

Field installation of Thermostat (MTA155 or MTB155) and 24V valve packages on Vertical Thinline fan coil units with factory-installed Low Voltage Interface Board

Group: Applied Air Systems

Part Number: IM 1089

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General

⚠ 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 wire-nut 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.

⚠ CAUTION

Care should be used to avoid electrostatic discharge to the microprocessor.

This unit has configuration dip switches and jumpers. You may need to reconfigure the thermostat for your application.

Installation

Please refer to Fig. 1, 2, 3 and 4

Two-pipe system (Cooling or Heating)

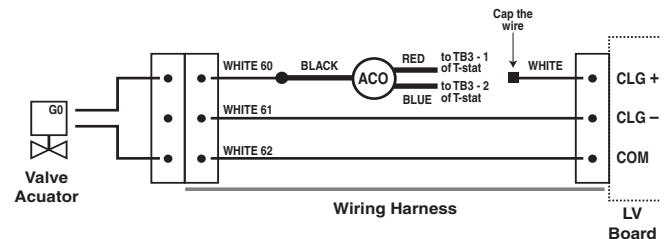
To field wire a T*155 thermostat (either as wall-mounted or unit-mounted) and field-install valve package for a 2-pipe system the following accessories are required:

- Single-Pole Double-Throw Automatic Changeover Switch (SPDT ACO Kit P/N 039398600)
- Thermostat TA155 (kit) – PN 107345302 or Thermostat TB155 (kit) – PN 107345304
- 10K Return Air Sensor - PN 107345501

Step 1: Installing NC (Normally Closed) valve packages

- Solder the appropriate inlet and outlet pipe connections from the valve package to the coil connections.
- Snap-on the SPDT ACO Switch on the supply side of the valve package (SPDT ACO Kit P/N 039398600 to be ordered as field-installed option)
- Cut white wire 60 of the wiring harness leading from the Low Voltage Interface Board terminal connection (see Fig. 1) prior to attaching the quick-connect connector of the On-Off valve actuator to the interface board (Fig. 3). The white wire lead going to the actuator will be connected to terminal No. 1 of the ACO switch (see Fig. 5):
 - Terminal No. 1: black wire - to be connected to the valve side (G terminal) with white wire of the terminal strip
 - Terminal No. 2: red wire – to be connected to the red wire (TB3-1) of the thermostat
 - Terminal No. 3: blue wire – to be connected to the blue wire (TB3-2) of the thermostat

Figure 1: Automatic changeover connection between the valve actuator and the interface board



Step 2: Provide power to thermostat (refer to Fig. 2 and 4)

- Connect a wire from thermostat terminal TB1- 4 (L2 Neutral) to the common terminal on Low Voltage Interface Board (terminal C)
- Connect a wire from thermostat terminal TB2- 1 (24VAC) to the 24 V terminal connection R.
- Connect fan speed wires from the thermostat to appropriate Low Voltage Interface Board terminals:
 - Connect a wire from thermostat terminal TB2- 2 (High fan speed) to the HI terminal
 - Connect a wire from thermostat terminal TB2- 3 (Med fan speed) to the Med terminal

Figure 2: Low Voltage Interface Board shown with all additional support options

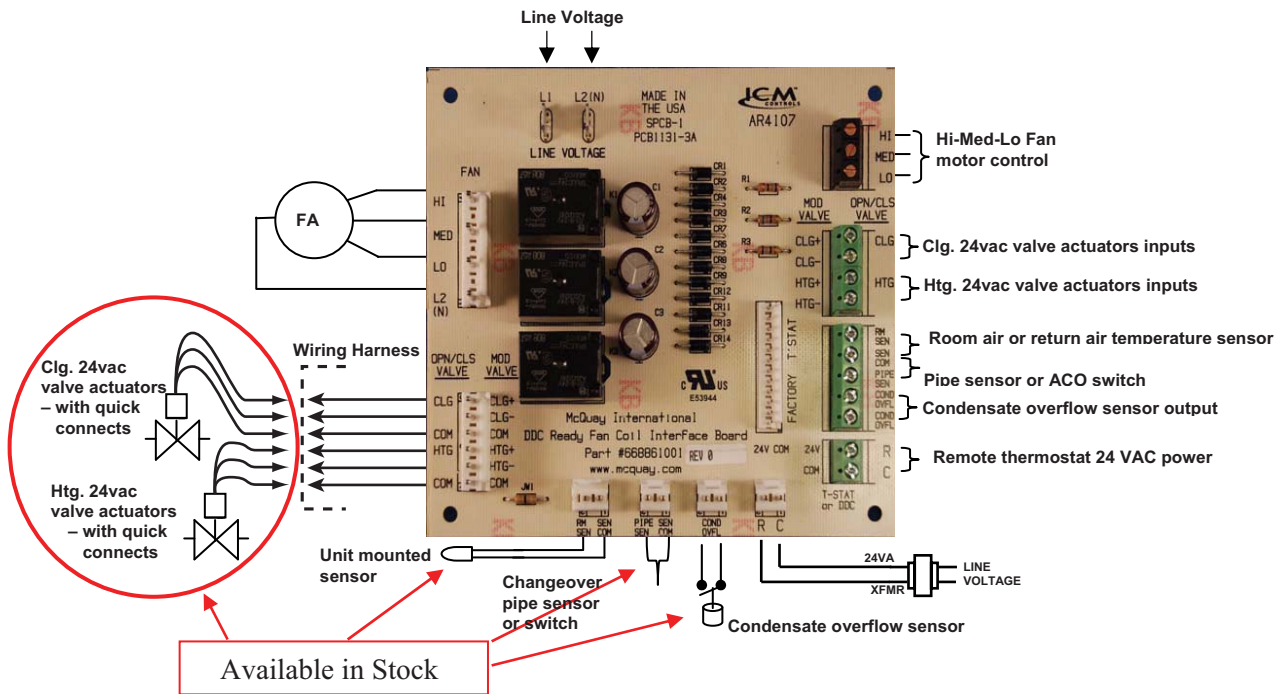


Figure 3: Factory-installed and wired Low Voltage Interface Board (Wiring Diagram)

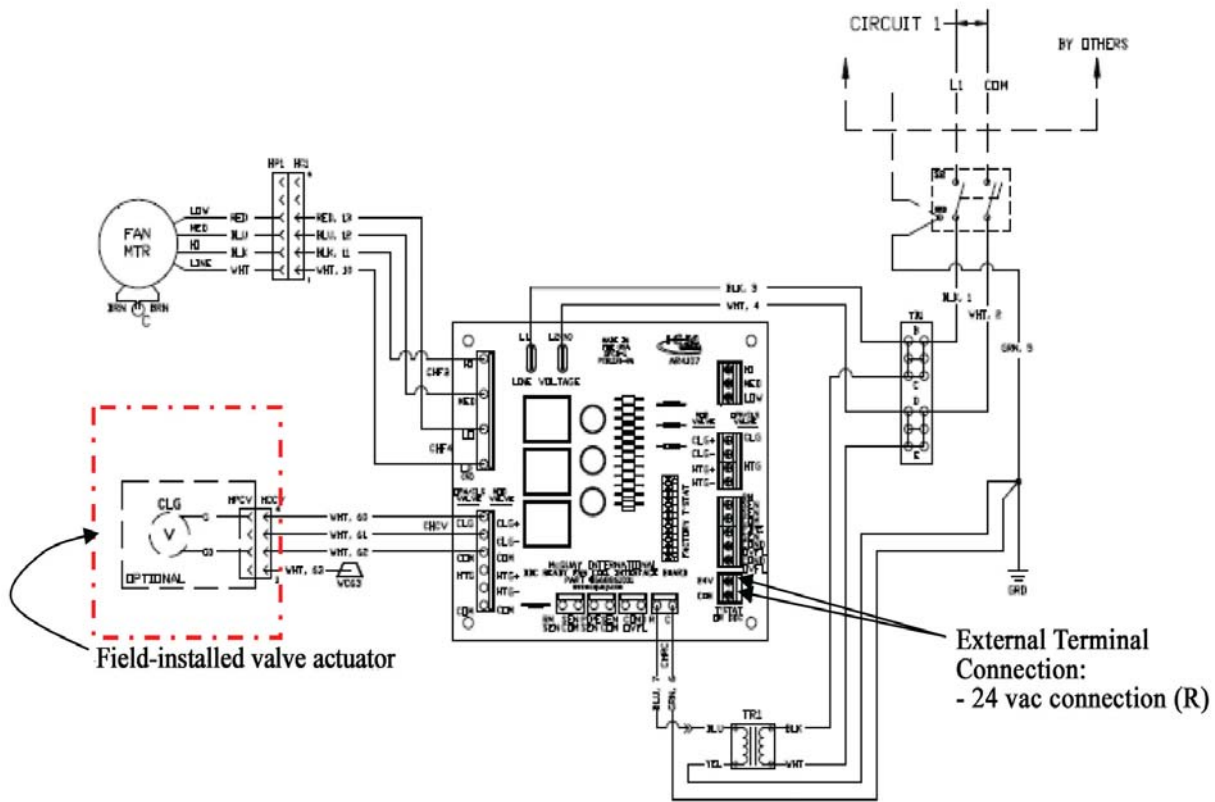


Figure 4: Thermostat TB155 autochangeover to be used with On-Off 24V valve packages, SPDT ACO and unit-mounted Low Voltage Interface Board

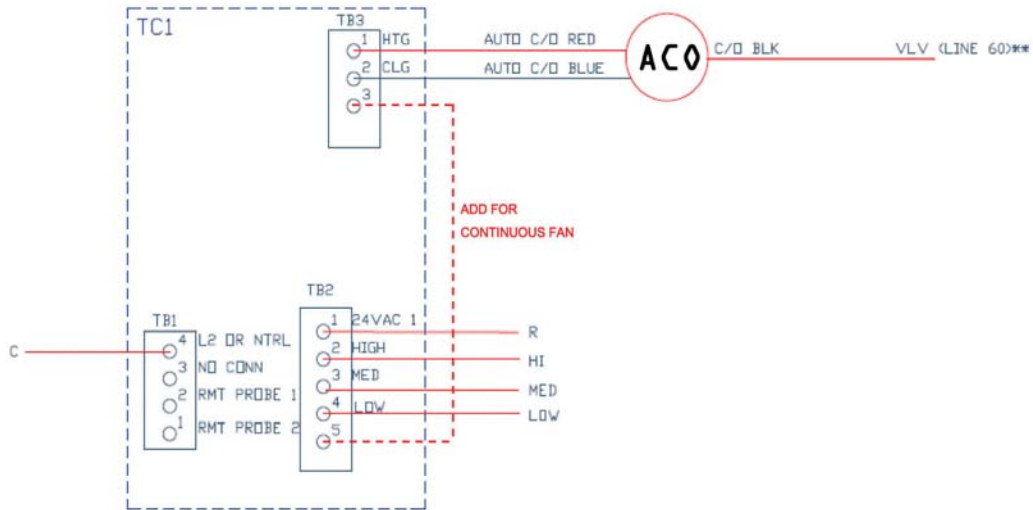
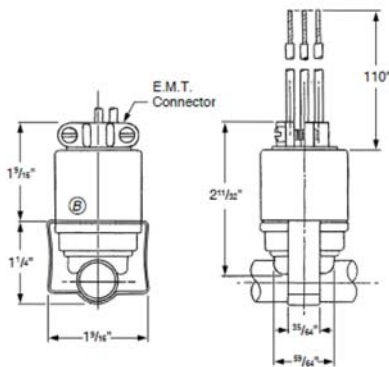


Figure 5: Automatic changeover switch (SPDT ACO Kit P/N 039398600)



Terminal No. 1 Black 60455 (Common)
Terminal No. 2 Red 60456 (N.O.) – Heating
Terminal No. 3 Blue 60457 (N.C.) – Cooling

- Connect a wire from thermostat terminal TB2- 24 (Low fan speed) to the Low terminal
- Remove Jumper JP1 to allow the remote mounted 10K Return Air Sensor to operate.
- Mount the 10K Return Air Sensor (PN 107345501) above the filter through the knockout provided

Note: (1) If a fan coil unit is to be used for heating or cooling only, the SPDT ACO Switch (SPDT ACO Kit P/N 039398600) is not required. For such applications just follow Step 2.

Four-pipe system (Cooling and Heating)

Two piping packages will be required for CW and HW coils. The following accessories needed for field-installed thermostat model T*155 (unit-mounted or wall-mounted):

- Thermostat TA155 (kit) – PN 107345302 or Thermostat TB155 (kit) – PN 107345304

- 10K Return Air Sensor - PN 107345501 for unit-mounted applications only (for wall-mounted applications the sensor is imbedded with the thermostat)

Step 1: Installing valve packages

- Solder the appropriate inlet and outlet CW pipe connections from the valve package to the coil connections.
- Solder the appropriate inlet and outlet HW pipe connections from the valve package to the coil connections.
- Snap-on the Quick-connects of the valve actuators to the appropriate terminals of the Low Voltage Interface Board as per Fig. 2.

Step 2: Provide power to thermostat (refer to Fig. 2 and 4)

- Connect a wire from thermostat terminal TB1- 4 (L2 Neutral) to the common terminal on the interface board (terminal C)
- Connect a wire from thermostat terminal TB2- 1 (24VAC) to the 24 V terminal connection R.
- Connect fan speed wires from the thermostat to the appropriate Low Voltage Interface Board terminals:
 - Connect a wire from thermostat terminal TB2- 2 (High fan speed) to the HI terminal
 - Connect a wire from thermostat terminal TB2- 3 (Med fan speed) to the Med terminal
 - Connect a wire from thermostat terminal TB2- 24 (Low fan speed) to the Low terminal
- Remove Jumper JP1 to allow the remote mounted the 10K Return Air Sensor to operate.
- Mount the 10K Return Air Sensor (PN 107345501) above the filter through the knockout provided

Note: (2) For thermostats supplied by others refer to the manufacturer's installation literature and use this manual as a guideline only.