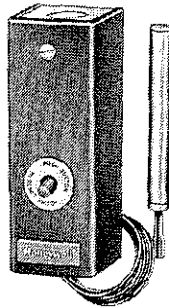
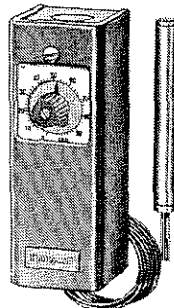


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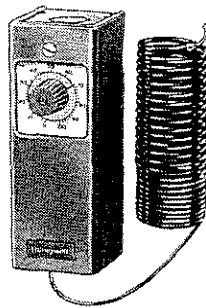
T675A,B and T678A TEMPERATURE CONTROLLERS



T675B



T675A
T678A



T675A, T678A
WITH FAST-RESPONSE
SENSING ELEMENT

THE T675 AND T678 TEMPERATURE CONTROLLERS REGULATE THE TEMPERATURE OF AIR OR LIQUIDS IN DUCTS, PIPES, TANKS, AND BOILERS. TYPICAL USES INCLUDE CONTROL OF DAMPERS AND VALVES IN HEATING, COOLING, OR HEATING-COOLING SYSTEMS.

T675A T675B T678A

- T675A has one single-pole, double-throw (spdt) switch that breaks R-B and makes R-W at the set point on a temperature rise.
- T675B Manual Reset Low Unit Limit has one single-pole, single-throw (spst) switch that breaks at the set point on a temperature fall, and requires manual resetting.
- T678A has two single-pole, double-throw (spdt) switches that operate in sequence. The right switch breaks R-B and makes R-W at the set point on a temperature rise. The left switch breaks R-B and makes R-W if the temperature continues to rise through the interstage differential.
- T675A models available with an adjustable differential.
- T675A and T678A have set point adjustment knob on front of case.
- Capillary tubing allows remote mounting of sensing element; models available with various lengths.
- T675A and T678A models available with a fast-response sensing element.
- Controller can be mounted for all applications.
- Mounting accessories available for all applications.
- Ambient temperature compensated.
- Insert supplied with TRADELINE models replaces set point knob to discourage tampering.

SPECIFICATIONS

TRADELINE MODELS

TRADELINE models are selected and packaged to provide ease of stocking, ease of handling, and maximum replacement value. TRADELINE model specifications are the same as those of standard models except as noted below.

TRADELINE MODELS AVAILABLE:

T675A and T678A Temperature Controllers—see Table 1 for TRADELINE models available.

CAPILLARY: 5 ft [1.5 m] long, copper (except one T675A model with a 20 ft [6.1 m] capillary).

ADDITIONAL FEATURES:

- All TRADELINE models include-tamper resisting insert and

107324A Capillary Holder. (Models with fast-response sensing element include 131524A Capillary Holder.)

- TRADELINE models of T675A, T678A supplied with impact resistant Norel covers.
- TRADELINE pack with cross-reference and special instruction sheet.

TABLE 1—TRADELINE MODELS AVAILABLE

Model	Differential	Operating Temperature		Maximum Safe Bulb Temperature	
		F	C	F	C
T675A (1 spdt switch)	Adjustable 3 F to 10 F [1.7 C to 5.6 C]	0 to 100 ^{a,b}	-18 to 38	125	52
		160 to 260	71 to 127	280	138
	Adjustable 3.6 F to 12 F [2.0 C to 6.7 C]	55 to 175 ^a	13 to 79	200	93
	Fixed at 1 F [0.6 C]	0 to 100	-18 to +38	125	52
T678A (2 spdt switches)	Each switch: Fixed at 3 F [1.7 C]	0 to 100 ^a	-18 to +38	125	52
	Interstage: Adjustable 3 F to 10 F [1.7 C to 5.6 C]	55 to 175 ^a	13 to 79	200	93
	Each switch: Fixed at 3.6 F [2.0 C]	55 to 175 ^a	13 to 79	200	93
	Interstage: Adjustable 3.6 F to 12 F [2.0 C to 6.7 C]				

^a TRADELINE model also available with a fast-response sensing element, including a 131524A Capillary Holder.

^b TRADELINE model also available with a 20 ft [6.1 m] copper capillary.

Differential (cover must be removed):

T675A Models with adjustable differential—adjustment dial on snap-acting switch.

T678A Interstage adjustment—star wheel on left side of chassis.

MAXIMUM SAFE BULB TEMPERATURE: See Table 2.

TEMPERATURE SENSING ELEMENT: Standard element is a liquid-filled, remote bulb. Some models are available with a fast-response, liquid-filled, coiled capillary element which reduces response time to approximately 1/4 that of the standard bulb.

SENSING BULB SIZE:

Length—4-3/16 in. [106.4 mm].

Diameter—1/2 in. [12.7 mm].

MAXIMUM SENSING BULB PRESSURE: 50 psi [344.7 kPa] for direct immersion.

CAPILLARY LENGTH AND MATERIAL:

T675A and T678A standard models—5 ft [1.5 m] copper or 20 ft [6.1 m] copper, monel, or stainless steel.

T675A and T678A fast-response models—5 ft [1.5 m] copper capillary with a coiled sensing element on the end; sensing element is coiled 1/8 in. [3.2 mm] tubing, 1-1/2 in. [38.1 m] diameter x 5 in. [127 mm] long. The coil may be stretched to approximately 10 in. [254 mm].

T675B—10 ft [3.0 m] copper.

CAPILLARY HOLDER: 107324A included with TRADELINE models (except fast-response models). 131524A included with all fast-response models.

WIRING KNOCKOUTS: Two 7/8 in. [22.2 mm] diameter knockouts for 1/2 in. conduit (one in the top and one in the bottom).

CONTROLLER MOUNTING: Any position; three screws through slotted holes in back of case (Fig. 1).

SENSING BULB MOUNTING:

In air ducts—capillary holder.

In boilers or storage tanks—immersion well (Fig. 4) or capillary compression fitting.

DIMENSIONS: See Fig. 1.

APPROVALS:

UNDERWRITERS LABORATORIES INC. LISTED:

T675A and T678A—File No. E4436, Vol. 4; Guide No. XAPX.

T675B—File No. SA481, Vol. 3; Guide No. SDFY.

CANADIAN STANDARDS ASSOCIATION CERTIFIED

(120 V, 240 V, and some 208 V models only); T675a and T678A—File No. LR1620, Guide No. 400-E-O.

REPLACEMENT PART:

1. 131524A Capillary Holder, for mounting a fast-response sensing element in an air duct.

ACCESSORIES:

1. 131524A Capillary Holder, for mounting a sensing bulb in an air duct 8-3/8 in. [212.7 mm] long.

2. 311266D Duct Bulb Holder.

3. Immersion Well Assembly—to protect sensing bulb from mechanical or chemical damage when mounting in a boiler or storage tank; copper, 4-3/4 in. [120.7 mm] insertion length; includes 112721 Tube Clip for clamping capillary tube to immersion well—
 — 112622AA, 1/2-14 NPT external threads on spud.
 — 112630A, 3/4-14 NPT external threads on spud.

4. Capillary Compression Fitting—to provide seal-off when mounting sensing bulb directly in a boiler or storage tank; brass, 5/8 in. [15.9 mm] thread length—
 — 104484A, 1/2-14 NPT external threads on spud.
 — 104484B, 3/4-14 NPT external threads on spud.

5. 105900 T-strap—for clamping sensing bulb to a pipe or similar mount.

6. 7640HY Bag Assembly—with standoff bracket for mounting the controller to an insulated duct.

7. Q615A Splash-proof Enclosure.

8. 34886A Sun Shield.

9. 801534 Calibration Wrench.

10. 194899 Tamper-resisting insert button to conceal set point.

11. Celsius scaleplates for T675.

— 194486D: 75 to 125 C replaces 160 F to 260 F scaleplate.

— 194486H: minus 30 C to plus 50 C replaces 0 F to 100 scaleplate.

— 194486F: 15 C to 75 C replaces 55 F to 175 F scaleplate.

ELECTRICAL RATINGS:

T675A models with adjustable differential and T678A:

	120 Vac	240 Vac	277 Vac
Full Load	8.0	5.1	4.2
Locked Rotor	48.0	30.6	25.2
Pilot Duty	125 VA	125 VA	125 VA

T675A models with fixed differential—125 VA at 120/208/240/277 Vac.

T675B—125 VA pilot duty up to 277 Vac.

T678A—maximum connected load=2000 VA.

OPERATING TEMPERATURE RANGE (SCALE RANGE): See Table 2.

DIFFERENTIAL: See Table 2.

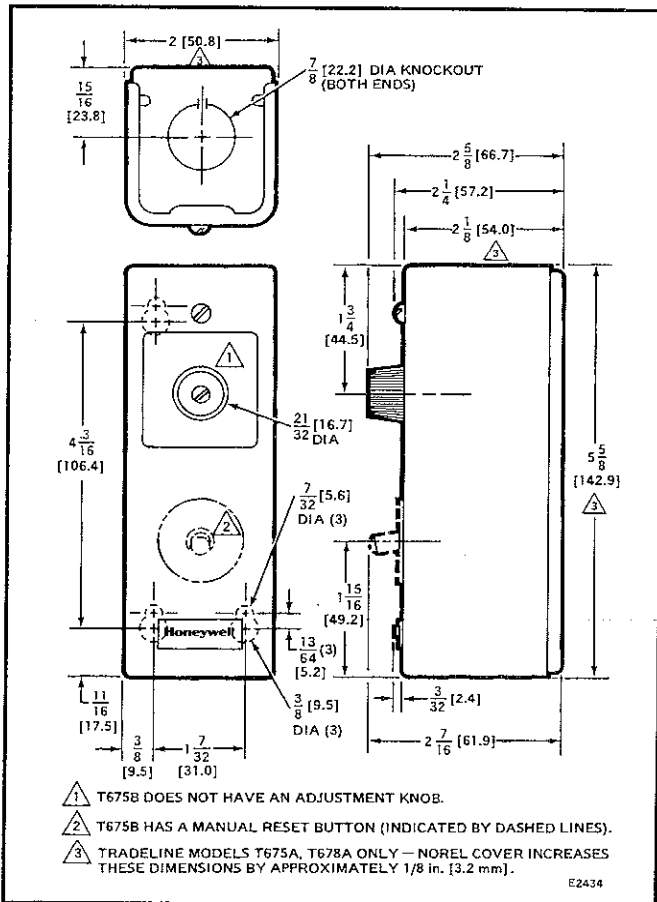


Fig. 1—DIMENSIONS OF THE T675 and T678 TEMPERATURE CONTROLLER, IN in. [mm IN BRACKETS].

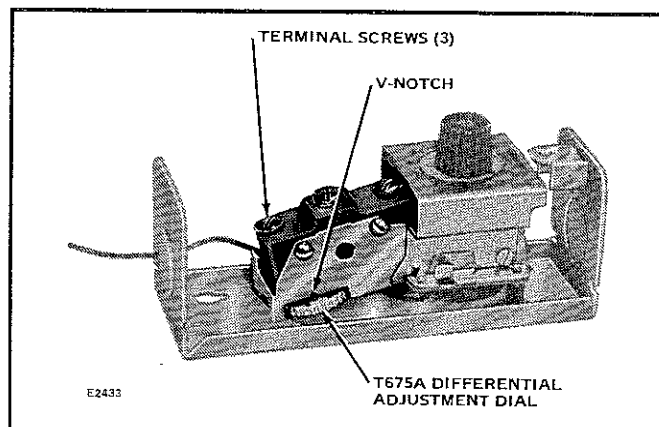


Fig. 2—LOCATION OF THE ADJUSTMENT DIAL ON T675A MODELS WITH AN ADJUSTABLE DIFFERENTIAL.