

**PRODUCT BULLETIN**

**T28 Series Fan Coil Thermostats**

The T28 Series Fan Coil Thermostats are designed to effectively operate heating and cooling fan coil systems. The bimetal temperature sensing element provides energy-efficient, precise operation for maximum comfort.

These light-duty line-voltage thermostats for fan coil units control valves on cooling and combination heating and cooling systems. They can directly control one or two zone valves. Models are available for automatic changeover by the thermostat or from a changeover control. Thermostats are available with or without fan switches. A built-in thermometer is available with certain models.



**Figure 1: T28 Thermostat with a Four-position Fan Switch**

Features and Benefits	
<input type="checkbox"/> <b>Rated for 120, 208, or 240 V, 50/60 Hz</b>	Provides compatibility with a variety of power systems
<input type="checkbox"/> <b>Heating and Cooling Anticipation</b>	Gives maximum comfort control on the popular 120 V application
<input type="checkbox"/> <b>Snap-acting Contacts, Operated by a Bimetal Sensing Element with Magnets</b>	Eliminate the use of mercury and reduces electromagnetic noise associated with many slow-make, slow-break, bimetal operated thermostats
<input type="checkbox"/> <b>Zero, One, Two or Three Fan Speed Switching Arrangements</b>	Allow manual comfort control of fan speed
<input type="checkbox"/> <b>Cooling and Heating-Cooling Models with Interlocked Fan Off Positions</b>	Avoid condensation damage by closing the cooling valve
<input type="checkbox"/> <b>One-piece Installation to an Outlet Box with Two Screws</b>	Provides easy installation with no mounting bracket required

## Product Overview

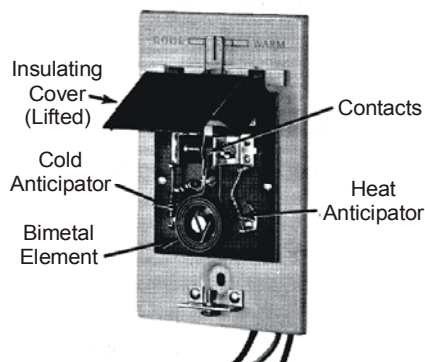
T28 Series Thermostats have snap-acting, bimetal-operated contacts made of fine silver that will not chatter. Installation of the one-piece unit is to an outlet box with two captive screws through the baseplate; no mounting bracket is required.

These thermostats control room temperature by automatically cycling a valve. Heating contacts make on a drop in temperature, opening a fan coil valve to permit flow of hot water. Cooling contacts make on to a rise in temperature, opening a fan coil valve to permit flow of cold water. Fan switch models have manually controlled air circulation. Sliding the selector lever at the top of the thermostat changes the temperature setting.

Thermostats with fan switches require a two-gang switch box at least 2-1/2 in. (63.5 mm) deep, or a 4 in. by 4 in. (101.6 mm by 101.6 mm) or larger junction box with a two-fixture plaster ring. For example, use Raco Number 230 or Appleton Number 4SD1/2 two-gang switch box, plus plaster ring.

Thermostats without fan switches require a 2 in. deep single vertical switch box, or a larger box with single-fixture plaster ring. For example, use Raco Number 420 or Appleton Number 111 single-switch box.

**IMPORTANT:** The T28 Series thermostats are intended to control equipment under normal operating conditions. Where failure or malfunction of a T28 thermostat could lead to an abnormal operating condition that could cause personal injury or damage to the equipment or other property, other devices (limit or safety controls) or systems (alarm or supervisory systems) intended to warn of or protect against failure or malfunction of the T28 thermostat must be incorporated into and maintained as part of the control system.



Note: Insulation Barrier is raised to show the contact mechanism.

**Figure 2: Interior View of a T28 Thermostat**

**Table 1: Selection Chart**

Product Code Number	Fan Switch
<b>Cooling</b>	
T28BD-1C	Off-High-Medium-Low
<b>Heating-Cooling (remote changeover; single valve for heating and cooling)*</b>	
T28CD-1C	Off-High-Medium-Low
<b>Heating-Cooling, Sequenced (automatic changeover; separate valves for heating and cooling)</b>	
T28DA-1C <sup>1</sup>	None
T28DB-1C <sup>1</sup>	Off-On
T28DD-1C <sup>1</sup>	Off-High-Medium-Low
T28-DG-1C <sup>2</sup>	Off-High-Medium-Low

1. Off position of fan switch interlocks to turn off cooling.
2. Off position of fan switch interlocks to turn off both heating and cooling.

\* For automatic changeover on application where one valve functions for heating and cooling, use an A19CAC-2 strap-on changeover control.

## Ordering Information

Contact the nearest Johnson Controls representative to order a T28 Series Fan Coil Thermostat and specify the desired product code number from Table 1.

## Repairs and Replacement

Do not attempt field repairs. To replace the thermostat, contact the nearest Johnson Controls representative.

## Technical Data

<b>Product</b>	T28 Fan Coil Thermostat	
<b>Range</b>	<b>Thermostat</b>	55 to 95°F (12 to 35°C)
	<b>Thermometer</b>	55 to 85°F (12 to 30°C)
<b>Nominal Operating Differential</b>	<b>Heating</b>	0.6F° (0.3C°)
	<b>Cooling</b>	1F° (0.5C°) for typical 120 V Fan Coil Valve Loads
	<b>Heating-Cooling</b>	Models with Automatic Changeover (T28D) have a 6F° (3.3C°) Differential from Heating On to Cooling On
<b>Adjustment</b>	Cool to Warm	
<b>Contact Action</b>	Snap-acting Bimetal-operated	
<b>Material and Finish</b>	<b>Baseplate</b>	Cold Rolled Steel, Baked on Beige Paint
	<b>Cover</b>	Cold Rolled Steel, Baked on Ivory Paint
<b>Thermometer</b>	Bimetal Type for Accuracy and Clarity, May Be Field Adjusted	
<b>Mounting</b>	<b>Without Fan Switch</b>	Standard Outlet Box with Captive Screws
	<b>With Fan Switch</b>	Mounts to a Two-Gang Switch Box
<b>Wiring Connections</b>	Color Coded 18 AWG Wire Leads, 6 in. (152 mm) Long	
<b>Shipping Weight</b>	<b>Without Fan Switch</b>	Individual Pack—1.0 lb (0.45 kg)
		Overpack of 20 Units—23.6 lb (10.7 kg)
	<b>With Fan Switch</b>	Individual Pack—1.3 lb (0.59 kg)
		Overpack of 20 Units—29.5 lb (13.4 kg)
<b>Agency Listings</b>	UL Listed: File E6688, CCN XAPX	

*The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.*



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