SERIES 08-81 Probe Style

Bimetal Temperature Limiting Thermostats

Temperature - Range 35-350°F

FENWAL CONTROLS

F-08-81-001
June 2018

FEATURES

- Calibrated Settings from 35 to 350°F (2 to 176°C)
- Snap-Action Switching
- Shock and Vibration Resistant
- Hermetically Sealed
- Tamper-Proof, Preset Temperature
- 100% Factory Temperature Tested
- CSA Certified
- CE Compliant 0086
- ROHS Compliant

APPLICATIONS

- Cooking and Food Processing Equipment
- Compressors
- Engines and Transmissions
- Hydraulic Pumps
- Bearing Monitor/Transportation
- Medical and Dental Equipment
- Plastic Machinery
- Process Heating and Curing Ovens

DESCRIPTION

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

To ensure hermeticity, the probes feature welded, stainless steel construction with glass to metal seals. Switch design and construction provides high vibration and shock resistance sufficient to meet MILSTD-202, Method 204, Condition D. 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.

SPECIFICATIONS

Temperature Range	Tolerances		Differential (Nominals)	Electrical Rating (100,000 Cycles)
	Open	Close		
35 to 240°F (2 to 115°C)	±7°F (±4°C)	±7°F (±4°C)	20°F (11°C)	120/240 VAC 5A (NI) 30 Vdc - 3A 120/240 VA Pilot Duty
241 to 350°F (116 to 176°C)	±10°F (±6°C)	±8°F (±4.5°C)	30°F (17°C)	

PERFORMANCE

- **Switch Actuation:** SPST open or close on temperature rise
- **Dielectric Strength:** 1500 VAC terminals to case
- **Insulation Resistance:** 100 Megohms at 500VDC
- **Vibration:** Exceeds MIL-STD-202G, Method 204D, Condition D; 20G, 10-2000 Hz
- **Thermal Shock:** MIL-STD-202G, Method 107G, Condition B
- **Mechanical Shock:** MIL-STD-202G, Method 213B; Condition C. 100 G, 10 ms
- **Working Pressure:** 600 PSI up to 350°F (177°C)
- **Ambient Range:** -50 to +350°F (-45 to +176°C)

Specifications subject to change without notice.

CSA File No. 159064
CAN/CSA C22.2 No. 0-10
CSA Std C22.1 No. 24-93
ANSI/UL 873

CE682409
BS EN60730-1
BS EN 60730-2-9

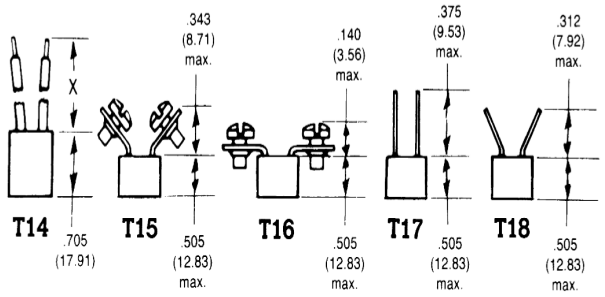
TEST SAMPLES

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

MATERIALS

- **Body and Tube:** 300 Series Stainless Steel
- **Seal:** all welded construction with glass-to-metal seals
- **Headfill:** Black epoxy
- **Contacts:** Fine Silver

TERMINATIONS DIAGRAM (SEE TABLE 1)



Note: Dimensions shown in parentheses are in millimeters.

MOUNTING DIAGRAM (SEE TABLE 1)

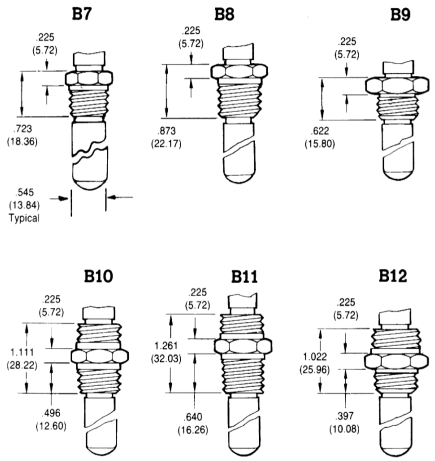


TABLE 1

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 - L - 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.

EXPORT INFORMATION (USA)
Jurisdiction: EAR
Classification: EAR99
This document contains technical data subject to the EAR.

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EU DECLARATION OF CONFORMITY

We

Company Name:	Kidde-Fenwal Inc.
Postal Address:	400 Main Street
City and Post Code:	Ashland, MA 01721
Tel:	508-881-2000

Declare that the DoC is issued under sole responsibility and belongs to the following product:

Apparatus Model(s)	Series 08-02 & 08-03 and 08-80 & 08-81
Type:	Fitting
Batch Number	Date code and Revision Level Assigned per production lot, (YYWW RR)

Object of the Declaration:

Series 08-02 & 08-03 Surface Mount Bimetal Thermostats
Series 08-80 & 08- 81 Probe Mount Bimetal Thermostats

SURFACE MOUNT

PROBE MOUNT

The object of the declaration described above is in conformity within the relevant union harmonization legislation:

Gas Appliance Regulation:	**(EU) 2016/426**	*Low Voltage Directive:*	**2014/35/EC**
EMC Directive:	**2014/30/EC**	*Rohs*	**2011/65/EU**

The following harmonized standards and technical specifications have been applied:

EN 60730-1:2000: A2:2008 A11: 2002, A12; 2003, A13: 2004: A15: 2005; A15: 2007, A16: 2007 Cor. 1&2	Automatic Electrical controls for Household and Similar use. Part 1 General Requirements
EN 60730-2-9:2010	Automatic Electrical controls for Household and Similar use Part 2-9 Particular requirements for Temperature Sensing Controls

Name of Notified Body & Number:	BSI Group, 0086, EU Type Examination Certification
Notified Body Certificate No.:	Series 08-02 & 08-03: CE682411 Series 08-80 & 08-81: CE682409
Surveillance Audit Notified Body:	BSI Group

For copies of the Installation Instructions and the EU DoC, got to www.Fenwal.com, - Document Library - Data sheets.

Paul Finn

Kidde-Fenwal, Inc. Ashland, MA USA	6 April 2018	Paul Finn, Certification Engineer
Place of Issue:	Date of Issue	Name