Sheath Material Temperature Limits

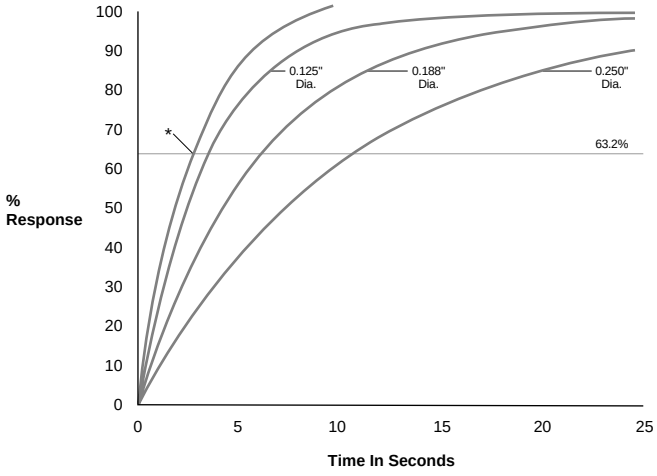
Ordering Code	Sheath Material	Max. Temp. (Const. Service, Air)		Application Notes
S	Stainless Steel 304	1650°F	899°C	General purpose austenitic Stainless Steel. Subject to carbide precipitation in the 900 to 1600°F range. Corrosion resistant in the Stainless Steel annealed condition. Not affected by sterilizing solutions, foodstuffs, most dyestuffs, organic chemicals and many inorganic chemicals.
S310	Stainless Steel 310	2100°F	1149°C	Very high elevated temperature strength and scale resistance. Superior to 304 in many high temperature applications. Good resistance to carburizing and reducing environments. Subject to carbide precipitation in the 900 to 1600° F range. (482°C to 871°C)
316	Stainless Steel 316	1650°F	899°C	Higher corrosion resistance than type 304. High creep strength withstands sulphuric acid compounds, resists tendency to pit in phosphoric and acetic acids Subject to carbide precipitation in the 800 to 1500°F range.. (427°C to 816°C)
1600	INCONEL®* 600	2100°F	1149°C	Good in severely corrosive environments at elevated temperatures. High hot-strength and resistance to progressive oxidation and fatigue. Non-magnetic. Use in sulfur free atmosphere.
1800	INCOLOY®* 800	2100°F	1149°C	Good resistance to oxidation, carbinization and other harmful effects of high temperature exposure.

*International Nickel Co., Inc. registered trademark

Resistance Temperature Detector (RTD)

Time Response

Resistance Temperature Detectors
Platinum RTD 100 Ohm



*Exposed element in moving air 3 feet per second

Tolerances For Platinum Resistance Detectors to IEC75 (1983) BS1904 (1984) and DIN43760 (1980)

Temp °C	Tolerance									
	Class B		Class A		1/3 DIN		1/5 DIN		1/10 DIN	
	+/– °C	+/– OHMS	+/– °C	+/– OHMS	+/– °C	+/– OHMS	+/– °C	+/– OHMS	+/– °C	+/– OHMS
–200	1.3	0.56	0.55	0.24	0.44	0.19	0.26	0.11	0.13	0.06
–100	0.8	0.32	0.35	0.14	0.27	0.11	0.16	0.06	0.08	0.03
0	0.3	0.12	0.15	0.06	0.1	0.04	0.06	0.02	0.03	0.01
100	0.8	0.3	0.35	0.13	0.27	0.1	0.16	0.05	0.08	0.03
200	1.3	0.48	0.55	0.2	0.44	0.16	0.26	0.1	0.13	0.05
300	1.8	0.64	0.75	0.27	0.6	0.21	0.36	0.13	0.18	0.06
400	2.3	0.79	0.95	0.33	0.77	0.26	0.46	0.16	0.23	0.08
500	2.8	0.93	1.15	0.38	0.94	0.31	0.56	0.19	0.28	0.09
600	3.3	1.06	1.35	0.43	1.1	0.35	0.66	0.21	0.33	0.1
650	3.6	1.13	1.45	0.46	1.2	0.38	0.72	0.23	0.36	0.11
700	3.8	1.17	Note: Tolerances are calculated to 2 decimal points and are taken as a fraction of Class B.							
800	4.3	1.28								
850	4.6	1.34								

RTD Wire Configuration

3 Wire Construction

This configuration provides one connection to one lead and two to the other lead of the sensor. Connected to an instrument designed to accept three wire input, compensation is achieved for lead resistance and temperature change in lead resistance. This is the most commonly used configuration.

4 Wire Construction

This configuration provides two connections to each lead of the sensor. This construction is used for measurement of the highest precision.