

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。

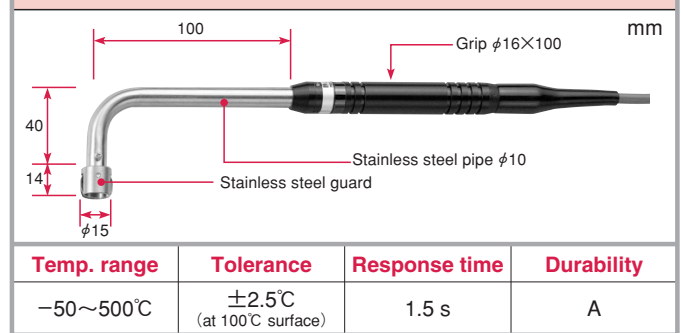
各パーツの仕様を組み合わせる事により、お客様の用途に合わせてカスタマイズする事が出来ます。

Typical probes of N series

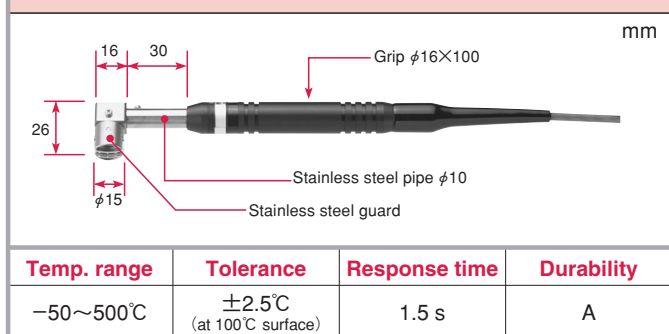
Type K Model N-231K-00-1-TC1-ANP Type E Model N-231E-00-1-TC1-ANP



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



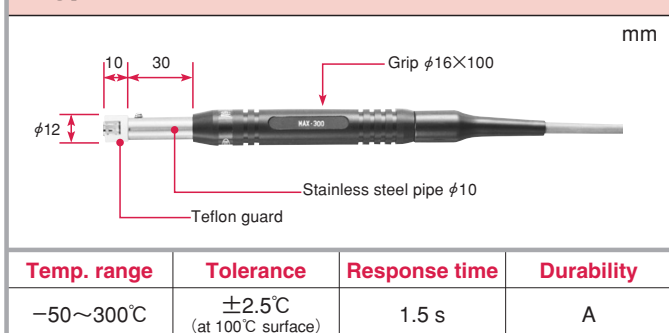
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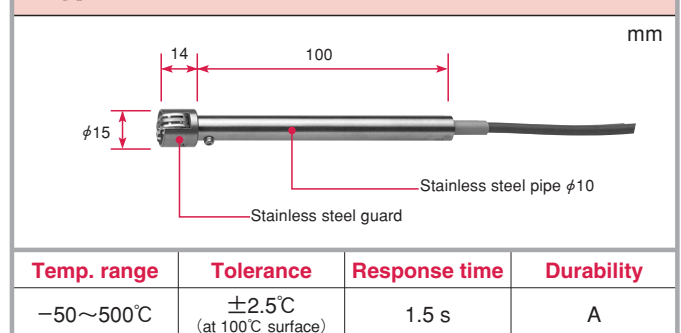
Type K Model N-141K-02-1-TC1-ANP Type E Model N-141E-02-1-TC1-ANP



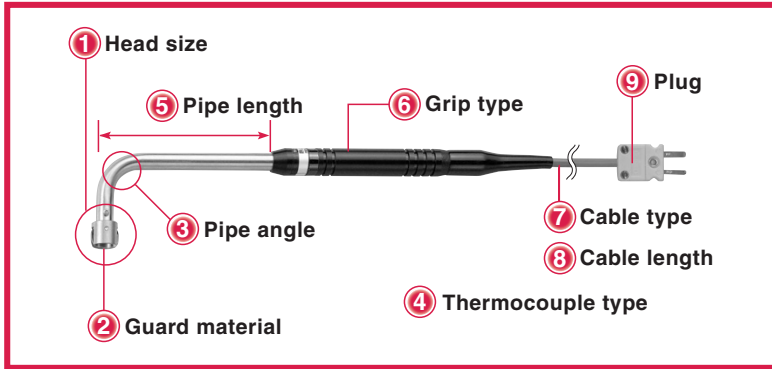
Type K Model N-311K-00-1-TC1-ANP Type E Model N-311E-00-1-TC1-ANP



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



How to order of N series



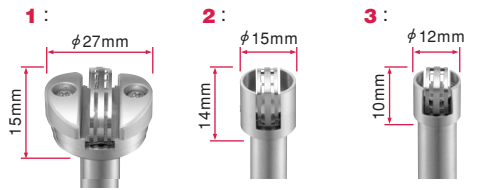
N-233K-01-1-TC1-ANP



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 ASP W

① Head size

You can choose head size as below.

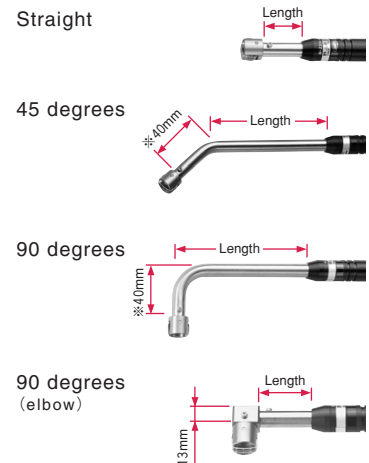


③ Pipe angle

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



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

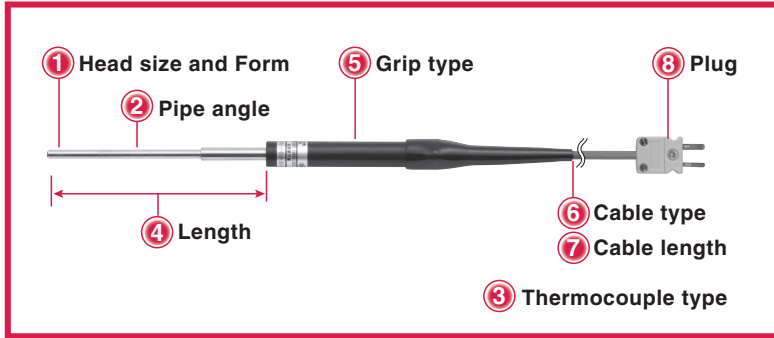
Type K Model CS-21K-010-1-TC1-ANP
Type E Model CS-21E-010-1-TC1-ANP

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



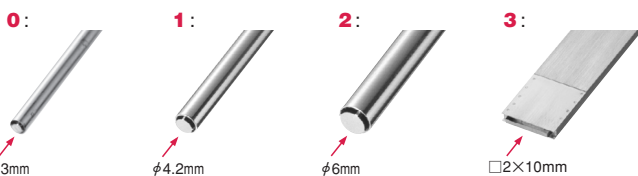
① Head size and Form	0 : ϕ 3.0mm 1 : ϕ 4.2mm 2 : ϕ 6.0mm 3 : \square 2 \times 10mm
② Pipe angle	1 : Straight 3 : 90 degrees 6 : 90 degrees* *Element direction of right angle
③ Thermocouple type	K : Chromel-Alumel E : Chromel-Constantan
④ Length	005 : 50mm 010 : 100mm 015 : 150mm
⑤ Grip type	0 : No grip 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, ϕ 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

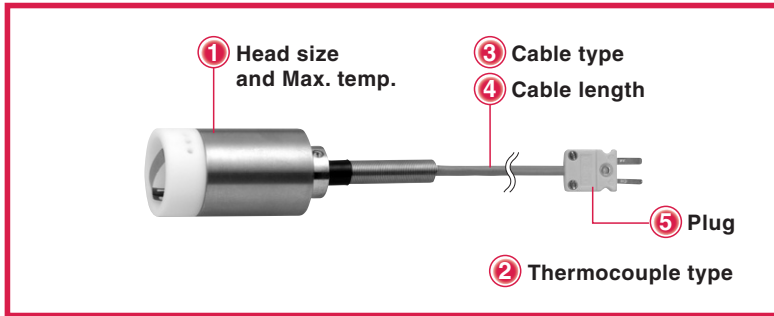
Type K Model WE-31K-TA1-ANP
Type E Model WE-31E-TA1-ANP

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.	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-21 GW : For WE-12, WE-22, WE-42 TA* : For WE-31
④ Cable length	1 : 1m 1.5 : 1.5m 2 : 2m 2.5 : 2.5m
⑤ Plug (See page 4)	ANP ASP W

※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 :



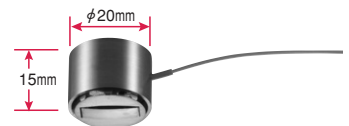
21 :



22 :



31 :



42 :



Specifications

Tolerance	$\pm 2.5^\circ\text{C}$ (at 100°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°C WE-12, WE-22, WE-42 : 500°C WE-31 : 200°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

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

Temp. range	Tolerance	Response time	Durability
-50~250°C	±2.5°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	Tolerance	Response time	Durability
-50~400°C	±2.5°C (at 100°C surface)	2.0 s	A

How to order of MG series

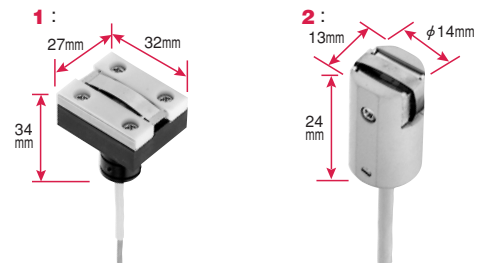
MG-11K-TS1-ANP

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	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 ASP W

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**



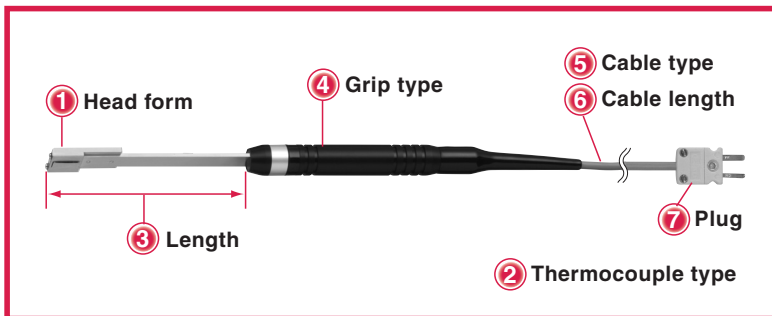
Temp. range	Tolerance	Response time	Durability
-50~500°C	±2.5°C (at 100°C surface)	2.0 s	A

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

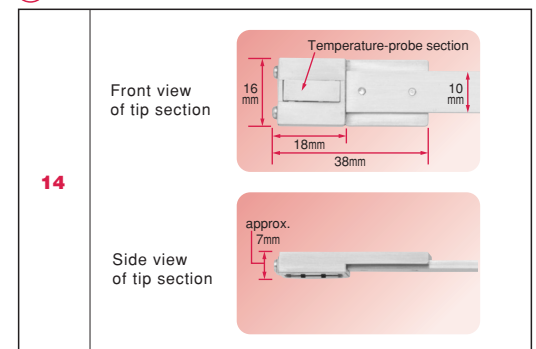


TH-14K-010-1-TC1-ANP

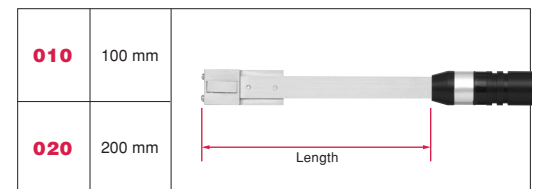


① Head form	14
② Thermocouple type	K : Chromel-Alumel E : Chromel-Constantan
③ Length	010 : 100mm 015 : 150mm 020 : 200mm
④ Grip type	1 : Grip
⑤ Cable type (See page 5)	TC
⑥ Cable length	1 : 1m 1.5 : 1.5m 2 : 2m 2.5 : 2.5m
⑦ Plug (See page 4)	ANP ASP W

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

Type K Model	VA-03K-01-TS1-ANP
Type E Model	VA-03E-01-TS1-ANP

For $\phi 3$ mm

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

Type K Model	VA-05K-01-TS1-ANP
Type E Model	VA-05E-01-TS1-ANP

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

① ② ③ ④ ⑤

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

① Head form	(mm)
03	For $\phi 3$
04	For $\phi 4$
05	For $\phi 5$
06	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



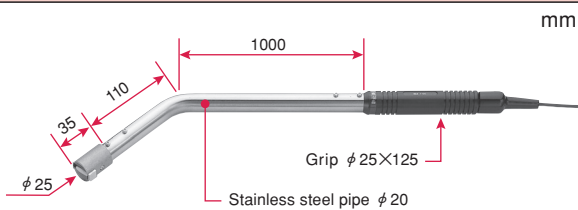
Temp. range	Tolerance	Response time	Durability
-50~800°C	±3.8°C (at 500°C surface)	4 s	※

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



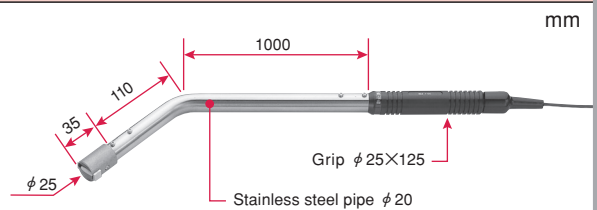
Temp. range	Tolerance	Response time	Durability
300~1100°C	±3.8°C (at 500°C surface)	5 s	※

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



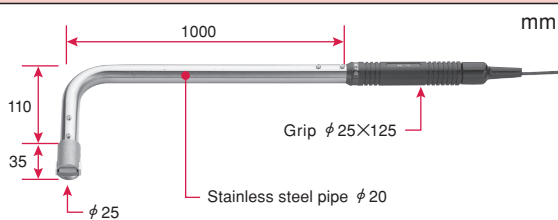
Temp. range	Tolerance	Response time	Durability
-50~800°C	±3.8°C (at 500°C surface)	4 s	※

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



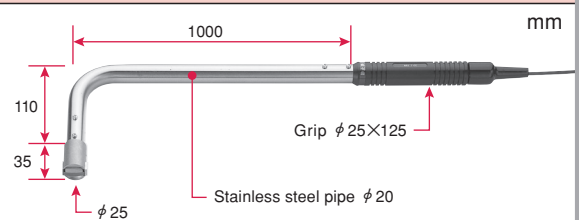
Temp. range	Tolerance	Response time	Durability
300~1100°C	±3.8°C (at 500°C surface)	5 s	※

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



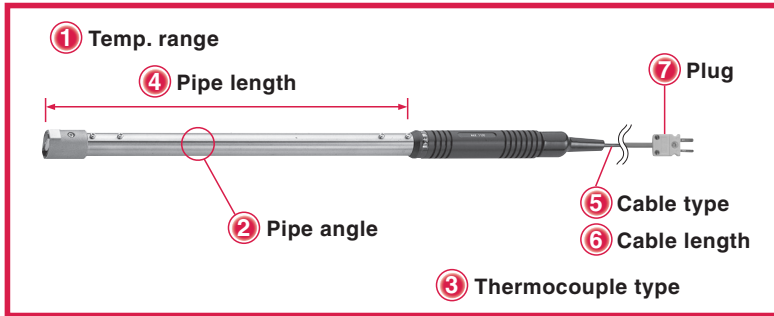
Temp. range	Tolerance	Response time	Durability
-50~800°C	±3.8°C (at 500°C surface)	4 s	※

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	4 : -50~ 800℃ 5 : 300~1100℃
② Pipe angle	1 : Straight 2 : 45 degrees 3 : 90 degrees
③ Thermocouple type	K : Chromel-Alumel
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 ASP W

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

1	Straight	
2	45 degrees	
3	90 degrees	

④ Pipe length (mm)

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