

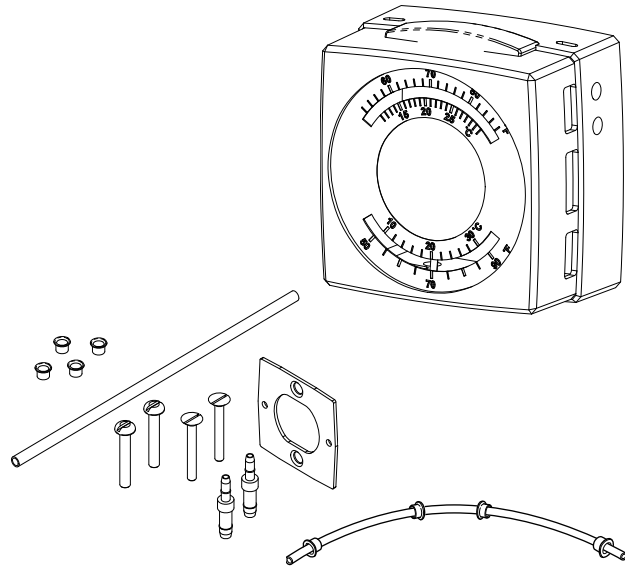


Room Thermostats

These pneumatic room thermostats are designed for proportional temperature control of pneumatic valves and damper actuators to maintain room air temperatures in heating, ventilating, and air conditioning systems.

Features:

- Small size, approximately 2 x 2 in. (51 x 51 mm).
- Factory calibrated. Stainless steel ball-in-seat provides pneumatic feedback for linear, stable operation.
- Easy-to-use throttling range adjustment and recalibration.
- Adjustable bimetal shows actual throttling range in both °F and °C. Adjustable 2 to 12°F (1 to 6.7°C).
- Setpoint (in both °F and °C) shown on thermostat body with cover removed.
- Leakproof, O-ring sealed, spring-loaded self-closing branch gauge tap.
- 2214 and 2216:
 - Separate factory-calibrated night bimetal and setpoint dial, with fixed 4 F° (2 C°) night throttling range for accurate “night” operation.
 - Snap-acting (not gradual) changeover from “day” to “night” operation and vice versa.
- 2216:
 - Third port (R) output with manual reset lever allows full restoration of day operation (typically, of unit ventilator), with either manual or automatic reset to day-night schedule.
- 2218:
 - Snap-acting (not gradual) changeover from direct-action to reverse-action and vice versa.



2211 through 2218 Series

Model Chart					
Model No.	Replaces Model No.	Dial Range °F (°C)	Air Consumption	Description (Refer to Following Pages for More Detail)	
2211-012	T12-301	55 to 85 (13 to 29)	0.017 scfm at 20 psig (0.48 L/m at 138 kPa)	Single temperature, one-pipe, D.A.	
2211-013	T13-301			Single temperature, one-pipe, R.A.	
2212-118	T18-301	55 to 85 (13 to 29)	15.6 scim at 20 psig (4.2 mL/s at 138 kPa)	Single temperature, two-pipe, D.A., throttling range adjustable 2° to 12°.	
2212-119	T19-301			Single temperature, two-pipe, R.A., throttling range adjustable 2° to 12°.	
2212-618	—			Single temperature, two-pipe, R.A., throttling range adjustable 2° to 12° (includes 20-023).	
2212-619	—				
2214-121	T23-301	Day 55 to 85 (13 to 29)	29.4 scim at 16 psig (8.0 mL/s at 110 kPa)	Day-Night Thermostat, two-pipe, D.A. 16 psig (110 kPa) day, 25 psig (172 kPa) night.	
		Night 50 to 80 (10 to 27)	43.2 scim at 25 psig (11.8 mL/s at 172 kPa)		
2214-122	T24-301	Day 55 to 85 (13 to 29)	29.4 scim at 16 psig (8.0 mL/s at 110 kPa)	Day-Night Thermostat, two-pipe, R.A. 16 psig (110 kPa) day, 25 psig (172 kPa) night.	
		Night 50 to 80 (10 to 27)	43.2 scim at 25 psig (11.8 mL/s at 172 Kpa)		
2216-126	T27-301	Day 55 to 85 (13 to 29)	29.4 scim at 16 psig (8.0 mL/s at 110 kPa)	Day-Night Thermostat, three-pipe, with manual reset lever D.A. 16 psig (110 kPa) day, D.A. 25 psig (172 kPa) night.	
		Night 50 to 80 (10 to 27)	43.2 scim at 25 psig (11.8 mL/s at 172 Kpa)		
2218-132	T32-301	55 to 85 (13 to 29)	31.1 scim at 16 psig (8.5 mL/s at 110 kPa)	Summer-Winter, throttling range adjustable 2° to 12°. 16 psig (110 kPa) Main — R.A., Summer. 25 psig (172 kPa) Main — D.A., Winter. (Can be used with 8 psig summer main if recalibrated in the field.)	
			43.2 scim at 25 psig (11.8 mL/s at 172 Kpa)		
2218-134	T32-321		22.5 scim at 13 psig (6.1 mL/s at 90 kPa)	Summer-Winter Thermostat for use with Honeywell 13 to 18 psig Systems. 13 psig (89 kPa) Main — R.A., Summer. 18 psig (124 kPa) Main — D.A., Winter.	
			34.5 scim at 18 psig (9.4 mL/s at 124 kPa)		
2218-133	T33-301		29.4 scim at 15 psig (8 mL/s at 103 kPa)	Summer-Winter Thermostat for use with Johnson main air systems. 25 psig (172 kPa) Main — R.A., Summer. 16 psig (110 kPa) Main — D.A., Winter.	
			34.5 scim at 20 psig (9.4 mL/s at 138 Kpa)		

Note: Includes 1/4" by 3/16" barbed couplings, 20-693 tubing kit, 22-024 standard mounting kit, 20-928 gray plastic cover with F/C listing.

2211 through 2218 Series

Specifications

Action	Proportional; refer to Model Chart.
Setpoint range	55 to 85°F (13 to 29°C).
Throttling range	2 to 12°F/12 psi (1.1 to 6.7°C/83 kPa) adjustable, factory set 3°F (1.7 °C) [night, 3 to 5°F/12 psi (1.7 to 2.7°C/83 kPa), non-adjustable].
Construction	
Components	Die cast aluminum, stainless steel, and glass-filled nylon.
Diaphragms	Fabric-reinforced neoprene.
Air filter	Internal.
Supply air pressure	Clean, dry, oil free air required (Refer to EN-123).
Nominal	Refer to Model Chart and Typical Applications.
Maximum	30 psig (207 kPa).
Connections	For spring-reinforced 3/16 in. O.D. plastic tubing and required fittings.
Air consumption	Refer to Model Chart and Typical Applications.
Calibration point	9 psig (62 kPa) branch line pressure when ambient temperature equals setpoint (except 2218-3x1 Series and 2218-133, 12 psig branch line pressure).
Setpoint adjustment	Serrated thumbwheel, external or concealed.
Mounting	Upright position on wall.
Dimensions	2-1/32 H x 2-1/32 W x 1-3/8 D in. (52 x 52 x 35 mm).

Accessories

Part Number	Replaces Model	Description
Accessories		
20-660	6-441	Cover screw (included with thermostat).
20-707	10-53	Metal thermostat guard.
20-715	10-62	Clear thermostat guard.
21-876	10-76	Opaque thermostat guard.
21-928	—	Gray plastic cover, blank dial.
21-933	—	Gray plastic cover, °F/°C dial (included with thermostat).
21-933-1	—	Gray plastic cover, Day/Night dial.
Calibration		
20-881	N2-4	Calibration wrench.
22-138	MCS-GA	Branch tap gauge adaptor.
900-002	—	Thermostat calibration kit.
Installation		
10-82-SS	—	Outlet box mounting plate, stainless steel.
20-850	10-82	Outlet box mounting plate, black.
20-642	6-371	Mounting ring.
21-473	10-73	Snap-in drywall mounting bracket.
22-021	—	Universal drywall mounting kit.
22-022	N5-95	Competitor replacement mounting kit.
22-024	—	Standard mounting kit (included with thermostat).
22-693	—	Tubing kit (included with thermostat).
Only for 2212-118, 2212-119, 2211-012, 2211-013, 2214-121		
20-712	10-59	Dial stop kit.
Only for 2212-61x		
21-930	—	White cover.
22-023	—	Thermostat conversion kit, white.

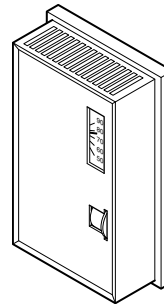
For additional information, refer to Accessories on page 124.

Single Setpoint Room Thermostats

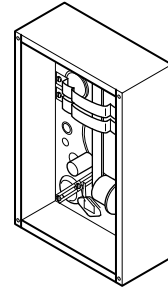
For proportional temperature control of pneumatic valves and damper actuators to maintain room air temperatures in heating, ventilating, and air conditioning systems.

Features:

- Branch-line to sensing-element pneumatic feedback for linear, stable operation.
- Plastic cover supplied with exposed setpoint and thermometer.
- Cover inserts included for:
 - Exposed setpoint only.
 - Blank face plate with logo.



TK-1xx1



**TK-1xxx-600
Aspirated Thermostat**
(Shown in aspirated box without cover)

Model Chart

Model No.	Dial Markings ^a	Control Action ^b Supply Pressure	Type Thermostat
TK-1001	55 to 85°F	Direct Acting	Two pipe
TK-1001-116	13 to 29°C		
TK-1001-600	55 to 85°F		
TK-1101	55 to 85°F	Reverse Acting	
TK-1101-116	13 to 29°C		
TK-1101-600	55 to 85°F		
TK-1201	55 to 85°F	15 psig Reverse Acting 20 psig Direct Acting	
TK-1281	55 to 85°F	20 psig ReverseActing 15 psig Direct Acting	
TK-1301 ^c	55 to 85°F	Direct Acting 15 psig day – 20 psig night	Two pipe with manual override
TK-1301-116	13 to 29°C		
TK-1381	55 to 85°F	Reverse Acting 15 psig day – 20 psig night	
TK-1601 ^{cd}	55 to 85°F	Direct Acting 15 psig day – 20 psig night	Three pipe with manual override
TK-5001	55 to 85°F	Direct Acting	Single Pipe
TK-5001-116	13 to 29°C		
TK-5101	55 to 85°F	Reverse Acting	
TK-5101-116	13 to 29°C		

^a Dial stop pins included to limit dual range on all units.

^b Direct Acting (D.A.) increases output pressure on temperature rise. Reverse Acting (R.A.) decreases output pressure on temperature rise.

^c A manual lever is provided to change the thermostat to "Day" when the system is on "Night". The lever can be used to return to "Night" or the next cycle will return the thermostat to normal operation.

^d Has second white plastic tube to pass full line pressure (20 psi) at night and 0 psi at day. Used to actuate items such as pressure electric switches.

TK-1xxx Series, TK-5xxx Series

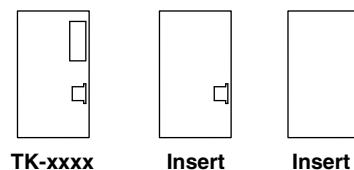


Figure 1 Cover.

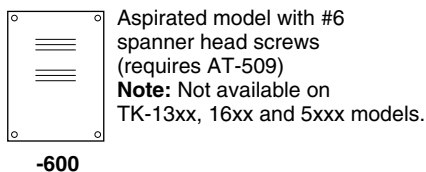


Figure 2 Aspirated Thermostat Cover.

Specifications	
Thermostat	Proportional type.
Sensing element	Bimetal.
Night setback	To 20°F (11°C) below day setpoint for Day/Night heating models.
Night setup	To 20°F (11°C) above day setpoint for Day/Night cooling models.
Control dial range	Refer to Model Chart.
Throttling Range	Adjustable 2 to 10°F/10 psi, factory set at 4°F/10 psi.
Output air signal	0.5 psig to supply air pressure -0.5 psig.
Action	Refer to Model Chart.
Ambient limits	
Shipping	-40 to 150°F (-40 to 65°C). 0 to 98% RH, non-condensing.
Operating	40 to 150°F (4 to 65°C). 10 to 98% RH, non-condensing.
Supply air pressure	Clean, oil free, dry air required (refer to EN-123).
Nominal	Refer to Model Chart.
Maximum	30 psig (207 kPa).
Air connections	
Main (black)	5/32 in. dia. spring reinforced plastic tubing.
Branch (white)	5/32 in. dia. spring reinforced plastic tubing.
Air consumption for sizing air compressor	
TK-1001, 1101, 12x1, 13x1	13.8 scim (3.8 mL/s).
Air capacity for sizing air mains	
TK-1001, 1101, 12x1, 13x1,	16 scim (4.4 mL/s).
TK-16x1	32 scim (8.8 mL/s).
Cover	Beige plastic.
Mounting	Upright position on wall.
Dimensions	4-3/8 H x 2-3/4 W x 1-5/8 D in. (111 x 70 x 43 mm).

Accessories

Part Number	Description
20-944	Restrictor tee, copper tubing.
21-038	Restrictor tee, polyethylene tubing.
21-153	In-line restrictor.
AT-11-600	Aspirating conversion kit.
AT-11-1	Replacement kit fittings.
AT-11-500	Fahrenheit cover kit.
AT-11-501	Celsius cover kit.
AT-12-500	Fahrenheit cover kit for TK-13xx and TK-16xx.
AT-12-501	Celsius cover kit for TK-13xx and TK-16xx.
AT-101	Lock cover kit.
AT-104 ^a	Dial stop pins.
AT-504	Plaster hole cover (small).
AT-505	Surface mounting base.
AT-506	Pneumatic wall box fitting (two tubes for TK-100x and 110x).
AT-533-101	Adaptor 1/4 in. plastic to 5/32 in. plastic.
AT-533-127	Adaptor 3/16 in. copper or 1/4 in. copper with 1/4 in. solder coupling (not included) to 5/32 in. plastic.
AT-536	Pneumatic wall thermostat conversion kit.
AT-546	Auxiliary mounting base.
TOOL-015	Spanner head driver to #6 spanner head screws.
TOOL-095-1	Pneumatic calibration tool kit.
Maintenance Parts	
APNT-011-11	Black tubing 9 inch.
APNT-011-21	White tubing 9 inch.
APNT-093-30	Tubing spring.
AT-520-11	Relay repair kit.
AT-512-10	Replacement auxiliary nozzle kit.
AT-527	Pilot restrictor kit for aspirated (-600) models.
AT-528	Pilot restrictor kit for non-aspirated models.
PKG-1019	Mounting hardware kit.

^a All thermostats are shipped with two dial stop pins.

Typical Applications

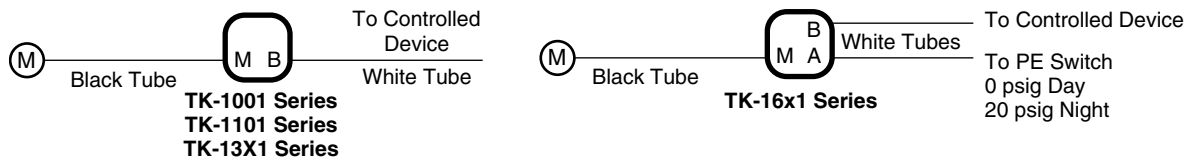


Figure 3 Two Pipe (Relay) Type.

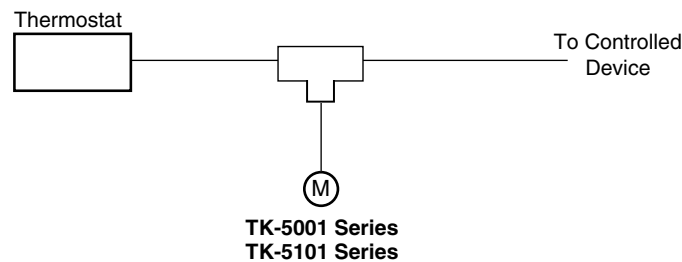


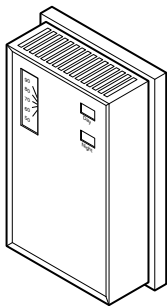
Figure 4 Single Pipe Type.

Dual Setpoint, Single Output Room Thermostats

For proportional control of pneumatic-actuated valves and damper actuators to maintain room air temperatures in heating, ventilating, and air conditioning systems.

Features:

- Branch-line to sensing-element pneumatic feedback for linear, stable operation.
- Plastic cover supplied with exposed setpoint and thermometer.
- Cover insert included with a blank face plate with logo.



TK-17xx

Model Chart						
Model No.	15 psig Supply Pressure			20 psig Supply Pressure ^a		
	Dial Range ^b	Control Action ^c	Cover Legend ^d	Dial Range ^b	Control Action ^c	Cover Legend
TK-1717	55 to 85°F	Direct	Heat	55 to 85°F	Direct	Cool
TK-1727		Reverse			Reverse	
TK-1731		Reverse			Direct	
TK-1741		Direct			Reverse	
TK-1711 TK-1751 ^e		Direct	Day		Direct	Night
TK-1721 TK-1761		Reverse			Reverse	

^a 22 psi required if setpoints are more than 20°F apart.

^b Control dial is marked in °F on one side and °C on the other side. Units have built-in stops that can limit high and/or low setting of each dial.

^c Direct Acting (D.A.) — Increase output pressure on temperature rise.
Reverse Acting (R.A.) — Decrease output pressure on temperature rise.

^d For additional options or to reverse heat/cool legend, order cover replacement kit AT-46-500 Heat/Cool, Cool/Heat or Day/Night.

^e Units include a manual override lever for overriding 22 psig (152 kPa) operation and placing control into 15 psig (103 kPa) control mode when unit is supplied with 22 psig (152 kPa). Lever automatically resets when supply pressure is reduced to 15 psig (103 kPa).

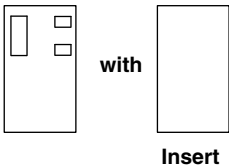


Figure 1 Covers.

Specifications

Thermostat	Proportional two pipe type. Two pressure Heating/Cooling or Day/Night thermostats switch between two bimetal sensors.
Sensing element	Two bimetals.
Control dial range	Two independent with stops. Refer to Model Chart.
Throttling range	Independently adjustable for each setpoint dial 2 to 10°F/10 psi change in branch line pressure, factory set at 4°F/10 psi.
Output air signal	0.5 psig (3.4 kPa) to supply air -0.5 psig (-3.4 kPa).
Action	Refer to Model Chart.
Ambient limits	
Shipping	-40 to 150°F (-40 to 65°C). 0 to 98% R.H., non-condensing.
Operating	20 to 115°F (-7 to 46°C). 10 to 98% R.H., non-condensing.
Supply air pressure	Clean, oil free, dry air required (refer to EN-123).
Requires	15 and 22 psig (103 and 152 kPa) dual pressure. Refer to Model Chart.
Maximum	30 psig (207 kPa).
Air connections	
Main (black)	5/32 in. dia. spring reinforced plastic tubing.
Branch (white)	5/32 in. dia. spring reinforced plastic tubing.
Air consumption for sizing air compressor	13.8 scim (3.8 mL/s).
Air capacity for sizing air mains	80 scim (21.8 mL/s).
Cover	Beige plastic with inserts as standard except aspirated model. Aspirated model has brushed stainless steel covers.
Mounting	Upright position on wall.
Dimensions	4-3/8 H x 2-3/4 W x 1-5/8 D in. (111 x 70 x 43 mm).

Accessories

Part Number	Description
20-944	Restrictor tee, copper tubing.
21-038	Restrictor tee, polyethylene tubing
21-153	In-line restrictor.
AT-11-600	Aspirating conversion kit.
AT-11-1	Replacement kit fittings.
AT-46-500	Dual setpoint cover kit with Day/Night, Heat/Cool, Cool/Heat and blank insert with logo.
AT-47-500	Dual setpoint cover kit with Day/Night and manual override switch.
AT-504	Plaster hole cover.
AT-505	Surface mounting base.
AT-506	Pneumatic wall box fitting.
AT-509	Wall box required for aspirated thermostats.
AT-536	Pneumatic wall thermostat conversion kit.
AT-546	Auxiliary mounting base.
AT-533-101	Adapter 1/4 in. plastic to 5/32 in. plastic.
AT-533-127	Adapter 3/16 in. copper or 1/4 in. copper with 1/4 in. solder coupling (not included) to 5/32 in. plastic.
AT-533-129	5/32" x 5/32" barbed brass connector.
TOOL-015	Spanner head driver for #6 spanner head screws.
TOOL-080-1	Calibration tool.
TOOL-095-1	Pneumatic calibration tool kit.
Maintenance Parts	
APNT-011-11	Black tubing 9 inch.
APNT-011-21	White tubing 9 inch.
APNT-093-30	Tubing spring.
AT-520-11	Relay repair kit.
AT-512-10	Replacement auxiliary nozzle kit.
AT-527	Pilot restrictor kit for aspirated (-600) models.
AT-528	Pilot restrictor kit for non-aspirated models.
PKG-1019	Mounting hardware kit.