

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 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

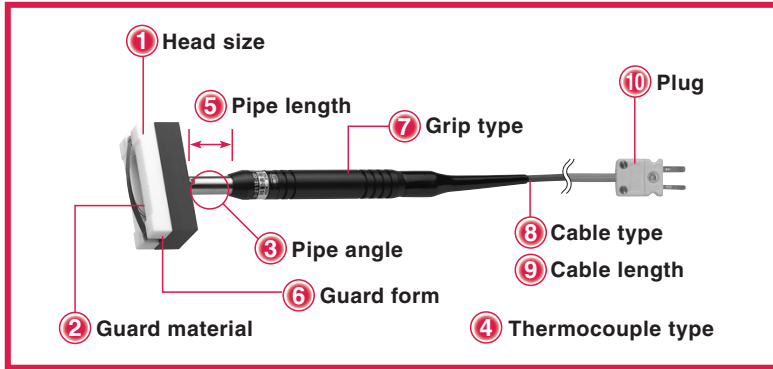
Temp. range	Tolerance	Response time	Durability
-50~250°C	±2.5°C (at 100°C surface)	2.0 s	A

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

No grip probe type

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 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*

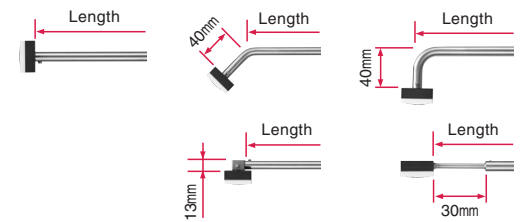
③ Pipe angle

You can choose pipe angle as below.

	1	
	2	5
	3	6
	4	7
	8	9

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 ASP W

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

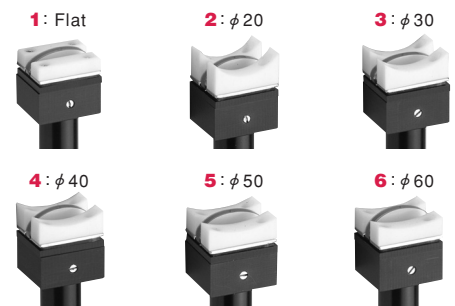
① Style and Heavy duty

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 ASP W

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

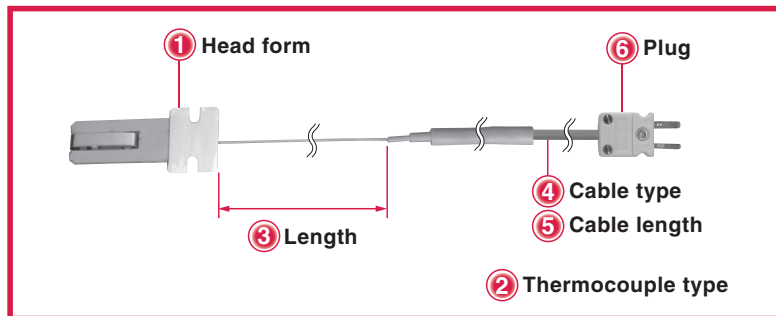
Type K Model UH-11K-03-TS1-ANP
Type E Model UH-11E-03-TS1-ANP

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

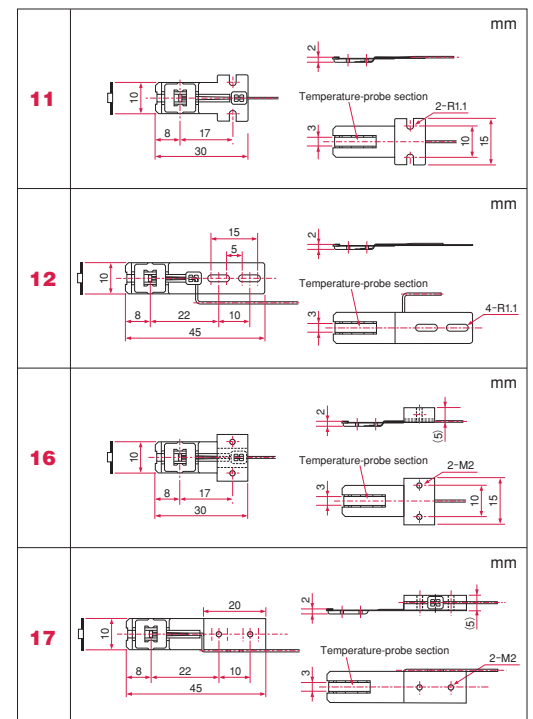


UH-11K-03-TS1-ANP

① ② ③ ④ ⑤ ⑥

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 ASP W

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移动中的金属丝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

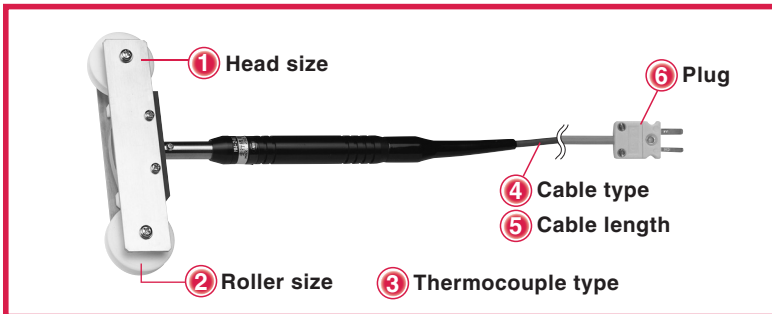
Type K Model	MW-11K-TC1-ANP
Type E Model	MW-11E-TC1-ANP

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 ASP W

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