

MT 155 Thermostat

Group: Applied Air Systems

Part Number: 910102989

Date: August 2009

Installation

⚠ DANGER

READ THESE INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO INSTALL, OPERATE OR SERVICE THIS THERMOSTAT.

Failure to observe safety information and comply with instructions could result in PERSONAL INJURY, DEATH AND/OR PROPERTY DAMAGE.

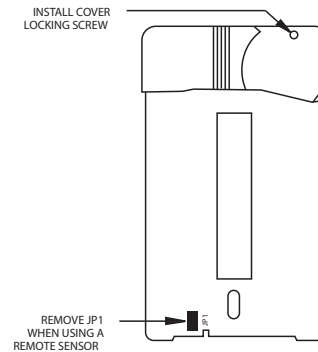
To avoid electrical shock or damage to equipment, disconnect power before installing or servicing. Use only wiring with insulation rated for full thermostat operating voltage. Use copper wire only. Insulate or wirenut all un-used leads. Any wiring, including the remote probe, may carry the full operating voltage of the thermostat.

To avoid potential fire and/ or explosion do not use in potentially flammable or explosive atmospheres.

Retain these instructions for future reference. You must review your application and national and local codes to ensure that your installation will be functional and safe.

- 1 Install the thermostat with the two furnished mounting screws to a standard 2" x 4" electrical box, 4-11/16" x 2-1/8" square device box with a 2" x 4" adapter ring or to a 4" x 4" box with accessory adapter plate.
- 2 For wall installations, mount the thermostat on an inside wall approximately 5 feet above the floor. The location should provide circulation at average room temperature. Avoid direct sunlight or sources of hot or cold air in the room or wall.
- 3 Remove the knob and then the cover. Mount thermostat base assembly to the outlet box using the screws provided, tighten the screws evenly but do not over tighten. Make wiring connections as noted.
- 4 To use a remote sensor, remove jumper JP-1 to disable local sensing. See [Figure 1](#). Failure to remove JP-1 when using a remote sensor will cause improper operation of the thermostat. Some units do not have remote sensing capability. See [Application Notes](#).

Figure 1: Removing Jumper JP-1



- 5 Reinstall the cover assembly. Install cover locking screw provided. Reinstall the knob.
- 6 Checkout: After wiring and installation are complete, energize the system and check the operation. Adjust the thermostat as necessary to complete at least one cycle. Be sure the thermostat and all other equipment are functioning correctly.

Thermostat Operation

Temperature Range: 50°F - 90°F (10°C - 32°C)

TA155: A HEAT-OFF-COOL system switch manually selects heating or cooling mode. In the HEAT position, only the heat output cycles with demand. In the COOL position, only the cool output cycles with demand. In the OFF position, heating and cooling outputs are off. Units with a two position system switch or without a system switch must use a load transfer switch when both heating and cooling outputs are used. This prevents control failure and equipment damage caused by direct cycling between loads.

TB155: An ON-OFF system switch enables auto-changeover of heating and cooling modes. In the ON position the thermostat activates heating or cooling outputs dependant upon the relationship between set point and ambient temperature. Heat on to cool on dead band is 4°F. In the OFF position, heating and cooling outputs are off. Units without a system switch cycle between heating and cooling with a 4°F dead band.

FAN: Some units have a switch for manual selection of fan speed. On these units fan operation is either internally wired

for fan continuous operation or is dependant upon connection to the fan supply input . When internally wired for fan continuous operation, the fan will be off when the system switch is off. When dependant upon external connections the fan may not be off with the system switch in the off position. The fan supply input is switched to fan speed outputs (HI - MED - LO).

SWITCHED POWER: L1 power is switched to this output any time the system switch is out of the OFF position.

Ratings

Table 1: Fan and system switches

Voltage Rating	Inductive		Resistive Amps	Pilot Duty	Thermostatic Switching
	FLA	LRA			
24 VAC	N.A.	N.A.	N.A.	24 VA	10 VA
120	5.8	34.8	6.0	125 VA	20 VA
240	2.9	17.4	5.0	125 VA	20 VA
277	2.4	14.4	4.2	125 VA	20 VA

Wire Lead Colors (if applicable)

White with Orange Stripe	Fan High
White with Red Stripe	Fan Med.
White with Brown Stripe	Fan Low
Red	Heat
Blue	Cool
Black	L1
Yellow	L2 or Neutral
Orange	Switched Power
Violet	Fan Supply
Brown	Remote Probe
Brown	Remote Probe

Application Notes

- 1 To use a remote sensor, remove jumper JP-1 to disable local sensing. See [Figure 1](#). Failure to remove JP-1 when using a remote sensor will cause improper operation of the thermostat. Some units do not have remote sensing capability.
- 2 Units with remote sensing capability have a four-position terminal block at TB1. If TB1 is two position the unit is local sensing only.
- 3 Remote probe wiring should be located away from any electrical motors or power wiring
- 4 Some units are internally wired for permanent fan continuous operation.
- 5 On units with a Fan Supply input, the operation of the fan is determined by wiring connection. For fan continuous, jumper the Fan Supply input (TB2-5) to the Switched Power output (TB3-3).
- 6 For fan cycling operation with a call for heat or cool, a fan relay must be used.

- 7 Observe electrical ratings. Thermostatic outputs are pilot duty only.

Wiring Diagrams

Figure 2: Units with remote sensing capability

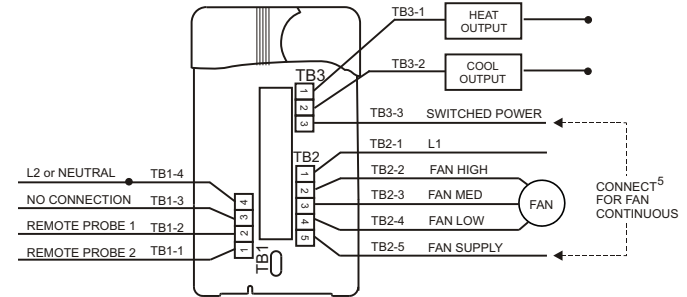


Figure 3: Units with switches used for local sensing only

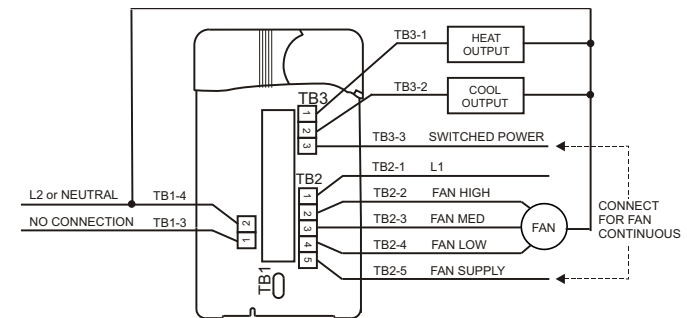


Figure 4: Units with no switches with local/remote sensing capability

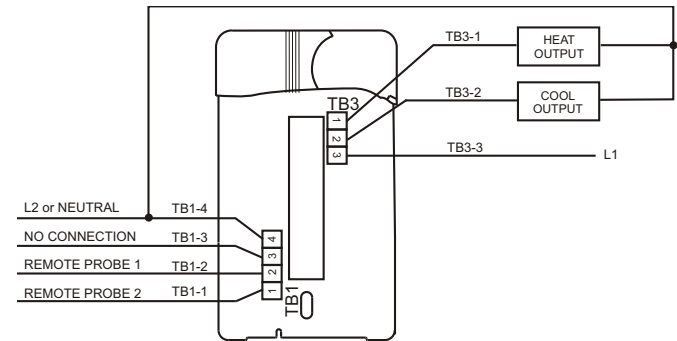


Figure 5: Units with no switches used for local sensing only

