

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。

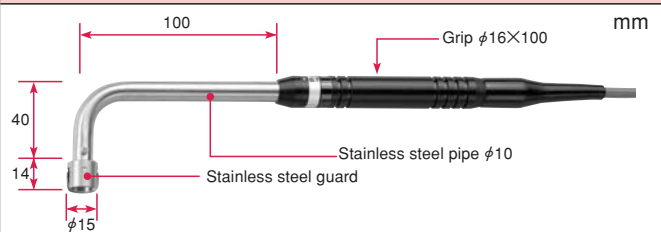
Typical probes of N series

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



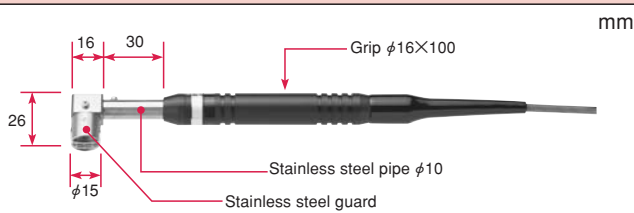
Temp. range	Tolerance	Response time	Durability
-50~500°C	±2.5°C (at 100°C surface)	1.5 s	A

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



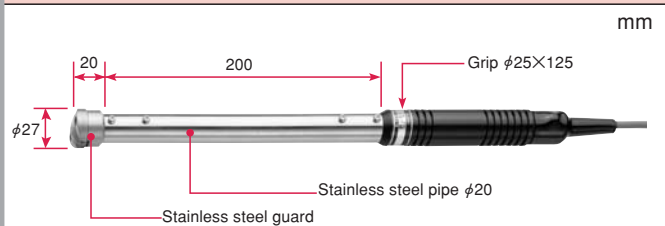
Temp. range	Tolerance	Response time	Durability
-50~500°C	±2.5°C (at 100°C surface)	1.5 s	A

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



Temp. range	Tolerance	Response time	Durability
-50~500°C	±2.5°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



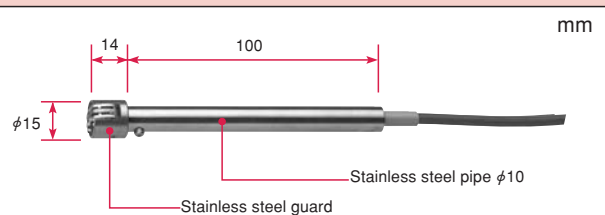
Temp. range	Tolerance	Response time	Durability
-50~800°C	±2.5°C (at 100°C surface)	1.5 s	A

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



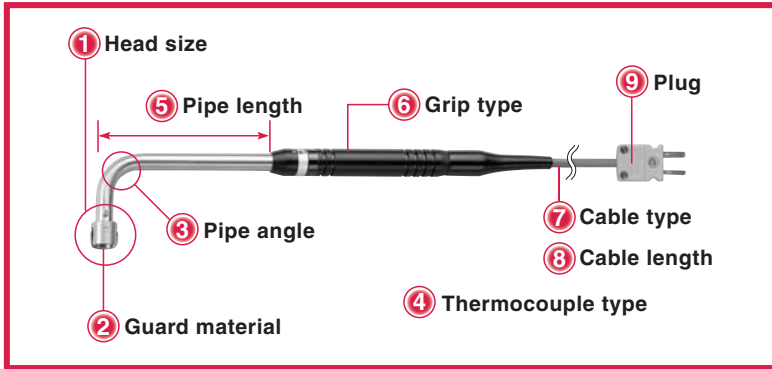
Temp. range	Tolerance	Response time	Durability
-50~300°C	±2.5°C (at 100°C surface)	1.5 s	A

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



Temp. range	Tolerance	Response time	Durability
-50~500°C	±2.5°C (at 100°C surface)	1.5 s	A

How to order of N series



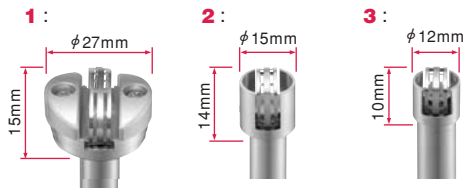
N-233K-01-1-TC1-ANP



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

① Head size

You can choose head size as below.



③ Pipe angle

You can choose pipe angle as below.

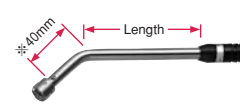
	① Pipe	⑤ Element	③ Pipe	⑤ Element
	1			
	2		5	
	3		6	
	4		7	

⑤ Pipe length

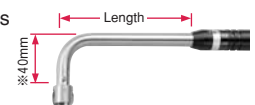
Straight



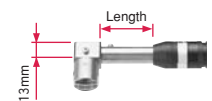
45 degrees



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 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

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.

CS模式系列

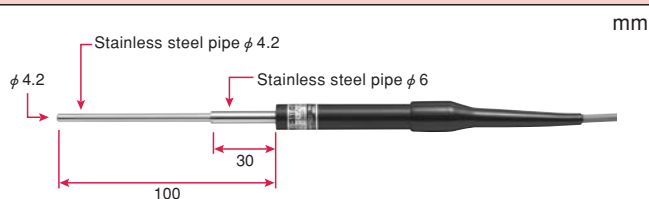
CS模式系列产品是适用于微小静止表面温度测试的温度测棒。通过组合各个规格的组件，可以按照客户的用途进行个性选配。

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。

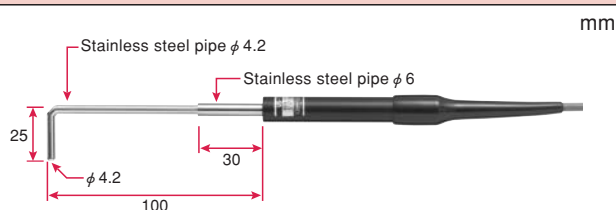
Typical probes of CS series

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



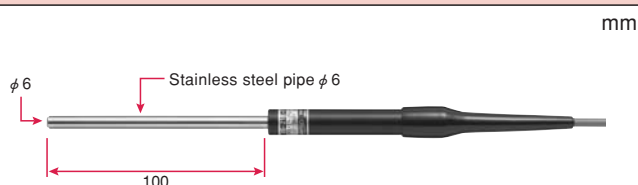
Temp. range	Tolerance	Response time	Durability
-50~400°C	±2.5°C (at 100°C surface)	2 s	A

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



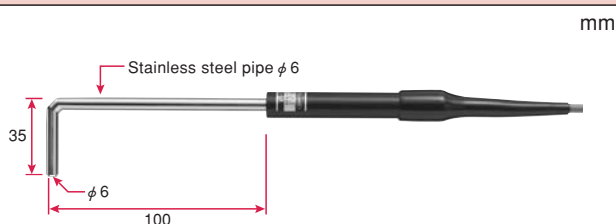
Temp. range	Tolerance	Response time	Durability
-50~400°C	±2.5°C (at 100°C surface)	2 s	A

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



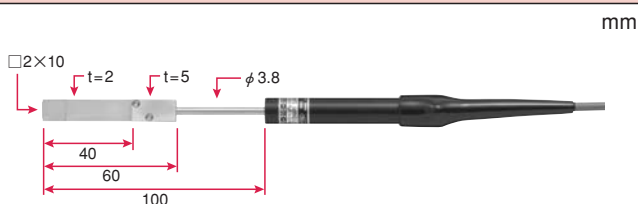
Temp. range	Tolerance	Response time	Durability
-50~400°C	±2.5°C (at 100°C surface)	2 s	A

Type K Model CS-23K-010-1-TC1-ANP
Type E Model CS-23E-010-1-TC1-ANP



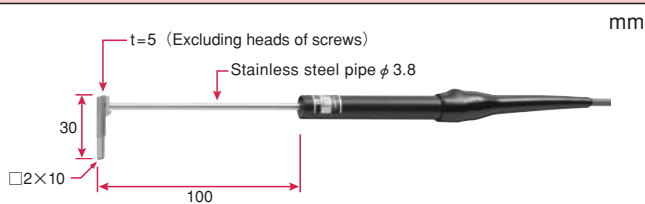
Temp. range	Tolerance	Response time	Durability
-50~400°C	±2.5°C (at 100°C surface)	2 s	A

Type K Model CS-31K-010-1-TC1-ANP
Type E Model CS-31E-010-1-TC1-ANP



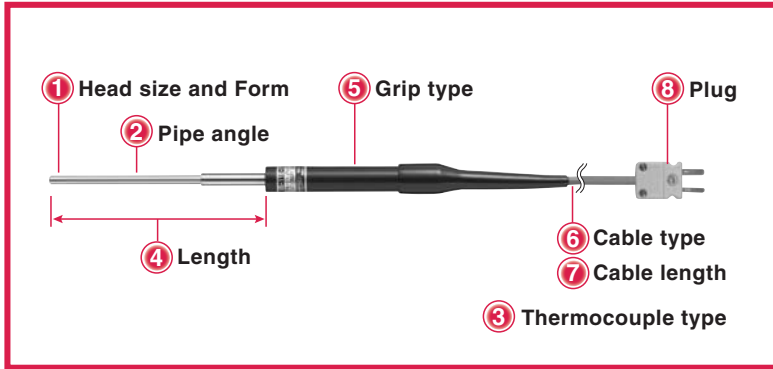
Temp. range	Tolerance	Response time	Durability
-50~400°C	±2.5°C (at 100°C surface)	2 s	A

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



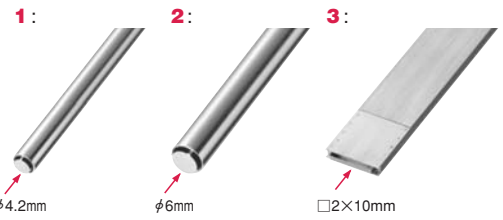
① Head size and Form	1 : $\phi 4.2\text{mm}$ 2 : $\phi 6.0\text{mm}$ 3 : $\square 2 \times 10\text{mm}$
② Pipe angle	1 : Straight 3 : 90 degrees 6 : 90 degrees* *Element direction of right angle
③ Thermocouple type	K : Chromel-Alumel E : Chromel-Constantan
④ Length	005 : 50mm 010 : 100mm 015 : 150mm
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 : P plug ASP : S plug W : Without plug

Specifications

Tolerance	$\pm 2.5^\circ\text{C}$ (at 100°C surface)
Response time	2.0 s
Durability rank	A
Max. temp.	400°C

① Head size and Form

You can choose head size and form as below.



② Pipe angle

(mm)

CS-11	
CS-21	
CS-31	
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-11	50mm*	100mm	150mm
	CS-21	50mm*	100mm	150mm
	CS-31	—	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.

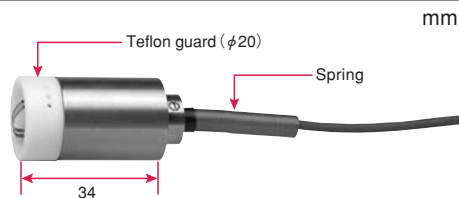
WE模式系列

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。

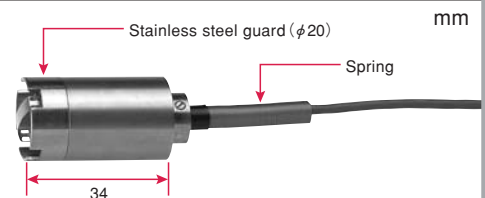
Typical probes of WE series

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



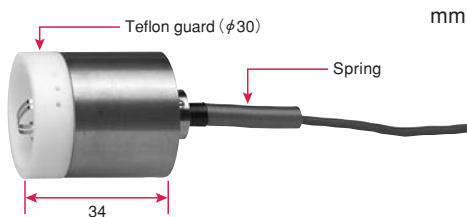
Temp. range	Tolerance	Response time	Durability
-50~250°C	±2.5°C (at 100°C surface)	0.5 s	A

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



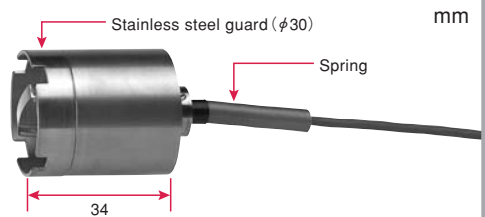
Temp. range	Tolerance	Response time	Durability
-50~500°C	±2.5°C (at 100°C surface)	1.0 s	A

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



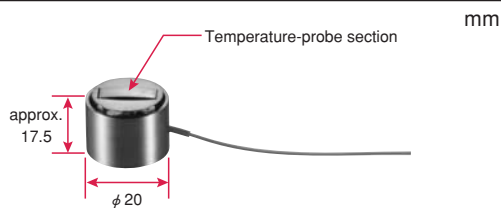
Temp. range	Tolerance	Response time	Durability
-50~250°C	±2.5°C (at 100°C surface)	0.5 s	A

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



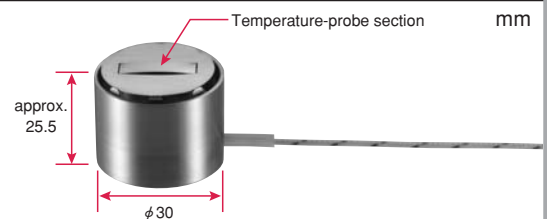
Temp. range	Tolerance	Response time	Durability
-50~500°C	±2.5°C (at 100°C surface)	1.0 s	A

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



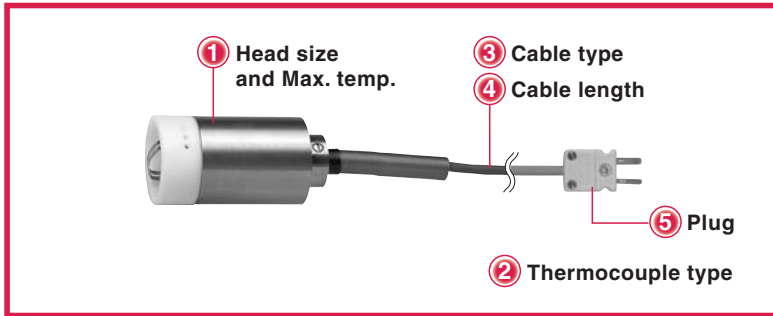
Temp. range	Tolerance	Response time	Durability
-50~200°C	±2.5°C (at 100°C surface)	2.0 s	A

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.	11 : $\phi 20\text{mm} \times 34\text{mm}$ $-50 \sim 250^\circ\text{C}$ 12 : $\phi 20\text{mm} \times 34\text{mm}$ $-50 \sim 500^\circ\text{C}$ 21 : $\phi 30\text{mm} \times 34\text{mm}$ $-50 \sim 250^\circ\text{C}$ 22 : $\phi 30\text{mm} \times 34\text{mm}$ $-50 \sim 500^\circ\text{C}$ 31 : $\phi 20\text{mm} \times 17.5\text{mm}$ $-50 \sim 200^\circ\text{C}$ 42 : $\phi 30\text{mm} \times 25.5\text{mm}$ $-50 \sim 500^\circ\text{C}$
② Thermocouple type	K : Chromel-Alumel E : Chromel-Constantan
③ Cable type (See page 5)	TS : For WE-11, WE-12 GW : For WE-21, WE-22, WE-42 TA : For WE-31 <small>($\phi 0.9\text{mm}$ Sheath material is teflon)</small>
④ Cable length	1 : 1m 1.5 : 1.5m 2 : 2m 2.5 : 2.5m
⑤ Plug (See page 4)	ANP : P plug ASP : S plug W : Without plug

① Head size and Max. temp.

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

11 :



12 :



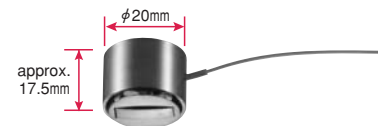
21 :



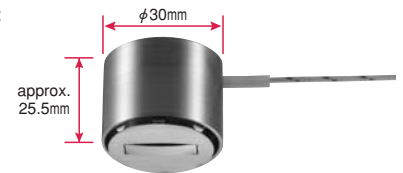
22 :



31 :



42 :



Specifications

Tolerance	$\pm 2.5^\circ\text{C}$ (at 100°C surface)
Response time	WE-11, WE-21 : 0.5 s WE-12, WE-22 : 1.0 s WE-31 : 2.0 s WE-42 : 2.5 s
Durability rank	A
Max. temp.	WE-11, WE-21 : 250°C WE-12, WE-22, WE-42 : 500°C WE-31 : 200°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测棒，适用于测量各种缝隙侧面温度。专业模块化设计，可依照客户实际用途提供个性化配置。

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**



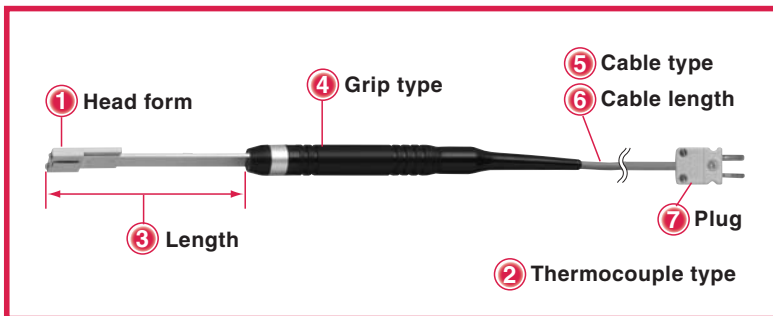
Temp. range	Tolerance	Response time	Durability
-50~500°C	±2.5°C (at 100°C surface)	2.0 s	A

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

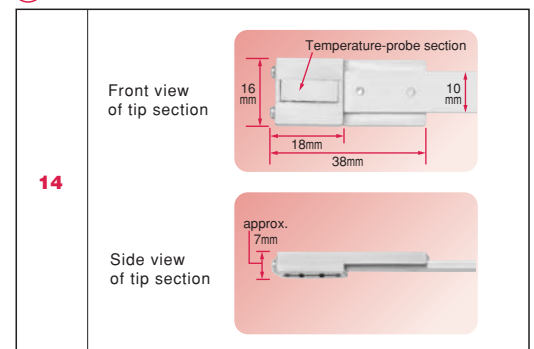
How to order of TH series



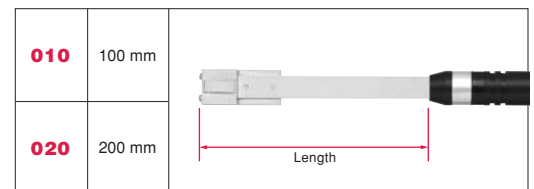
TH-14K-010-1-TC1-ANP



① Head form



③ Length



Specifications

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

① Head form	14 :
② Thermocouple type	K : Chromel-Alumel E : Chromel-Constantan
③ Length	010 : 100mm 015 : 150mm 020 : 200mm
④ Grip type	1 : Grip
⑤ Cable type (See page 5)	TC :
⑥ Cable length	1 : 1m 1.5 : 1.5m 2 : 2m 2.5 : 2.5m
⑦ Plug (See page 4)	ANP : P plug ASP : S plug W : Without plug

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



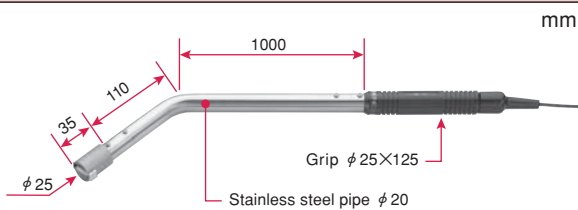
Temp. range	Tolerance	Response time	Durability
-50~800°C	±3.8°C (at 500°C surface)	4 s	※

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



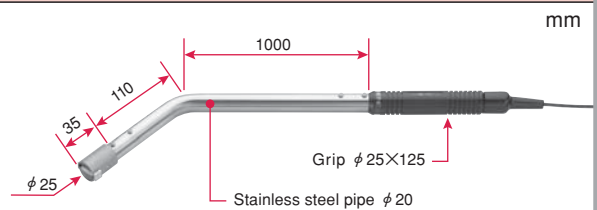
Temp. range	Tolerance	Response time	Durability
300~1100°C	±3.8°C (at 500°C surface)	5 s	※

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



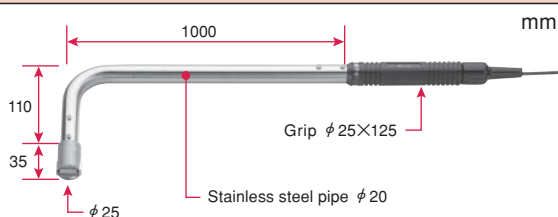
Temp. range	Tolerance	Response time	Durability
-50~800°C	±3.8°C (at 500°C surface)	4 s	※

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



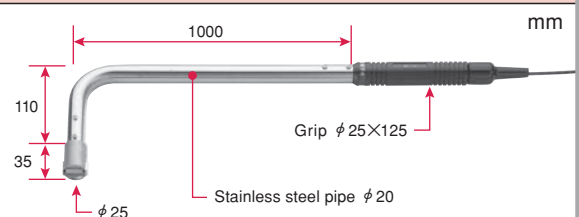
Temp. range	Tolerance	Response time	Durability
300~1100°C	±3.8°C (at 500°C surface)	5 s	※

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



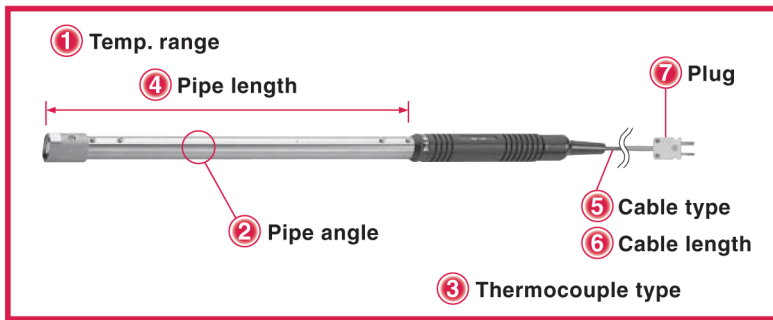
Temp. range	Tolerance	Response time	Durability
-50~800°C	±3.8°C (at 500°C surface)	4 s	※

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

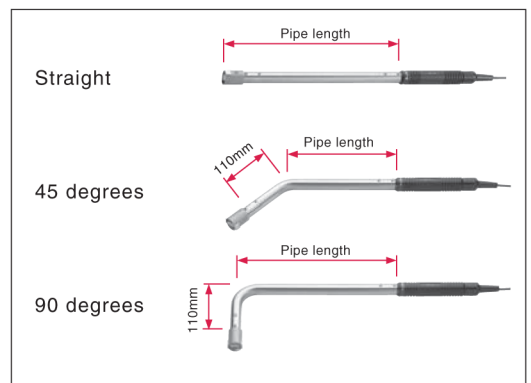


② Pipe angle

1	Straight	
2	45 degrees	
3	90 degrees	

④ Pipe length

(mm)



05	500
06	600
07	700
08	800
09	900
10	1000
11	1100
12	1200
13	1300
14	1400
15	1500
20	2000

① Temp. range	4 : -50~800°C 5 : 300~1100°C
② Pipe angle	1 : Straight 2 : 45 degrees 3 : 90 degrees
③ Thermocouple type	K : Chromel-Alumel E : Chromel-Constantan
④ Pipe length	05 : 500mm 10 : 1000mm 15 : 1500mm 20 : 2000mm
⑤ Cable type (See page 5)	TC :
⑥ Cable length	1 : 1m 1.5 : 1.5m 2 : 2m 2.5 : 2.5m
⑦ Plug (See page 4)	ANP : P plug ASP : S plug W : Without plug

Specifications

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

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.

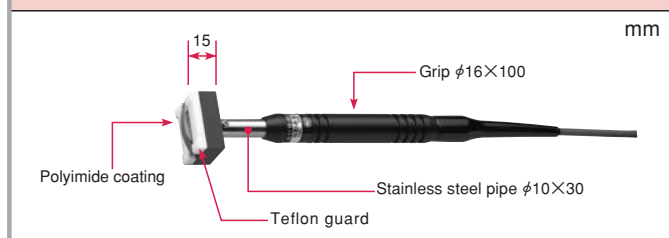
Specific components may be combined to customize products for the needs of a customer's specific application.

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。

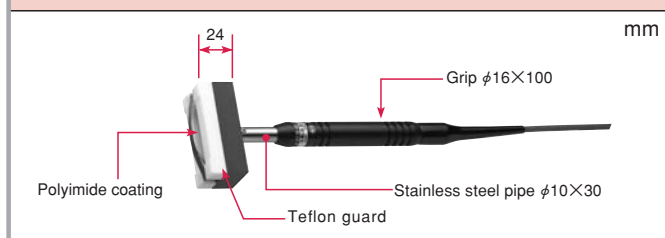
Typical probes of U series

Type K Model **U-111K-00-D0-1-TC1-ANP**
Type E Model **U-111E-00-D0-1-TC1-ANP**



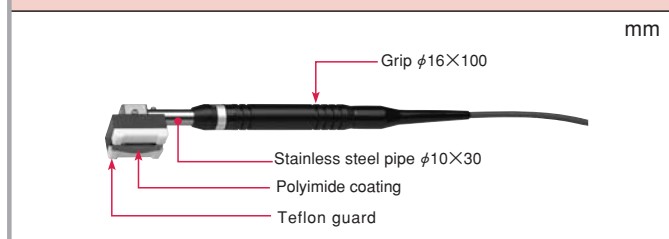
Temp. range	Tolerance	Response time	Durability
-50~250°C	±2.5°C (at 100°C surface)	2.0 s	A

Type K Model **U-211K-00-D0-1-TC1-ANP**
Type E Model **U-211E-00-D0-1-TC1-ANP**



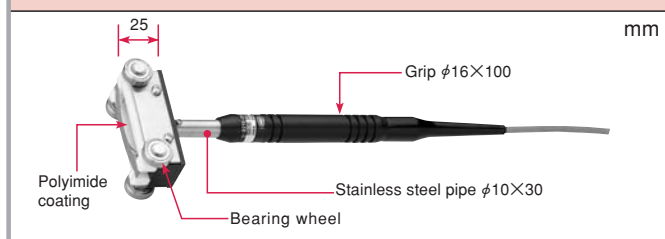
Temp. range	Tolerance	Response time	Durability
-50~250°C	±2.5°C (at 100°C surface)	3.5 s	A

Type K Model **U-114K-00-D0-1-TC1-ANP**
Type E Model **U-114E-00-D0-1-TC1-ANP**



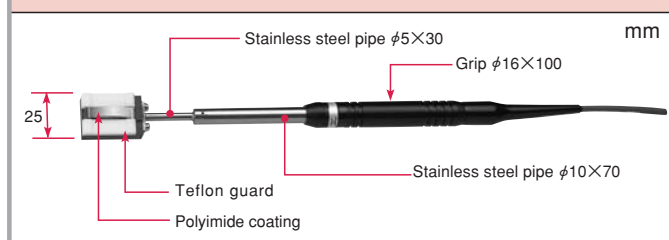
Temp. range	Tolerance	Response time	Durability
-50~250°C	±2.5°C (at 100°C surface)	2.0 s	A

Type K Model **U-221K-00-D0-1-TC1-ANP**
Type E Model **U-221E-00-D0-1-TC1-ANP**



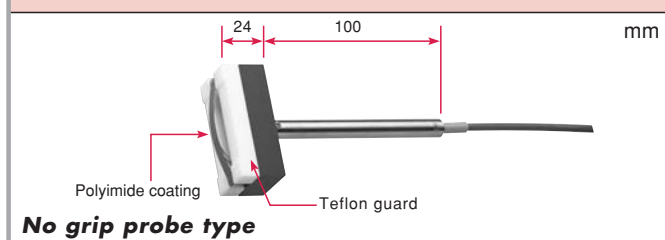
Temp. range	Tolerance	Response time	Durability
-50~200°C	±2.5°C (at 100°C surface)	3.5 s	A

Type K Model **U-118K-01-D0-1-TC1-ANP**
Type E Model **U-118E-01-D0-1-TC1-ANP**



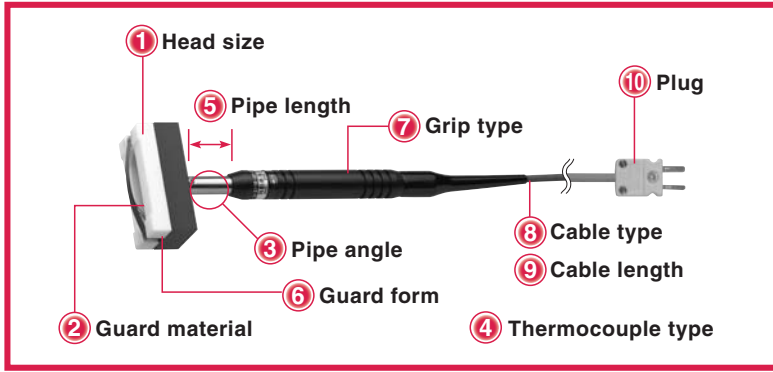
Temp. range	Tolerance	Response time	Durability
-50~250°C	±2.5°C (at 100°C surface)	2.0 s	A

Type K Model **U-211K-01-D0-0-TC1-ANP**
Type E Model **U-211E-01-D0-0-TC1-ANP**



Temp. range	Tolerance	Response time	Durability
-50~250°C	±2.5°C (at 100°C surface)	3.5 s	A

How to order of U series



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



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

① Head size ② Guard material

You can choose head size as below.

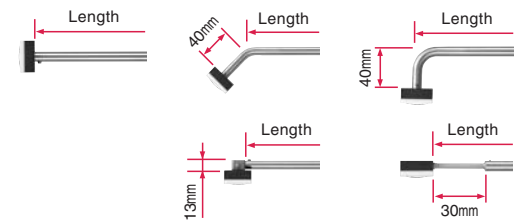
U-11* U-21* U-14* U-24* U-17* U-27*	U-12* U-22* U-15* U-25* U-18* U-28*	U-13* U-23* U-16* U-26* U-19* U-29*

③ Pipe angle

You can choose pipe angle as below.

	1	
	2	5
	3	6
	4	7
	8	9

⑤ Pipe length



⑥ Guard form

	mm		
	U-11* U-14* U-17*	U-21* U-24* U-27*	U-*2*,U-*3* U-*5*,U-*6* U-*8*,U-*9*
D0	φ 300~flat	φ 400~flat	flat only*
D1	—	φ 300~420	—
D2	φ 160~320	φ 160~320	—
D3	φ 100~200	φ 100~200	—
D4	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 grip	For handheld measurement

Specifications

Tolerance	±2.5°C (at 100°C surface)
Response time	U-1** : 2.0 s U-2** : 3.5 s
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	Tolerance	Response time	Durability
-50~250°C	±2.5°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	Tolerance	Response time	Durability
-50~250°C	±2.5°C (at 100°C surface)	5.0 s	A

How to order of SH series

- 1 Style and Heavy duty
- 2 Guard form
- 3 Thermocouple type
- 4 Cable type
- 5 Cable length
- 6 Plug

1 Style and Heavy duty

You can choose style and heavy duty as below.

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

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	K : Chromel-Alumel E : Chromel-Constantan
4 Cable type (See page 5)	TS : For SH-1*, SH-2* (Setting type) TC : 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)	ANP : P plug ASP : S plug W : Without plug

Specifications

Tolerance	±2.5°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 UH series

Flat Type Rotating Surface Probes

Model UH series probes are embedded-type temperature sensors designed to measure the surface temperatures of moving/rotating parts installed in tight spaces (rollers, etc.). Specific components may be combined to customize products for the needs of a customer's specific application.

UH 模式系列

UH 模式系列产品是嵌入型移动旋转表面用温度感应器，适合于测试窄小部位的滚子表面温度。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UHシリーズは、狭小部にあるローラーの表面温度計測に適した組込形移動回転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 UH series

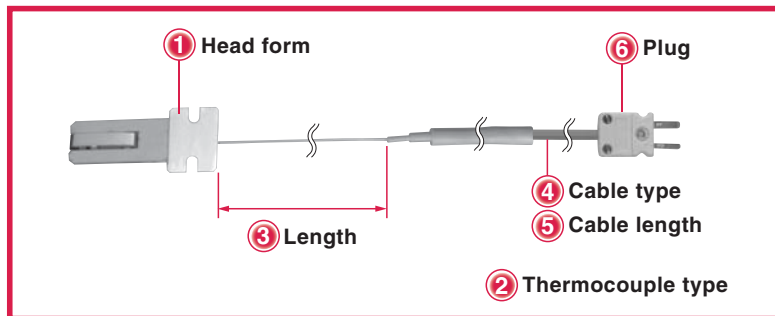
Type K Model	UH-11K-03-TS1-ANP
Type E Model	UH-11E-03-TS1-ANP

Temp. range	Tolerance	Response time	Durability
-50~210°C	±2.5°C (at 100°C surface)	4.0 s	S

Type K Model	UH-12K-03-TS1-ANP
Type E Model	UH-12E-03-TS1-ANP

Temp. range	Tolerance	Response time	Durability
-50~210°C	±2.5°C (at 100°C surface)	4.0 s	S

How to order of UH series

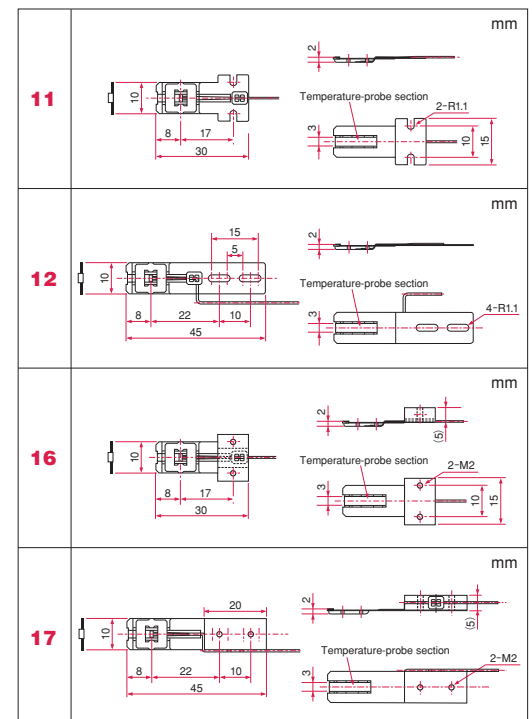


UH-11K-03-TS1-ANP



① Head form	11 : 12 : 16 : 17 :
② Thermocouple type	K : Chromel-Alumel E : Chromel-Constantan
③ Length	03 : 300mm 05 : 500mm 10 : 1000mm
④ Cable type (See page 5)	TS :
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

① Head form



Specifications

Tolerance	±2.5°C (at 100°C surface)
Response time	4.0 s
Durability rank	S
Max. temp.	210°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

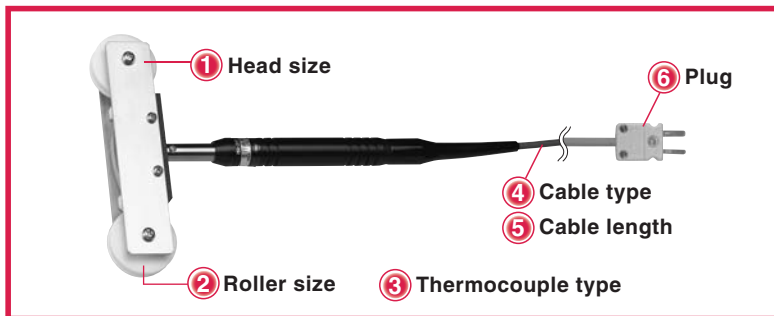
Type K Model	MW-11K-TC1-ANP
Type E Model	MW-11E-TC1-ANP

Temp. range	Tolerance	Response time	Durability
-50~250°C	±2.5°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	Tolerance	Response time	Durability
-50~250°C	±2.5°C (at 100°C surface)	5.0 s	S

How to order of MW series



MW-24K-TC1-ANP



① Head size (Wire diameter)	1 : For $\phi 0.65 \sim 3\text{mm}$ (MW-*1, MW-*2, MW-*3) 2 : For $\phi 3 \sim 15\text{mm}$ (MW-*4, MW-*5, MW-*6)
② Roller size (Wire diameter)	1 : $\phi 0.65 \sim 1\text{mm}$ (for MW-1*) 2 : $\phi 1 \sim 2\text{mm}$ (for MW-1*) 3 : $\phi 2 \sim 3\text{mm}$ (for MW-1*) 4 : $\phi 3 \sim 5\text{mm}$ (for MW-2*) 5 : $\phi 5 \sim 10\text{mm}$ (for MW-2*) 6 : $\phi 10 \sim 15\text{mm}$ (for MW-2*)
③ Thermocouple type	K : Chromel-Alumel E : Chromel-Constantan
④ Cable type (See page 5)	TC :
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

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 :	$\phi 0.65 \sim 1\text{mm}$	Only MW-1*
2 :	$\phi 1 \sim 2\text{mm}$	
3 :	$\phi 2 \sim 3\text{mm}$	
4 :	$\phi 3 \sim 5\text{mm}$	Only MW-2*
5 :	$\phi 5 \sim 10\text{mm}$	
6 :	$\phi 10 \sim 15\text{mm}$	

Specifications

Tolerance	±2.5°C (at 100°C surface)
Response time	5.0 s
Durability rank	S
Max. temp.	250°C

Model **BS** series

General Internal Probes

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.

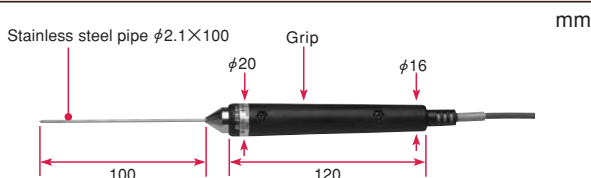
BS模式系列

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。

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。

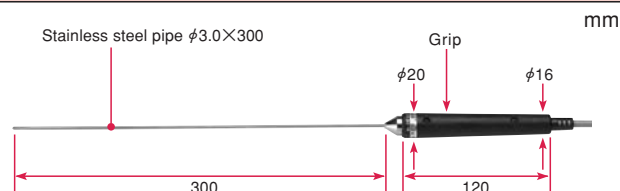
Typical probes of BS series

Type K Model BS-21K-010-TC1-ANP
Type E Model BS-21E-010-TC1-ANP



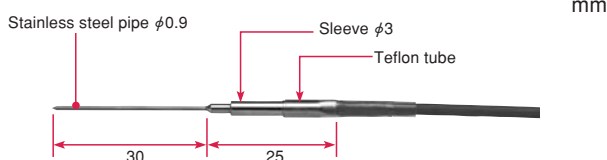
Temp. range	Tolerance	Response time	Durability
-200~500°C	±2.5°C (at 100°C)	2.5 s	B

Type K Model BS-31K-030-TC1-ANP
Type E Model BS-31E-030-TC1-ANP



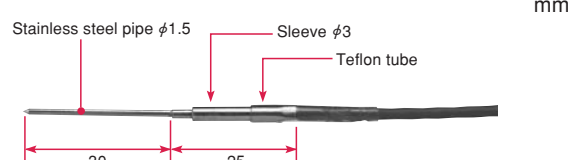
Temp. range	Tolerance	Response time	Durability
-50~500°C	±2.5°C (at 100°C)	3.0 s	B

Type K Model BS-91K-003-TS1-ANP
Type E Model BS-91E-003-TS1-ANP



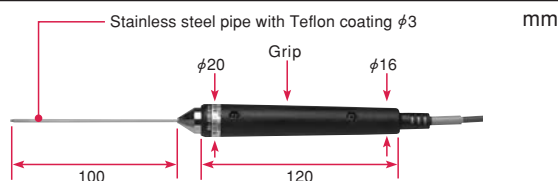
Temp. range	Tolerance	Response time	Durability
-200~300°C	±2.5°C (at 100°C)	0.5 s	C

Type K Model BS-11K-003-TS1-ANP
Type E Model BS-11E-003-TS1-ANP



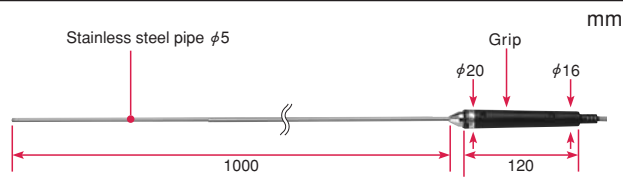
Temp. range	Tolerance	Response time	Durability
-200~300°C	±2.5°C (at 100°C)	1.5 s	C

Type K Model BS-22K-010-TC1-ANP
Type E Model BS-22E-010-TC1-ANP



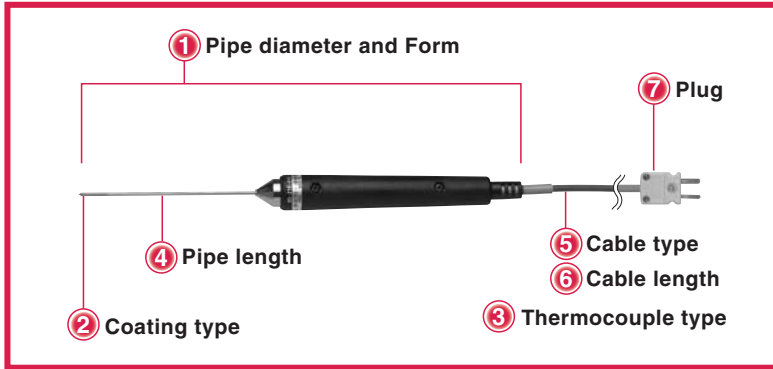
Temp. range	Tolerance	Response time	Durability
-200~200°C	±2.5°C (at 100°C)	20 s	B

Type K Model BS-51K-100-TC1-ANP
Type E Model BS-51E-100-TC1-ANP



Temp. range	Tolerance	Response time	Durability
-200~500°C	±2.5°C (at 100°C)	5 s	B

How to order of BS series

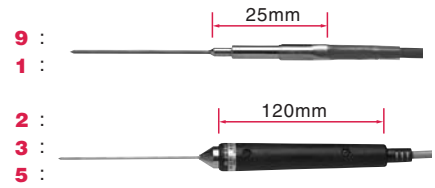


BS-21K-010-TC1-ANP



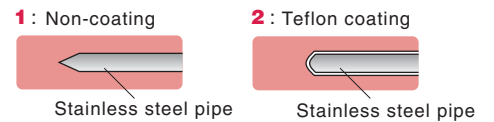
① Pipe diameter and Form

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)
003 :	●	●			
005 :	●	●	●		
008 :	●	●			
010 :	●	●	●	●	
015 :		●	●	●	
020 :			●	●	
030 :				●	
050 :				●	●
100 :					●

Specifications

Pipe diameter	Response time	Tolerance	Durability rank
BS-9*	0.5 s	±2.5°C	C
BS-1*	1.5 s	±2.5°C	C
BS-2*	2.5 s	±2.5°C	B
BS-3*	3.0 s	±2.5°C	B
BS-5*	5.0 s	±2.5°C	B
Teflon coating	20 s	±2.5°C	—*

*Varies with pipe diameter.

① Pipe diameter and Form (Max. temp.)	9 : φ0.9mm: Sleeve type (300°C) 1 : φ1.5mm: Sleeve type (300°C) 2 : φ2.1mm: Grip type (500°C) 3 : φ3.0mm: Grip type (500°C) 5 : φ5.0mm: Grip type (500°C)	
② Coating type	1 : Non-coating 2 : Teflon coating (BS-5*cannot be manufactured.)	
③ Thermocouple type	K : Chromel-Alumel E : Chromel-Constantan	
④ Pipe length	003 : 30mm 005 : 50mm 008 : 80mm 010 : 100mm 015 : 150mm 020 : 200mm 030 : 300mm 040 : 400mm 050 : 500mm 100 : 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)	TS : For BS-9*, BS-1* (Sleeve type) TC : For BS-2*, BS-3*, BS-5* (Grip type)	
⑥ Cable length	1 : 1m 1.5 : 1.5m 2 : 2m 2.5 : 2.5m	
⑦ Plug (See page 4)	ANP : P plug ASP : S plug W : Without plug	

Model BT series

Needle Type Probes

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。

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。

Typical probes of BT series

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

Temp. range	Tolerance	Response time	Durability
-200~300°C	±2.5°C (at 100°C)	1.5 s	S

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

Temp. range	Tolerance	Response time	Durability
-200~500°C	±2.5°C (at 100°C)	3.0 s	B

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

Temp. range	Tolerance	Response time	Durability
-200~300°C	±2.5°C (at 100°C)	1.5 s	S

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

Temp. range	Tolerance	Response time	Durability
-200~300°C	±2.5°C (at 100°C)	1.5 s	C

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

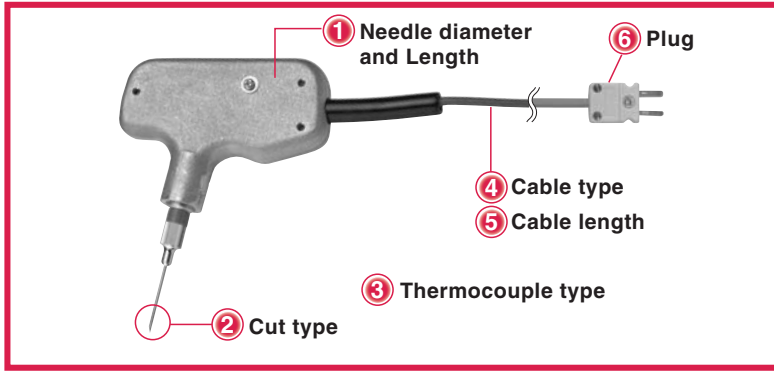
Temp. range	Tolerance	Response time	Durability
-200~210°C	±2.5°C (at 100°C)	0.5 s	C

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

Spare needle (five-pieces set)

Temp. range	Tolerance	Response time	Durability
-200~300°C	±2.5°C (at 100°C)	1.5 s	S

How to order of BT series



BT-31K-TC1-ANP



① Needle diameter and Length (Max. temp.)	1 : ϕ 0.9mm : 15mm (210°C) 2 : ϕ 1.5mm : 30mm (300°C) 3 : ϕ 1.6mm : 30mm (300°C) 4 : ϕ 1.6mm : 40mm (300°C) 5 : ϕ 1.6mm : 50mm (300°C) 6 : ϕ 1.6mm : 60mm (300°C) 7 : ϕ 1.6mm : 70mm (300°C) 8 : ϕ 5.0mm : 75mm (500°C) 9 : ϕ 5.0mm : 100mm (500°C) (Top is ϕ 3mm)
② Cut type	1 : Cut 2 : Sharp
③ Thermocouple type	K : Chromel-Alumel E : Chromel-Constantan
④ Cable type (See page 5)	TC :
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

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

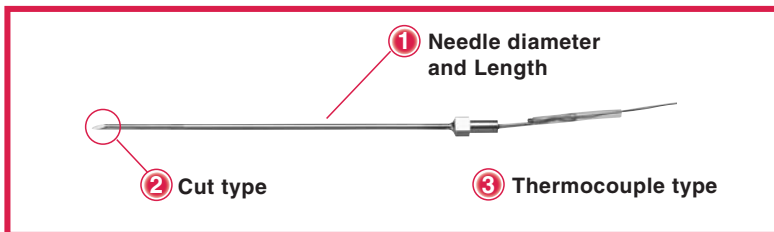
You can choose cut type as below.



Specifications

Needle diameter	Response time	Tolerance (at 100°C)	Durability rank
BT-1*	0.5 s	\pm 2.5°C	C
BT-2*	1.5 s	\pm 2.5°C	C
BT-3*~BT-7*	1.5 s	\pm 2.5°C	S
BT-8*	3.0 s	\pm 2.5°C	S
BT-9*	3.0 s	\pm 2.5°C	B

How to order of Spare needle



Spare needle is a five-pieces set

BTN-41K



① Needle diameter and Length (Max.temp.)	3 : ϕ 1.6mm : 30mm (300°C) 4 : ϕ 1.6mm : 40mm (300°C) 5 : ϕ 1.6mm : 50mm (300°C) 6 : ϕ 1.6mm : 60mm (300°C) 7 : ϕ 1.6mm : 70mm (300°C) 8 : ϕ 5.0mm : 75mm (500°C)
② Cut type	1 : Cut 2 : Sharp
③ Thermocouple type	K : Chromel-Alumel E : 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。

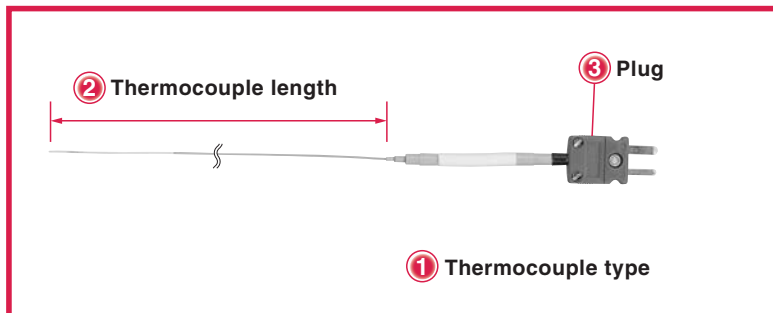
各パーツの仕様を組み合わせる事により、お客様の用途に合わせてカスタマイズする事が出来ます。

Typical probes of SF series

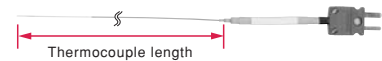
Type K Model SF-K-100-ANP			
Type E Model SF-E-100-ANP			
mm			
Temp. range	Tolerance	Response time	Durability
-50~200°C	±2.5°C (at 100°C)	2.0 s	S

Type K Model SF-K-200-ANP			
Type E Model SF-E-200-ANP			
mm			
Temp. range	Tolerance	Response time	Durability
-50~200°C	±2.5°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 Thermocouple type	K : Chromel-Alumel E : Chromel-Constantan
② Thermocouple length	050 : 500mm 100 : 1000mm 150 : 1500mm 200 : 2000mm
③ Plug (See page 4)	ANP : P plug ASP : S plug W : Without plug

Specifications

Tolerance	±2.5°C (at 100°C)
Response time	2.0 s
Durability rank	S
Max. temp.	200°C

Model AT series

Air Temperature Probes

Model AT series probes are Air temperature sensors designed to measure the temperature of Air.

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

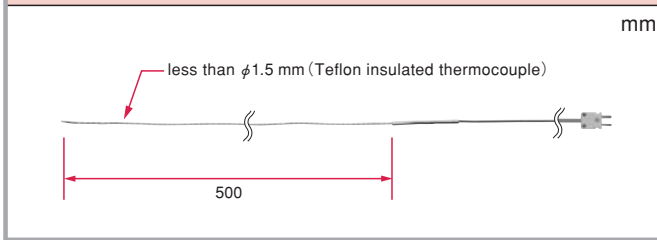
AT模式系列

AT模式系列产品是适用于空气温度测试的温度测棒。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ATシリーズは、空気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。

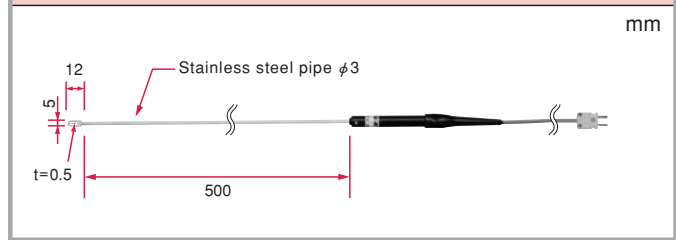
Typical probes of AT series

Type K Model **AT-10K-050-0-TS1-ANP**
Type E Model **AT-10E-050-0-TS1-ANP**



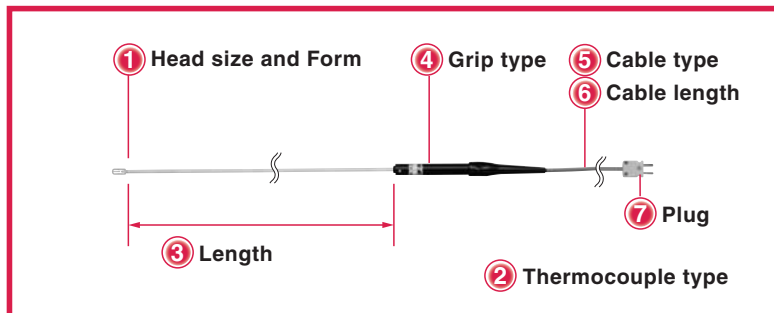
Temp. range	Tolerance	Response time	Durability
-50~200°C	±2.5°C (at 100°C)	0.3 s	S

Type K Model **AT-30K-050-0-TC1-ANP**
Type E Model **AT-30E-050-0-TC1-ANP**



Temp. range	Tolerance	Response time	Durability
-50~500°C	±2.5°C (at 100°C)	0.3 s	S

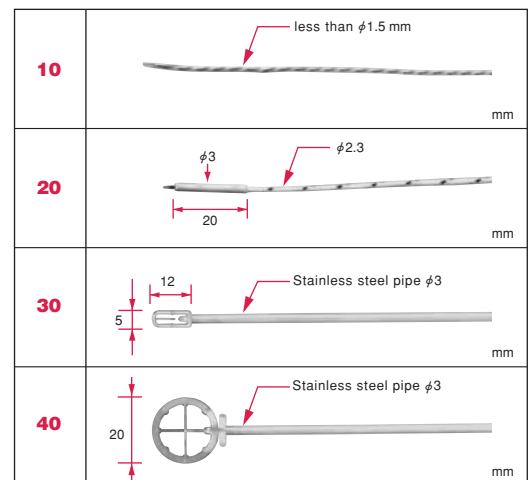
How to order of AT series



AT-30K-050-1-TC1-ANP

① ② ③ ④ ⑤ ⑥ ⑦

① Head size and Form



③ Length

	AT-10	AT-20	AT-30	AT-40
030	●	●	●	●
050	●	●	●	●
100		●	●	●
200		●		

Specifications

Tolerance	±2.5°C (at 100°C)
Response time	0.3 s
Durability rank	S

① Head size and Form (Max. temp.)	10 : φ1.5mm Teflon insulated thermocouple (200°C) 20 : φ3mm Glass fiber insulated thermocouple (300°C) 30 : □5×12mm Head (500°C) 40 : φ20mm Head (500°C)
② Thermocouple type	K : Chromel-Alumel E : Chromel-Constantan
③ Length	030 : 300mm 050 : 500mm 100 : 1000mm 200 : 2000mm
④ Grip type	0 : No grip 1 : Grip AT-30, AT-40 only
⑤ Cable type (See page 5)	TS : For no grip type TC : For standard grip type
⑥ Cable length	1 : 1m 1.5 : 1.5m 2 : 2m 2.5 : 2.5m
⑦ Plug (See page 4)	ANP : P plug ASP : S plug W : Without plug

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。

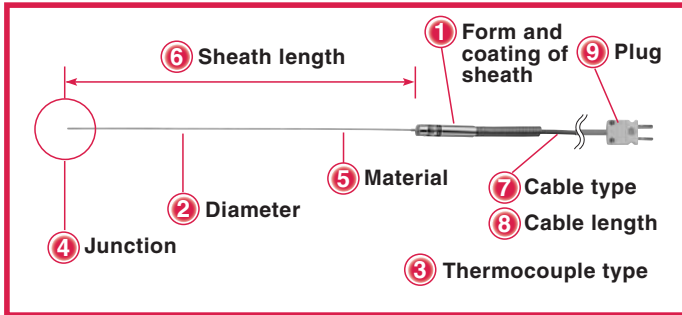
通过对各个规格的组件进行重新组合的方式，可以按照客户的使用需求进行选配。

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



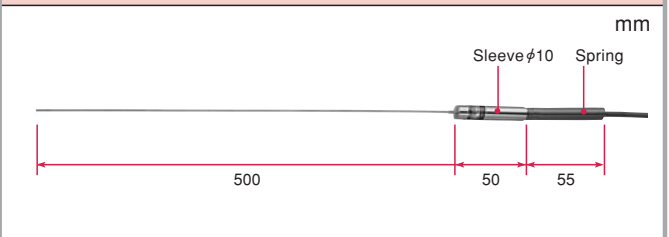
B3.2-K-J1-M1-L500-TC1-ANP



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**

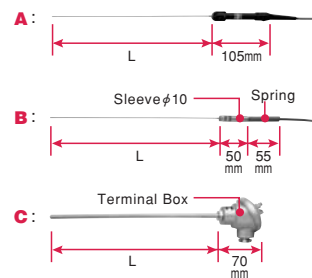


Temp. range	Tolerance	Response time	Durability
-40~750°C	±2.5°C (at 100°C)	5.0 s	S

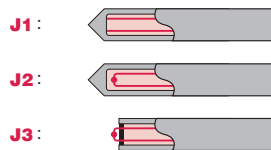
① Form and coating of sheath	A : Grip type B : Sleeve type C : Terminal box type AH : Grip type / Teflon coating BH : Sleeve type / Teflon coating CH : Terminal box type / Teflon coating
② Diameter	0.25 : φ 0.25mm 0.5 : φ 0.5mm 1.0 : φ 1.0mm 1.6 : φ 1.6mm 3.2 : φ 3.2mm 4.8 : φ 4.8mm 6.4 : φ 6.4mm 8.0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

① Form

You can choose form as below.



④ Junction



[Supplementary information]

The sheath tube can be coated with teflon.

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 : φ1.0, φ1.6, φ3.2

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
Tolerance	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 metal. 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。

可以粘帖到测试对象的表面，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

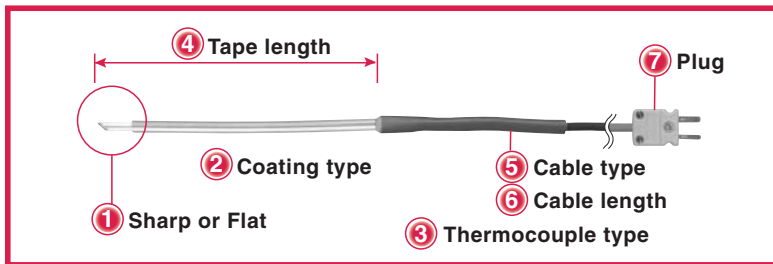
Type K Model ST-11K-010-TS1-ANP
Type E Model ST-11E-010-TS1-ANP

Temp. range	Tolerance	Response time	Durability
-50~210°C	±2.5°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	Tolerance	Response time	Durability
-50~210°C	±2.5°C (at 100°C)	2.0 s	S

How to order of ST series



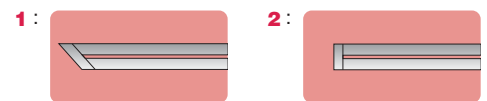
ST-11K-008-TS1-ANP



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

① Sharp or Flat

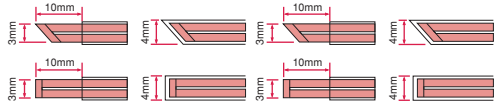
You can choose junction form as below.



② Coating type

You can choose coating type as below.

1 : Open (210°C) **2** : All coating (210°C) **3** : Open (400°C) **4** : All coating (400°C)



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

Tolerance	Open ±2.5°C (at 100°C) All coating ±2.5°C (at 100°C)
Response time	Open 2.0 s All coating 8.0 s
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	200°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。

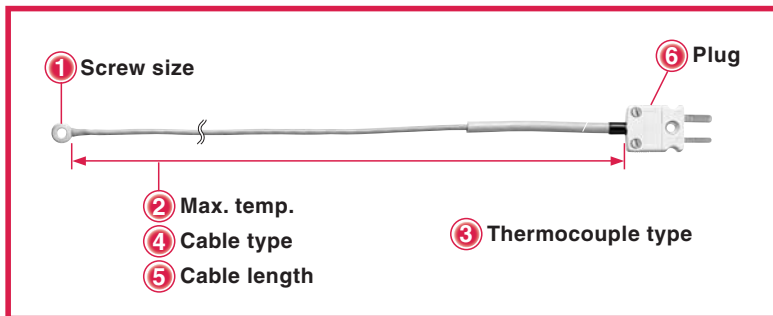
モデルSCシリーズは、測定物にネジで固定できる静止表面用温度センサです。各パーツの仕様を組み合わせる事により、お客様の用途に合わせてカスタマイズする事が出来ます。

Typical probes of SC series

Type K Model	SC-31K-TS1-ANP
Type E Model	SC-31E-TS1-ANP
mm	
Temp. range	-50~150°C
Tolerance	±3.0°C (at 100°C)
Response time	5.0 s
Durability	S

Type K Model	SC-32K-SG1-ANP
Type E Model	SC-32E-SG1-ANP
mm	
Temp. range	-50~400°C
Tolerance	±3.0°C (at 100°C)
Response time	5.0 s
Durability	S

How to order of SC series



SC-31K-TS1-ANP

① ② ③ ④ ⑤ ⑥

① Screw size

2 :		mm
3 :		mm
4 :		mm
5 :		mm

① Screw size	2 : For ϕ 2mm 3 : For ϕ 3mm 4 : For ϕ 4mm 5 : For ϕ 5mm
② Max. temp.	1 : 150°C 2 : 400°C
③ Thermocouple type	K : Chromel-Alumel E : Chromel-Constantan
④ Cable type (See page 5)	TS : For SC-*1 SG : For SC-*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

Specifications

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

Model CR series

Soldering Iron Probes

The Model CR Series is a temperature probe for the tips of soldering irons. Select the probe type best-suited to the diameter of your soldering iron tip.

CR模式系列

CR模式系列产品是烙铁头温度探头。请根据烙铁头的直径选择正确的探头。当您使用HS模式系列(烙铁温度计)以外的温度计时,必须选购CRB模式系列专用连接器。

モデルCRシリーズは、はんだコテのコテ先用温度センサです。コテ先の径に合わせてセンサをお選び下さい。

Typical probes of CR series

Type K Model **CR-31K**
Type E Model **CR-31E**



Temp. range	Tolerance	Response time	Durability
0~500°C	±4.0°C (at 300°C)	5.0 s	S

Type K Model **CR-32K**
Type E Model **CR-32E**



Temp. range	Tolerance	Response time	Durability
0~500°C	±4.0°C (at 300°C)	5.0 s	S

How to order of CR series

① Diameter of the supporting iron future	31 : Less than ϕ 1.5mm 32 : ϕ 1.5mm~ ϕ 4mm
② Thermocouple type	K : Chromel-Alumel E : Chromel-Constantan



Model CRB series

Accessories for Model CR series

The Model CRB Series is a base designed to connect CR Series temperature probes for soldering iron tips to thermometers other than HS Series soldering iron temperature gauges.

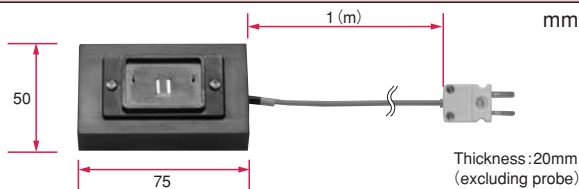
CRB模式系列

CRB模式系列产品是CR模式系列(烙铁头温度探头)的专用连接器。

モデルCRBシリーズは、CRシリーズ(コテ先用温度センサ)を、はんだコテ温度計HSシリーズ以外の温度計測器と接続する為のベースです。

CRB series

Type K Model **CRB-K-TS1-ANP**
Type E Model **CRB-E-TS1-ANP**



How to order of CRB series

① Thermocouple type	K : Chromel-Alumel E : Chromel-Constantan
② Cable type (See page 5)	TS :
③ Cable length	1 : 1m 1.5 : 1.5m 2 : 2m
④ Plug (See page 4)	ANP : P plug ASP : S plug W : Without plug



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 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、応答速度、耐久性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

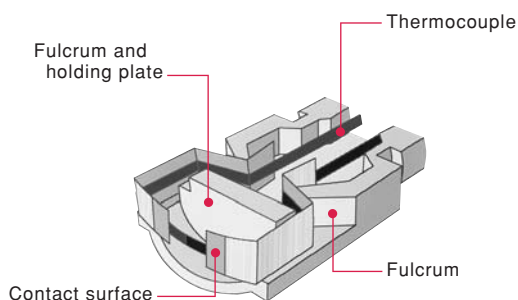
S模式系列

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

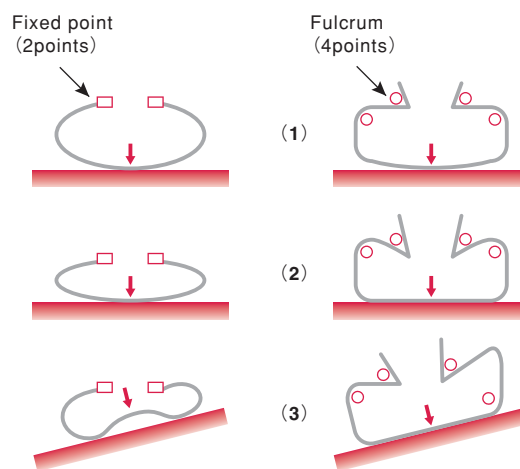
The greatest feature of Model S series is the four-fulcrum structure.



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.

●Transformation of a contact strip



"↓" mark point the position of junction

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.

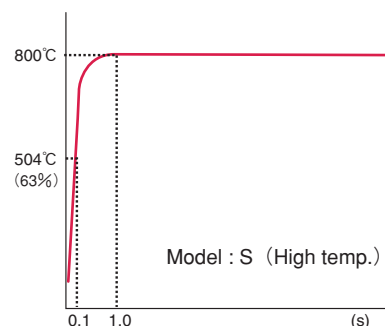
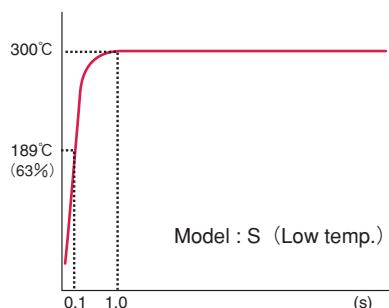
●Model S series for the stationary surface

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

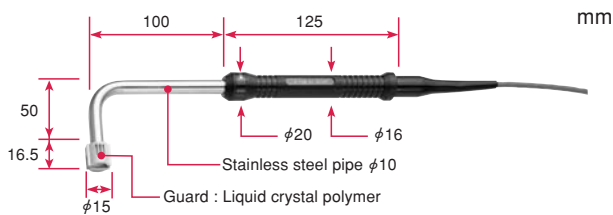
On the steel plate with smooth surface at 300°C and speed of 200m/min	more than 2000 hours
On the steel plate with smooth surface at 600°C and speed of 200m/min	more than 1000 hours

Response curve



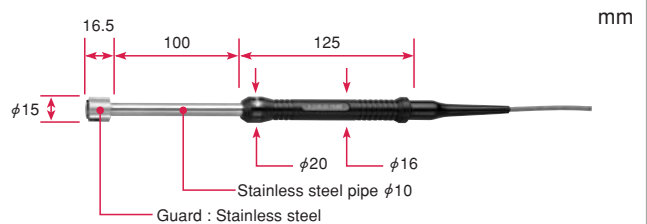
Typical probes of S series

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



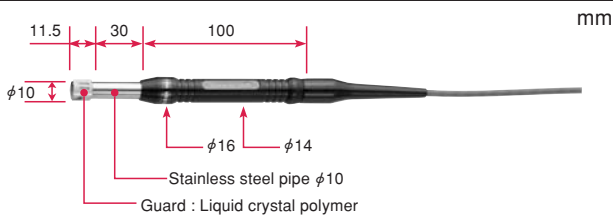
Temp. range	Tolerance	Response time	Durability
-50~300°C	±2.5°C (at 100°C surface)	1.0 s	A

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



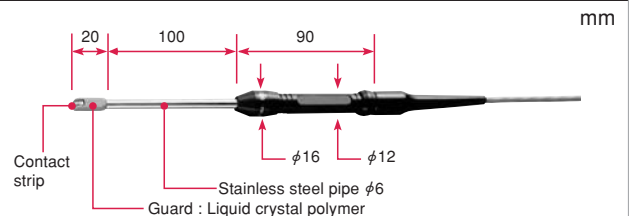
Temp. range	Tolerance	Response time	Durability
-50~800°C	±2.5°C (at 100°C surface)	1.0 s	A

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



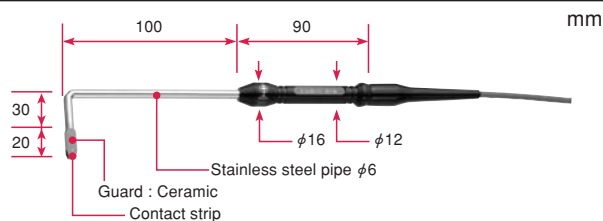
Temp. range	Tolerance	Response time	Durability
-50~300°C	±2.5°C (at 100°C surface)	1.0 s	A

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



Temp. range	Tolerance	Response time	Durability
-50~300°C	±2.5°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



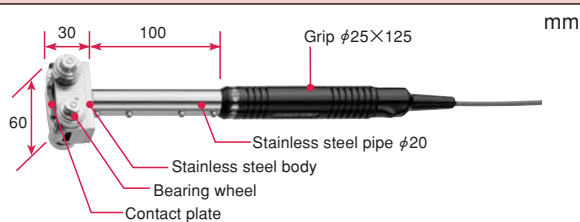
Temp. range	Tolerance	Response time	Durability
-50~800°C	±2.5°C (at 100°C surface)	1.0 s	A

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



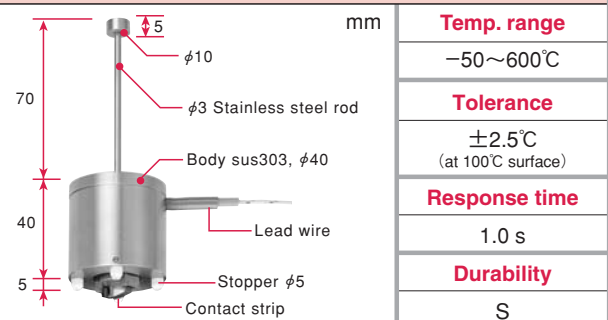
Temp. range	Tolerance	Response time	Durability
-50~600°C	±2.5°C (at 100°C surface)	3.0 s	A

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



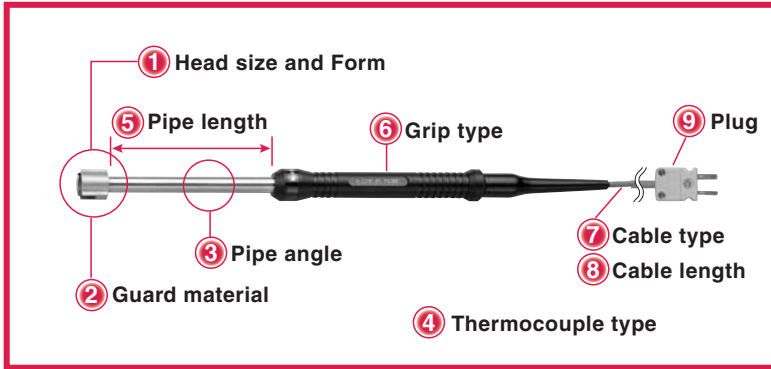
Temp. range	Tolerance	Response time	Durability
-50~400°C	±2.5°C (at 100°C surface)	3.0 s	A

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



Temp. range
-50~600°C
Tolerance
±2.5°C (at 100°C surface)
Response time
1.0 s
Durability
S

How to order of S series



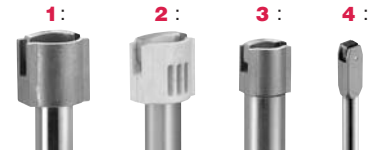
S-121K-01-1-TPC1-ANP



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

① Head size and Form

For stationary surface



For moving surface



Self supporting type

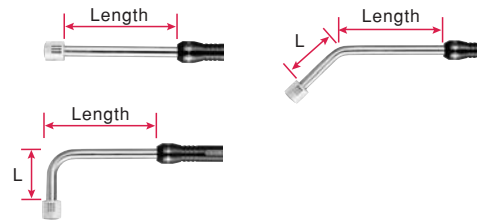


③ Pipe angle

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 grip	For handheld measurement

Specifications

Tolerance	$\pm 2.5^\circ\text{C}$ (at 100 $^\circ\text{C}$ surface)	
Response time	S-1**, S-2**, S-3**, S-4**, S-7**	1.0 s
	S-5**, S-64*	3.0 s
Durability rank	S-1**, S-2**, S-3**, S-4**, S-5**, S-64*	A
	S-7**	S