

SURFACE MOUNT NTC THERMISTOR TEMPERATURE SENSORS FOR COMMERCIAL SPACE APPLICATIONS



GENERAL DESCRIPTION

Glass Coated NTC Thermistor Sensors welded to 26AWG wires and encapsulated using thermally conductive epoxy resin on a flat aluminum housing. The NTC thermistor probe construction is based on TE Connectivity's proprietary electro ceramic formulation which has been used in the industry for over 25 years offering proven performance and outstanding reliability.

SPECIFICATION

- Operating Temperature Range: -60°C to +90°C
- Storage Temperature Range: -60°C to +125°C
- 15,000 Ω Nominal Resistance at +25°C
- $\pm 1^\circ\text{C}$ from -20°C to +50°C

FEATURES

- High Reliability and Excellent Stability
- Flat Surface for ease of mounting
- Based on ESA (European Space Agency) qualified device

APPLICATIONS

- LEO (Low Earth Orbit) Satellites
- Constellation Satellites
- Temperature Control
- Temperature Monitoring
- Temperature Compensation
- Solar Panels
- Payload Equipment
- Guidance and Navigation Systems
- Control and Computer Systems

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PRODUCT OVERVIEW

TE Connectivity Part Number	Resistance (Ω) at +25°C	Wire Length (mm)	Wire Type	Operating Temperature (°C)
20012616-00	15,000	2,000 ± 50	26AWG Fluoropolymer Insulated, ESCC 390101203	-60 to +90

- Custom wire lengths and wire type variations of part numbers listed above are available upon request.

ELECTRICAL SPECIFICATION

Parameters	Units	Value
Resistance @ +25 °C	Ω	15,000
Tolerance from - 20°C to +50°C	°C	± 1
Tolerance from - 60°C to - 21°C	°C	± 2
Tolerance from +51°C to +90°C	°C	± 2
Beta Value 25/85	K	3664
Operating temperature range	°C	- 60 to +90
Storage temperature range	°C	- 60 to +125

RESISTANCE V TEMPERATURE TABLE

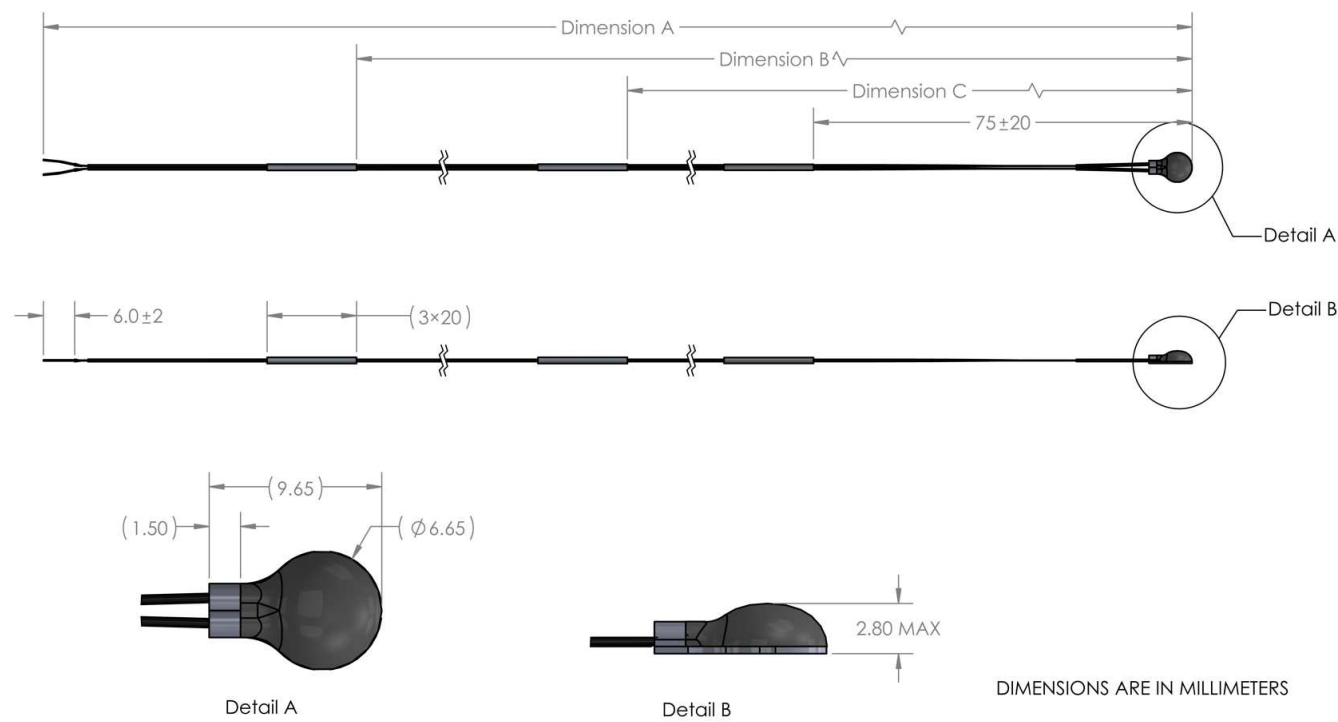
Temperature (°C)	Minimum Resistance (Ω)	Nominal Resistance (Ω)	Maximum Resistance (Ω)	Tolerance (± °C)
-60	1139036	1304938	1397748	2
-55	817449	932164	1064927	2
-50	593285	673553	766017	2
-45	435225	492029	557172	2
-40	322547	363181	409583	2
-35	241378	270746	304147	2
-30	182320	203755	228039	2
-25	138938	154730	172556	2
-20	112479	118520	124927	1
-15	87010	91536	96328	1
-10	67837	71256	74870	1
-5	53287	55890	58637	1
0	42159	44156	46261	1
5	33585	35128	36753	1
10	26932	28133	29396	1
15	21734	22675	23663	1
20	17646	18388	19166	1
25	14411	15000	15616	1
30	11835	12305	12797	1
35	9773	10150	10544	1
40	8111	8416	8733	1
45	6766	7013	7271	1
50	5671	5873	6082	1
55	4616	4940	5291	2
60	3908	4175	4463	2
65	3322	3543	3782	2
70	2836	3020	3218	2
75	2431	2584	2749	2
80	2091	2220	2358	2
85	1806	1914	2030	2
90	1565	1656	1754	2

STEINHART-HART CALCULATIONS

Steinhart-Hart Coefficients*	
A	8.92253149E-04
B	2.43962905E-04
C	1.30313505E-07

Note: Steinhart-Hart Coefficients are generated from 0°C, +25°C & +70°C temperature reference points.

ASSEMBLY DRAWING



TE Connectivity Part Number	Dimension A (mm)	Dimension B (mm)	Dimension B (mm)
20012616-00	2,000 ± 50	1,900 ± 30	1,000 ± 20

- 3 x 20mm heat-shrink tubes used to secure the two lead wires together.

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