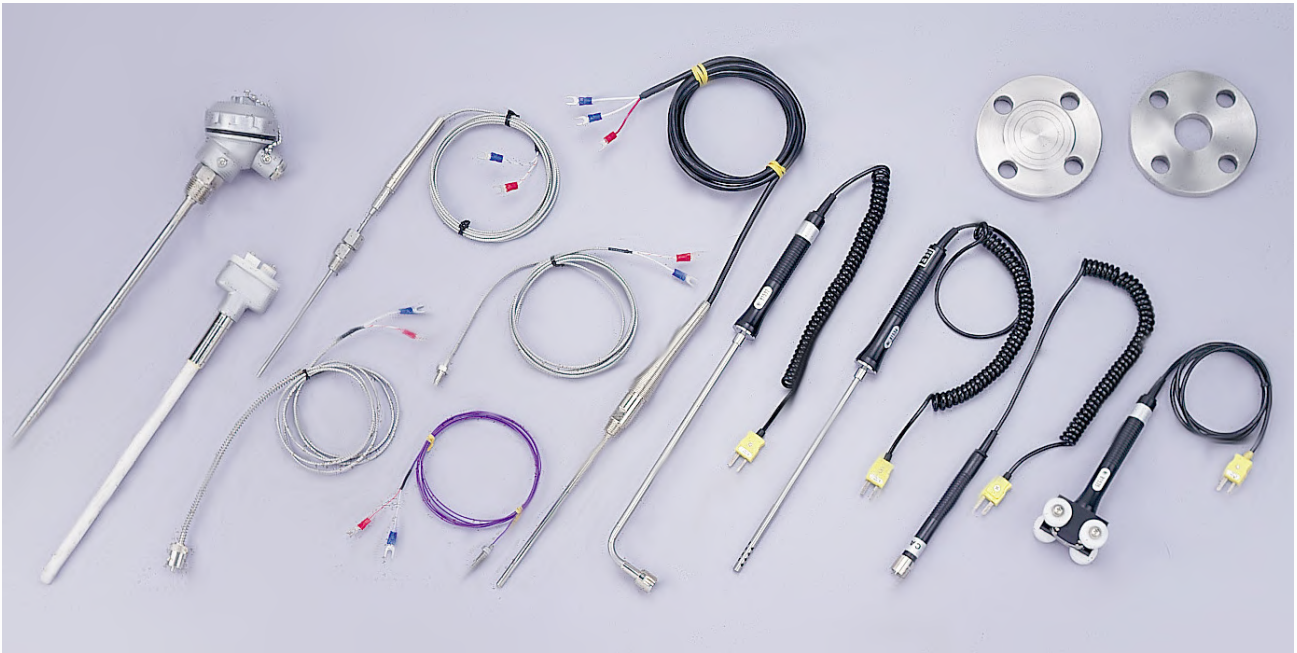


## TS Series Temperature Sensor 感溫線



### Guiding of Order / 型號索引

Lead Wire Type 出線式

Ex. TS-1-K-3.2-150-T2-S1-1.5M-G

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Product 產品代號

TC = Temperature Controller

② Shape 外型

Refer to table-1

③ Sensor Type 測溫體種類

K = K Type Thermocouple

J = J Type Thermocouple

PT = RTD PT-100

④ Diameter of Protection Tube 保護管外徑

Refer to table-2

⑤ Length of Protection Tube 保護管長度

Refer to table-2

Unit = mm

Terminal Type 端子式

Ex. TS-8-K-6.4-150-T2-C1-U

① ② ③ ④ ⑤ ⑥ ⑦ ⑨

⑥ Fixed Method 固定方式

Refer to Table-3-1 & Table-3-2

⑦ Connection Method 出線方式

Lead Wire Type Refer to Table-4-1

Terminal Type Refer to Table-4-2

⑧ Length of Lead Wire 出線長度

Lead Wire Type Refer Tto Table4-1

⑨ Shielded Method 屏蔽方式

Refer to Table-5

# Temperature Sensor

# TS Series

## ■ Shape Table-1 / 外型

TS-1	Screw type 螺絲型	TS-2	Screw type 管方型	TS-3	Inserting type 插入型
TS-4	Push lock type 壓扣型	TS-5	Fast connector type 快速接頭型	TS-6	Fast connector type 快速接頭型
TS-7	Closed Terminal type 圓頭型	TS-8	Closed Terminal type 圓頭型	TS-9	Closed Terminal type 圓頭型
TS-10	Exposed terminal type 扁頭型	TS-11	Exposed terminal type 扁頭型	TS-12	Surface type 表面型
TS-13	Surface type 表面輪型	TS-14	Surface type 表面型	TS-N	Special type
				Except the above shape , we accept Your order to manufacture. 除上述形狀，我們可接受特殊形狀訂做。	

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## ■ Dimension of Protection Tube Table-2 / 保護管尺寸

Specification 規格	Data
Diameter (外徑)	1.6 φ , 3.2 φ , 4.8 φ , 6.4 φ , 8.0 φ , 10.0 φ , 12.0 φ , 15.0 φ , 22.0 φ
Length (長度)	Any Length is Available , Accept Order to Manufacture. <span style="float: right;">Unit : mm</span>

## ■ Fixed Method-Sealed Screw Type Table 3-1/固定方式-管牙型

Dimension	Outline <d>	Mark 標示	Suited Tube Diameter 適用管徑	Screw(牙規)	
				O.D.	Pitch <mm>
	PT1/8	T-1	1.6 φ, 3.2 φ, 4.8 φ	9.728 φ	0.9071
	PF1/8	F-1			
	PT1/4	T-2	3.2 φ, 4.8 φ, 8.0 φ, 10.0 φ	13.157 φ	1.3368
	PF1/4	F-2			
	PT3/8	T-3	4.8 φ, 6.4 φ, 8.0 φ, 10.0 φ, 12.0 φ	16.662 φ	1.3368
	PF3/8	F-3			
	PT1/2	T-4	6.4 φ, 8.0 φ, 10.0 φ, 12.0 φ, 15.0 φ	20.955 φ	1.8143
	PF1/2	F-4			
	PT3/4	T-6	8.0 φ, 10.0 φ, 12.0 φ, 15.0 φ	26.441 φ	1.8143
	PF3/4	F-6			
	PT 1"	T-8	10.0 φ, 12.0 φ, 15.0 φ, 22.0 φ	33.249 φ	2.3091
	PF 1"	F-8			

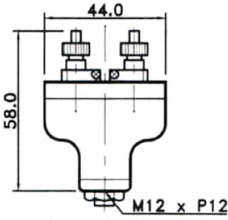
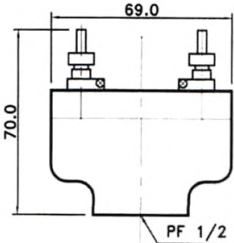
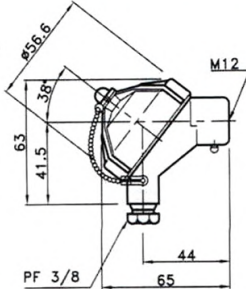
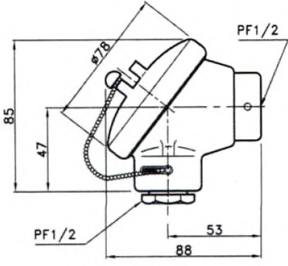
## ■ Fixed Method-Screw Nut Type Table 3-2/固定方式-螺絲型

Dimension	Outline <d>	Mark 標示	Suited Tube Diameter 適用管徑	Screw(牙規)	
				O.D.	Pitch <mm>
	M6	M-6	3.8 φ	5.8 φ	0.5mm
	M8	M-8	3.8 φ or 4.8 φ	7.8 φ	1.0mm
	W1/4	W-4	3.8 φ or 4.8 φ	6.35 φ	
	W5/16	W-5	3.8 φ or 4.8 φ	7.9 φ	

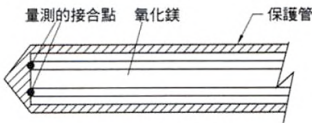
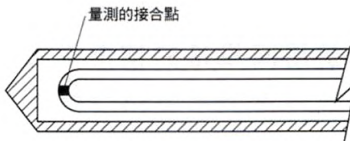
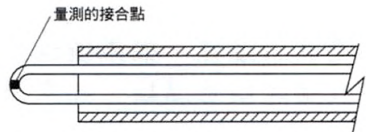
## ■ Connection Method-Lead Wire Type Table 4-1 接線方式-出線式

Mark 代號	Feature 特性	Temp.max 最高耐溫	Core 導線蕊絨	Length of Lead Wire 出線長度
S1	Stainless Net Coat 不銹鋼鋼線	150 C	0.32 X 4	Standard Length 標準長度 1M, 1.5M, 2M, 5M Any Length is Available Accept Order to Manufacture with Charge 任何長度皆可接受收費訂做。
S2			0.65 X 1	
T1	Tafolon Coat 鐵氟龍線	200 C	0.32 X 4	
T2			0.65 X 1	
P-1	PVC Coat PVC 線	90 C	0.32 X 4	
P-2			0.65 X 1	

## ■ Connection Method-Terminal Type Table 4-2

E2	Exposed Type	E2	Exposed Type	C1	Closed Type	C2	Closed Type
	 <p>Dia. of Tube <math>\leq 12 \phi</math> 最大管徑 <math>\leq 12 \phi</math></p>		 <p>Dia. of Tube <math>\leq 22 \phi</math> 最大管徑 <math>\leq 22 \phi</math></p>		 <p>Dia. of Tube <math>\leq 12 \phi</math> 最大管徑 <math>\leq 12 \phi</math></p>		 <p>Dia. of Tube <math>\leq 22 \phi</math> 最大管徑 <math>\leq 22 \phi</math></p>

## ■ Shielded Method Table 5

G	Grounded Type 接地型	U	Ungrounded Type 非接地型	E	Exposed Type 露出型
	 <p>量測的接合點 氧化鎂 保護管</p>		 <p>量測的接合點</p>		 <p>量測的接合點</p>

## ■ Remarks

### Compensation Wire

Including PVC or TAFOLON Cable with  $0.32 \phi \times 8$  or  $0.65 \phi \times 2$

If you need to extend the Lead Wire of Temperature Sensor,  
Compensation Wire is Required.

### Sheathed Type Protection Tube

Protection Tube is Filled with  $MO_2$ , If is Curvable.  
Suited to Any Condition.

# Notice

## ■ Notice of Use / 使用注意事項

### 1. Please Install The Temperature Controller In The Circumstance

Temperature:  $-20^{\circ}\text{C} \sim +75^{\circ}\text{C}$  (Without Icing or Condensation)

Humidity:  $35\% \sim 85\% \text{RH}$

The high Ambient Temperature May Shorten The Service Life of Temperature Controller, Please Don't Let It Exceed  $75^{\circ}\text{C}$

溫度控制器安裝環境

溫度:  $-20^{\circ}\text{C} \sim +75^{\circ}\text{C}$  (無結冰或結露)

濕度:  $35\% \sim 85\% \text{RH}$

高溫環境可能縮短溫度控制器壽命，請不要讓工作的環境溫度超過 $75^{\circ}\text{C}$

### 2. The Service Life of Relays Are Affected By The Switching Load.

Please Assure The Switching Load Are Under The Rated Current.

繼電器壽命受工作負載影響很大，請勿超載使用。

### 3. Thermcouple Type, If Need To Extend The Thermcouple Lead Wire Please Be Sure To Use The Compensation Wires That Must To Match The Thermcouple Type.

PT Resistance Type, If Need To Extend The PT Sensor Lead Wire Please Be Sure To Use The Low Resistance Wire.

熱電偶感溫線，如果須延長時務必使用同規格的補償導線。

白金電阻型感溫線，如果須延長時務必使用低阻抗電線。

### 4. The Lead Wire of Temperature Sensor, Please Separate It Away From

The Power Lines or High Tension Lines To Avoid Noise Interruption.

感溫線請勿與和高壓線或動力線結紮在一起。

### 5. It is Suggested To Settle The Separated Alarm System, In Case of The Alarm of Temperature Controller May Not Be Operated Properly When The Device is Abnormal.

建議設置獨立的警報系統，以免溫控器異常時警報器功能失效。

### 6. The Temperature Controller May Be Interrupted By Movable Phone or Wireless Device.

溫控器可能會受行動電話或無線發射器干擾。

### 7. Outline of Crimp Terminal 端子夾外型



## ■ Notice Of Safety/安全注意事項

### Definition of Symbol Marks



#### **WARNING**

Potentially Hazardous Situation  
In Case Of Mishandling,May Result In Death  
Or Serious Injury  
潛在危險  
如果操作失誤，有可能導致死亡或嚴重傷害。



#### **CAUTION**

Potentially Hazardous Situation  
In Case of Mishandling,May Result In Slight Dangerous.  
潛在危險  
如果操作失誤，有可能導致輕微傷害。



#### **WARNING**

1.Please Do Not Touch The Terminals While The Power Is Supplied, If Do,It May Result In Electronic Shock.

送電中，請勿碰觸接線端以免觸電。

2.Please Do Not Let The Metal or Wire Cuttings Drop Into The Insid of Temperature Controller, If Do,It May Resule In Malfunction,Burning Out or Fire.

請勿讓鐵屑或鋼絲掉入溫控器內，以免造成溫控器失效，燒毀甚至起火。

3.Please Make Sure To Wire The Temperature Controller Correctly Before Power ON,If Not, It May Result In Malfunction or Burnning out.

送電前請確認配線是否正確，否則可能導致異常或燒毀。

4.Please Do Not Modify or Repair The Temperature Controller,To Avoid Resulting In Malfunction or Burnning out.

請勿修改或修理溫控器，以免造成異常燒毀。



#### **CAUTION**

1.Please Rate The Power Supply Voltage Wirhin The Specified Range,If Not,It May Result In Malfunction or Burnning.

工作電壓請限制在規格內，否則可能造成溫控器異常或燒毀。

2.Please Rate The Load Within The Specified Value,If Not,It May Result In Malfunction or Burnning.

工作負載請勿超過額定電流，否則可能造成溫控器異常或燒毀。

3.Please Settle a Seperated Alarm Syatem To Ensure Safety Protection In The Event of Malfunction,If Not,It May Result In A Serious Accident.

請設置獨立警報系統，確保溫控器異常時安全保護，否則可能造成嚴重意外事故。