

**Two-Position, Neutral Center  
Electric Room Thermostat  
General Instructions**

**For On-Off Control of Line Voltage Fan Coil or  
Zone Valves on Heating and Cooling Systems**

- Bimetal operated SPDT switch, neutral center.
- Cooling anticipation.
- Integral two-pole, four-position fan switch. (See Figure 1 for switching action.)
- Coded screw terminals for thermostat.
- Color coded 6" (152 mm) leads for fan switch.
- Plastic cover with metal insert.
- Mounts on flush or surface switch box.
- Thermostat package contains a mounting plate with two screws, one thermostat mounting screw and dial stop pins.

**DIMENSIONS:** 4-3/8" (111 mm) high x 2-3/4" (70 mm) wide x 1-5/8" (41 mm) deep.

**OPTIONS:** None

**ACCESSORIES:**

- AT-101 Lock cover kit
- AT-104 Dial stop pins (Note: pins included with each unit)
- AT-136 Title plates (day, night, heat, cool)
- AT-504 Plaster hole cover kit (small)
- AT-505 Surface mounting base
- AT-546 Auxiliary mounting base
- AT-602 Selector switch sub-base DP4T
- AT-603 Selector switch sub-base one DP4T, one DPDT
- AT-1103 Wire guard
- AT-1104 Cast Aluminum guard
- AT-1105 Plastic guard
- AT-1155 Plastic guard
- AT-1165 Plastic guard
- Tool #11 Calibration wrench
- Tool #13 Contact burnishing tool

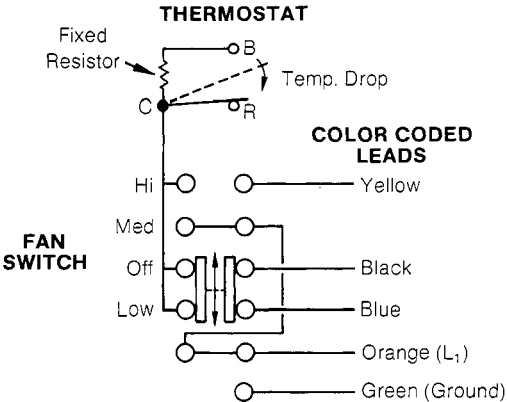
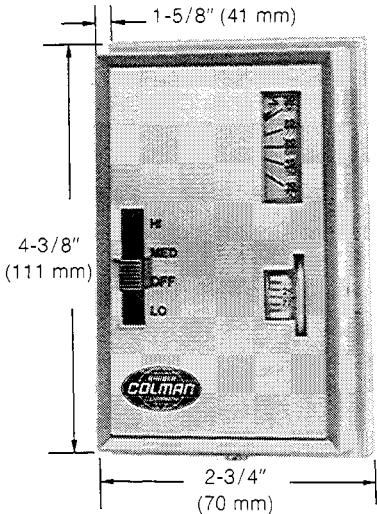


Figure-1

**Table-1 PERFORMANCE.**

PART NUMBER	CONTROL* DIAL RANGE °F (°C)	THERMAL DIFFERENTIAL °F (°C)	FAN SWITCH MARKING	ELECTRICAL RATINGS					
				Volts (AC)	Fan Switch		Thermostat Contacts		
			Full Load Amps		Locked Rotor Amps	Full Load Amps	Locked Rotor Amps	Pilot Duty (VA)	
TC-198 Sequenced Heat & Cool	59-86 (15-30)	2 (1.1) Heat 2 (1.1) Neutral 2 (1.1) Cool	Low-Off** Med-High	120	6	36	3	18	125
				240	3	18	1.5	9	

\*Dial marked in both °F and °C; dial stop pins included to limit control range.  
\*\*Off position de-energizes thermostat and fan.

## INSTALLATION

### Requirements

Thermostats require upright mounting on a properly flat surface. Locate thermostat where it will be exposed to unrestricted circulation of air which represents the average temperature of the controlled space. Install thermostat in any normal human environment.

**Caution:** DO NOT LOCATE THE THERMOSTAT NEAR SOURCES OF HEAT OR COLD, SUCH AS LAMPS, MOTORS, SUNLIGHT OR CONCEALED DUCTS OR PIPES.

### Installation Procedure

1. Pull all wires (use copper wire only).
2. Fasten mounting plate to switch box (Figure 2).

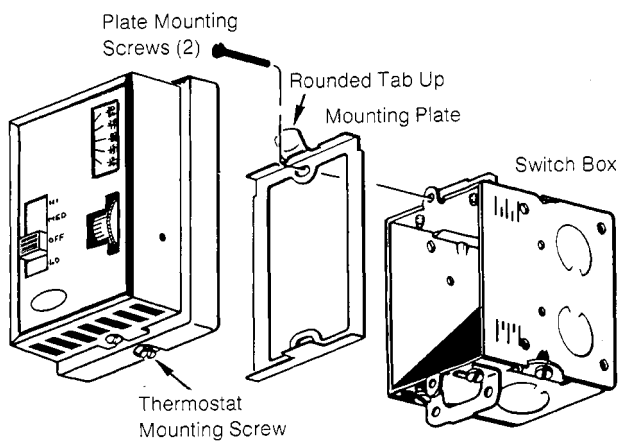


Figure-2

3. Make electrical connections to switch leads and thermostat terminals.  
Make all connections in accordance with the job wiring diagram and in compliance with national and local electrical codes. CLASS 1 WIRING IS REQUIRED.  
Refer to Figure 4 for typical wiring diagram.
4. Hook thermostat on top of mounting plate and swing down into place.
5. Tighten thermostat mounting screw.

## CHECKOUT

1. Check fan speed by placing switch in low, medium and high positions.
2. To observe action of controlled devices:
  - Place fan switch in low, medium or high position.
  - Turn the setpoint dial to temperature above ambient; thermostat will switch, closing the R (heating) contact.
  - Slowly turning the setpoint dial to a lower temperature setting will first break the R (heating) contact. The contact blade will be in a neutral position between the two contacts (not making a circuit to either contact). Turning the setpoint dial to a lower temperature setting will cause the thermostat to switch, closing the B (cooling) contact.

## CALIBRATION

ALL THERMOSTATS ARE PRECISION CALIBRATED AT THE FACTORY AND NORMALLY WILL NOT REQUIRE ANY FURTHER ATTENTION.

If recalibration is necessary, proceed as follows (see Figure 3):

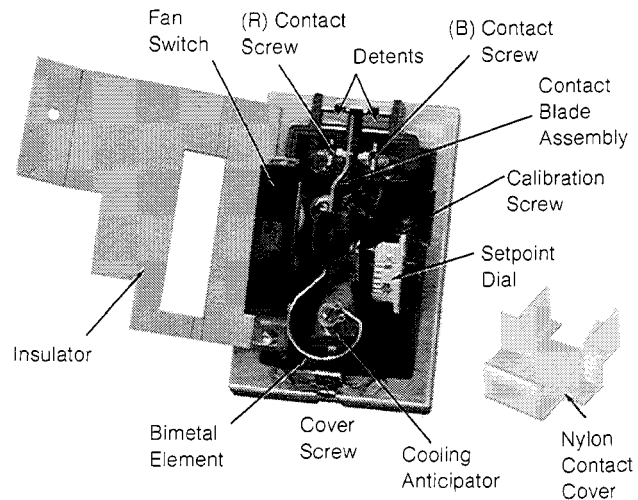


Figure-3

1. Turn the setpoint dial 2°F (1°C) above the actual room temperature, as read from an accurate thermometer.
2. Place fan switch in "off" position. Remove thermostat cover and insulator screw, swing insulator aside, and remove contact cover.

**Note:** Do not breathe on the thermostat or handle excessively as this will affect the accuracy of the final calibration.

3. If contact blade is made to the left (R) contact, use a 3/16" (5 mm) open end wrench (tool #11) and turn calibration screw counterclockwise (looking at head of screw) until blade floats between contacts.

**Note:** Each complete turn of screw changes calibration approximately 20°F (11°C).

Now turn screw very slowly clockwise until blade just makes the left (R) contact. Thermostat is now properly calibrated.

If contact blade is originally made to the right (B) contact or floating between contacts, turn calibration screw slowly clockwise until element just makes the left (R) contact.

Thermostat is now properly calibrated.

4. Replace contact cover, insulator and thermostat cover. FAN SWITCH MUST BE IN THE "OFF" POSITION.
5. Turn setpoint dial to required temperature and place fan switch in required position.

## MAINTENANCE

This is a quality product. Regular maintenance of the total system is recommended to assure sustained optimum performance. No routine servicing of this device is required if the system is properly maintained.

Open areas at bottom and around base of thermostat should be kept clean and free from obstructions to allow proper flow of air. If switch contacts need cleaning, this may be done with Tool #13 (burnishing tool).

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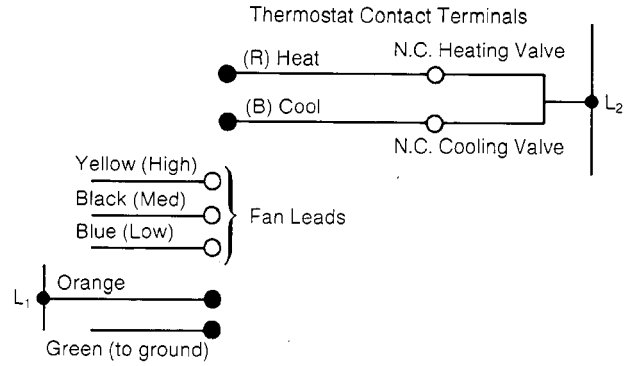
*Note:* Thermostat must be recalibrated after cleaning contacts.

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## REPAIR

FIELD REPAIR OF THE THERMOSTAT IS NOT RECOMMENDED. If the system is not operating correctly and the reason is traced to the thermostat, it should be replaced.

## TYPICAL SEQUENCED HEATING AND COOLING APPLICATIONS (No changeover required)



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*Note:* "Off" position of fan switch interlocked to de-energize controlled devices.

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