



# KLIXON® | 5BT Series

## SPDT Hermetic Thermostats, -54°C to 204°C

### 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			
<b>Contact Ratings</b>	<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
<b>Contact Operations</b>	SPDT (Single Pole, Double Throw)		
<b>Operating Temperature</b>	-54°C to 204°C (-65°F to 400°F)		
<b>Dielectric Strength</b>	1250 VAC, rms, 60 cycles for 1 minute, terminal to case per MIL-STD-202, Method 301		
<b>Contact Resistance</b>	0.050 ohms maximum per MIL-STD-202, Method 307		
<b>Insulation Resistance</b>	100 megaohms min. at 500 VDC		
<b>Vibration</b>	10-2000 Hz, 10G, per MIL-STD-202, Method 204, Condition D		
<b>Shock</b>	60G, 11 milliseconds, per MIL-STD-202, Method 213		
<b>Hermeticity</b>	1 x 10 <sup>-8</sup> atm cc/sec. maximum, per MIL-STD-202, Method 112, Condition C		
<b>Salt Spray</b>	Per MIL-STD-202, Method 101, Condition B, 5% solution		
<b>Humidity</b>	MIL-STD-202, Method 103, Condition A		
<b>Sand &amp; Dust</b>	MIL-STD-202, Method 110, Condition A		
<b>Weight</b>	6 grams (without bracket) to 7 grams (with bracket)		
<b>Ambient Temperature Range</b>	-54°C to 232°C (-65°F to 450°F) <i>Maximum ambient exposure while in the closed position is 93°C above contact closing temperature.</i>		

## STANDARD TEMPERATURE SETTINGS

OPERATING TEMPERATURE		DIFFERENTIAL		TOLERANCE	
°C	°F	°C	°F	± °C	± °F
- 54	- 65	17	30	6	10
- 40	- 40	17	30	6	10
-26	- 15	17	30	6	10
- 18	0	11	20	4.4	8
- 12	10	11	20	4.4	8
- 7	20	11	20	4.4	8
- 1	30	11	20	4.4	8
4	40	11	20	4.4	8
10	50	11	20	4.4	8
16	60	11	20	4.4	8
21	70	11	20	4.4	8
27	80	11	20	4.4	8
32	90	11	20	4.4	8
38	100	11	20	4.4	8
43	110	11	20	4.4	8
49	120	11	20	4.4	8
54	130	11	20	4.4	8
60	140	11	20	4.4	8
66	150	11	20	4.4	8
71	160	11	20	4.4	8
77	170	11	20	4.4	8

OPERATING TEMPERATURE		DIFFERENTIAL		TOLERANCE	
°F	°C	°F	°C	± °F	± °C
180	82	20	11.1	8	4.4
190	88	20	11.1	8	4.4
200	93	20	11.1	8	4.4
210	99	20	11.1	8	4.4
220	104	20	11.1	8	4.4
230	110	20	11.1	8	4.4
240	116	20	11.1	8	4.4
250	121	20	11.1	8	4.4
260	127	20	11.1	8	4.4
270	132	20	11.1	8	4.4
280	138	20	11.1	8	4.4
290	143	20	11.1	8	4.4
300	149	20	11.1	8	4.4
310	154	25	13.9	10	5.6
320	160	25	13.9	10	5.6
330	166	25	13.9	10	5.6
340	171	25	13.9	10	5.6
350	177	25	13.9	10	5.6
375	191	35	19.4	12	6.7
400	204	35	19.4	12	6.7

*Consult factory for additional temperatures*

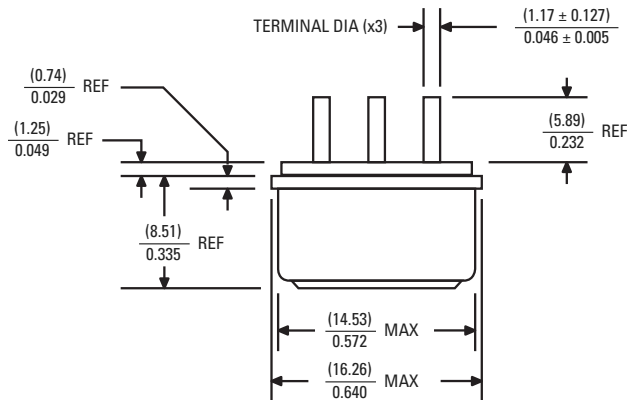
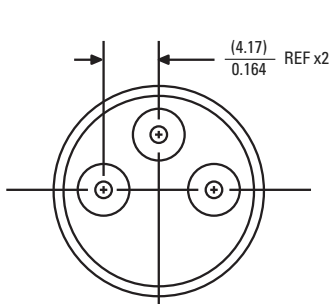
## STANDARD CONFIGURATIONS

5BT-2

Pin Type Terminals

SPDT (Single Pole, Double Throw)

Conforms to MIL-S-24236/24

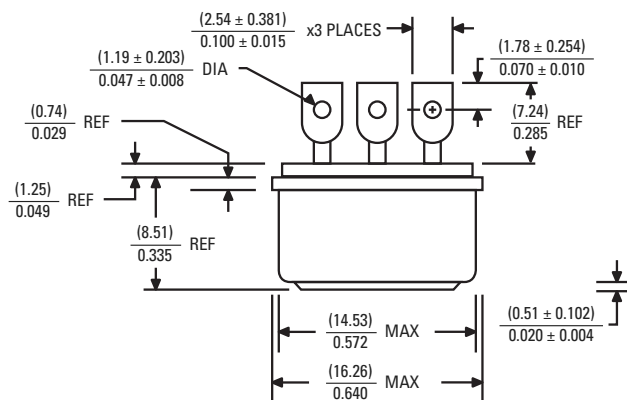
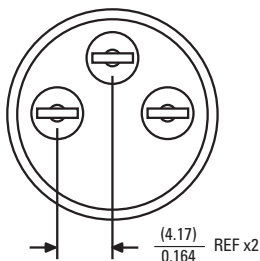


5BT-4

Flattened Pierced Terminals

SPDT (Single Pole, Double Throw)

Conforms to MIL-S-24236/24

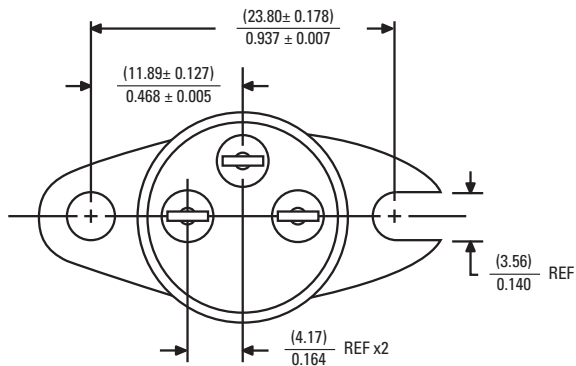


5BT-5

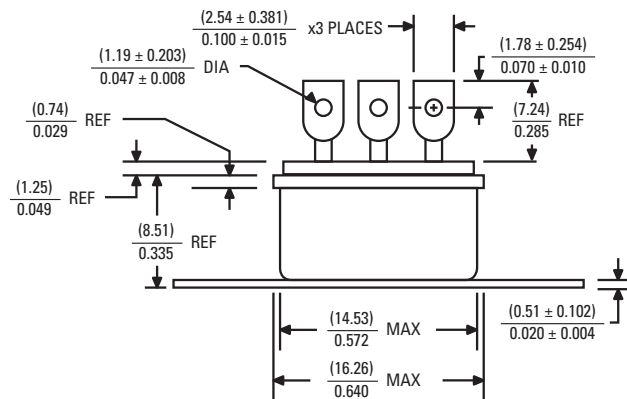
Surface Mount Bracket

SPDT (Single Pole, Double Throw)

Conforms to MIL-S-24236/24

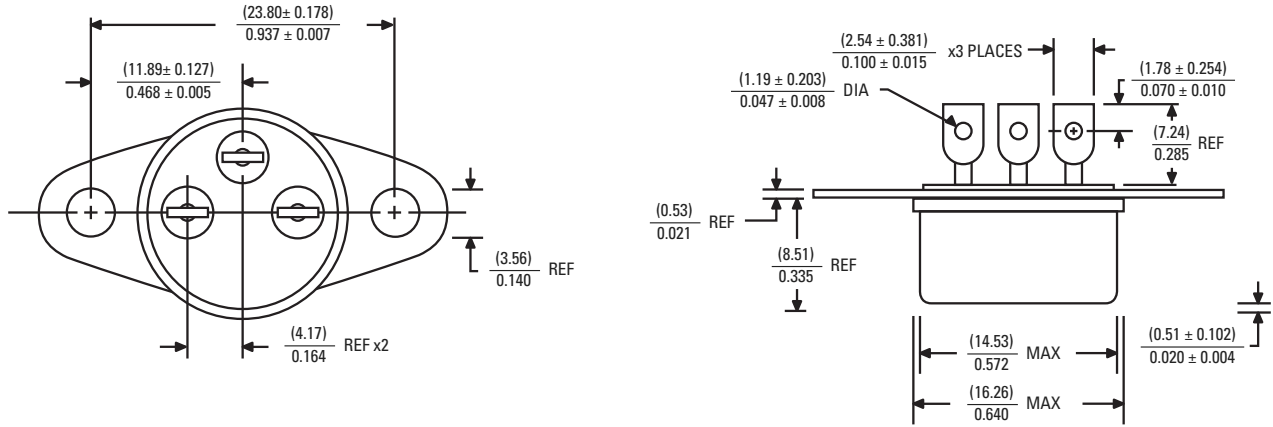


5BT-7 has similar construction, but with pin type terminals



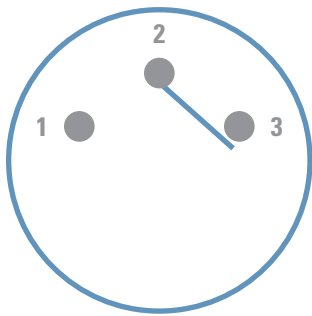
**STANDARD CONFIGURATIONS**

**5BT-6** | Top Mounting Bracket | SPDT (Single Pole, Double Throw) | Conforms to MIL-S-24236/24



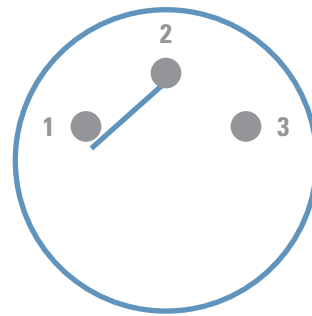
Additional configurations available, contact Sensata Technologies for more information.

**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