

# NTS DCT sensor

## Defrost Control Thermistor sensor

### DESCRIPTION

The NTS DCT Sensor is designed to sense the build up of frost on a surface by measuring the surface temperature. Upon detection, the sensor can signal a defrost cycle in order to prevent the build up of ice. This is accomplished through an elastomeric epoxy potted, glass encapsulated NTC within the temperature sensor. A stainless steel mounting clip allows the sensor to measure temperature in any position, in any environment. Housing options include brass, stainless steel and aluminum. Special material can be applied upon customer request. Custom wires can also be used to fit into any application.



### FEATURES

- Designed to meet UL1434 and customer specific requirements
- Excellent reliability
- RoHS compliant
- Precision range term 1%, 2%, 3% and 5%
- Custom housing to meet customer specific requirements
- Custom wire lengths available
- Stainless steel mounting clip
- Wide variety of packaging options
- Temperature offering up to: -40°C to 250°C

### APPLICATIONS

- HVAC air sensing
- Refrigeration system sensing
- Evaporator sensor
- Other remote sensing applications

### NTC Thermistor tolerance

Nominal 10K  $\pm$ 1% OHMS at 25°C (77°F)

32283 to 33725 OHMS at 0 °C (32 °F)

1037 to 1107 OHMS at 85 °C (185 °F)

Temperature Tolerance:  $\pm$ 0.9 degrees (F) for the temperature range from 14 degrees (F) to 50 degrees (F)

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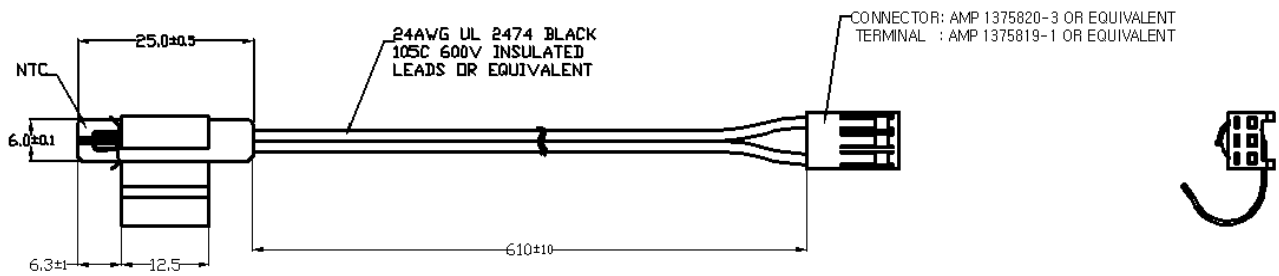
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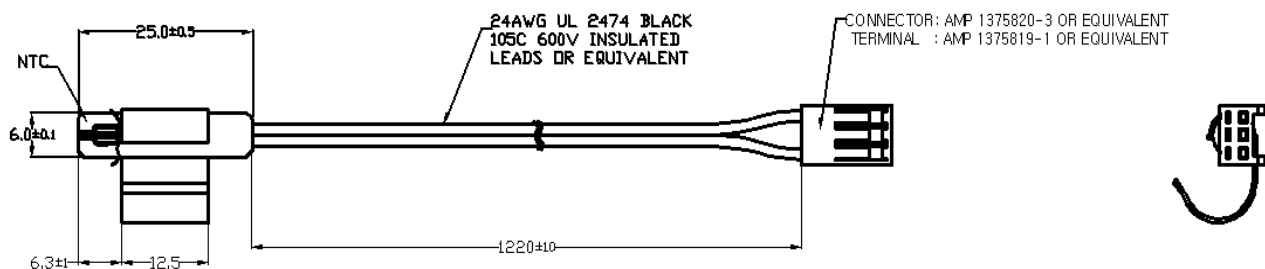
NTS DCT sensor characteristic

Style	Housing Material	NTC tolerance at 25 °C	Lead wire	Terminal & connector	Dielectric strength	Operation temp range	Thermal Time Constant
NTS222001	PBT	1%	UL2474 24# 105C 600V 610mm L	AMP or equivalent	1200V AC 0.5mA 2seconds	-40° C to 105° C	Not more than 20 sec typically (100°C to 25°C oil)
NTS222002	PBT	1%	UL2474 24# 105C 600V 1220mm L	AMP or equivalent	1200V AC 0.5mA 2seconds	-40° C to 105° C	Not more than 20 sec typically (100°C to 25°C oil)

### Style NTS222001 Construction



### Style NTS222002 Construction



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### NTC functional parameter

Dissipation constant: Not less than 2.0 milliwatts/Degree (C) ---Power required to raise thermistor temperature 1 Degree (C)

R-T Curve 1(R25°C=10K)			
B(25/85)=3977K+/-1.5%			
T	Rnor KΩ	T	Rnor KΩ
-30	173.755	90	0.918
-25	129.4075	95	0.791
-20	97.42046	100	0.683
-15	73.21413	105	0.6
-10	55.80149	110	0.521
-5	42.7122	115	0.458
0	32.99768	120	0.4
5	25.55129	125	0.349
10	20.06896	130	0.309
15	15.76075	135	0.273
20	12.51307	140	0.241
25	10	145	0.214
30	8.070342	150	0.191
35	6.544272	155	0.173
40	5.320219	160	0.155
45	4.352173	165	0.141
50	3.583472	170	0.1258
55	2.989108	175	0.113
60	2.49009	180	0.1027
65	2.089073	185	0.093
70	1.749062	190	0.0845
75	1.481049	195	0.07
80	1.258041	200	0.0698
85	1.072034	205	0.065