

T H E R M O M E T R I C S  
A COMMITMENT TO EXCELLENCE

# Self-Adhering Surface Temperature Sensors



Thermometrics range of Self-Adhering Surface Temperature Sensors are designed for industrial HVACR applications, typically for placement on the external wall of a water tank or boiler reservoirs. They are also suitable for reservoir tanks working in conjunction with solar panel water heating systems. This range of adhesive pad sensors detect over-temperature resulting from a malfunction or a dry-fire.

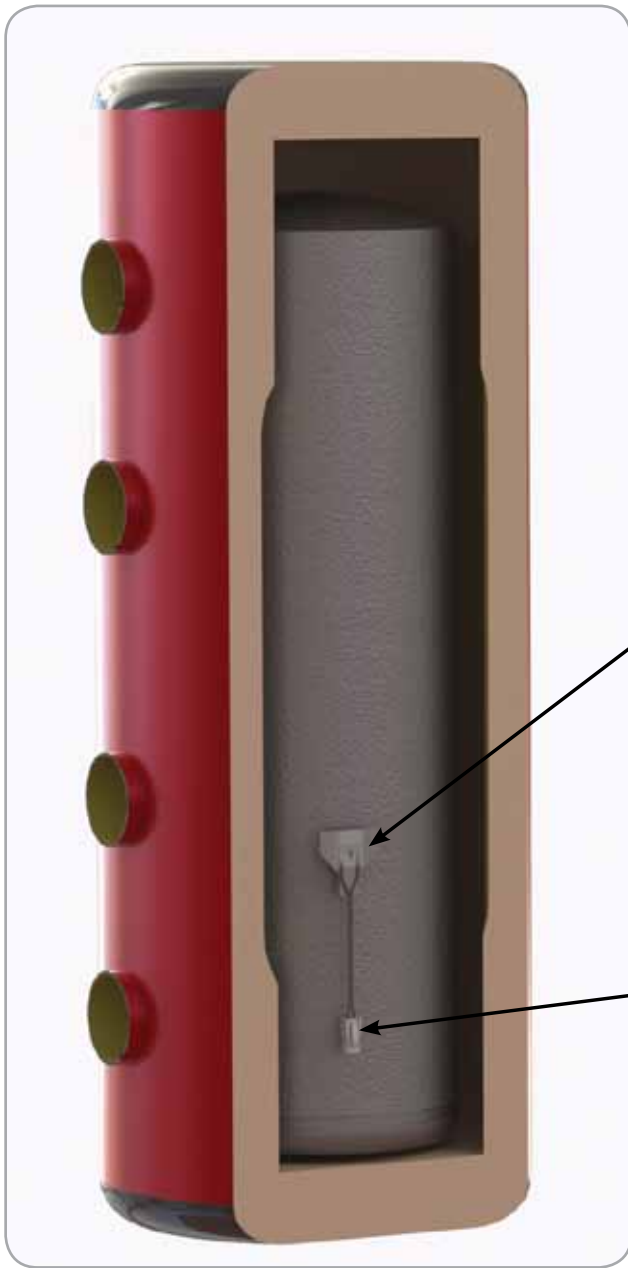
Pressure sensitive adhesive tapes loaded with ceramic powders provide high thermal conductivity and thus excellent heat transfer from the heat source to a NTC thermistor while maintaining appropriate levels of dielectric strength. An adhesive lined foam backing tape provides air and moisture resistance with optional WRC (5470) water safety and DIN 4102 part 1 (B3) fire safety approvals.

## Features

- Excellent heat transfer
- Long-term stability
- Multiple adhesive tape sizes and shapes available
- Various lengths
- Temperature ranges from -30 to +70 °C.
- PVC single insulated lead wire, 3x1.5mm cross-sectional profile.
- Voltage withstand: 750 Vac between the terminals of the connector and the contact tape, for a broadly sinusoidal wave form at 50 Hz, where the max permissible current is 1 mA.

**Amphenol**  
**Advanced Sensors**

## Product Applications



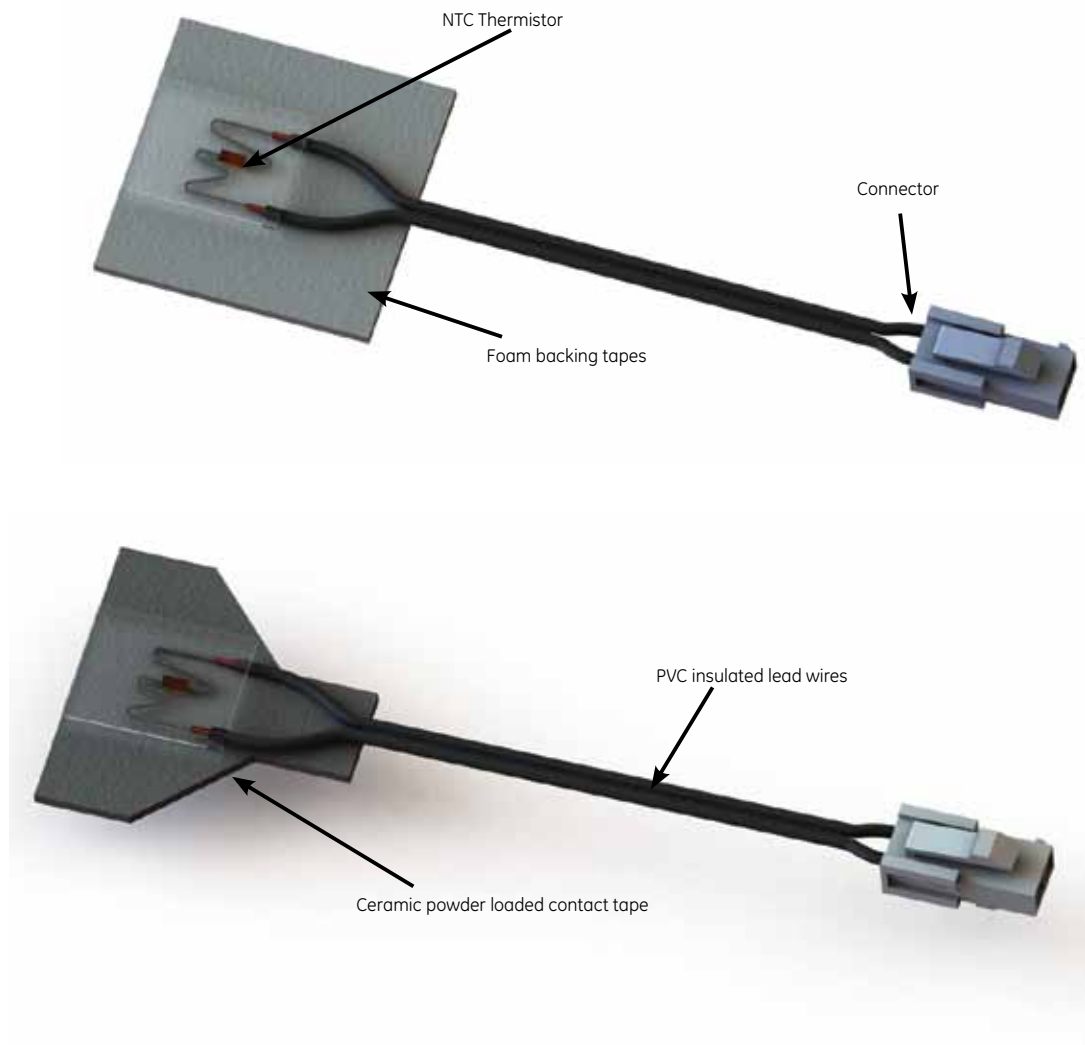
*Placement on Water Heater Tank*



The sensors are designed to work in predominantly dry environments and are particularly suited for domestic applications where they can be positioned between the water tank and an insulating jacket as shown. The sensors should NOT be used externally where they can be subjected to wind, rain and direct sun.

Residual oil on the surface of a metallic tank, resulting from a drawing process, can cause a loss of adhesion. Oil residuals should be cleaned away before the application of the sensor.

# Product Design



## Specifications

| Part number | Foam backing size / mm                        | Full length / mm | Connector type |
|-------------|-----------------------------------------------|------------------|----------------|
| JS4298      | 45x45, square                                 | 700              | Molex 5559     |
| JS5698      | 45x45, square                                 | 750              | Molex 5559     |
| JS6670      | 45x45, square                                 | 280              | Molex 5559     |
| JS6862      | 45x45, square                                 | 650              | Molex 5559     |
| JS6744      | 45x45, square                                 | 320              | Molex 5559     |
| JS6812      | 45x45, square                                 | 420              | Molex 5559     |
| JS5539      | 30 wide x 70 long, rectangular                | 125              | Molex 5559     |
| JS7289      | 45 wide x15 long & 15 wide x 15 long, tapered | 320              | Molex 5559     |
| JS7290      | 45 wide x15 long & 15 wide x 15 long, tapered | 420              | Molex 5559     |
| JS7352      | 45 wide x15 long & 15 wide x 15 long, tapered | 160              | Molex 5559     |

# Thermal Equilibrium Resistance vs. Temperature Table

| Temp<br>°C | R nom<br>/Ω | R min<br>/Ω | R max<br>/Ω | R Tol<br>- % | R Tol<br>+ % | T Tol<br>+ °C | T Tol<br>- °C |
|------------|-------------|-------------|-------------|--------------|--------------|---------------|---------------|
| -30        | 173790      | 161580      | 186760      | -7.03        | 7.46         | 1.14          | -1.21         |
| -25        | 128270      | 119620      | 137420      | -6.75        | 7.14         | 1.13          | -1.19         |
| -20        | 95627       | 89439       | 102150      | -6.47        | 6.82         | 1.12          | -1.18         |
| -15        | 71980       | 67513       | 76673       | -6.21        | 6.52         | 1.11          | -1.17         |
| -10        | 54678       | 51427       | 58083       | -5.95        | 6.23         | 1.10          | -1.15         |
| -5         | 41900       | 39513       | 44391       | -5.70        | 5.94         | 1.09          | -1.13         |
| 0          | 32377       | 30611       | 34213       | -5.45        | 5.67         | 1.07          | -1.12         |
| 5          | 25218       | 23902       | 26582       | -5.22        | 5.41         | 1.06          | -1.10         |
| 10         | 19792       | 18805       | 20812       | -4.99        | 5.15         | 1.04          | -1.08         |
| 15         | 15647       | 14902       | 16415       | -4.76        | 4.91         | 1.03          | -1.06         |
| 20         | 12457       | 11890       | 13038       | -4.55        | 4.67         | 1.01          | -1.04         |
| 25         | 9983.1      | 9550.5      | 10426       | -4.33        | 4.44         | 0.99          | -1.02         |
| 30         | 8052.1      | 7719.7      | 8391.2      | -4.13        | 4.21         | 0.97          | -0.99         |
| 35         | 6534.4      | 6277.7      | 6795.4      | -3.93        | 3.99         | 0.95          | -0.97         |
| 40         | 5334.0      | 5134.9      | 5535.8      | -3.73        | 3.78         | 0.93          | -0.95         |
| 45         | 4378.7      | 4223.6      | 4535.4      | -3.54        | 3.58         | 0.91          | -0.92         |
| 50         | 3614.0      | 3492.7      | 3736.1      | -3.36        | 3.38         | 0.89          | -0.89         |
| 55         | 2998.3      | 2903.1      | 3093.9      | -3.18        | 3.19         | 0.86          | -0.87         |
| 60         | 2500.0      | 2425.0      | 2575.0      | -3.00        | 3.00         | 0.84          | -0.84         |
| 65         | 2094.5      | 2028.1      | 2161.2      | -3.17        | 3.18         | 0.91          | -0.91         |
| 70         | 1762.9      | 1704.0      | 1822.1      | -3.34        | 3.36         | 0.98          | -0.99         |