

RTD

鉑電阻 RTD / プラチナインピーダンス Resistance Temperature Detector (RTD)

適用領域 / Product Application

白金電阻式溫度感測器是一款在 0°C 時電阻為 100 W 的感溫裝置，它的電阻隨著溫度變動，通常可以測量高達 850°C 的溫度，電阻和溫度之間呈直線線性關係。

A platinum resistance temperature detector (RTD) is a device with a typical resistance of 100 Ω at 0°C. Its resistance varies with temperature and it can typically measure temperatures up to 850 °C. The relationship between resistance and temperature is relatively linear.

絕緣體 (PFA 鐵氟龍)
Insulator (PFA Teflon)



技術資料 / TECHNICAL DATA

種類 Material	適用溫度 Temp Range	耐燃性 Flame Retardant	耐磨性 Friction Resist.	耐油性 Oil Resist.	耐酸鹼性 Chemical Resist.	耐濕性 Waterproof	可繞性 Flexibility
塑膠 PVC	-10 ~ 105C	Bad	Good	Bad	Fair	Good	Excellent
橡膠 EPR/HYP Rubber	-15 ~ 110C	Bad	Good	Good	Good	Good	Excellent
矽膠 Silicone	-60 ~ 200C	Good	Good	Excellent	Excellent	Excellent	Excellent
鐵氟龍 Teflon FEP	-100 ~ 200C	Excellent	Excellent	Excellent	Excellent	Excellent	Good
鐵氟龍 Teflon PFA	-267 ~ 260C	Excellent	Excellent	Excellent	Excellent	Excellent	Good
KAPTON	-267 ~ 316C	Good	Good	Good	Good	Fair	Fair
玻璃纖維 Fiberglass	-100 ~ 500C	Excellent	Fair	Fair	Excellent	Bad	Fair
耐高溫陶瓷纖維 Ceramic Fiber	-100 ~ 1200C	Excellent	Bad	Fair	Excellent	Bad	Fair

代號 Wire Code	規格 Specification	線徑 Dimension		絕緣材質 Insulation Material	導體材質 Conductor Material		環境溫度 Temp. Range	米 / 卷 Mt/ Coils
		ID (mm)	OD (mm)		A (Red)	BB (White)		
PT-RTD-G	0.12/19 x 3 (24 AWG)	1.05	3.80	PVC	OFC/ TC/ SPC/ NPC	OFC/ TC/ SPC/ NPC	-30 ~ 105C	500
PT-RTD-G-AL	0.12/19 x 3 (24 AWG)	1.05	4.80	PVC-AL FOIL	OFC/ TC/ SPC/ NPC	OFC/ TC/ SPC/ NPC	-30 ~ 105C	500
PT-RTD-S	0.12/19 x 3 (24 AWG)	1.05	4.00	矽橡膠 Silicone	OFC/ TC/ SPC/ NPC	OFC/ TC/ SPC/ NPC	-60 ~ 200C	500
PT-RTD-F	0.12/19 x 3 (24 AWG)	1.05	2.65	鐵氟龍 Teflon	OFC/ TC/ SPC/ NPC	OFC/ TC/ SPC/ NPC	-190 ~ 205C	500
PT-RTD-F-AL	0.12/19 x 3 (24 AWG)	1.05	2.85	鐵氟龍 - 鋁箔隔離 Teflon-AL FOIL	OFC/ TC/ SPC/ NPC	OFC/ TC/ SPC/ NPC	-190 ~ 205C	500
PT-RTD-F-SOS	0.12/19 x 3 (24 AWG)	1.05	3.00	鐵氟龍 - 編織銅網隔離 Teflon-AL FOIL	OFC/ TC/ SPC/ NPC	OFC/ TC/ SPC/ NPC	-190 ~ 205C	500
PT-RTD-F	0.19/19 x 3 (20 AWG)	1.30	3.30	鐵氟龍 Teflon	OFC/ TC/ SPC/ NPC	OFC/ TC/ SPC/ NPC	-190 ~ 205C	500
PT-RTD-FA	0.12/19 x 3 (24 AWG)	1.05	2.75	PFA 鐵氟龍 Teflon	OFC/ TC/ SPC/ NPC	OFC/ TC/ SPC/ NPC	-190 ~ 260C	500
PT-RTD-FA	0.19/19 x 3 (20 AWG)	1.30	3.30	PFA 鐵氟龍 Teflon	OFC/ TC/ SPC/ NPC	OFC/ TC/ SPC/ NPC	-190 ~ 260C	501
PT-RTD-H	0.12/19 x 3 (24 AWG)	1.05	2.65	玻璃纖維 Fiberglass	OFC/ TC/ SPC/ NPC	OFC/ TC/ SPC/ NPC	-60 ~ 400C	500
PT-RTD-H-SOS	0.12/19 x 3 (24 AWG)	1.05	3.00	玻璃纖維 - 不鏽鋼網 Fiberglass-SUS304	OFC/ TC/ SPC/ NPC	OFC/ TC/ SPC/ NPC	-60 ~ 400C	500

ANSI and IEC Color Codes

For Thermocouples, Wire and Connectors

補償導線國際色規 / 各国規格による補償導線カラーコード

All NIZING® Thermocouple Wire, Probes and Connectors are available with either ANSI or IEC Color Codes.



補 償 導 線

ANSI Code	Comments Environment-Bare Wire	Color Coding		International IEC 584-3	International IEC 584-3 Intrinsically Safe	CZECH British to BS 1843	Netherlands German to DIN 43710	Japanese to JIS C 1610-1981	French to NFE-18801
		Thermocouple Grade	Extension Grade						
J	Reducing Vacuum, Inert. Limited Use in Oxidizing at High Temperatures. Not Recommended for Low Temperatures.								
K	Clean Oxidizing and Inert. Limited use in Vacuum or Reducing. Wide Temperature Range. Most Popular Calibration.								
V'	Alternative to KX Type Extension Wire for Low Temperature. Not Recommended for General Use.	None Established	None Established						
T	Mid Oxidizing, Reducing Vacuum or Insert. Good Where Moisture is Present Low Temperature and Cryogenic Applications.								
E	Oxidizing or Inert. Limited Use in Vacuum or Reducing Highest EMF Change Per Degree								
N	Alternative to Type K More stable at High Temperature						No Standard Use American Color Code		
R	Oxidizing or Inert. Do Not Insert in Metal Tubes. Beware of contamination. High Temperature	None Established							
S	Oxidizing or Inert. Do Not Insert in Metal Tubes. Beware of Contamination. High Temperature	None Established							
U'	Extension Guide Connecting Wire for R and S Thermocouples Also Known as RX and SX Extension Wire	None Established							
B	Oxidizing or Inert. Do Not Insert in Metal Tubes. Beware of Contamination. High Temperature. Common Use in Glass Industry.	None Established					No Color Standard		No Color Standard
G' (W)	Vacuum, Inert, Hydrogen. Beware of Embrittlement Not Practical Below 399°C (750°F)Not for Oxidizing Atmosphere.	None Established					No Standard Use American Color Code		
C' (W5)	Vacuum, Inert, Hydrogen. Beware of Embrittlement. Not Practical Below 399°C (750°F)Not for Oxidizing Atmosphere.	None Established					No Standard Use American Color Code		
D' (W3)	Vacuum, Inert, Hydrogen. Beware of Embrittlement. Not Practical Below 399°C (750°F)Not for Oxidizing Atmosphere.	None Established					No Standard Use American Color Code		