Introduction

Klixon® 3BT Tiny Stat™ fast response temperature probes are designed to provide reliable, consistent performance over a long cycle life in the harshest environments. These probes provide rapid response times combined with outstanding shock and vibration resistance. They have a wide operating temperature range of 0°F to +350°F. These characteristics enable protection or indication of high or low temperatures in aircraft environmental control systems, helicopter gear boxes, compressor discharge gas streams, and coolant systems.

Features

- Hermetically Sealed (probe only)
- Snap-action switching
- Pre-set, non-adjustable calibration
- High resistance to shock and vibration
- Qualified to MIL-PRF-24236/11

PERFORMANCE

Contact Ratings (Resistive)

Based on standard differential

<table>
<thead>
<tr>
<th>30 VAC/DC</th>
<th>115 VAC</th>
<th>Life Cycles</th>
<th>Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 Amperes</td>
<td>1.0 Amperes</td>
<td>10,000</td>
<td>Silver</td>
</tr>
<tr>
<td>0.5 Amperes</td>
<td>0.5 Amperes</td>
<td>10,000</td>
<td>Gold</td>
</tr>
</tbody>
</table>

Vibration 10 to 2,000 Hz, 30 G.

Notes:
1.) Devices which open on temperature rise should not be subjected to vibration while at temperatures of 75°F or more below the opening temperature.
2.) Devices which close on temperature rise should not be subjected to vibration while at temperatures of 75°F or more above the closing temperature.

Characteristics

- Contact Resistance: 0.100 ohms max., (0.150 ohms max. for close on rise devices with setpoints greater than 175°F) per MIL-STD-202, Method 307
  Contact resistance shown is for the 3BT thermostat and does not include resistance of wire leads or connector.
- Dielectric Strength: 1250 VAC, rms, 60 cycles for 1 minute (leads to case), per MIL-STD-202, Method 301
- Operating Temperature Range: 0°F to 350°F (-17.8°C to 176.7°C)
- Ambient Temperature Range: -80°F to 400°F (-62.2°C to 204.4°C)
- Operating Temperature Tolerances: ± 10°F (± 5.6°C)
- Differential: between opening and closing temperatures: 30°F (16.7°C)
Standard 3BT probe packages are comprised of the following physical features, but many other variants are available to meet your needs.

PLEASE NOTE: The orientation of the connector with respect to the package body is not controlled.

Configuration Options
Custom configurations are available

<table>
<thead>
<tr>
<th>Probe Body Thread Sizes</th>
<th>Standard lengths are available in ½” increments, from 1.0” to 4”. Standard probe bodies are available with the following thread sizes: 7/16” - 20 1/8” - 27 NPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Termination</td>
<td>Standard connector is a Sealtron BBOL1G-10SL-4P-F-M129 (or equivalent) Standard wire leads are AWG #22 stranded wire with white or black Teflon insulation (per MIL-W-22759) (Teflon is a trademark of E. I. Dupont de Namers and Co.)</td>
</tr>
<tr>
<td>Finish</td>
<td>The standard material is stainless steel</td>
</tr>
<tr>
<td>Other</td>
<td>Other styles are available, as well as custom designs</td>
</tr>
</tbody>
</table>

Standard Part Numbers and Configurations
Many other styles are available

| 21544                  | 1/8” pipe thread with leads                                                                                                                  |
| 21557                  | 1/8” pipe thread with connector                                                                                                             |
| 21561                  | 7/16” - 20 thread with leads                                                                                                                 |
| 21562                  | 7/16” - 20 thread with connector                                                                                                             |
DIMENSIONS

21544

21561

21557

21562

STYCRAFT POTTING COMPOUND

STYCRAFT EPOXY POTTING

O-RING RECESS

CODE KLIxon®
MADE IN USA
AND SENSATA
PART NO.

CODE KLIxon®
MADE IN USA
AND SENSATA
PART NO.

LENGTHS FROM
1.5" TO 6"
(.5" INCREMENTS)

LENGTHS FROM
1.5" TO 6"
(.5" INCREMENTS)

7/16 - 20 UNF-3A

.320 MAX.

.320 MAX.

.042 / .042
HOLE (2-PL)

.070 / .030
HOLeS (2-PL)

.565 / .535

.445 / .415

.202 / .172

.320 MAX.

.062 / .042
HOLE (2-PL)

.202 / .172

.320 MAX.

.202 / .172
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ORDERING OPTIONS

Example: 21557-06-XXX-03

Basic Package

21542 (or 21557, 21544, 21562, or 21561)
Basic package describes general physical appearance and basic thermostat incorporated into device

Probe Length

Probe length times 2 (probe length is the length in inches from bottom of the hex to bottom of the device)

Operating Characteristics

Assigned consecutively (Sensata will assign this number at the time your order is taken)

Wire Leads

For wire leads, this is the length of wire in 6 inch increments (for 6" it would be 1, for 12" it would be 2, for 18" it would be 3, etc.). For connectors, contact Sensata Technologies for this code.

WARNINGS

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow the product to cool before touching
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product

Failure to follow these instructions can result in serious injury, or equipment damage.

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

Failure to follow these instructions will result in death or serious injury.

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