Product Information Packet

Model AHP-301FF

120/240 VAC Solid State Air Conditioner

With Integral TC-3300

Part #0-70D1-0-000

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-A259

Wiring Drawing # 301-B-E75

Installation Drawing # 301-B-F1

Temperature Control Information

Warranty Information

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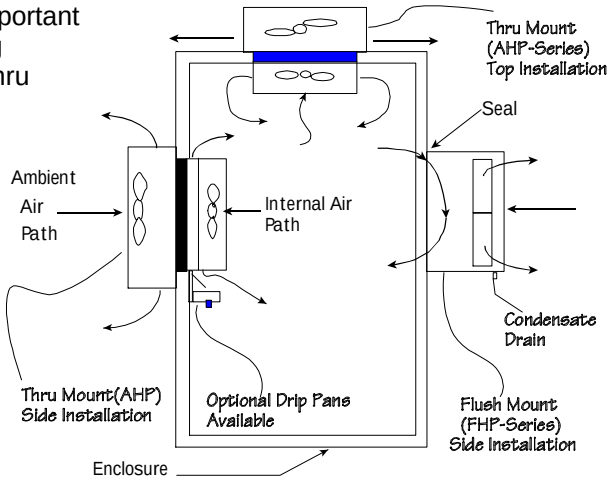
ThermoElectric Cooling America Corporation • 4048 W. Schubert Ave. • Chicago IL (USA) 60639
Phone: 773-342-4900 Fax: 773-342-0191 • www.thermoelectric.com • teca@thermoelectric.com

Important Installation Notes for Air

Mounting Styles: Both 'thru mount' and 'flush mount' units can be positioned in any orientation and on any enclosure surface. It is important to consider interior air flow patterns when determining the mounting location. Also of importance is an unrestricted flow of ambient air thru the hot side heat exchanger. Ease of access and inspection must be considered for those applications in particularly severe environments which may require occasional maintenance.



Vertical (Side/Front/Back) Mounting:

Vertical mounting refers to the vertical direction of the cold side or interior fins and is recommended for applications with high humidity, poor and incomplete cabinet seals or any condition which may cause the cold side fins to be maintained at temperatures below the dew point for long periods of time allowing for the formation of condensation. The vertical fin direction provides a drip path whereupon condensation can be collected via a moisture removal system (standard on FHP-units) or a drip pan positioned below the cold side fins. Drip pans are optional for thru mount units.

Condensate Removal System:

All FHP-Series and AHP-1400 air conditioners contain a built-in condensate removal system. The condensate kit consists of a antifungal sponge with a condensate wick. PVC tubing is also provided for drainage. Drip pans are optional for thru mount units which must be evaluated on an individual basis. Equations defining a relationship between the cold side fin and enclosure temperatures are provided to assist in the evaluation.

Top Mounting:

Though often the easiest location to mount it is often the most difficult to protect from condensation in this orientation due to the fin orientation, gravity and any susceptible components below. If a drip pan is employed by the end user use caution to place the pan far enough away from the internal fan to minimize the restriction of air flow. The pan should cover the fin ends as well as the fan area. When there is a choice, the vertical orientation is preferred by most users.

Maintenance:

Since the technology is solid-state, there are no filters, compressors, or fluorocarbons to maintain. The only moving parts are the fans. It is recommended for harsh or dirty environments that the heat sinks be cleaned from time to time. This can be accomplished by directing compressed air over the external fins or on NEMA 4 versions by hosing the unit down. This will increase the overall life and performance of the system.

Cautions:

Take care when mounting not to damage the seal between the hot and cold side sinks. Do not attempt to mount a unit to a warped surface or try to make the units mounting surface conform to an unflat surface. Do not pinch or damage any leads when mounting. Do not over tighten any installation screw, use reasonable force. Always mount with any condensate drain down. Do not compress the cold side between the hot side and any other surface. Do not obstruct the airflow on either side. When mounting consider the natural air flows of the enclosure. Connect power only after the installation is complete.

Notes on condensation:

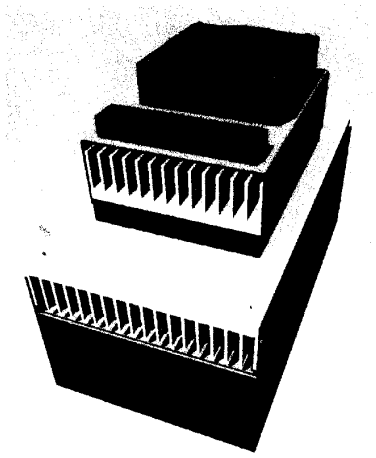
Condensation occurs at the cold side fins when the surface temperature goes below the dew point. To reduce or remove condensate, consider the following:

- Regulate the Fin Temperature above the Dewpoint.
- Keep Enclosure Closed and Sealed from Outside Humidity.
- Use Desiccant (Moisture absorbing Granules.)
- Employ Condensate Removal System/Drip Pans.

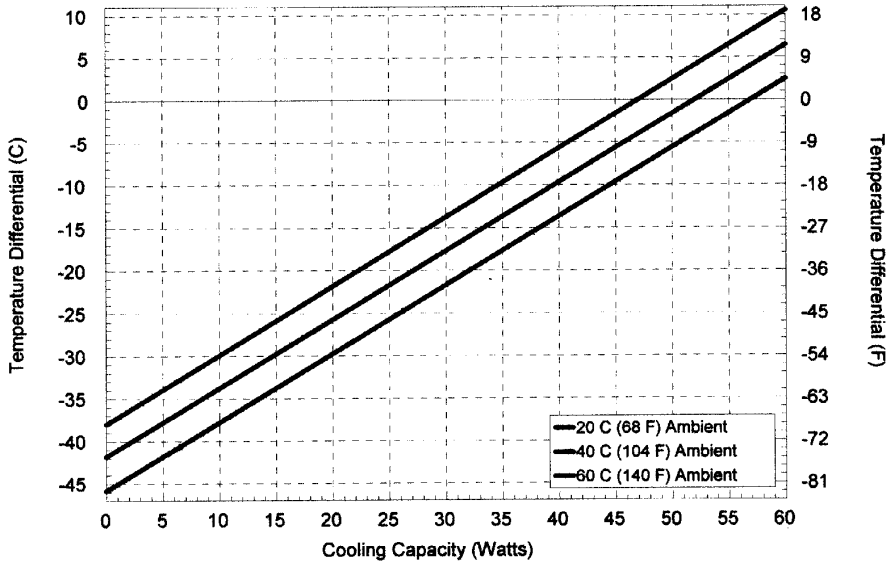
If you have any questions regarding your installation, Please feel free to contact our technical department for assistance at 773-342-4900.

AHP-301FF

160-200 Btu/Hr
Nema-12 (Thru Mount)



Performance:



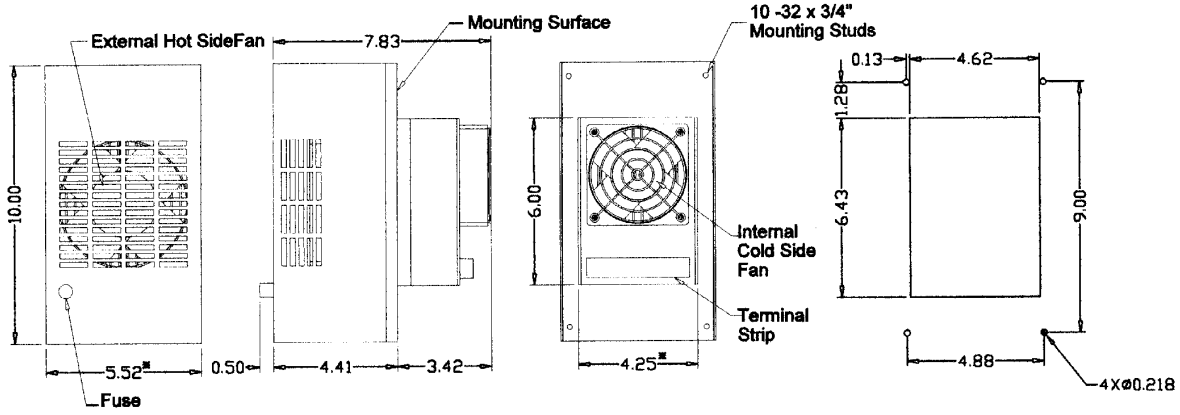
Ambient	20°C	40°C	60°C
Enclosure Air	y=.81x-38	y=.81x-42	y=.81x-46
Cold Sink	y=.62x-38	y=.62x-42	y=.62x-46

y=ΔT(°C) x=Capacity (Watts)

Specifications

Model	Part Number	Notes	Performance Rating (BTU/hr)	Voltage (VAC 50/60 HZ)	Current (Amps)	Weight Lbs. (Kg)	Temperature Control	Operating Range (°C)
AHP-301FF	0-7091-0-000	Cool only, no temperature control	160-200	120/240	1.4/.70	12(5.4)	none	-10/+70
AHP-301FF	0-7081-0-000	Cool only, built in temperature control	160-200	120/240	1.4/.70	12(5.4)	TC-6F	-10/+70
AHP-301FFHC	0-7031-1-000	Heat/Cool, built in temperature control	160-200	120/240	1.4/.70	12(5.4)	TC-3F	-10/+70
AHP-301FF	0-7051-0-000	Cool only, for remote temperature control	160-200	120/240	1.4/.70	12(5.4)	none	-10/+70
AHP-301FFHC	0-7051-1-000	Heat/Cool, for remote temperature control	160-200	120/240	1.4/.70	12(5.4)	none	-10/+70

MOUNTING CUTOUT DIMENSIONS



* Dimension does not include hardware, insulation. Dimensions, inches Mounting Hardware and gasket not shown.

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Call us toll free at 888-TECA-USA (832-2872)

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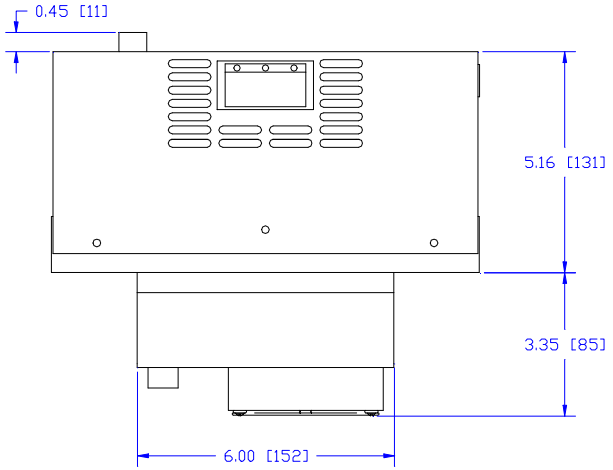
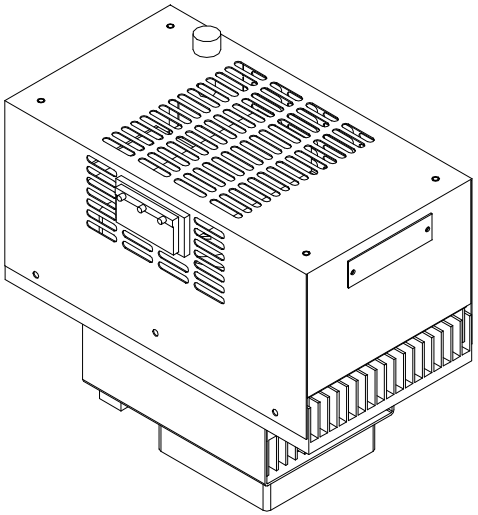
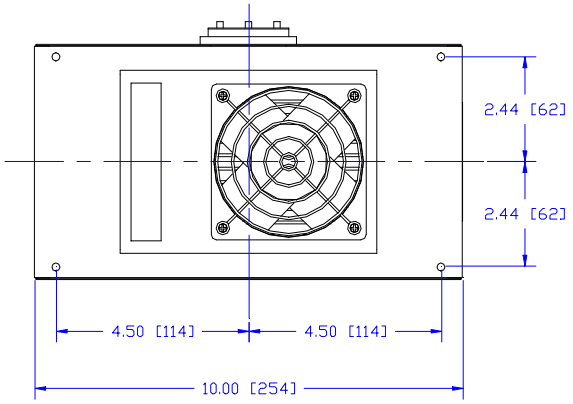
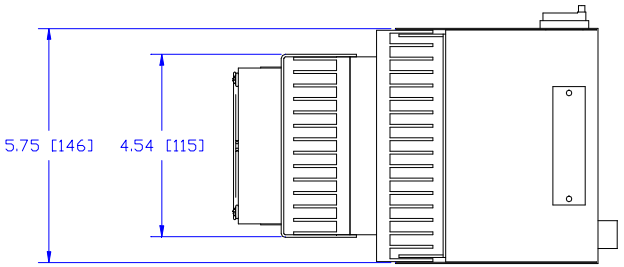








UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
DECIMALS .XX +/- .XXX +/-
ANGLE +/-
FRACTION +/-

FINISH:

MATERIAL:

REV	DESCRIPTION	Date	APPROVED

THERMOELECTRIC COOLING AMERICA CORP.

AHP-301FF W/INTEGRAL TC-3300 ASSEMBLY

DRAWN BY: AA
DATE: 10/17/00
D5506

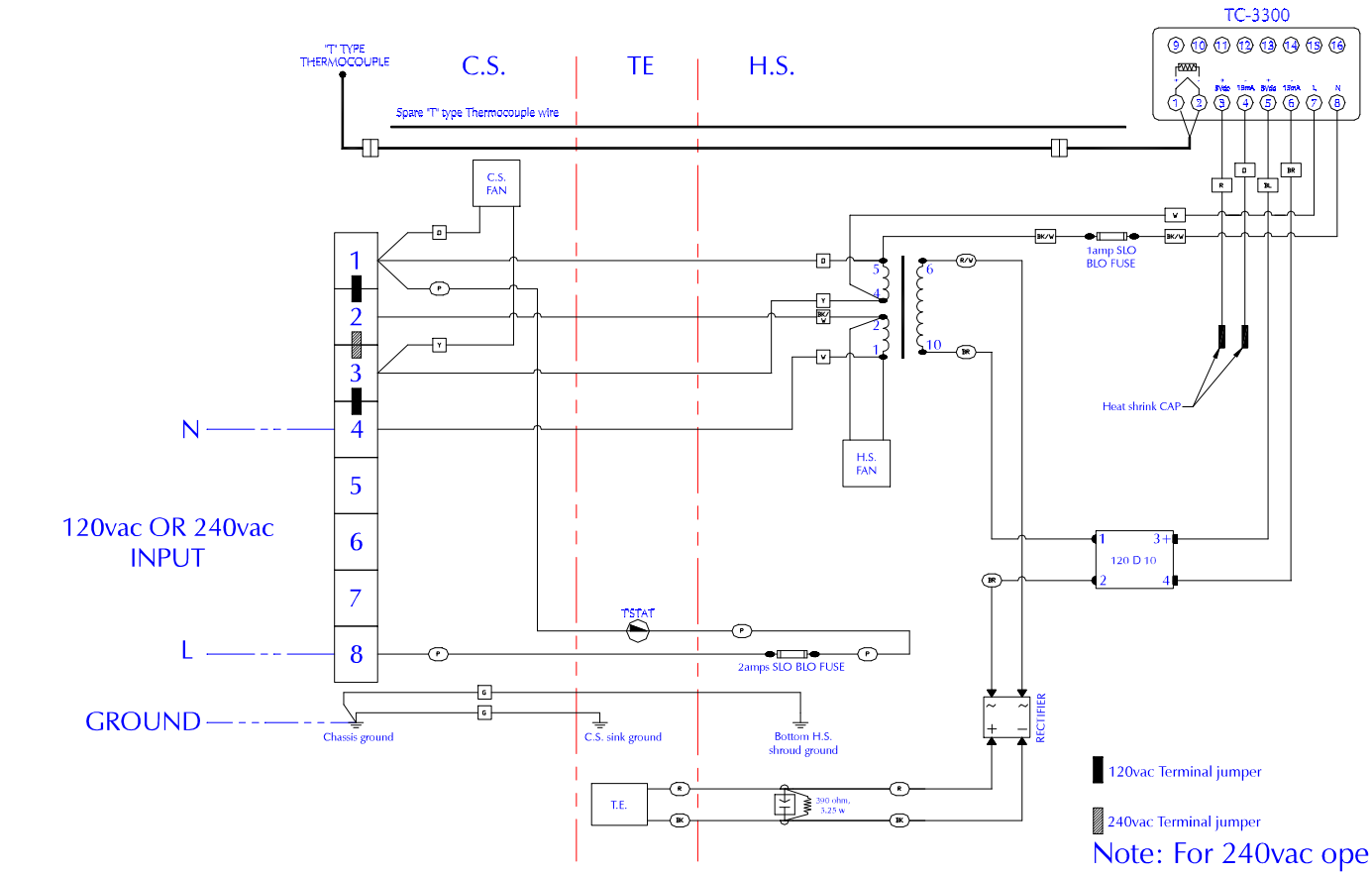
DRAWING # 301-B-A259

SCALE

MASTER: MASTER

REV LEVEL

SHEET



Note: For 240vac operations remove the 120vac terminal jumpers (1-2, 3-4) and install 240vac terminal jumper (2-3).

INDICATES HEAT SHRINK CAP
INDICATES SOLDER CONNECTION
INDICATES RED RING TERMINAL
INDICATES BLUE 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

REV	DESCRIPTION	Date	APPROVED

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

THERMOELECTRIC COOLING AMERICA CORP.

AHP-301 FF
W/INTEGRAL TC-3300 WIRING DIAGRAM

DRAWN BY: AA	DRAWING # 301-B-E75	REV LEVEL
DATE: 10/09/00		
D5493	SCALE	MASTER: MASTER
		SHEET

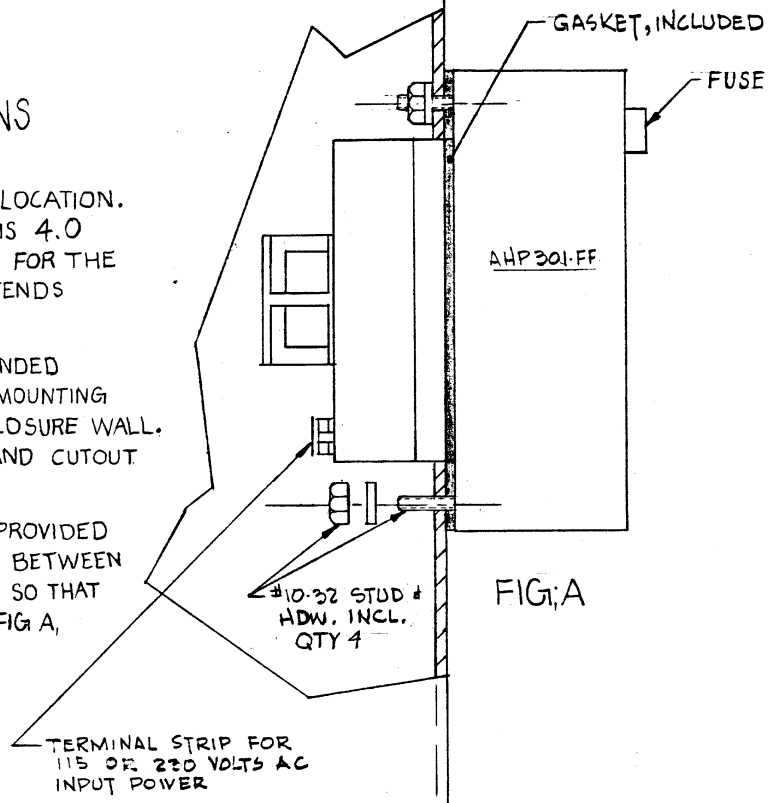
LTR	DESCRIPTION	DATE	APPROVED

MOUNTING INSTRUCTIONS

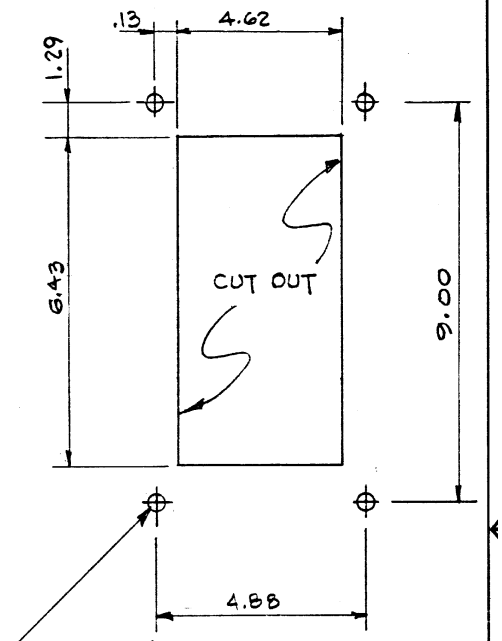
- DETERMINE DESIRED MOUNTING LOCATION. INTERNAL CLEARANCE REQUIRED IS 4.0 DEEP X 4.75" WIDE X 6.00 LONG FOR THE PORTION OF THE UNIT THAT EXTENDS INTO THE ENCLOSURE.

A RECTANGULAR CUTOUT SURROUNDED BY CLEARANCE HOLES FOR THE MOUNTING STUDS IS REQUIRED IN THE ENCLOSURE WALL. SEE FIG B, MOUNTING HOLES AND CUTOUT FOR DIMENSIONS.

MOUNT UNIT USING HARDWARE PROVIDED GASKET SHOULD BE IN PLACE BETWEEN HEATSINK AND ENCLOSURE WALL SO THAT POSITIVE SEAL RESULTS. SEE FIG A,



FIG; A



FIG; B

MOUNTING HOLES AND CUTOUT

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES ± .XX ±.015 ± .XXX ±.005	teca ThermoElectric Cooling America Corp.		
MATERIAL	FIELD MOUNTING AHP301-FF		
FINISH			
APPROVALS / DRAWN I.N. / CHECKED	DATE 10.27.89	SIZE B	DRAWING NO. AHP-301-B-F1
		SCALE	D0367 SHEET OF

TC-3300 SET UP (ON/OFF STYLE)

To access the set up menu push and hold **UP** and **DOWN** buttons simultaneously for 3 seconds.
Press and hold **UP** or **DOWN** button to navigate through the menu.
To change settings: Press and hold ***** button, then use **UP** or **DOWN** buttons to enter new values.
Press and hold **UP** and **DOWN** buttons simultaneously for 3 seconds to exit the set up menu.
To set the main temperature: Press and hold ***** button, then use **UP** or **DOWN** buttons to enter the new value.

LEVEL 1:

tune	off
bAnd	0.5
int.t	5.0
dEr.t	25
dAc	1.5
cyc.t	on.off
oFst	0
sp.Lk	off
sprr	0
sprn	off
soAk	- -
sEt.2	0.2
bAnd.2	0.5
cyc.2	on.off

LEVEL 2:

Manual control modes

sp1.p	(as is)
hAnd	off
pL.1	100
pL.2	100
sp2.A	dv.hi
sp2.b	nonE
disp	0.1
hisc	70
Lo.sc	-10
inpt	tc t
unit	c

LEVEL 3:

Output configuration

sp1.d	ssd1
sp2.d	ssd2
burn	1u.2d
rEu.d	1r.2r
reu.L	1n.2n
spAn	0.0
zEro	0.0
chEk	off
rEAd	Var
tEch	ctA
uEr	(see note)
rsEt	nonE

LEVEL 4:

Lock	nonE
Prog	Auto
no.AL	on
dis.s	6
dEr.s	0.5

LEVEL C:

COMMS menu

Addr	1
bAud	9600
dAtA	18n1
dbuG	off

Note: "uEr" value is preset and can not be changed, however it provides access to LEVEL 4. Press and hold UP and DOWN buttons for 10 seconds to access LEVEL 4.

LEVEL C only visible when COMMS option fitted.

Set SP1 (main temperature set point) to 10 C.

Rev A: Changed SP1 from 25C to 10C. 11/02/99/AA

TC-3300 SET UP (PID STYLE) FOR COOL ONLY.

To access the set up menu push and hold **UP** and **DOWN** buttons simultaneously for 3 seconds.
Press and hold **UP** or **DOWN** button to navigate through the menu.
To change settings: Press and hold ***** button, then use **UP** or **DOWN** buttons to enter new values.
Press and hold **UP** and **DOWN** buttons simultaneously for 3 seconds to exit the set up menu.
To set the main temperature: Press and hold ***** button, then use **UP** or **DOWN** buttons to enter the new value.

LEVEL 1:

tune	off
bAnd	4.0
int.t	20
dEr.t	10
dAc	1.0
cyc.t	10
oFst	0
sp.Lk	off
sprr	0
sprn	off
soAk	- -
sEt.2	0.0
bAnd.2	2.0
cyc.2	on.off

LEVEL 3:

Output configuration

sp1.d	rLy2
sp2.d	rLy1
burn	dn.sc
rEu.d	1d.2d
reu.L	1i.2n
spAn	0.0
zEro	0.0
chEk	off
rEAd	Var
tEch	ctA
uEr	(see note)
rsEt	nonE

LEVEL 4:

Lock	nonE
Prog	Auto
no.AL	on
dis.s	6
dEr.s	0.5

LEVEL C:

COMMS menu

Addr	1
bAud	9600
dAtA	18n1
dbuG	off

LEVEL 2:

Manual control modes

sp1.p	(as is)
hAnd	off
pL.1	100
pL.2	100
sp2.A	nonE
sp2.b	nonE
disp	0.1
hisc	70
Lo.sc	-10
inpt	tc t
unit	c

Note: "uEr" value is preset and can not be changed, however it provides access to LEVEL 4. Press and hold UP and DOWN buttons for 10 seconds to access LEVEL 4.

LEVEL C only visible when COMMS option fitted.

Set SP1 (main temperature set point) to 10 C.

In order to use **tune** option with the controller for cool only set up, the controller should be set up with **PID STYLE COOL ONLY** settings. Follow the steps outlined below to change the controller settings from **ON/OFF STYLE** to **PID STYLE COOL ONLY**.

Method 1:

- In **LEVEL 3** change the **rsEt** value to **All**.

rsEt	All

- Change the settings in **LEVEL 1** through **LEVEL 4** to match the settings in the **PID STYLE COOL ONLY** set up.

Method 2:

- In **LEVEL 2** change the **unit** value to **nonE**.

unit	nonE

- In **LEVEL 3** change the **sp1.d** value to **rLy2** and **sp2.d** to **rLy1**.

sp1.d	rLy2
sp2.d	rLy1

- Change the settings in **LEVEL 1** through **LEVEL 3** to match the settings outlined in **PID STYLE COOL ONLY** set up.

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.