

# 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。通过组合各个规格的组件，可以按照客户的用途进行个性选配。

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。

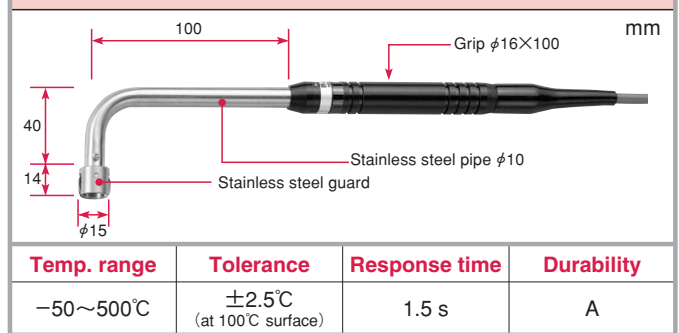
各パーツの仕様を組み合わせる事により、お客様の用途に合わせてカスタマイズする事が出来ます。

## Typical probes of N series

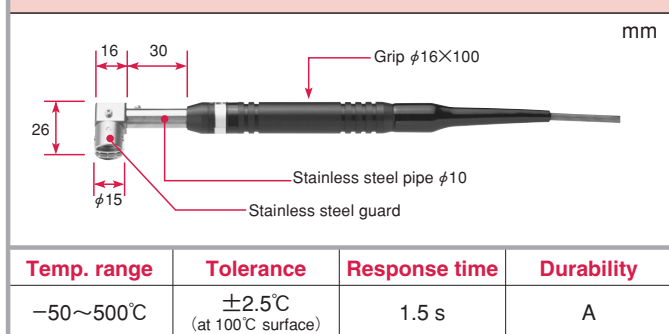
### Type K Model N-231K-00-1-TC1-ANP Type E Model N-231E-00-1-TC1-ANP



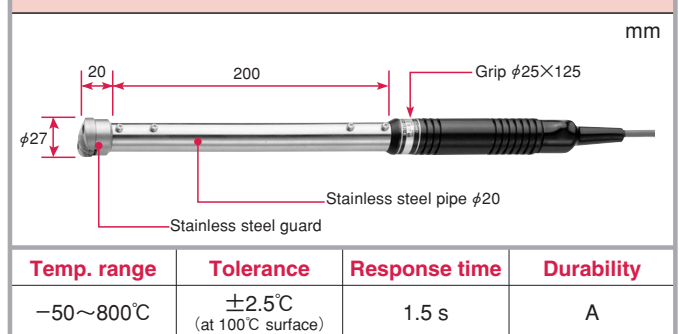
### Type K Model N-233K-01-1-TC1-ANP Type E Model N-233E-01-1-TC1-ANP



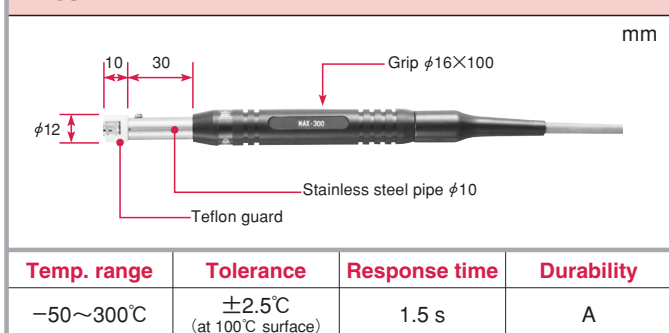
### Type K Model N-234K-00-1-TC1-ANP Type E Model N-234E-00-1-TC1-ANP



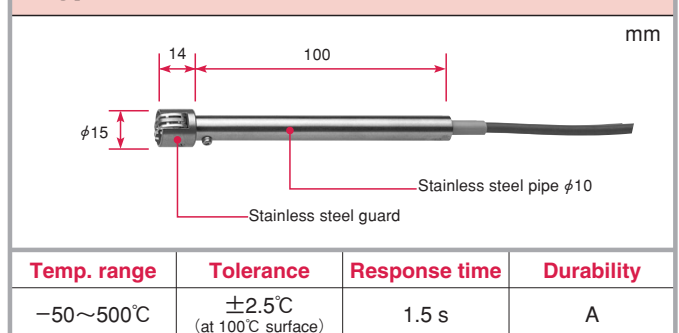
### Type K Model N-141K-02-1-TC1-ANP Type E Model N-141E-02-1-TC1-ANP



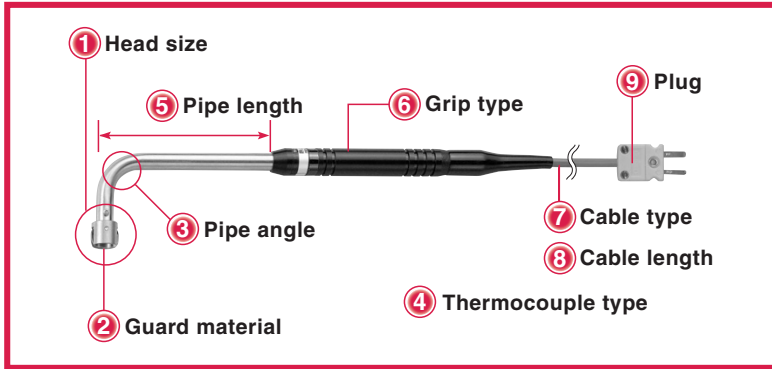
### Type K Model N-311K-00-1-TC1-ANP Type E Model N-311E-00-1-TC1-ANP



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



# How to order of N series



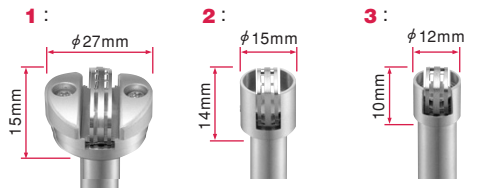
## N-233K-01-1-TC1-ANP



<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> <b>ASP</b> <b>W</b>

### ① Head size

You can choose head size as below.

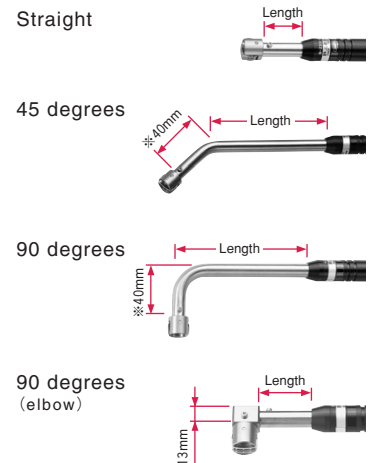


### ③ Pipe angle

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



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

### ⑥ Grip type

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

## Specifications

Tolerance	$\pm 2.5^\circ\text{C}$ (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 CS series

## Micro Sensor Probes

### CS模式系列

CS模式系列产品是适用于微小静止表面温度测试的温度感应器。通过组合各个规格的组件，可以按照客户的用途进行个性选配。

Model CS series probes are small surface temperature sensors designed to measure the temperature of stationary surface.

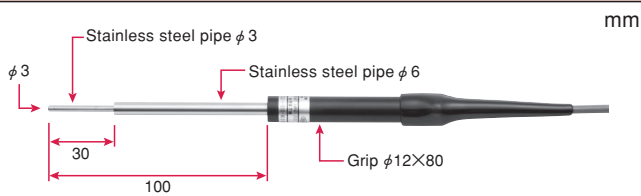
Specific components may be combined to customize products for the needs of a customer's specific applications.

モデルCSシリーズは、微小静止表面の温度計測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。

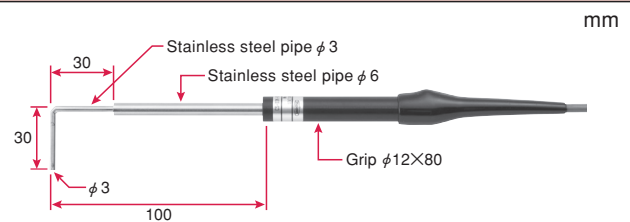
## Typical probes of CS series

**Type K Model CS-01K-010-1-TC1-ANP**  
**Type E Model CS-01E-010-1-TC1-ANP**



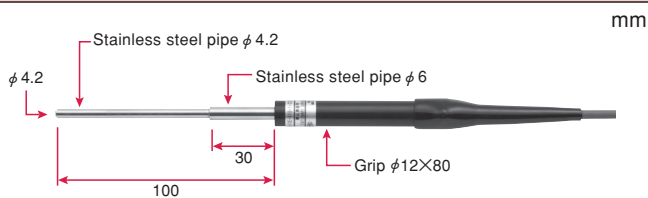
Temp. range	Tolerance	Response time	Durability
-50~400°C	±3.0°C (at 100°C surface)	3 s	A

**Type K Model CS-03K-010-1-TC1-ANP**  
**Type E Model CS-03E-010-1-TC1-ANP**



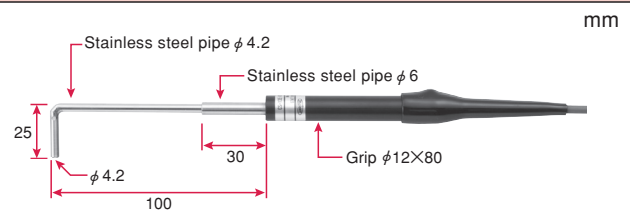
Temp. range	Tolerance	Response time	Durability
-50~400°C	±3.0°C (at 100°C surface)	3 s	A

**Type K Model CS-11K-010-1-TC1-ANP**  
**Type E Model CS-11E-010-1-TC1-ANP**



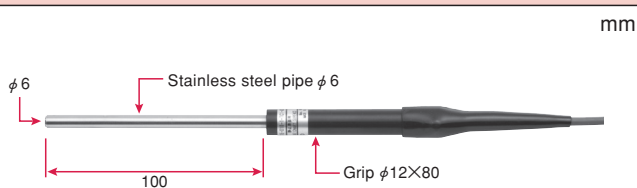
Temp. range	Tolerance	Response time	Durability
-50~400°C	±2.5°C (at 100°C surface)	2 s	A

**Type K Model CS-13K-010-1-TC1-ANP**  
**Type E Model CS-13E-010-1-TC1-ANP**



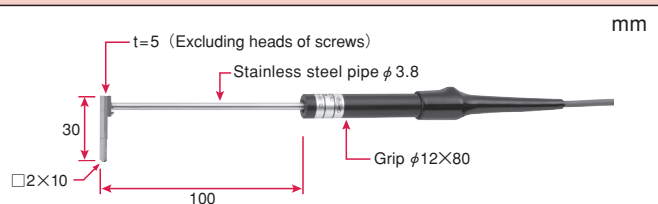
Temp. range	Tolerance	Response time	Durability
-50~400°C	±2.5°C (at 100°C surface)	2 s	A

**Type K Model CS-21K-010-1-TC1-ANP**  
**Type E Model CS-21E-010-1-TC1-ANP**



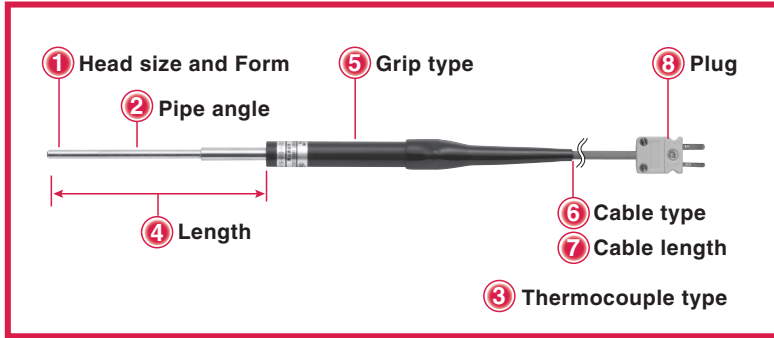
Temp. range	Tolerance	Response time	Durability
-50~400°C	±2.5°C (at 100°C surface)	2 s	A

**Type K Model CS-36K-010-1-TC1-ANP**  
**Type E Model CS-36E-010-1-TC1-ANP**



Temp. range	Tolerance	Response time	Durability
-50~400°C	±2.5°C (at 100°C surface)	2 s	A

# How to order of CS series



## CS-11K-010-1-TC1-ANP



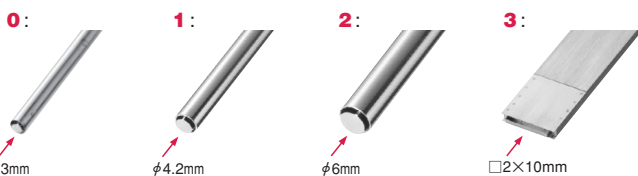
① Head size and Form	0 : $\phi$ 3.0mm 1 : $\phi$ 4.2mm 2 : $\phi$ 6.0mm 3 : $\square$ 2 $\times$ 10mm
② Pipe angle	1 : Straight 3 : 90 degrees 6 : 90 degrees* *Element direction of right angle
③ Thermocouple type	K : Chromel-Alumel E : Chromel-Constantan
④ Length	005 : 50mm 010 : 100mm 015 : 150mm
⑤ Grip type	0 : No grip 1 : Standard grip
⑥ Cable type (See page 5)	TS : For No grip type TC : For Standard grip type
⑦ Cable length	1 : 1m 1.5 : 1.5m 2 : 2m 2.5 : 2.5m .....
⑧ Plug (See page 4)	ANP ASP W

### Specifications

Tolerance	CS-0*	$\pm$ 3.0 $^{\circ}$ C (at 100 $^{\circ}$ C surface)
	CS-1*, CS-2*, CS-3*	$\pm$ 2.5 $^{\circ}$ C (at 100 $^{\circ}$ C surface)
Response time	CS-0*	3.0 s
	CS-1*, CS-2*, CS-3*	2.0 s
Durability rank	A	
Max. temp.	400 $^{\circ}$ C	

### ① Head size and Form

You can choose head size and form as below.



### ② Pipe angle

(mm)

CS-01	
CS-11	
CS-21	
CS-31	
CS-03	
CS-13	
CS-23	
CS-33	
CS-36	

\* No grip,  $\phi$ 6 pipe length will be 50 mm.

### ④ Length

(mm)

		005	010	015
	CS-01	50mm*	100mm	150mm
	CS-11	50mm*	100mm	150mm
	CS-21	50mm	100mm	150mm
	CS-31	—	100mm*	150mm
	CS-03	50mm*	100mm	150mm
	CS-13	50mm*	100mm	150mm
	CS-23	50mm	100mm	150mm
	CS-33	50mm*	100mm	150mm
	CS-36	50mm*	100mm	150mm

\* means that the probe without a grip is not available.

### ⑤ Grip type

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

# 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。通过组合各个规格的组件，可以按照客户的用途进行个性选配。

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	Tolerance	Response time	Durability
-50~250°C	±2.5°C (at 100°C surface)	1.0 s	A

**Type K Model WE-12K-GW1-ANP**  
**Type E Model WE-12E-GW1-ANP**

Temp. range	Tolerance	Response time	Durability
-50~500°C	±2.5°C (at 100°C surface)	1.0 s	A

**Type K Model WE-21K-TS1-ANP**  
**Type E Model WE-21E-TS1-ANP**

Temp. range	Tolerance	Response time	Durability
-50~250°C	±2.5°C (at 100°C surface)	1.0 s	A

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

Temp. range	Tolerance	Response time	Durability
-50~500°C	±2.5°C (at 100°C surface)	1.0 s	A

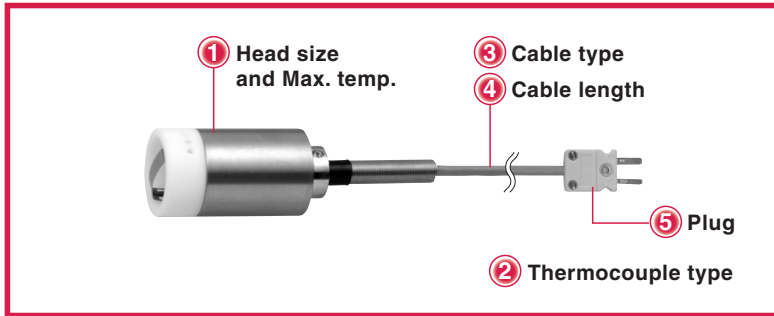
**Type K Model WE-31K-TA1-ANP**  
**Type E Model WE-31E-TA1-ANP**

Temp. range	Tolerance	Response time	Durability
-50~200°C	±2.5°C (at 100°C surface)	2.0 s	A

**Type K Model WE-42K-GW1-ANP**  
**Type E Model WE-42E-GW1-ANP**

Temp. range	Tolerance	Response time	Durability
-50~500°C	±2.5°C (at 100°C surface)	2.5 s	A

# How to order of WE series



## WE-11K-TS1-ANP



① Head size and Max. temp.	<b>11</b> : $\phi 20\text{mm} \times 34\text{mm}$ $-50 \sim 250^{\circ}\text{C}$ <b>12</b> : $\phi 20\text{mm} \times 34\text{mm}$ $-50 \sim 500^{\circ}\text{C}$ <b>21</b> : $\phi 30\text{mm} \times 34\text{mm}$ $-50 \sim 250^{\circ}\text{C}$ <b>22</b> : $\phi 30\text{mm} \times 34\text{mm}$ $-50 \sim 500^{\circ}\text{C}$ <b>31</b> : $\phi 20\text{mm} \times 17.5\text{mm}$ $-50 \sim 200^{\circ}\text{C}$ <b>42</b> : $\phi 30\text{mm} \times 25.5\text{mm}$ $-50 \sim 500^{\circ}\text{C}$
② Thermocouple type	<b>K</b> : Chromel-Alumel <b>E</b> : Chromel-Constantan
③ Cable type (See page 5)	<b>TS</b> : For WE-11, WE-21 <b>GW</b> : For WE-12, WE-22, WE-42 <b>TA*</b> : For WE-31
④ Cable length	<b>1</b> : 1m <b>1.5</b> : 1.5m <b>2</b> : 2m <b>2.5</b> : 2.5m .....
⑤ Plug (See page 4)	<b>ANP</b> <b>ASP</b> <b>W</b>

※Teflon insulated thermocouple ( $\phi 0.9\text{mm}$ )

### ① Head size and Max. temp.

You can choose head size and Max. temp. as below.

**11** :



**12** :



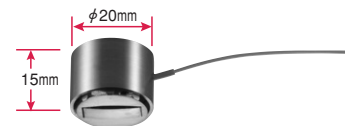
**21** :



**22** :



**31** :



**42** :



## Specifications

Tolerance	$\pm 2.5^{\circ}\text{C}$ (at $100^{\circ}\text{C}$ surface)
Response time	WE-1*, WE-2* : 1.0 s WE-31 : 2.0 s WE-42 : 2.5 s
Durability rank	A
Max. temp.	WE-11, WE-21 : $250^{\circ}\text{C}$ WE-12, WE-22, WE-42 : $500^{\circ}\text{C}$ WE-31 : $200^{\circ}\text{C}$

# 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。通过组合各个规格的组件，可以按照客户的用途进行个性选配。

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ーです。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

<b>Type K Model</b>	<b>MG-11K-TS1-ANP</b>
<b>Type E Model</b>	<b>MG-11E-TS1-ANP</b>

Temp. range	Tolerance	Response time	Durability
-50~250°C	±2.5°C (at 100°C surface)	2.0 s	A

<b>Type K Model</b>	<b>MG-22K-GW1-ANP</b>
<b>Type E Model</b>	<b>MG-22E-GW1-ANP</b>

Temp. range	Tolerance	Response time	Durability
-50~400°C	±2.5°C (at 100°C surface)	2.0 s	A

## How to order of MG series

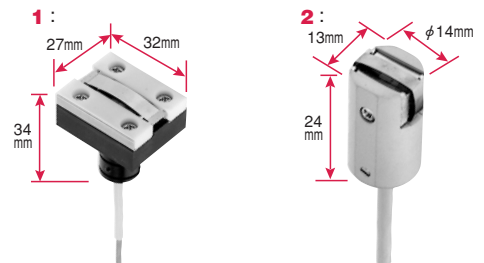
### MG-11K-TS1-ANP

① ② ③ ④ ⑤ ⑥

① Head size	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	<b>K</b> : Chromel-Alumel <b>E</b> : Chromel-Constantan
④ Cable type (See page 5)	<b>TS</b> : For MG-*1 <b>GW</b> : For MG-*2
⑤ Cable length	1 : 1m 1.5 : 1.5m 2 : 2m 2.5 : 2.5m .....
⑥ Plug (See page 4)	<b>ANP</b> <b>ASP</b> <b>W</b>

### 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

Tolerance	±2.5°C (at 100°C surface)
Response time	2.0 s
Durability rank	A
Max. temp.	MG-*1 : 250°C MG-*2 : 400°C

# Model TH series

## Flat Head Probes

The Model TH series is a temperature probe for stationary surfaces. Ideal for measuring temperatures at the side surfaces of a clearance, it can be customized to suit the purposes of specific client applications by combining various components based on their specifications.

### TH模式系列

TH模式系列产品是静止表面用温度感应器，适用于测量各种缝隙侧面温度。通过组合各个规格的组件，可以按照客户的用途进行个性选配。

モデルTHシリーズは、隙間側面の温度計測に適した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 TH series

Type K Model **TH-14K-010-1-TC1-ANP**  
Type E Model **TH-14E-010-1-TC1-ANP**



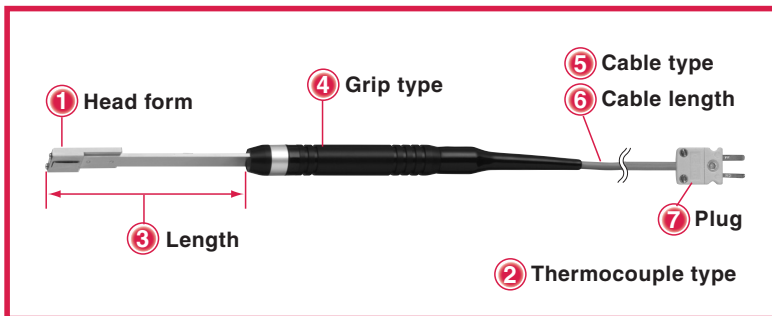
Temp. range	Tolerance	Response time	Durability
-50~500°C	±2.5°C (at 100°C surface)	2.0 s	A

Type K Model **TH-14K-020-1-TC1-ANP**  
Type E Model **TH-14E-020-1-TC1-ANP**



Temp. range	Tolerance	Response time	Durability
-50~500°C	±2.5°C (at 100°C surface)	2.0 s	A

## How to order of TH series

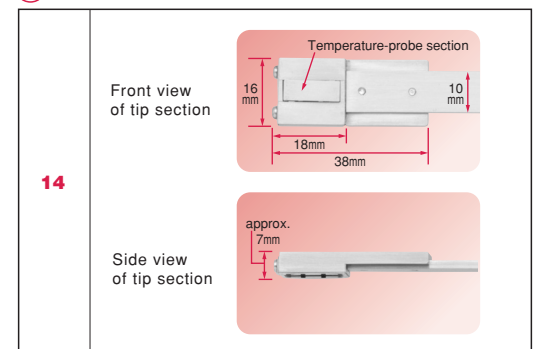


### TH-14K-010-1-TC1-ANP

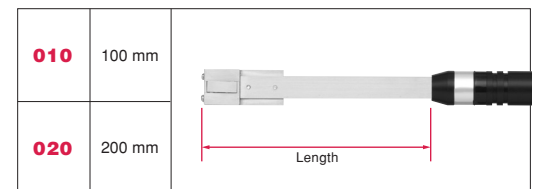


① Head form	<b>14</b>
② Thermocouple type	<b>K</b> : Chromel-Alumel <b>E</b> : Chromel-Constantan
③ Length	<b>010</b> : 100mm <b>015</b> : 150mm <b>020</b> : 200mm
④ Grip type	<b>1</b> : Grip
⑤ Cable type (See page 5)	<b>TC</b>
⑥ Cable length	<b>1</b> : 1m <b>1.5</b> : 1.5m <b>2</b> : 2m <b>2.5</b> : 2.5m .....
⑦ Plug (See page 4)	<b>ANP</b> <b>ASP</b> <b>W</b>

### ① Head form



### ③ Length



## Specifications

Tolerance	±2.5°C (at 100°C surface)
Response time	2.0 s
Durability rank	A
Max. temp.	500°C



# Model VA series

## Heat Pipe Probes

Model VA series probes are clip type surface temperature probes to measure temperature of a heat pipe. Specific components may be combined to customize products for the needs of a customer's specific application.

### VA模式系列

VA模式系列产品是可以夹在管子上，测量管子外壁温度的测棒。通过组合各个规格的组件，可以按照客户的用途进行个性选配。

モデルVAシリーズは、クリップタイプの表面温度センサです。挟んでパイプ外面の表面温度を測定します。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 VA series

<b>Type K Model</b>	<b>VA-03K-01-TS1-ANP</b>
<b>Type E Model</b>	<b>VA-03E-01-TS1-ANP</b>

For  $\phi 3$  mm

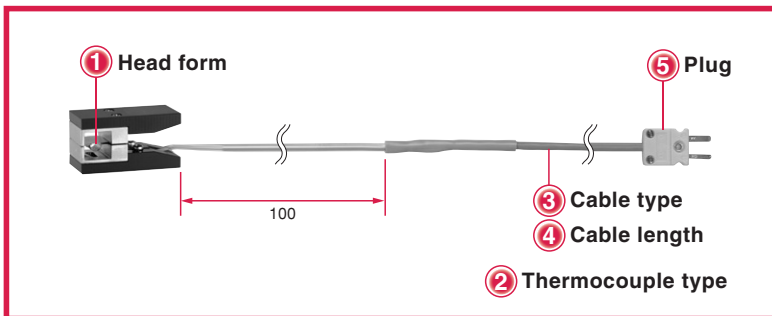
Temp. range	Tolerance	Response time	Durability
-50~300°C	±2.5°C (at 100°C surface)	2.0 s	S

<b>Type K Model</b>	<b>VA-05K-01-TS1-ANP</b>
<b>Type E Model</b>	<b>VA-05E-01-TS1-ANP</b>

For  $\phi 5$  mm

Temp. range	Tolerance	Response time	Durability
-50~300°C	±2.5°C (at 100°C surface)	2.0 s	S

## How to order of VA series



### VA-03K-01-TS1-ANP



<b>① Head form</b>	<b>03</b> : For $\phi 3$ mm <b>04</b> : For $\phi 4$ mm <b>05</b> : For $\phi 5$ mm <b>06</b> : For $\phi 6$ mm
<b>② Thermocouple type</b>	<b>K</b> : Chromel-Alumel <b>E</b> : Chromel-Constantan
<b>③ Cable type</b> (See page 5)	<b>TS</b>
<b>④ Cable length</b>	<b>1</b> : 1m <b>1.5</b> : 1.5m <b>2</b> : 2m <b>2.5</b> : 2.5m .....
<b>⑤ Plug</b> (See page 4)	<b>ANP</b> <b>ASP</b> <b>W</b>

① Head form	(mm)
<b>03</b>	For $\phi 3$ 
<b>04</b>	For $\phi 4$ 
<b>05</b>	For $\phi 5$ 
<b>06</b>	For $\phi 6$ 

### Specifications

Tolerance	±2.5°C (at 100°C surface)
Response time	2.0 s
Durability rank	S
Max. temp.	300°C

# Model HHT series

## High Temperature Probes

Model HHT series probes are high-durability temperature sensors designed to measure high-temperature surfaces. Specific components may be combined to customize products for the needs of a customer's specific application.

### HHT 模式系列

HHT 模式系列产品是耐久型高温表面温度感应器。通过组合各个规格的组件，可以按照客户的用途进行个性选配。

モデルHHTシリーズは、耐久形高温表面温度センサです。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 HHT series

### Type K Model HHT-41K-10-TC1-ANP



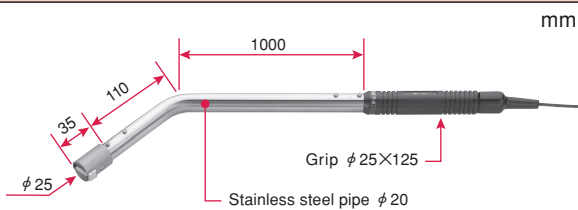
Temp. range	Tolerance	Response time	Durability
-50~800°C	±3.8°C (at 500°C surface)	4 s	※

### Type K Model HHT-51K-10-TC1-ANP



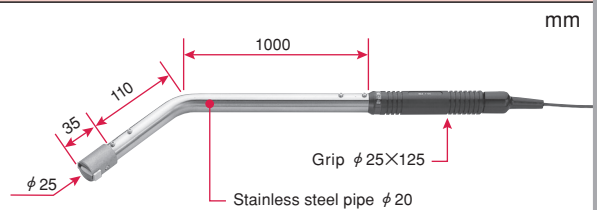
Temp. range	Tolerance	Response time	Durability
300~1100°C	±3.8°C (at 500°C surface)	5 s	※

### Type K Model HHT-42K-10-TC1-ANP



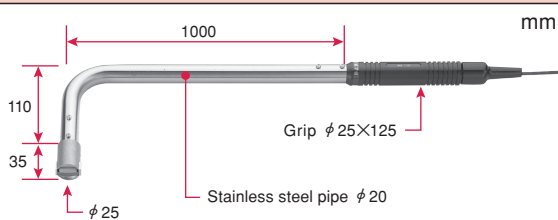
Temp. range	Tolerance	Response time	Durability
-50~800°C	±3.8°C (at 500°C surface)	4 s	※

### Type K Model HHT-52K-10-TC1-ANP



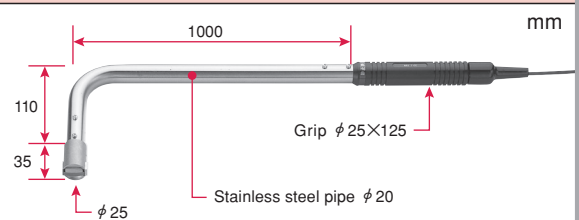
Temp. range	Tolerance	Response time	Durability
300~1100°C	±3.8°C (at 500°C surface)	5 s	※

### Type K Model HHT-43K-10-TC1-ANP



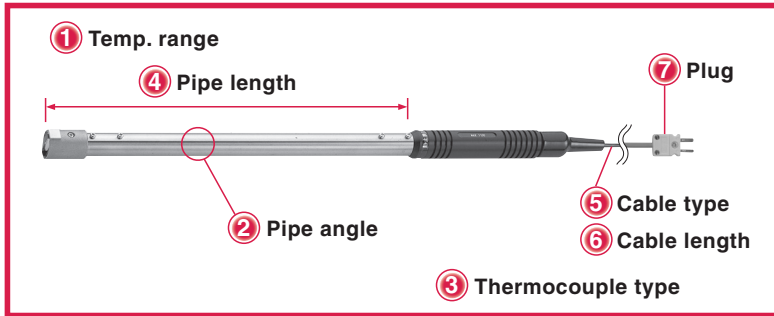
Temp. range	Tolerance	Response time	Durability
-50~800°C	±3.8°C (at 500°C surface)	4 s	※

### Type K Model HHT-53K-10-TC1-ANP



Temp. range	Tolerance	Response time	Durability
300~1100°C	±3.8°C (at 500°C surface)	5 s	※

# How to order of HHT series



## HHT-51K-10-TC1-ANP



① Temp. range	<b>4</b> : -50~ 800℃ <b>5</b> : 300~1100℃
② Pipe angle	<b>1</b> : Straight <b>2</b> : 45 degrees <b>3</b> : 90 degrees
③ Thermocouple type	<b>K</b> : Chromel-Alumel
④ Pipe length	<b>05</b> : 500mm ..... <b>10</b> : 1000mm ..... <b>15</b> : 1500mm ..... <b>20</b> : 2000mm
⑤ Cable type (See page 5)	<b>TC</b>
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> <b>ASP</b> <b>W</b>

### Specifications

Tolerance		±3.8℃ (at 500℃ surface)
Response time	HHT-4*	4 s
	HHT-5*	5 s
Durability rank	HHT-4*	800℃ : More than 60,000 contacts
	HHT-5*	800℃ : More than 60,000 contacts 900℃ : More than 15,000 contacts 1000℃ : More than 5,000 contacts 1100℃ : More than 300 contacts
Max. temp.	HHT-4*	800℃
	HHT-5*	1100℃

### ② Pipe angle

<b>1</b>	Straight	
<b>2</b>	45 degrees	
<b>3</b>	90 degrees	

### ④ Pipe length (mm)

Straight	
45 degrees	
90 degrees	
<b>05</b>	500
<b>06</b>	600
<b>07</b>	700
<b>08</b>	800
<b>09</b>	900
<b>10</b>	1000
<b>11</b>	1100
<b>12</b>	1200
<b>13</b>	1300
<b>14</b>	1400
<b>15</b>	1500
<b>20</b>	2000