



KLIXON® | 5BT Series

SPDT Hermetic Thermostats, -65°F to 400°F

FEATURES

- Single Pole / Double Throw (SPDT)
- Preset temperature set points, non-adjustable calibration
- High resistance to shock and vibration
- Hermetically sealed, vacuum baked and back-filled with nitrogen
- Various mounting configurations available
- Qualified to MIL-PRF-24236/24

INTRODUCTION

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. The 5BT thermostat is the ideal choice where quality and reliability in a double throw device are critical. Applications include data processing equipment, computers, electronic equipment, communication equipment, cooling and heating systems.

SPECIFICATIONS			
Contact Ratings	<i>Cycles</i>	<i>Voltage</i>	<i>Amps (resistive)</i>
	100,000	125VAC, 30VAC, 30 VDC	2.0
	50,000	125VAC, 30VAC, 30 VDC	3.0
Contact Operations	SPDT (Single Pole, Double Throw)		
Operating Temperature	-65°F to 400°F (-53.9°C to 204.4°C)		
Dielectric Strength	1250 VAC, rms, 60 cycles for 1 minute, terminal to case per MIL-STD-202, Method 301		
Contact Resistance	0.050 ohms maximum per MIL-STD-202, Method 307		
Insulation Resistance	100 megaohms min. at 500 VDC		
Vibration	10-2000 Hz, 10G, per MIL-STD-202, Method 204, Condition D		
Shock	60G, 11 milliseconds, per MIL-STD-202, Method 213		
Hermeticity	1 x 10 ⁻⁸ atm cc/sec. maximum, per MIL-STD-202, Method 112, Condition C		
Salt Spray	Per MIL-STD-202, Method 101, Condition B, 5% solution		
Humidity	MIL-STD-202, Method 103, Condition A		
Sand & Dust	MIL-STD-202, Method 110, Condition A		
Weight	6 grams (without bracket) to 7 grams (with bracket)		
Ambient Temperature Range	-65°F to 450°F (-53.9°C to 232.2°C) <i>Maximum ambient exposure while in the closed position is 200°F above contact closing temperature.</i>		

STANDARD TEMPERATURE SETTINGS

OPERATING TEMPERATURE		DIFFERENTIAL		TOLERANCE	
°F	°C	°F	°C	± °F	± °C
- 65	- 53.9	30	16.7	10	5.6
- 40	- 40	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	11.1	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
<i>Consult factory for additional temperatures</i>					

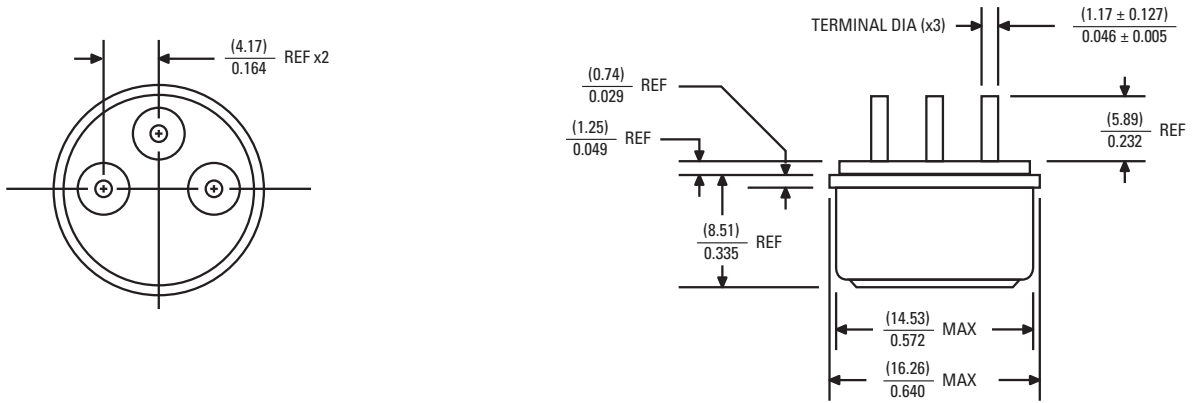
STANDARD CONFIGURATIONS

5BT-2

Pin Type Terminals

SPDT (Single Pole, Double Throw)

Conforms to MIL-S-24236/24

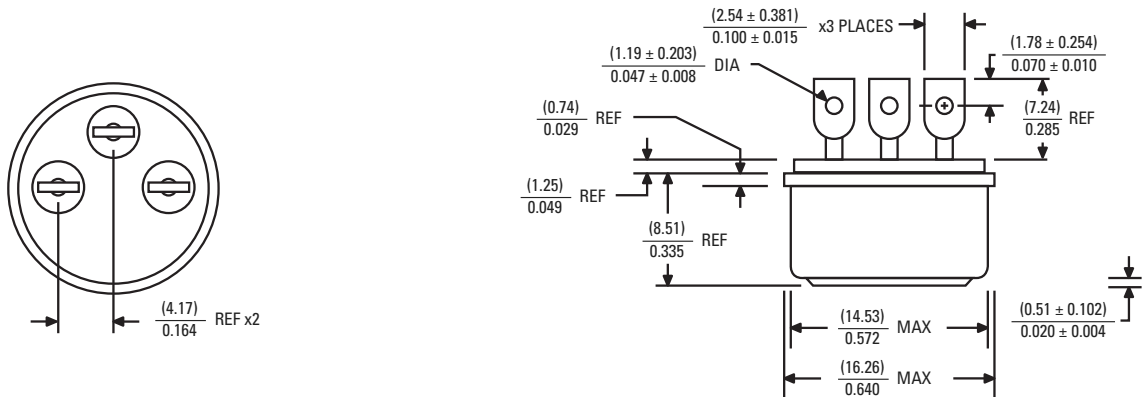


5BT-4

Flattened Pierced Terminals

SPDT (Single Pole, Double Throw)

Conforms to MIL-S-24236/24

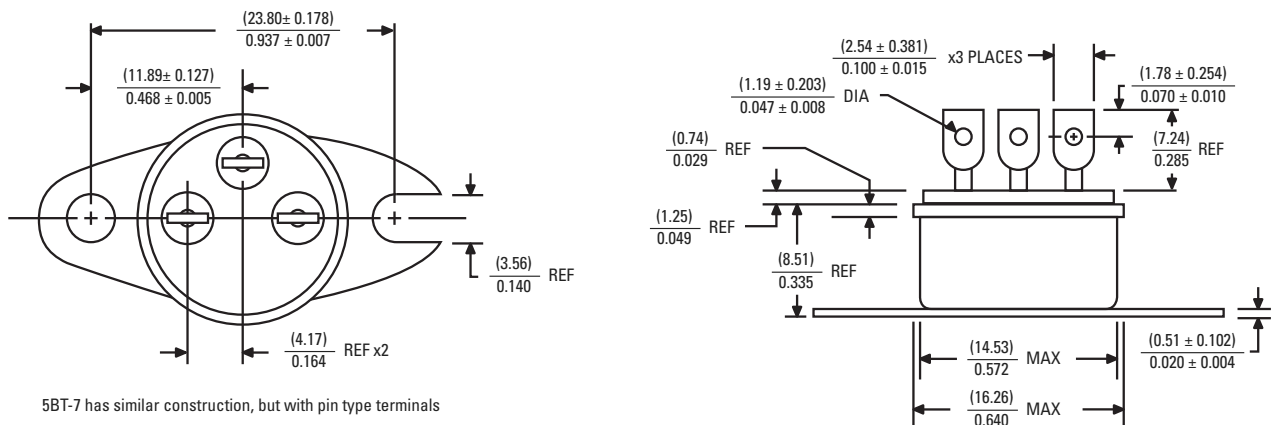


5BT-5

Surface Mount Bracket

SPDT (Single Pole, Double Throw)

Conforms to MIL-S-24236/24



5BT-7 has similar construction, but with pin type terminals

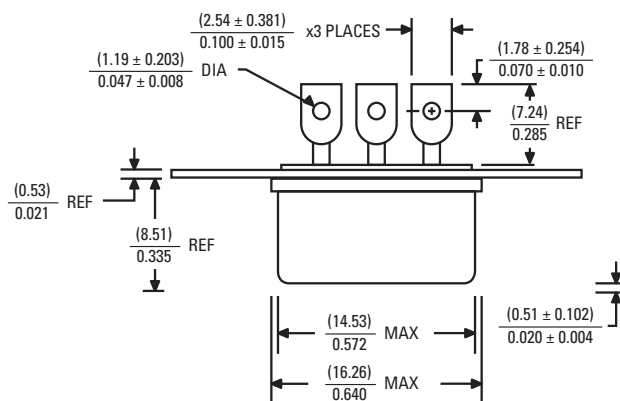
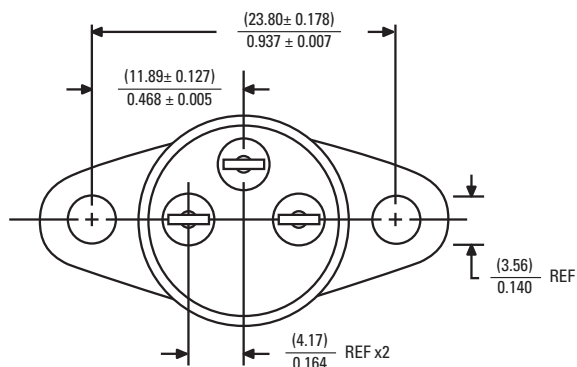
STANDARD CONFIGURATIONS

5BT-6

Top Mounting Bracket

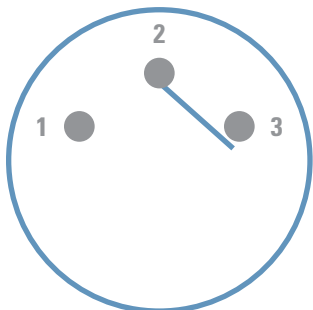
SPDT (Single Pole, Double Throw)

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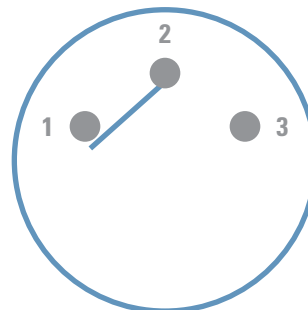
Additional configurations available, contact Sensata Technologies for more information.

LOW TEMPERATURE CONTACT POSITION



Terminals 1 & 2 are opened and terminals 2 & 3 are closed at the low temperature settings

HIGH TEMPERATURE CONTACT POSITION



Terminals 1 & 2 are closed and terminals 2 & 3 are open at the high temperature settings



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