6700 Series Thermostat

The Airpax 6700 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 6700 series thermostat dimensionally conforms to the international product package standard Y220 / TO220. Thus, the 6700 may be automatically placed and soldered onto PC boards with high speed automated equipment, eliminating the need for the expensive hand placement and termination required today for most power supply thermostats. The nickel-plated copper mounting bracket comes standard, or you can utilize the laminated non-conductive mounting bracket for increased dielectric strength and VDE approval.

The 6700 provides fast, positive response with excellent repeatability. The thermostat has a switch capability of up to 1 amp for 48 VDC or 120 VAC for 30,000 cycles, and achieves low-level switching down to 0.001A to 0.020A at 5 VDC for 100,000 cycles. Temperature is pre-set at the factory and is non-adjustable in the field.

The 6700 series is ideally suited for use on crowded PC boards. 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. Applications include power supplies, computers and computer peripherals, aircraft, automotive, medical devices and test equipment.

The 6700 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.

AIRPAX

SPECIFICATIONS

■ **Contact Resistance:**
50 milliohms max (before and after rated life)

■ **Contact Ratings:**

Cycles	Voltage	Amps (resistive)
30,000	48 VDC	1.0
30,000	120 VAC	1.0
100,000	5 VDC	0.020
100,000	5 VDC	0.001

■ **Contact Operations:**
Either close on rise (make) or open on rise (break)

■ **Operating Temperature Range:**
40°C to 130°C (104°F to 266°F)

■ **Standard Operating Temperature Tolerance:**
±5°C (±9°F) nominal operating temperature settings
in 5°C increments

■ **US Patent Number:**
4,795,997

■ **Long Term Exposure Limit:**
-55°C to 160°C (-67°F to 320°F)

■ **Dielectric Strength:**
Nickel-plated copper bracket has 1480 VAC 60Hz, 1 second
duration terminals to case. Laminated non-conductive bracket
has 2000 VAC 60Hz, 1 second duration terminals to case.

■ **Insulation Resistance:**
100 Mohms at 500 VDC

■ **Contact Bounce (make):**
3 milliseconds max

■ **Weight:**
Approximately 0.5 grams

■ **Solderability:**
Terminal material is selectively striped with electrolytic tin over
nickel strike for improved solderability and RoHS compliance.

■ **Seal:**
Epoxy sealed for wave soldering and cleaning. Moisture
proof per Airpax specification S-722 (unit will not leak while
submerged in 9" of water for a minimum of two minutes).

■ **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.

■ **Chemical Resistance:**
Unit is resistance to water, salt, alcohol, ammonia, trichlorethane
and most other organic solvents.

■ **Resistance to Soldering Heat:**
Per Mil-Std-202G, method 210F, test condition C & K,
test condition also validated at 260°C for 25 seconds

■ **Agency Approvals:**
cЯUus recognized E36687
VDE approval 11624, 2-4510-1004 (plastic bracket only)

■ **RoHS Compliance:**
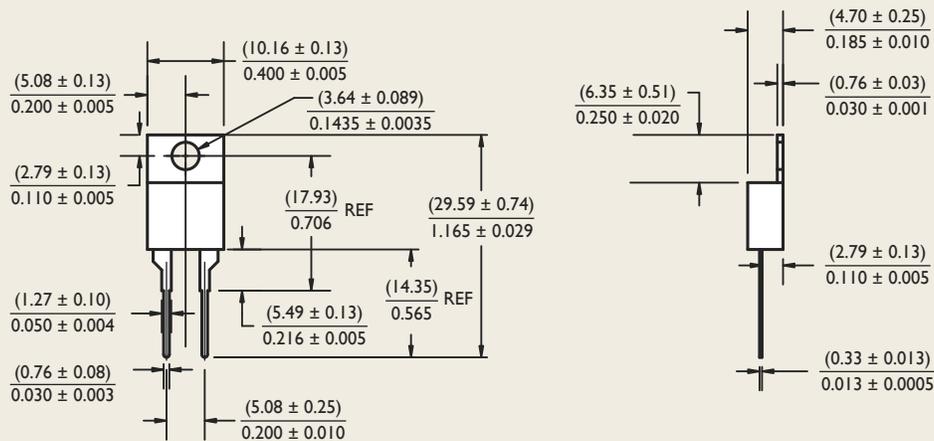RoHS compliant per EU Directive 2002/95/EC

MATERIALS

■ **Seal:** High temperature epoxy.

■ **Base:** PPS (Polyphenylene Sulfide), 94 VO rated

■ **Terminals:** 65% Copper, 18% Nickel

■ **Contacts:** Gold overlay, silver crossbar

■ **Bracket:** Nickel-plated copper (standard) or high pressure
laminated fiber ("P" mounting bracket option)

(millimeters)
inches

6700 Series Standard Temperature Calibrations

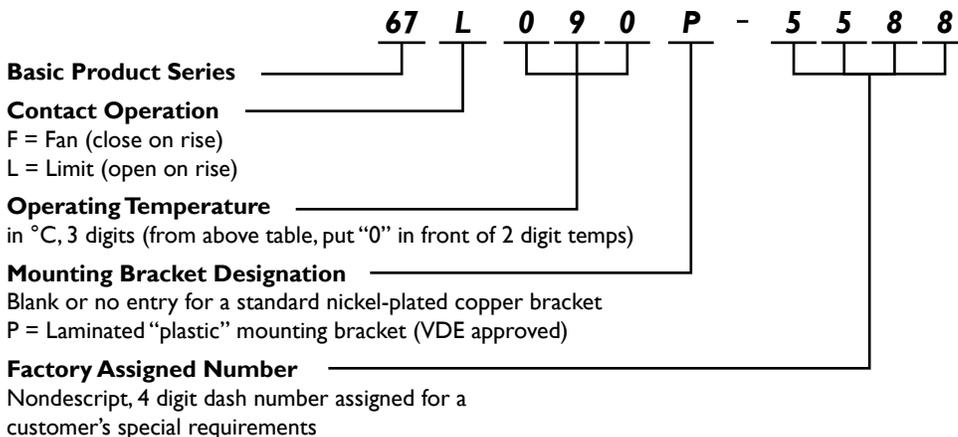| OPERATE (±5°C)	MIN DIFFERENTIAL (°C)	MIN RESET (°C)
40	4	20
45	4	20
50	4	30
55	4	30
60	4	40
65	4	40
70	4	50
75	4	50
80	6	55
85	6	55
90	6	60
95	6	60
100	6	70
105	6	70
110	6	80
115	6	80
120	9	85
125	9	85
130	9	90

HOW TO USE THIS CHART

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 Airpax for a factory assigned number to complete the part number.

Example 1:

A 67F090 thermostat will close (make contact) on a rising temperature from 85°C to 95°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.
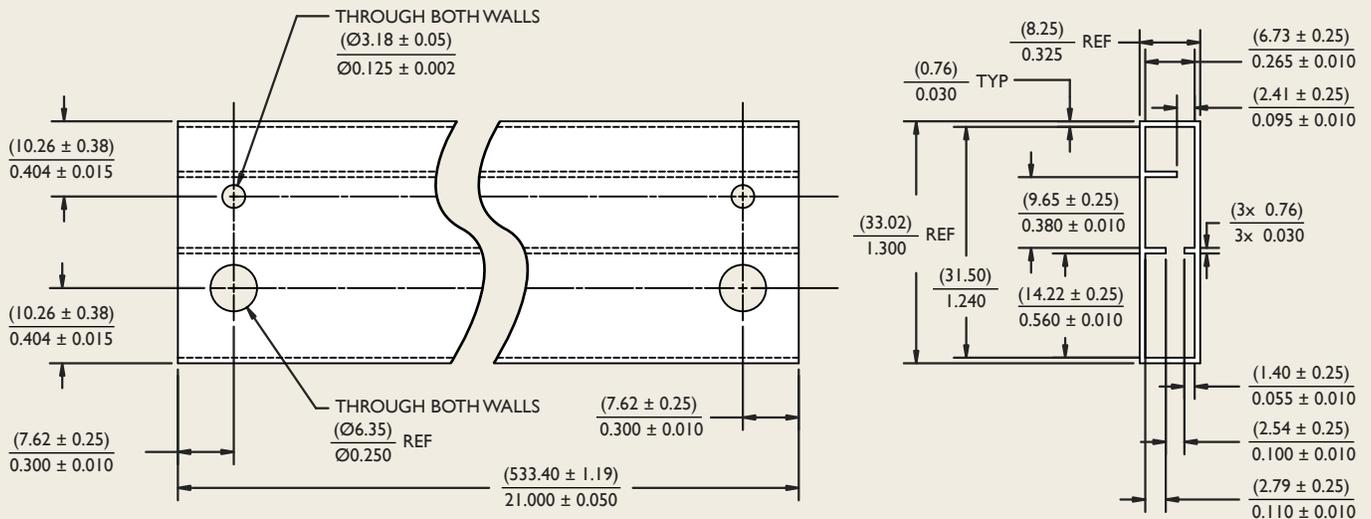
Example 2:

A 67L060P thermostat has a plastic mounting bracket with 2000 VAC dielectric strength and VDE approval. The thermostat will open (break contact) on a rising temperature from 55°C to 65°C and will reset close (make contact) on a falling temperature within a window of no greater than 4°C lower than the actual open temperature and no less than 40°C ambient temperature.

67 L 0 9 0 P – 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)

Mounting Bracket Designation
Blank or no entry for a standard nickel-plated copper bracket
P = Laminated "plastic" mounting bracket (VDE approved)

Factory Assigned Number
Nondescript, 4 digit dash number assigned for a customer's special requirements

The mounting bracket designation and the 4 digit manufacturing dash number are used for ordering special features and may not appear as part of the marking on the thermostat.

Temperature set point calibration is checked at Airpax with precision test equipment and proven methods. Because customer checking methods may differ, a typical variance allowed for correlation is ±1°C.

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

$\frac{(10.26 \pm 0.38)}{0.404 \pm 0.015}$

$\frac{(10.26 \pm 0.38)}{0.404 \pm 0.015}$

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

THROUGH BOTH WALLS
$\frac{(\varnothing 6.35)}{\varnothing 0.250}$ REF

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

$\frac{(533.40 \pm 1.19)}{21.000 \pm 0.050}$

$\frac{(8.25)}{0.325}$ REF

$\frac{(0.76)}{0.030}$ TYP

$\frac{(33.02)}{1.300}$ REF

$\frac{(31.50)}{1.240}$

$\frac{(9.65 \pm 0.25)}{0.380 \pm 0.010}$

$\frac{(14.22 \pm 0.25)}{0.560 \pm 0.010}$

$\frac{(6.73 \pm 0.25)}{0.265 \pm 0.010}$

$\frac{(2.41 \pm 0.25)}{0.095 \pm 0.010}$

$\frac{(3x \ 0.76)}{3x \ 0.030}$

$\frac{(1.40 \pm 0.25)}{0.055 \pm 0.010}$

$\frac{(2.54 \pm 0.25)}{0.100 \pm 0.010}$

$\frac{(2.79 \pm 0.25)}{0.110 \pm 0.010}$

$\frac{(\text{millimeters})}{\text{inches}}$

Standard Packaging
All samples and production orders will be shipped in plastic, industry standard shipping tubes.

This information is subject to change without notice

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