

TP9600-TP9630 Pneumatic Thermostats

INSTALLATION INSTRUCTIONS



GENERAL

The TP9600 Series pneumatic thermostat provides proportional control for pneumatic actuators in heating, ventilating, and air conditioning systems.

FEATURES

- One, two, or three pipe
- Direct Acting and Reverse Acting
- One or two bimetal elements for Day-Night or Heating-Cooling operation
- High capacity or one pipe low capacity devices
- Adjustable stops to limit setpoint adjustment
- Replaceable Air Filter
- Includes cover

SPECIFICATIONS

Air Pressure:

25 psi max
18 psi operating

Setpoint Pressure:

Factory set at 8 psi

Air Consumption:

0.011 scfm

Setpoint Range:

60 to 90 F typical
50 to 75 F setback

Throttling Range:

2 to 10 F, Factory set at 4 F

Air Connections:

5/32 barb fittings

Branch Line Port:

Self-Sealing tap accessible under cover

Maximum Ambient Temperature:

150 F

Mounting:

Vertical wall mount with plug in backplate

ACCESSORIES

14002430-001: Protective Guard, Standard
TG509F,G: Protective Versaguard, Key Lock
14004439-001: Setpoint Extension Lever

Common Repair Parts

14001865-001: Filter Cartridge Assembly

Kits

14004911-001: Adaptor Plate Assembly
This kit adapts the TP9600 to replace newer Johnson, Powers, Robertshaw, and Kreuter thermostats

14002573-001: Universal Modernization Kit
This kit adapts the TP9600 to replace older Honeywell and other manufactures of larger thermostats



INSTALLATION

These instructions cover mounting the thermostat to a wall without additional hardware. For replacement of existing competitive and older Honeywell thermostats, use the appropriate adapter kit and follow instructions packed with kit.

Installation Tools

The following tools will be useful during calibration check and cover installation:

Part No.	Description (Fig. 1)
305965	Gage, 0 to 30 psi (0 to 207 kPa)
CCT729A	Gage Adapter for thermostats with gage tap fitting
CCT735A	Thermostat Tool

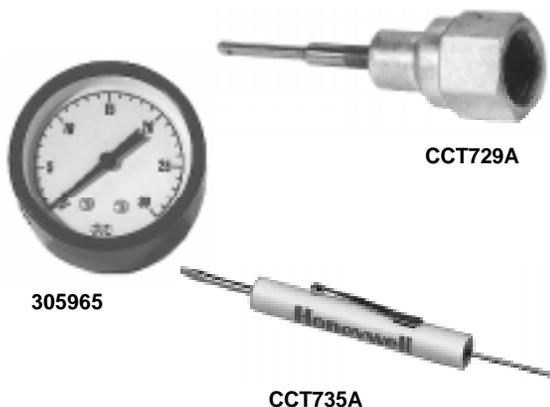
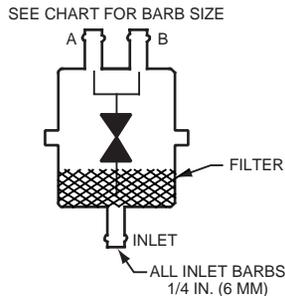


Fig. 1. Thermostat installation tools.

Remote Restrictors

When remote restrictors are required, (one pipe TP9630) select from Figure 2.



REMOTE RESTRICTORS

Part No. 14002913-	Orifice Size in inches	Body Color	Barb Size in inches (MM)	
			A	B
-001*	0.005	Blue	1/4 (6)	5/32 (4)
-004	0.005	Blue	5/32 (4)	5/32 (4)

* One Barb Cap 14003567-001 Furnished with Restrictor

C3931-1

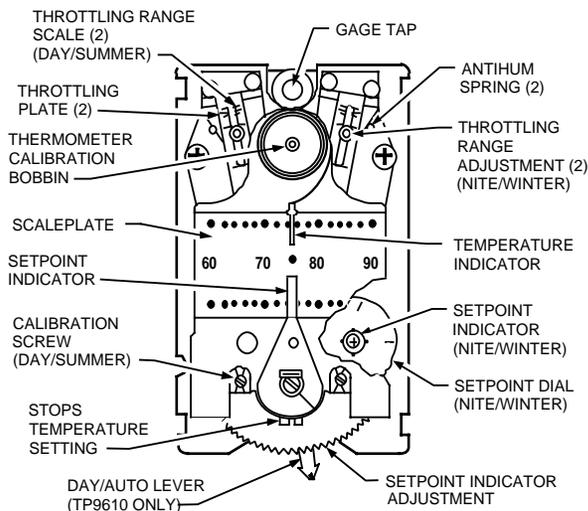
Fig. 2. Remote restrictors.

Piping

Use 5/32-in. O.D. polyethylene tubing. Connect main and branch lines to the backplate, connecting main to the left side barb fitting as viewed from the back and branch to the right side barb. Leave the third (lower) fitting open.

Mounting

See Figure 3. If mounting on other than a hollow wall, see Installation Instructions 95-5597.



NOTE: NOT ALL ADJUSTMENTS ARE ON ALL THERMOSTATS.

M11067

Fig. 3. TP9600-TP9630 thermostat with cover removed.

ADJUSTMENTS

After installation, set the thermostat to the desired setpoint and let the system operate long enough to stabilize. The length of time required for stabilization depends on system response time. This could be only a few minutes or as long as several hours. Make certain that the system has stabilized before checking calibration. If the temperature stabilizes within one-half of the throttling range of the setpoint, no calibration is required.

NOTE: All thermostats are accurately factory calibrated and should require only a calibration (bleed-off) check to ensure correct operation.

Throttling Range

Throttling ranges (TR) are factory set at 4F (2K) and should not require any change under normal operating conditions.

If a change in throttling range is necessary, reset the throttling range to the values specified on the job drawings. Use the following procedures:

1. Remove stat cover and install 0 to 30 psi (0 to 207 kPa) gage in gage tap (Fig. 4)
2. Slide the TR indicator to the desired position on the TR scale.
3. Mechanically check the TR by moving setpoint lever to determine the difference in setpoint indication when the branchline pressure reads 3 psi (21 kPa) and 13 psi (91 kPa). (It may be necessary to turn the calibration screw to adjust TR into the stat range.)
4. Reset TR to within $\pm 2F$ ($\pm 1K$) of required setting for accurate control.
5. Follow RECALIBRATION procedures.

Calibration Check

To check calibration, the control space temperature must be within the scale range of the thermostat.

On direct-acting bimetal elements:

1. Turn setpoint down five degrees below actual room temperature and allow thermostat to build up branchline pressure.
2. Turn setpoint indicator (Fig 4) up slowly.
3. If thermostat begins to bleed off between 1F (0.5C) and 3F (1.5C) below room temperature, no further calibration is necessary.

On reverse-acting, bimetal elements:

1. Turn setpoint up five degrees above actual room temperature as measured by a test thermometer, and allow thermostat to build up branchline pressure.
2. Turn down setpoint indicator (Fig. 4) slowly.
3. If thermostat begins to bleed off between 1F (0.5C) and 3F (1.5C) above room temperature, no further calibration is necessary.

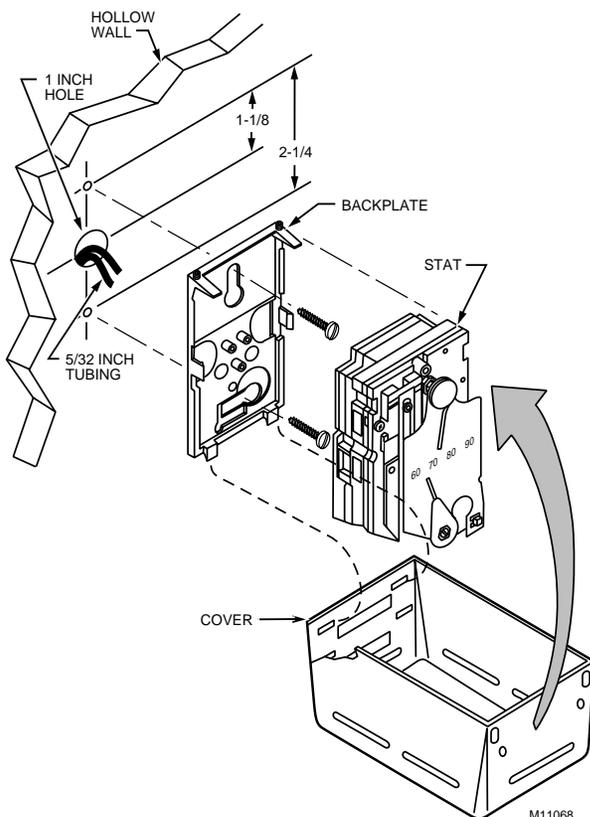


Fig. 4. Installing TP9600 – TP9630 without wall box.

Calibration

CAUTION

The thermostat is very sensitive and should not be heated by excessive handling during calibration.

NOTE: Reference in the following procedures to a 30 psi gage implies the gage and gage adapter listed in INSTALLATION TOOLS section.

TP9600

1. Remove the thermostat cover and install a 30 psi gage into the gage tap.
2. Set the temperature setpoint indicator at the indicated temperature.
3. Turn the calibration screw (see Fig. 4) until the gage reads 0 psi.
4. Turn the calibration screw in the opposite direction until the gage reads 8 psi (56 kPa) plus or minus 1 psi (7 kPa). The thermostat is now calibrated.
5. Remove the gage and replace cover.

TP9610

1. Remove the thermostat cover and install a 30 psi gage into the gage tap.
2. Set the temperature setpoint indicator at the indicated temperature.
3. With 13 psi (91 kPa) (DAY) main air pressure, turn the DAY (left) calibration screw (see Fig. 4) until the gage reads 0 psi.
4. Turn the calibration screw in the opposite direction until the gage reads 8 psi (56 kPa) plus or minus 1 psi (7 kPa).
5. With 18 psi (126 kPa) (NITE) main air pressure, rotate the night setpoint dial until its setting agrees with the indicated temperature.
6. Repeat Steps 2, 3, and 4 using the NITE setpoint and (right) calibration screw. The thermostat is now in calibration.
7. Remove the gage and replace cover.

TP9620

1. Remove the thermostat cover and install a 30 psi gage into the gage tap.
2. Set the temperature setpoint indicator to the indicated temperature.
3. With 13 psi (91 kPa) (SUMMER) main air pressure, turn the SUMMER (left) calibration screw (see Fig. 4) until the gage reads 0 psi.
4. Turn the calibration screw in the opposite direction until the gage reads 8 psi (56 kPa) plus or minus 1 psi (7 kPa).
5. With 18 psi (126 kPa) (WINTER) main air pressure, repeat Steps 3 and 4, using the WINTER (right) calibration screw. The thermostat is now in calibration.
6. Remove the gage and replace the cover.

TP9630

Same as TP9600.

Honeywell

Home and Building Control

Honeywell Inc.
Honeywell Plaza
P.O. Box 524
Minneapolis, MN 55408-0524

Home and Building Control

Honeywell Limited-Honeywell Limitée
155 Gordon Baker Road
North York, Ontario
M2H 2C9

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