

GENERAL OVERVIEW



This is an extremely advanced controller featuring 2 controllers

which individually feature: Temperature Display with On-Screen Programming, Fahrenheit or Celsius Display, Auto & Manual Modes, Low Voltage Trigger, Automated On & Off and Variable Speed based on Temperature, Auto or Manually Set Fan Speeds, Alarm with Contact Closures, both NC and NO, and an audible alarm that can also be disabled. It is fully programmable, easy to install and configure, and is extremely reliable. The unit also features an additional four 12V DC plugs for powering other low voltage devices such as IR systems. The unit can be installed by placing it on top of other components or in a rack requiring only 1U of free space.

NOTE: This is exclusively a low voltage (12 V DC), controller so for high voltage or ventilation systems, use the Advanced Ventilation Controller. Even for low voltage ventilation applications, the TC-AVC would be more appropriate.

Standard Application: For the most common applications, two or more low voltage fan units would be connected to the controller. Both controllers would be set to auto and use default settings for on, high speed, and alarm set points (On - 85°F, High - 105°, Alarm - 115°). With this in mind, the unit takes just a few minutes to install and configure. Appropriate uses would be to control fan units that directly cool equipment and/or for venting racks or cabinetry. For example, one controller could be used for the ventilation fans while the second controller is used for spot coolers (fans directly cooling components).

Advanced Features: The trigger and alarm features are the most advanced features with this unit. Rarely would we recommend using the trigger feature to turn the fans on as temperature, thus Auto mode, is the most effective and efficient way to turn fans on and off. The alarm contact closures provide the ability to connect the controller to a whole house controller and provide notification of a potential problem. Depending on the control system, commands could then be sent to volume down or power off the system and by having both NC and NO options; it is compatible with most automation systems utilizing contact closures.

LOCATING THE UNIT

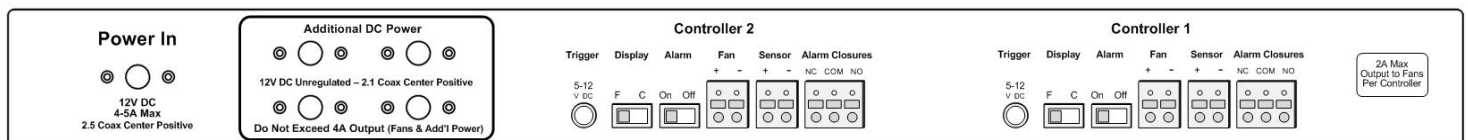
The unit can be located most anywhere within a system. The sensors for reading the temperatures are approximately 3' and 6' long which should reach most areas within even the largest of systems. Easy access to the unit to read the display and adjust the programming are also considerations. Since the unit is very compact, it can be placed on top of a receiver or amplifier, just do not block ventilation. If using on top of a receiver or amplifier, consider using a cooling product such as the Dual Fan (CP-DF) unit to assist in keeping the component cool.

Mounting Notes: To install in a rack, attach the rack mount ears using the supplied screws and remove the 'feet' by removing the screw, removing the foot and re-inserting the screw. It's best to work one foot at a time. For non-rack applications, install the hole plugs in the rack ear mounting holes for a finished look.

CONNECTING THE UNIT

Note: Connecting the unit is very easy and straightforward but note that some features will not be used, thus some terminals will not be utilized and nothing further needs to be done with them.

Sensors for both units MUST be connected before powering the unit on or the alarm will sound and the unit will not function.



Power In: The power in jack is a 2.5mm coax jack and the unit requires 12V DC, up to 5A. Center pin positive.

Additional Power Jacks: These are 2.1mm coax jack and outputs 12V DC. These jacks are intended for relatively low amperage items, perhaps 100-200mA each.

The Following Applies to Each of the Controllers

Trigger: This is a 3.5 mono jack and accepts low voltage connections to equipment to turn fans on and off based on the trigger. We however recommend using Auto which controls fans based on temp. Using triggers is for advanced users only.

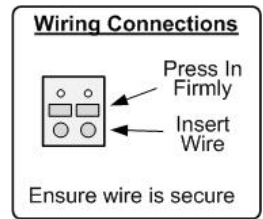
Display: This is for selecting between Fahrenheit and Celsius to be displayed. You MUST power the unit off, change the setting, then power back on for the setting to take affect.

Alarm: This is to disable the audible alarm only. This would normally only be used if connecting a contact closure having a separate means of monitoring alarm situations. **NOTE: When the alarm is activated, the triggers will 'de-activate' when the temp drops below the alarm set point, HOWEVER, the audible alarm will continue to sound until it is disabled by pressing the up or down button. This is to ensure it is known that an alarm situation occurred.**

Fan: This is the connectors for the fans. For Cool Components products, use the supplied connector and connect the wire with the white stripe to positive (+). For other fan units, ensure connection is correct as not all fans are polarity protected and damage may occur to the fan.

Sensor: While there is a positive and negative indicated, this connection is not polarity sensitive. The sensor MUST be connected prior to powering the unit on. Damage will not occur; it will simply sound an alarm and not function.

Alarm Closures: Only for advanced users. The unit activates contact closures on alarm. Both Normally Open (NO) and Normally Closed (NC) closures can be used. Simply connect the common wire to the center connector, and the other wire to NC or NO as desired. Closures restore 'normal' position when temperature drops 2° below alarm setpoint.



PROGRAMMING THE UNIT

Normal Settings: It is recommended to use the following settings for most applications: **Mode - Auto, Fan Speed - Auto, Default Programming: On - 85°F, High - 105°, Alarm - 115°.**

Mode: This is to determine if the unit will function automatically based on temperature or turn on and off based on the low voltage trigger. To change the setting, simply press the button until the desired setting is displayed. The image to the right translates each setting with what is displayed on the screen to the right. Recommended: Auto

Fan Speed: When the fans turn on, the fan speed can be controlled automatically which means that as the temperature increases, the fan speed will also increase. Three other speeds can be selected which means the fans will run at a constant speed, low, medium, high, depending on the setting selected. Recommended: Auto

Programming: Programming this unit it is very easy. Press the program button once to enter programming mode. The first mode displayed is the Fan On setting as displayed by SP.O, meaning, Set Point On. Wait approximately 1 second and then the set point is displayed and should be flashing. Using the Up or Down buttons, change to the desired setting. If the display stops flashing, the unit has timed out, simply repeat the steps but work more quickly! © Note that when installing components in cabinets, a low setpoint will lead to the fans potentially never turning off. For most cabinet applications, we recommend a setpoint of 86-90°F.

DISPLAY CHARACTERS	
<u>Mode</u>	
AUTO	AUF
TRIGGER	ΓAG
OFF	OFF
<u>Fan Speed</u>	
AUTO	FSA
LOW	FS.1
MEDIUM	FS.2
HIGH	FS.3
<u>Programming (Set Points)</u>	
ON TEMP	SP.O
FULL SPEED	SP.H
ALARM	SP.A

The next setting is to set when the fans will run at full speed. What this is providing for is the range in which the fans will increase in speed. The display will read SP.H, meaning Set Point High. In applications where fans need to remain silent, use a higher setting so the fans run slower and increase more gradually. A normal 'high range' would be 100° to 110°F but for aggressive cooling, 90° to 95°F.

The final setting is for the alarm. When reach SP.A, Set Point Alarm, select a reasonable set point considering that the alarm is very loud and should only come on in extreme circumstances. Alarm should be set no less than 110°F with a normal setpoint 115°+. If using contact closures for notification, you may disable the audible alarm. To do this, on the back of the unit, simply move the Alarm switch to the Off position. **As per previous note, the only way to disable the audible alarm once triggered is to press the Up or Down buttons. This is to ensure that it is known that the system had entered into an alarm situation.**

Unit Not Working? Do not Return Damaged or Defective Products to Point of Purchase. If the unit arrived non-functional or damaged, we will resolve the issue quickly and hassle-free. Proof of Purchase may be required.
Contact us on the web at; www.coolcomponents.com/warranty

Warranty Information This unit is guaranteed to be free of defects for a period of one year from the date of purchase. This warranty excludes damage caused by misuse or for applications other than the intended use of the products.

COOL COMPONENTS

INCORPORATED