The 1NT has been designed to be applied as a safety device for use in many HVAC and appliance products. Using patented Klixon® technology and available in several mounting options, this device has a proven track record of quality and long term reliability.

Sensata Technologies has been a leading global supplier of pressure sensors & switches for over 50 years.

Key Features

- ISO9001: 2000 certification
- Recognized by 9 worldwide agencies
- Factory inspected for continuity, function and contact resistance
- Global sales and technical support
- Ambient temperature rating from -40°C to 240°C (-40°F to 464°F)
- 1NT base provides:
  - Low cost
  - High temperature capability
  - Clean processing
  - High impact strength
  - Low static generation
- Factory pre-set bi-metal disc ensures:
  - Safe and reliable operation
  - Tamperproof settings
- Life-expanding innovations include:
  - Solid metal-to-metal terminal construction
  - Current free spring
  - One piece transfer mechanism
- Switch actions:
  - Automatic reset: Available with both normally open and normally closed switch logic
  - Manual reset: Mechanical reset device
  - Trip free manual reset: UL M2 class rating that resists consumer tampering
  - One shot: meets agency requirements for single operation device

Applications

The 1NT thermostat is used in a variety of applications. This device helps ensure the safe operation of many types of HVAC products and home appliances. Sensata thermostats operate in coffee and tea makers, microwave ovens, sandwich makers, rice cookers, hair dryers, fan heaters, vacuum cleaners and gas furnaces. Many different mounting and switch action options are available. Our stringent manufacturing standards ensure the safe and reliable operation of our devices. Our products and complete thermal protection solutions are based on decades of experience and an unwavering commitment to product improvement.
Available Constructions

High Profile Construction
Options shown: 90°– 1/4” O.C. terminals with Surface mount flange

Low Profile Construction
4 Post
Options shown: 45°– 1/4” O.C. terminals with 4 post & flat Al cup

Manual Reset Construction
Options shown: Flat 1/4” O.C. terminals with Airstream mount cup

Part Types by Construction
1NT01 Auto Reset / Silver Contacts
1NT11 Auto Reset / Gold Contacts
1NT09 One Shot: -35°C (-31°F) Reset
1NT10 One Shot: 0°C (32°F) Reset
1NT02 Auto Reset / Silver Contacts
1NT02TL Low Profile / One Shot
1NT20 Auto Reset / Gold Contacts
1NT08 Manual Reset / Silver Contacts
1NT02TL Low Profile MR / One Shot
1NT20 Auto Reset MR / Gold Contacts
1NT15 Trip Free MR / Silver Contacts
1NT19 Trip Free MR / Gold Contacts

Numbering System

Part Number

1NTXX
Part Type
Consult Table Above

E
Special Processing
A Wire Lead Assy
E Exposed Disc

L
Switch Type
L Limit*
F Fan**

XXX
ID Number
Unique, Customer Specific

Temperature Code

L
Switch Type
L Limit*
F Fan**

150
Operating Temp.
Nominal Open Temperature

F
Temp. Scale
C Celcius

30
Differential
## Nom. Open to Nom. Close
MR Manual Reset

* Limit switch opens on temperature rise
** Fan switch closes on temperature rise
1NT Series Electrical Ratings

**UL and CSA**

<table>
<thead>
<tr>
<th>Type</th>
<th>Max. Temp.</th>
<th>Cycles (X 1000)</th>
<th>Electrical Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>°C</td>
<td>°F</td>
<td>120 - 240 Vac</td>
</tr>
<tr>
<td>NT01,02</td>
<td>204</td>
<td>400</td>
<td>100</td>
</tr>
<tr>
<td>1NT08, 15, 0BE</td>
<td>204</td>
<td>400</td>
<td>1 + 5</td>
</tr>
<tr>
<td>1NT09, 10</td>
<td>204</td>
<td>400</td>
<td>1-Shot</td>
</tr>
<tr>
<td>1NT11,20</td>
<td>204</td>
<td>400</td>
<td>100</td>
</tr>
<tr>
<td>1NT12, 19</td>
<td>204</td>
<td>400</td>
<td>1 + 5</td>
</tr>
<tr>
<td>1NT01E, 02E</td>
<td>204</td>
<td>400</td>
<td>100</td>
</tr>
</tbody>
</table>

**ENEC**

<table>
<thead>
<tr>
<th>Type</th>
<th>Max. Temp.</th>
<th>Cycles (X 1000)</th>
<th>Electrical Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>°C</td>
<td>°F</td>
<td>120 Vac</td>
</tr>
<tr>
<td>1NT01, 02</td>
<td>204</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>1NT02TL</td>
<td>204</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>1NT08</td>
<td>204</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>1NT09</td>
<td>204</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>1NT11</td>
<td>204</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>1NT15</td>
<td>204</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>1NT20</td>
<td>204</td>
<td>400</td>
<td></td>
</tr>
</tbody>
</table>

*Premium pricing for high capacity contacts.

**Standard Temperatures, Tolerances and Differential**

**Automatic Reset Thermostats**

<table>
<thead>
<tr>
<th>Nominal Top Temperature</th>
<th>Min. Bottom Temperature</th>
<th>Differential</th>
<th>Standard Tolerances</th>
</tr>
</thead>
<tbody>
<tr>
<td>°C</td>
<td>°F</td>
<td>°C</td>
<td>°F</td>
</tr>
<tr>
<td>18 to 27</td>
<td>65 to 80</td>
<td>-33</td>
<td>-26</td>
</tr>
<tr>
<td>28 to 80 and *81 to 93</td>
<td>81 to 176 and 177 to 199</td>
<td>50</td>
<td>122</td>
</tr>
<tr>
<td>*94 to 121 *200 to 249</td>
<td>122</td>
<td>14</td>
<td>122</td>
</tr>
<tr>
<td>122 to 149</td>
<td>250 to 300</td>
<td>50</td>
<td>122</td>
</tr>
<tr>
<td>150 to 177</td>
<td>301 to 399</td>
<td>50</td>
<td>122</td>
</tr>
<tr>
<td>178-204**</td>
<td>351 to 399</td>
<td>50</td>
<td>122</td>
</tr>
</tbody>
</table>

*Not valid for Fan Devices
**Top Temp for Fan Devices cannot exceed 380ºF (193ºC)

**Manual Reset and One-Shot Thermostats**

<table>
<thead>
<tr>
<th>Nominal Top Temperature</th>
<th>Open Tolerances</th>
</tr>
</thead>
<tbody>
<tr>
<td>°C</td>
<td>°F</td>
</tr>
<tr>
<td>&lt;60</td>
<td>&lt;140</td>
</tr>
<tr>
<td>61 TO 160</td>
<td>141 to 320</td>
</tr>
<tr>
<td>161 TO 204</td>
<td>321 to 399</td>
</tr>
</tbody>
</table>
## Accessories and Options

### Cup Styles

<table>
<thead>
<tr>
<th>Style</th>
<th>Code</th>
<th>Description</th>
<th>Material</th>
<th>Rotation Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airstream Mount Integral Cup</td>
<td>57611</td>
<td>Material: Aluminum</td>
<td>- 0° or 90°</td>
<td></td>
</tr>
<tr>
<td>Flat Cup</td>
<td>73925</td>
<td>Materials: Aluminum, Stainless Steel or Copper</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>3NT Flange Cup</td>
<td>57366</td>
<td>Material: Aluminum or Copper</td>
<td>- 0° or 90° with Open Bottom</td>
<td></td>
</tr>
<tr>
<td>Airstream Mount Integral Cup (slotted holes)</td>
<td>57676</td>
<td>Material: Aluminum</td>
<td>- 0° or 90°</td>
<td></td>
</tr>
<tr>
<td>Wide-Eared Integral Cup</td>
<td>57608</td>
<td>Material: Stainless Steel</td>
<td>- 0° or 90°</td>
<td></td>
</tr>
<tr>
<td>“Tear-Drop” Integral Cup</td>
<td>57609</td>
<td>Material: Stainless Steel</td>
<td>- 0° or 90°</td>
<td></td>
</tr>
<tr>
<td>Large Oval Integral Cup</td>
<td>59112</td>
<td>Material: Aluminum</td>
<td>- 0° or 90° with Open Bottom</td>
<td></td>
</tr>
</tbody>
</table>

### Fixed Rotation Surface Mount Flange

<table>
<thead>
<tr>
<th>Style</th>
<th>Code</th>
<th>Description</th>
<th>Material</th>
<th>Rotation Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loose Ear Surface Mount Flange</td>
<td>27181</td>
<td>Material: Aluminum</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

### Bolt On Assembly

<table>
<thead>
<tr>
<th>Style</th>
<th>Code</th>
<th>Description</th>
<th>Material</th>
<th>Stud Length Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metric: 4 x 0.7 - 6G</td>
<td>73972</td>
<td>Bolt, thread specs:</td>
<td>Stud Length Options</td>
<td></td>
</tr>
</tbody>
</table>

### Flanges

<table>
<thead>
<tr>
<th>Style</th>
<th>Code</th>
<th>Description</th>
<th>Material</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airstream Mount Integral Cup</td>
<td>57611</td>
<td>Material: Aluminum</td>
<td>- 0° or 90°</td>
<td></td>
</tr>
</tbody>
</table>

---

*All dimensions mm (in.)*
**Terminals**

**Solder Terminal**  
27182*  
Material: Tin Plated Brass  

**Crimp Terminal**  
27184*  
Material: Tin Plated Brass

**Screw Terminal**  
57200  
Material: Nickel Plated Steel  
M3 x 0.5 Class 6H Thread  

**Weld Terminal**  
57201  
Material: Nickel Plated Steel  

**Weld Terminal**  
57312*  
Material: Nickel Plated Steel

---

**Quick Connects**

<table>
<thead>
<tr>
<th>27132</th>
<th>27162*</th>
<th>27163</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness (A):</td>
<td>0.8 (0.031)</td>
<td>0.8 (0.031)</td>
</tr>
<tr>
<td>Width (B):</td>
<td>6.3 (0.250)</td>
<td>4.8 (0.187)</td>
</tr>
</tbody>
</table>

Materials: Brass - Solid, Ni, Ag, or Tin Plated Steel - Nickel Plated

---

**Sample Order Placement**

To enable Sensata Technologies to serve you in a quicker, more efficient manner, please be prepared to provide the following information when requesting samples:

1. Detailed application description
2. Estimated yearly usage.
3. Opening and closing temperatures
4. Max. temperature tolerances allowable
5. Switch type
6. Mounting style desired
7. Terminal orientation and material
8. Electrical load

Other conditions which are likely to affect the 1NT operation should also be described. These include:

1. Maximum temperature exposure
2. Location with respect to heat source
3. Temperature transfer medium (air, metal surface, etc)
4. Possible contamination sources (lint, chemical fumes, etc)

When ordering thermocouple samples, specify whether J, K, or T type and the lead length desired. Standard wire size is 30 Ga.

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**Thermostat Handling Tips**

1. Exposed disc devices should be kept free of dust and particles. The face of the disc should never be snapped.
2. Mounting screws and drivers for use with smaller integral cups and flanges should be sized to provide adequate clearance to the thermostat body.
3. The installation force applied to the cup face should not exceed 88.7N (20 lbs.)
4. The maximum reset force on the manual reset and trip free button is 22.2N (5 lbs.)
Important Notice: Sensata Technologies (Sensata) reserves the right to make changes to or discontinue any product or service identified in this publication without notice. Sensata advises its customers to obtain the latest version of the relevant information to verify, before placing any orders, that the information being relied upon is current. Sensata assumes no responsibility for infringement of patents or rights of others based on Sensata applications assistance or product specifications since Sensata does not possess full access concerning the use or application of customers' products. Sensata also assumes no responsibility for customers' product designs.

Important Notice: The 1NT is not a sealed device and should not be used in applications where exposure to high moisture, dripping liquids, or immersion or direct contact to liquid may occur. In such applications, use of the 3NT or other environmentally sealed devices is recommended.