

GE Sensing

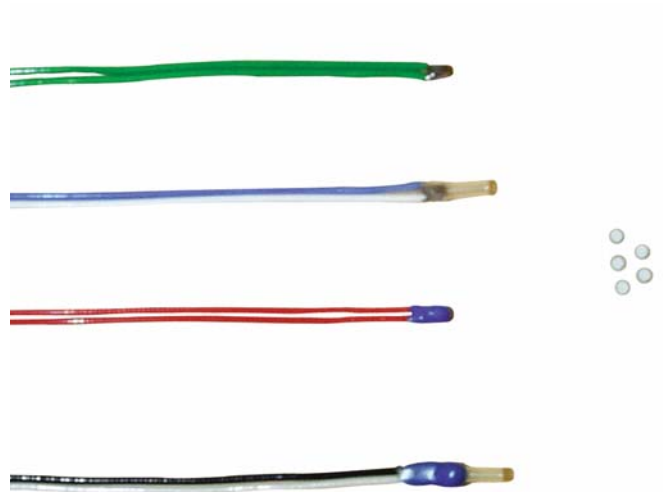
Features

- Suitable for embedding in wound components (motors, transformers, etc) for over-temperature protection
- Small size, fast response
- Standard and miniature head sizes
- Range of switch temperatures T_{NF} 140°F to 356°F (T_{NF} 60°C to 180°C)
- Head insulation up to 2.5 kV AC.
- Single, pair and triplet versions for single, 2- and 3-phase applications
- Compliance with DIN 44 081 & DIN 44 082 (switch temperatures T_{NF} 194°F to 320°F (T_{NF} 90°C to 160°C))

PTC Types YC, YD, YF, YG, YA

Thermometrics Discs With Flexible Wires/Unwired

PTC Types YC, YD, YF, YG, YA are Thermometrics products. Thermometrics has joined other GE high-technology sensing businesses under a new name—GE Industrial, Sensing.



Type YC, YD, YF, YG, YA Specifications

Description

A range of PTC disc thermistors with insulated flexible wires and a choice of head insulation. Unwired discs (type YA) are also available.

Options

- Other wire lengths
- Other switch temperatures in the range of 140°F to 356°F (60°C to 180°C)

Data

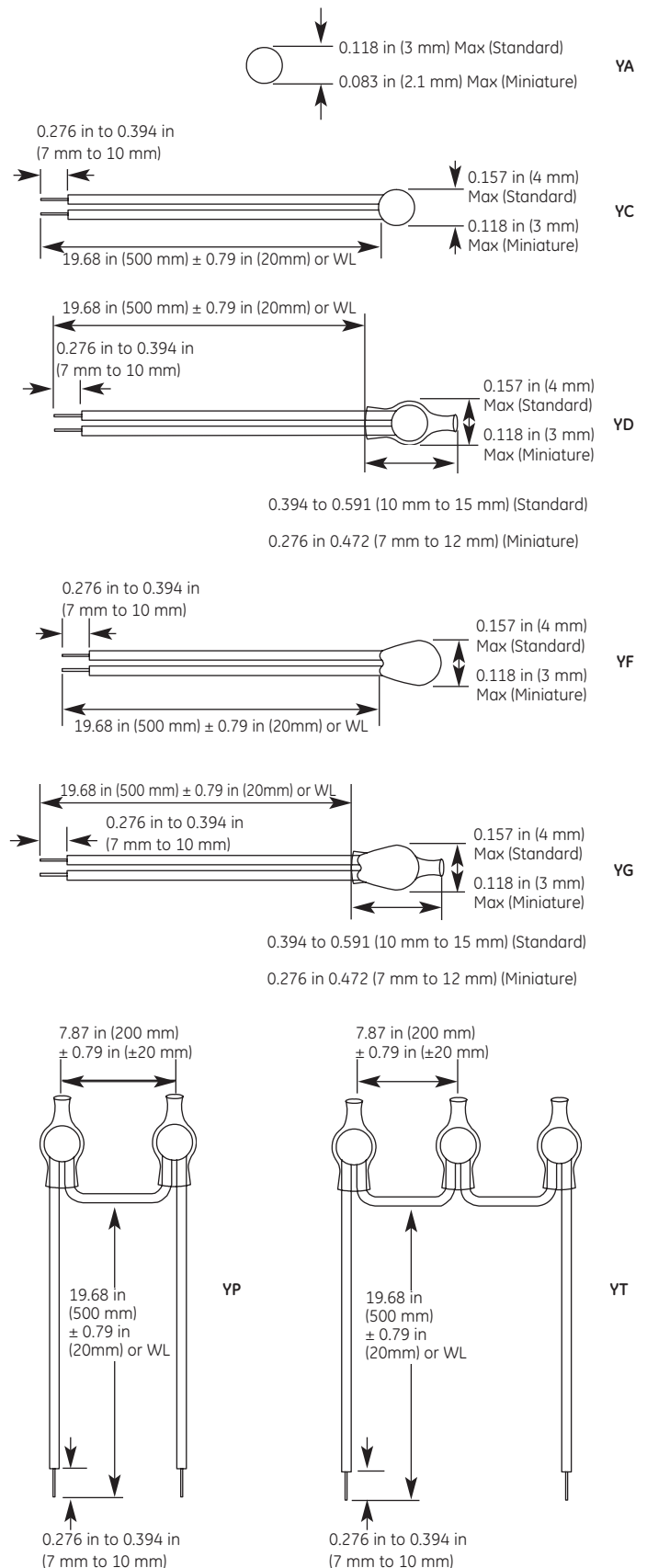
- **Operating Temperature**
 - (zero power): -25°C to 180°C or $T_{NF}+15°C$ (whichever is greater)
 - (30 VDC): -13°F to 104°F (-25°C to 40°C)
- **Storage Temperature:** -13°F to 149°F (-25°C to 65°C)
- * **Thermal resistance (embedded):** 0.05K/mW
- * **Dissipation factor (embedded):** 20mW/K
- * **Dissipation factor (free air 77°F (25°C)):** 5.5mW/K
- ** **Maximum power (free air 77°F (25°C)):** 690mW
- ** **Maximum applied voltage:**
 - (fault condition): 30 VDC
 - (for temperature sensing): 7.5 VDC
- **Insulation resistance (except YA & YC types):** >100MW at 100 VDC
- **Wire conductors:** Silver-plated copper
7 x 0.1 mm miniature, 7 x 0.2 mm standard
- **Wire insulation:** PTFE
- **Packing / MOQ:** 500/box (singles)
100/box (pairs & triplets)

Ratings as recommended in DIN 44 081 & 44 082 for built-in thermal protection of electric motors.

* These ratings are dependant on the method of insulation and mounting.

** Figures apply specifically to 248°F and 266°F (120°C and 130°C) switch temperatures.

All values, except operating and storage temperatures, refer specifically to types YC...TB.



Types YC, YD, YF, YG, YA Specifications

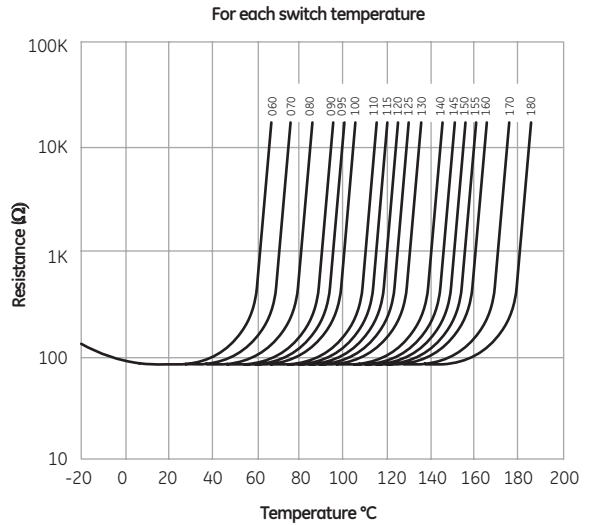
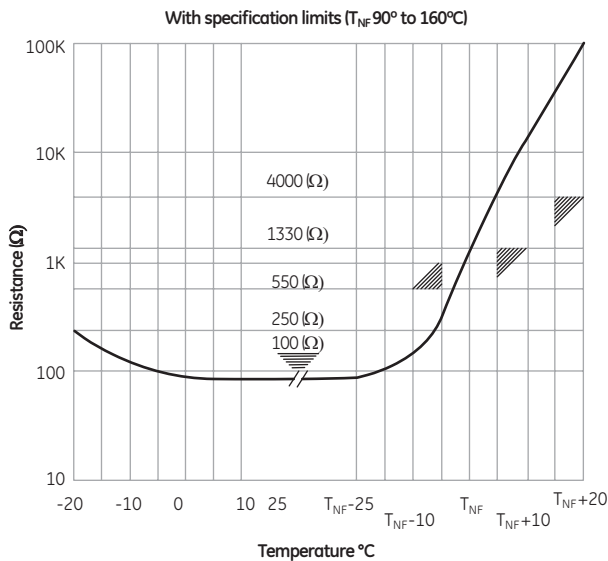
Resistance-Temperature Specification Limits:

Devices with $T_{NF} = 140^{\circ}\text{F}$ to 176°F (60°C to 80°C)									
-20°C to $T_{NF}-20^{\circ}\text{C}$		77°F (25°C)		$T_{NF}-5^{\circ}\text{C}$		$T_{NF}+5^{\circ}\text{C}$		$T_{NF}+23^{\circ}\text{C}$	
Ω	VDC	Ω	VDC	Ω	VDC	Ω	VDC	Ω	VDC
≤ 250	2.5	≤ 100	0.2	≤ 570	2.5	$>= 570$	2.5	$>= 10000$	2.5

Devices with $T_{NF} = 194^{\circ}\text{F}$ to 320°F (90°C to 160°C)									
-20°C to $T_{NF}-20^{\circ}\text{C}$		77°F (25°C)		$T_{NF}-5^{\circ}\text{C}$		$T_{NF}+5^{\circ}\text{C}$		$T_{NF}+15^{\circ}\text{C}$	
Ω	VDC	Ω	VDC	Ω	VDC	Ω	VDC	Ω	VDC
≤ 250	2.5	≤ 100	0.2	≤ 550	2.5	$>= 1330$	2.5	$>= 4000$	7.5

Devices with $T_{NF} = 338^{\circ}\text{F}$ to 356°F (170°C to 180°C)									
-20°C to $T_{NF}-20^{\circ}\text{C}$		77°F (25°C)		$T_{NF}-5^{\circ}\text{C}$		$T_{NF}+5^{\circ}\text{C}$		$T_{NF}+15^{\circ}\text{C}$	
Ω	VDC	Ω	VDC	Ω	VDC	Ω	VDC	Ω	VDC
≤ 250	2.5	≤ 100	0.2	≤ 570	2.5	$>= 1330$	2.5	$>= 4000$	7.5

Typical Resistance-Temperature Characteristics



Resistances shown are for a single sensor element. For pairs and triplets, the resistance of the combination is the sum of the individual sensor resistances at the relevant temperatures.

Wire Colors

TNF	$^{\circ}\text{C}$ Terminal wire colours
60	White - Grey
70	White - Brown
80	White - White
90	Green - Green
95	Black - Red
100	Red - Red
110	Brown - Brown
115	Brown - Red
120	Grey - Grey
125	Grey - Red
130	Blue - Blue
140	Blue - White
145	Black - White
150	Black - Black
155	Black - Blue
160	Blue - Red
170	Green - White
180	Red - White

Pairs and triplets have terminal wires color coded as above. Interconnecting wires are coded dependant on head size: miniature - yellow, standard - black.

Wire Codes

For types with L at the end of the part code, the wire lengths are as follows:

WL (mm)	Code
50 ± 5	L500
100 ± 10	L101
200 ± 20	L201
300 ± 20	L301
400 ± 20	L401
500 ± 20	Standard length - no code required
1000 ± 50	L102
1500 ± 50	L152
2000 ± 50	L202

