PECO AUTOMATION AND CONTROLS



T155 AUTO/MANUAL CHANGEOVER THERMOSTAT

SMART ENERGY MANAGEMENT



HIGHLIGHTS

- Solid State Precision and Dependability
- Up to Three Speed Fan Switching Available
- Accepts 24 to 277 VAC
- Operates at 50 or 60 Hz
- Auto Changeover (TB155)
- Manual Changeover (TA155)

Delivering Comfort and Efficiency

The T155 thermostat is designed for use with HVAC systems including two or four-pipe fan coil applications. Available in both Auto Changeover and Manual Changeover models, the T155 is ideal for installations requiring either automatic internal switching between heating and cooling or manual switching between heating and cooling. Solid state accuracy offers comfort and efficiency, while contemporary styling complements room décor.

Universal Voltage Capability

Only PECO offers advanced self-configuring circuitry that allows the T155 electronic thermostat to be applied directly to input voltages from 24 to 277 VAC, 50 or 60Hz. Thermostat outputs are suitable for connection to relays, valves and similar pilot duty loads. The system and fan switches will handle inductive and resistive loads.

Configurable for Specific Applications

The standard T155 is user configurable for either unit or remote thermistor sensing. Fan operation is continuous or can be cycled with the use of a load handling relay.



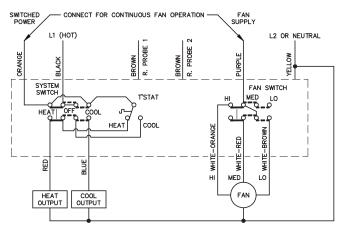
T155 AUTO/MANUAL CHANGEOVER THERMOSTAT

Self-configuring Circuitry	24 to 277 VAC, 50 or 60 Hz
Temperature Range	50 to 90°F / 10 to 32°C
Maximum Ambient	130°F / 54°C
Load Connections	Terminal block or wire lead, depending on model
Mounting	Installs on a standard 2" x 4" (50.8mm x 101.6mm) device box
Fan Operation	Continuous, cycled operation achievable with relay
Agency Approvals	UL, UL Canada, CE

TECHNICAL SPECIFICATIONS



WIRING DIAGRAM



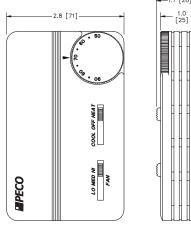
RATINGS

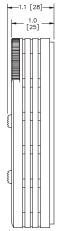
	FAN AND SYSTEM SWITCHES				THERMOSTATIC
VOLTAGE RATING	INDUCTIVE		RESISTIVE	PILOT	SWITCHING
INA HING	FLA	LRA	AMPS	DUTY	(PILOT DUTY)
24 VAC	N.A.	N.A.	N.A.	24 VA	10 VA
120 VAC	5.8	34.8	6.0	125 VA	20 VA
240 VAC	2.9	17.4	5.0	125 VA	20 VA
277 VAC	2.4	14.4	4.2	125 VA	20 VA

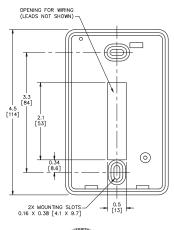
MODEL SELECTION GUIDE

TA155-046	Cool-Heat-Off, 3 Fan Speeds, Wire Leads, 2 Covers
TA155-047	Cool-Heat-Off, 3 Fan Speeds, Terminal Block, 2 Covers
TB155-046	On-Off, 3 Fan Speeds, Wire Leads, 2 Covers
TB155-047	On-Off, 3 Fan Speeds, Terminal Block, 2 Covers

MOUNTING INSTRUCTIONS











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TA155/TB155



Installation Instructions

INSTALLATION

1. Install the T155 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.

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. 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.

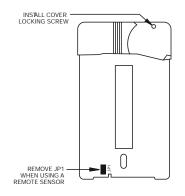
5. Reinstall the cover assembly. Install cover locking screw provided. Reinstall the knob.

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.



•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.



WARNING

 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.

• To avoid electric shock or damage to equipment, use only wiring with insulation rated for full thermostat operating voltage.

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

• Retain these instructions for future reference. This product, when installed, will be part of an engineered system whose specifications and performance characteristics are not designed or controlled by PECO, Inc. You must review your application and national and local codes to assure that your installation will be functional and safe.

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

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

WIRE LEAD COLORS*

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
	*If applicable

APPLICATION NOTES

1. To use a remote sensor, remove jumper JP-1 to disable local sensing. 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

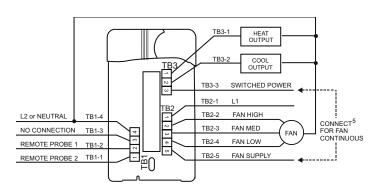
4. Some units are internally wired for permanent fan continuous operation.

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).

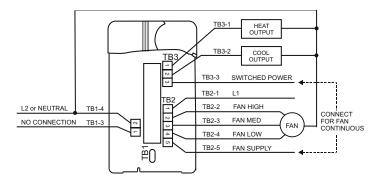
6. For fan cycling operation with a call for heat or cool, a fan relay must be used.

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

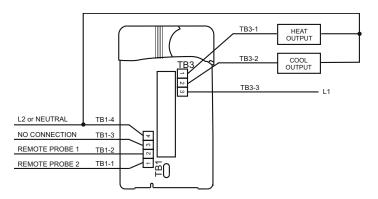
WIRING DIAGRAM



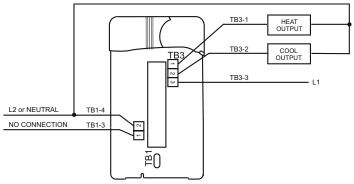
UNITS WITH REMOTE SENSING CAPABILITY



UNITS WITH SWITCHES USED FOR LOCAL SENSING ONLY



UNITS WITH NO SWITCHES WITH LOCAL/REMOTE SENSING CAPABILITY



UNITS WITH NO SWITCHES USED FOR LOCAL SENSING ONLY

