

SERIES 08-81

Precision Snap Disc Thermostats
Probe Type



FEATURES

- UL Component Recognized
 - CSA Certified
 - 100% Factory Temperature Tested
 - Snap-Action Switching
 - Hermetically Sealed
 - Shock and Vibration Resistant
 - Tamper-Proof, Preset Temperature
- Calibrated Settings from 10 to 350°F (-12 to +177°C)

APPLICATIONS

- Diesel Engines
- Air Compressors
- Refrigeration Compressors
- Hydraulic Systems
- Film Processing
- Plastics Processing
- Medical and Dental Equipment

DESCRIPTION

These low temperature probe-type thermostats are designed specifically for applications where hermeticity and vibration resistance are required. A snap-acting, bimetal disc, mounted in the tip of the probe, provides fast thermal response and rapid, positive contact action when the preset temperature is reached.

The probes are of all welded, stainless steel construction with glass to metal seals to ensure hermeticity. Switch design and construction provide high vibration and shock resistance. High contact force and the excellent wiping action of the contacts combine to make the probe suitable for light loads of 100 milliamperes or less.

TEST SAMPLES

Operating samples generally can be supplied for application tests. A completed Fenwal Snap-Disc Application Data form, available from Fenwal or your local Fenwal sales representative, is required to select and produce an operating sample.

Thermocouple samples often prove more helpful and accurate in determining actual set point temperatures for operating thermostats. Be sure to specify iron-constantan or copper-constantan thermocouple, whichever is compatible with your equipment.

U.L. File No. E69726, Guide SDFY2
Recognized under the Component Program of Underwriters Laboratories, Inc.
C.S.A. File No. LR7378 Class 4823 02
Certified by the Canadian Standards Association
Certified by BG Technology



SPECIFICATIONS

Operating Temperature Range	Tolerances		Differential (Nominal)	Electrical Rating* (100,000 Cycles)
	Open	Close		
10 to 240°F (-12 to +115°C)	±7°F (±4°C)	±7°F (±4°C)	20°F (11°C)	5A Resistive @120/240VAC 240VA Pilot Duty @120/240VAC
241 to 300°F (-116 to +149°C)	±10°F (±6°C)	±8°F (±4.5°C)	30°F (17°C)	1A Resistive @30VDC 5A Resistive @15VDC 2A Resistive @30VDC (50,000 Cycles)
301 to 350°F (-150 to +177°C)	±12°F (±8°C)	±10°F (±6°C)	40°F (22°C)	3A Resistive @30VDC (10,000 Cycles)

* and units rated for AC operation only.

NOTE: Differences in temperature checking procedures and equipment between those of the manufacturer and the user can result in temperature variances of up to 2°F (1°C) or 1% of the setting, whichever is greater.

PERFORMANCE

Switch Action:

SPST open or close on temperature rise.

Dielectric Strength: 1500 VAC terminals to case.

Insulation Resistance: 100 Megohms at 500VDC

Vibration:

Exceeds MIL-STD-202D, Method 204B, Condition D;
20 G, 10-5000 Hz.

Thermal Shock: MIL-STD-202D, Method 107C.

Mechanical Shock:

MIL-STD-202D, Method 213A; 100 G, 10 ms.

Working Pressure: 600 PSI up to 350°F (177°C).

Ambient Range: -50 to +400°F (-45 to +200°C).

MATERIALS

Body and Tube: 300 Series Stainless Steel

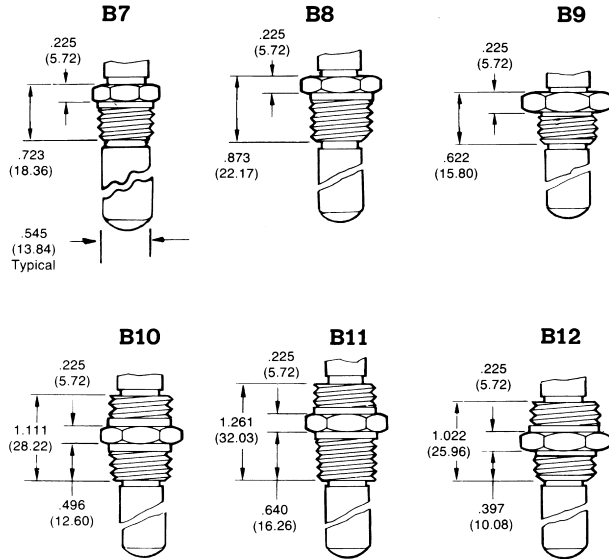
Seal: All welded construction with glass to metal seals.

Headfill: Black epoxy.

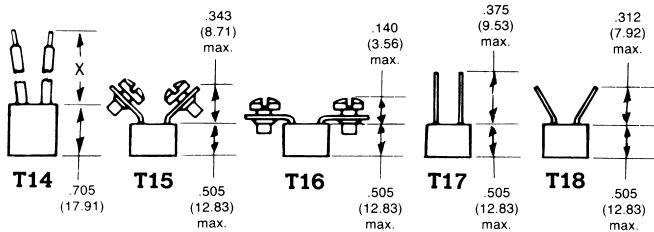
Contacts: Fine Silver.

Specifications subject to change without notice.

MOUNTING (See Table 1)



TERMINATIONS (See Table 1)



Note: Dimensions shown in parentheses are in millimeters.

TABLE 1

MOUNTING CONFIGURATIONS

STANDARD THREADS

B7 - 3/8-18PTF, SAE short, 11/16 in. hex

B8 - 1/2-14PTF, SAE short, 7/8 in. hex

B9 - 3/4-16UNF3A, 1 in. hex

COUPLING HEAD

B10 - 3/8-18PTF, SAE short x 1/2-14NPSM, 7/8 in. hex

B11 - 1/2-14PTF, SAE short x 1/2-14NPSM, 7/8 in. hex

B12 - 3/4-16UNF3A x 1/2-14NPSM, 1 in. hex

TERMINATIONS AND POSITIONS

T14 - Lead wires

* T15 - 8-32 screw terminals, 45° offset

* T16 - 8-32 screw terminals, 90° offset

T17 - 1/4 in. Quick Connects, parallel vertical

T18 - 1/4 in. Quick Connects, parallel, 30° offset

* Available only in B7, B8, and B9 configurations

LEAD WIRES (specify length)

L1 - No Lead Wires

L2 - 105°C PVC, 18 AWG, 600V insulation

L3 - 200°C TFE, 18 AWG, 600V insulation

L4 - 250°C TGGT, 16 AWG, 600V insulation

TUBE LENGTHS

P1 - 9/16 in. (14 mm) P2 - 1 in. (25 mm)

EPOXY POTTING COMPOUND

Black. Consult factory for other colors.

HOW TO ORDER

Based on the listed specifications, an eleven (11) digit catalog number will be assigned by the factory. All future communications with Fenwal should reference this number.

To order:

1. Specify Series 08-81.
2. Specify opening and closing temperatures in degrees Fahrenheit or Celsius with tolerance, and whether the switch should open or close on temperature rise.
3. Specify mounting configuration, terminations, lead wire type (if applicable), and tube length by selecting one code number from each category in Table 1.

EXAMPLE: Series 08-81 open at 200°F ± 7°F, close at 180°F ± 7°F; B8, T17, L1, P2.



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