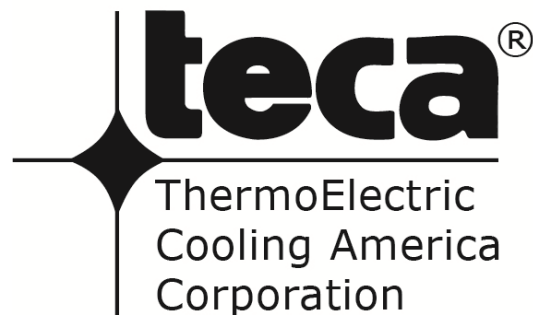
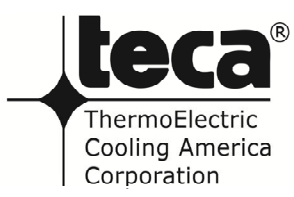


AHP-301CPV  
AHP-301MSP  
AHP-1200CPV  
AHP-1200CAS  
AHP-1200MSP  
ERGO-900  
AHP-1800CPV  
AHP-2700CPV

Versatile Cold/Hot Plate  
Product Manual  
Volume 3.1





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## INCLUDED



AHP-301CPV or AHP-1200CPV or  
AHP-1200CAS or AHP-1800CPV or  
AHP-2700CPV  
Versatile Cold/Warm Plate

Power Cord set  
Input Leads (24 vdc version)



USB Communications Cord



Remote RTD Connector



Software  
and  
Manuals

CPV Product Manual in print and on CD,  
tecaLOG software and documents on CD

## Safety Precautions

The following safety precautions apply to both operations and maintenance personnel and must be observed during all phases of operations, service, and repair of this instrument. Before applying power, follow the installation instructions and become familiar with the operating instructions for this instrument.

### GROUND THE INSTRUMENT

To minimize shock hazard, the instrument must be connected to an electrical outlet with proper grounding. This instrument is grounded through the ground conductor of the supplied, three-conductor ac power cable. The power cable must be plugged into an approved three-conductor electrical outlet. Do not alter the ground connection. Without the protective ground connection, all accessible conductive parts (including control knobs) can render an electric shock. The power jack and mating plug of the power cable meet IEC safety standards.

### DO NOT OPERATE IN AN EXPLOSIVE ATMOSPHERE

Do not operate the instrument in the presence of flammable gases or fumes. Operation of any electrical instrument in such an environment constitutes a definite safety hazard.

### KEEP AWAY FROM LIVE CIRCUITS

Instrument access panels and shrouds must not be removed by operating personnel. Component replacement and internal repair must be made by qualified technician. Disconnect the power cord before removing the instrument access panels and replacing components. Under certain conditions, even with the power cable removed, dangerous voltages may exist. To avoid injuries, always disconnect power and discharge circuits before touching them.

### DO NOT SUBSTITUTE PARTS OR MODIFY THE INSTRUMENT

Do not install substitute parts or perform any unauthorized modifications to this instrument. Return the instrument to TECA Corporation for service and repair to ensure that safety features are maintained.

### POWER INPUT

These instruments are available in two configurations:

- 1) Instruments that operate with 100-240 VAC 50/60 Hz. Appropriate power cord set, and fuse are included with these instruments. The instruments include North American cord set only, for other regions customer is responsible to provide an appropriate IEC recognized input cord with proper rating. Only connect to a properly grounded outlet. Only a power cord with identical electrical ratings to the original power cord can be used as substitute (see page 15 of this manual).
- 2) Instruments that operate with 24 VDC. Appropriate input leads are included with the instrument. Customer to provide appropriate circuit protection (fuse or breaker). The fuse or breaker must be a Slow Blow type. The 24 VDC units should be powered with a switching power supply with adequate power rating that exceeds the 110% of the instrument power rating.

To disconnect the units from power source:

- For 100-240 VAC units, first turn off the switch on the rear panel then unplug the cord from the outlet and the unit.
- For 24 VDC units, unplug the 24 VDC power supply input from outlet, then disconnect the input leads from the rear panel terminal block using a screwdriver.

## CONNECTING USB PORT

To connect the instrument to a Windows based computer, follow steps below:

- Install included USB driver (provided on a CD)
- Reboot the computer
- Install tecaLOG software
- Attached the unit to the computer USB port using included USB cable
- Turn on the unit
- Open the tecaLOG software and follow tecaLOG manual to operate the unit via tecaLOG software

These instruments and the accompanying tecaLOG software are only compatible with Microsoft Windows.

Supported operating systems: Microsoft Windows XP, 7, 10 & 11.

## CLEANING AND DECONTAMINATION

Always turn off and unplug any unit from power source and computer before performing any maintenance, cleaning, or disinfecting.

**Caution:** Ensure the cleaning agent or water does not flow over the rear condensate guard (splash guard) and drop on the rear panel where the electrical connections exist.  
Use gloves and eye protection when cleaning the unit.  
Do not use corrosive and abrasive materials for cleaning purpose.  
Please contact TECA Corporation if you have any question about the compatibility or safety of any cleaning and decontamination agent.

To clean the cold plate and stainless-steel apron surface:

- Lightly spray the cold plate and stainless-steel apron with mild soap and water solution
- Wipe the cold plate and the stainless-steel apron with paper towel, to remove the soap solution
- Repeat above step if needed
- Lightly spray the cold plate and the stainless-steel apron with isopropyl alcohol
- Wipe the cold plate and stainless-steel apron with a paper towel
- Repeat above step if needed

Cleaning the heat sink fins is the only other cleaning and maintenance required for these units. Use compressed air to clean the heat sink fins from any possible dust accumulated on the heat sink fin surfaces. The cleaning of heat sink fin surface is recommended to be performed twice a year. Failure to clean the heat sink surface will result in reduction in cooling capacity and cooling efficiency.

## WARNINGS AND CAUTIONS

WARNING and CAUTION statements, such as the following examples, denote a hazard and appear throughout this manual. Follow all instructions contained in these statements.

A WARNING statement calls attention to an operating procedure, practice, or condition, which, if not followed correctly, could result in injury or death to personnel.

A CAUTION statement calls attention to an operating procedure, practice, or condition, which, if not followed correctly, could result in damage to or destruction of parts or the entire product.

**WARNING:** Do not alter the ground connection. Without the protective ground connection, all accessible conductive parts can render an electric shock. The power jack and mating plug of the power cable meet IEC safety standards.

**WARNING:** To avoid electrical shock hazard, disconnect power cord before removing covers and access panels. Refer servicing to qualified personnel.

**WARNING:** Do not splash water on the rear panel where all the electrical connections and inputs are located. These instruments are equipped with “Rear Condensate Protection” feature on the top surface which prevents condensations formed on the top cold plate to drop on rear panel.

- Read and understand the manuals included with the product.
- This product can get very COLD and very HOT. CAUTION should always be used. Do not touch any surface which may be at an extreme temperature range.
- Return plate to ambient temperature prior to adding or removing materials.
- This product should be serviced by a qualified technician.
- Caution: Risk of electrical shock. Always disconnect the power when performing any servicing.
- Exercise every possible caution if cooling any type of hazardous material. Follow all precautions necessary for the safe handling of the materials being cooled.
- Use the external sensor feature with caution. There may be a significant time delay between the cold plate temperature and the sensor temperature causing potentially dangerous overheat or freezing conditions.

**CAUTION:** Before connecting the line cord to the AC mains, check the rear panel AC line voltage indicator. Applying a line voltage other than the indicated voltage can destroy the AC line fuses. For continued fire protection, replace fuses only with those of the specified voltage and current ratings.

**CAUTION:** This product uses components which can be damaged by electrostatic discharge (ESD). To avoid damage, be sure to follow proper procedures for handling, storing, and transporting parts and subassemblies which contain ESD-sensitive components.

**CAUTION:** These products are air cooled devices utilizing fans and forced air to dissipate the heat from the heat sinks. Ensure fans intake and exhaust are not blocked or hindered by any object. A clearance of 6” minimum for the exhaust of the instrument is recommended.

## NOTES

### INTENDED USE

These products are intended for indoor bench top operations in a non-hazardous environment. This product is intended for cooling and heating objects by direct contact. Use of thermally conductive grease or gel (Dow 340 Heat Sink Compound) on the interface of cold/hot plate and the objects being cooled/heated is recommended but not required. Use of thermally conductive grease or gel (Dow 340 Heat Sink Compound) on the interface of cold/hot plate and the objects being cooled/heated is recommended but not required.

### INTENDED MEDIA

This product is designed to cool/heat electronic components and laboratory samples which are typical in applications such as: quality testing, R&D, and life sciences.

### ASSEMBLY, INSTALLATION AND MOUNTING

These instruments do not require any assembly, installation or mounting. The only requirement is to connect the device via the provided power cord (input leads for 24 VDC versions) to a properly grounded power source. Place the instrument on a clean, stable non-flammable solid surface.

### ENVIRONMENT CONDITONS

These products are for indoor benchtops, typical laboratory environment.

- Operating ambient temperature: 0 – 50°C; 0 – 90% RH (non-condense condition).
- Storage temperature: 0 – 50°C; 0 – 90% RH (non-condense condition).
- Operating altitude: 2000m (6500 ft) Max.
- Typical laboratory environment with normal pollution level is acceptable. These instruments are not sensitive to normal dust and pollution level in laboratory settings.
- The source of noise generated by these instruments is the PWM controlled fan which could exceed 80 dB (for AHP-1800CPV), 60 dB (for AHP-1200CPV/CAS) and 40 dB (for AHP-301CPV).

### LIFTING AND CARRYING

- Safety Equipment – Workers should always wear appropriate personal protective equipment. Wear gloves and long sleeve shirts for forearm protection when lifting items that have sharp or rough edges. Protect your vision with safety goggles. When lifting items that are very heavy, you should wear steel-toed safety shoes or boots to protect your feet and toes. Always turn the device off and disconnect from power prior to lifting and carrying.
- Lift Properly – Use proper lifting techniques: bend at your hips and knees to squat down to your load, keep it close to your body, and straighten your legs to lift. Consider wearing a lumbar support belt for spine support and encourage leg lifting.
- Get Help – When lifting AHP-1800CPV to properly grasp, get a co-worker to assist you to reduce risk to yourself and avoid damaging the instrument. For AHP-301CPV and AHP-1200CPV a single person can safely lift and carry these devices.

### COMPLIANCE STATEMENTS



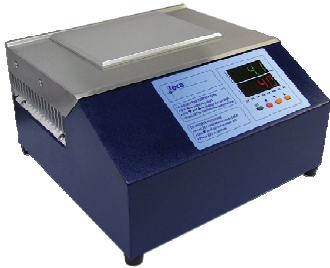
Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems).

This product is subject to Directive 2002/96/EC of the European Parliament and the Council of the European Union on waste electrical and electronic equipment (WEEE), and in jurisdictions adopting that Directive, is marked as being put on the market after August 13, 2005, and should not be disposed of as unsorted municipal waste. Please utilize your local WEEE collection facilities in the disposition of this product and otherwise observe all applicable requirements.

## INTRODUCTION

Products covered in this manual:

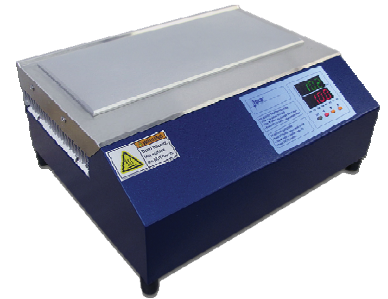
AHP-301CPV



AHP-301MSP



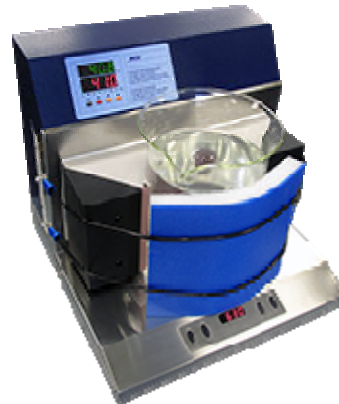
AHP-1200CPV



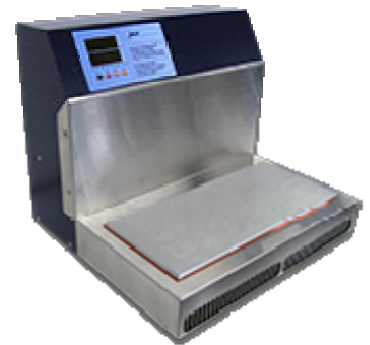
AHP-1200CAS



AHP-1200MSP



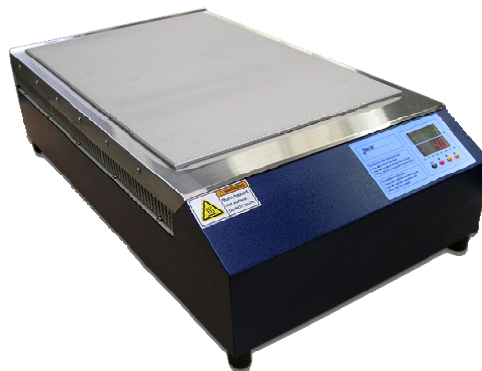
ERGO-900



AHP-1800CPV



AHP-1800CPV



**INTRUDUCTION: AHP-301CPV**

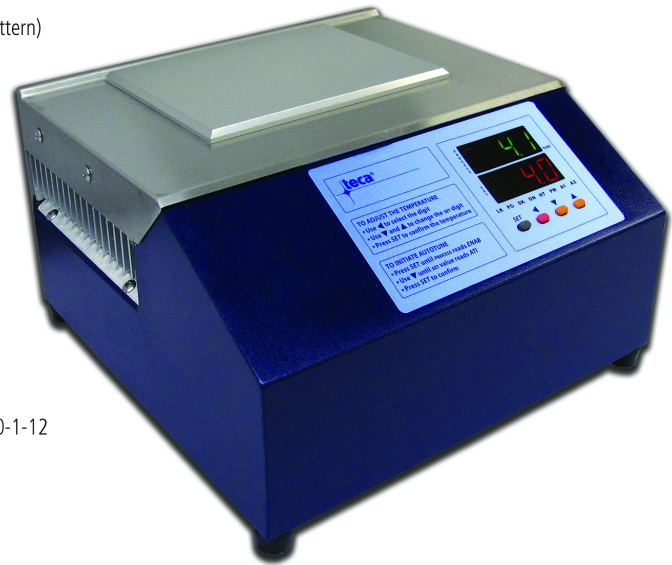
**AHP-301CPV Versatile Cold/Hot Plate**

Air Cooled  
 Bench Top

Input: 100-240 VAC, 24 VDC; Max. Power: 240 Watts  
 Cooling Capacity: 82 Watts

**FEATURES**

- Cools and heats (-15 °C to 90 °C & 120 °C), at 25 °C ambient
- Precision machined cold plate surface
- Stainless steel threaded inserts, available (standard & custom pattern)
- Easy clean stainless steel apron
- Integral PWM temperature controller
- 100-240 VAC universal input
- Low-profile design with ergonomic sloped front
- Variable fan speed for quieter operation
- Quiet constant speed fan option available
- Weighs less than 14 lbs. (6.4 kg)
- Operating ambient temperature range of 0 °C to 50 °C
- Compact bench top unit, 9.8" X 10.1" footprint
- Virtually maintenance-free operation
- Painted Enameled stainless steel exterior housing
- Many standard accessories
- IEC 61010-2-010, IEC 61010-1, UL 61010-1, CSA C22.2#61010-1-12
- FCC 47CFR Part 15 Subpart B, EN 61326-1\*BEI



**CONTROL FEATURES**

- Integral "tunable" PWM temperature control
- PWM, Bi-directional temperature control
- 4 Temperature zone with 4 independent PID settings
- Multi-segment ramp and soak programmable
- Internal RTD sensor
- Remote Sensibility™ switchable to exterior accessory RTD sensor
- USB Communication with easy to use software
- Labview VI examples



**SPECIFICATIONS**

MODEL	PART NUMBER	COLD PLATE	PERFORMANCE RATING BTU/HR	VOLTAGE VAC 50/60 HZ	CURRENT AMPS.	WEIGHT LBS. (KG)	OPERATING AMBIENT RANGE °C	COLD PLATE TEMPERATURE RANGE °C
AHP-301CPV	9-70KB-1-0A0	Smooth Surface	260-280	100-240	2.4-1.0	13 (5.9)	0 / +50	-15 / +90
AHP-301CPV	9-70KB-1-TAP	6-32 Tap Pattern	260-280	100-240	2.4-1.0	13 (5.9)	0 / +50	-15 / +90
AHP-301CPV	9-70KB-1-MET	M3 Tap Pattern	260-280	100-240	2.4-1.0	13 (5.9)	0 / +50	-15 / +90
AHP-301CPV	9-70K5-1-0A0	Smooth Surface	260-280	24 VDC	7.0	10 (4.5)	0 / +50	-15 / +90
AHP-301CPV	9-70K5-1-TAP	6-32 Tap Pattern	260-280	24 VDC	7.0	10 (4.5)	0 / +50	-15 / +90
AHP-301CPV	9-70K5-1-MET	M3 Tap Pattern	260-280	24 VDC	7.0	10 (4.5)	0 / +50	-15 / +90
AHP-301MSP*	9-70K5-1-MSP	M3 Tap Pattern	260-280	24 VDC	7.0	10 (4.5)	0 / +50	-15 / +90
AHP-301CPV	9-70KB-6-0A0	Smooth Surface	260-280	100-240	2.4-1.0	13 (5.9)	0 / +50	-15 / +120
AHP-301CPV	9-70KB-6-TAP	6-32 Tap Pattern	260-280	100-240	2.4-1.0	13 (5.9)	0 / +50	-15 / +120
AHP-301CPV	9-70KB-6-MET	M3 Tap Pattern	260-280	100-240	2.4-1.0	13 (5.9)	0 / +50	-15 / +120
AHP-301CPV	9-70K5-6-0A0	Smooth Surface	260-280	24 VDC	7.0	10 (4.5)	0 / +50	-15 / +120
AHP-301CPV	9-70K5-6-TAP	6-32 Tap Pattern	260-280	24 VDC	7.0	10 (4.5)	0 / +50	-15 / +120
AHP-301CPV	9-70K5-6-MET	M3 Tap Pattern	260-280	24 VDC	7.0	10 (4.5)	0 / +50	-15 / +120

Contact TECA for quiet constant speed fan option

Many options and accessories available see accessory pages

\* For full specification see AHP-301MSP data sheet

**TECA**

1-888-TECA-USA (832-2872)

www.thermoelectric.com

## INTRUDUCTION: AHP-301MSP

# AHP-301MSP Magnetic Stirring Cold/Hot Plate

Air Cooled  
Bench Top

Input: 100-240 VAC; Max. Power: 200 Watts

### FEATURES

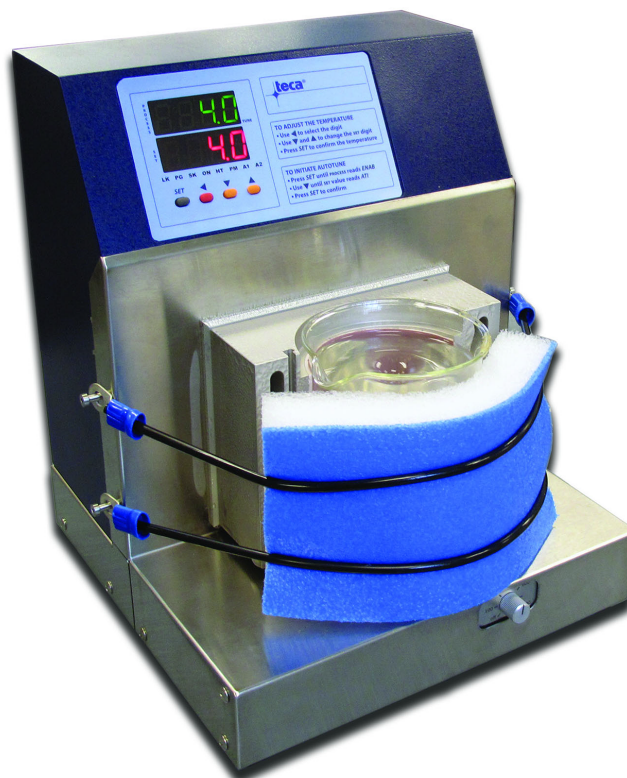
- Heating and cooling
- Unique high-performance side mounting cold plate for added cooling and uniform temperatures
- Magnetic drive for stir bars from underneath the vessel
- Magnetic stir speed range 100-1400 RPM
- Integral PWM temperature controller
- Variable speed fan for reduced noise
- Weighs less than 26 lbs. (12 kg)
- Compact bench-top design
- No compressor, fluorocarbons or filters
- Virtually maintenance-free operation
- Painted and brush finished stainless steel exterior
- Use with one of five cold shoe direct contact blocks  
OR
- Use with ICE-301MSP Ice Bucket and Thermal Lab Beads™
- Either cold shoe accessory or Ice Bucket accessory is required (order separately)!
- IEC 61010-2-010, IEC 61010-1, UL 61010-1, CSA C22.2#61010-1-12
- FCC 47CFR Part 15 Subpart B, EN 61326-1\*BEI

### CONTROL FEATURES

- Integral "tunable" PWM temperature control
- PWM, Bi-directional temperature control
- 4 Temperature zone with 4 independent PID settings
- Multi-segment ramp and soak programmable
- Internal RTD sensor
- Remote Sensibility™ switchable to exterior accessory RTD sensor
- USB Communication with easy to use software

### ICE BUCKET ACCESSORY

The **ICE-301MSP** ice bucket accessory converts the AHP-301MSP into stirring ice bucket which can cool and heat many sizes and types of vessels while mixing the contents. The stirring bead bath uses aluminum Thermal Lab Beads™ instead of water to conduct the heat away from your beaker or vial and a magnetic stir bar to stir the contents. Two liters of tecaLAB Thermal Lab Beads™ are included with the accessory.



### COLD SHOE ACCESSORY

A cold shoe accessory converts the AHP-301MSP into a direct contact cooler for specific diameter vessels. This provides a faster reaction time, wider temperature range (-10 °C to 50 °C) and better temperature control.

### SPECIFICATIONS

MODEL	PART NUMBER	NOTES	VOLTAGE VAC 50/60 HZ	CURRENT AMPS.	WEIGHT LBS. (KG)	TEMP. CONTROL	OPERATING AMBIENT °C
AHP-301MSP	9-70KB-1-MSP	Heat/Cool	100-240	2.00 - 0.80	26 (12)	TC-5300	0-45

The AHP-301MSP must be used with either ICE-MSP Ice Bucket or one of the SLV-XXXMSP Cold Shoe accessories.

**INTRUDUCTION: AHP-1200CPV**

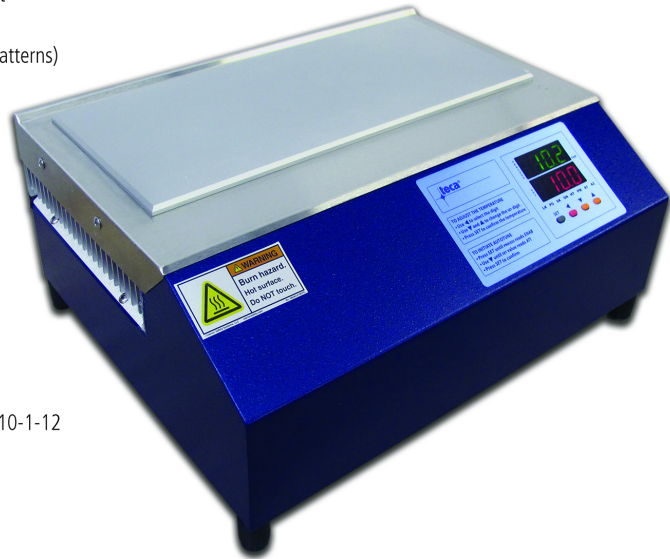
# AHP-1200CPV Versatile Cold/Hot Plate

Air Cooled  
Bench Top

Input: 100-240 VAC, 24 VDC; Max. Power: 600 Watts, (660 Watts AHP-1200CAS)  
Cooling Capacity: 230 Watts

## FEATURES

- Cools and heats (-20 °C to 90 °C & 120 °C), at 25 °C ambient
- Precision machined anodized aluminum cold plate surface
- Stainless steel threaded inserts available (standard & custom patterns)
- Easy to clean stainless steel apron
- Integral PWM temperature controller
- 100-240 VAC universal input
- Low-profile design with ergonomic sloped front
- PWM controlled fan for quieter operation
- Weighs less than 30 lbs. (13.6 kg)
- Operating ambient temperature range of 0 °C to 50 °C
- Compact bench top unit, 11.2" X 15.1" footprint
- Virtually maintenance-free operation
- Painted Enameled stainless steel exterior housing
- Many accessories available
- IEC 61010-2-010, IEC 61010-1, UL 61010-1, CSA C22.2#61010-1-12
- FCC 47CFR Part 15 Subpart B, EN 61326-1\*BEI



## CONTROL FEATURES

- Integral "tunable" PWM temperature control
- PWM, Bi-directional temperature control
- Manually set or autotune for best PID values
- 4 Programable temperature zones with 4 independent PID settings
- Multi-segment ramp/soak programs with loops
- Internal RTD sensor, built into the cold plate
- Remote Sensibility™ switchable to exterior accessory RTD sensor
- USB communication with easy to use software
- Labview VI examples available



## SPECIFICATIONS

MODEL	PART NUMBER	COLD PLATE SURFACE	VOLTAGE VAC 50/60 Hz (VDC)	CURRENT DRAW AMPS.	COLD PLATE TEMPERATURE Range °C
AHP-1200CPV	9-35KB-1-0A0	Smooth	100-240	6.0-2.5	-20 / +90
AHP-1200CPV	9-35KB-1-TAP	6-32 Inserts	100-240	6.0-2.5	-20 / +90
AHP-1200CPV	9-35KB-1-MET	M3 Inserts	100-240	6.0-2.5	-20 / +90
AHP-1200CPV	9-35KS-1-0A0	Smooth	(24)	17	-20 / +90
AHP-1200CPV	9-35KS-1-TAP	6-32 Inserts	(24)	17	-20 / +90
AHP-1200CPV	9-35KS-1-MET	M3 Inserts	(24)	17	-20 / +90
ERGO-900†	9-35KB-1-ERG	Smooth	100-240	3.5-1.5	-5 / +50
AHP-1200MSP††	9-35KB-1-MSP	6-32 Inserts	100-240	6.0-2.5	-5 / +50
AHP-1200CPV	9-35KB-6-0A0	Smooth	100-240	6.0-2.5	-20 / +120
AHP-1200CPV	9-35KB-6-TAP	6-32 Inserts	100-240	6.0-2.5	-20 / +120
AHP-1200CPV	9-35KB-6-MET	M3 Inserts	100-240	6.0-2.5	-20 / +120
AHP-1200CPV	9-35KS-6-0A0	Smooth	(24)	17	-20 / +120
AHP-1200CPV	9-35KS-6-TAP	6-32 Inserts	(24)	17	-20 / +120
AHP-1200CPV	9-35KS-6-MET	M3 Inserts	(24)	17	-20 / +120
AHP-1200CAS**	9-35KB-1-CAS**	6-32 Inserts	100-240	6.6-2.7	-20 / +90
AHP-1200CAS**	9-35KB-6-CAS**	6-32 Inserts	100-240	6.6-2.7	-20 / +120

\*\* This part number is ready for use with a low temperature cascade option and includes CH-1200 hinged cover, CC-1200 rear panel for cascade power up and control, refer to AHP-1200CAS data sheet for more information

† For full specification see ERGO-900 data sheet

†† For full specification see AHP-1200MSP data sheet

Many options and accessories available, see accessory pages

TECA

1-888-TECA-USA (832-2872)

www.thermoelectric.com

**INTRUDUCTION: AHP-1200CAS**

**AHP-1200CAS Extended Temperature Range Cold/Hot Plate**

Air Cooled  
 Bench Top

Input: 100-240 VAC; Max. Power: 660 Watts  
 Cooling Capacity: 360 Watts

**FEATURES**

- Precision machined anodized aluminum cold plate surface
- Stainless Steel threaded inserts
- Easy clean stainless steel apron
- Cools down to -50 °C, at 25 °C ambient
- Heats up to 150 °C, at 25 °C ambient
- 100-240 VAC universal input
- Low-profile design with ergonomic sloped front
- PWM controlled fan for quieter operation
- Weighs less than 30 lbs. (13.6 kg)
- Operating ambient range 0 °C to 50 °C
- Compact bench top unit, 11.2" X 15.1" footprint
- Hinged clear acrylic cover
- Virtually maintenance-free operation
- Painted Enameled stainless steel exterior housing
- Provides power and control to cascades
- IEC 61010-2-010, IEC 61010-1, UL 61010-1, CSA C22.2#61010-1-12
- FCC 47CFR Part 15 Subpart B, EN 61326-1\*BEI



**AHP1200CAS with CCP-21 cascade rear view**

**CONTROL FEATURES**

- Integral "tunable" PWM temperature control
- PWM, Bi-directional temperature control
- Manually set or autotune for best PID values
- 4 Programmable temperature zones with 4 independent PID settings
- Multi-segment ramp/soak programs with loops
- Internal RTD sensor, built into the cold plate
- Remote Sensibility™ switchable to exterior accessory RTD sensor
- USB communication with easy to use software
- Labview VI examples available

**SPECIFICATIONS**

MODEL	PART NUMBER	CASCADE INCLUDED	COLD PLATE SURFACE AREA INCHES	VOLTAGE VAC 50/60 HZ	CURRENT DRAW AMPS.	AMBIENT TEMPERATURE RANGE °C	COLD PLATE TEMPERATURE RANGE °C
AHP-1200CAS**	9-35KB-1-CAS**	None	13.3 x 5.8	100-240	6.6-2.7	0 / +50	-20 / +90
AHP-1200C22	9-35KB-1-C22	CCP-22	8.8 x 4.5	100-240	7.0-3.0	0 / +50	-30 / +90
AHP-1200C21	9-35KB-1-C21	CCP-21	6.0 x 3.0	100-240	6.8-2.8	0 / +50	-40 / +90
AHP-1200C31	9-35KB-1-C31	CCP-31	6.0 x 3.0	100-240	7.2-3.2	0 / +50	-50 / +90
AHP-1200CAS**	9-35KB-6-CAS**	None	13.3 x 5.8	100-240	6.6-2.7	0 / +50	-20 / +120
AHP-1200C22	9-35KB-6-C22	CCP-22H	8.8 x 4.5	100-240	7.0-3.0	0 / +50	-30 / +150
AHP-1200C21	9-35KB-6-C21	CCP-21H	6.0 x 4.5	100-240	6.8-2.8	0 / +50	-40 / +150
AHP-1200C31	9-35KB-6-C31	CCP-31H	6.0 x 3.0	100-240	7.2-3.2	0 / +50	-50 / +150

\*\* This part number is ready for use with a low temperature cascade option and includes CH-1200 hinged cover, CC-1200 rear panel for cascade power up and control, refer to accessory pages for information on cascades  
 Many options and accessories available, see CPV accessory pages

**INTRUDUCTION: AHP-1200MSP**

**AHP-1200MSP Magnetic Stirring Cold/Hot Plate**

Air Cooled  
 Bench Top

Input: 100-240 VAC; Max. Power: 600 Watts

**FEATURES**

- Heating and cooling
- Unique high-performance side mounting cold plate for added cooling and uniform temperatures
- Magnetic drive for stir bars from underneath the vessel
- Magnetic stir speed range 100-1400 RPM
- Integral PWM temperature controller
- Variable speed fan for reduced noise
- Weighs less than 50 lbs. (23 kg)
- Compact bench-top design
- No compressor, fluorocarbons or filters
- Virtually maintenance-free operation
- Painted and brush finished stainless steel exterior
- Use with one of five cold shoe direct contact blocks
- Use with ICE-1200MSP Ice Bucket and Thermal Lab Beads™  
 OR
- Use cold shoe and bucket together for easy beaker access
- Either cold shoe accessory or Ice Bucket accessory is required (order separately)!
- IEC 61010-2-010, IEC 61010-1, UL 61010-1, CSA C22.2#61010-1-12
- FCC 47CFR Part 15 Subpart B, EN 61326-1\*BEI

**CONTROL FEATURES**

- Integral "tunable" PWM temperature control
- PWM, Bi-directional temperature control
- 4 Temperature zone with 4 independent PID settings
- Multi-segment ramp and soak programmable
- Internal RTD sensor
- Remote Sensibility™ switchable to exterior accessory RTD sensor
- USB Communication with easy to use software

**ICE BUCKET ACCESSORY**

The **ICE-1200MSP** ice bucket accessory converts the AHP-1200MSP into stirring ice bucket which can cool and heat many sizes and types of vessels while mixing the contents. The stirring bead bath uses aluminum Thermal Lab Beads™ instead of water to conduct the heat away from your beaker or vial and a magnetic stir bar to stir the contents. Two liters of tecaLAB Thermal Lab Beads™ are included with the accessory.

**COLD SHOE ACCESSORY**

A cold shoe accessory converts the AHP-1200MSP into a direct contact cooler for specific diameter vessels. This provides a faster reaction time, wider temperature range (-10 °C to 50 °C) and better temperature control.

Use cold Shoe with Ice Bucket together for easy beaker removal and fixturing.



**SPECIFICATIONS**

MODEL	PART NUMBER	NOTES	VOLTAGE VAC 50/60 HZ	CURRENT AMPS.	WEIGHT LBS. (KG)	TEMP. CONTROL	OPERATING AMBIENT °C
AHP-1200MSP	9-35KB-1-MSP	Heat/Cool	100-240	6.0 - 2.5	26 (12)	TC-5300	0-45

- The AHP-1200MSP must be used with either ICE-1200MSP Ice Bucket or one of the SLV-XXXMSP Cold Shoe accessories.

- Use Cold Shoe and Ice Bucket together for easy beaker fixturing and removal.

**INTRUCTION: ERGO-900**

**ERGO-900 Ergonomic Cold/Hot Plate**

Air Cooled  
 Bench Top

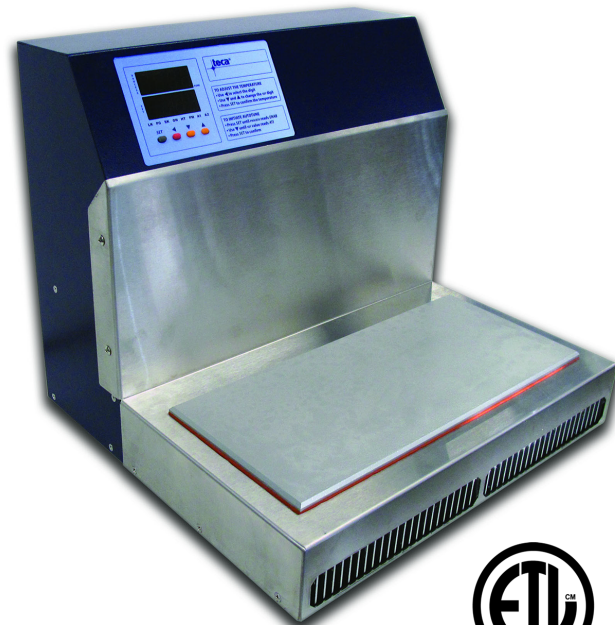
Input: 100-240 VAC; Max. Power: 300 Watts  
 Low Noise & Vibration

**FEATURES**

- Cools and heats (-5 °C to 50 °C), at 25 °C ambient
- Precision machined cold plate surface
- Stainless steel threaded inserts, available (standard & custom pattern)
- Easy clean stainless steel apron
- Integral PWM temperature controller
- 100-240 VAC universal input
- Ergonomic low-profile design
- Low noise and low vibration operation
- Weighs less than 14 lbs. (6.4 kg)
- Operating ambient temperature range of 0 °C to 50 °C
- Compact bench footprint
- Virtually maintenance-free operation
- Painted Enameled stainless steel exterior housing
- IEC 61010-2-010, IEC 61010-1, UL 61010-1, CSA C22.2#61010-1-12
- FCC 47CFR Part 15 Subpart B, EN 61326-1\*BEI

**CONTROL FEATURES**

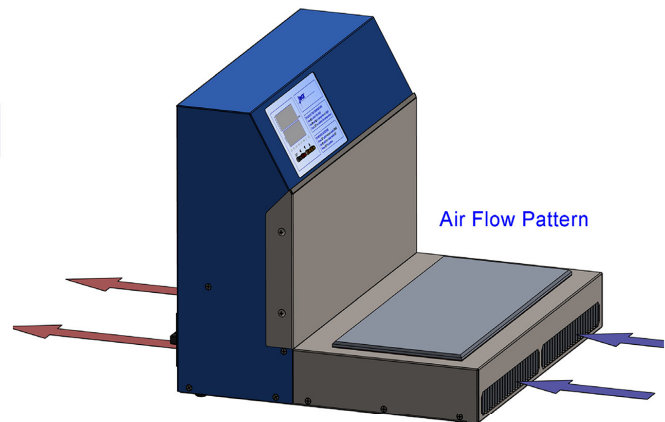
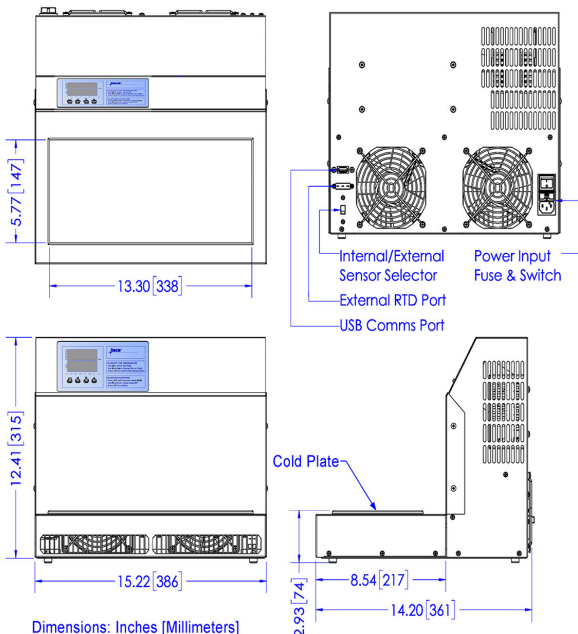
- Integral "tunable" PWM temperature control
- PWM, Bi-directional temperature control
- 4 Temperature zone with 4 independent PID settings
- Multi-segment ramp and soak programmable
- Internal RTD sensor
- Remote Sensibility™ switchable to exterior accessory RTD sensor
- USB Communication with easy to use software
- Labview VI examples



See also, AHP-1200CPV data sheet

**SPECIFICATIONS**

MODEL	PART NUMBER	COLD PLATE	VOLTAGE VAC 50/60 HZ	CURRENT AMPS.	WEIGHT LBS. (KG)	OPERATING AMBIENT RANGE °C	COLD PLATE TEMPERATURE RANGE °C
ERGO-900	9-35KB-1-ERG	Smooth Surface	100-240	3.0-1.25	13 (5.9)	0 / +50	-5 / +50



TECA

1-888-TECA-USA (832-2872)

www.thermoelectric.com

**INTRUDUCTION: AHP-1800CPV**

**AHP-1800CPV Versatile Cold/Hot Plate**

Air Cooled  
 Bench Top

Input: 100-240 VAC Input; Max. Power: 630 Watts  
 Cooling Capacity: 400 Watts

**FEATURES**

- Cools and heats (-20 °C to 90 °C)\*
- Precision machined anodized aluminum cold plate surface (~ 1100 cm<sup>2</sup> surface area, flat within +/- .005 cm)
- Stainless steel threaded inserts available (standard & custom patterns)
- Easy to clean stainless steel apron
- Integral PWM temperature controller
- 100-240 VAC universal input
- Low-profile design with ergonomic sloped front
- PWM controlled fan for quieter operation
- Weighs less than 50 lbs. (22.7 kg)
- Operating ambient temperature range of (0 °C to 50 °C)
- Compact bench top unit, 19.2" X 15.2" footprint
- Virtually maintenance-free operation
- Painted Enameled stainless steel exterior housing
- Many accessories available



**CONTROL FEATURES**

- Integral "tunable" PWM temperature control
- PWM, Bi-directional temperature control
- Manually set or autotune to set point for best PID values
- 4 Programmable temperature zones with 4 independent PID settings
- Multi-segment ramp/soak programs with loops
- Internal RTD sensor, built into the cold plate
- Remote Sensibility™ switchable to exterior accessory RTD sensor
- USB communication with easy to use software
- Labview VI examples available

**SPECIFICATIONS**

MODEL	PART NUMBER	NOTES	PLATE CONFIGURATION	PERFORMANCE RATING WATTS	VOLTAGE VAC 50/60 HZ	CURRENT AMPS.	WEIGHT LBS. (KG)	OPERATING AMBIENT °C
AHP-1800CPV	9-04KB-1-0A0	Heat/Cool	Smooth Surface	400	100-240	6.3-2.6	50 (22.7)	0-50
AHP-1800CPV	9-04KB-1-TAP	Heat/Cool	6-32 Tap Pattern	400	100-240	6.3-2.6	50 (22.7)	0-50
AHP-1800CPV	9-04KB-1-MET	Heat/Cool	M3 Tap Pattern	400	100-240	6.3-2.6	50 (22.7)	0-50

For custom threaded inserts and hole patterns contact TECA  
 Many options and accessories available, see CPV accessory pages  
 \*Under the right conditions

**INTRUDUCTION: AHP-2700CPV**

**AHP-2700CPV Versatile Cold/Hot Plate**

Air Cooled  
 Bench Top  
 100-240 VAC Input  
 690 Watts

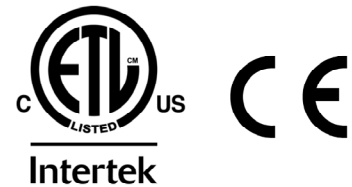
**FEATURES**

- Cools and heats (-20 °C to 90 °C)
- Precision machined anodized aluminum cold plate surface (~ 1745 cm<sup>2</sup> surface area, flat within +/- .005 cm)
- Stainless steel threaded inserts available
- Easy to clean stainless steel apron
- Integral PWM temperature controller
- 100-240 VAC universal input
- Low-profile design with ergonomic sloped front
- PWM controlled fan for quieter operation
- Operating ambient temperature range of (0 °C to 50 °C)
- Bench top unit, 26.5" X 15.2" footprint
- Virtually maintenance-free operation
- Painted Enameled stainless steel exterior housing
- Many accessories available
- Weight 65 LBS.
- IEC 61010-2-010, IEC 61010-1, UL 61010-1, CSA C22.2#61010-1-12
- FCC 47CFR Part 15 Subpart B, EN 61326-1\*BEI



**CONTROL FEATURES**

- Integral "tunable" PWM temperature control
- PWM, Bi-directional temperature control
- Manually set or autotune to set point for best PID values
- 4 Programmable temperature zones with 4 independent PID settings
- Multi-segment ramp/soak programs with loops
- Internal RTD sensor, built into the cold plate
- Remote Sensibility™ switchable to exterior accessory RTD sensor
- USB communication with easy to use software
- Labview VI examples available

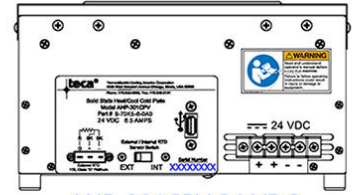
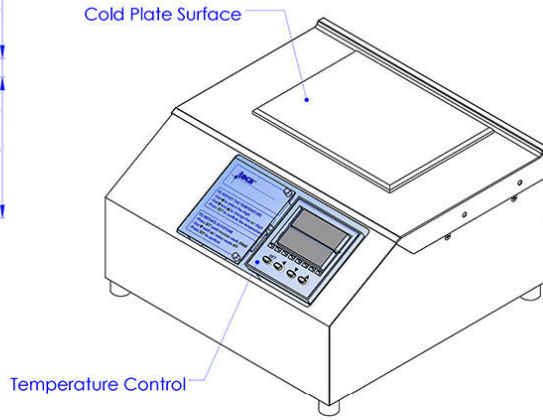
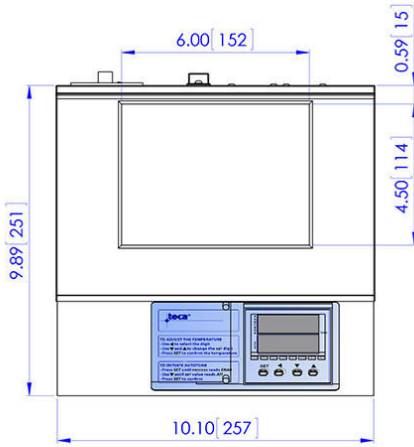


**SPECIFICATIONS**

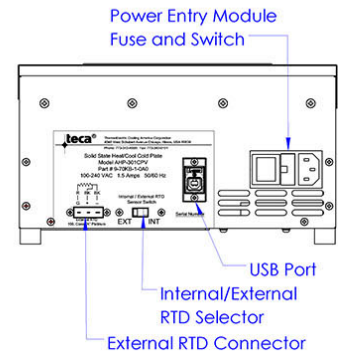
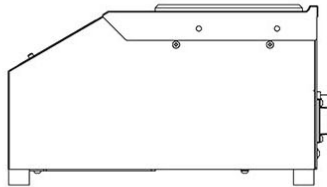
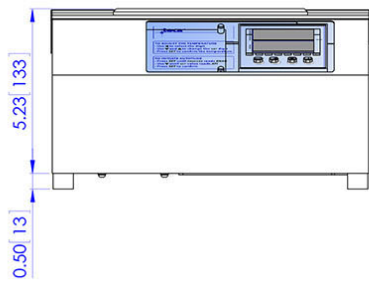
MODEL	PART NUMBER	NOTES	PLATE CONFIGURATION	PERFORMANCE RATING WATTS	VOLTAGE VAC 50/60 HZ	CURRENT AMPS.	OPERATING AMBIENT °C
AHP-2700CPV	9-N5KB-1-0A0	Heat/Cool	Smooth Surface	690	100-240	14-6.5	0-50
AHP-2700CPV	9-N5KB-1-TAP	Heat/Cool	6-32 Tap Pattern	690	100-240	14-6.5	0-50
AHP-2700CPV	9-N5KB-1-MET	Heat/Cool	M3 Tap Pattern	690	100-240	14-6.5	0-50

For custom threaded inserts and hole patterns contact TECA

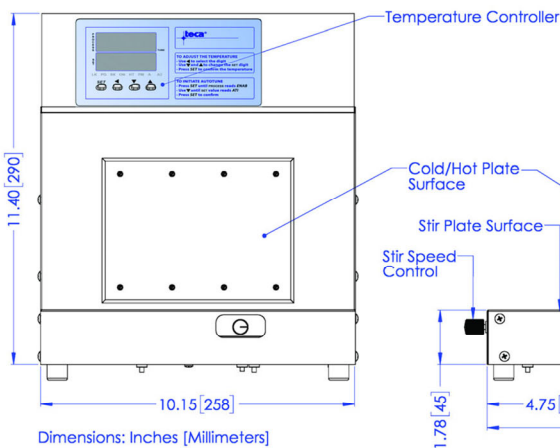
**PHYSICAL LAYOUT: AHP-301CPV**



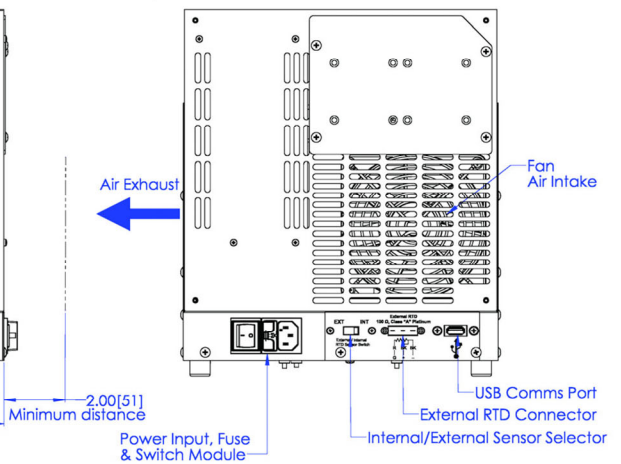
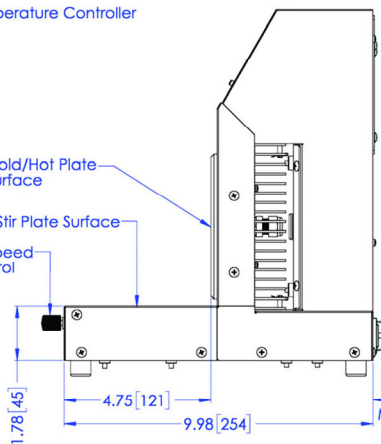
AHP-301CPV 24 VDC



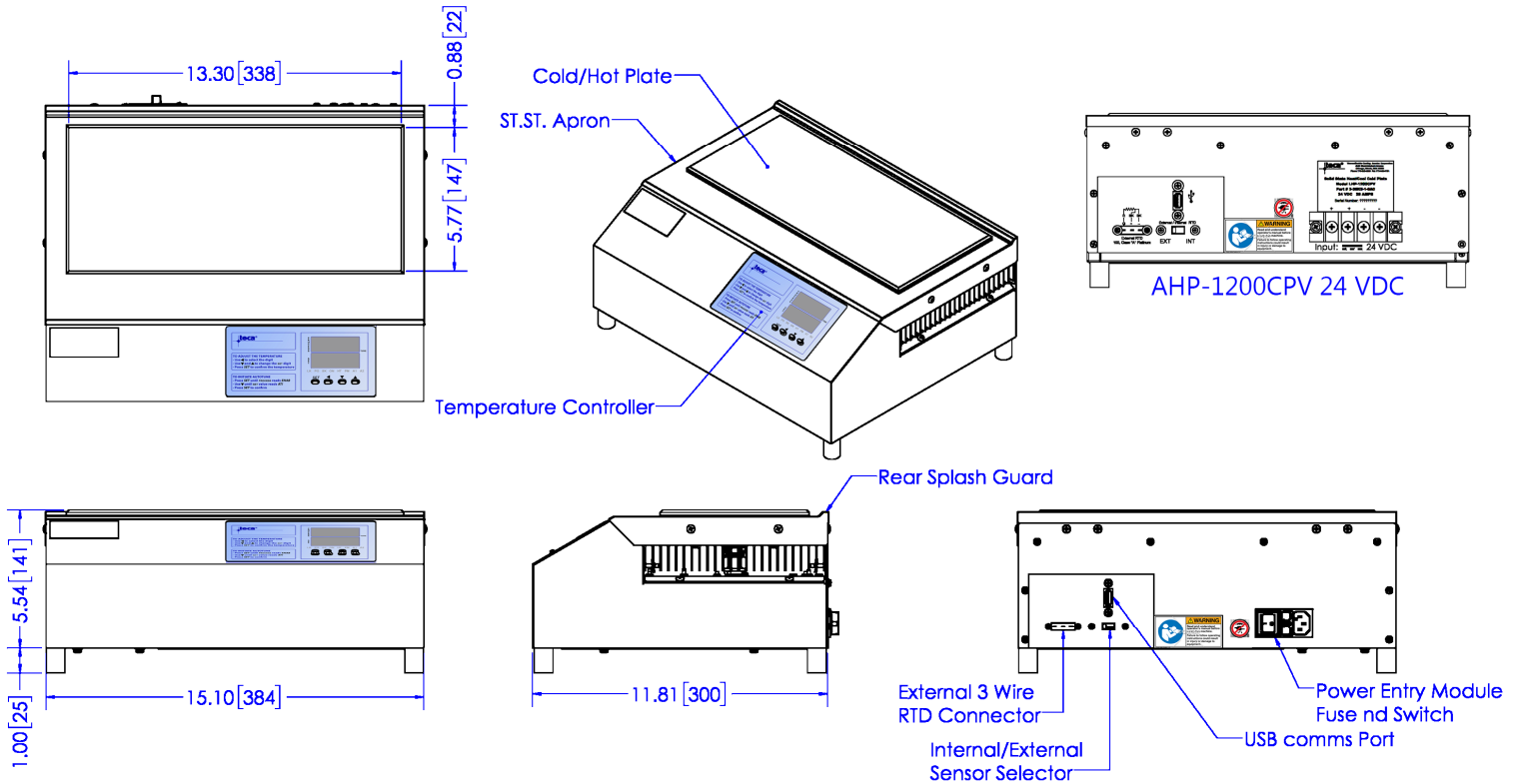
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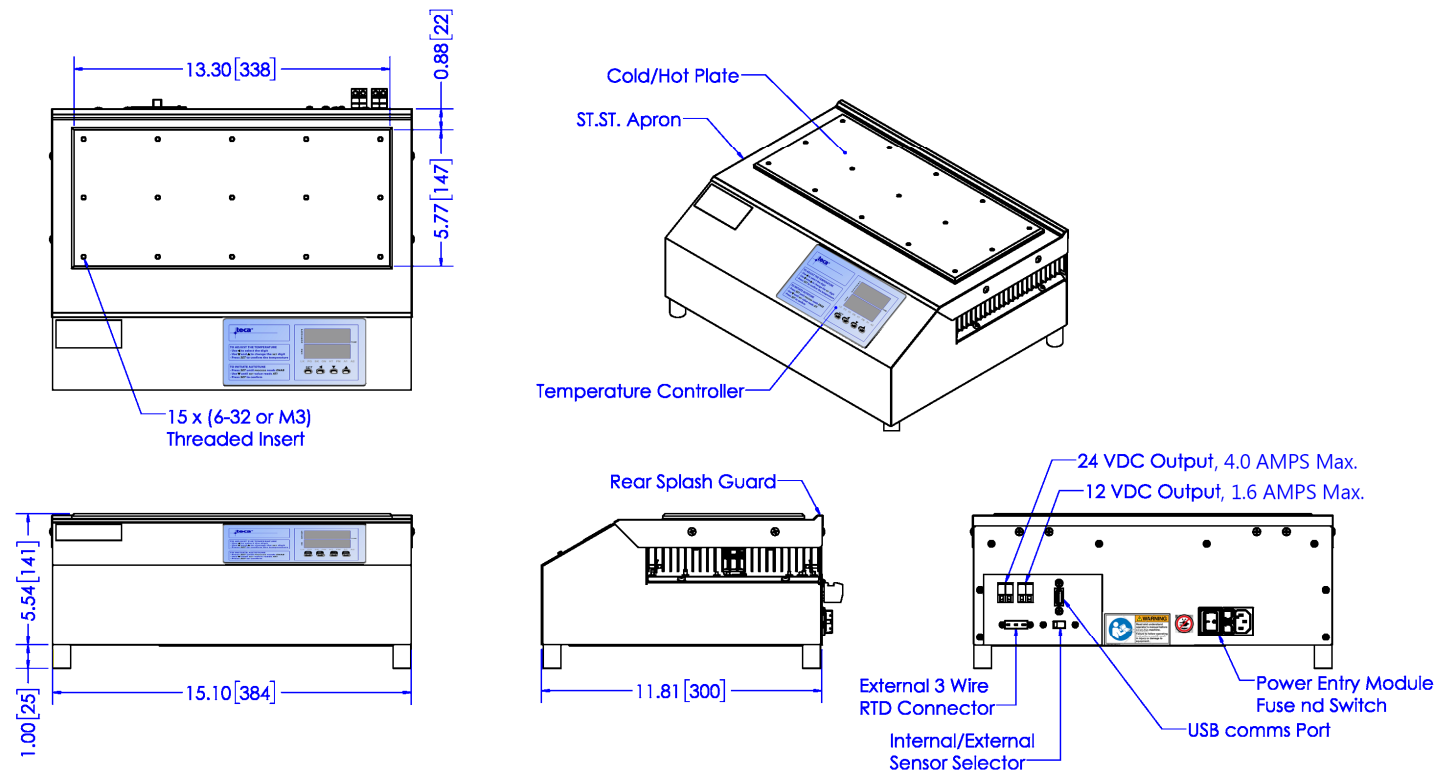
Dimensions: Inches [Millimeters]



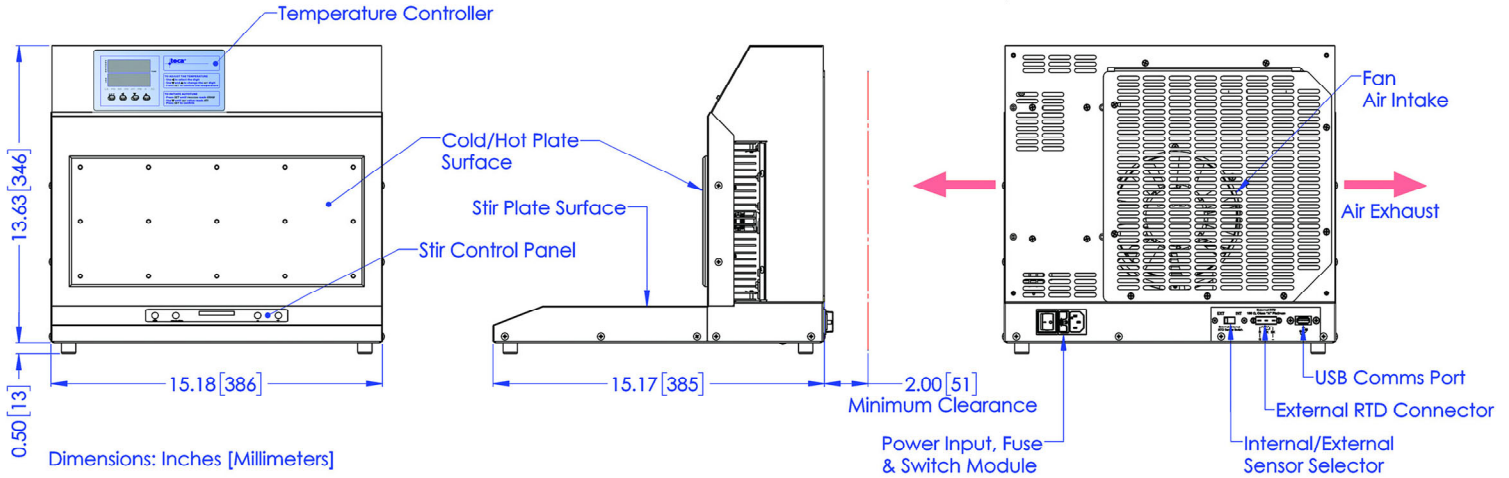
**PHYSICAL LAYOUT: AHP-1200CPV**



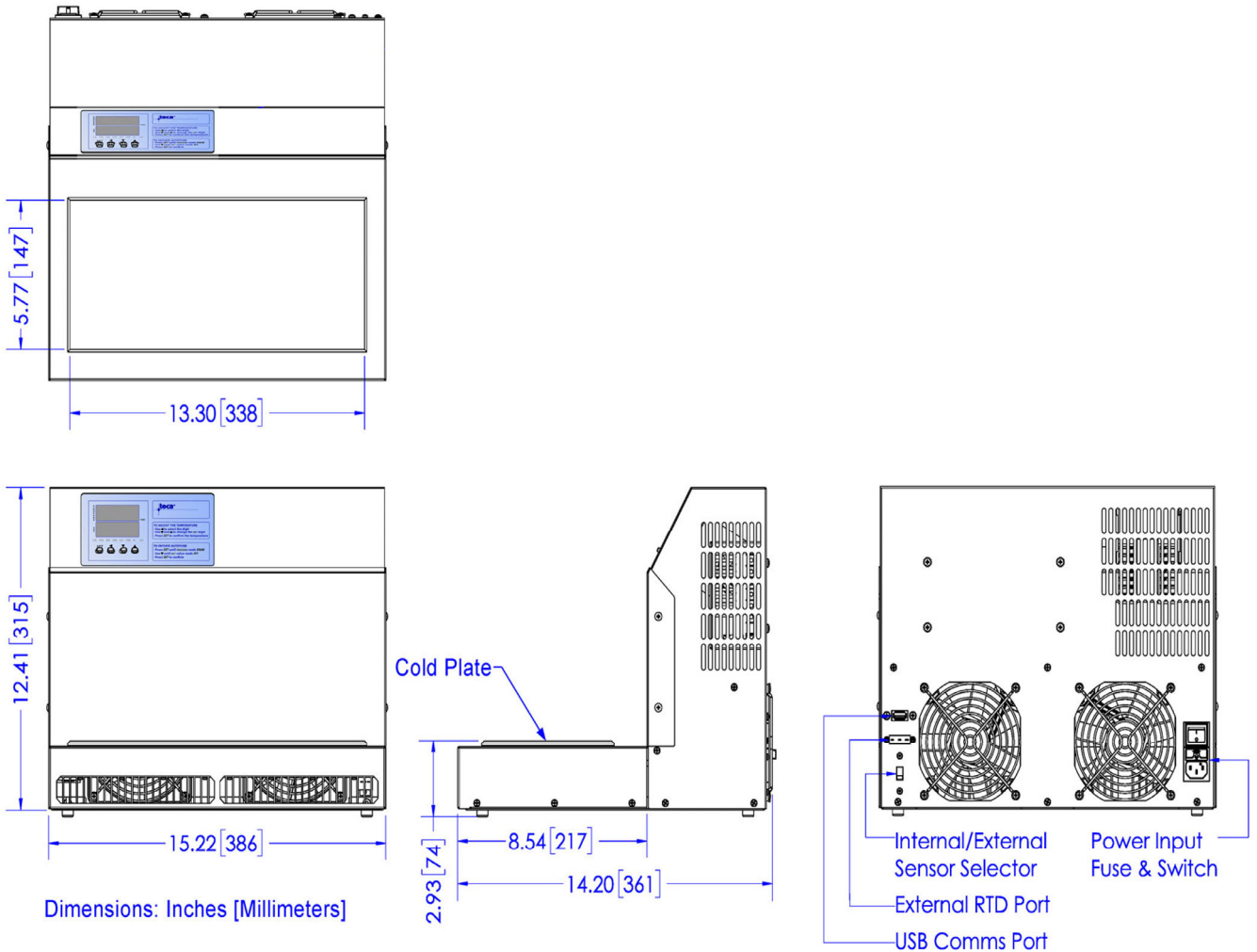
**PHYSICAL LAYOUT: AHP-1200CAS**



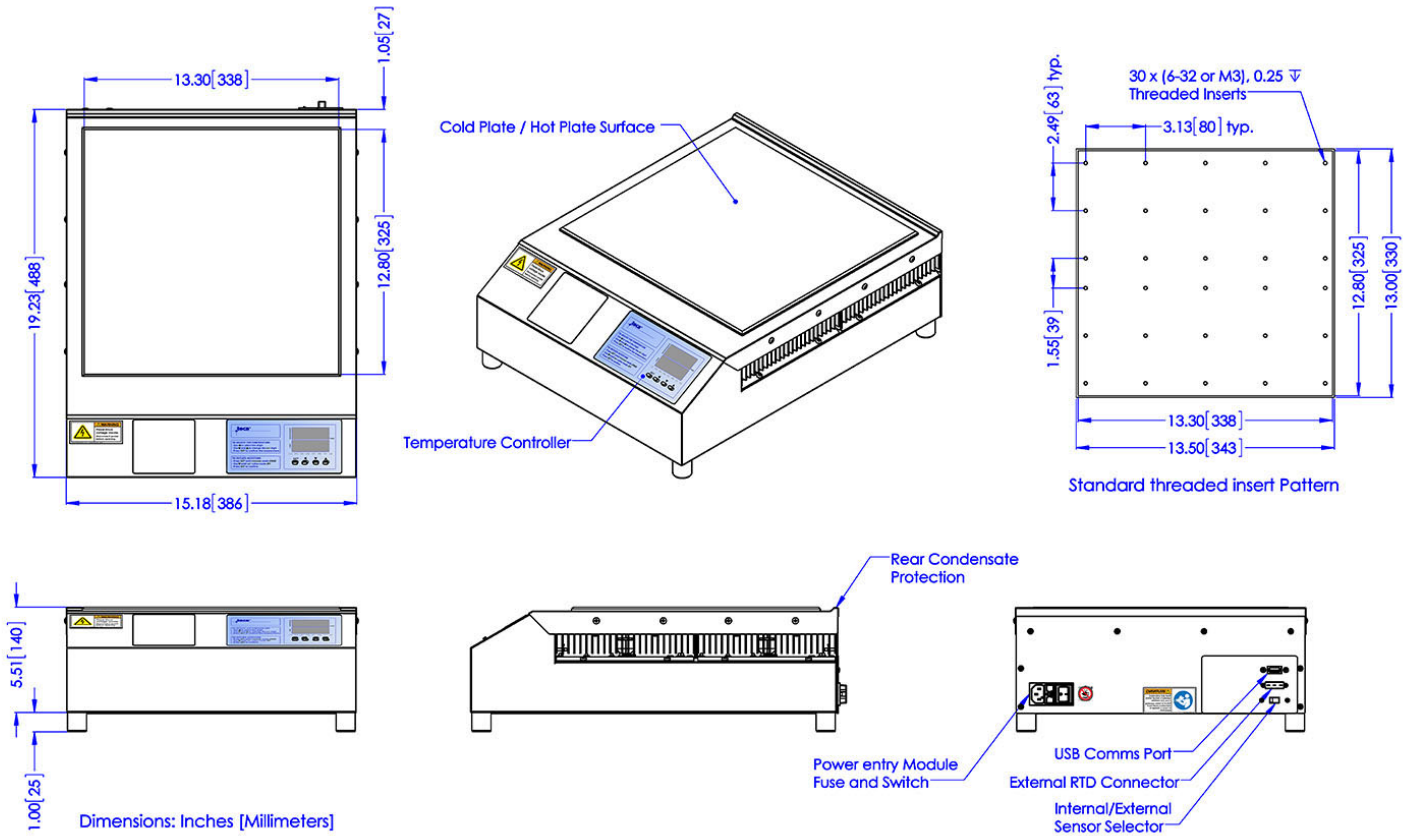
**PHYSICAL LAYOUT: AHP-1200MSP**



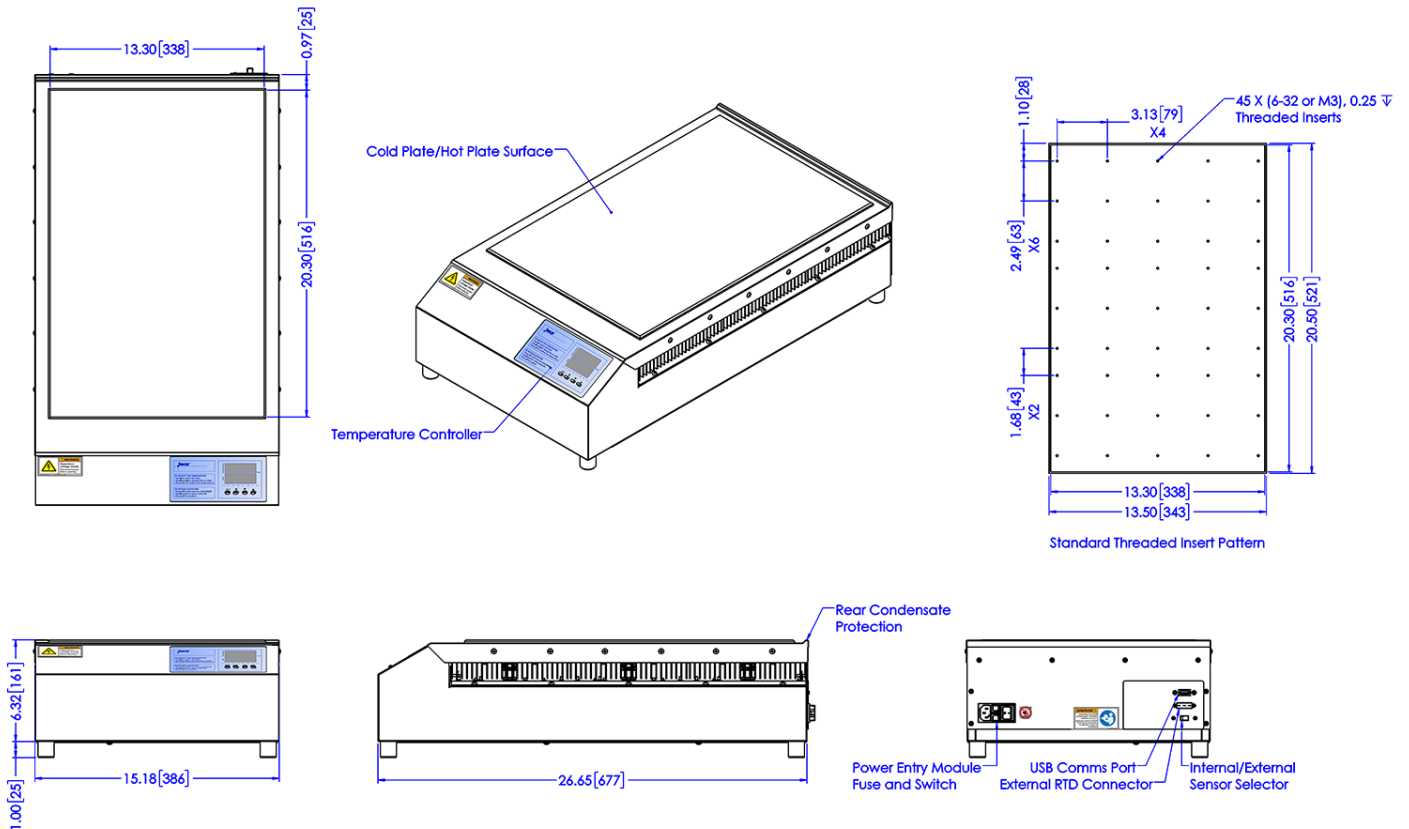
**PHYSICAL LAYOUT: ERGO-900**



**PHYSICAL LAYOUT: AHP-1800CPV**



**PHYSICAL LAYOUT: AHP-2700CPV**



## ELECTRICAL RATINGS

<b>AHP-301CPV</b>	Input: 100-240 VAC (+/- 10%), 50/60 Hz Current: 2.4-1.0 AMPS Max. Power: 240 Watts Fuse: 2 AMPS, 250 V, Slo. Blo. 5 x 20 mm Power Cord: North American 10 AMPS, Nema 5-15, IEC 60320 C13, 2.34m long
<b>AHP-301CPV 24 VDC</b>	Input: 24 VDC (+/- 10%) Current: 6.5 AMPS Max. Power: 160 Watts Fuse/Breaker: 8 AMPS, Slo. Blo. (customer supplied) Input Leads: 16 AWG. Red & Black 1/32 PVC UL1015, 2m long
<b>AHP-301MSP</b>	Input: 100-240 VAC (+/- 10%), 50/60 Hz Current: 2.4-1.0 AMPS Max. Power: 240 Watts Fuse: 2 AMPS, 250 V, Slo. Blo. 5 x 20 mm Power Cord: North American 10 AMPS, Nema 5-15, IEC 60320 C13, 2.34m long
<b>AHP-1200CPV</b>	Input: 100-240 VAC (+/- 10%), 50/60 Hz Current: 6.0-2.5 AMPS Max. Power: 600 Watts Fuse: 5 AMPS, 250 V, Slo. Blo. 5 x 20 mm Power Cord: North American 10 AMPS, Nema 5-15, IEC 60320 C13, 2.34m long
<b>AHP-1200CPV 24 VDC</b>	Input: 24 VDC (+/- 10%) Current: 17 AMPS Max. Power: 410 Watts Fuse/Breaker: 20 AMPS, Slo. Blo. (customer supplied) Input Leads: 10 AWG. Red & Black 1/32 PVC UL1015, 2m long
<b>AHP-1200CAS</b>	Input: 100-240 VAC (+/- 10%), 50/60 Hz Current: 6.6-2.7 AMPS Max. Power: 660 Watts Fuse: 6.3 AMPS, 250 V, Slo. Blo. 5 x 20 mm Power Cord: North American 10 AMPS, Nema 5-15, IEC 60320 C13, 2.34m long Output 1: 24 VDC, 4.0 AMPS (4.5 AMPS Max.) Output 2: 12 VDC, 1.6 AMPS (1.8 AMPS Max.)
<b>AHP-1200MSP</b>	Input: 100-240 VAC (+/- 10%), 50/60 Hz Current: 6.0-2.5 AMPS Max. Power: 600 Watts Fuse: 6.3 AMPS, 250 V, Slo. Blo. 5 x 20 mm Power Cord: North American 10 AMPS, Nema 5-15, IEC 60320 C13, 2.34m long

<b>ERGO-900</b>	Input: 100-240 VAC (+/- 10%), 50/60 Hz Current: 3.0-1.25 AMPS Max. Power: 300 Watts Fuse: 3.1 AMPS, 250 V, Slo. Blo. 5 x 20 mm Power Cord: North American 10 AMPS, Nema 5-15, IEC 60320 C13, 2.34m long
<b>AHP-1800CPV</b>	Input: 100-240 VAC (+/- 10%), 50/60 Hz Current: 6.3-2.6 AMPS Max. Power: 630 Watts Fuse: 6.3 AMPS, 250 V, Slo. Blo. 5 x 20 mm Power Cord: North American 10 AMPS, Nema 5-15, IEC 60320 C13, 2.34m long
<b>AHP-2700CPV</b>	Input: 100-240 VAC (+/- 10%), 50/60 Hz Current: 14.0-6.5 AMPS Max. Power: 1400 Watts Breaker: 15 AMPS, Thermal Time Lag Power Cord: North American 10 AMPS, Nema 6-15, IEC 60320 C13, 2.34m long
<b>All Configurations</b>	USB Cord: USB cable type A – A, 3m long

PRODUCT LABELS

**teca**<sup>®</sup> ThermoElectric Cooling America Corporation  
 4048 West Schubert Avenue Chicago, Illinois, USA 60639  
 Phone: 773-342-4900; Fax: 773-342-0191

**Solid State Heat/Cool Cold Plate**  
**Model AHP-301CPV**  
**Part # 9-70KB-1-0A0**  
 100-240 VAC 2.4-1.0 Amps 50/60 Hz  
 Max. Power: 240 Watts

**Fuse**  
 2 Amps, 250 V  
 5x20mm, Slo. Blo.

External / Internal RTD  
 Sensor Switch

External RTD  
 100, Class "A" Platinum

EXT INT

Serial Number

**teca**<sup>®</sup> ThermoElectric Cooling America Corporation  
 4048 West Schubert Avenue Chicago, Illinois, USA 60639  
 Phone: 773-342-4900; Fax: 773-342-0191

**Solid State Heat/Cool Cold Plate**  
**Model AHP-301CPV**  
**Part # 9-70K5-1-0A0**  
 --- 24 VDC 6.5 Amps  
 Max. Power: 160 Watts

**Fuse**  
 Customer Supplied  
 8 Amps, Slo. Blo.

External / Internal RTD  
 Sensor Switch

External RTD  
 100, Class "A" Platinum

EXT INT

Serial Number

**teca**<sup>®</sup> ThermoElectric Cooling America Corporation  
 4048 West Schubert Avenue  
 Chicago, Illinois, USA 60639  
 Phone 773-342-4900 Fax 773-342-0191

**Magnetic Stirring Cold Plate**  
**Series: AHP-301CPV**  
**Model: AHP-301MSP**  
**Part # 9-70KB-1-MSP**  
 100-240 VAC 2.0-0.8 Amps 47-63 Hz  
 Max. Power: 200 Watts  
**Fuse: 2 A, 250 V, 5x20mm, Slo. Blo.**  
 Serial Number: ??????????

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 Chicago, Illinois, USA 60639  
 Phone 773-342-4900 Fax 773-342-0191

**Solid State Heat/Cool Cold Plate**  
**Model AHP-1200CPV**  
**Part # 9-35KB-1-0A0**  
 100-240 VAC 6.0-2.5 Amps 47-63 Hz  
 Max. Power: 600 Watts  
**Fuse: 5 A, 250 V, 5x20mm, Slo. Blo.**  
 Serial Number: ??????????

**teca**<sup>®</sup> ThermoElectric Cooling America Corporation  
 4048 West Schubert Avenue  
 Chicago, Illinois, USA 60639  
 Phone 773-342-4900 Fax 773-342-0191

**Solid State Heat/Cool Cold Plate**  
**Model AHP-1200CPV**  
**Part # 9-35K5-1-0A0**  
 --- 24 VDC 17 AMPS  
 Max. Power: 410 Watts

**Fuse Customer Supplied:**  
**20 Amps, Slo. Blo.**  
 Serial Number: ??????????

**teca**<sup>®</sup> ThermoElectric Cooling America Corporation  
 4048 West Schubert Avenue  
 Chicago, Illinois, USA 60639  
 Phone 773-342-4900 Fax 773-342-0191

**Solid State Heat/Cool Cold Plate**  
**Model AHP-1200CAS**  
**Part # 9-35KB-1-CAS**  
 100-240 VAC 6.6-2.7 Amps 47-63 Hz  
 Max. Power: 660 Watts  
**Fuse: 6.3 A, 250 V, 5x20mm, Slo. Blo.**  
 Serial Number: ??????????

PRODUCT LABELS

**teca**<sup>®</sup> ThermoElectric Cooling America Corporation  
4048 West Schubert Avenue  
Chicago, Illinois, USA 60639  
Phone 773-342-4900 Fax 773-342-0191

**Magnetic Stirring Cold Plate**  
**Series: AHP-1200CPV**  
**Model: AHP-1200MSP**  
**Part # 9-35KB-1-MSP**  
**100-240 VAC 6.0-2.5 Amps 47-63 Hz**  
**Max. Power: 600 Watts**  
**Fuse: 6.3 A, 250 V, 5x20mm, Slo. Blo.**  
Serial Number: ??????????

**teca**<sup>®</sup> ThermoElectric Cooling America Corporation  
4048 West Schubert Avenue  
Chicago, Illinois, USA 60639  
Phone 773-342-4900 Fax 773-342-0191

**Solid State Heat/Cool Cold Plate**  
**Series: AHP-1200CPV**  
**Model: ERGO-900**  
**Part # 9-35KB-1-ERG**  
**100-240 VAC 3.0-1.25 Amps 47-63 Hz**  
**Max. Power: 300 Watts**  
**Fuse: 3.1 A, 250 V, 5x20mm, Slo. Blo.**  
Serial Number: ??????????

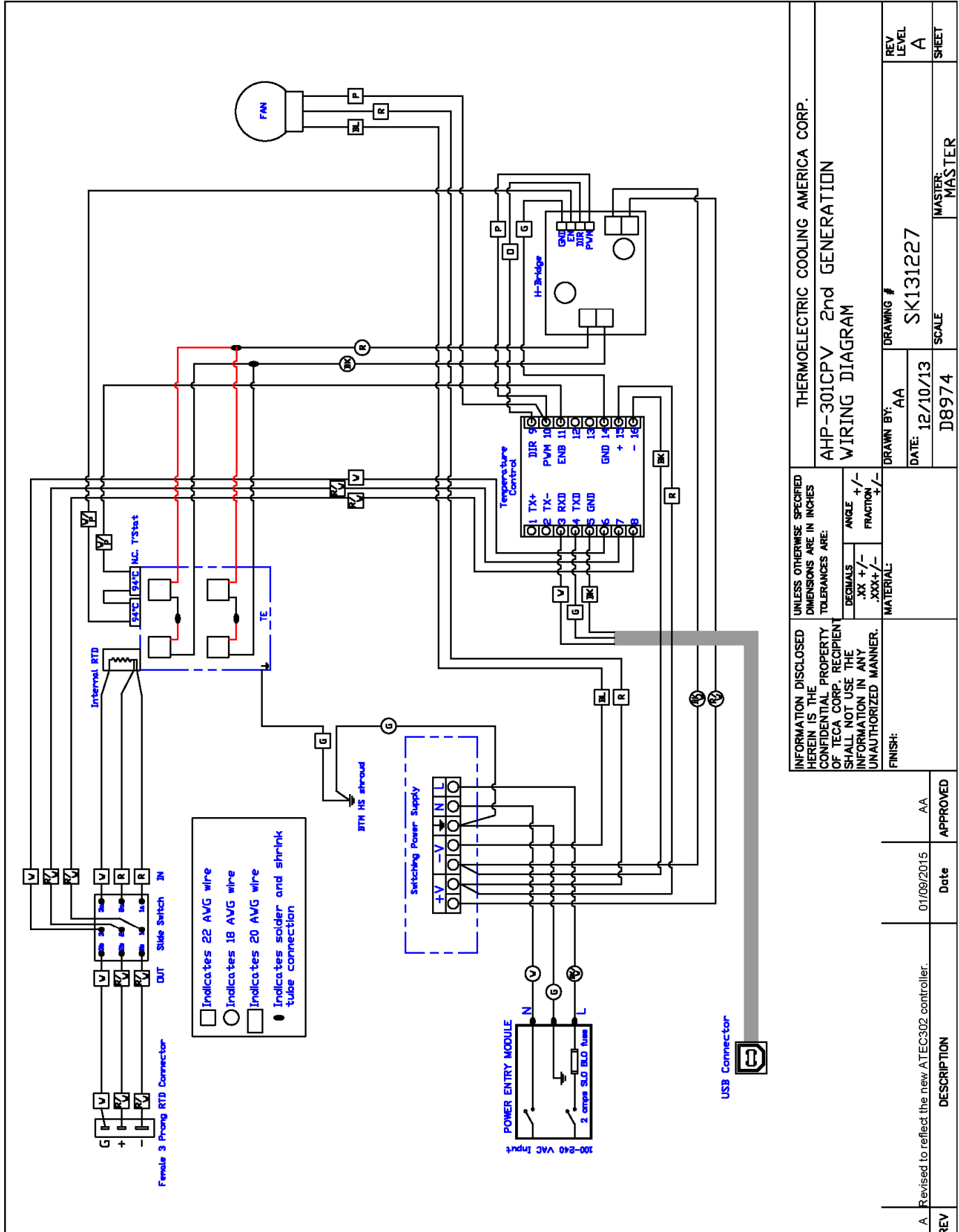
**teca**<sup>®</sup> ThermoElectric Cooling America Corporation  
4048 West Schubert Avenue  
Chicago, Illinois, USA 60639  
Phone 773-342-4900 Fax 773-342-0191

**Solid State Heat/Cool Plate**  
**Model AHP-1800CPV**  
**Part # 9-04KB-1-0A0**  
**100-240 VAC 6.3-2.6 Amps 47-63 Hz**  
**Max. Power: 630 Watts**  
**Fuse: 6.3 A, 250 V, 5x20mm, Slo. Blo.**  
Serial Number: ??????????

**teca**<sup>®</sup> ThermoElectric Cooling America Corporation  
4048 West Schubert Avenue  
Chicago, Illinois, USA 60639  
Phone 773-342-4900 Fax 773-342-0191

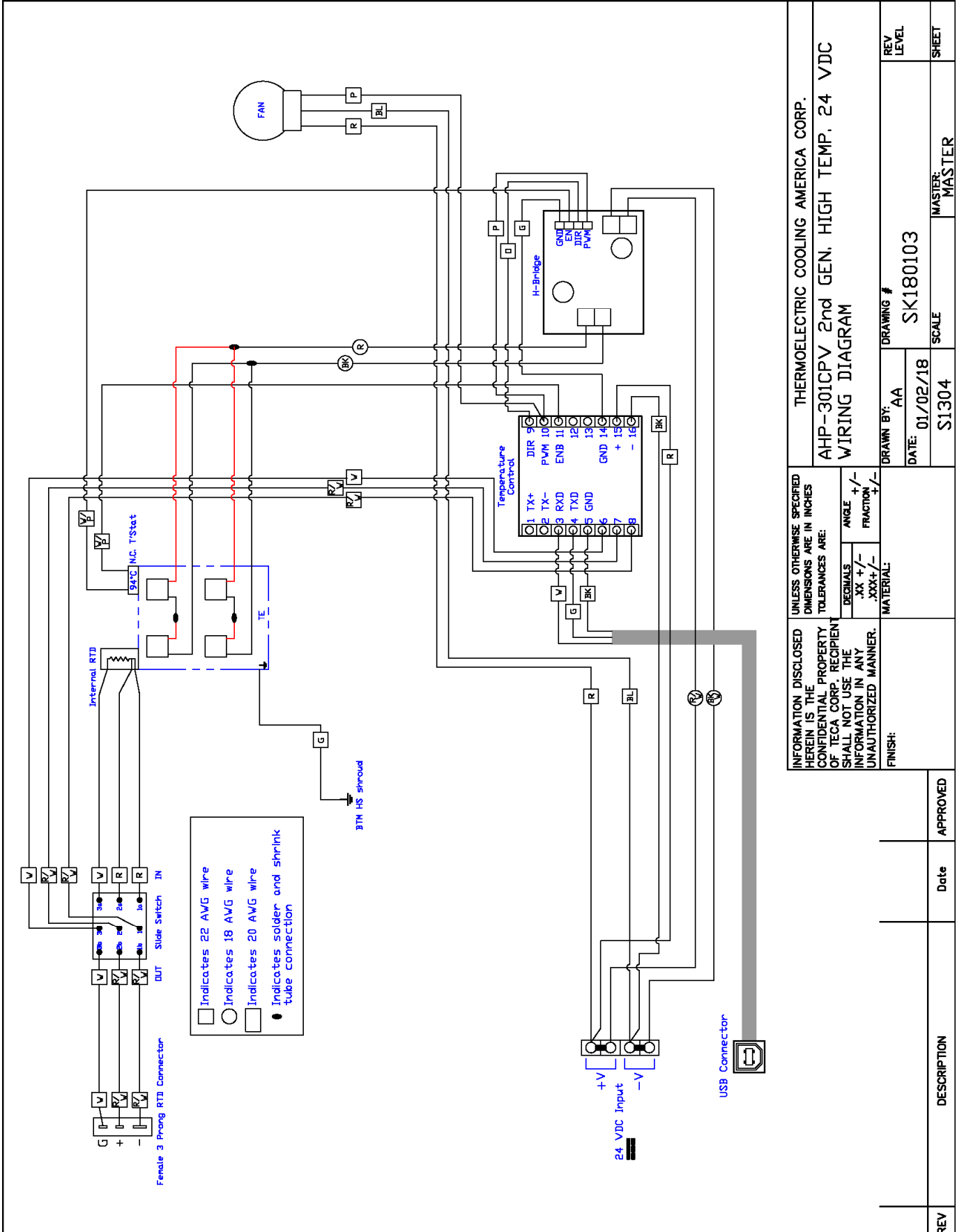
**Solid State Heat/Cool Plate**  
**Model AHP-2700CPV**  
**Part # 9-N5KB-1-0A0**  
**~100-240 VAC 14-6 AMPS 47-63 Hz**  
**Max. Power: 1400 Watts**  
**Switch Breaker: 15 Amps**  
Serial Number: 050100001

**AHP-301CPV WIRING DIAGRAM**



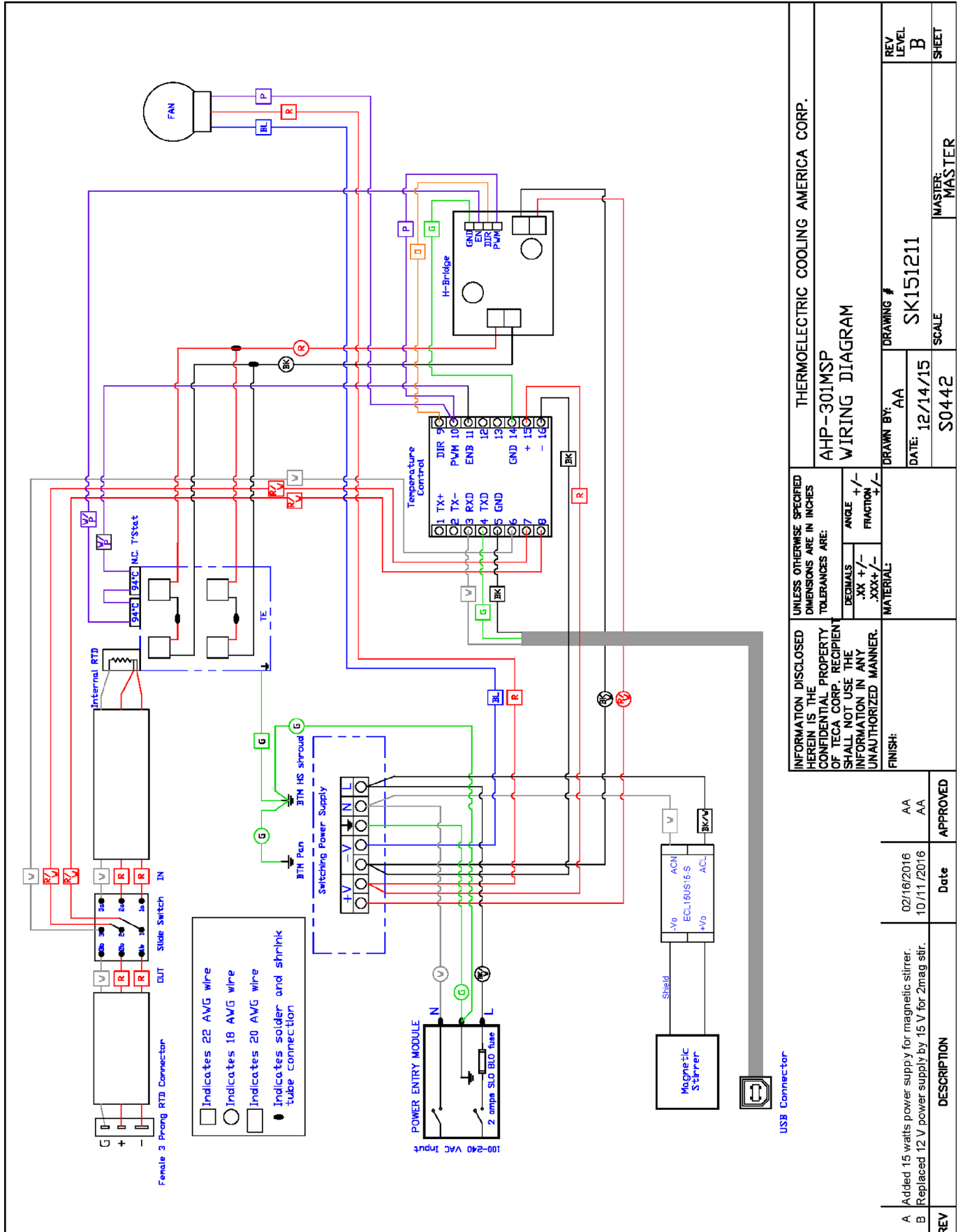
INFORMATION DISCLOSED HEREIN IS THE CONFIDENTIAL PROPERTY OF TECA CORP. RECIPIENT SHALL NOT USE THE INFORMATION IN ANY UNAUTHORIZED MANNER. FINISH:	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: DECIMALS .XX +/- FRACTION .XXX +/- MATERIAL:	DRAWN BY: AA	DRAWING # SK131227	REV LEVEL A
		DATE: 12/10/13	SCALE D8974	MASTER: MASTER
THERMOELECTRIC COOLING AMERICA CORP. AHP-301CPV 2nd GENERATION WIRING DIAGRAM				
A. Revised to reflect the new ATEC302 controller.	Date 01/09/2015	APPROVED AA		
DESCRIPTION				

**AHP-301CPV 24 VDC 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:		DRAWING # <b>SK180103</b>	REV LEVEL	SHEET
	DECIMALS .XX +/- .XXX +/-	ANGLE +/- FRACTION +/-			
THERMOELECTRIC COOLING AMERICA CORP. <b>AHP-301CPV 2nd GEN. HIGH TEMP. 24 VDC          WIRING DIAGRAM</b>			DRAWN BY: <b>AA</b>	DATE: <b>01/02/18</b>	REV LEVEL
MATERIAL:			SCALE <b>S1304</b>	MASTER: <b>MASTER</b>	SHEET
+V -V GND	24 VDC Input	USB Connector	DESCRIPTION	Date	APPROVED

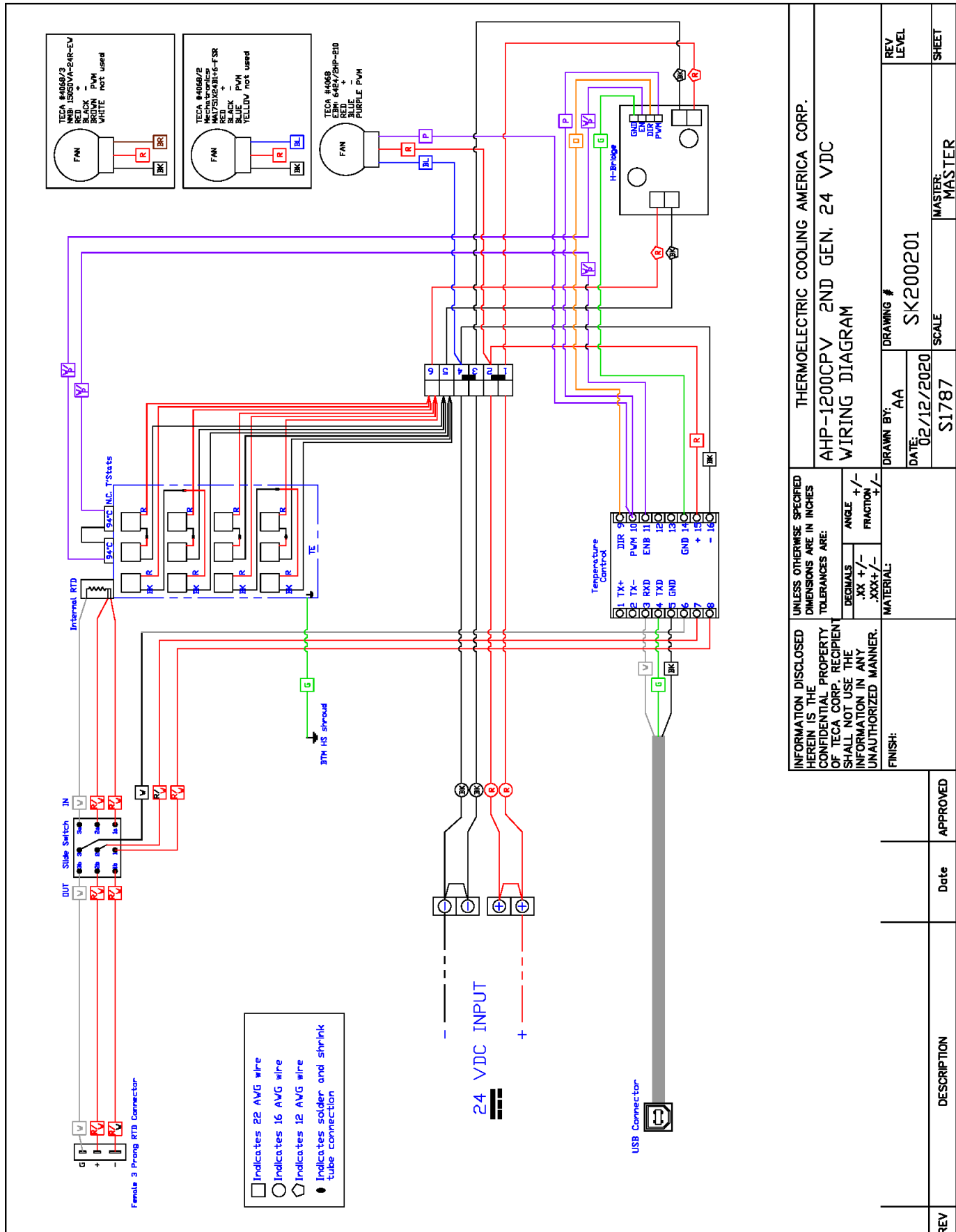
# AHP-301MSP WIRING DIAGRAM



THERMOELECTRIC COOLING AMERICA CORP.		DRAWING #		REV
AHP-301MSP		SK151211		LEVEL
WIRING DIAGRAM		SCALE		B
DRAWN BY: AA		MASTER: MASTER		SHEET
DATE: 12/14/15		S0442		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:				
DECIMALS		ANGLE		
.XX +/-		+/-		
.XXX +/-		+/-		
MATERIAL:				
FINISH:				
INFORMATION DISCLOSED HEREIN IS THE CONFIDENTIAL PROPERTY OF TECA CORP. RECIPIENT SHALL NOT USE THE INFORMATION IN ANY UNAUTHORIZED MANNER.				
Date		APPROVED		
02/16/2016		AA		
10/11/2016		AA		
DESCRIPTION		Date		
A Added 15 watts power supply for magnetic stirrer.				
B Replaced 12 V power supply by 15 V for 2mag stir.				

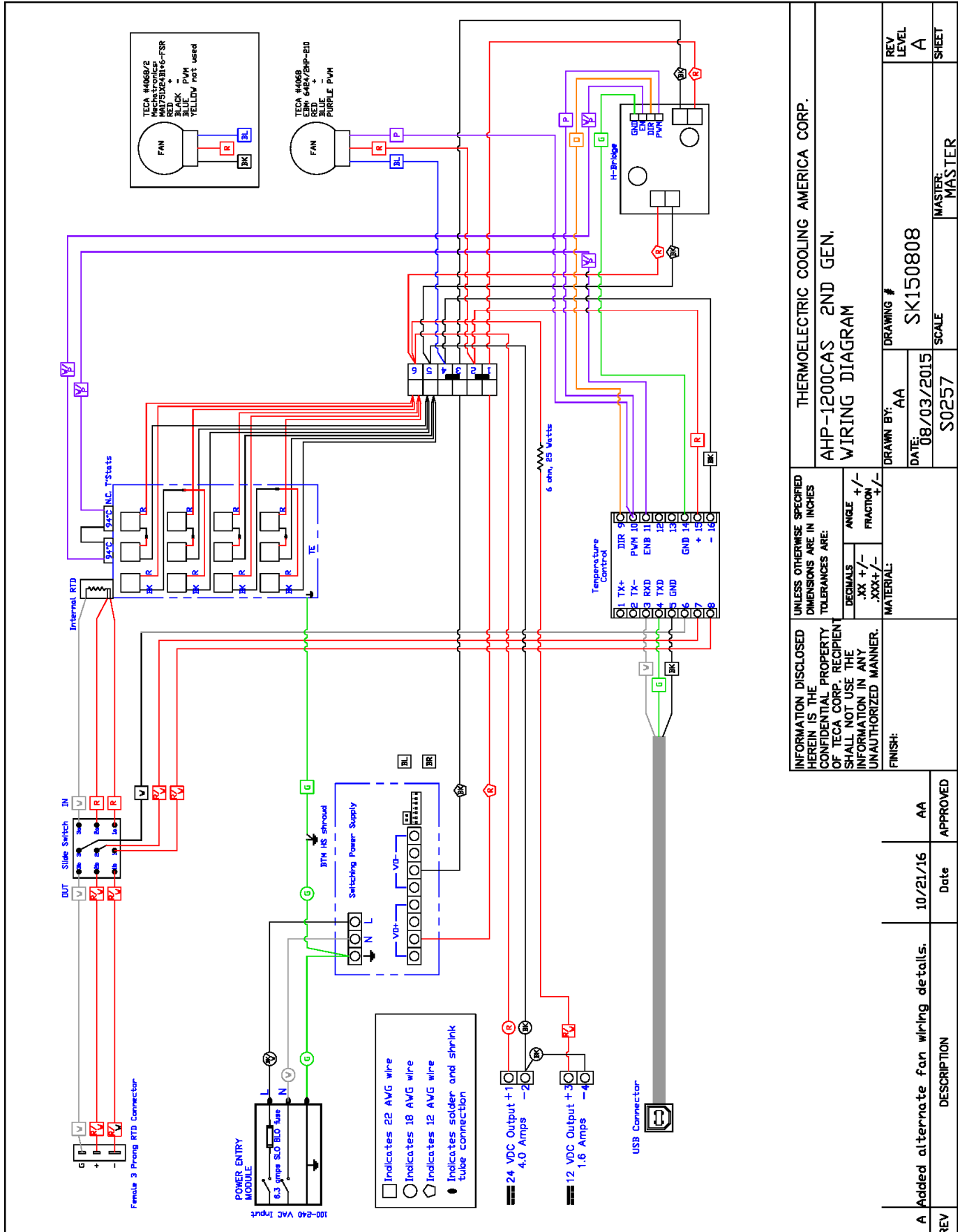


# AHP-1200CPV 24 VDC WIRING DIAGRAM



<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 +/-			<p>FINISH:</p>	
DECIMALS	ANGLE	FRACTION										
.XX +/-	+/-	+/-										
.XXX +/-												
<p>INFORMATION DISCLOSED HEREIN IS THE CONFIDENTIAL PROPERTY OF TECA CORP. RECIPIENT SHALL NOT USE THE INFORMATION IN ANY UNAUTHORIZED MANNER.</p>		<p>MATERIAL:</p>										
<p>DATE: 02/12/2020</p>		<p>DRAWING # SK200201</p>										
<p>SCALE S1787</p>		<p>MASTER: MASTER</p>										
<p>REV</p>		<p>DESCRIPTION</p>										
<p>Date</p>		<p>APPROVED</p>										
<p>REV LEVEL</p>		<p>SHEET</p>										

# AHP-1200CAS WIRING DIAGRAM

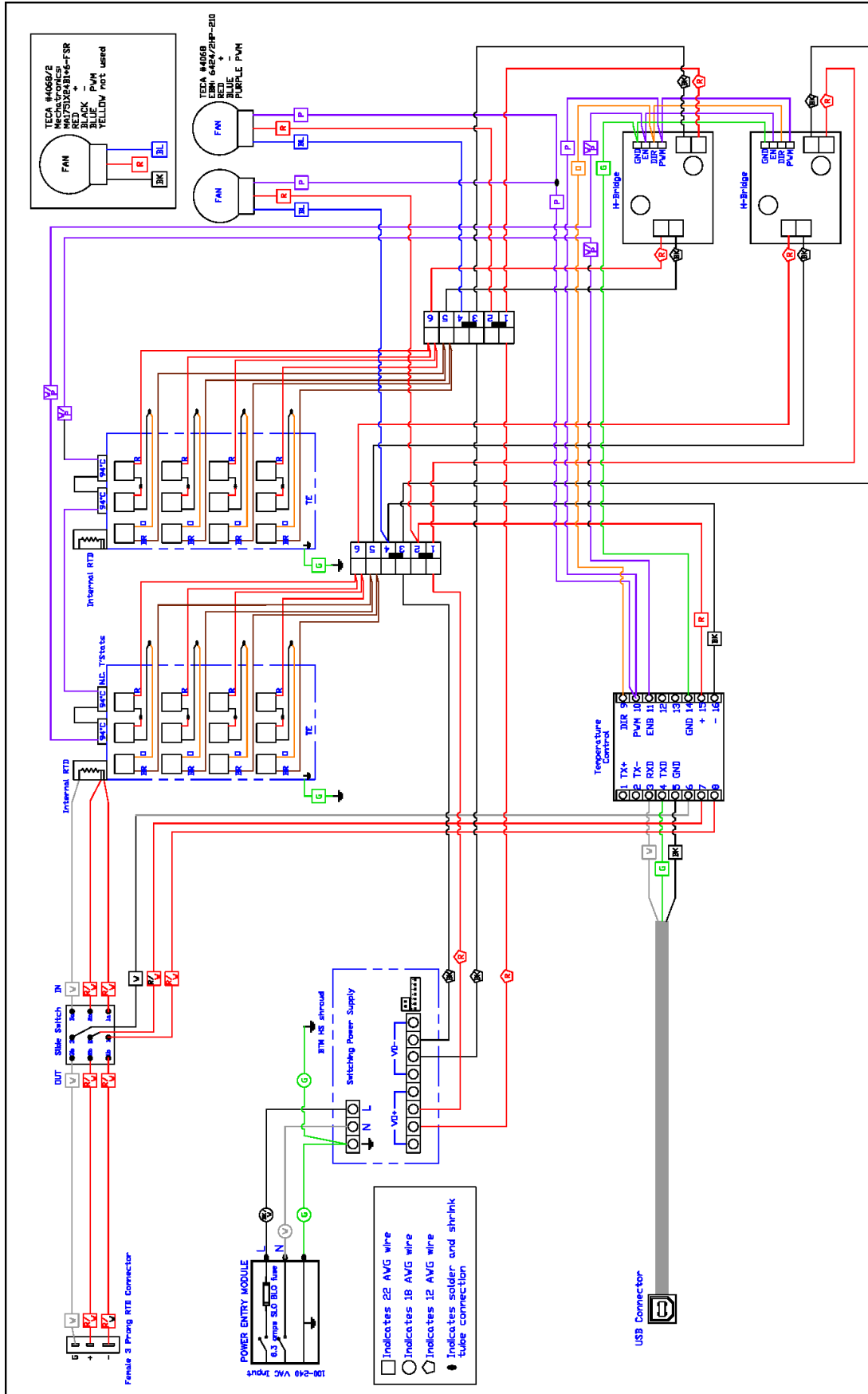


THERMOELECTRIC COOLING AMERICA CORP.		DRAWN BY: AA		DRAWING #		REV LEVEL	
AHP-1200CAS 2ND GEN.		DATE: 08/03/2015		SK150808		A	
WIRING DIAGRAM		SCALE		S0257		SHEET	
FINISH:		MATERIAL:		MASTER:		MASTER	
INFORMATION DISCLOSED HEREIN IS THE CONFIDENTIAL PROPERTY OF TECA CORP. RECIPIENT SHALL NOT USE THE INFORMATION IN ANY UNAUTHORIZED MANNER.		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:		ANGLE +/-		REV LEVEL	
				FRACTION +/-		A	
				DECIMALS .XX +/-		SHEET	
				.XXX +/-			
A Added alternate fan wiring details.		Date		APPROVED			
		10/21/16		AA			
DESCRIPTION							





# AHP-1800CPV WIRING DIAGRAM



<p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:</p> <table border="1"> <tr> <td>DECIMALS</td> <td>ANGLE</td> <td>+/-</td> </tr> <tr> <td>.XX</td> <td>+/-</td> <td>FRACTION</td> </tr> <tr> <td>.XXX</td> <td>+/-</td> <td>FRACTION</td> </tr> </table>		DECIMALS	ANGLE	+/-	.XX	+/-	FRACTION	.XXX	+/-	FRACTION	<p>FINISH:</p>
DECIMALS	ANGLE	+/-									
.XX	+/-	FRACTION									
.XXX	+/-	FRACTION									
<p>INFORMATION DISCLOSED HEREIN IS THE CONFIDENTIAL PROPERTY OF TECA CORP. RECIPIENT SHALL NOT USE THE INFORMATION IN ANY UNAUTHORIZED MANNER.</p>		<p>SCALE: S0316</p>									
<p>DATE: 09/11/2015</p>		<p>SCALE: S0316</p>									
<p>DRAWN BY: AA</p>		<p>SCALE: S0316</p>									
<p>DRAWING # SK150920</p>		<p>MASTER: MASTER</p>									
<p>REVISION: A</p>		<p>REVISION: A</p>									
<p>DESCRIPTION: Added alternate fan wiring details.</p>		<p>DATE: 10/21/16</p>									
<p>REV: A</p>	<p>APPROVED: AA</p>	<p>DATE: 10/21/16</p>									



## SAFETY FEATURES OF THE CONTROLLER

- Automatic recovery to set point after regaining of power
- Program resume after regaining of power
- Programmable over-temperature limits
- Hardwired safety over-heat limits (95 C) will shut down everything and trip an alarm. System automatically recovers after cooling down.
- System shut down upon sensor break, over and under range

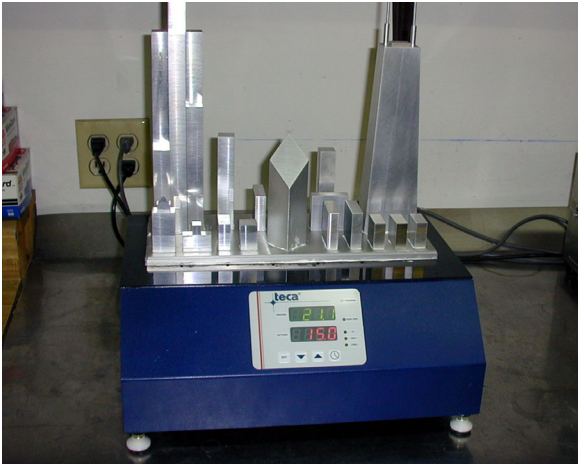
## OVER TEMPERATURE SAFETY

When an over temperature condition occurs, the following will happen:

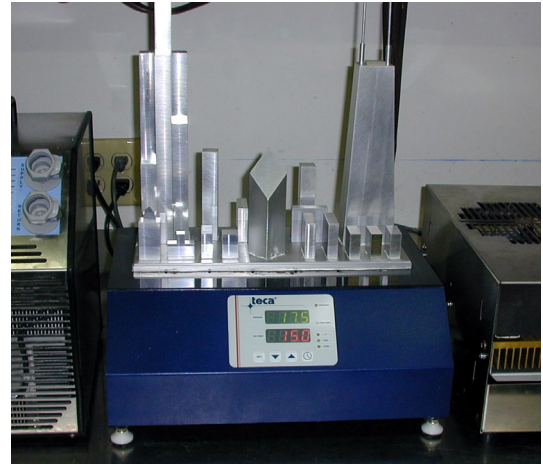
- System heating and cooling will be disabled
- Under extreme overheat conditions power will be interrupted

## QUICK START NOTES

Step 1: Locate the unit on a flat level surface like a bench. Make sure you have some room around it for good airflow.



**DO**  
Give it room to “Breath”



**DON'T**  
Pile lots of stuff all around it.

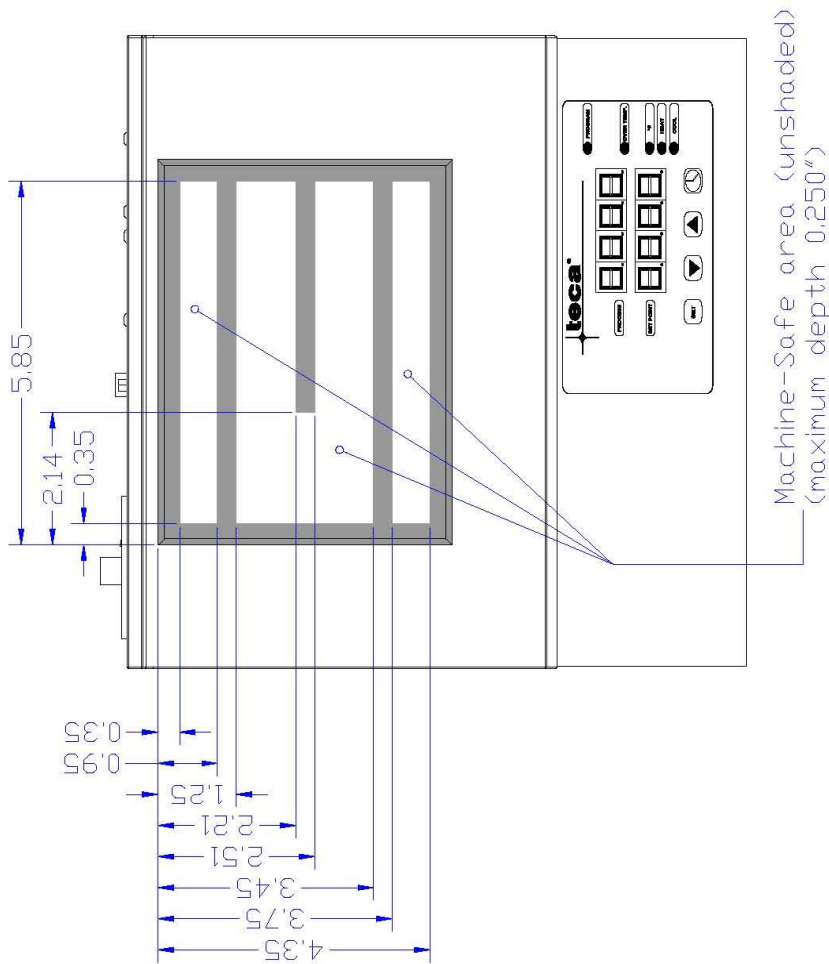
Step 2: Plug the cord in the back of the unit, the other end to an appropriately grounded outlet and turn the unit on. The temperature controller will turn on, the fan will start to spin, and the plate will begin to approach the set temperature.



Step 3: Now What? Adjust the Set Point.

Put something on the cold plate and adjust the set point by using the arrow keys. Press the left arrow button to highlight the digit to be changed then using the “UP” or “DOWN” buttons, adjust to the desired temperature, then press “SET” to finish adjusting the set point. If the unit seems to stop, press "SET" twice to show "EnAb" in the process, if the set display shows off press the up-arrow unit "none" is shown. Then press set again.

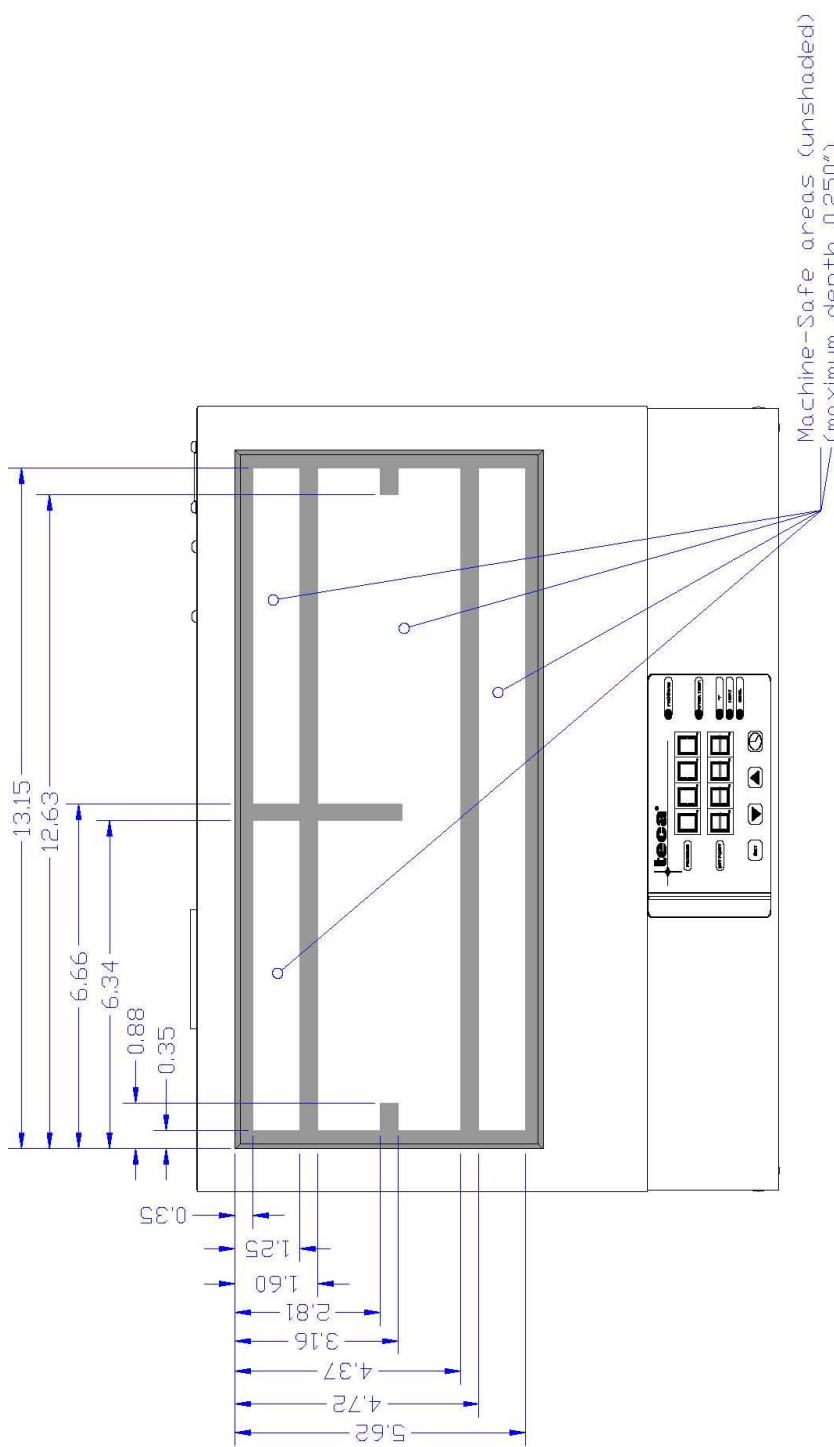
**AHP-301CPV MACHINE SAFE AREA**



Machine-Safe area (unshaded)  
 (maximum depth 0.250")

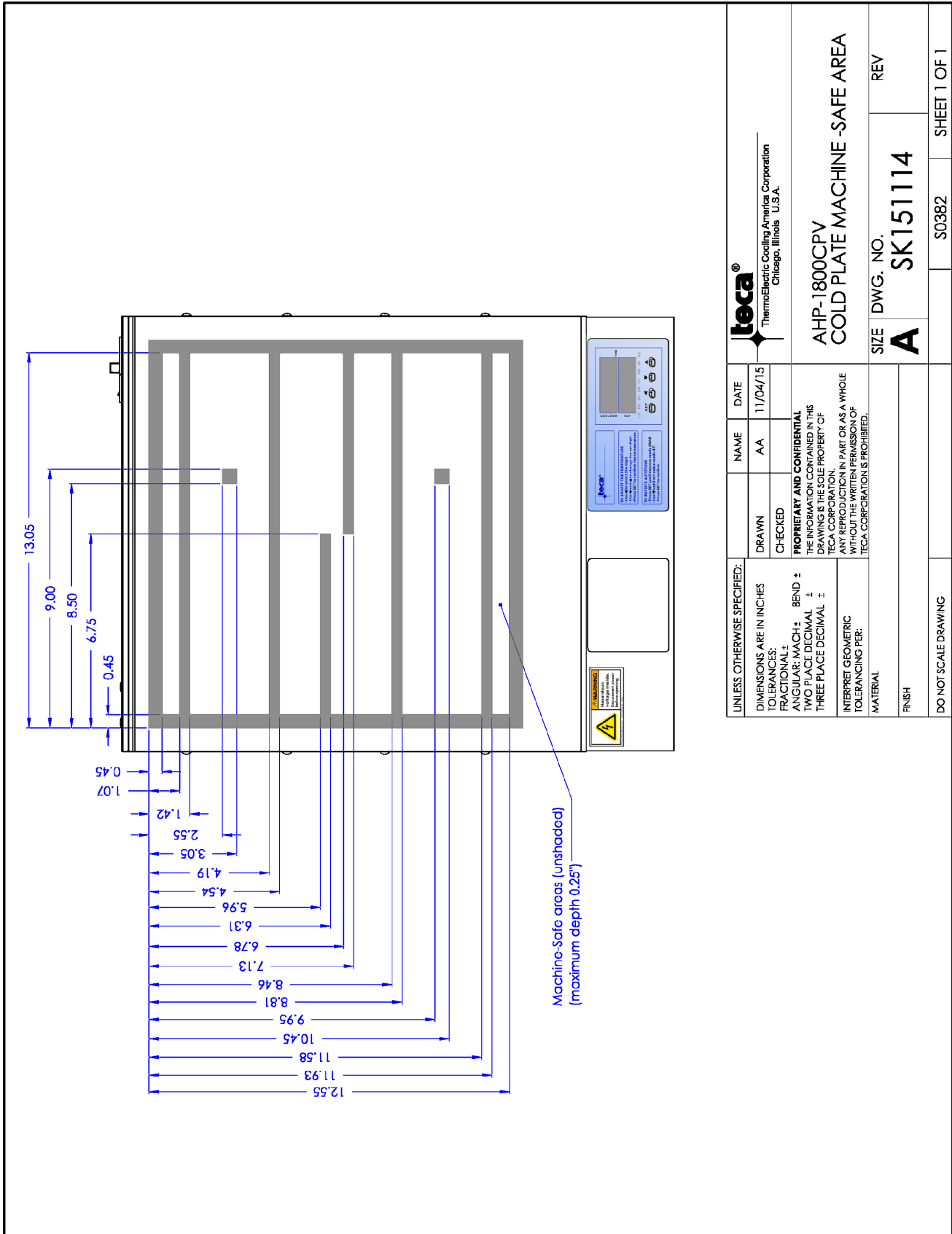
INFORMATION DISCLOSED HEREIN IS THE CONFIDENTIAL PROPERTY OF TECA CORP. RECIPIENT SHALL NOT USE THE INFORMATION IN ANY UNAUTHORIZED MANNER. FINISH:	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: DECIMALS XX +/- .XXX +/- MATERIAL:	ANGLE +/- FRACTION +/-	DRAWN BY: AA	DRAWING #	REV LEVEL
			DATE: 07/03/09	SK090702	
THERMOELECTRIC COOLING AMERICA CORP. AHP-301CPV COLD PLATE MACHINE-SAFE AREA			D7616	SCALE	SHEET
REV	DESCRIPTION	Date	APPROVED	MASTER: MASTER	

# AHP-1200CPV MACHINE SAFE AREA



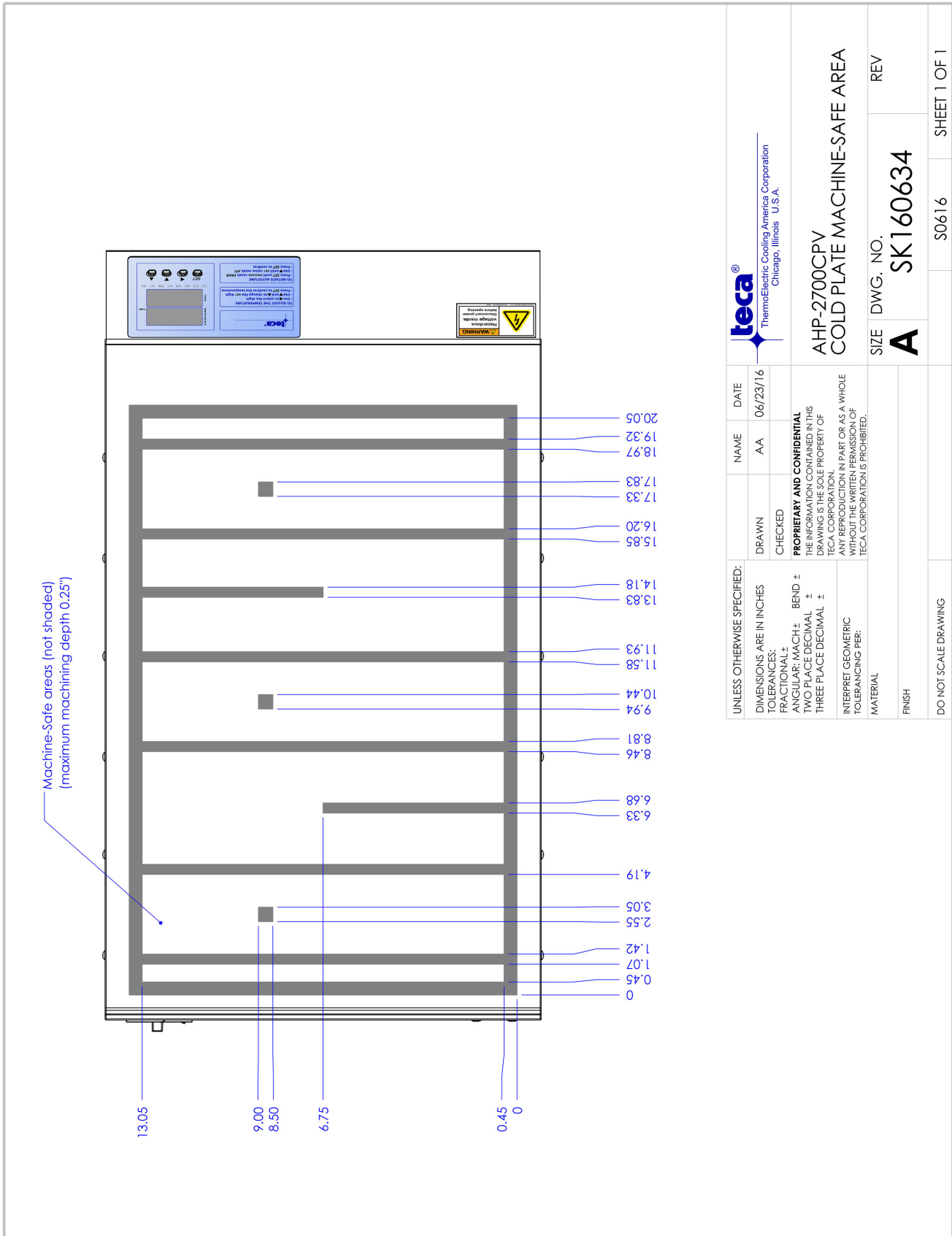
INFORMATION DISCLOSED HEREIN IS THE CONFIDENTIAL PROPERTY OF TECA CORP. RECIPIENT SHALL NOT USE THE INFORMATION IN ANY UNAUTHORIZED MANNER. FINISH:	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:		DRAWING # SK090701	REV LEVEL SHEET
	DECIMALS .XX +/-	ANGLE +/-		
THERMOELECTRIC COOLING AMERICA CORP.		AHP-1200CPV COLD PLATE MACHINE-SAFE AREA		
MATERIAL:		DRAWN BY: AA DATE: 07/03/09 D7615		
APPROVED		MASTER		
REV	DESCRIPTION	Date	SHEET	

**AHP-1800CPV MACHINE SAFE AREA**



UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES		AA	11/04/15
TOLERANCES:		DRAWN	
FRACTIONALS:		CHECKED	
ANGULARS: MACH ±, BEND ±		ThermoElectric Cooling America Corporation Chicago, Illinois U.S.A.	
TWO PLACE DECIMAL ±		<b>AHP-1800CPV</b> <b>COLD PLATE MACHINE -SAFE AREA</b>	
THREE PLACE DECIMAL ±		SIZE DWG. NO. REV <b>A SK151114</b>	
INTERPRET GEOMETRIC TOLERANCING PER:		THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF TECA CORPORATION. PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF TECA CORPORATION IS PROHIBITED.	
MATERIAL		S0382 SHEET 1 OF 1	
FINISH			
DO NOT SCALE DRAWING			

**AHP-2700CPV MACHINE SAFE AREA**



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±		DRAWN CHECKED	NAME AA	DATE 06/23/16	ThermoElectric Cooling America Corporation Chicago, Illinois U.S.A.	
INTERPRET GEOMETRIC TOLERANCING PER: MATERIAL		<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF TECA CORPORATION. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF TECA CORPORATION IS PROHIBITED.		SIZE DWG. NO. REV <b>A</b> SK160634 REV		
DO NOT SCALE DRAWING		S0616		SHEET 1 OF 1		

## TWO POINT CALIBRATION

*Note: The RTD used in these products is a three wire, 100 Ohm, Platinum, Class A, 0.00385 coefficient.*

- 1- Connect the standard RTD simulator to the remote sensor input terminals and adjust the slide switch to external.
- 2 - Press both “Up” and “Down” keys simultaneously for 5 seconds until PROCESS VALUE display shows “LEVEL”. and the SET display shows "CABL".
- 3 - Press the "SET" key 7 times until the PROCESS VALUE display shows “ PtL”. and the SET display shows a low temperature value, typically "-50.0".
- 4 - Adjust your simulator to simulate your desired PtL, in this example -50.0 C. Allow everything to stabilize. Press and hold the SET key for 5 Seconds.
- 5 - Now the PROCESS VALUE display now should show “ PtH”. and the SET display a high temperature value, typically "150.0".
- 6 - Adjust your simulator to simulate your desired PtH, in this example 150 C. Allow everything to stabilize. Press and hold the SET key for 5 Seconds.
- 7 - The displays should now be as they were after Step two. To return to the operating menu press and hold the SET key and quickly press the up-arrow key.

## USING THE EXTERNAL RTD SENSOR

Caution!! Use the external sensor feature with caution. There may be a large time delay between the fluid and the sensor temperatures causing overheating and under-cooling conditions. Fully evaluate the system conditions prior to and during the use of this feature. The RTD is a three wire, 100-ohm, single element platinum, Class A.

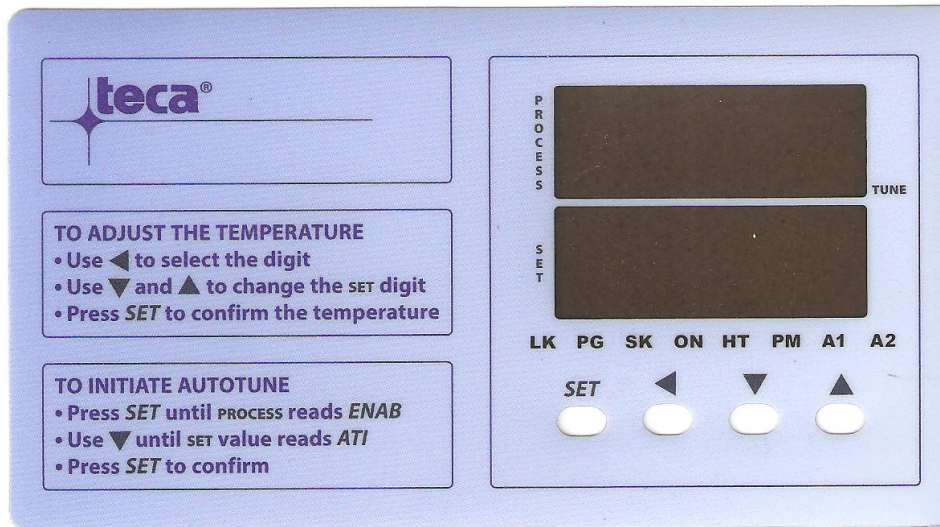
Identify where and how you wish to use the external sensor. Take special consideration and thought with respect to system safety. The connector and switch directly behind the controller correspond to its remote sensor.



Connect the sensor to the back of the chiller, slide the selector switch towards the connector, turn the unit on and verify the function and safety. Mating RTD connector is provided with the unit. Customer is responsible to provide the external three wire 100-ohm, platinum RTD.

**A faulty or disconnected RTD is signaled on the process display as oPEn.**

## COMPLETE FRONT PANEL OPERATION



**SET KEY:** Press once to access the next programmable parameter.

**UP ARROW KEY:** Press to increase the set point or parameter value.

**DOWN ARROW KEY:** Press to decrease the set point or parameter value.

**LEFT ARROW KEY:** Press once to select set point.

Press the **SET** and **UP** keys once to return the normal operation.

**LEVEL KEY.** Press the **SET** and **LEFT** keys simultaneously for 5 seconds to select programming level, press **SET** key to the selected level.

### SETTING TEMPERATURE

**Left Arrow:** To set temperature press to select and highlight the digit being changed.

**Up Arrow KEY:** Press to increase the digit (set point or parameter value).

**Down Arrow KEY:** Press to decrease the digit (set point or parameter value.).

**Left Arrow:** Press once to select set point.

**SET KEY:** Press to confirm new SET temperature.

### LED LIGHTS

**LK:** keypad Lock: LED lights on when keypad is enable.

**PG:** Program Ramp: LED lights on when temperature is ramping up/down.

**SK:** Program Soak: LED lights on when temperature is at soaking stage.

**ON:** Controller Enable: LED lights on when controller sends the Enable signal to the amplifier.

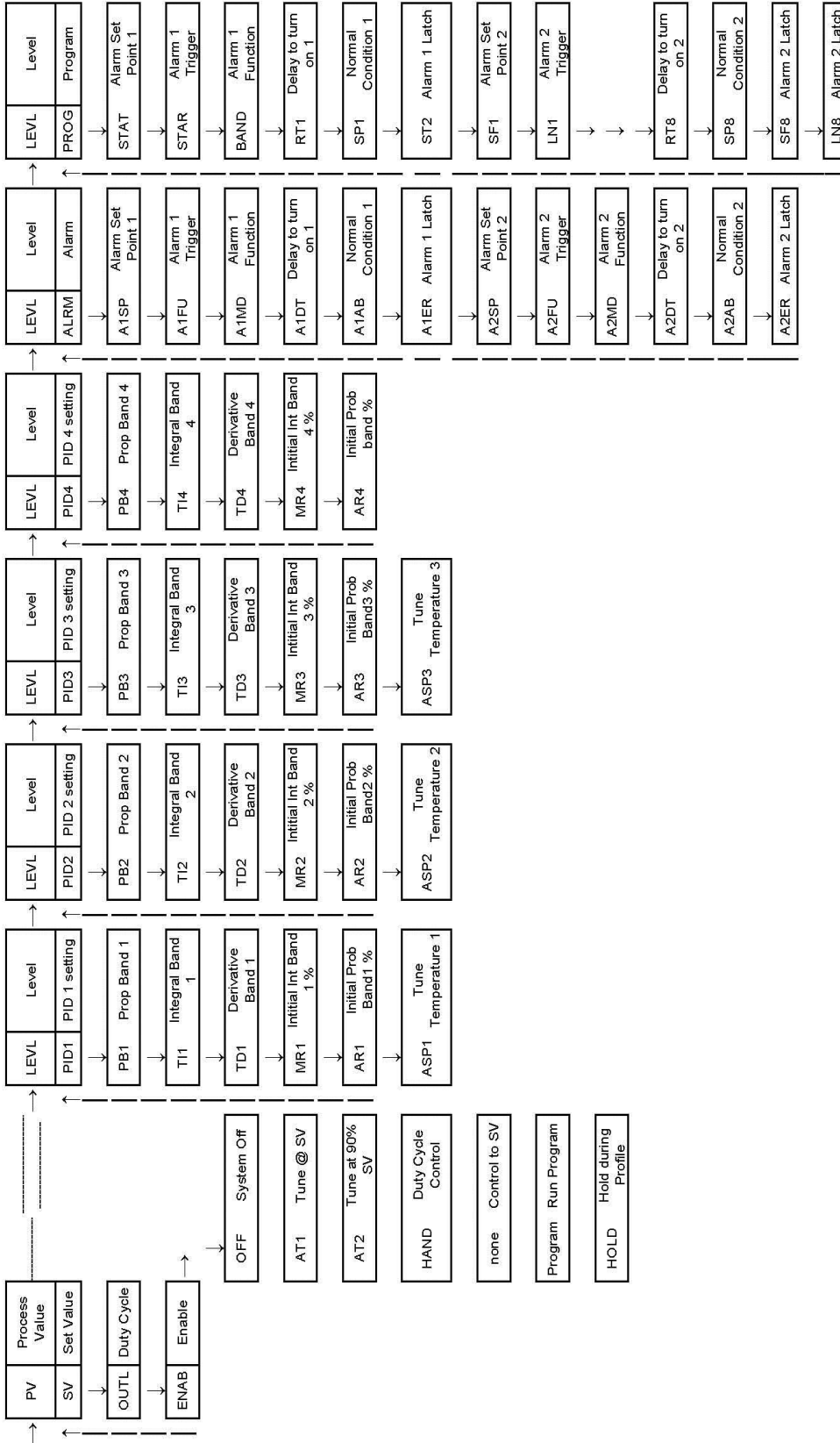
**HT:** LED indicator is on during the heating and off during the cooling.

**PM:** Pulse Width Modulation Signal: LED signal lighted when PWM signal is sent from controller to amplifier. During low duty cycle, the LED might not be bright enough to be seen.

**A1:** Alarm #1 indicator: LED on when Alarm #1 is triggered.

**A2:** Alarm #2 indicator: LED on when Alarm #2 is triggered

## CONTROLLER MENU NAVIGATION





ThermoElectric Cooling America Corporation  
4048 W. Schubert Avenue • Chicago, IL (U.S.A.) 60639  
Ph: 773/342-4900 Fx: 773/342-0191  
teca@thermoelectric.com www.thermoelectric.com

## DECLARATION OF CONFORMITY

### TYPE OF EQUIPMENT

Thermoelectric Cold/Hot Plates  
Peltier based cooling and heating equipment for laboratory use

### PRODUCTS COVERED

**Model:** AHP-301CPV part numbers 9-70KB-1-0A0, 9-70KB-1-TAP, 9-70KB-1-MET, 9-70KB-6-0A0, 9-70KB-6-TAP, 9-70KB-6-MET, 9-70K5-1-0A0, 9-70K5-1-TAP, 9-70K5-1-MET, 9-70K5-6-0A0, 9-70KB-6-TAP, 9-70KB-6-MET, 9-70KB-1-MSP

**Model:** AHP-1200CPV part numbers 9-35KB-1-0A0, 9-35KB-1-TAP, 9-35KB-1-MET, 9-35KB-6-0A0, 9-35KB-6-TAP, 9-35KB-6-MET, 9-35K5-1-0A0, 9-35K5-1-TAP, 9-35K5-1-MET, 9-35K5-6-0A0, 9-35KB-6-TAP, 9-35KB-6-MET, 9-35KB-1-ERG, 9-35KB-1-MSP

**Model:** AHP-1200CAS part numbers 9-35KB-1-CAS, 9-35KB-6-CAS, 9-35KB-1-C21, 9-35KB-1-C22, 9-35KB-1-C31, 9-35KB-6-C21, 9-35KB-6-C22, 9-35KB-6-C31

**Model:** AHP-1800CPV part numbers 9-04KB-1-0A0, 9-04KB-1-TAP, 9-04KB-1-MET, 9-04KB-6-0A0, 9-04KB-6-TAP, 9-04KB-6-MET

**Model:** AHP-2700CPV part numbers 9-N5KB-1-0A0, 9-N5KB-1-TAP, 9-N5KB-1-MET, 9-N5KB-6-0A0, 9-N5KB-6-TAP, 9-N5KB-6-MET

### YEAR OF MANUFACTURE

Refer to the first two digits of the serial number on the manufacturers ID label

### MANUFACTURER

TECA Corporation  
4048 W. Schubert Avenue  
Chicago, IL 60639  
U.S.A.

### APPLIED STANDARDS

UL 61010-1:2012Ed.3+R:29Apr2016 Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use  
Part 1: General Requirements

CSA C22.2#61010-1-12:2012Ed.3+U1;U2 Safety Requirements For Electrical Equipment For Measurement, Control, And Laboratory Use – Part 1: General Requirements (R2017)

IEC 61010-2-010:2003Ed.2 Safety Requirements For Electrical Equipment For Measurement, Control, And Laboratory Use Part 2  
010: Particular Requirements For Laboratory Equipment For The Heating Of Materials

#### EMC:

Electromagnetic compatibility EMC Directive 2014/30/EU: EN  
61326-1: 2013; IEC 61326-1\*BEI Issued: 2012/07/10 Ed: 2 Electrical Equipment for Measurement, Control and Laboratory Use - EMC  
Requirements - Part 1: General Requirements

US/Canada: FCC 47CFR Part 15 Subpart B, Class A, ICES-003 Testing at 120V 60HZ

### TESTING AGENCY

ITS Intertek Testing Services ETL SEMKO



### REPORT No.

**ETL Report Number:** 104211605CHI-001, 002, 003, 004 & 104211605DAL-005, 006

Engineering Manager  
Afshin Asadnejad  
Revision A: Added AHP-2700CPV series.

May 16, 2020  
October 7, 2024