

Pneumatic Temperature Transmitters—Room General Instructions

GENERAL INFORMATION

For proportional temperature control, used with receiver-controllers. May be used with one or more calibrated gauges for continuous temperature indication at any local or remote position.

Specifications

Construction: Bimetal element, non-adjustable.

Shipping Ambient Temperature Limits: -40 to 150°F (-40 to 65°C).

Air Connections:

TKS-5001, 5/32" dia. spring reinforced plastic tube.

TKS-6001, barbed fitting for 5/32" plastic tube.

Air Consumption For Sizing Air Compressor:

.024 scfm (11.3 ml/s).

Air Capacity for Sizing Air Mains: 50 scim (13.7 ml/s).

Supply Pressure (Indication Only): 20 psig (138 kPa)

nominal. 18 psig (124 kPa) minimum.

Maximum Safe Supply Pressure: 30 psig (207 kPa).

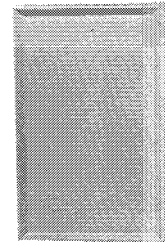
Mounting Dimensions: Wall: 4-3/8" (111 mm) high x 2-3/4" (70mm) wide x 1-5/8" (41 mm) deep.

Light Troffer: 3/8" (10 mm) x 3/8" (10 mm) x 3" (76 mm).

Mounting Fittings: Order separately for type of wall construction.

ACCESSORIES

Part Number	Description
20-944	Restrictor tee, copper tubing, 1 SCFH.
21-038	Restrictor tee, polyethylene tubing, 1 SCFH.
21-153	In-line restrictor.
AT-201	Copper bulb well.
AT-203	Stainless steel bulb well.
AT-208	Duct mounting kit for TKS-40xx.
AT-211	Bulb shield for wall mounting TKS-2031.
AT-504	Plaster hole cover (small).
AT-506	Pneumatic wall box fitting (two tubes) used for mtg. AT-532-11-1-01 under cover of TKS-5001.
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-533-129	5/32 in. x 5/32 in. barbed brass connector.
TOOL-100-500	Calibration panel



TKS-5001



TKS-6001

TKS-5001

Transmitter is shipped with mounting screws and one inch copper tubes.

Model No.	Mounting	Range (Non-Adj.) °F (°C)	Span °F (°C)	Sensing Element Description	Cover	Ambient Temperature Limits °F (°C)	Air Connections	Dimensions H x W x D in. (mm)
TKS-5001	Wall ^a	50 to 100 (10 to 38)	50 (28)	Bimetal	Beige Plastic	Shipping: -40 to 150 (-40 to 65) Operating: 50 to 100 (10 to 38)	5/32 in. dia. spring reinforced plastic tube	4-3/8 x 2-3/4 x 1-5/8 (111 x 70 x 41)
TKS-6001	Light Troffer ^a				N.A.		5/32 in. dia. spring reinforced plastic tube	3/8 x 3/8 x 3 (10 x 10 x 76)

^a Order fittings separately for type of wall construction.

PRE-INSTALLATION

Check the carton and device for signs of damage.

MOUNTING FITTINGS

Use AT-516 wall box fitting for surface mounting on all surfaces and flush mounting on plastered or stud walls. Use standard 2" x 4" box for flush mounting on masonry walls (available through most electrical supply houses).

Mounting Location

TKS-5001

Locate the transmitter where it will be exposed to unrestricted natural air circulation representative of the average conditions. The transmitter should not be located near sources of heat or cold such as lamps, motors, sunlight, concealed ducts or pipes.

Note: When using the box in lath-and-plaster walls, seal around the fasteners after mounting the box to prevent wall air currents from entering the box. If desired, this fitting may be surface mounted.

TKS-6000 Troffer Transmitters

See specific installation instructions (page 4) for proper location.

RESTRICTORS

A remote in-line restrictor is required when used for indication only or if the transmitter is more that 200 ft. (61 m) from the receiver controller.

Use an AT-532-111-1-01 kit if restrictor is to be mounted under the cover.

INSTALLATION

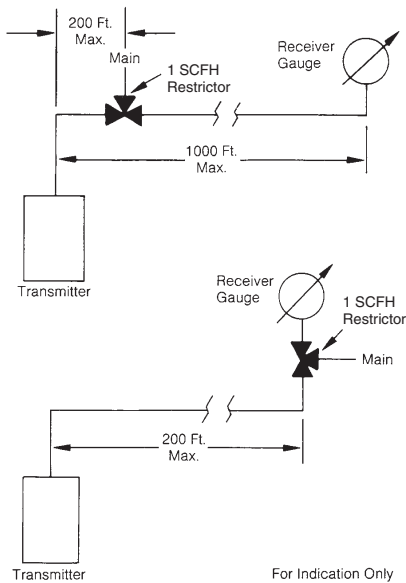


Figure-1

Mounting of TKS-5001 to AT-516 Wall Fitting

1. Remove and discard the cardboard cover plate on the wall box fitting, after the wall is plastered.
2. If the transmitter plastic tubing is too long for easy coiling in the wall box, it can be cut to length. Cut at a 45° angle for ease in inserting the tubing into the "O" ring seal. Be sure to cut the coil spring off with the tubing.
3. Remove and discard the short plug inserted in the connector head of the wall box fitting.
4. Insert the tube in the center hole in the connector.

Caution: Do not use any lubricant on the plastic tubing.

5. Remove cover. Fasten the transmitter to the wall box with the two mounting screws provided. Tighten the screws evenly.
6. Replace cover and tighten cover screw.

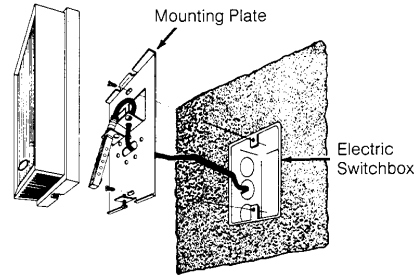


Figure-2

Mounting of TKS-5001 to an Electrical Switchbox in a Masonry Wall

See Figure 2.

1. Connect transmitter plastic tubing to field tubing that has been brought through the knockout holes (See Figure 3). Rotate the plastic tubing slightly back and forth and push firmly onto the adaptor.

Caution: Do not lubricate the outside of the plastic tubing.

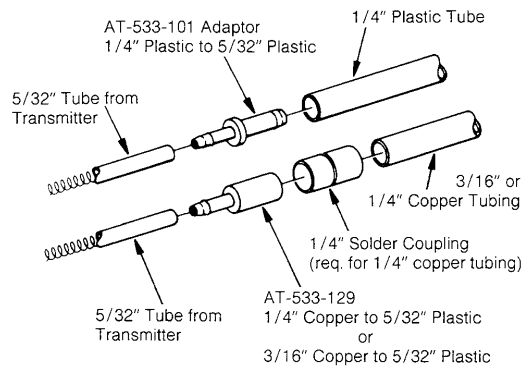


Figure-3

2. Remove cover. Place the transmitter against the switchbox and pull the excess plastic tubing through the transmitter backplate.

Caution: Make certain tubing does not detach from adaptor or transmitter

3. Fasten the transmitter mounting plate to the switchbox with the screws provided. Tighten the screws evenly.
4. Replace cover and tighten cover screw.

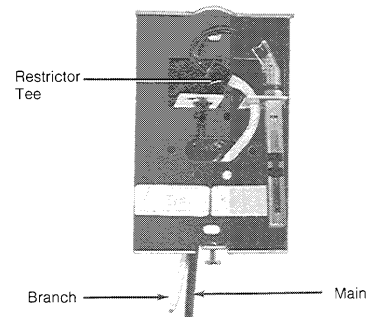


Figure-4

Mounting of TKS-5001 on AT-506 Wall Box Fitting Or Electrical Switchbox with Restrictor Tee Under The Cover (Requires AT-532-111-1-01 Kit - See Figure 4)

1. Remove cover.
2. Remove 5/32" tube on TKS-5001 from mounting plate.

Caution: Do not remove the end which is in the tube (connected to sensing element).

3. Cut the tube and spring 2-1/2" (65 mm) from the tygon tubing.
4. Connect the tube to one side of the restrictor tee.
5. Connect the black tube to the main connection of the restrictor tee. Insert one spring into the tube. Cut off excess spring. Insert the black tube through a hole in the left hand side bracket and then through the large oblong hole in the back plate.
6. Connect the white tube to the remaining side connection of the restrictor tee. Insert the other spring into the tube and cut off and excess spring. Insert the white tube through a hole on the right hand bracket next to the transmitter, and then insert through the oblong hole in the back plate.
7. Install the insulator card by inserting the black tube through the left hand hole and the white tube through the right hand hole.
8. Insert the black tube into the left hand hole in the wall fitting or connect to the main line.
9. Insert the white tube into the right hand hole in the wall fitting or connect to the transmitter (branch) output line.
10. Attach the transmitter back plate to the wall box with screws provided.
11. Replace cover and tighten cover screw.

Mounting of TKS-6001 on Light Troffer

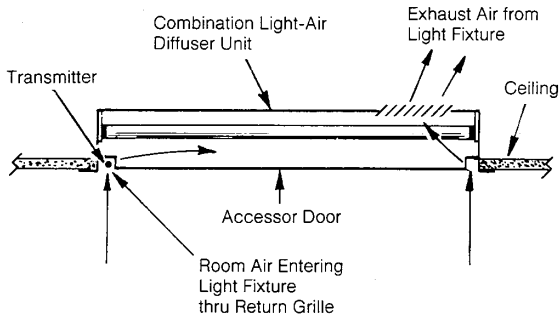


Figure-5 Locating TKS-6001 in Troffer End Opposite Exhaust Grill.

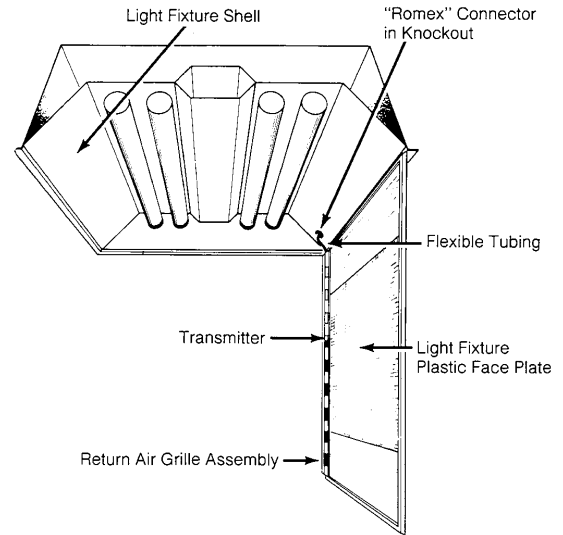


Figure-6

Mounting Location

The transmitter must be located in the return air grille opposite the fixture exhaust air opening when mounting in recessed combination light fixture/air diffuser (See Figure 5).

A 1/2" knockout is provided in the correct end of the light fixture shell for the admittance of the transmitter. Light Fixtures come equipped with the return air grille assembly attached to the hinged access door (See Figure 6).

Mounting

Barbed end fitting for 5/32" plastic tubing. Run shortest length of 5/32" plastic tubing possible from transmitter [no more than 3 ft. (1 m)] before connecting to 1/4" plastic tubing.

FIELD CHECKOUT

Dual Input Controller with Two Transmitters

1. Connect the calibration panel (TOOL-100-500) into ports 1 and 2 of the receiver-controller and temperature transmitters as shown in Figure 9.
2. Move toggle switches to the up (transmitter) position.
3. Measure the temperature at each transmitter with an accurate thermometer. (Make certain the transmitters are measuring a stable condition.)
4. Note the readings on the calibration panel gauges for the 50 to 100°F (10 to 38°C) range of transmitters used and compare these to the temperatures measured at the transmitters.

Readings should be within +4°F (2.2°C). Replace the transmitter if the readings are not within these limits.

Note: With toggle switches in the down (calibration) position, various temperatures can be simulated by using the manual adjuster.

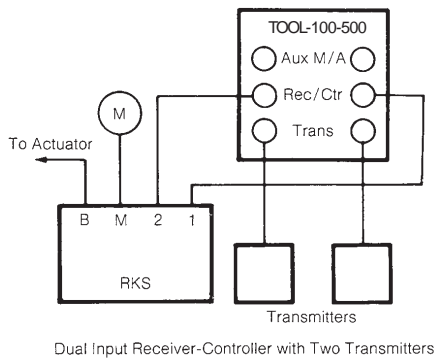


Figure-7

Receiver-Controller with Single Transmitter Located More Than 200 ft. (60 m) Up to Maximum of 1000 ft. (300 m)

1. Connect the calibration panel (TOOL-100-500) to main air supply, the receiver-controller port 1 (note that restrictor is blocked) and AT-532-222-1-01 restrictor tee as shown in Figure 10.
2. Move toggle switch to the up (transmitter) position.
3. Measure the temperature at each transmitter with an accurate thermometer. (Make certain the transmitters are measuring a stable condition.)
4. Note the readings on the calibration panel gauges for the 50 to 100°F (10 to 38°C) range of transmitters used and compare these to the temperatures measured at the transmitters.

Readings should be within +4°F (2.2°C). Replace the transmitter if the readings are not within these limits.

Note: With toggle switch in the down (calibration) position, various temperatures can be simulated by using the manual adjuster.

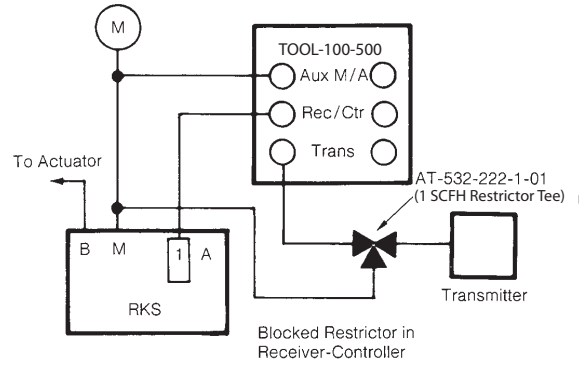


Figure-8

ADJUSTMENTS

No field adjustments should be made on the transmitter.

Caution: Field adjustments will void factory warranty.

MAINTENANCE

This is a quality product. Regular maintenance of the total system is recommended to assure sustained optimum performance.

REPAIR

DO NOT field repair. The transmitter should be replaced if it is causing the system to malfunction.

On October 1st, 2009, TAC became the Buildings business of its parent company Schneider Electric. This document reflects the visual identity of Schneider Electric, however there remains references to TAC as a corporate brand in the body copy. As each document is updated, the body copy will be changed to reflect appropriate corporate brand changes.

Copyright 2010, Schneider Electric
All brand names, trademarks and registered trademarks are the property of their respective owners. Information contained within this document is subject to change without notice.

Schneider Electric
1354 Clifford Avenue
P.O. Box 2940
Loves Park, IL 61132-2940

www.schneider-electric.com/buildings

Schneider
Electric