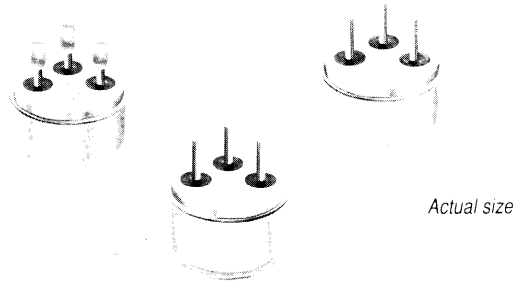


# 5BT Series

## Single Pole, Double Throw, Welded, Hermetic Seal

- Single pole, double throw
- Snap-action switching
- High resistance to shock and vibration
- Tamperproof, preset calibration
- Hermetically sealed and backfilled with nitrogen
- Qualified to MIL-S-24236/24 (order by MS number)
- GAM-T1



Military

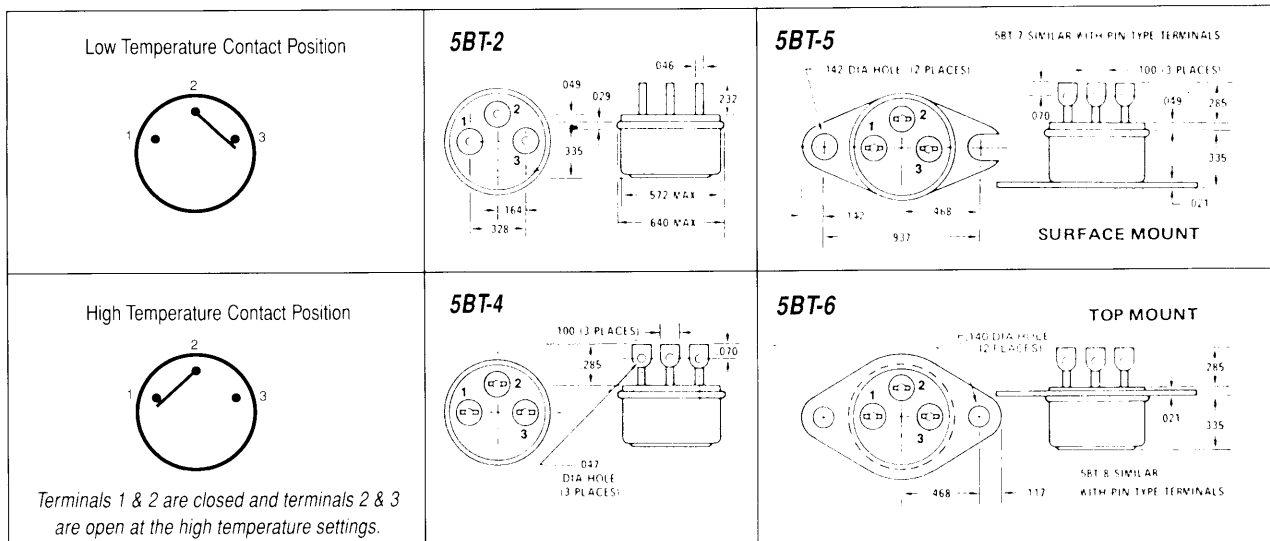
The Klixon 5BT series thermostat is a high reliability, hermetically sealed thermal switch. The single pole, double throw design allows versatility and economy in providing two functions within the same device. Typically these Klixon switches are used to control and indicate at a preset temperature. One pole can control a cooling fan and the other pole can indicate impending danger. These switches are used in data processing equipment, computers, electronic and communication equipment, or cooling and heating systems. The applications are only limited by the imagination of the design engineer.

### Construction

The single pole, double throw construction instantly switches loads from one terminal to the other. This is accomplished through the temperature sensitive, actuating element - a snap action, bimetal disc. This in turn activates a snap acting, switching mechanism. As the temperature reaches a predetermined point, the disc snaps to its reverse curvature, producing the crisp, positive switching action inherent to Klixon thermostats. This feature assures reliable, consistent operating temperatures over long cycle life with a minimum of electromagnetic interference.

### Configuration

The switches are offered in several versions. Terminals may be either flattened and pierced, or pin type. Flattened and pierced terminals can also be bent at right angles to reduce the overall height. Leads can be welded to pin type terminals to form an integral unit. Top or bottom mounting flanges are available. Copper-nickel plating is standard. Several others are available. The device can also be custom designed into a package such as a probe thermostat.



All dimensions nominal / in inches - dimensions not shown, same as above.

**Performance Characteristics**

**Switch Action**

SPDT, (snap-action)

**Contact Ratings (Resistive)**

30 VDC / 125 VAC	Life Cycles
Amperes	
2.0	
3.0	50,000

Based on standard differential

**Dielectric Strength**

1250 VAC, rms,  
60 Cycles for 1 minute,  
terminal to case,  
per MIL-STD-202, Method 301

**Insulation Resistance**

100 megohms min. at 500 VDC

**Vibration Resistance**

10-2000 Hz, 10G,

**Shock Resistance**

60 G, 11 milliseconds,

**Acceleration**

60 G

**Hermeticity**

1 X 10<sup>-8</sup> atm cc/sec. max. per  
MIL-STD-202, Method 112,  
Condition C

**Salt Spray**

MIL-STD-202, Method 101

**Humidity**

MIL-STD-202, Method 103,  
Test Condition A

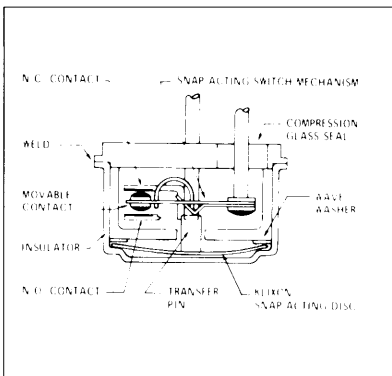
**Sand and Dust**

MIL-STD-202, Method 110  
Test Condition A

**Weight (average)**

Basic unit ..... 6 grams  
With bracket ..... 7 grams

**Typical Cross Section View**



**Temperature** (Use table below for common operating temperatures).

**Ambient Temperature:**

-65°F to +450°F, (-53.9°C to 232.2°C)

**Operating temperature**

Temperature at which normally closed contacts open or normally open contacts close.

**Tolerance**

Allowable range above and below setpoint and reset temperatures.

**Differential**

Subtract the differential from the operating temperature to determine the temperature at which the contacts will return to the normal position (reset temperature).

Operating Temperature		Differential		Tolerance	
°F	°C	°F	°C	±°F	±°C
-65	-53.9	30	16.7	10	5.6
-40	-40.0	30	16.7	10	5.6
-15	-26.1	30	16.7	10	5.6
0	-17.8	20	11.1	8	4.4
10	-12.2	20	11.1	8	4.4
20	-6.7	20	11.1	8	4.4
30	-1.1	20	11.1	8	4.4
40	4.4	20	11.1	8	4.4
50	10.0	20	11.1	8	4.4
60	15.6	20	11.1	8	4.4
70	21.1	20	11.1	8	4.4
80	26.7	20	11.1	8	4.4
90	32.2	20	11.1	8	4.4
100	37.8	20	11.1	8	4.4
110	43.3	20	11.1	8	4.4
120	48.9	20	11.1	8	4.4
130	54.4	20	11.1	8	4.4
140	60.0	20	11.1	8	4.4
150	65.6	20	11.1	8	4.4
160	71.1	20	11.1	8	4.4
170	76.7	20	11.1	8	4.4

Operating Temperature		Differential		Tolerance	
°F	°C	°F	°C	±°F	±°C
180	82.2	20	11.1	8	4.4
190	87.8	20	11.1	8	4.4
200	93.3	20	11.1	8	4.4
210	98.9	20	11.1	8	4.4
220	104.4	20	11.1	8	4.4
230	110.0	20	11.1	8	4.4
240	115.6	20	11.1	8	4.4
250	121.1	20	11.1	8	4.4
260	126.7	20	11.1	8	4.4
270	132.2	20	11.1	8	4.4
280	137.8	20	11.1	8	4.4
290	143.3	20	11.1	8	4.4
300	148.9	20	13.9	8	4.4
310	154.4	25	13.9	10	5.6
320	160.0	25	13.9	10	5.6
330	165.6	25	13.9	10	5.6
340	171.1	25	13.9	10	5.6
350	176.7	25	13.9	10	5.6
375	190.6	35	19.4	12	6.7
400	204.4	35	19.4	12	6.7

Consult factory if desired operating temperature does not appear in the table.

Military