

T H E R M O M E T R I C S
A C O M M I T M E N T T O E X C E L L E N C E
AN AMPHENOL COMPANY

Type A266T

Small Diameter, Stainless Steel, Interchangeable NTC Thermistor with Insulated Leads



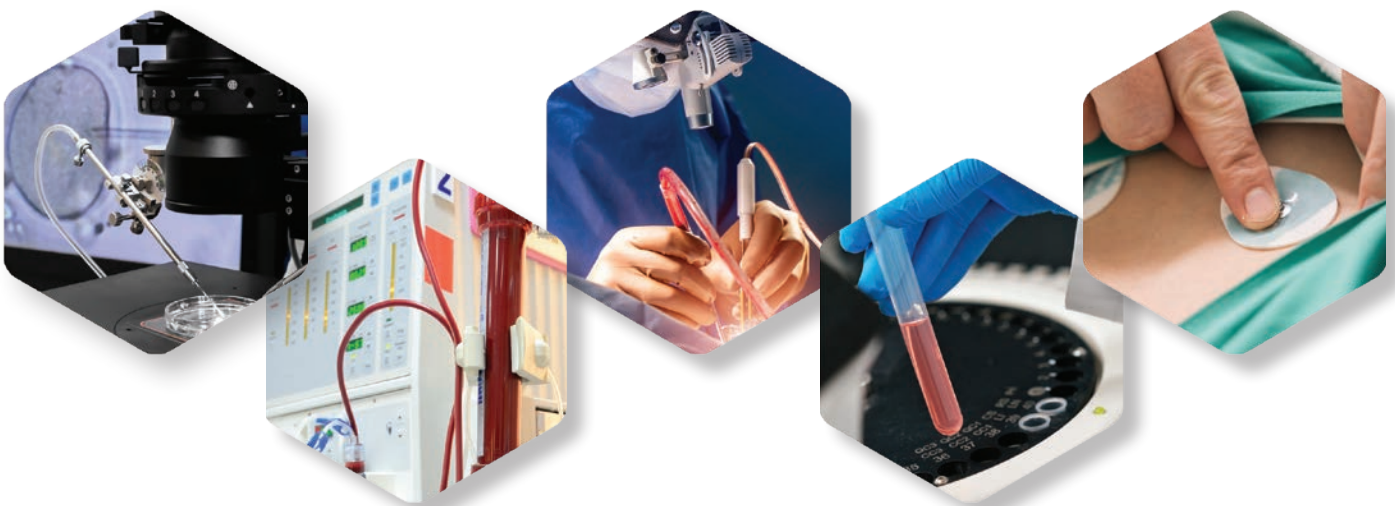
The **Thermometrics A266T NTC Thermistor** is an interchangeable stainless steel housed, chip thermistor with TFE insulated SPC lead-wires.

Features

- Precision, solid state temperature sensor
- Stainless steel housing for robust mechanical strength and fluid protection
- Interchangeability down to $\pm 0.09^{\circ}\text{F}$ ($\pm 0.05^{\circ}\text{C}$)
- Suitable for use over the range of: -40°F to 221°F (-40°C to 105°C)
- High sensitivity greater than: $-4\%/^{\circ}\text{C}$ at 77°F (25°C)
- Suitable for temperature measurement, control, and compensation
- Ideal for medical applications
- #30 AWG silver plated copper leads with TFE insulation.

Applications

- In Vitro Diagnostic (IVD) Analyzers
- Wearable Skin Sensors
- Blood Analysis
- Dialysis Equipment
- Surgical Instruments



Amphenol Sensors

Type A266T NTC Thermistor Specifications

Stainless steel housed, interchangeable chip thermistor with TFE insulated SPC lead-wires.

Thermal and Electrical Properties

Zero Power Resistance

10K Ω @ 77°F (25°C)

Tolerance

95°F to 102.2°F (35°C to 39°C):	$\pm 0.09^\circ\text{F}$ ($\pm 0.05^\circ\text{C}$)
102.2°F to 107.6°F (39°C to 42°C):	$\pm 0.135^\circ\text{F}$ ($\pm 0.075^\circ\text{C}$)
68°F to 113°F (20°C to 45°C):	$\pm 0.18^\circ\text{F}$ ($\pm 0.10^\circ\text{C}$)
32°F to 122°F (0°C to 50°C):	$\pm 0.27^\circ\text{F}$ ($\pm 0.15^\circ\text{C}$)

25/85 Beta

3969K

Dissipation Constant

Still air: 3.6 mW/°C ref

Thermal Time Constant

Still air: 26 seconds ref

Stirred oil: 1.6 seconds ref

Maximum Power at 77°F (25°C)

~270 mW

De-rated from 100% at 77°F (25°C) to 0% at 212°F (100°C)

Physical Properties

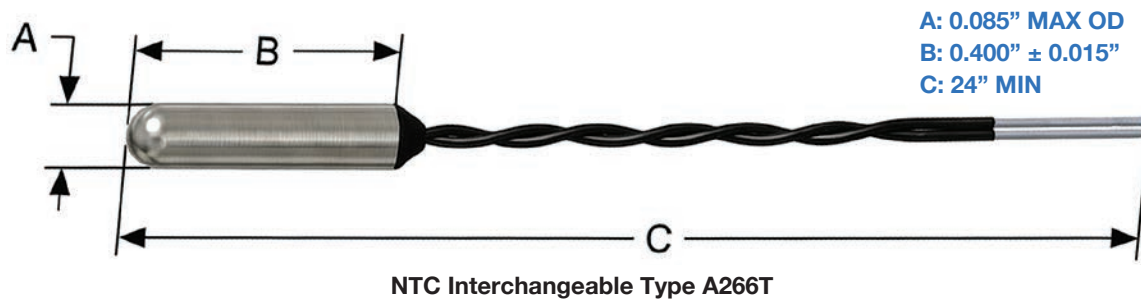
- 316 Stainless Steel Housing
- Black Epoxy Fill
- #30 AWG (7x38) SPC Leads, Twisted Black TFE
- RoHS Compliant
- Not designed for complete immersion, back end lead exit must be protected from conductive fluids

Options

Consult Factory for Availability of Options

- Other resistance values in the range of 2252 to 100K ohms
- Other tolerances or ranges
- Alternative lead wires or lengths
- Non-standard R vs T curves
- Controlled dimensions

Dimensions



Type A266T NTC Thermistor Specifications

Resistance vs. Temperature Curve

$$\ln(R) = A + \frac{B}{T} + \frac{C}{T^2} + \frac{D}{T^3}$$

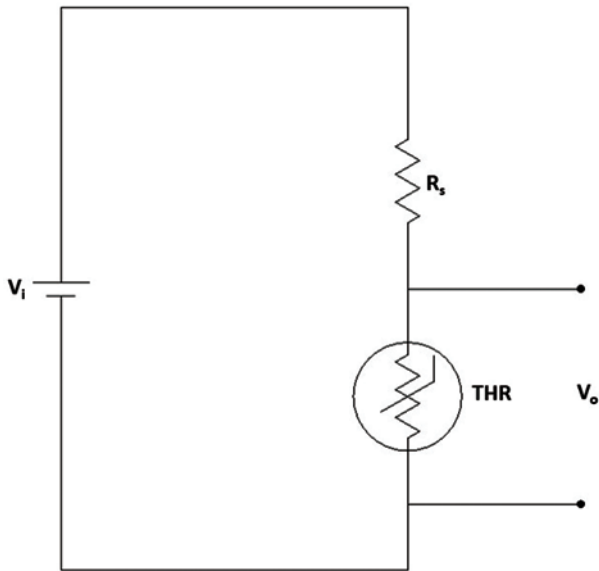
A = -4.89264520777979E+00
 B = 4.39628793259888E+03
 C = -2.39878796647210E+04
 D = -9.86957351928719E+06

Temp (°C)	R/R25	R nom (ohms)	R min (ohms)	R max (ohms)	R tol min (-%)	R tol max (+%)	Temp tol min (-°C)	Temp tol max (+°C)	Alpha (%/°C)	Beta nom (K)
-40	34.23	342277.8	336767.2	347888.3	1.61%	1.64%	0.24	0.24	-6.71	3778.4
-35	24.62	246188.8	242516.7	249922.6	1.49%	1.52%	0.23	0.23	-6.48	3791.1
-30	17.91	179086.2	176619.8	181591.0	1.38%	1.40%	0.22	0.22	-6.26	3803.1
-25	13.17	131685.4	130017.3	133377.4	1.27%	1.28%	0.21	0.21	-6.05	3814.5
-20	9.783	97832.4	96697.6	98982.1	1.16%	1.18%	0.20	0.20	-5.85	3825.3
-15	7.340	73400.0	72624.4	74184.8	1.06%	1.07%	0.19	0.19	-5.65	3835.6
-10	5.559	55588.5	55056.7	56126.1	0.96%	0.97%	0.18	0.18	-5.47	3845.3
-5	4.248	42478.5	42113.2	42847.4	0.86%	0.87%	0.16	0.16	-5.29	3854.6
0	3.274	32739.8	32489.2	32992.6	0.77%	0.77%	0.15	0.15	-5.13	3863.5
5	2.544	25441.4	25252.7	25631.6	0.74%	0.75%	0.15	0.15	-4.97	3872.0
10	1.993	19925.5	19782.3	20069.9	0.72%	0.72%	0.15	0.15	-4.81	3880.1
15	1.572	15722.9	15613.3	15833.4	0.70%	0.70%	0.15	0.15	-4.67	3887.8
20	1.250	12496.1	12439.7	12552.8	0.45%	0.45%	0.10	0.10	-4.53	3895.2
25	1.000	10000.0	9956.2	10044.0	0.44%	0.44%	0.10	0.10	-4.39	0.0
30	0.806	8055.4	8021.1	8089.8	0.43%	0.43%	0.10	0.10	-4.26	3909.1
35	0.653	6529.9	6516.4	6543.5	0.21%	0.21%	0.05	0.05	-4.14	3915.6
37	0.601	6014.2	6002.0	6026.5	0.20%	0.20%	0.05	0.05	-4.09	3918.1
40	0.533	5325.5	5309.5	5341.6	0.30%	0.30%	0.075	0.075	-4.02	3921.8
45	0.437	4368.5	4351.5	4385.6	0.39%	0.39%	0.10	0.10	-3.91	3927.9
50	0.360	3603.5	3583.0	3624.0	0.57%	0.57%	0.15	0.15	-3.80	3933.6
55	0.299	2988.3	2969.4	3007.5	0.64%	0.64%	0.17	0.17	-3.69	3939.2
60	0.249	2491.0	2473.5	2508.6	0.70%	0.71%	0.20	0.20	-3.59	3944.5
65	0.209	2086.7	2070.7	2102.7	0.76%	0.77%	0.22	0.22	-3.50	3949.7
70	0.176	1756.3	1741.8	1770.9	0.83%	0.83%	0.24	0.24	-3.40	3954.6
75	0.148	1484.9	1471.8	1498.2	0.89%	0.90%	0.27	0.27	-3.31	3959.4
80	0.126	1261.1	1249.1	1273.1	0.95%	0.96%	0.29	0.29	-3.23	3964.0
85	0.1075	1075.5	1064.7	1086.4	1.00%	1.01%	0.32	0.32	-3.14	3968.5
90	0.09209	920.9	911.2	930.8	1.06%	1.07%	0.35	0.35	-3.06	3972.8
95	0.07917	791.7	782.9	800.6	1.11%	1.13%	0.38	0.38	-2.99	3976.9
100	0.06831	683.1	675.2	691.2	1.17%	1.18%	0.40	0.40	-2.91	3980.9
105	0.05916	591.6	584.4	598.9	1.22%	1.23%	0.43	0.43	-2.84	3984.8

Note: Shaded values are calculated estimates and for reference only.

Type A266T Thermistor Specifications

A266T Voltage Divider Examples



For optimum resolution...

$$R_s = \sqrt{R_{Thot} \times R_{Tcold}}$$

Voltage vs. Temperature

