TE-6001 Hardware Assemblies for TE-6000 Temperature Elements Product or Technical Bulletin

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TE-6001 Hardware Assemblies for TE-6000 Temperature Elements

TE-6001 Hardware Assemblies are used with TE-6000 Temperature Elements in a wide variety of applications. Hardware and elements are ordered separately and field assembled, depending on the application. Refer to TE-6000 Temperature Sensing Elements Product Bulletin *for a description of available temperature sensors and* TE-6100 Series Temperature Sensors and Completed Sensor/ Hardware Assemblies Product/Technical Bulletin *for available factory assembled units*.

Figure 1: TE-6001 Hardware Assemblies



Table 1: Features and Benefits

Features	Benefits
Ease of Mounting	Some assemblies include plastic clips that TE-6000 temperature elements snap easily into
Standard All Metal Construction	Meets code requirements for metal electrical boxes
Identical Replacements for Many Existing Installations	Permits maintenance of consistent installation appearance

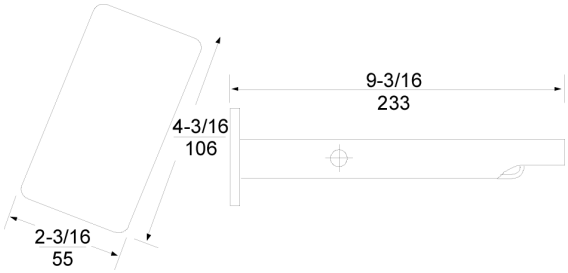
Applications

TE-6001-1

The TE-6001-1 Duct Temperature Element Holder is used with TE-6000 elements in duct insertion applications. The TE-6001-1 is designed to hold one or two temperature sensors. A handi-box is supplied with the element holder.

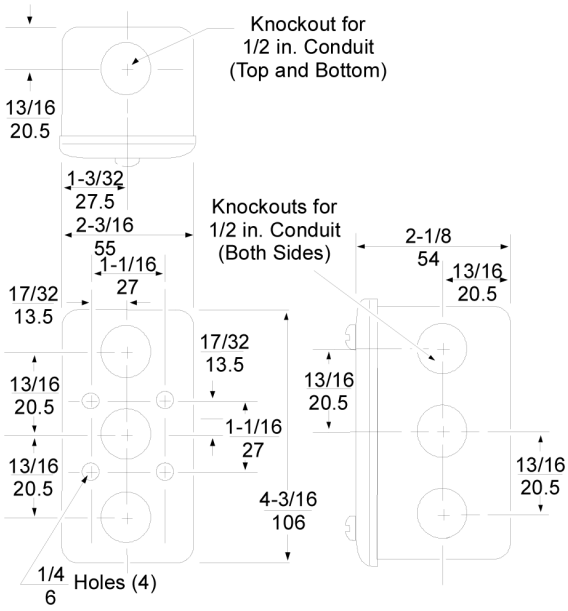
6001f02.cdr

Figure 2: TE-6001-1 Duct Insertion Element Holder with Handi-box Dimensions (in./mm)



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Figure 3: TE-6001-1 and -3 Dimensions (in./mm)

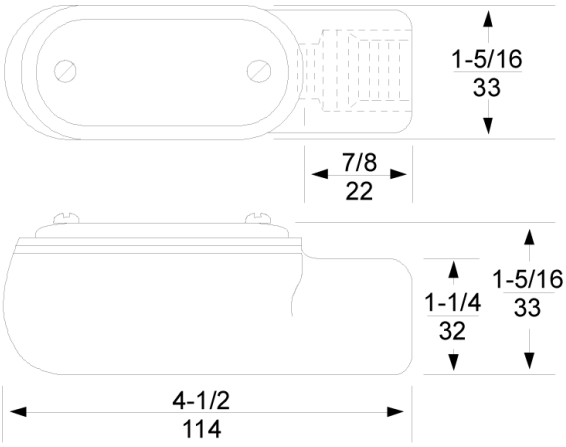


TE-6001-2

The TE-6001-2 is a metal housing used with a TE-6000 Temperature Element in applications requiring outside air temperature sensing. A factory mounted plastic clip is provided to hold the TE-6000 sensor in place.

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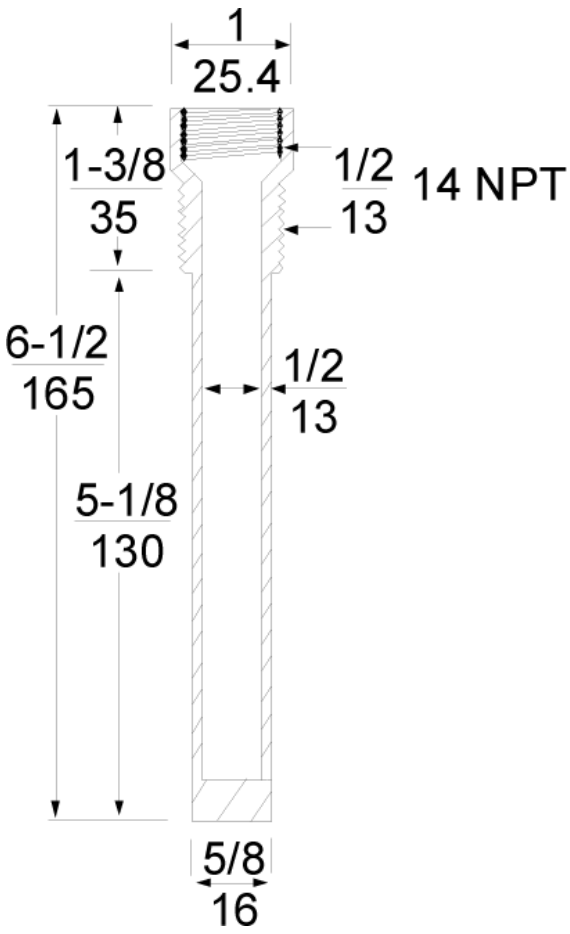
Figure 4: TE-6001-2 Dimensions (in./mm)



TE-6001-3

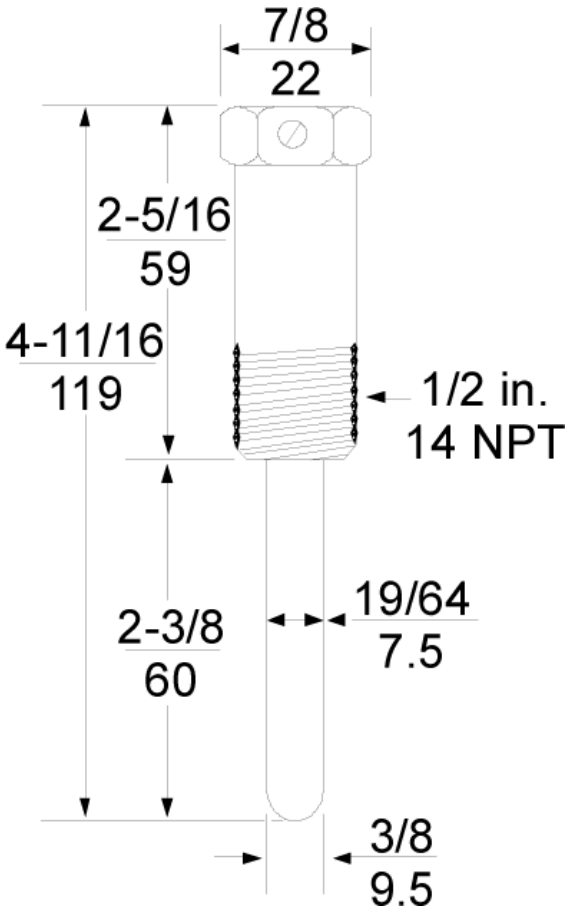
The TE-6001-3 Handi-box (includes packing nut and fittings) is used with WZ-1000-2, -4, and -5 Immersion Wells to house TE-6000 elements in well insertion applications.

Figure 5: WZ-1000-2 and -4 Dimensions (in./mm)



6001f06.cdr

Figure 6: WZ-1000-5 Dimensions (in./mm)



TE-6001-4

The TE-6001-4 Temperature Element Holder is used with TE-6000 sensors in room temperature sensing applications. The TE-6001-4 can hold up to two temperature sensors. A mounting bracket and wallplate adaptor are supplied.

Note: A T-4000 cover is required and must be ordered separately. (See Table 2 for ordering information.)

Figure 7: TE-6001-4 Dimensions (in./mm)

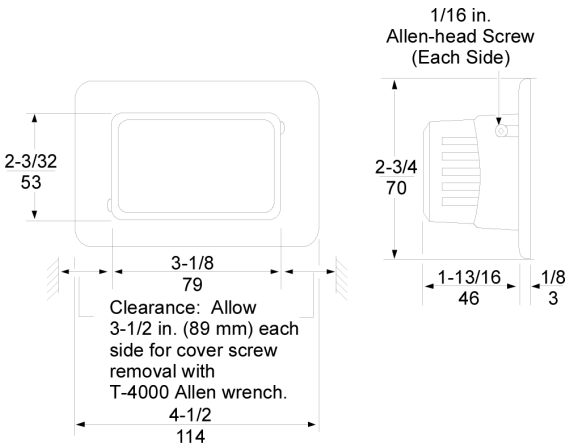


Table 2: T-4000 Plastic Covers for TE-6001-4 Assemblies

Product Code Number	Description
	Horizontal
T-4000-2139	without Setpoint Window or Thermometer, with Johnson Controls Logo, Silver Faceplate
T-4000-2140	without Setpoint Window, with F/C Thermometer and Johnson Controls Logo, Silver Faceplate
T-4000-2639	Concealed Setpoint, without Thermometer, with Johnson Controls Logo, Gold Faceplate
T-4000-2640	Concealed Setpoint, with Thermometer and Johnson Controls Logo, Gold Faceplate
	Horizontal or Vertical
T-4000-2138	without Setpoint Window, Thermometer, or Johnson Controls Logo, Silver Faceplate
	Vertical
T-4000-2144	without Setpoint Window or Thermometer, with Johnson Controls Logo, Silver Faceplate

TE-6001-5

The TE-6001-5 Dew Point Sensor Kit is used to seal a TE-6000 1000 ohm sensor inside a Foxboro 2761 Dewcel®. The kit consists of a packing nut adaptor, packing gland, washer, and packing nut.

TE-6001-6

TE-6001-6 Adhesive Mounting Pads are used to attach TE-6000 sensors to T-4100 and T-4110 Pneumatic Room Thermostats. This provides a means of electronic temperature indication. (See Figure 1.)

TE-6001-7

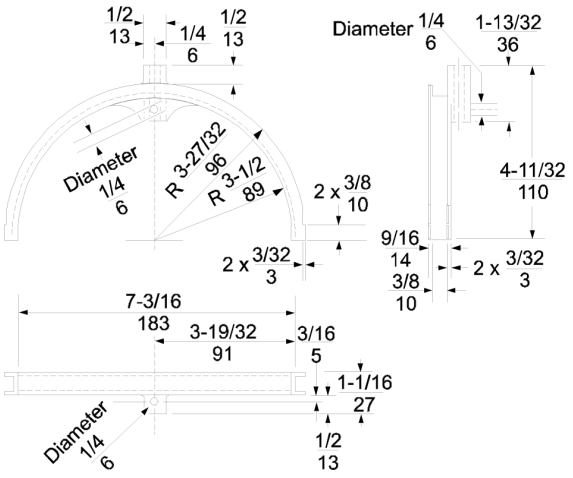
TE-6001-7 Mounting Clips are used to attach TE-6000 sensors to single setpoint T-4002 and T-4003 thermostats, H-4100 humidistats, and H-5100 humidity transmitters. This provides a means of electronic temperature indication on pneumatic room devices. (See Figure 1.)

TE-6001-8

The TE-6001-8 Mounting Bracket is used with TE-6100 and TE-6300 averaging sensors to maintain the minimum bend radius recommended for these sensors. It mounts to ductwork with a single sheet metal screw.

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Figure 8: TE-6001-8 Dimensions (in./mm)

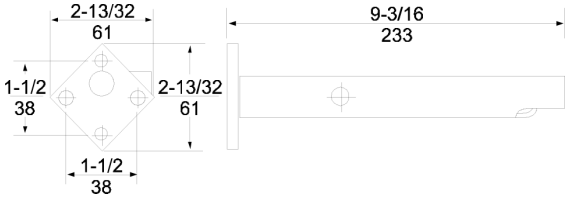


TE-6001-11

The TE-6001-11 Duct Temperature Element Holder is used with TE-6000 sensors. It has a rigid aluminum support that extends in the duct to hold one or two TE-6000 temperature sensing elements.

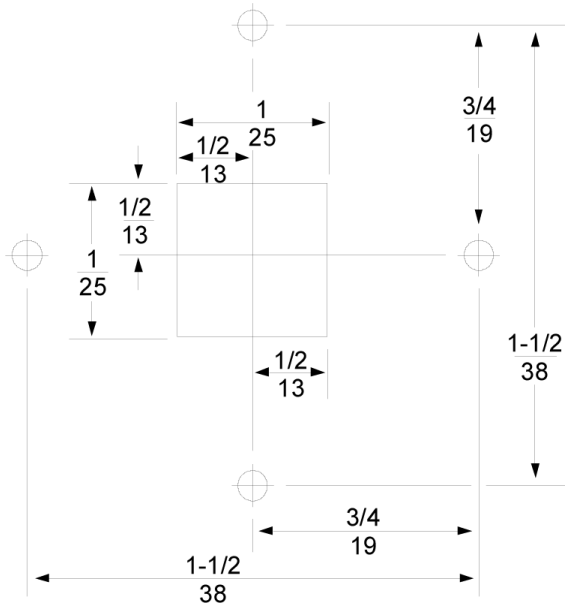
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Figure 9: TE-6001-11 Dimensions (in./mm)



6001f10.cdr

Figure 10: Hole Pattern for Installation of TE-6001 -1 and -11 (in./mm)



TE-6001-961 and -962

The TE-6001-961 Momentary Pushbutton Switch is designed for use with the C210A-1 VAV Controller or the C260A-1 Heat Pump Controller.

The TE-6001-962 Maintained Toggle Switch is used with either networked or standalone controllers to place the zone controller in the occupied mode. The TE-6001-962 is wired directly to the unoccupied terminal on the controller.

TE-6001-961 and -962 switches are used with either the TE-6100-960 or TE-6100-961 room temperature sensing assemblies, which must be ordered separately.

Mounting

TE-6001-1 and -11

The TE-6001-1 and -11 assemblies should be attached to ducts with No. 6 sheet metal screws. Both assemblies have factory mounted plastic clips that TE-6000 temperature elements easily snap into. Route element leads through the bracket opening.

TE-6001-2

The TE-6001-2 should be mounted where the effects of sunlight and radiant heat are minimal. The housing is threaded to fit 1/2 inch rigid conduit. Seal-off fittings must be used to prevent condensation on the element or in the housing.

TE-6001-3

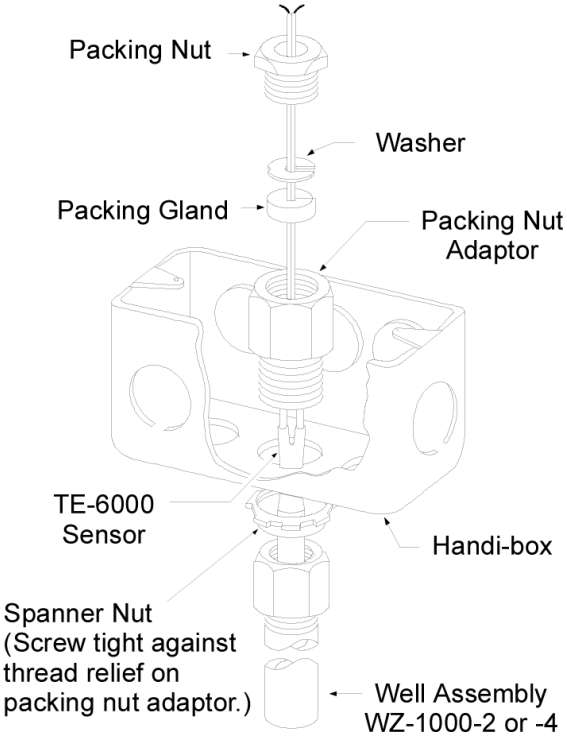
The TE-6001-3 packing nut and fittings are used with WZ-1000-2 and -5 wells. These wells are factory filled with thermal compound for maximum conductivity.

Important: To prevent condensation of moisture in the well and failure of the element, apply plumber's putty or some other suitable sealant (such as silicon rubber sealant) around the packing nut adaptor as well as the point where the two sensor leads pass through the adaptor.

Note: See Figure 11 and Figure 12 for proper positioning of the TE-6000 sensor.

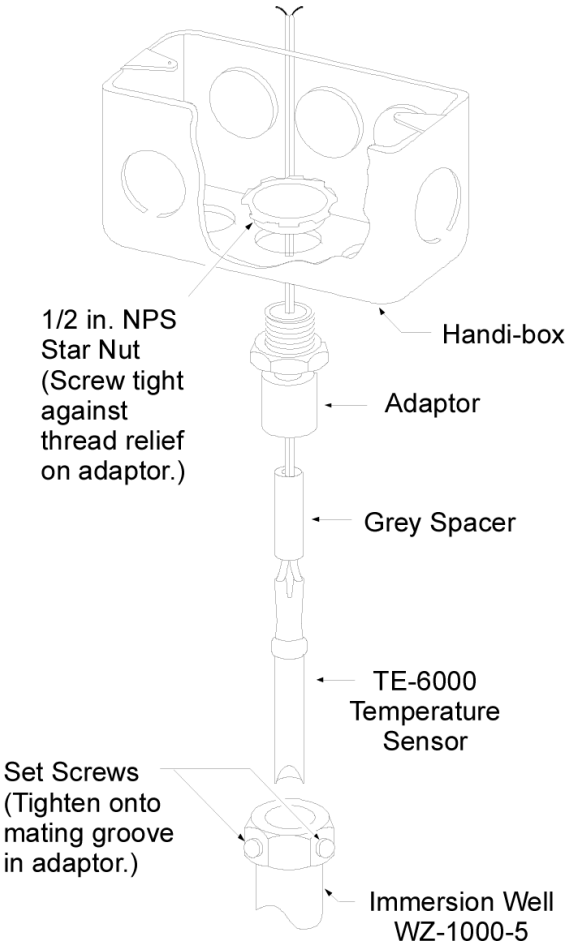
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Figure 11: TE-6001-3 and WZ-1000-2, -4 Assembly (with TE-6000 Sensor)



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Figure 12: TE-6001-3 and WZ-1000-5 Assembly (with TE-6000 Sensor)

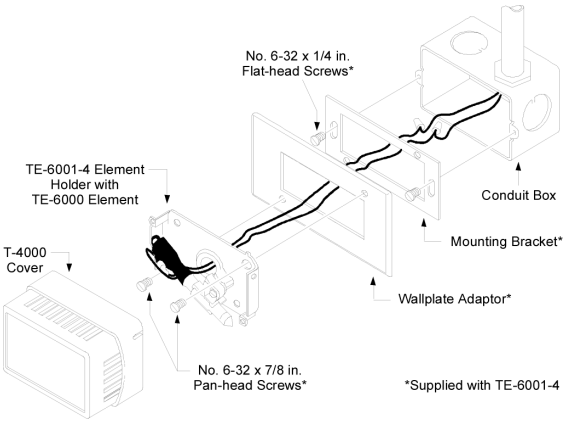


TE-6001-4

Mount the TE-6001-4 assembly on a wall where air is free to circulate around the elements, but away from nonrepresentative air conditions such as drafts or heat radiation. Mount the assembly 5 to 6 feet (1.5 to 1.8 m) above the floor on a standard electrical wallbox. Two factory mounted plastic clips are provided to hold the TE-6000 elements. Route element leads through the bracket opening. (See Figure 13.)

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Figure 13: TE-6001-4 Assembly Mounting Detail



CAUTION

Equipment Danger Hazard

Do not immediately insert the TE-6000 sensor into the Dewcel element. Temperatures in the dewcel cavity may initially rise above the upper ambient temperature limit of the TE-6000 sensor, 250 ° F (121 ° C),as the Dewcel attempts to reach equilibrium temperature.

CAUTION

Danger de Dégâts d'Equipement.

Ne pas insérer immédiatement le capteur TE-6000 dans l'élément Dewcel. Les températures dans la cavité de dewcel peuvent initialement s'élever au-dessus de la limite de température ambiante supérieure de la capteur TE-6000, 250 ° F (121 ° C), car le Dewcel tente d'atteindre la température d'équilibre.

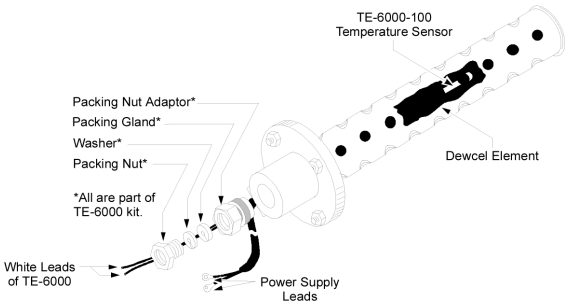
TE-6001-5

To install the TE-6001-5 Dew Point Sensor Kit:

1. Moisten the Dewcel element with lithium chloride salt upon initial installation or after washing of the element.
2. Install the Dewcel in the duct, connect to VQ-5000 power supply, and wait at least 20 minutes for the Dewcel to stabilize.
3. Install the TE-6000 sensor as shown in Figure 14.

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Figure 14: TE-6001-5 Foxboro Dewcel Assembly



CAUTION

Equipment Damage Hazard

Check all wiring connections before applying power to the system.Short circuited or improperly connected wires will result in permanent damage to the equipment.

CAUTION

Danger de Dégâts d'Equipement.

Vérifiez toutes les connexions de câblage avant d'alimenter le système. Les fils à court-circuit ou incorrectement connectés entraîneront un endommagement permanent de l'équipement.

Important

Make all wiring connecgtions in accordance with the National Electrical Code and all electrical regulations.

Important

Effectuez toutes les connexions de câblage conformément au Code national de l'électricité et à toutes les réglementations locales.

TE-6001-6

A TE-6001-6 Adhesive Mounting Pad is used to attach a TE-6000 sensor to a T-4100 thermostat. When mounting, make certain that the sensor does not restrict the setpoint adjustment.

On T-4110 thermostats, affix the sensor on the mounting plate or on the aspirator cover if an aspirator is used.

TE-6001-7

The TE-6001-7 Mounting Clips snap onto a pneumatic controller on the side opposite the dial (on side opposite test point for H-5100). (See Figure 1.) Pull the TE-6000 element leads around the side of the instrument and through the mounting bracket opening. If a terminal connector is used on the mounting bracket, route the leads through the slot at the bottom of the connector or through the unused hole of the connector if a 3-pipe controller is not used. If a wallbox is used, the leads may also be run through a spare hole in the bracket itself.

TE-6001-8

Attach the TE-6001-8 Mounting Bracket to ducts with a No. 6 sheet metal screw. (See Figure 8.)

TE-6001-961 and -962

The TE-6001-961 and -962 are furnished with a No. 6-32 x 1/8 in. pan-head screw for mounting the switches to the TE-6100-960 or -961. (See Figure 15 for proper positioning of the TE-6001-961 and -962.) Depressing the pushbutton on the TE-6001-961 connects blue to white/yellow.

Pushing the TE-6001-962 toggle switch to the right (front view) connects white/yellow to blue, and pushing the switch to the left connects blue to white/orange.

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Figure 15: TE-6100-960 and -961 Mounting Detail

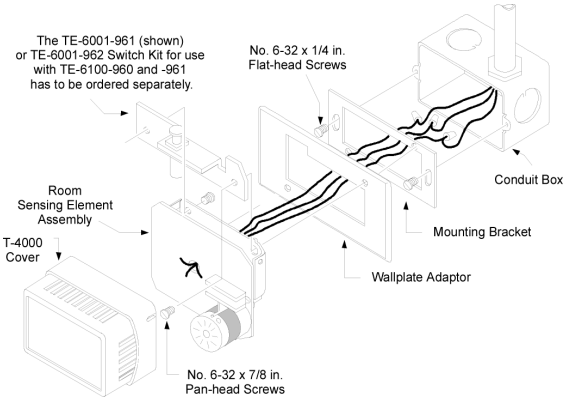


Table 3: Dewcel to Dew Point Temperatures

Dewcel Temperature		Resistance (ohms)	Dew Point Temperature	
°F	°C		°F	°C
93	34	1069	30	-1
99	37	1087	35	2
106	41	1108	40	4
112	44	1127	45	7
119	48	1149	50	10
127	53	1174	55	13
134	57	1196	60	16
141	61	1219	65	18
149	65	1245	70	21
156	69	1268	75	24
163	73	1291	80	27
171	77	1318	85	29
179	82	1345	90	32
188	87	1375	95	35
196	91	1403	100	38

Table 4: Models

TE-6001-	Description
1	Duct Temperature Element Holder with Handi-box
2	Housing for Outside Air Temperature Sensing Element
3	Handi-box, Packing Nut, and Fittings for Use with WZ-1000 Wells
4	Single/Dual Element Holder for TE-6000 Elements in Room Temperature Sensing Applications
5	Dew Point Sensor Kit
6	Ten Adhesive Mounting Pads for Use with T-4100, T-4110
7	Ten Clips for Use with T-4002/4003 and H-4100/5100
8	Mounting Bracket for Use with TE-6100 and TE-6300 Averaging Sensors
11	Duct Temperature Element Holder (Less Handi-box)
961	Momentary Pushbutton Switch
962	Maintained Toggle Switch

Technical specifications

Table 5: TE-6001 Hardware Assemblies for TE-6000 Temperature Elements technical specifications

Model	Shipping weight
TE-6001-1	1.3 lb (0.590 kg)
TE-6001-2	0.5 lb (0.227 kg)
TE-6001-3	1.0 lb (0.454 kg)
TE-6001-4	0.5 lb (0.227 kg)
TE-6001-5	0.3 lb (0.136 kg)
TE-6001-6	0.2 lb (0.091 kg)
TE-6001-7	0.2 lb (0.091 kg)
TE-6001-8	0.8 lb (0.363 kg)

Table 5: TE-6001 Hardware Assemblies for TE-6000 Temperature Elements technical specifications

Model	Shipping weight
TE-6001-11	0.7 lb (0.318 kg)
TE-6001-961	0.5 lb (0.227 kg)
TE-6001-962	0.2 lb (0.091 kg)

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 shall not be liable for damages resulting from misapplication or misuse of its products.

Product warranty

This product is covered by a limited warranty, details of which can be found at www.johnsoncontrols.com/buildingswarranty.

Software terms

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Patents

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Single point of contact

APAC	Europe	NA/SA
JOHNSON CONTROLS	JOHNSON CONTROLS	JOHNSON CONTROLS
C/O CONTROLS PRODUCT MANAGEMENT	WESTENDHOF 3	507 E MICHIGAN ST
NO. 32 CHANGJIJANG RD NEW DISTRICT	45143 ESSEN	MILWAUKEE WI 53202
WUXI JIANGSU PROVINCE 214028	GERMANY	USA
CHINA		

Contact information

Contact your local branch office: www.johnsoncontrols.com/locations
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