

崧啓工業股份有限公司



**THERMOWAY**

*[www.thermoway.com.tw](http://www.thermoway.com.tw)*

## 松啓工業股份有限公司 簡介

- 1995年 二月松啓企業有限公司成立  
我們主要從事溫度感應器、工業用熱電偶(Thermocouple)及熱電阻(Resistance Temperature Detector)的生產製造與進口溫度控制儀器和相關零件等之銷售販賣。
- 1998年 7月通過了BS EN ISO 9002:1994認證。
- 1999年 擴廠遷移到(現址)，成立松啓工業有限公司。
- 2001年 3月通過ISO/IES GUIDE 25溫度實驗室認證。
- 2002年 3月通過 BS EN ISO9001:2000認證。
- 2002年 8月通過 ISO/IEC 17025溫度實驗室認證。
- 2003年 中國東莞營業所成立
- 2006年 成立“機、電、儀、工程部”。  
從感應器、溫度控制器、加熱器、到校正服務，我們建立了更完善的溫控系統。
- 2007年 台南辦事處成立
- 2008年 3月通過TAF溫度實驗室認證
- 2008年 10月取得NEPSI防爆認證Ex d11C T1-T6 國儀爆(08)053號 防爆證號:GYB081502 GYB081503
- 2009年 半導體用熱電偶專用生產線擴展第二工廠
- 2010年 ISO9001:2008認證
- 2010年 3月 成立遊校團隊，開始與對外遊校。
- 2013年 台中辦事處成立
- 2013年 1月日本分公司設立 5月第二工廠增設擴廠 7月第一工廠增設擴廠
- 2016年 5月ISO 14001環境認證
- 2017年 3月粉塵防爆認證

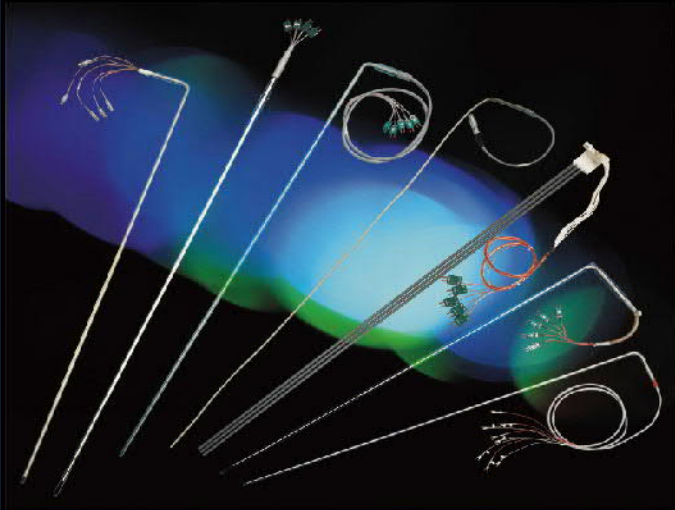
## Thermoway Industrial Co., Ltd.

- 1995 First established
- 1998 Thermocouple & RTD manufacturing, and distribute related temperature measurement parts and accessories.
- 1999 BS EN ISO 9002:1994 certified
- 2001 Expanded & relocated to current office and factory in Sijhih, New Taipei City.
- 2002 ISO/IEC Guide 25certified.  
BS EN ISO 9001:2000 certified  
ISO/IEC 17025 certified in late 2002.
- 2008 Taiwan Accreditation Foundation (TAF) certified.
- 2009 Second factory plant established focusing on semi-conductor industry.  
New venue for our independent laboratory and clean room facility.
- 2010 ISO 9001:2008 & QC 080000 certified.
- 2011 Conformité Européenne (CE) certification for Transmitter.
- 2012 Taiwan Explosion Proof Rated certified.
- 2013 Continue expansion of our first factory plant with additional floor space.
- 2014 China Explosion Proof Rated certified.  
Patent for Terminal Block
- 2015 Thermoway Japan office is founded.  
Conformité Européenne (CE) certificati
- 2016 ISO 14001 certified.  
Low-power Radio-frequency Devices certified by Taiwan Electronics Testing Centre.
- 2017 Dust Explosion Proof Certified by the Industrial Technology Research Institute (ITRI)

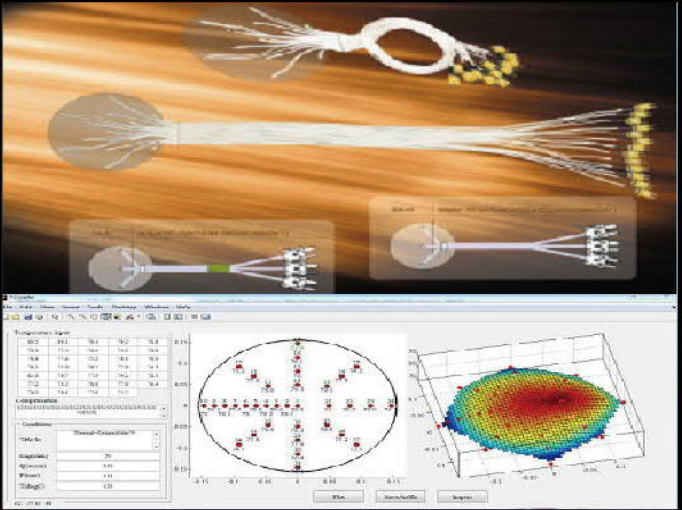
我們信念是持續提升我們產品-品質及服務 以滿足客戶需求。  
我們擁有一個受過專業訓練的強大團隊  
可以提供專業客制化產品及解決溫度感測相關的疑難雜症 以滿足每一位客戶的特殊要求

Thermoway provides superior quality products and the best quality service.  
Our philosophy is "continue to improve quality and exceed customer expectations".  
We have a team of experienced & skilled workers as well as knowledgeable engineers,  
providing the temperature control process required optimal system design and  
improvement program. We have a variety of customized products that can be applied  
to in a wide range of temperatures applications up to 2200 degrees Celsius and  
different environments. We are aiming to provide our customers with the best  
service and products.

半導體用熱電偶  
Profile Thermocouple for Semiconductor Industry



WAFER & 溫度曲線圖  
TC Wafer & Software



防爆型熱電偶(代指示器)  
Explosion Proof Thermocouple



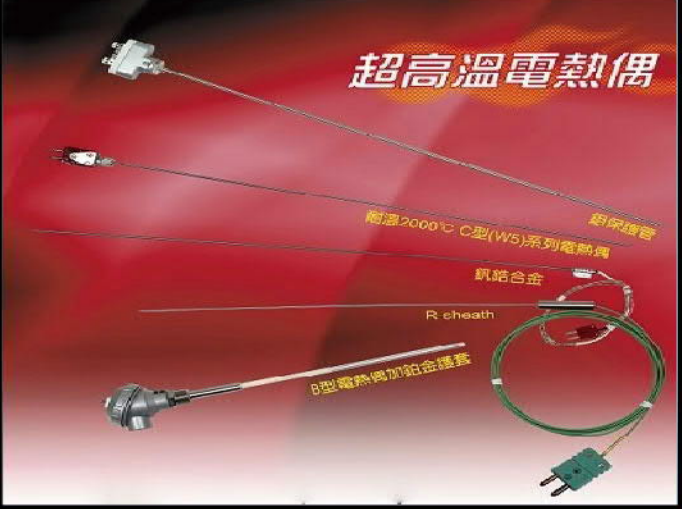
粉塵防爆型 熱電偶/熱電阻  
Dust Ex-Proof Thermocouple & RTD



高溫型熱電偶  
Spike Thermocouple



超高溫型熱電偶  
Ultra High Temperature Thermocouple



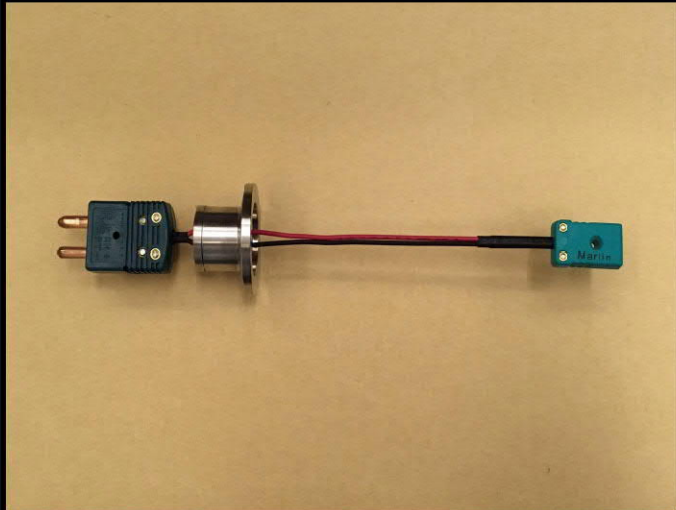
通用型熱電偶、熱電阻  
General Purpose Thermocouple & RTD



耐腐蝕環境 熱電偶、熱電阻  
Corrosion Proof Thermocouple & RTD



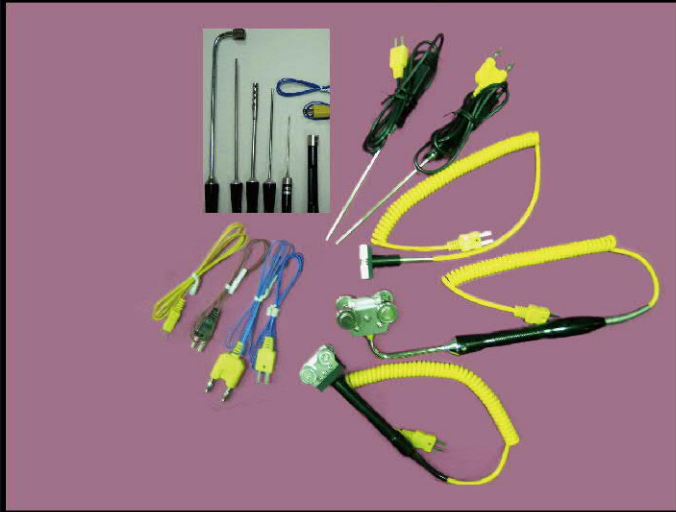
真空用 法蘭接頭  
Feedthrough Flange Style for GT Furnace



鑄錠爐熱電偶  
Thermocouple for Casting Furnace



手提式溫度計  
Handheld Style



塑膠工業用  
Thermocouple for Plastic Industry



快速接頭  
Connectors



盤面式母座  
Panel Jacks



非金屬保護管  
Non-Metal Protection Tubes



附屬配件  
Other Parts



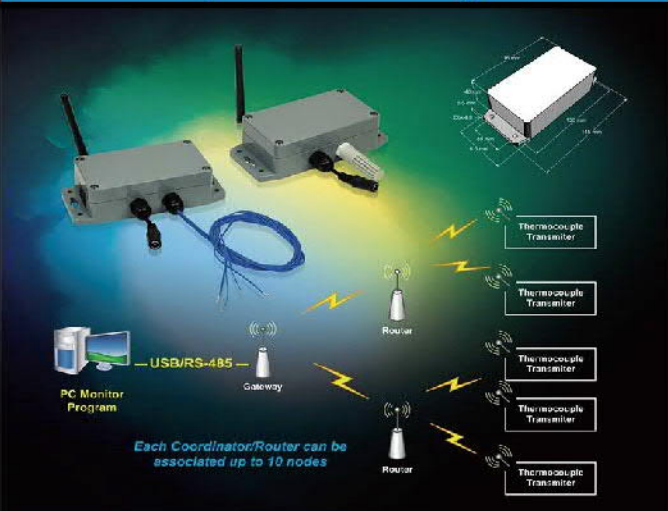
熱電阻元件  
Sensor Elements



鎧裝型熱電偶  
Mineral Insulated Cables



## 無線溫濕度計 Wireless Temperature & Humidity Transmitters



## 雙組式熱電偶溫度錶 Two-Channel Thermometer

### 502A 多功能精密溫度計

- 測量範圍: TYPE K: -100~1372°C  
TYPE J: -20~1200°C  
TYPE T: -200~400°C  
TYPE E: -20~1000°C  
TYPE N: -50~1300°C  
TYPE R: 0~1767°C  
TYPE S: 0~1767°C



- 可記錄最大值、最小值及讀值鎖定.
- 精確度:  $\pm 0.1\%$  比較值功能(相對值).
- RS-232輸出介面. °C / °F單位切換.
- Size: 180X72X32mm

## 無線藍芽溫度計 Blue-Tooth Thermocouples



## 紅外線溫度計 Infrared Thermal Imaging



## 無線溫濕度系統 Wireless System



## 整捲OMEGA導線 Thermocouple Wire



## 恆溫爐 350/650型 Calibrator



## 點焊機 Fine Wire Welder



## 溫度控制器及傳送器 Controller & Transmitter



## 無紙式記錄器 Paperless Recorder



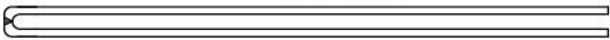
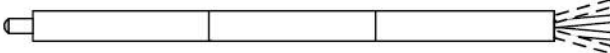
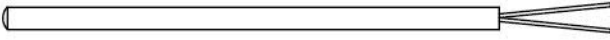
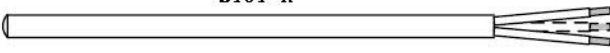

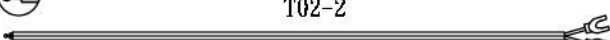
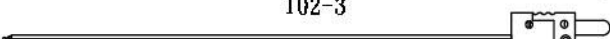
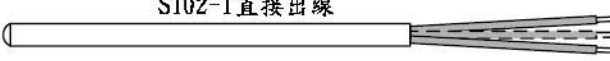
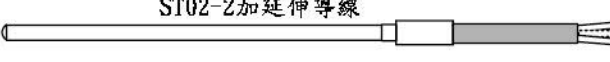
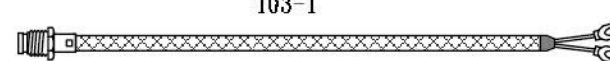

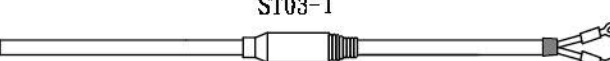


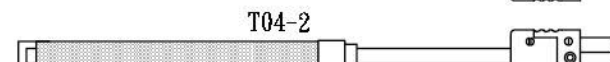
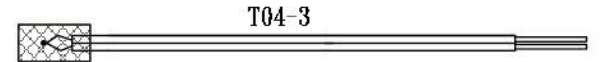
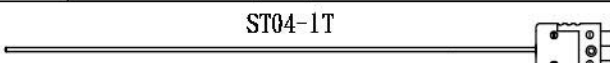
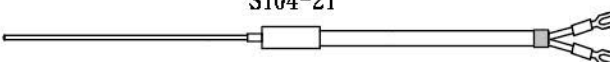
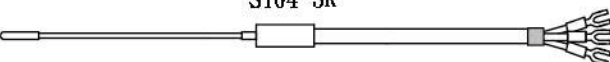
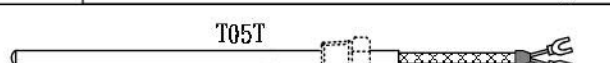

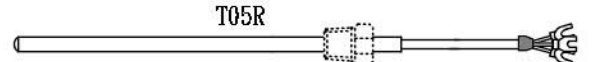
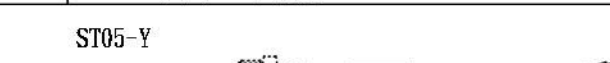

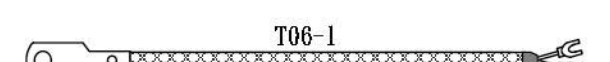
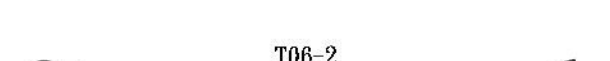


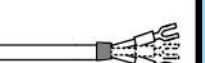
## 熱電偶/補償導線 / Thermocouple Wire

### 國際規格顏色辨識


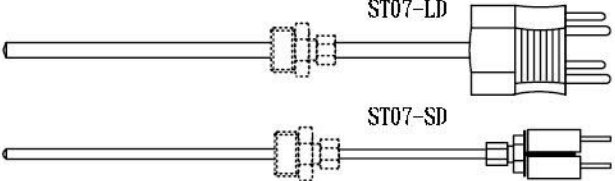

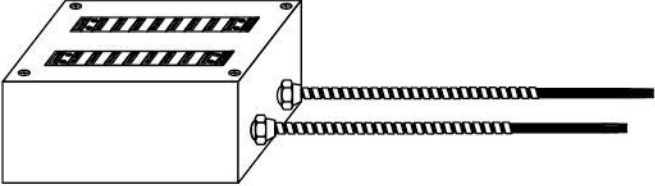

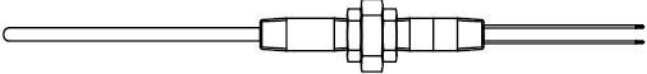
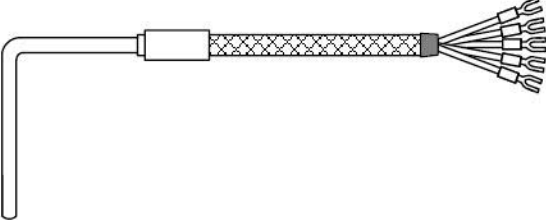

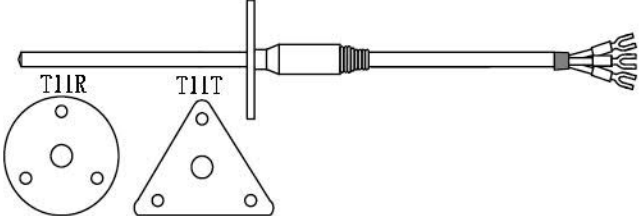
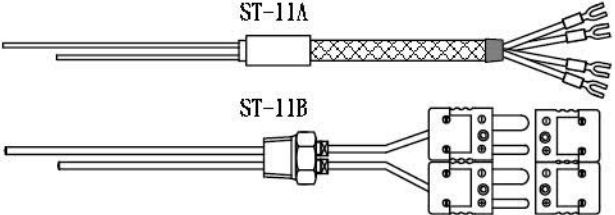

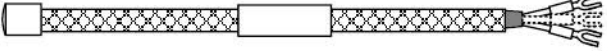
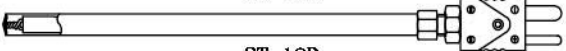
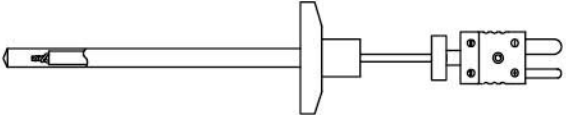
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<b>JIS C1610 區分 2</b>	Gray + White -	Black + White -		Blue + White -	Purple + White -	Yellow + White -	Brown + White -
<b>ASTM E230</b>	Gray + Red -	Green + Black + Red -	Orange + Red -	Yellow + Red -	Purple + Red -	Black + Red -	Blue + Red -

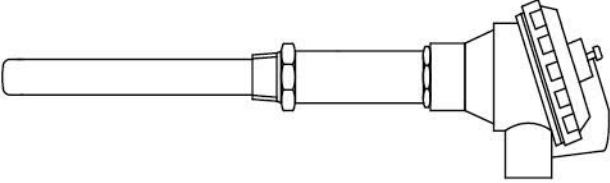
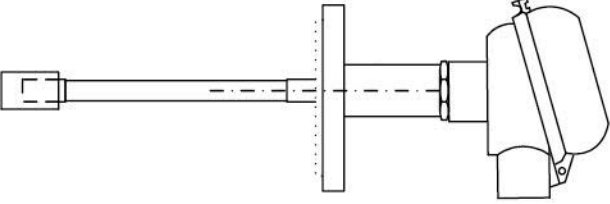
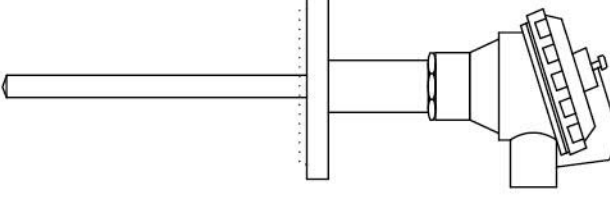
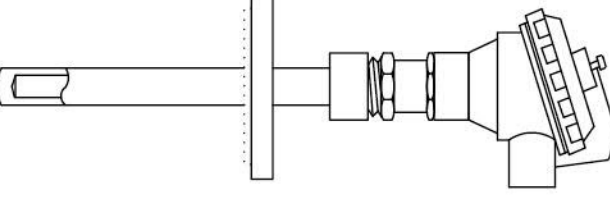
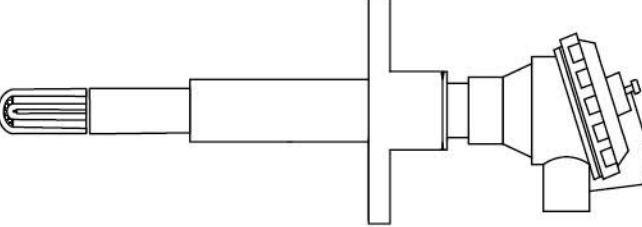
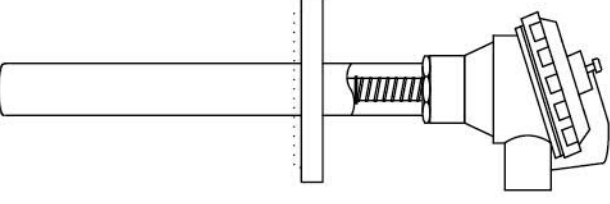
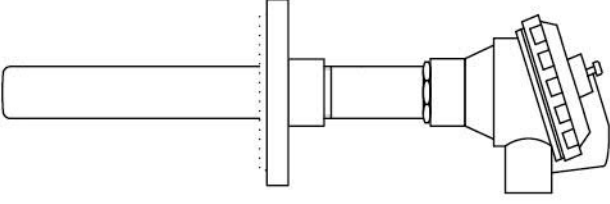
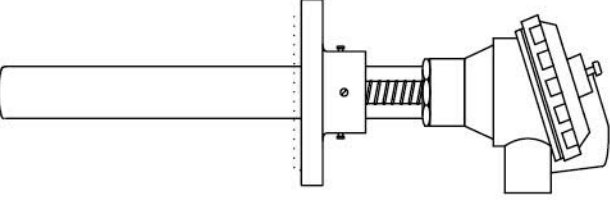
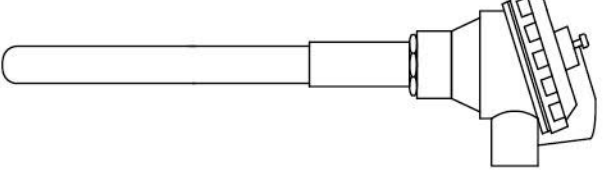
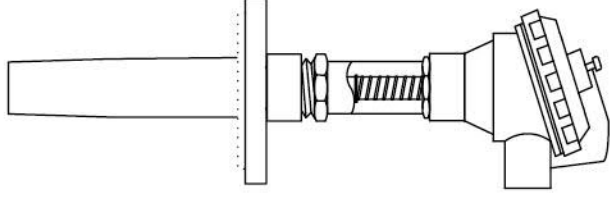
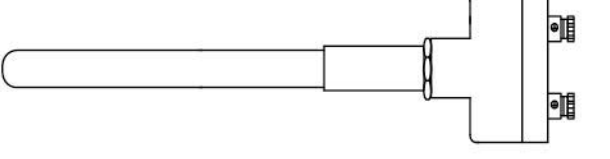
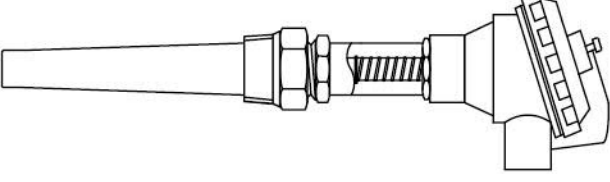
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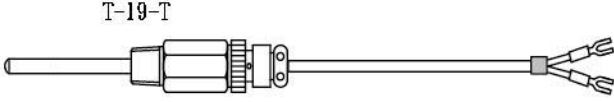
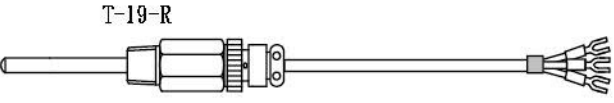
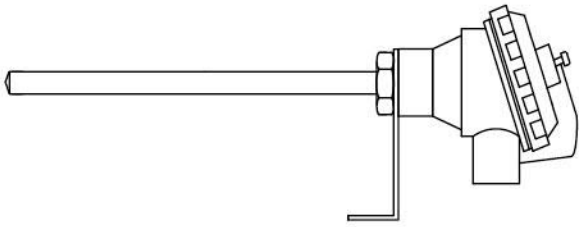

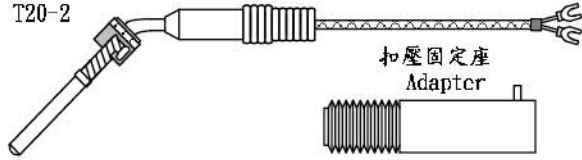
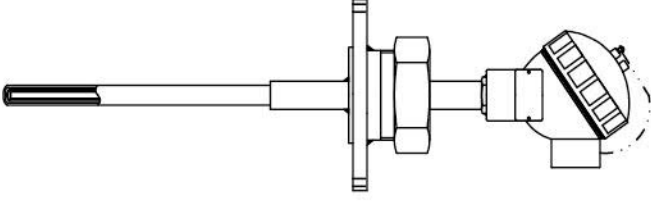
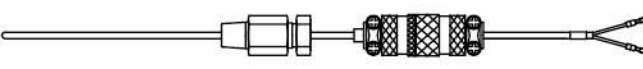


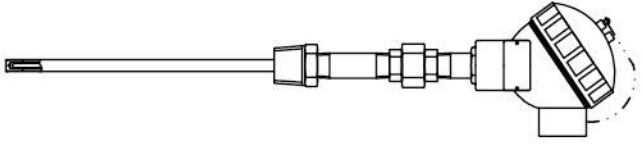
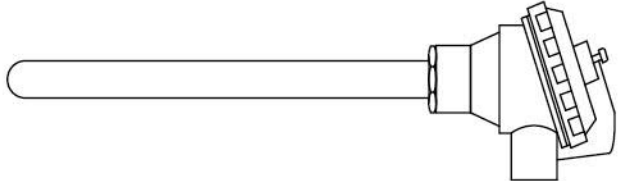
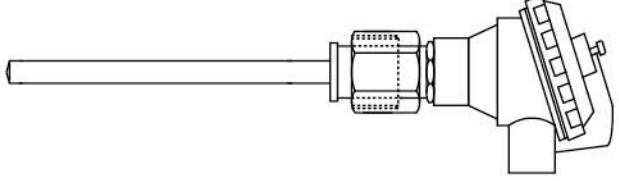
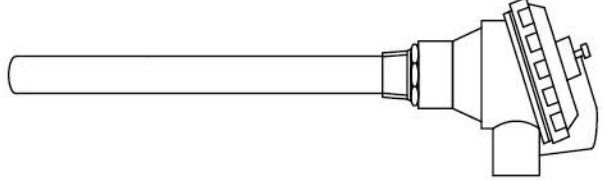
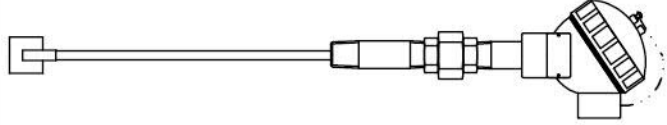
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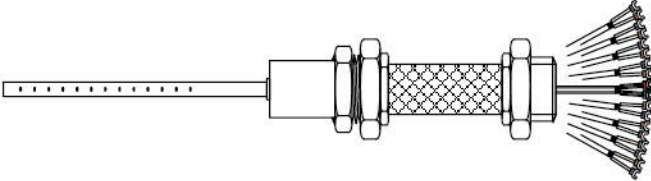
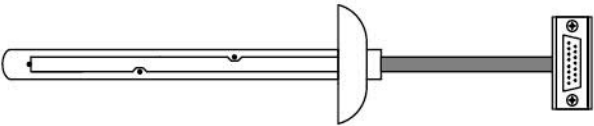
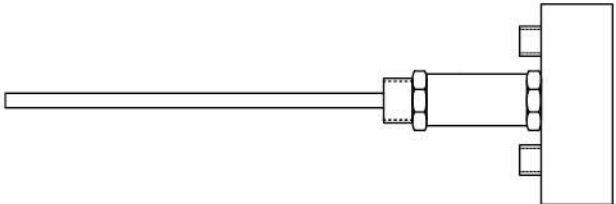
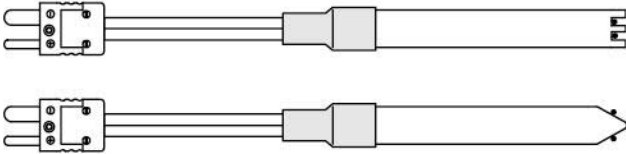
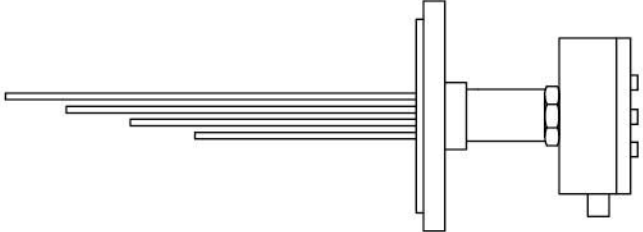
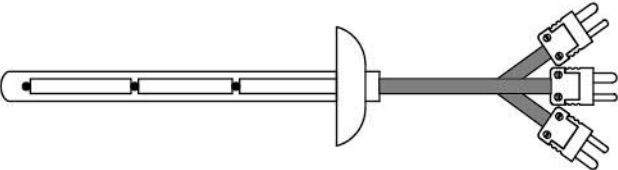
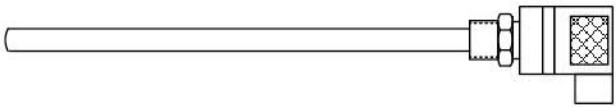
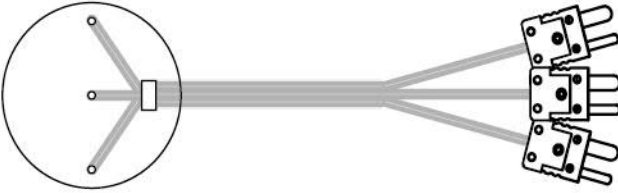
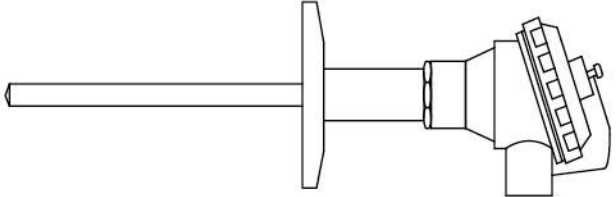
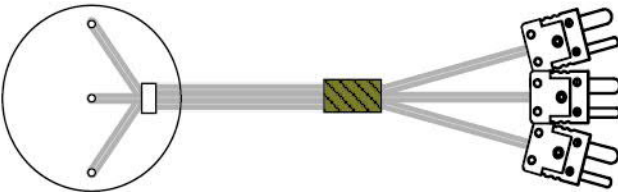
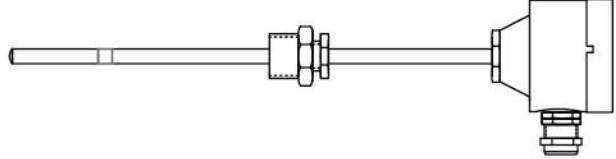
型式	外觀型式	型式	外觀型式
T-01	素材基本型/Basic	ST-01	基本型/Sheathed Cable
	<p>T01T/素線型</p>  <p>T01R/熱電阻加絕緣套型</p> 		<p>ST01-T</p>  <p>ST01-R</p> 
T-02	測溫線尖端點焊加端子/Exposed Junction	ST-02	普及型/Standard Sheathed Cable
	<p>T02-1</p>  <p>T02-2</p>  <p>T02-3</p> 		<p>ST02-1直接出線</p>  <p>ST02-2加延伸導線</p> 
T-03	測溫線加活動式固定螺絲/Adjustable Fitting	ST-03	應用型/Applicational
	<p>T03-1</p>  <p>T03-2</p> 		<p>ST03-T</p>  <p>ST03-R</p> 
T-04	表面式測溫線/Surface Measuring	ST-04	極細型/Ultra Thin
	<p>T04-1</p>  <p>T04-2</p>  <p>T04-3</p> 		<p>ST04-1T</p>  <p>ST04-2T</p>  <p>ST04-3R</p> 
T-05	插管式測溫線加固定螺/Hex Fitting	ST-05	金屬軟管/E型接頭/SS-Armor/E-Connector
	<p>T05T</p>  <p>T05T-RM</p>  <p>T05R</p> 		<p>ST05-Y</p>  <p>ST05-E</p> 
T-06	螺絲固定式表面測溫線/Bolt-on Washer	ST-06	應用型加PAD/PAD Application
	<p>T06-1</p>  <p>T06-2</p> 		<p>ST06-1</p>  <p>ST06-2</p>  <p>ST06-3</p> 



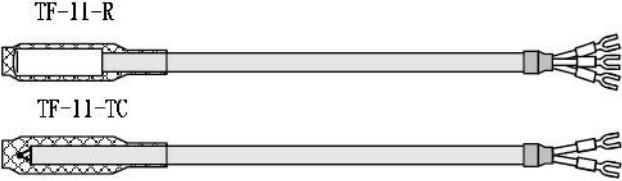
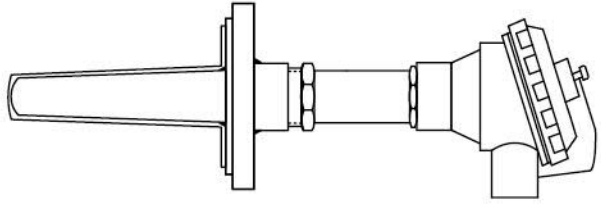
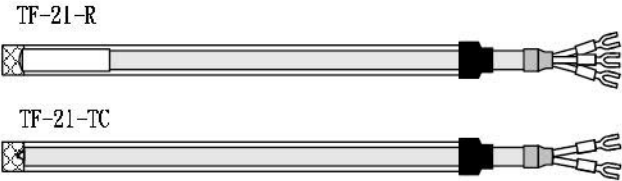
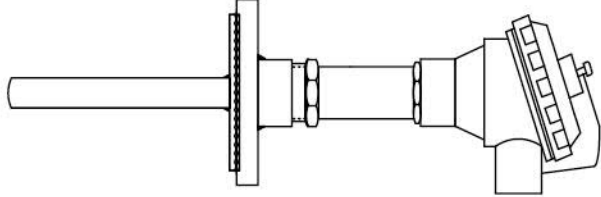
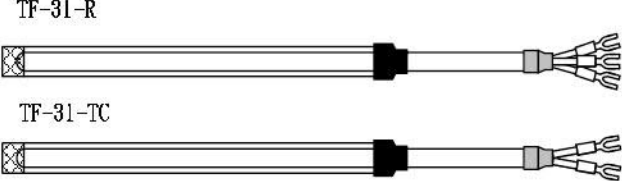
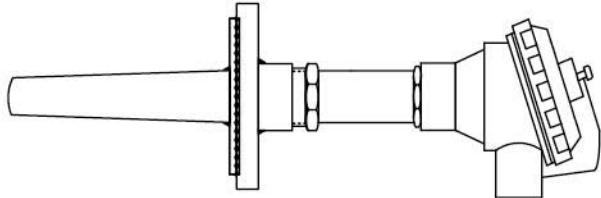
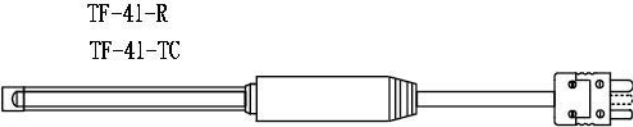
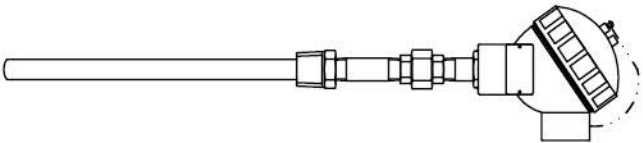
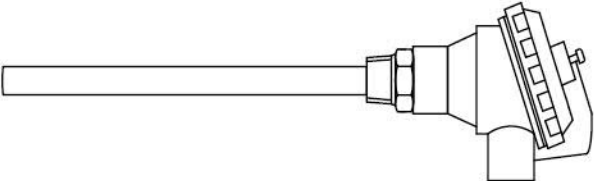
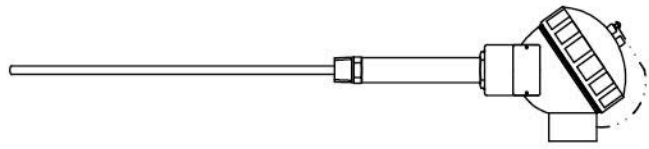
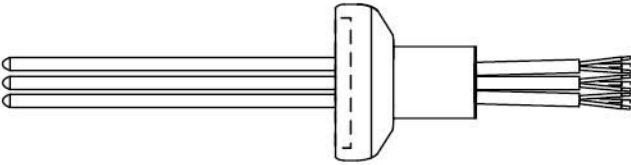
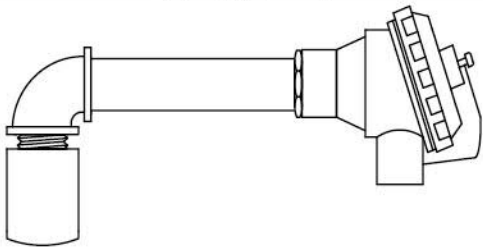
型式	外觀型式	型式	外觀型式
T-07	熱處業熱電偶/Heat Treatment Application 2.54mm pitch crimp terminal 	ST-07	雙組接頭雙組型/Dual Element 
T-08	固定螺紋裝配型/Fixed Thread Fitting 	ST-08	快速接頭固定箱/Boxed Terminal 
T-09	表面型熱電偶/Surface Probe 	ST-09	由任管接型/Union Style 
T-10	RTD加TC混合/L型RTD & TC Combined / L-Shape 	ST-10	防水金屬接頭型/Hermetically Sealed Connector 
T-11	金屬片固定型/Mounting bracket 	ST-11	雙組式分離型/Dual Element Separated 
T-12	軸承溫度計/Oil-Filled T-12  T-12F 	ST-12	2200°C 極高溫型/Exotic Thermocouple ST-12A  ST-12B 

型式	外觀型式	型式	外觀型式
T-13	螺絲旋入型加NIPPLE/Screw In with Nipple	ST-13	帶顯示型溫度計/Digital Indicator
			
T-14	法蘭片固定型/Flange	ST-14	防水型溫度計/Water Resistance
			
T-15	高爐熱風主管熱電偶/Steel Blast Furnace	ST-15	法蘭片保護套管型/Thermowell with Flange
			
T-16	法蘭片保護套管型/Thermowell with Flange	ST-16	活動式法蘭片保護套管型/Adjustable Flange
			
T-17	非金屬保護管型/Ceramic Protection Tube	ST-17	法蘭片錐形保護套管型/Tapered Thermowell
			
T-18	T型接線盒非金屬保護管型/T Terminal	ST-18	螺絲旋入錐形保護套管型/Threaded Thermowell
			

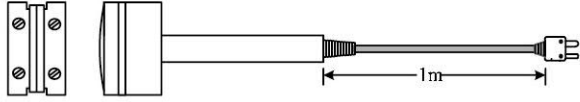
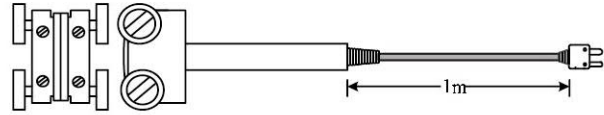
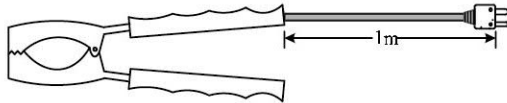
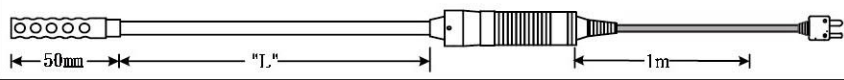

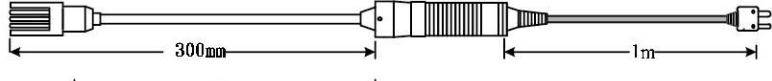
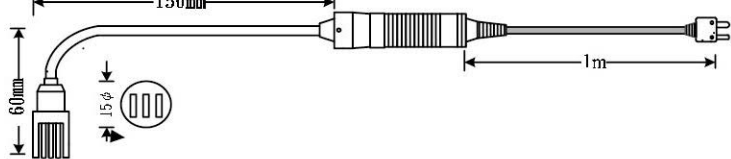
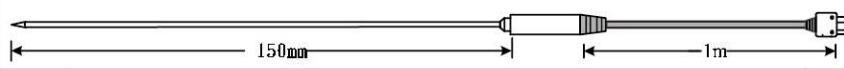
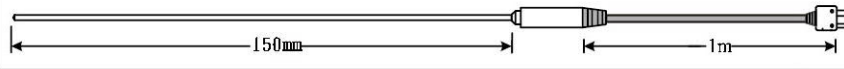
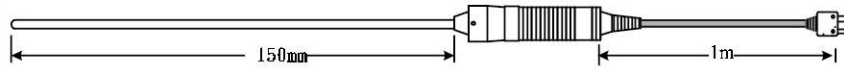
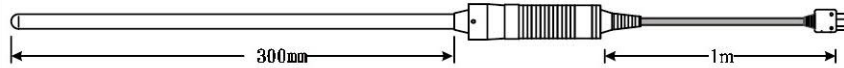
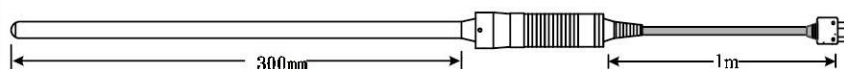
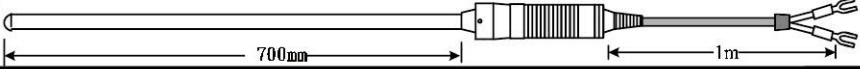
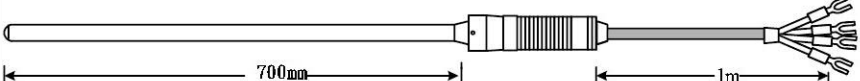
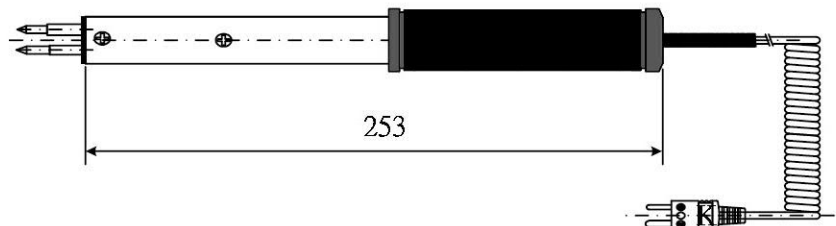
型式	外觀型式	型式	外觀型式
T-19	六角螺旋入式加E型接頭/HEX Fitting	ST-19	L型金屬固定式/L-Shape with Metal Holder
	<p>T-19-T</p>  <p>T-19-R</p> 		
T-20	彈簧扣壓式/Bayonet	ST-20	螺牙固定式/Fixed Thread Fitting
	<p>T20-1</p>  <p>T20-2</p>  <p>扣壓固定座 Adapter</p>		
T-21	螺牙固定式/Compression Fitting	ST-21	L 型 接線盒/L-Shape
			
T-22	活動式扣壓型/Armored Adj. Bayonet	ST-22	螺牙固定由任型/ Fitting with Union
			
T-23	金屬保護管式/S. S Protection Tube	ST-23	活動式內螺牙/Adjustable Inner Thread
			
T-24	螺絲旋入式/S. S Protection Tube with Thread	ST-24	管路Pad型/ Utility PAD
			

型式	外觀型式	型式	外觀型式
SX-01	太陽能 GT 爐/GT SOLAR TC	SX-61	13點式熱電偶/Multi Point
			
SX-11	太陽能 PV TC /PV SOLAR TC	SX-71	防爆24對型/Ex-Proof Distributional
			
SX-21	SPIKE 熱電偶/Spike TC	SX-81	多對式防爆型/Multi Point Ex-Proof With Head
			
SX-31	PROFILE 熱電偶/Profile TC	SX-91	赫斯曼接頭型 /Hirschmann
			
SX-41	Wafer TC (大氣環境)/Wafer TC (Atmospheric)	SX-12	食品衛生級/Sanitary / Food-Grade
			
SX-51	Wafer TC(真空環境)/Wafer TC for Vacuum	SX-22	量測前端隔離型/Isolation Style
			

型 式	EX耐壓防爆型/Explosion-Proof	型 式	EX耐壓防爆型/Explosion-Proof
EX-11	耐壓防爆標準型/Ex Proof Thermometer	EX-71	耐壓防爆實心棒法蘭型/Thermowell with Flange
EX-21	耐壓防爆法蘭型/Ex Proof with Flange	EX-81	耐壓防爆非金屬保護管型/Ceramic Tube
EX-31	耐壓防爆螺紋旋入型/Ex Proof with Support Pipe	EX-91	耐壓防爆由任型/Union/Nipple
EX-41	耐壓防爆union型/Union	EX-22	耐壓防爆實心棒union型/Thermowell with Union
EX-51	耐壓防爆法蘭保護管型/ Flange	EX-32	耐壓防爆螺溫度傳送器型/With Temp. Transmitter
EX-61	耐壓防爆實心棒螺紋旋入型/Thermowell	EX-42	耐壓防爆溫度傳送器型/ With Temp. Indicator

型式	耐酸鹼/Corrosive Resistant	型式	耐酸鹼/Corrosive Resistant
TF-11	雙層熱收縮TEF套管型/Heat shrink TEF Tube	TF-12	TEF一體成型保護套管/TEF Tube
TF-11-R TF-11-TC			
TF-21	單層TEF保護套管型/ TEF Tube	TF-22	Hastelloy C、B 保護管型/Hastelloy C、B Tube
TF-21-R TF-21-TC			
TF-31	TEF加金屬管型TEF with Inner Metal Tube	TF-32	Haste' C、B 實心棒型/Haste' C、B Thermowell
TF-31-R TF-31-TC			
TF-41	手提型外加TEF管型/Hand-Held TEF Tube	TF-42	陶瓷由任型/Ceramic Tube with Union
TF-41-R TF-41-TC			
TF-51	鈦金屬保護套管型/Titanium Tube	TF-52	內置溫度傳送器型/With Temp. Transmitter
			
TF-61	TEF多點式熱電偶/Multi Point	TF-62	L型可更換式/Replaceable
			

手提式溫度檢出器及表面測溫檢出器  
Hand-Held Thermocouple Probe

型式編碼 MODEL NO.:	型式 TYPE:	適用場所 SUITABLE:	溫度檢出器型式(STYLE:)	TEMP.
TCW-01	K	磁鐵表面 Magnetic Surface		250°C
TCW-02	K	滾輪表面 Rolling Surface		250°C 500°C
HTC-01	K J T	表面測溫 Clamp Surface		150°C
HTC-02	K	大氣環境 Air/Gas		500°C
HTC-03	K	表面測溫 Surface		500°C
HTC-04	K	表面測溫 Surface Measuring		500°C
HTC-05				
HTC-06 (3.2 φ)	K, E J, T, N PT100	食品工業 Food Needle		750°C
HTC-07 (3.2 φ)	K, E J, T, N PT100	大氣環境 液體環境 Immersion Liquid		750°C
HTC-08 (4.8 φ)	K, E J, T, N PT100			800°C
HTC-09 (6.4 φ)	K, E J, T, N PT100	高溫環境 High Temp. Immersion		1000°C
HTC-10 (8.0 φ)	K, E J, T, N PT100			1250°C
HSTC-11 (4.8 φ)	S-TYPY INCO600 被覆	次標準件 Secondary Standard		100°C ↓ 1000°C
HSR-12 (6.0 φ)	PT100 1/10DIN	次標準件 Secondary Standard		-50°C ↓ 600°C
HSE-1 (3.2 φ)	K	鋁錠爐用 Aluminum Ingots		600°C

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