Active Thermal Management

The trusted name in thermal protection

Installation instructions for the Cool-line I & II® ventilator with wood grille

NOTE: The Active Thermal Management Cool-line ventilation system, when supplied with a wood grille, must be ordered in either intake or exhaust mode; it cannot be field changed, as the grilles are substantially different. As an exhaust device, it can be mounted above a source of heat, such as a flat-panel display which has been enclosed in a wall cavity or cabinet to move heated air out of the enclosure. *Fresh air must be allowed to enter the enclosure to replace the heated air if the ventilation scheme is to be effective.*

If ordered as an intake device, it can be mounted where fresh air is to enter an enclosure; its linear design will allow "toe kick" mounting in many applications. *When used as an intake device, heated air must have an opening through which to leave the enclosure.*

Regardless of the mode of operation, active intake/passive exhaust, or active exhaust/passive intake, air must be able to both enter and leave the enclosure with a minimum of restriction for effective cooling. An air inlet or exhaust opening improperly located or too small will prevent the Cool-line from operating efficiently.

A quick overview of the installation process:

1. The fan assembly is located at the point where heated air is to be exhausted from the enclosure or fresh air is to be introduced as discussed above.
2. The control box is mounted in a convenient location.
3. The fan wire is connected to the control box.
4. The temperature sensor(s) are positioned where they will sense air and/or equipment temperatures.
5. The power supply's output lead is plugged into the control box and the power supply is plugged into a convenient source of 120 volt 60Hz power.
6. The completed installation is tested.

Detailed instructions:

Note: Do not plug the power supply into an outlet until directed to do so.

1. Locations low and forward in the enclosure are generally preferred for intake-mode systems, while high locations to the rear are best for exhaust-mode systems; the optimum arrangement is that in which air enters and passes by the heat-generating equipment on its way to the exhaust point. Avoid locating the inlet too close to the exhaust as room air may enter and be immediately exhausted without cooling the enclosure and equipment. Cut a rectangular hole 2 1/8" x 14 ¾" (single fan model) or 2 1/8" x 28 1/4" (dual fan model). Insert the fan assembly from the outside of the enclosure; details how to retain the assembly (screws, etc.) will vary depending on the degree of rear access and panel material and thickness. Be careful not to damage the fan housing or motor.

2. Mount the control box at a convenient location; double-sided adhesive tape is provided. While mounting the control box in a location close enough to the power supply, the heat-producing equipment, and the fans is easiest, the fan and thermistor wires can be lengthened if necessary (do not extend the thermistor leads more than an additional 3').

3. The fan wire may be extended using any appropriate 2 conductor cable (20 gauge minimum) if necessary. The red fan wire connects to the "+" screw on any one (F1 - F4) of the 2-pin terminal blocks; the black wire connects to the adjacent "-" terminal screw.

4. Thermistors control the operation of the fans. The spade-lug mounting brackets to which the thermistors are attached allow them to be easily mounted under a screw head near the hottest part of the component whose temperature is being monitored. Alternately, the small magnets supplied can be used to "pinch" the thermistors against the equipment's top or side covers, if they are steel. If necessary, the thermistor wires may be disconnected from their terminal screws for "fishing" between compartments in the enclosure. They are NOT polarity-sensitive; connect either to either of the two terminals marked "TH1" or "TH2". The thermistor in the hotter location will control the fan assembly. Do NOT connect or disconnect the thermistors while power is applied to the control box. To extend the thermistor wires, use any 2 conductor cable, 24 gauge minimum.

5. The Cool-line is powered by a wall-type power supply. Do not plug it into a switched outlet; use an AC outlet which is always on to allow the fans to run after the other equipment has been turned off. If possible, use an outlet on the same circuit that powers the equipment producing the most heat. If this circuit should fail, the ventilation will cease, but the heat source(s) will also turn off. If the Cool-line is powered from a different circuit, it is possible that that circuit could lose power while the equipment in the enclosure continued to produce heat.

6. Plug the power supply into a live outlet. Plug the power supply output lead into the female connector attached to the control box. As the temperature at the thermistor rises past approximately 80 degrees (F), the fans will begin to turn at a moderate speed, increasing as the temperature increases. When the enclosure temperature falls, the fans will slow down, stopping when the temperature falls below approximately 76 degrees Fahrenheit. A hair dryer can be used to check for proper operation; if one is not available, short the 2 screw connections at either "TH1" or "TH2", which will cause the fans to turn

at full speed. Note that it is normal in a two fan model for the fans to begin turning at slightly different temperatures, due to manufacturing variations in each fan. It is also normal for them to "hunt" a bit as the temperature approaches their turn-on point.

Please note: It is increasingly common for fans to remain on continuously, due to the heat given off by satellite receivers, cable boxes, and DVRs, even when these devices are not is use.