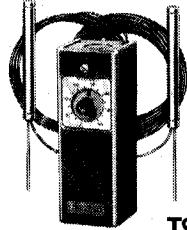


# Honeywell

## T991B PROPORTIONAL TEMPERATURE CONTROL



T991

THE T991B DUAL BULB TEMPERATURE CONTROL PROVIDES PROPORTIONAL CONTROL OF SUPPLY WATER OR DUCT AIR TEMPERATURES. TWO SENSING ELEMENTS ARE USED—A SENSING BULB IS MOUNTED OUTDOORS AND A BULB OR A CAPILLARY AVERAGING ELEMENT IS MOUNTED IN THE WATER OR AIR SUPPLY BEING CONTROLLED. AS OUTDOOR TEMPERATURE CHANGES, THE T991B AUTOMATICALLY RESETS THE CONTROL POINT ACCORDING TO THE RESET RATIO SELECTED.

### □ T991B

- Four reset ratios are available—1:1, 1:1-1/2, 1-1/2:1 and 3-1/2:1.
- Set point adjustment on front of case.
- Throttling range is adjustable from 3 F to 30 F [2 C to 17 C].
- Control may be mounted in any convenient position.
- Case and capillary tubing are ambient compensated.
- Sturdy steel case houses the diaphragm power head and lever mechanism.

## SPECIFICATIONS

### IMPORTANT

THE SPECIFICATIONS GIVEN IN THIS PUBLICATION DO NOT INCLUDE NORMAL MANUFACTURING TOLERANCES. THEREFORE, THIS UNIT MAY NOT MATCH THE LISTED SPECIFICATIONS EXACTLY. ALSO, THIS PRODUCT IS TESTED AND CALIBRATED UNDER CLOSELY CONTROLLED CONDITIONS, AND SOME MINOR DIFFERENCES IN PERFORMANCE CAN BE EXPECTED IF THOSE CONDITIONS ARE CHANGED.

**MODELS:** T991B Dual Bulb Temperature Control—provides proportional control of supply water or duct air temperatures in heating or cooling applications. Resets the temperature control point according to changes in outdoor air temperature.

**TEMPERATURE SETTING:** 70 F to 140 F [21 C to 60 C] (when the outdoor bulb is at 70 F [21 C]).

**ELECTRICAL RATING:** 24 Vac.

**THROTTLING RANGE:** Adjustable from 3 F to 30 F [2 C to 17 C] degrees range is divided in half at the set point.

**TEMPERATURE LIMITS:**

**RESET RATIOS AVAILABLE:** 1:1, 1-1/2:1, 1:1-1/2, 3-1/2:1. Refer to section on selecting the Reset Ratio.

**NOTE:** Ratio indicates change in outdoor air temperature which will cause corresponding change in heating medium control point.

**POTENTIOMETER RESISTANCE:** 135 ohms.

**MAXIMUM BULB PRESSURE:** 50 psi, with direct immersion mounting. (Refer to ratings supplied with immersion well, if used.)

Reset Ratios	Maximum Operating Ambient	Maximum Storage Temperature	Maximum Bulb Temperature
1:1	125 F [52 C]	132 F [56 C]	Indoor bulb temperature plus outdoor bulb temperature must not exceed 265 F [129 C].
1:1-1/2	125 F [52 C]	125 F [52 C]	Indoor bulb temperature plus 1.5 times the outdoor bulb temperature must not exceed 312 F [156 C].
1-1/2:1	125 F [52 C]	145 F [63 C]	Indoor bulb temperature plus 0.67 times the outdoor bulb temperature must not exceed 242 F [117 C].
3-1/2:1	125 F [52 C]	145 F [63 C]	Indoor bulb temperature plus 0.29 times the outdoor bulb temperature must not exceed 206 F [97C].

**BULB SIZES:**

Reset Ratio	Indoor Bulb			Outdoor Bulb								
	Length		Diameter	Length		Diameter	Capillary					
	(in.)	[mm]	(in.) [mm]	(in.)	[mm]	(in.) [mm]	(ft.) [mm]					
1:1	4-1/2	[114.3]	1/2	[12.7]	10	[3]	4-1/2	[114.3]	1/2	[12.7]	30	[8]
1:1 <sup>a</sup>	12 ft	[3 m]	1/8	[3.2]	6	[2]	4-1/2	[114.3]	1/2	[12.7]	20	[5]
1:1-1/2	4-1/2	[114.3]	1/2	[12.7]	10	[3]	6-5/32	[156.4]	1/2	[12.7]	30	[8]
1-1/2:1	4-1/2	[114.3]	1/2	[12.7]	10	[3]	3-3/16	[81]	1/2	[12.7]	30	[8]
3-1/2:1	4-1/2	[114.3]	1/2	[12.7]	20	[5]	2-5/32	[54.7]	3/8	[9.5]	30	[8]
3-1/2:1 <sup>a</sup>	12 ft	[3 m]	1/8	[3.2]	6	[2]	2-5/32	[54.7]	3/8	[9.5]	30	[8]

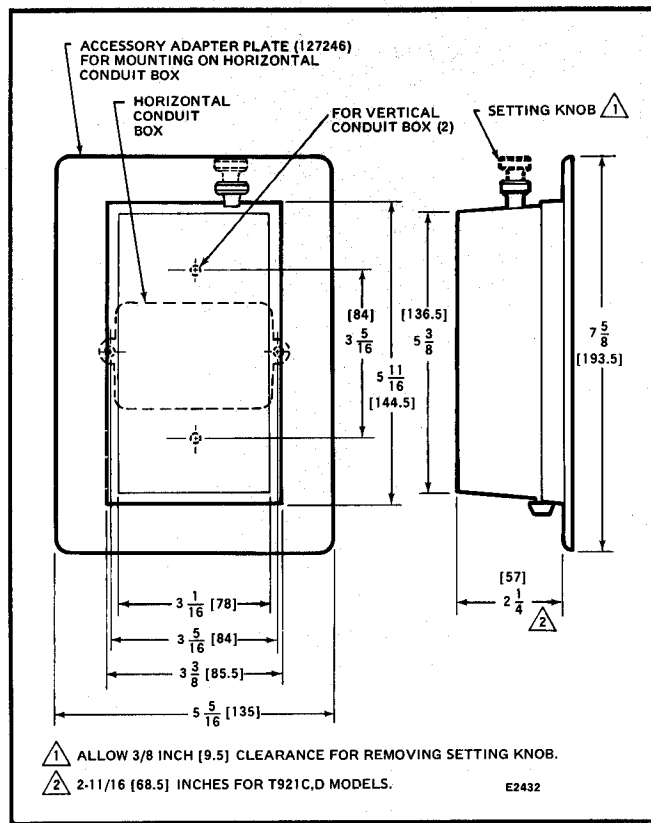
**ACCESSORIES (must be ordered separately):**

1. 127246A Adapter Plate Assembly for mounting all models vertically on horizontal outlet box, or T921A,B,E models horizontally (with horizontal faceplate) on vertical outlet box.
2. Faceplate for mounting T921A,B,E models horizontally; select appropriate outlet box.
3. 34297B Thermostat Guard Assembly and 138541A Mounting Plate.
4. 133722A Thermostat Guard—clear plastic cover.
5. 133722A Thermostat Guard—beige plastic cover.

Scale	Part Number
56 to 84 F [13 to 29 C]	135135A
13 to 29 C [56 to 84 C]	135135B
42 to 75 F [5 to 24 C]	135135C
66 to 95 F [19 to 35 C]	135135D
56 to 84 F [13 to 29 C]	134990C <sup>a</sup>

<sup>a</sup> Blank faceplate

REPLACEMENT PARTS: 130224 Locking Cover Knob.



**Fig. 1—APPROXIMATE DIMENSIONS IN IN. [MM IN BRACKETS]**