# AIRPAX® | 6600 Series

## 8-Pin DIP, Subminiature Bimetal Disc Thermostat

## FEATURES

- RoHS compliant per EU directive 2002 / 95 / EC
- 8-pin DIP international electronic package standard
- Ideal for surface and air sensing on PC boards

- Gold-plated contacts
- Up to 30,000 life cycles @ max standard amperage (120VAC)
- Up to 100,000 life cycles @ max gold contact amperage

## DESCRIPTION

The Airpax™ 6600 series is a RoHS compliant, positive snap action, single pole / single throw, sub-miniature bimetallic thermostat which provides accurate and reliable sensing and switching in a single device.

The 6600 series thermostat dimensionally conforms to the international product package standard 8-pin DIP (N8A Dual Inline Package). The 6600 is ideally suited for use on printed circuit boards. Its size and shape conserves space on crowded PC boards and can be installed using auto-insertion equipment. The device is sealed to withstand wave soldering and board washing operations.

The 6600 provides fast, positive response with excellent repeatability. The thermostat has a switch capability of up to 1 amp for 48 VDC or 120 VAC, and achieves low-level switching down to 0.001 A to 0.020 A at 5 VDC for 100,000 cycles. Temperature is pre-set at the factory and is non-adjustable in the field.

Applications include computers and computer peripherals, aircraft, automotive and test equipment. Typical uses include turning on an indicator light, sounding an audible alarm, switch on a control circuit to send a message to a display screen or even switching a circuit to shut down a system.

The 6600 thermostat is temperature tested in a computer controlled automated test equipment air-oven. Due to the ideal conditions under which it is tested, independent customer testing may be necessary to ensure that the correct calibration is utilized in the application.

It is the customer's responsibility to determine whether the product is proper for customer's use and application.

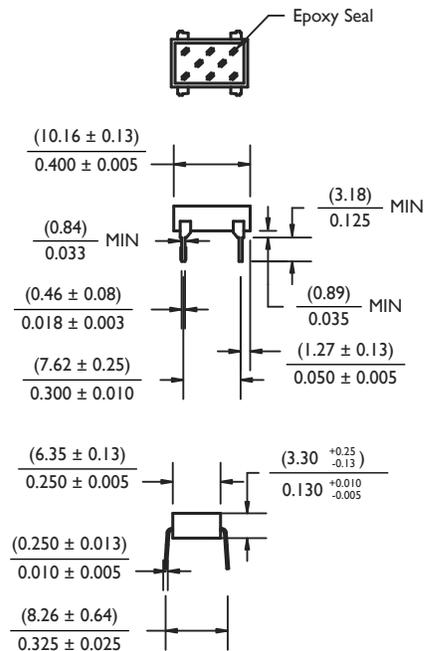## OPERATION SCHEMATICS
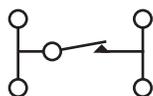
Schematic for
Open on Rise
Operation
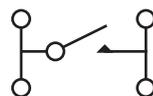
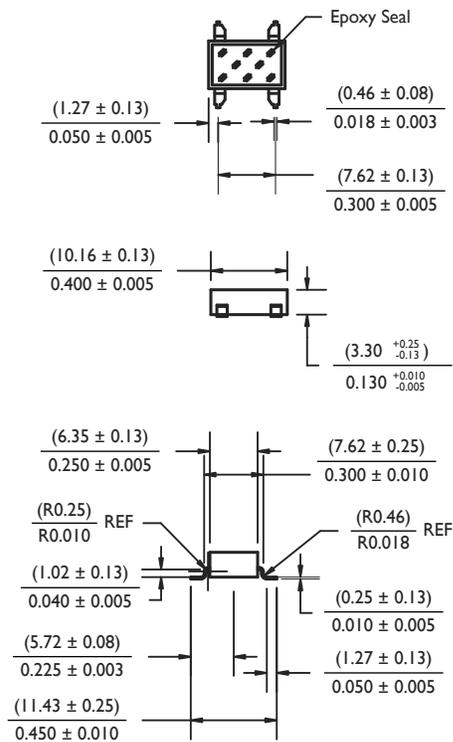Schematic for
Close on Rise
Operation

## SPECIFICATIONS

| | |
|---|---|
| Contact Resistance | 50 milliohms max (before and after rated life) |
| Contact Ratings | Cycles     Voltage        Amps (resistive)<br>25,000     48 VDC       1.0<br>30,000     120 VAC     1.0<br>100,000   5  VDC       0.001 (gold) |
| Contact Operations | Either close on rise (make) or open on rise (break) |
| Operating Temperature | 40°C to 130°C (104°F to 266°F) |
| Temperature Tolerance | Standard of ±5°C (±9°F) with nominal operating temperature settings in 5°C increments |
| Short Term / Long Term Exposure Limit | Short = 260°C (500°F), 10 second duration      Long = -55°C to 160°C (-67°F to 320°F) |
| Dielectric Strength | 1480 VAC 60Hz, 1 second duration terminals to case |
| Insulation Resistance | 100 Mohms at 500 VDC |
| Contact Bounce | 3 milliseconds max (make) |
| Vibration | Per Mil-Std-202, method 204D, test condition D, 10 to 2,000 Hz |
| Shock | Per Mil-Std-202, method 213, test condition C, 100 G's for 6 millisecond duration, ½ sine wave |
| Seal | High temperature epoxy sealed for wave soldering and cleaning, moisture proof per Sensata specification S-722 (unit will not leak while submerged in 9" of water for a minimum of two minutes) |
| Base Material | PPS (Polyphenylene Sulfide), 94 VO rated |
| Terminal Material | 65% Copper, 18% Nickel |
| Contact Material | Gold-plated or overlay, silver crossbar |
| Chemical Resistance | Unit is resistance to water, salt, alcohol, ammonia, trichlorethane and most other organic solvents |
| Soldering Heat Resistance | Per Mil-Std-202F, method 210A, test condition E |
| Weight | Approximately 0.45 grams |
| Mechanical Life | 1,000,000 operations |
| Agency Approvals | cЯUus recognized E36687<br>VDE approval 0631/12.83<br>RoHS Compliant per EU Directive 2002/95/EC |

# DIMENSIONAL SPECIFICATIONS, inches [mm]
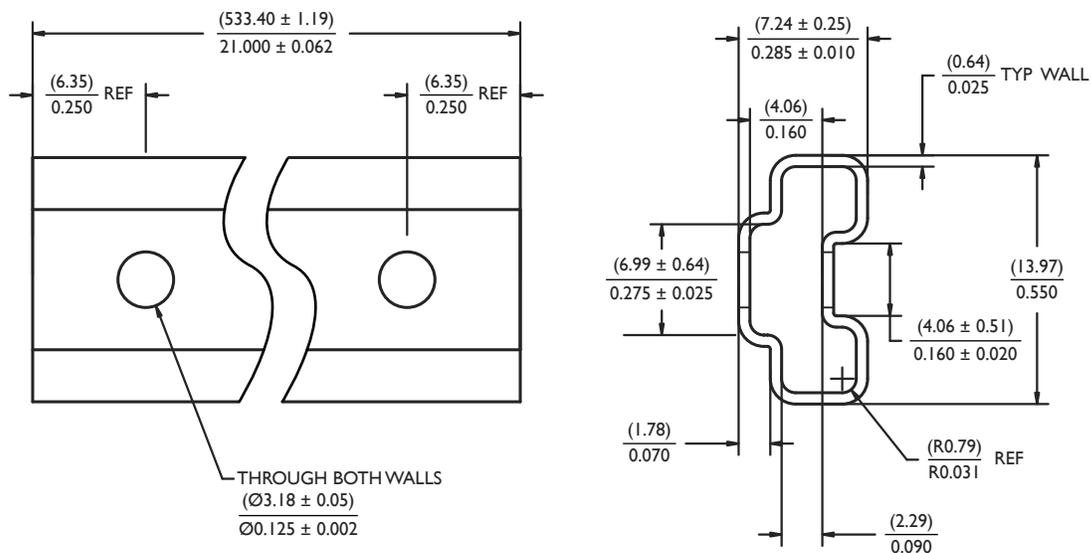
Standard 8-Pin DIP Configuration

Epoxy Seal

$\frac{(10.16 \pm 0.13)}{0.400 \pm 0.005}$

$\frac{(3.18)}{0.125}$ MIN

$\frac{(0.84)}{0.033}$ MIN

$\frac{(0.89)}{0.035}$ MIN

$\frac{(0.46 \pm 0.08)}{0.018 \pm 0.003}$

$\frac{(7.62 \pm 0.25)}{0.300 \pm 0.010}$

$\frac{(1.27 \pm 0.13)}{0.050 \pm 0.005}$

$\frac{(6.35 \pm 0.13)}{0.250 \pm 0.005}$

$\frac{(3.30 \; ^{+0.25}_{-0.13})}{0.130 \; ^{+0.010}_{-0.005}}$

$\frac{(0.250 \pm 0.013)}{0.010 \pm 0.005}$

$\frac{(8.26 \pm 0.64)}{0.325 \pm 0.025}$

Surface Mount (Gullwing, SMT) Configuration

Epoxy Seal

$\frac{(1.27 \pm 0.13)}{0.050 \pm 0.005}$

$\frac{(0.46 \pm 0.08)}{0.018 \pm 0.003}$

$\frac{(7.62 \pm 0.13)}{0.300 \pm 0.005}$

$\frac{(10.16 \pm 0.13)}{0.400 \pm 0.005}$

$\frac{(3.30 \; ^{+0.25}_{-0.13})}{0.130 \; ^{+0.010}_{-0.005}}$

$\frac{(6.35 \pm 0.13)}{0.250 \pm 0.005}$

$\frac{(7.62 \pm 0.25)}{0.300 \pm 0.010}$

$\frac{(R0.25)}{R0.010}$ REF

$\frac{(R0.46)}{R0.018}$ REF

$\frac{(1.02 \pm 0.13)}{0.040 \pm 0.005}$

$\frac{(0.25 \pm 0.13)}{0.010 \pm 0.005}$

$\frac{(5.72 \pm 0.08)}{0.225 \pm 0.003}$

$\frac{(1.27 \pm 0.13)}{0.050 \pm 0.005}$

$\frac{(11.43 \pm 0.25)}{0.450 \pm 0.010}$

# STANDARD PACKAGING

Standard and surface mount samples and production orders will be shipped in plastic, industry standard DIP shipping tubes.

$\frac{(533.40 \pm 1.19)}{21.000 \pm 0.062}$

$\frac{(6.35)}{0.250}$ REF

$\frac{(6.35)}{0.250}$ REF

THROUGH BOTH WALLS
$\frac{(\varnothing 3.18 \pm 0.05)}{\varnothing 0.125 \pm 0.002}$

$\frac{(7.24 \pm 0.25)}{0.285 \pm 0.010}$

$\frac{(0.64)}{0.025}$ TYP WALL

$\frac{(4.06)}{0.160}$

$\frac{(6.99 \pm 0.64)}{0.275 \pm 0.025}$

$\frac{(13.97)}{0.550}$

$\frac{(4.06 \pm 0.51)}{0.160 \pm 0.020}$

$\frac{(1.78)}{0.070}$

$\frac{(R0.79)}{R0.031}$ REF

$\frac{(2.29)}{0.090}$

## STANDARD TEMPERATURE CALIBRATION TABLE

Each thermostat part number consists of functional "building blocks" to enable the user to specify clearly and precisely the desired characteristics in each category.  Select the proper code in each category, then transfer it to the box indicated.  Unless a special requirement is indicated, the part number will be complete when the proper temperature is selected.  If you have a special requirement, please call Sensata for a factory assigned number to complete the part number.

*Example :*

A 66F095 thermostat will close (make contact) on a rising temperature from 90°C to 100°C and will reset open (break contact) on a falling temperature within a window of no greater than 6°C lower than the actual close temperature and no less than 60°C ambient temperature.

Special requirements require a 4 digit manufacturing dash number for ordering special features, 4 digit marking may not appear as part of the marking on the thermostat.

Special requirements may include VDE, ±3.0°C (±5.4°F) operating temperature tolerance, or surface mount (gullwing, SMT).

Temperature set point calibration is checked at Sensata Technologies with precision test equipment traceable to the US National Institute of Standards and Technology and Proven Methods.  Because customer checking methods may differ, a typical variance allowed for correlation is ±1.1°C (±2.0°F).

| OPERATE (±5°C) | MIN DIFFERENTIAL (°C) | MIN RESET (°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 | 85 |
| 120 | 9 | 90 |
| 125 | 9 | 90 |
| 130 | 9 | 90 |

## DECISION TABLES

**66 F 0 9 5 – 5 5 8 8**

**Basic Product Series**

**Contact Operation**
F = Fan (close on rise)
L = Limit (open on rise)

**Operating Temperature**
in °C, 3 digits (from above table, put "0" in front of 2 digit temps)

**Factory Assigned Number**
Nondescript, 4 digit dash number assigned for a customer's special requirements.  The dash and factory assigned number is not required for ordering a standard product

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*Click to view products by* Airpax *manufacturer:*

Other Similar products are found below :

5962-8757102XA  66F115  MCP9808-EMS  MCP98242T-BEMNY  MCP9843T-BEMC  EMC1063-1-ACZL-TR  NCT218FCT2G  O53GAB175A-160Y  OH10/62,112  3610085020002  389049M9527  TC622EAT  TC6501P095VCTTR  TC6501P105VCTTR  TC6501P125VCTTR  MCP9802A0T-M/OT  MCP9803T-M/SN  MCP9843-BEST  TC6501P115VCTTR  TC6502P065VCTTR  ADM1023ARQZ-REEL  ADM1024ARUZ-REEL  ADM1032ARMZ-1RL  AT30TS74-U1FMBB-T  AT30TS74-U1FMAB-T  AT30TS74-U1FMCB-T  AT30TS74-U1FMDB-T  ADT7483AARQZ-RL  ADT7481ARMZ-REEL  ADT7463ARQZ-REEL  MCP98243T-BEMNY  MCP98243T-BE/MC  66L080-0226  MAX31820MCR+T  MAX1452CAEC8H  DS1780E  TMP05BKSZ-REEL7  5962-8757103XA  WTK-14-36/N  E52-CA6D-N 4M  MCP98244T-BEMNY  MCP9802A5T-MOT  MAX6581TG9A+T  DS75S-C11+T&R  S-58LM20A-I4T1U  MAX6501UKP120+T  MCP98243T-BE/ST  AT30TS01-MAA5M-T  NCT375DR2G  DS18S20-SL+T&R