◁ | INDICATES BLUE QUICK CONNECT            |
| ○ | INDICATES 16 AWG WIRE                   |
| ◌ | INDICATES 18 AWG WIRE                   |
| ◻ | INDICATES 20 AWG WIRE                   |
| ◻ | INDICATES 22 AWG WIRE                   |

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	DECIMALS	ANGLE		
	XX +/- XXX +/-	FRACTIONS 1/16 1/8 1/4		
FINISH:	MATERIAL:		DRAWN BY: AA	DRAWING #
			DATE: 09/28/00	301-B-E67
			D5455	SCALE MASTER: 301-B-E65 SHEET

REV	DESCRIPTION	Date	APPROVED



METHOD A (BENCH TOP)



METHOD B (THRU ENCLOSURE)

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  $\pm 0.01$  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.

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<small>DECIMALS</small>	<small>ANGLES</small>	<small>FINISH</small>	<small>FINISH</small>		
<small>XXX.X</small>	<small>XX.X</small>	<small>XXX.X</small>	<small>XXX.X</small>		
<small>MATERIAL:</small>		<small>DRAWING #</small>		<small>REV. LEVEL</small>	
		301-B-F 4		A	
		DATE: 05/23/00		MASTER	
		SCALE: D0370		SHEET	

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<small>XXX.X</small>	<small>XX.X</small>	<small>XXX.X</small>	<small>XXX.X</small>		
<small>MATERIAL:</small>		<small>DRAWING #</small>		<small>REV. LEVEL</small>	
		301-B-F 4		A	
		DATE: 05/23/00		MASTER	
		SCALE: D0370		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.