



## **AIRPAX**® | **ComboSense™ 6024 Series** **TEMPERATURE SENSOR & THERMOSTAT PROBE**

### FEATURES

- Thermostat & temperature sensor in one robust package
- Stainless steel or brass construction
- Ideal for immersion sensing where mounting holes are limited

### DESCRIPTION

The Airpax™ 6024 thermal sensor-switch offers the function and reliability of a grounded case snap-action thermostat with the sensing capability of a solid-state thermistor in a single economical package. The switch is available in temperature ranges from 40°C to 130°C, with a variety of terminal and body options.

The 6024 series is ideal for sensing engine oil / coolant or transmission fluid for overheat conditions. Additionally, it provides a solution for engine applications where mounting holes are limited.

### THERMOSTAT SPECIFICATIONS

<b>Contact Ratings</b>	<i>Cycles</i> 30,000	<i>Voltage</i> 120VAC / 48VDC	<i>Amps</i> 1 (resistive)
<b>Contact Operations</b>	Either close on rise (make) or open on rise (break), SPST (Single Pole, Single Throw)		
<b>Operating Temperature</b>	40°C to 130°C (104°F to 266°F), std tolerance ±5°C (±8°F)		
<b>Dielectric Strength</b>	500 VAC, 60Hz thermostat terminals to case across open contacts <i>Note: Do not apply dielectric test voltage to the thermistor terminal as permanent damage could occur to the sensor element.</i>		
<b>Insulation Resistance</b>	50 megaohms, minimum at 500 VDC		
<b>Vibration</b>	.06DA, 10-55 Hz, 20G 10-2000 Hz		
<b>Shock</b>	.75G 6ms duration (sawtooth)		
<b>Materials</b>	Stainless steel or brass body and tube, Mylar sleeve, epoxy fill potting, stainless or plated steel terminals, fine silver contacts, gold-plated crossbar for low level switching		

### TEMPERATURE SENSOR SPECIFICATIONS

<b>Solid-State Sensor</b>	Conventional NTC (Negative Temperature Coefficient) and PTC (Positive Temperature Coefficient) thermistors available. Specific resistance values and tolerances are per customer specifications.
<b>Operating Temperature</b>	-40°C to 120°C (-40°F to 248°F) (other ranges available)

**1. CONTACT OPERATION**

CODE	DESCRIPTION
<b>O</b>	Letter "O" = Open on Rise
<b>C</b>	Letter "C" = Close on Rise

To build your part number (PN), choose the proper codes from pages 2 to 3.

Consult Sensata Technologies when a code Z is used to indicate a special requirement. For each 6024, Sensata will assign a unique, customer-specific four digit nondescript number to complete the customer specific part number build.

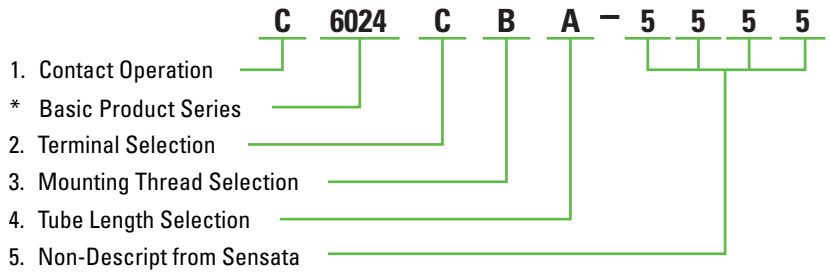
**2. TERMINAL SELECTION**

<p><b>A</b></p> <p>#8-32 Pan Head Screw (x2) #7 Lock Washers (Packaged in plastic bag)</p> <p>30° to 45°</p> <p>(12.70 ± .38) 0.500 ± .015</p> <p>(22.23) REF .875</p> <p>Mounting Encapsulated</p>	<p><b>B</b></p> <p>(6.35) 0.250 Quick Connects (x2)</p> <p>30°</p> <p>(12.70 ± .38) 0.500 ± .015</p> <p>(22.23) REF .875</p> <p>Mounting Encapsulated</p>	<p><b>C</b></p> <p>Lead Wire (152.40 ± 6.35) 6.000 ± .250</p> <p>(6.35) .250 Strip</p> <p>(13.84 ± .38) 0.545 ± .015</p> <p>Mounting Encapsulated</p>	<p><b>Z</b></p> <p>Special Requirements Customer to Specify</p>
<p><b>D</b></p> <p>Same as terminal selection "C"</p> <p>Except 2 Leads (304.80 ± 25.40) 12.00 ± 1.00</p> <p>See note 1 for lead specifications</p>	<p><b>E</b></p> <p>Same as terminal selection "C"</p> <p>Except 2 Leads (609.60 ± 25.40) 24.00 ± 1.00</p> <p>See note 1 for lead specifications</p>	<p><b>F</b></p> <p>Same as terminal selection "C"</p> <p>Except 2 Leads (1219.20 ± 25.40) 48.00 ± 1.00</p> <p>See note 1 for lead specifications</p>	

- The standard lead wire (materials) for different temperature ranges are as follows:
  - Up to 220°F (104.4°C) = # 18 AWG stranded. UL Style 1015/CSA approved. (PVC insulation, color black)
  - 221°F to 350°F (105°C to 176.6°C) = #18 AWG stranded. UL Style 1199/CSA approved. (Teflon® TFE insulation, color black)

**EXAMPLE : C6024CBA-5555**

Close contacts on temperature rise, 5100 series, isolated case 6" flying leads, 1/2-14 PTF threads, .698" tube length. Non-descript assigned for thermostat temperature and thermistor selection.



### 3. MOUNTING THREAD SELECTION

<p><b>A</b></p> <p>3/8-18 Dryseal PTF-SAE Short</p>	<p><b>B</b></p> <p>1/2-14 Dryseal PTF-SAE Short</p>	<p><b>C</b></p> <p>3/4-16 UNF-2A with 'O' Ring Groove</p>	<p><b>D</b></p> <p>M16 x 1.5 Thread with 'O' Ring Groove</p>	<p><b>Z</b></p> <p>Special Requirements Customer to Specify</p>
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### 4. TUBE LENGTH SELECTION

<p><b>A</b></p>	<p><b>B</b></p>	<p><b>Z</b></p> <p>Special Requirements Customer to Specify</p>
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See the chart to the right for recommended thermostat temperature setpoints with their corresponding temperature reset points.

OPERATE ( $\pm 5^{\circ}\text{C}$ )	MIN DIFFERENTIAL ( $^{\circ}\text{C}$ )	MIN RESET ( $^{\circ}\text{C}$ )
40	4	20
45	4	20
50	4	30
55	4	30
60	4	40
65	4	40
70	4	50
75	4	50
80	6	55
85	6	55
90	6	60
95	6	60
100	6	70
105	6	70
110	6	80
115	6	80
120	9	85
125	9	85
130	9	90



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