

# Model N series

## General Stationary Surface Probes

### N模式系列

N模式系列产品是适用于静止表面温度测试的通用型温度感应器。通过对各个规格的组件进行重新组合的方式，可以按照客户的使用需求进行选配。

Model N series probes are general-purpose temperature sensors designed to measure the temperatures of stationary surfaces.

Specific components may be combined to customize products for the needs of a customer's specific application.

モデルNシリーズは、静止表面の温度測定に適した汎用的な温度センサです。

各パーツの仕様を組み合わせる事により、お客様の用途に合わせてカスタマイズする事が出来ます。

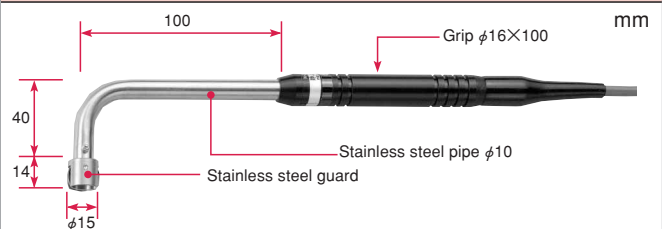
## Typical Probes of N series

### Type K Model N-231K-00-1-TC1-ANP Type E Model N-231E-00-1-TC1-ANP



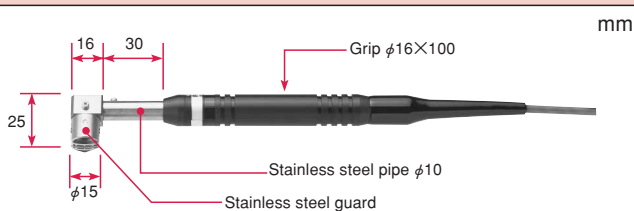
Temp. Range	Accuracy	Response time	Durability
-50~500°C	±1.2°C (at 100°C Surface)	1.5 s	A

### Type K Model N-233K-01-1-TC1-ANP Type E Model N-233E-01-1-TC1-ANP



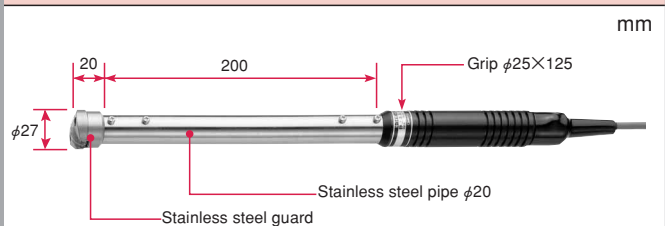
Temp. Range	Accuracy	Response time	Durability
-50~500°C	±1.2°C (at 100°C Surface)	1.5 s	A

### Type K Model N-234K-00-1-TC1-ANP Type E Model N-234E-00-1-TC1-ANP



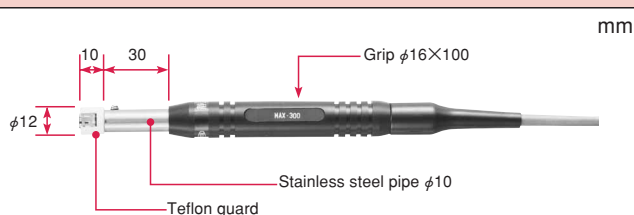
Temp. Range	Accuracy	Response time	Durability
-50~500°C	±1.2°C (at 100°C Surface)	1.5 s	A

### Type K Model N-141K-02-1-TC1-ANP Type E Model N-141E-02-1-TC1-ANP



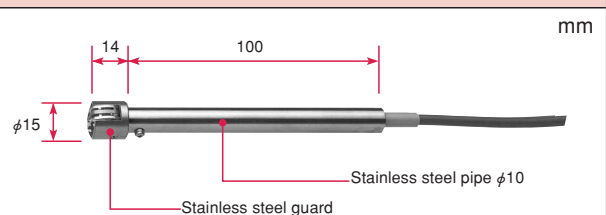
Temp. Range	Accuracy	Response time	Durability
-50~800°C	±1.2°C (at 100°C Surface)	1.5 s	A

### Type K Model N-311K-00-1-TC1-ANP Type E Model N-311E-00-1-TC1-ANP



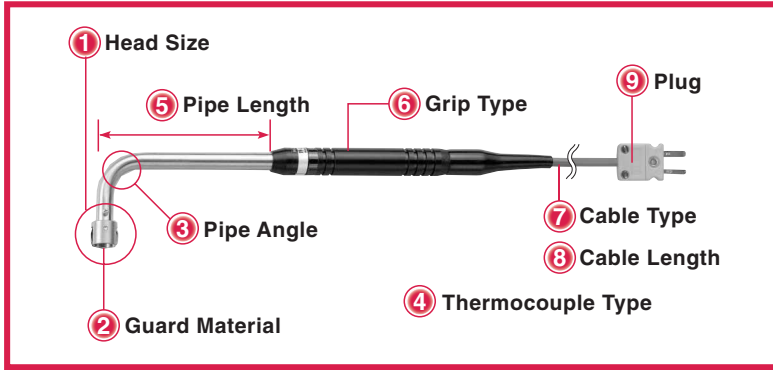
Temp. Range	Accuracy	Response time	Durability
-50~300°C	±1.2°C (at 100°C Surface)	1.5 s	A

### Type K Model N-231K-01-0-TC1-ANP Type E Model N-231E-01-0-TC1-ANP



Temp. Range	Accuracy	Response time	Durability
-50~500°C	±1.2°C (at 100°C Surface)	1.5 s	A

# How to order of N series



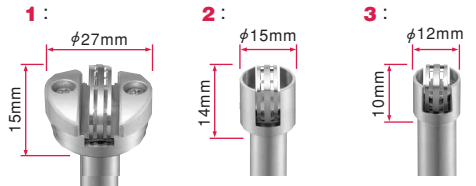
## N-233K-01-1-TC1-ANP



<b>① Head Size</b>	<b>1</b> : $\phi 27\text{mm}$ <b>2</b> : $\phi 15\text{mm}$ <b>3</b> : $\phi 12\text{mm}$
<b>② Guard Material</b> (Max. Temp.)	<b>1</b> : Teflon (300°C) <b>2</b> : Polyimide (400°C) <b>3</b> : Stainless (500°C) <b>4</b> : Stainless for High Temp. (800°C) <b>5</b> : Teflon (200°C) (Element is coated by Teflon.) <b>6</b> : Polyimide (300°C) (Element is coated by polyimide.) <b>7</b> : Without guard (500°C) (Only N-1**)
<b>③ Pipe Angle</b>	<b>1</b> : Straight <b>2</b> : 45 degrees <b>3</b> : 90 degrees <b>4</b> : 90 degrees (elbow) <b>5</b> : 45 degrees* <b>6</b> : 90 degrees* <b>7</b> : 90 degrees (elbow)* *Element direction of right angle
<b>④ Thermocouple Type</b>	<b>K</b> : Chromel-Alumel <b>E</b> : Chromel-Constantan
<b>⑤ Pipe Length</b>	<b>00</b> : 30mm <b>01</b> : 100mm <b>02</b> : 200mm ..... <b>10</b> : 1000mm <b>15</b> : 1500mm (only N-14*) <b>20</b> : 2000mm (only N-14*)
<b>⑥ Grip Type</b>	<b>0</b> : No Grip (For fixed-position measurement) <b>1</b> : Standard Grip (For handheld measurement)
<b>⑦ Cable Type</b> (See page 5)	<b>TC</b> :
<b>⑧ Cable Length</b>	<b>1</b> : 1m <b>1.5</b> : 1.5m <b>2</b> : 2m <b>2.5</b> : 2.5m .....
<b>⑨ Plug</b> (See page 4)	<b>ANP</b> : P plug <b>ASP</b> : S plug <b>W</b> : Without plug

### ① Head Size

You can choose Head Size as below.



### ③ Pipe Angle

You can choose Pipe Angle as below.

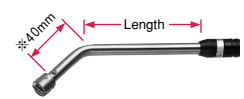
	① Pipe-Element	⑤ Pipe-Element
	<b>1</b>	
	<b>2</b>	<b>5</b>
	<b>3</b>	<b>6</b>
	<b>4</b>	<b>7</b>

### ⑤ Pipe Length

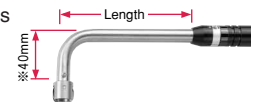
Straight



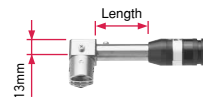
45 degrees



90 degrees



90 degrees (elbow)



\*Only the pipe of N-14\* is 110mm in height.

### ⑥ Grip Type

No Grip	For device, system, auto-machines, mechanical system etc
Standard	For handheld measurement

### Specifications

Accuracy	$\pm 1.2^\circ$ (at 100°C surface)
Response time	1.5 s 6 s in the case of coated element (N-*5*, N-*6*)
Durability rank	A
Maximum allowable tilt	$\pm 4^\circ$ (N-2**, N-3**) $\pm 8^\circ$ (N-1**)

# Model WE series

## Self Supporting Probes

Model WE series probes are temperature sensors designed for stationary surfaces. These self-supporting probes can be used to measure temperature simply by placing the probe on the measurement target. Specific components may be combined to customize products for the needs of a customer's specific application.

### WE模式系列

WE模式系列产品是静止表面用温度感应器，因感应器自身的重力作用，只需置放在测试对象表面即可测试温度。

通过对各个规格的组件进行重新组合的方式，可以按照客户的使用需求进行选配。

モデルWEシリーズは、センサ自身の重さにより計測対象の上に置くだけで温度測定できる静止表面用温度センサです。各パーツの仕様を組み合わせる事により、お客様の用途に合わせてカスタマイズする事が出来ます。

## Typical Probes of WE series

**Type K Model WE-11K-TS1-ANP**  
**Type E Model WE-11E-TS1-ANP**

Temp. Range	Accuracy	Response time	Durability
-50~250°C	±1.2°C (at 100°C Surface)	0.5 s	A

**Type K Model WE-22K-GW1-ANP**  
**Type E Model WE-22E-GW1-ANP**

Temp. Range	Accuracy	Response time	Durability
-50~500°C	±1.2°C (at 100°C Surface)	1.0 s	A

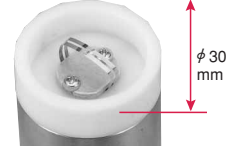
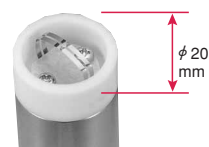
## How to order of WE series

### ① Head Size

You can choose Head Size as below.

**1** : Weight : app.70g.  
(High temp. app.80g)

**2** : Weight : app.150g.  
(High temp. app.160g)



## WE-11K-TS1-ANP



### ② Guard Material

You can choose Low or High Temp. as below.

**1** : Teflon guard

**2** : Stainless guard



① Head Size	<b>1</b> : φ20mm <b>2</b> : φ30mm
② Guard Material (Max Temp.)	<b>1</b> : Teflon (250°C) <b>2</b> : Stainless (500°C)
③ Thermocouple Type	<b>K</b> : Chromel-Alumel <b>E</b> : Chromel-Constantan
④ Cable Type (See page 5)	<b>TS</b> : For WE-*1 <b>GW</b> : For WE-*2
⑤ Cable Length	<b>1</b> : 1m <b>1.5</b> : 1.5m <b>2</b> : 2m <b>2.5</b> : 2.5m .....
⑥ Plug (See page 4)	<b>ANP</b> : P plug <b>ASP</b> : S plug <b>W</b> : Without plug

## Specifications

Accuracy	±1.2°C (at 100°C surface)
Response time	WE-*1 : 0.5s WE-*2 : 1s
Durability rank	A
Max. Temp.	WE-*1 : 250°C WE-*2 : 500°C

# Model **MG** series

## Magnet Probes

Model MG series probes are temperature sensors designed for stationary surfaces. Built-in magnets allow these probes to be attached to measurement targets. Specific components may be combined to customize products for the needs of a customer's specific application.

### MG模式系列

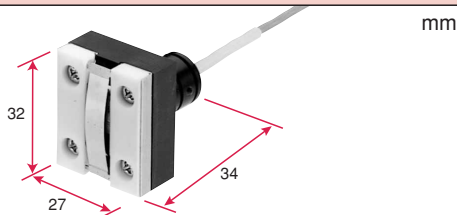
MG模式系列产品是内部装有磁石的静止表面用温度感应器，可固定在测试对象上测试温度。

通过对各个规格的组件进行重新组合的方式，可以按照客户的使用需求进行选配。

モデルMGシリーズは、内蔵した磁石により測定対象に固定できる静止表面用温度センサです。各パーツの仕様を組み合わせる事により、お客様の用途に合わせてカスタマイズする事が出来ます。

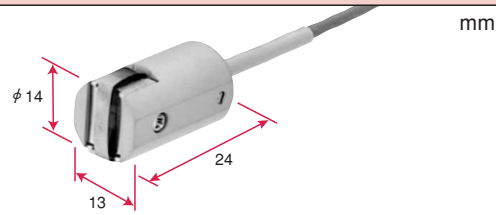
## Typical Probes of MG series

Type K Model **MG-11K-TS1-ANP**  
Type E Model **MG-11E-TS1-ANP**



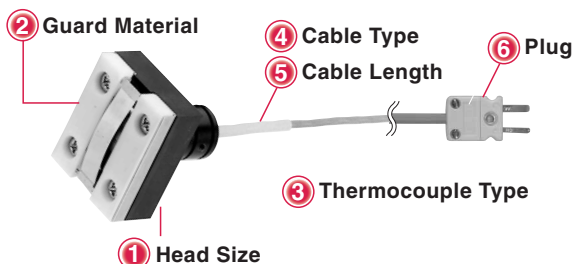
Temp. Range	Accuracy	Response time	Durability
-50~250°C	±1.3°C (at 100°C Surface)	2.0 s	A

Type K Model **MG-22K-GW1-ANP**  
Type E Model **MG-22E-GW1-ANP**



Temp. Range	Accuracy	Response time	Durability
-50~400°C	±1.4°C (at 100°C Surface)	2.0 s	A

## How to order of MG series

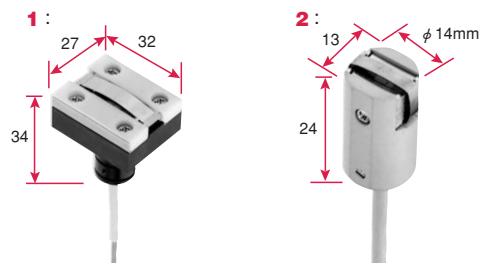


### MG-11K-TS1-ANP

① ② ③ ④ ⑤ ⑥

### ① Head Size

You can choose Head Size as below.



### ② Guard Material

You can choose Guard Material as below.

1 : Teflon guard

2 :



a. Standard type: Glass cloth guard  
b. Miniature type: polyimide guard

### Specifications

Accuracy	MG-1* : ±1.3°C (at 100°C surface) MG-2* : ±1.4°C (at 100°C surface)
Response time	2.0 s
Durability rank	A
Max. Temp.	MG-*1 : 250°C MG-*2 : 400°C

① Head Size	1 : 27×32mm (Standard type) 2 : φ14 (Miniature type)
② Guard Material (Max Temp.)	1 : Teflon (250°C) 2 : MG-1* Glass cloth (400°C) MG-2* Polyimide (400°C)
③ Thermocouple Type	K : Chromel-Alumel E : Chromel-Constantan
④ Cable Type (See page 5)	TS : For MG-*1 GW : For MG-*2
⑤ Cable Length	1 : 1m 1.5 : 1.5m 2 : 2m 2.5 : 2.5m .....
⑥ Plug (See page 4)	ANP : P plug ASP : S plug W : Without plug

# Model U series

General Moving / Rotating Surface Probes

## U模式系列

U模式系列产品是将感应器与测试面的摩擦系数降至最小极限的温度感应器，适用于移动或旋转表面的温度测试。

通过对各个规格的组件进行重新组合的方式，可以按照客户的使用需求进行选配。

Model U series probes offer minimal coefficient of friction between the sensor and measuring surface, making them ideal for measuring the temperatures of moving or rotating surfaces.

Specific components may be combined to customize products for the needs of a customer's specific application.

モデルUシリーズは、センサと測定面との摩擦係数を極限まで小さくした、移動または回転する表面の温度測定に適した温度センサです。

各パーツの仕様を組み合わせる事により、お客様の用途に合わせてカスタマイズする事が出来ます。

## Typical Probes of U series

<b>Type K Model</b>	<b>U-111K-00-D0-1-TC1-ANP</b>
<b>Type E Model</b>	<b>U-111E-00-D0-1-TC1-ANP</b>

Temp. Range	Accuracy	Response time	Durability
-50~250°C	±1.5°C (at 100°C Surface)	2.0 s	A

<b>Type K Model</b>	<b>U-211K-00-D0-1-TC1-ANP</b>
<b>Type E Model</b>	<b>U-211E-00-D0-1-TC1-ANP</b>

Temp. Range	Accuracy	Response time	Durability
-50~250°C	±1.5°C (at 100°C Surface)	3.5 s	A

<b>Type K Model</b>	<b>U-114K-00-D0-1-TC1-ANP</b>
<b>Type E Model</b>	<b>U-114E-00-D0-1-TC1-ANP</b>

Temp. Range	Accuracy	Response time	Durability
-50~250°C	±1.5°C (at 100°C Surface)	2.0 s	A

<b>Type K Model</b>	<b>U-221K-00-D0-1-TC1-ANP</b>
<b>Type E Model</b>	<b>U-221E-00-D0-1-TC1-ANP</b>

Temp. Range	Accuracy	Response time	Durability
-50~200°C	±1.5°C (at 100°C Surface)	3.5 s	A

<b>Type K Model</b>	<b>U-118K-01-D0-1-TC1-ANP</b>
<b>Type E Model</b>	<b>U-118E-01-D0-1-TC1-ANP</b>

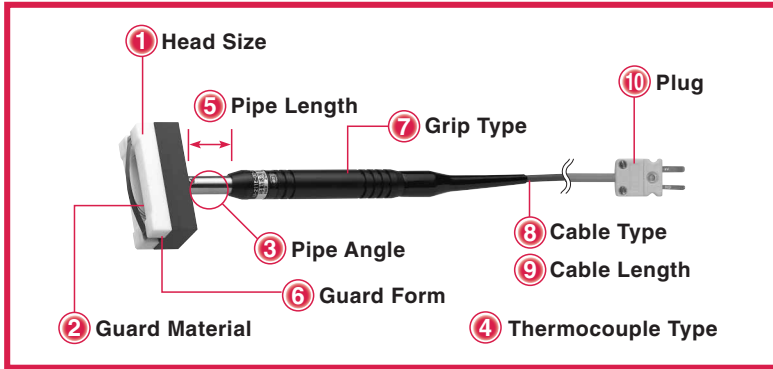
Temp. Range	Accuracy	Response time	Durability
-50~250°C	±1.5°C (at 100°C Surface)	2.0 s	A

<b>Type K Model</b>	<b>U-211K-01-D0-0-TC1-ANP</b>
<b>Type E Model</b>	<b>U-211E-01-D0-0-TC1-ANP</b>

**No grip probe type**

Temp. Range	Accuracy	Response time	Durability
-50~250°C	±1.5°C (at 100°C Surface)	3.5 s	A

# How to order of U series



## U-211K-00-D0-1-TC1-ANP



<b>① Head Size</b>	<b>1</b> : 25×32mm (Guard:U-*1*) 37×36mm (Wheel:U-*2*,U-*3*) <b>2</b> : 29×60mm (Guard:U-*1*) 40×66mm (Wheel:U-*2*,U-*3*)
<b>② Guard Material</b> (Max.Temp.)	<b>1</b> : Teflon guard (250°C) <b>2</b> : Bearing wheel (200°C) <b>3</b> : Teflon wheel (250°C) 1~3 : Contact section is polyimide-coated. <b>4</b> : Teflon guard (200°C) <b>5</b> : Bearing wheel (200°C) <b>6</b> : Teflon wheel (200°C) 4~6 : Contact section is Teflon-coated. <b>7</b> : Teflon guard (250°C) <b>8</b> : Bearing wheel (200°C) <b>9</b> : Teflon wheel (250°C) 7~9 : Contact section has no coating.
<b>③ Pipe Angle</b>	<b>1</b> : Straight <b>2</b> : 45 degrees <b>3</b> : 90 degrees <b>4</b> : 90 degrees (elbow) <b>5</b> : 45 degrees* <b>6</b> : 90 degrees* <b>7</b> : 90 degrees (elbow)* <b>8</b> : Direct <b>9</b> : Direct* *Element direction of right angle
<b>④ Thermocouple Type</b>	<b>K</b> : Chromel-Alumel <b>E</b> : Chromel-Constantan
<b>⑤ Pipe Length</b>	<b>00</b> : 30mm <b>01</b> : 100mm <b>02</b> : 200mm <b>03</b> : 300mm <b>04</b> : 400mm <b>05</b> : 500mm
<b>⑥ Guard Form</b>	<b>D0~D4</b> : See right
<b>⑦ Grip Type</b>	<b>0</b> : No Grip <b>1</b> : Standard Grip
<b>⑧ Cable Type</b> (See page 5)	<b>TC</b> :
<b>⑨ Cable Length</b>	<b>1</b> : 1m <b>1.5</b> : 1.5m <b>2</b> : 2m <b>2.5</b> : 2.5m .....
<b>⑩ Plug</b> (See page 4)	<b>ANP</b> : P plug <b>ASP</b> : S plug <b>W</b> : Without plug

### ① Head Size ② Guard Material

You can choose Head Size as below.

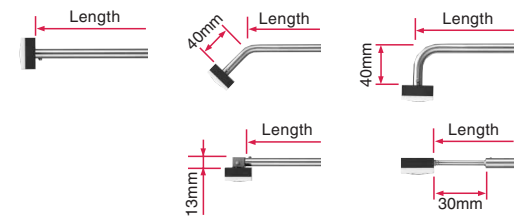
U-11* U-21*	U-12* U-22*	U-13* U-23*
U-14* U-24*	U-15* U-25*	U-16* U-26*
U-17* U-27*	U-18* U-28*	U-19* U-29*

### ③ Pipe Angle

You can choose Pipe Angle as below.

	Pipe Element	Pipe Element
	<b>1</b>	
	<b>2</b>	<b>5</b>
	<b>3</b>	<b>6</b>
	<b>4</b>	<b>7</b>
	<b>8</b>	<b>9</b>

### ⑤ Pipe Length



### ⑥ Guard Form

	U-11* U-14* U-17*	U-21* U-24* U-27*	U-*2*,U-*3* U-*5*,U-*6* U-*8*,U-*9*
<b>D0</b>	φ 300~flat	φ 400~flat	flat only*
<b>D1</b>	—	φ 300~420	—
<b>D2</b>	φ 160~320	φ 160~320	—
<b>D3</b>	φ 100~200	φ 100~200	—
<b>D4</b>	φ 60~120	φ 60~120	—

※U-1\*\* can be used for diameters of up to φ300mm in case of the D0 model.

※U-2\*\* can be used for diameters of up to φ400mm in case of the D0 model.

### ⑦ Grip Type

No Grip	For device, system, auto-machines, mechanical system etc
Standard	For handheld measurement

## Specifications

Accuracy	±1.5°C (at 100°C surface)
Response time	U-1** : 2.0s U-2** : 3.5s
Durability rank	A
Speed limit	U-1** : 400m / min U-2** : 600m / min



# Model SH series

## Small Head Probes

Model SH series probes are ideal for measuring the temperatures of moving or rotating surfaces. The SH series is better suited to small measurement targets than the U series.

Specific components may be combined to customize products for the needs of a customer's specific application.

### SH模式系列

SH模式系列产品是适用于移动或旋转表面温度测试的温度感应器。

与U模式系列产品相比更适合较小物体的测试。

通过对各个规格的组件进行重新组合的方式，可以按照客户的使用需求进行选配。

モデルSHシリーズは、移動または回転する表面の温度測定に適した温度センサです。モデルUシリーズよりも、より小さい物体の計測に適しています。

各パーツの仕様を組み合わせる事により、お客様の用途に合わせてカスタマイズする事が出来ます。

## Typical Probes of SH series

**Type K Model SH-14K-TS1-ANP**  
**Type E Model SH-14E-TS1-ANP**

Temp. Range	Accuracy	Response time	Durability
-50~250°C	±1.5°C (at 100°C Surface)	5.0 s	B

**Type K Model SH-46K-TC1-ANP**  
**Type E Model SH-46E-TC1-ANP**

Temp. Range	Accuracy	Response time	Durability
-50~250°C	±1.5°C (at 100°C Surface)	5.0 s	A

## How to order of SH series

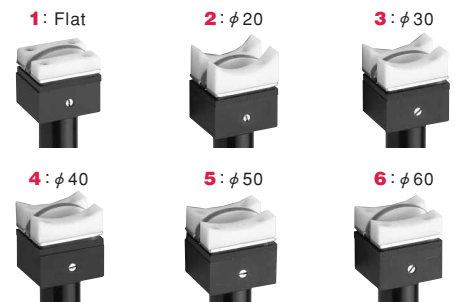
### ① Style and Heavy duty

You can choose Style and Heavy duty as below.

Setting Type	Standard	1: 12mm	2: 10mm
Heavy duty		2-φ2.3mm	SUS (t=0.3)
Grip Type	Standard	3: 18mm	4: 20mm
Heavy duty			

### ② Guard Form

You can choose Guard Form φ as below.



## SH-46K-TC1-ANP



① Style and Heavy duty	1 : Setting type 2 : Setting type (Heavy duty) 3 : Grip type 4 : Grip type (Heavy duty)
② Guard Form	1 : Flat (only SH-1*, SH-3*) 2 : φ20mm      3 : φ30mm 4 : φ40mm      5 : φ50mm 6 : φ60mm
③ Thermocouple Type	<b>K</b> : Chromel-Alumel <b>E</b> : Chromel-Constantan
④ Cable Type (See page 5)	<b>TS</b> : For SH-1*, SH-2* (Setting type) <b>TC</b> : For SH-3*, SH-4* (Grip type)
⑤ Cable Length	1 : 1m      1.5 : 1.5m 2 : 2m      2.5 : 2.5m .....
⑥ Plug (See page 4)	<b>ANP</b> : P plug <b>ASP</b> : S plug <b>W</b> : Without plug

## Specifications

Accuracy	±1.5°C (at 100°C surface)
Response time	5.0 s
Durability rank	SH-1*, SH-3* : B SH-2*, SH-4* : A
Max. Temp.	250°C

# Model MW series

## Moving Wire Probes

Model MW series probes are ideal for measuring temperatures at the surfaces of moving wires.

Specific components may be combined to customize products for the needs of a customer's specific application.

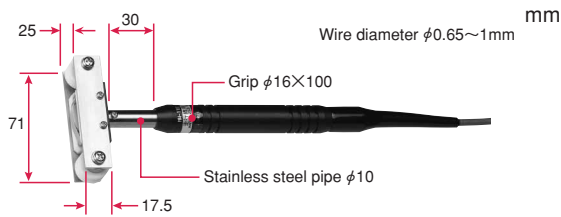
### MW模式系列

MW模式系列产品是适用于行驶中的金属丝表面温度测试的温度感应器。通过对各个规格的组件进行重新组合的方式，可以按照客户的使用需求进行选配。

モデルMWシリーズは、走行中のワイヤー表面の温度測定に適した温度センサです。各パーツの仕様を組み合わせる事により、お客様の用途に合わせてカスタマイズする事が出来ます。

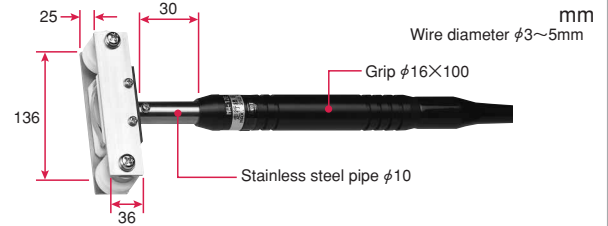
## Typical Probes of MW series

Type K Model **MW-11K-TC1-ANP**  
Type E Model **MW-11E-TC1-ANP**



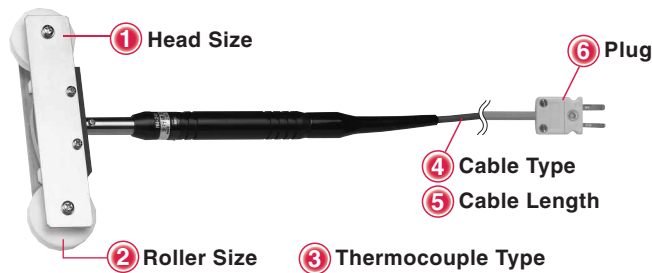
Temp. Range	Accuracy	Response time	Durability
-50~250°C	±1.5°C (at 100°C Surface)	5.0 s	S

Type K Model **MW-24K-TC1-ANP**  
Type E Model **MW-24E-TC1-ANP**



Temp. Range	Accuracy	Response time	Durability
-50~250°C	±1.5°C (at 100°C Surface)	5.0 s	S

## How to order of MW series



### MW-24K-TC1-ANP

① ② ③ ④ ⑤ ⑥

#### ① Head Size

You can choose Head Size as below.



#### ② Roller Size

You can choose Roller Size as below.

Wire Diameter	Head Size
1: $\phi$ 0.65~1mm	Only MW-1* Diameter ( $\phi$ ) 71x25mm
2: $\phi$ 1~2mm	wire roller 71x25mm
3: $\phi$ 2~3mm	
4: $\phi$ 3~5mm	Only MW-2* Diameter ( $\phi$ ) 136x25mm
5: $\phi$ 5~10mm	wire roller 136x25mm
6: $\phi$ 10~15mm	

## Specifications

Accuracy	±1.5°C (at 100°C surface)
Response time	5.0 s
Durability rank	S
Max. Temp.	250°C

① Head Size (Wire Diameter)	1: For $\phi$ 0.65~3mm (MW-*1, MW-*2, MW-*3) 2: For $\phi$ 3~15mm (MW-*4, MW-*5, MW-*6)
② Roller Size (Wire Diameter)	1: $\phi$ 0.65~1mm (for MW-1*) 2: $\phi$ 1~2mm (for MW-1*) 3: $\phi$ 2~3mm (for MW-1*) 4: $\phi$ 3~5mm (for MW-2*) 5: $\phi$ 5~10mm (for MW-2*) 6: $\phi$ 10~15mm (for MW-2*)
③ Thermocouple Type	<b>K</b> : Chromel-Alumel <b>E</b> : Chromel-Constantan
④ Cable Type (See page 5)	<b>TC</b> :
⑤ Cable Length	1: 1m      1.5: 1.5m 2: 2m      2.5: 2.5m .....
⑥ Plug (See page 4)	<b>ANP</b> : P plug <b>ASP</b> : S plug <b>W</b> : Without plug



# Model **BS** series

## General Internal Probes

### BS模式系列

BS模式系列产品是适用于液体或半固态物体温度测试的温度感应器。通过对各个规格的组件进行重新组合的方式，可以按照客户的使用需求进行选配。

Model BS series probes are internal temperature sensors designed to measure the temperatures of liquid or semi-solid materials.

Specific components may be combined to customize products for the needs of a customer's specific application.

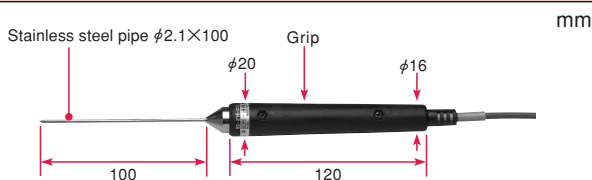
モデルBSシリーズは、液体または半固形物の温度測定に適した内部用温度センサです。

各パーツの仕様を組み合わせる事により、お客様の用途に合わせてカスタマイズする事が出来ます。

## Typical Probes of BS series

### Type K Model **BS-21K-010-TC1-ANP**

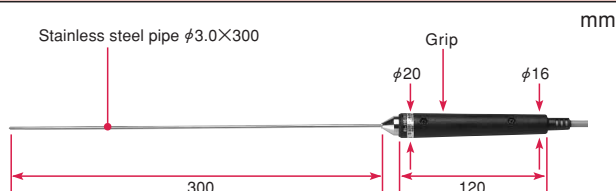
### Type E Model **BS-21E-010-TC1-ANP**



Temp. Range	Accuracy	Response time	Durability
-200~500°C	±1.3°C (at 100°C)	2.5 s	B

### Type K Model **BS-31K-030-TC1-ANP**

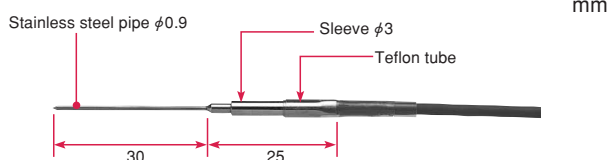
### Type E Model **BS-31E-030-TC1-ANP**



Temp. Range	Accuracy	Response time	Durability
-50~500°C	±1.3°C (at 100°C)	3.0 s	B

### Type K Model **BS-91K-003-TS1-ANP**

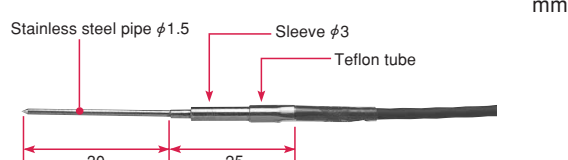
### Type E Model **BS-91E-003-TS1-ANP**



Temp. Range	Accuracy	Response time	Durability
-200~300°C	±1.2°C (at 100°C)	0.5 s	C

### Type K Model **BS-11K-003-TS1-ANP**

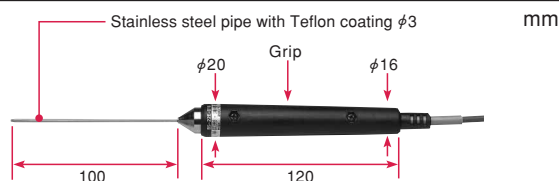
### Type E Model **BS-11E-003-TS1-ANP**



Temp. Range	Accuracy	Response time	Durability
-200~300°C	±1.3°C (at 100°C)	1.5 s	C

### Type K Model **BS-22K-010-TC1-ANP**

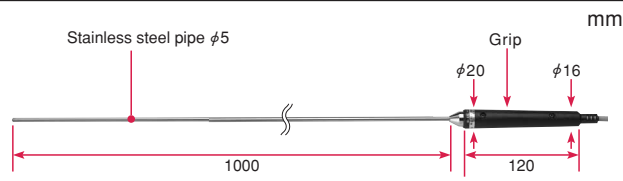
### Type E Model **BS-22E-010-TC1-ANP**



Temp. Range	Accuracy	Response time	Durability
-200~200°C	±1.4°C (at 100°C)	20 s	B

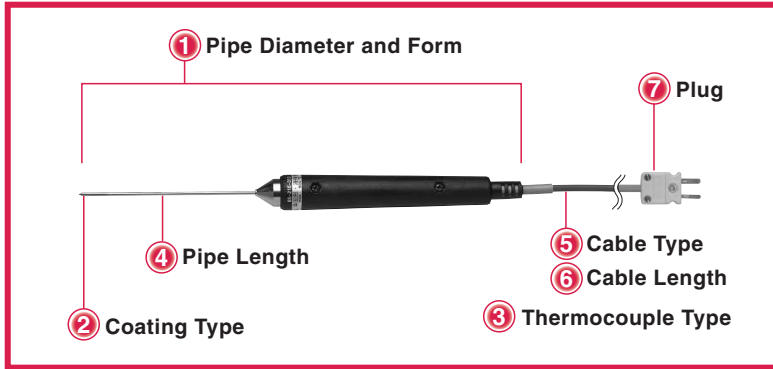
### Type K Model **BS-51K-100-TC1-ANP**

### Type E Model **BS-51E-100-TC1-ANP**



Temp. Range	Accuracy	Response time	Durability
-200~500°C	±1.4°C (at 100°C)	5 s	B

# How to order of BS series

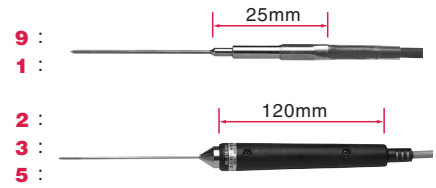


## BS-21K-010-TC1-ANP



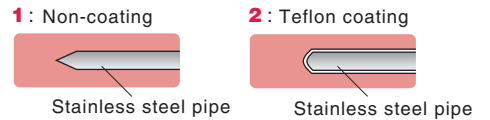
### ① Pipe Diameter and Form

You can choose Pipe Diameter and Form as below.



### ② Coating Type

You can choose Coating Type as below.



The operating temperature limit of Teflon-coated probes is 200°C, regardless of pipe diameter.

### ④ Pipe Length

	Pipe Diameter (mm)				
	BS-9* (φ0.9)	BS-1* (φ1.5)	BS-2* (φ2.1)	BS-3* (φ3.0)	BS-5* (φ5.0)
<b>003</b> :	●	●			
<b>005</b> :	●	●	●		
<b>008</b> :	●	●			
<b>010</b> :	●	●	●	●	
<b>015</b> :		●	●	●	
<b>020</b> :			●	●	
<b>030</b> :				●	
<b>050</b> :				●	●
<b>100</b> :					●

### Specifications

Pipe Diameter	Response time	Accuracy	Durability Rank
BS-9*	0.5s	±1.2°C	C
BS-1*	1.5s	±1.3°C	C
BS-2*	2.5s	±1.3°C	B
BS-3*	3.0s	±1.3°C	B
BS-5*	5.0s	±1.4°C	B
Teflon coating	20s	±1.4°C	—*

\*Varies with Pipe Diameter.

① Pipe Diameter and Form (Max.Temp.)	<b>9</b> : φ0.9mm: Sleeve type (300°C) <b>1</b> : φ1.5mm: Sleeve type (300°C) <b>2</b> : φ2.1mm: Grip type (500°C) <b>3</b> : φ3.0mm: Grip type (500°C) <b>5</b> : φ5.0mm: Grip type (500°C)	
② Coating Type	<b>1</b> : Non-coating <b>2</b> : Teflon coating (BS-5* cannot be manufactured.)	
③ Thermocouple Type	<b>K</b> : Chromel-Alumel <b>E</b> : Chromel-Constantan	
④ Pipe Length	<b>003</b> : 30mm <b>005</b> : 50mm <b>008</b> : 80mm <b>010</b> : 100mm <b>015</b> : 150mm <b>020</b> : 200mm <b>030</b> : 300mm <b>040</b> : 400mm <b>050</b> : 500mm <b>100</b> : 1000mm	The Pipe length is fixed for certain pipe diameters. For more information, see the table to the right.
⑤ Cable Type (See page 5)	<b>TS</b> : For BS-9*, BS-1* (Sleeve type) <b>TC</b> : For BS-2*, BS-3*, BS-5* (Grip type)	
⑥ Cable Length	<b>1</b> : 1m <b>1.5</b> : 1.5m <b>2</b> : 2m <b>2.5</b> : 2.5m .....	
⑦ Plug (See page 4)	<b>ANP</b> : P plug <b>ASP</b> : S plug <b>W</b> : Without plug	

# Model BT series

## Needle Type Probes

### BT模式系列

BT模式系列产品的顶端呈针形，是可以插入半固态物体中的温度感应器。其中一部分型号产品的针形顶端可更换，可以单独购买针形顶端配件。通过对各个规格的组件进行重新组合的方式，可以按照客户的使用需求进行选配。

Model BT series probes feature needle tips that can be inserted into semi-solid materials.

Needle tips for models with replaceable tips can be purchased separately.

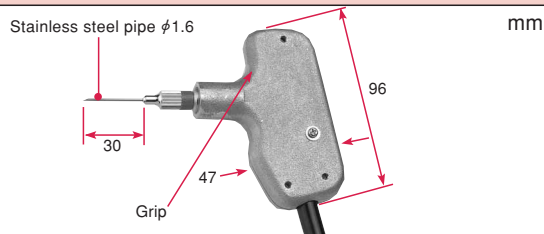
Specific components may be combined to customize products for the needs of a customer's specific application.

モデルBTシリーズは、先端の針部を半固形物に突き刺す事ができる温度センサです。

針部の交換が可能なモデルでは、針部のみの購入も可能です。各パーツの仕様を組み合わせる事により、お客様の用途に合わせてカスタマイズする事が出来ます。

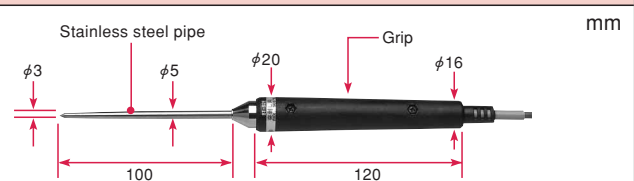
## Typical Probes of BT series

**Type K Model BT-31K-TC1-ANP**  
**Type E Model BT-31E-TC1-ANP**



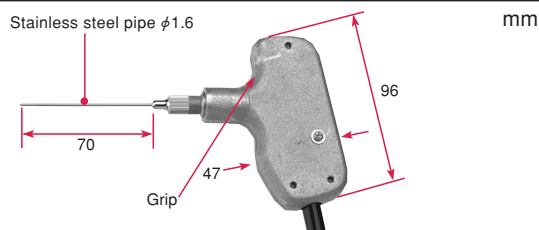
Temp. Range	Accuracy	Response time	Durability
-200~300°C	±1.3°C (at 100°C)	1.5 s	S

**Type K Model BT-92K-TC1-ANP**  
**Type E Model BT-92E-TC1-ANP**



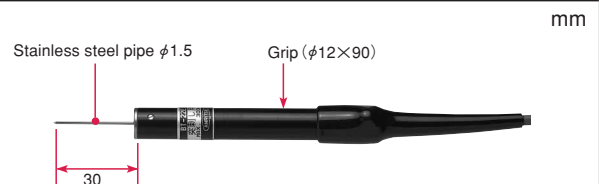
Temp. Range	Accuracy	Response time	Durability
-200~500°C	±1.3°C (at 100°C)	3.0 s	B

**Type K Model BT-72K-TC1-ANP**  
**Type E Model BT-72E-TC1-ANP**



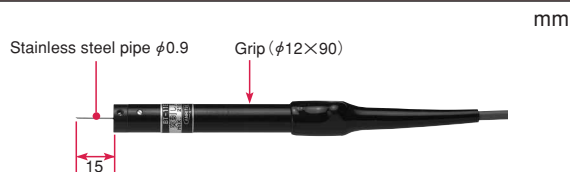
Temp. Range	Accuracy	Response time	Durability
-200~300°C	±1.3°C (at 100°C)	1.5 s	S

**Type K Model BT-22K-TC1-ANP**  
**Type E Model BT-22E-TC1-ANP**



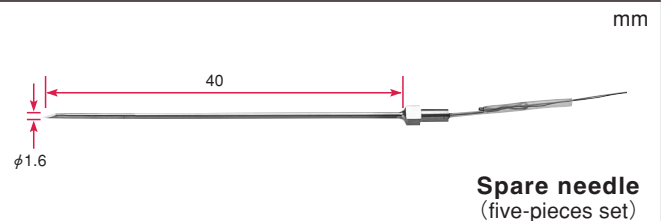
Temp. Range	Accuracy	Response time	Durability
-200~300°C	±1.3°C (at 100°C)	1.5 s	C

**Type K Model BT-11K-TC1-ANP**  
**Type E Model BT-11E-TC1-ANP**



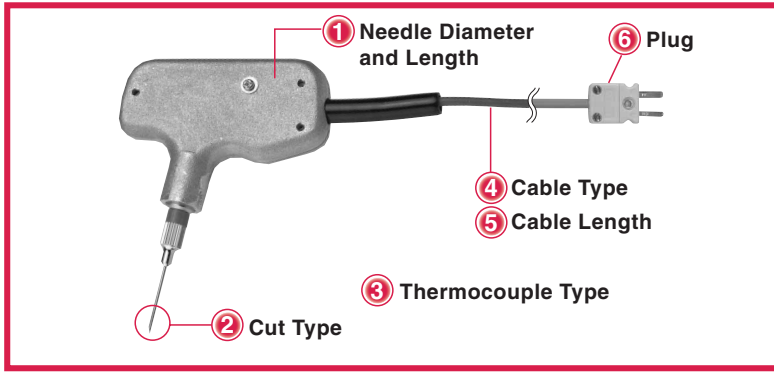
Temp. Range	Accuracy	Response time	Durability
-200~210°C	±1.2°C (at 100°C)	0.5 s	C

**Type K Model BTN-41K**  
**Type E Model BTN-41E**



Temp. Range	Accuracy	Response time	Durability
-200~300°C	±1.3°C (at 100°C)	1.5 s	S

# How to order of BT series



## BT-31K-TC1-ANP



### 1 Needle Diameter and Form

You can choose Grip Form as below.

	Form
BT-1* BT-2*	90mm
BT-3* BT-4* BT-5* BT-6* BT-7* BT-8*	96mm With replaceable tips
BT-9*	120mm

### 2 Cut Type

You can choose Cut Type as below.

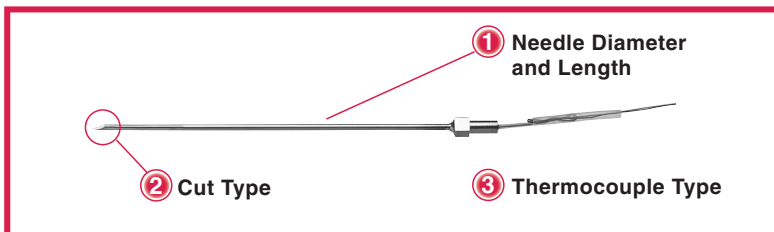


<b>1 Needle Diameter and Length</b> (Max.Temp.)	<b>1</b> : $\phi$ 0.9mm : 15mm (210°C) <b>2</b> : $\phi$ 1.5mm : 30mm (300°C) <b>3</b> : $\phi$ 1.6mm : 30mm (300°C) <b>4</b> : $\phi$ 1.6mm : 40mm (300°C) <b>5</b> : $\phi$ 1.6mm : 50mm (300°C) <b>6</b> : $\phi$ 1.6mm : 60mm (300°C) <b>7</b> : $\phi$ 1.6mm : 70mm (300°C) <b>8</b> : $\phi$ 5.0mm : 75mm (500°C) <b>9</b> : $\phi$ 5.0mm : 100mm (500°C) (Top is $\phi$ 3mm)
<b>2 Cut Type</b>	<b>1</b> : Cut <b>2</b> : Sharp
<b>3 Thermocouple Type</b>	<b>K</b> : Chromel-Alumel <b>E</b> : Chromel-Constantan
<b>4 Cable Type</b> (See page 5)	<b>TC</b> :
<b>5 Cable Length</b>	<b>1</b> : 1m <b>1.5</b> : 1.5m <b>2</b> : 2m <b>2.5</b> : 2.5m .....
<b>6 Plug</b> (See page 4)	<b>ANP</b> : P plug <b>ASP</b> : S plug <b>W</b> : Without plug

### Specifications

Needle Diameter	Response time	Accuracy (at 100°C)	Durability rank
BT-1*	0.5s	$\pm$ 1.2°C	C
BT-2*	1.5s	$\pm$ 1.3°C	C
BT-3*~BT-7*	1.5s	$\pm$ 1.3°C	S
BT-8*	3.0s	$\pm$ 1.3°C	S
BT-9*	3.0s	$\pm$ 1.3°C	B

# How to order of Spare needle



Spare needle is a five-pieces set

## BTN-41K



<b>1 Needle Diameter and Length</b> (Max.Temp.)	<b>3</b> : $\phi$ 1.6mm : 30mm (300°C) <b>4</b> : $\phi$ 1.6mm : 40mm (300°C) <b>5</b> : $\phi$ 1.6mm : 50mm (300°C) <b>6</b> : $\phi$ 1.6mm : 60mm (300°C) <b>7</b> : $\phi$ 1.6mm : 70mm (300°C) <b>8</b> : $\phi$ 5.0mm : 75mm (500°C)
<b>2 Cut Type</b>	<b>1</b> : Cut <b>2</b> : Sharp
<b>3 Thermocouple Type</b>	<b>K</b> : Chromel-Alumel <b>E</b> : Chromel-Constantan

# Model SF series

## Fine Flexible Probes

Model SF series probes are flexible internal temperature sensors featuring extra-fine thermocouple wires covered with a Teflon-coated sheath.

Specific components may be combined to customize products for the needs of a customer's specific application.

### SF模式系列

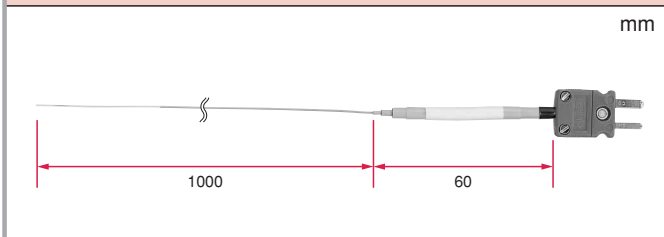
SF模式系列产品是将极细热电偶线用铁氟龙覆盖，柔软性很强的内部温度感应器。通过对各个规格的组件进行重新组合的方式，可以按照客户的使用需求进行选配。

モデルSFシリーズは、極細熱電対線をテフロンで被覆した、柔軟性のある内部用温度センサです。

各パーツの仕様を組み合わせる事により、お客様の用途に合わせてカスタマイズする事が出来ます。

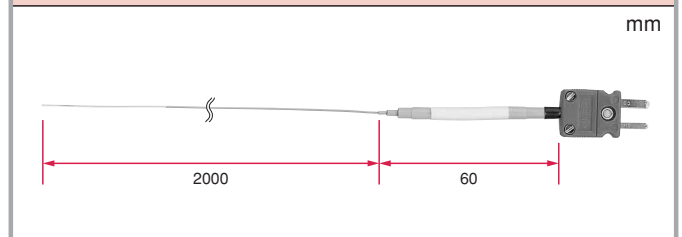
## Typical Probes of SF series

Type K Model **SF-K-100-ANP**  
Type E Model **SF-E-100-ANP**



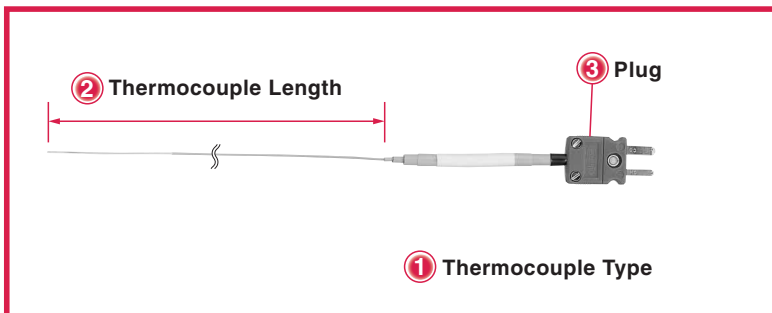
Temp. Range	Accuracy	Response time	Durability
-50~200°C	±1.5°C (at 100°C)	2.0 s	S

Type K Model **SF-K-200-ANP**  
Type E Model **SF-E-200-ANP**

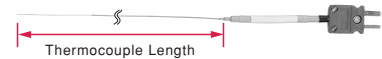


Temp. Range	Accuracy	Response time	Durability
-50~200°C	±1.5°C (at 100°C)	2.0 s	S

## How to order of SF series



### ② Thermocouple Length



※ This probe does not incorporate compensating lead wires.

## SF-K-100-ANP

① ② ③

① Thermocouple Type	<b>K</b> : Chromel-Alumel <b>E</b> : Chromel-Constantan
② Thermocouple Length	<b>050</b> : 500mm <b>100</b> : 1000mm <b>150</b> : 1500mm <b>200</b> : 2000mm
③ Plug (See page 4)	<b>ANP</b> : P plug <b>ASP</b> : S plug <b>W</b> : Without plug

## Specifications

Accuracy	±1.5°C (at 100°C)
Response time	2.0s
Durability rank	S
Max. Temp.	200°C

# Model SHEATH series

## Bendable Wiry Probes

Model SHEATH series probes are internal temperature sensors designed to measure the temperature of liquids, air, and gases.

The sheathed section can be bent to a radius five times the outer diameter of the sheath. Specific components may be combined to customize products for the needs of a customer's specific application.

### 鞘状模式系列

鞘状模式系列产品是适用于液体或空气温度测试的内部温度感应器。鞘状部分的鞘状外形可弯曲至其半径的5倍。

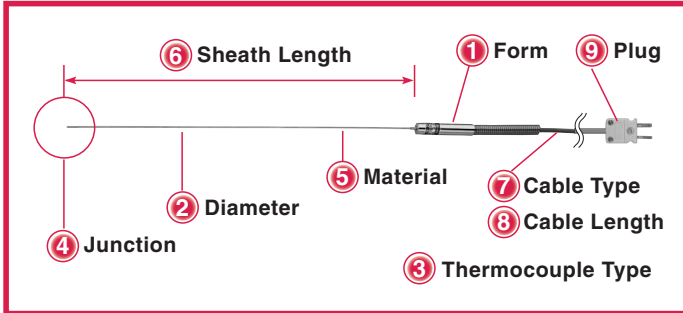
通过对各个规格的组件进行重新组合的方式，可以按照客户的使用需求进行选配。

シース形センサは、液体や空気温度測定に適した内部用温度センサです。

シース部分は、シース外形の5倍の半径まで曲げる事が可能です。

各パーツの仕様を組み合わせる事により、お客様の用途に合わせてカスタマイズする事が出来ます。

## How to order of SHEATH series



## Typical Probes of SHEATH series

Type K Model **B3.2-K-J1-M1-L500-TC1-ANP**

Type E Model **B3.2-E-J1-M1-L500-TC1-ANP**



Temp. Range	Accuracy	Response time	Durability
-40~750°C	±2.5°C (at 100°C)	5.0 s	S

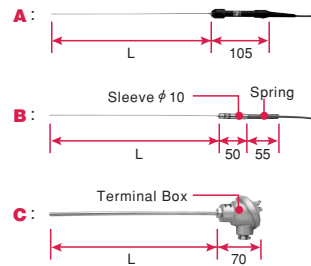
## B3.2-K-J1-M1-L500-TC1-ANP



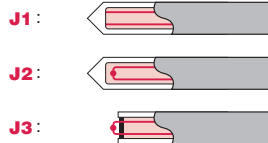
① Form	<b>A</b> : Grip type <b>B</b> : Sleeve type <b>C</b> : Terminal box type
② Diameter	<b>0.25</b> : φ 0.25mm <b>0.5</b> : φ 0.5mm <b>1.0</b> : φ 1.0mm <b>1.6</b> : φ 1.6mm <b>3.2</b> : φ 3.2mm <b>4.8</b> : φ 4.8mm <b>6.4</b> : φ 6.4mm <b>8.0</b> : φ 8.0mm
③ Thermocouple Type	<b>K</b> : Chromel-Alumel <b>E</b> : Chromel-Constantan
④ Junction	<b>J1</b> : Grounded junction <b>J2</b> : Ungrounded junction <b>J3</b> : Exposed junction
⑤ Material	<b>M1</b> : SUS 316 <b>M2</b> : SUS 310S (Only type K) <b>M3</b> : Inconel (Only type K)
⑥ Sheath Length	<b>L100</b> : 100mm <b>L200</b> : 200mm .....
⑦ Cable Type (See page 5)	<b>TC</b> :
⑧ Cable Length	<b>1</b> : 1m <b>1.5</b> : 1.5m <b>2</b> : 2m .....
⑨ Plug (See page 4)	<b>ANP</b> : P plug <b>ASP</b> : S plug <b>W</b> : Without plug

### ① Form

You can choose Form as below.



### ④ Junction



### [Supplementary information]

The sheath tube can be coated with Teflon.

A Teflon coating will improve resistance against chemicals and enable the use of the probe for measuring the temperatures of acids, alkalis, food, etc.

Applicable sheath diameter : φ 1.0, φ 1.6, φ 3.2

Maximum length : 1m

Operating temperature limit : 200°C

Minimum bending radius : Approx. 10mm

## Specifications

Outside diameter (mm)		0.25	0.5	1.0	1.6	3.2	4.8	6.4	8.0
Type : K (Max.temp.)	SUS 316 (M1)	—	—	650°C	650°C	750°C	800°C	800°C	900°C
	SUS 310S (M2)	—	—	650°C	650°C	750°C	800°C	800°C	900°C
	Inconel (M3)	500°C	500°C	650°C	650°C	750°C	900°C	1000°C	1050°C
Type : E (Max.temp.)	SUS 316 (M1)	—	—	650°C	650°C	750°C	800°C	800°C	800°C
Response time		0.4s	0.9s	2s	3s	5s	10s	15s	20s
Standard resistance (Ω/m)	Type K	570	124	32	13	4	2.2	1.0	0.7
	Type E	—	—	38	15	5	2.6	1.2	0.9
Max. Length (m)	J1, J3	5	10	50	50	50	50	30	20
	J2	2	2	2	5	15	30	30	20
Accuracy	Type K	-40~333°C : ±2.5°C, 333~1200°C : ± (measuring × 0.75%) °C							
	Type E	-40~333°C : ±2.5°C, 333~ 900°C : ± (measuring × 0.75%) °C							

※ Avoid immersing these probes in molten aluminum. Doing so may result in corrosion of the sheathed sensor.



# Model **ST** series

## Flat Leaf Probes

Model ST series probes are multi-purpose temperature sensors featuring a flexible tape shape.

They can be glued to the surfaces of measurement targets for use in a range of applications. Specific components may be combined to customize products for the needs of a customer's specific application.

### ST模式系列

ST模式系列产品是具有柔软性的胶带状多用温度感应器。可以粘贴到测试对象的表面，还可以用于其他多种测试方法。通过对各个规格的组件进行重新组合的方式，可以按照客户的使用需求进行选配。

モデルSTシリーズは、柔軟性のあるテープ形状をした多目的温度センサです。

測定面に貼り付けるなど、様々な用途にご利用いただけます。各パーツの仕様を組み合わせる事により、お客様の用途に合わせてカスタマイズする事が出来ます。

## Typical Probes of ST series

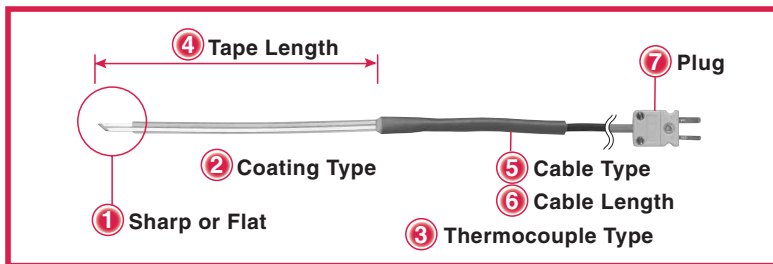
**Type K Model ST-11K-010-TS1-ANP**  
**Type E Model ST-11E-010-TS1-ANP**

Temp. Range	Accuracy	Response time	Durability
-50~210°C	±1.2°C (at 100°C)	2.0 s	S

**Type K Model ST-11K-010-0-ANP**  
**Type E Model ST-11E-010-0-ANP**

Temp. Range	Accuracy	Response time	Durability
-50~210°C	±1.2°C (at 100°C)	2.0 s	S

## How to order of ST series



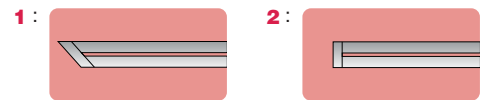
### ST-11K-008-TS1-ANP



<b>① Sharp or Flat</b>	<b>1</b> : Sharp <b>2</b> : Flat
<b>② Coating Type (Max. Temp.)</b>	<b>1</b> : Open (Teflon coating) <b>2</b> : All coating (Teflon coating) <b>3</b> : Open (Polyimide) <b>4</b> : All coating (Polyimide) *350°C if the tape length exceeds 150mm.
<b>③ Thermocouple Type</b>	<b>K</b> : Chromel-Alumel <b>E</b> : Chromel-Constantan
<b>④ Tape Length</b>	<b>003</b> : 30mm <b>005</b> : 50mm <b>008</b> : 80mm <b>010</b> : 100mm ..... <b>200</b> : 2000mm
<b>⑤ Cable Type (See page 5)</b>	<b>TS</b> : For ST-*1, ST-*2 <b>GW</b> : For ST-*3, ST-*4 <b>0</b> : Without Cable
<b>⑥ Cable Length</b>	<b>1</b> : 1m <b>1.5</b> : 1.5m <b>2</b> : 2m <b>2.5</b> : 2.5m ..... *No cable if the cable type is "0."
<b>⑦ Plug (See page 4)</b>	<b>ANP</b> : P plug <b>ASP</b> : S plug <b>W</b> : Without plug

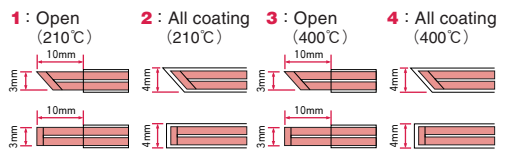
### ① Sharp or Flat

You can choose Junction Form as below.



### ② Coating Type

You can choose Coating Type as below.



Open part.....t=0.05  
Coating part...t=0.2

### ④ Tape Length

You can choose Tape Length as below.

003 : 30mm	020 : 200mm	045 : 450mm	090 : 900mm
005 : 50mm	025 : 250mm	050 : 500mm	100 : 1000mm
008 : 80mm	030 : 300mm	060 : 600mm	150 : 1500mm
010 : 100mm	035 : 350mm	070 : 700mm	200 : 2000mm
015 : 150mm	040 : 400mm	080 : 800mm	

## Specifications

Accuracy	Open    ±1.2°C (at 100°C) All Coating    ±1.4°C (at 100°C)
Response time	Open    2.0s All Coating    8.0s
Durability rank	S

## Attention

Where the probes are not glued or inserted, the operating temperature limits are as follows:

	ST-*1	ST-*2	ST-*3	ST-*4
Tape ≤ 150mm	200°C	180°C	200°C	200°C
Tape > 150mm	180°C	180°C	180°C	180°C

# Model SC series

## Screw Setting Probes

Model SC series probes are designed to measure stationary surfaces that can be attached to measurement targets with screws.

Specific components may be combined to customize products for the needs of a customer's specific application.

### SC模式系列

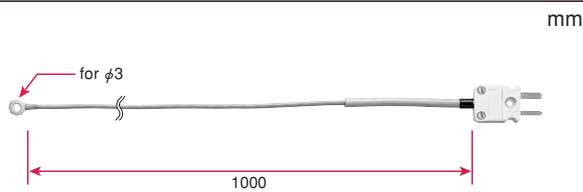
SC模式系列产品是可以由螺丝钉固定在测试对象物上的静止表面用温度感应器。通过对各个规格的组件进行重新组合的方式，可以按照客户的使用需求进行选配。

モデルSCシリーズは、測定物にネジで固定できる静止表面用温度センサです。各パーツの仕様を組み合わせる事により、お客様の用途に合わせてカスタマイズする事が出来ます。

## Typical Probes of SC series

Type K Model **SC-31K-TS1-ANP**

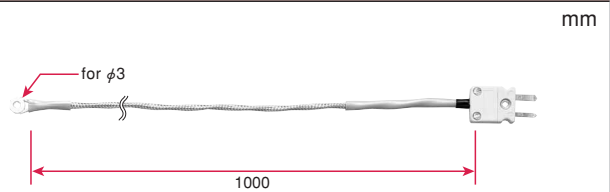
Type E Model **SC-31E-TS1-ANP**



Temp. Range	Accuracy	Response time	Durability
-50~150°C	±3.0°C (at 100°C Surface)	5.0 s	S

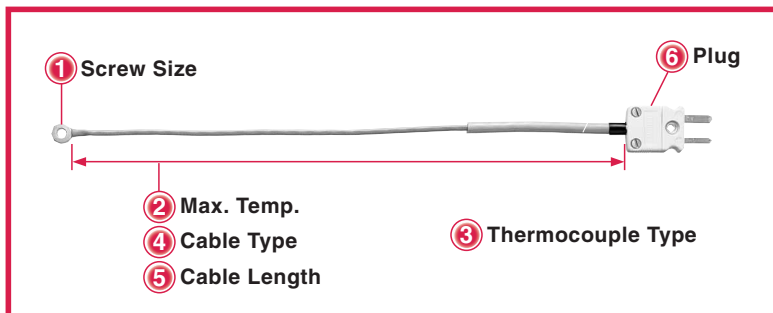
Type K Model **SC-32K-SG1-ANP**

Type E Model **SC-32E-SG1-ANP**



Temp. Range	Accuracy	Response time	Durability
-50~400°C	±3.0°C (at 100°C Surface)	5.0 s	S

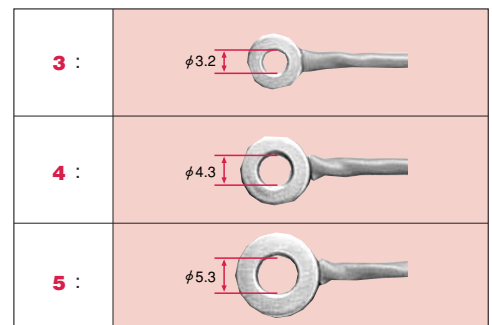
## How to order of SC series



### SC-31K-TS1-ANP

① ② ③ ④ ⑤ ⑥

### ① Screw Size



① Screw Size	<b>3</b> : For φ3mm <b>4</b> : For φ4mm <b>5</b> : For φ5mm
② Max. Temp.	<b>1</b> : 150°C <b>2</b> : 400°C
③ Thermocouple Type	<b>K</b> : Chromel-Alumel <b>E</b> : Chromel-Constantan
④ Cable Type (See page 5)	<b>TS</b> : For SC-*1 <b>SG</b> : For SC-*2
⑤ Cable Length	<b>1</b> : 1m <b>1.5</b> : 1.5m <b>2</b> : 2m <b>2.5</b> : 2.5m .....
⑥ Plug (See page 4)	<b>ANP</b> : P plug <b>ASP</b> : S plug <b>W</b> : Without plug

### Specifications

Accuracy	±3.0°C (at 100°C surface)
Response time	5.0s
Durability rank	S
Max. Temp.	SC-*1 : 150°C SC-*2 : 400°C

# Model S series

## High Superior Surface Probes

Model S series probes are high-performance temperature sensors developed using Anritsu Meter's full range of proprietary technologies to achieve the highest levels of accuracy, response time, and durability. These probes are available in four types: for stationary surfaces, for extremely small surfaces, for moving/rotating surfaces, and for self-supporting measurement. Specific components may be combined to customize products for the needs of a customer's specific application.

Patented in Japan, the United States, England, France, and Germany.

モデルSシリーズは安立計器独自の技術により、精度、応答速度、耐久性のすべてを極めた高性能の温度センサです。静止表面用、微小表面用、移動表面用、自重形の4種類をご用意しています。各パーツの仕様を組み合わせる事により、お客様の用途に合わせてカスタマイズする事が出来ます。

特許：日本、アメリカ、イギリス、フランス、ドイツ

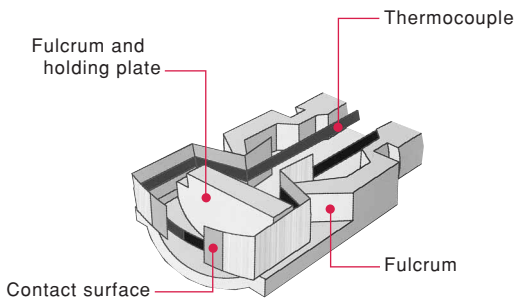
### S模式系列

S模式系列产品是使用安立计器自己的独创技术，在精度、测速、耐用性等各方面都具有极度高性能的温度感应器。备有静止表面用、微型表面用、移动表面用和自重型4种类型。

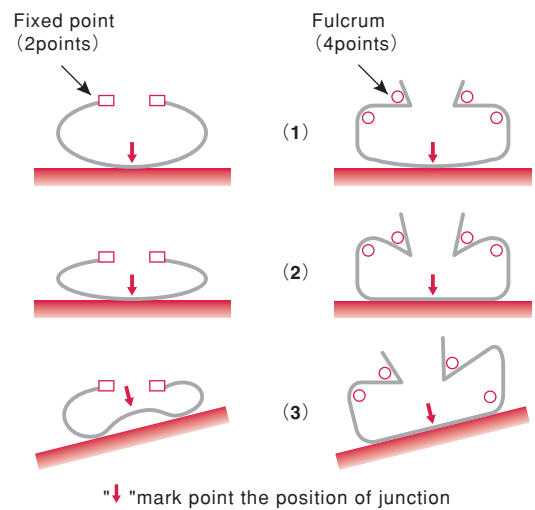
通过对各个规格的组件进行重新组合的方式，可以按照客户的使用需求进行选配。

专利注册：日本，美国，英国，法国，德国

## The greatest feature of Model S series is the four-fulcrum structure.



### ●Transformation of a contact strip



Right illustration represents the transformation of the contact strip in Model S series and traditional probe. Figure (2) of ideal contact condition is possible to measure the accurate temperature.

But, on condition of Figure (3) can not measure the accurate temperature because of transformation. Even if you repeated the measurement over and over times on conditions of (1) → (2) → (3), Model S series is not transformed at all.

## Accuracy, Test certificate

The traceability of temperature is administrated by the fixed point of temperature (ice point, boiling point of water, etc.), but it can not apply the rule in the surface temperature measurement. Anritsu Meter Co.,Ltd. established the original standard of surface temperature by development of the surface temperature calibration system. Model S series are attached the test certificate by this calibration system.

## Durability

The greatest feature of Model S series is the four fulcrum structure. Model S series realize a extreme durability to the severe temperature measurement.

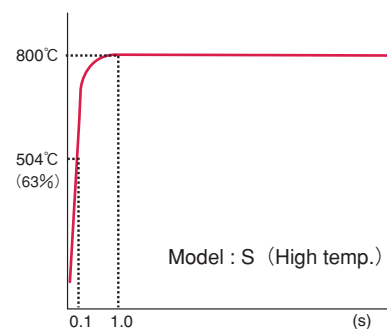
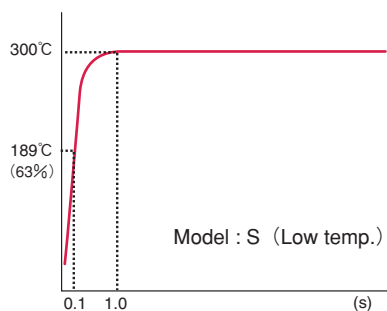
### ●Model S series for the stationary surface

On the metallic surface at 300°C	more than 100,000 contacts
On the metallic surface at 800°C	more than 60,000 contacts

### ●Model S series for the moving surface

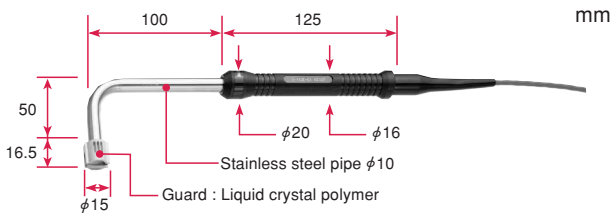
On the steel plate with smooth surface at 300°C and speed of 200m/min	more than 2000 hours
On the steel plate with smooth surface at 600°C and speed of 200m/min	more than 1000 hours

## Response curve



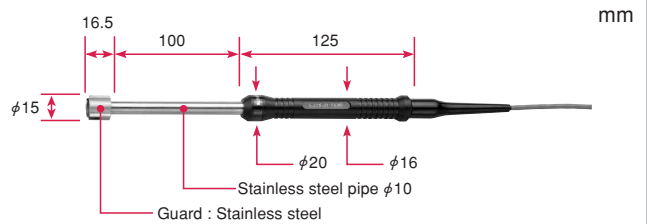
# Typical Probes of S series

**Type K Model S-113K-01-1-TPC1-ANP**  
**Type E Model S-113E-01-1-TPC1-ANP**



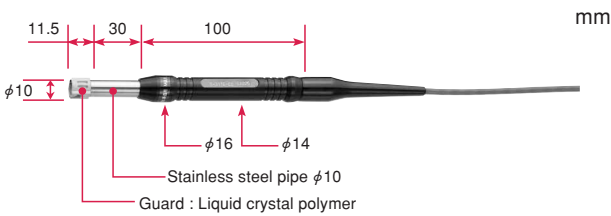
Temp. Range	Accuracy	Response time	Durability
-50~300°C	±1.2°C (at 100°C Surface)	1.0 s	A

**Type K Model S-221K-01-1-TPC1-ANP**  
**Type E Model S-221E-01-1-TPC1-ANP**



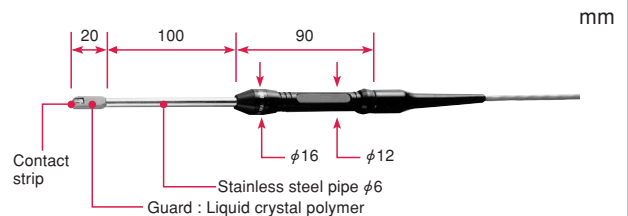
Temp. Range	Accuracy	Response time	Durability
-50~800°C	±1.2°C (at 100°C Surface)	1.0 s	A

**Type K Model S-311K-00-1-TPC1-ANP**  
**Type E Model S-311E-00-1-TPC1-ANP**



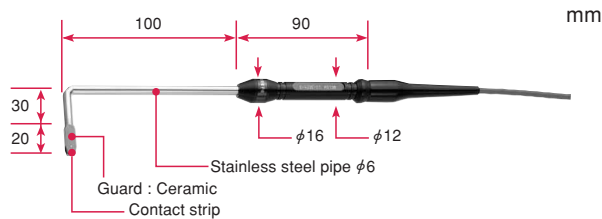
Temp. Range	Accuracy	Response time	Durability
-50~300°C	±1.2°C (at 100°C Surface)	1.0 s	A

**Type K Model S-411K-01-1-TPC1-ANP**  
**Type E Model S-411E-01-1-TPC1-ANP**



Temp. Range	Accuracy	Response time	Durability
-50~300°C	±1.2°C (at 100°C Surface)	1.0 s	A

**Type K Model S-423K-01-1-TPC1-ANP**  
**Type E Model S-423E-01-1-TPC1-ANP**



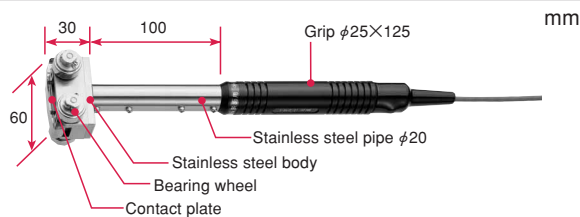
Temp. Range	Accuracy	Response time	Durability
-50~800°C	±1.2°C (at 100°C Surface)	1.0 s	A

**Type K Model S-551K-01-1-TPC1-ANP**  
**Type E Model S-551E-01-1-TPC1-ANP**



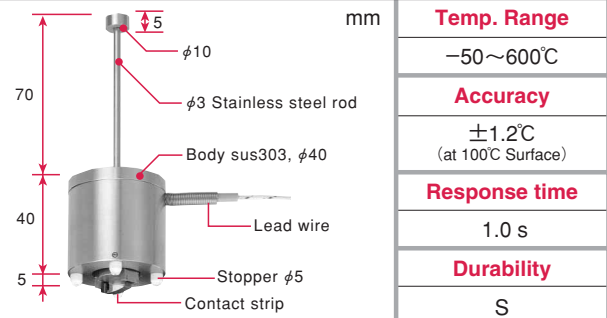
Temp. Range	Accuracy	Response time	Durability
-50~600°C	±1.2°C (at 100°C Surface)	3.0 s	A

**Type K Model S-641K-01-1-TPC1-ANP**  
**Type E Model S-641E-01-1-TPC1-ANP**



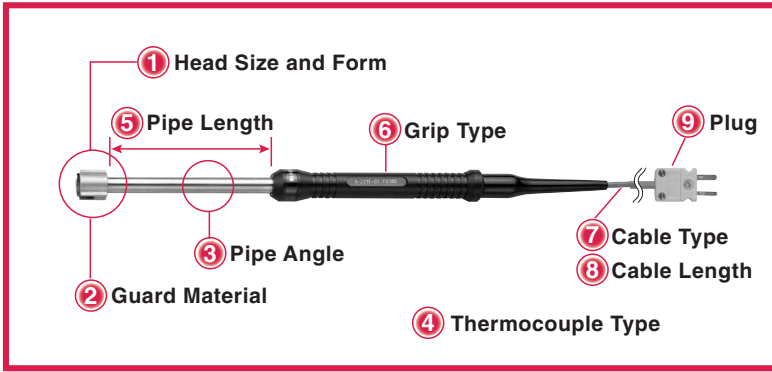
Temp. Range	Accuracy	Response time	Durability
-50~400°C	±1.2°C (at 100°C Surface)	3.0 s	A

**Type K Model S-780K-GW1-ANP**  
**Type E Model S-780E-GW1-ANP**



Temp. Range	Accuracy	Response time	Durability
-50~600°C	±1.2°C (at 100°C Surface)	1.0 s	S

# How to order of S series



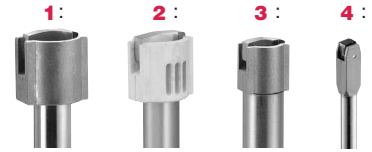
## S-121K-01-1-TPC1-ANP



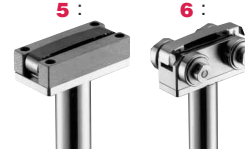
<b>① Head Size and Form</b>	<b>1</b> : $\phi$ 15mm (allowable tilt $\pm 4^\circ$ ) <b>2</b> : $\phi$ 15mm (allowable tilt $\pm 8^\circ$ ) <b>3</b> : $\phi$ 10mm <b>4</b> : $\square 6 \times 7$ mm <b>5</b> : Guard type for flat moving surface (60 $\times$ 40mm) <b>6</b> : Wheel type for flat moving surface (60 $\times$ 50mm) <b>7</b> : Self Supporting type ( $\phi$ 40mm)	
<b>② Guard Material (Max. Temp.)</b>	<b>1</b> : Liquid crystal polymer (300 $^\circ$ C) *1 <b>2</b> : Stainless (800 $^\circ$ C) *1*2 *1: Only S-1**, S-2**, S-3**, S-4** *2: It is ceramics for S-4** <b>4</b> : With wheels (400 $^\circ$ C) *3 <b>5</b> : Special mica guard (600 $^\circ$ C) *4 <b>6</b> : Ceramics guard (800 $^\circ$ C) *4 *3: Only S-64* *4: Only S-5** <b>7</b> : Ceramics (300 $^\circ$ C) *5 <b>8</b> : Ceramics (600 $^\circ$ C) *5 *5: Only S-7**	
<b>③ Pipe Angle</b>	<b>0</b> : Nothing (Only S-7**)	<b>1</b> : Straight <b>2</b> : 45 degrees <b>3</b> : 90 degrees
<b>④ Thermocouple Type</b>	<b>K</b> : Chromel-Alumel <b>E</b> : Chromel-Constantan	
<b>⑤ Pipe Length</b>	S-1**, S-2**, S-3**	<b>00</b> : 30mm <b>01</b> : 100mm ..... <b>10</b> : 1000mm
	S-4**	<b>00</b> : 30mm <b>01</b> : 100mm ..... <b>05</b> : 500mm
	S-5**, S-64*	<b>01</b> : 100mm <b>02</b> : 200mm ..... <b>10</b> : 1000mm <b>15</b> : 1500mm <b>20</b> : 2000mm
	S-7**	Nothing
<b>⑥ Grip Type</b>	S-1**, S-2**, S-3**, S-4**, S-5**, S-64*	<b>0</b> : No Grip <b>1</b> : Standard Grip
	S-7**	Nothing
<b>⑦ Cable type (See page 5)</b>	S-1**, S-2**, S-3**, S-4**, S-5**, S-64*	TPC (Only 1m), TC
	S-4** (No Grip)	TS
	S-7**	GW
<b>⑧ Cable Length</b>	<b>1</b> : 1m <b>1.5</b> : 1.5m <b>2</b> : 2m <b>2.5</b> : 2.5m .....	
<b>⑨ Plug (See page 4)</b>	<b>ANP</b> : P plug <b>ASP</b> : S plug <b>W</b> : Without plug	

### ① Head Size and Form

For Stationary Surface



For Moving Surface



Self Supporting type

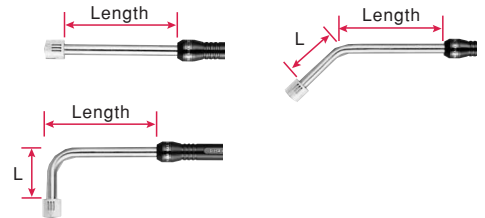


### ③ Pipe Angle

You can choose Pipe Angle as below.



### ⑤ Pipe Length



The pipe height "L" is 50mm. (For S-1\*\*, S-2\*\*, S-3\*\*)  
 The pipe height "L" is 30mm. (For S-4\*\*)  
 The pipe height "L" is 110mm. (For S-5\*\*, S-64\*)

### ⑥ Grip Type

No Grip	For device, system, auto-machines, mechanical system etc
Standard	For handheld measurement

### Specifications

Accuracy	$\pm 1.2^\circ\text{C}$ (at 100 $^\circ\text{C}$ surface)	
Response time	S-1**, S-2**, S-3**, S-4**, S-7**	1.0s
	S-5**, S-64*	3.0s
Durability Rank	S-1**, S-2**, S-3**, S-4**, S-5**, S-64*	A
	S-7**	S