

# Model U series

General Moving / Rotating Surface Probes

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.



## Typical Probes of U series

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

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

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

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

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

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

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

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

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

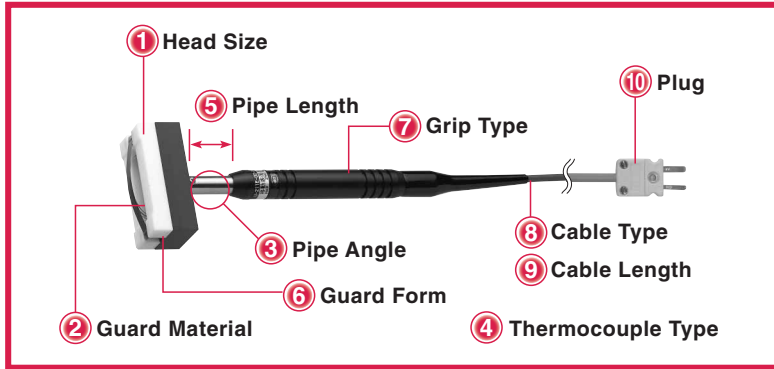
Temp. Range	Accuracy	Response time	Durability
-50~250°C	±1.5°C (at 100°C Surface)	2.0 s	A

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

**No grip probe type**

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

# How to order of U series



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



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

### ① Head Size ② Guard Material

You can choose Head Size as below.

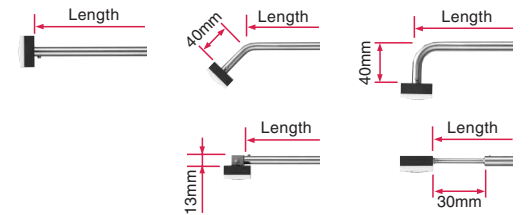
U-11* U-21*	U-12* U-22*	U-13* U-23*
U-14* U-24*	U-15* U-25*	U-16* U-26*
U-17* U-27*	U-18* U-28*	U-19* U-29*

### ③ Pipe Angle

You can choose Pipe Angle as below.

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

### ⑤ Pipe Length



### ⑥ Guard Form

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

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

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

### ⑦ Grip Type

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

## Specifications

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