



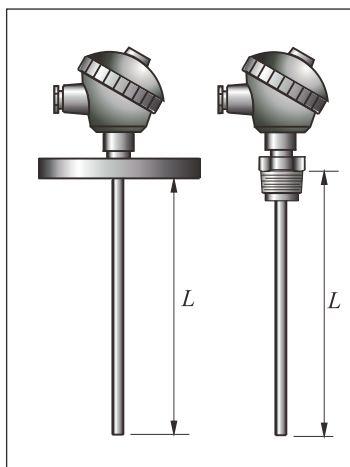
FC
FACTOCOMPONENTS
 INDUSTRIAL SUPPLIES AND MANUFACTURING EQUIPMENT

Thermocouple

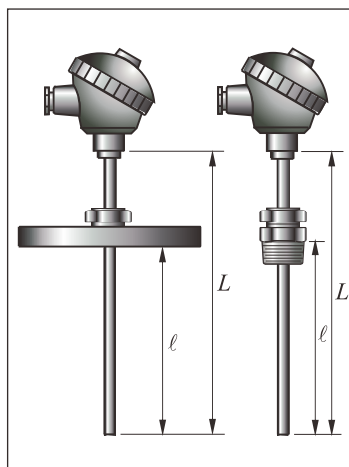


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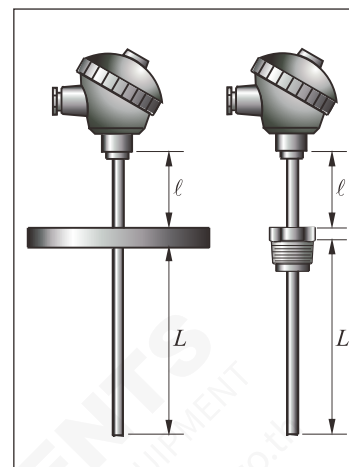
THERMOCOUPLE / RESISTANCE BULB









STANDARD TYPE



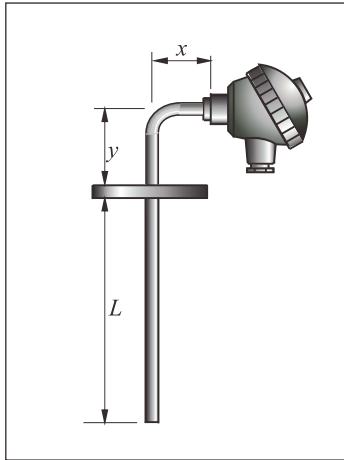
ADJUSTABLE TYPE



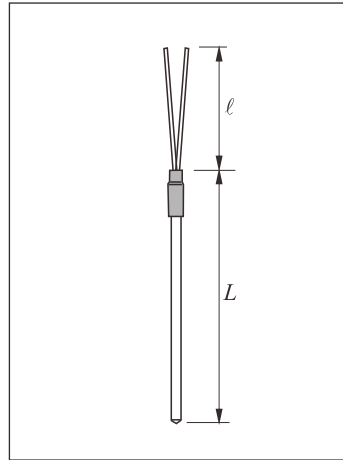
EXTENSION TYPE

Type	 GKEA	 GPEA	 GKEB/GKKB	 GPEB/GPKB	 GKEC/GKCC	 GPEC/GPKC
Operating Temp.	0~1200°C	-50~500°C	0~1200°C	-50~500°C	0~1200°C	-50~500°C
Class Tolerance	JIS 0.75 grade $\pm 0.0075 \times t $	IEC 751 CLASS B $0.3 \pm 0.005 \times t $	JIS 0.75 grade $\pm 0.0075 \times t $	IEC 751 CLASS B $0.3 \pm 0.005 \times t $	JIS 0.75 grade $\pm 0.0075 \times t $	IEC 751 CLASS B $0.3 \pm 0.005 \times t $
Protective Grade	IP65	IP65	IP65/IP44	IP65/IP44	IP65/IP44	IP65/IP44
Connection	1", 1 1/2" x 5kg/cm ² 1/2"PT, 3/4"PT	1", 1 1/2" x 5kg/cm ² 1/2"PT, 3/4"PT	1", 1 1/2" x 5kg/cm ² 1/2"PT, 3/4"PT	1", 1 1/2" x 5kg/cm ² 1/2"PT, 3/4"PT	1", 1 1/2" x 5kg/cm ² 1/2"PT, 3/4"PT	1", 1 1/2" x 5kg/cm ² 1/2"PT, 3/4"PT
Tube diameter	$\phi 5, \phi 6$ $\phi 8, \phi 9.5$	$\phi 8, \phi 12.7$ $\phi 17.2$	$\phi 5, \phi 6$ $\phi 8, \phi 9.5$	$\phi 8, \phi 12.7$ $\phi 17.2$	$\phi 5, \phi 6$ $\phi 8, \phi 9.5$	$\phi 8, \phi 12.7$ $\phi 17.2$
Material	SUS304/316 Titanium	SUS304/316 Titanium	SUS304/316 Titanium	SUS304/316 Titanium	SUS304/316 Titanium	SUS304/316 Titanium
Isolation resistance	>1000M Ω /500V	>1000M Ω /500V	>1000M Ω /500V	>1000M Ω /500V	>1000M Ω /500V	>1000M Ω /500V
Wire	Nickel-Aluminum Nickel-Chromium	---	Nickel-Aluminum Nickel-Chromium	---	Nickel-Aluminum Nickel-Chromium	---

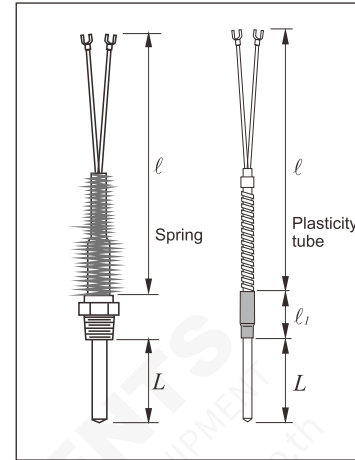
* Special specification are acceptable









L SHAPE TYPE



ECONOMICAL TYPE

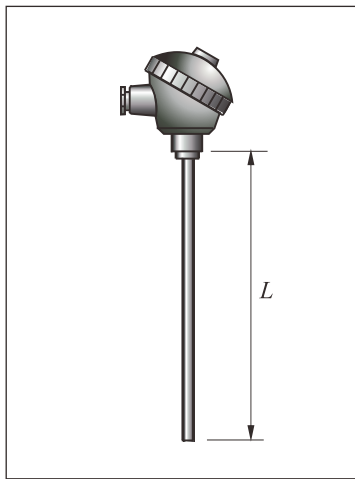


ECONOMICAL TYPE



Type	 GKED/TKKD	 GPED/GDKD	 GK-E	 GP-E	 + Spring GK-F	 + Plasticity tube GP-G
Operating Temp.	0~1200°C	-50~500°C	0~480°C	-50~250°C	0~480°C	-50~250°C
Class Tolerance	JIS 0.75 grade $\pm 0.0075 \times t $	IEC 751 CLASS B $0.3 \pm 0.005 \times t $	JIS 0.75 grade $\pm 0.0075 \times t $	IEC 751 CLASS B $0.3 \pm 0.005 \times t $	JIS 0.75 grade $\pm 0.0075 \times t $	IEC 751 CLASS B $0.3 \pm 0.005 \times t $
Protective Grade	IP65/IP44	IP65/IP44	IP44	IP44	IP44	IP44
Connection	1", 1 1/2" x 5kg/cm ²	1", 1 1/2" x 5kg/cm ²	---	---	1/4"PT	1/4"PT
Tube diameter	$\phi 5, \phi 17.2$	$\phi 8, \phi 12.7$ $\phi 17.2$	$\phi 6, \phi 17.2$	$\phi 6, \phi 17.3$	$\phi 6, \phi 17.2$	$\phi 6, \phi 17.3$
Material	SUS304/316 Titanium	SUS304/316 Titanium	SUS304/316 Titanium, PTFE	SUS304/316 PP, PTFE	SUS304/316 Titanium, PTFE	SUS304/316 PP, PTFE
Isolation resistance	>1000M Ω /500V	>1000M Ω /500V	>1000M Ω /500V	>1000M Ω /500V	>1000M Ω /500V	>1000M Ω /500V
Wire	Nickel-Aluminum Nickel-Chromium	---	Nickel-Aluminum Nickel-Chromium	---	Nickel-Aluminum Nickel-Chromium	---
Compensating Lead Wire	---	---	Isolated Cable PVC Cable	PTFE Silver Wire PTFE Copper Wire PVC Cable	Isolated Cable PVC Cable	PTFE Silver Wire PTFE Copper Wire PVC Cable

* Special specification are acceptable

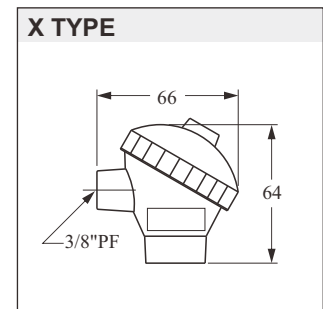
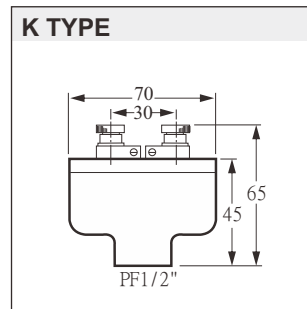
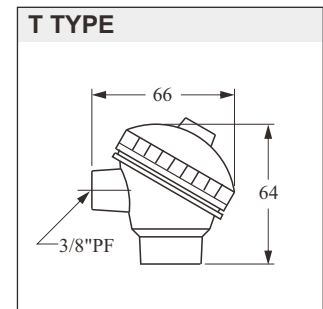
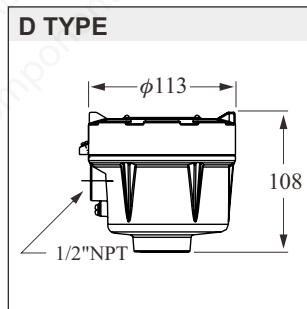
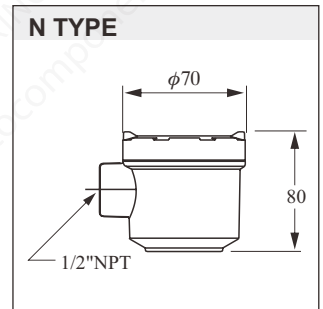
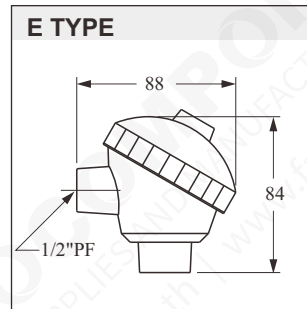
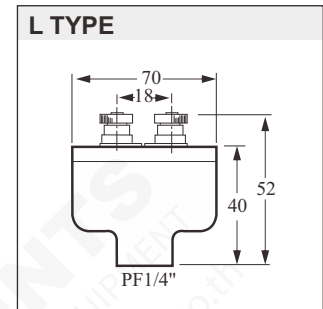
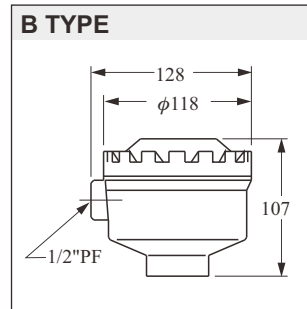
TERMINAL BOX



INTERCALARY TYPE

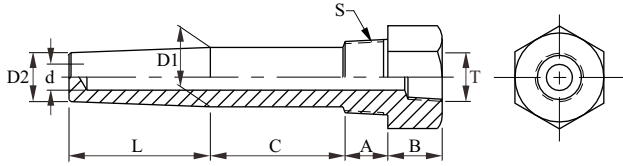
Type	 GKEH	 GPEH
Operating Temp.	0~480°C	-50~250°C
Class Tolerance	JIS 0.75 grade $\pm 0.0075 \times t $	IEC 751 CLASS B $0.3 \pm 0.005 \times t $
Protective Grade	IP65	IP65
Connection	---	---
Tube diameter	$\phi 6, \phi 17.2$	$\phi 6, \phi 17.3$
Material	SUS304/316 Titanium, PTFE	SUS304/316 Titanium
Isolation resistance	> 1000M Ω /500V	> 1000M Ω /500V
Wire	Nickel-Aluminum Nickel-Chromium	---

* Special specification are acceptable

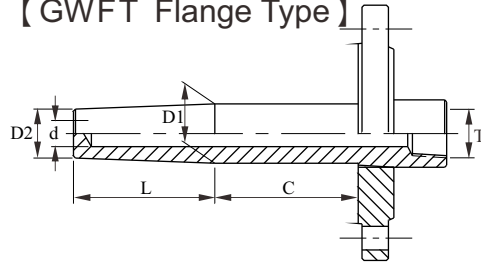


METAL PROTECTION TUBE

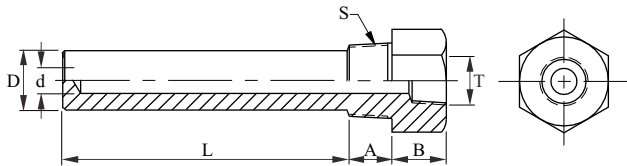
【 GWTT Screw Type 】



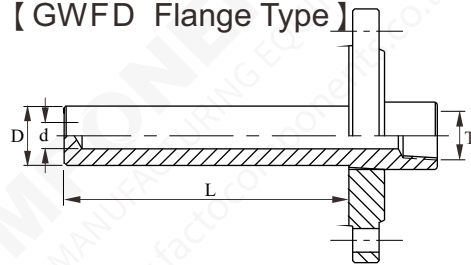
【 GWFT Flange Type 】



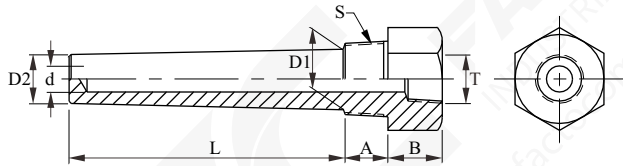
【 GWTD Type 】



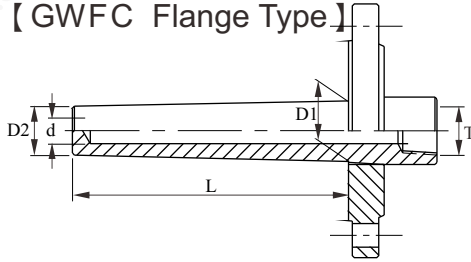
【 GWFD Flange Type 】



【 GWTC Screw Type 】



【 GWFC Flange Type 】



※Please specify the size and material of each part when ordering.

MODEL NUMBER ORDER CODE COMPARISON TABLE

Model Number	Order Code
GKEA	GKX10000-00E
GPEA	GPX10000-00E
GKEB	GKX10000-A2E
GKKB	GKX10000-A2T
GPEB	GPX10000-A2E
GPKB	GPX10000-A2T
GKEC	GKX10000-A1E
GKKC	GKX10000-A1T
GPEC	GPX10000-A1E
GPKC	GPX10000-A1T
GKED	GKX10000-A3E
GKKD	GKX10000-A3T
GPED	GPX10000-A3E
GPKD	GPX10000-A3T
GK-E	GKX10100-A50
GP-E	GPX10100-A50
GK-F	GKX10100-A60
GP-G	GPX10100-A60
GKEH	GKX10000-A4E
GPEH	GPX10000-A4E

G ⁰² X 1 ⁰⁵ ⁰⁶ 0 0 - ⁰⁹ ¹⁰ ¹¹ ¹² ¹³ ¹⁴ ¹⁵ ¹⁶ ¹⁷ ¹⁸ ¹⁹ ²⁰ ²¹ ²² ²³ ²⁴ ²⁵ ²⁶ ²⁷

¹⁹ ²⁰ **Probe diameter** _____

- 1A: ϕ 4.0mm
- 1B: ϕ 5.0mm
- 1D: ϕ 6.0mm
- 1F: ϕ 8.0mm
- 1G: ϕ 9.5mm
- 2A: ϕ 12.7mm
- 2D: ϕ 17.2mm

²¹ ²² **Probe material** _____

- MA: SUS 304
- MB: SUS 316
- MC: SUS 316L

²³ ²⁴ ²⁵ ²⁶ **Length** _____

Code	Probe Length
0001~9999	0001~9999mm

²⁷ **Sersor amount** _____

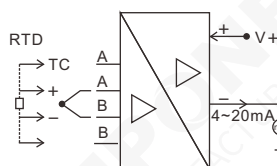
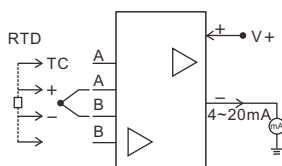
- A: 1
- B: 2
- C: 3

TR210 / 220 SPECIFICATION



TYPE	TR210 Series	TR220 Series
	Non-Isolation	Isolation

Input :
RTD · TC · Rohm



Function summary

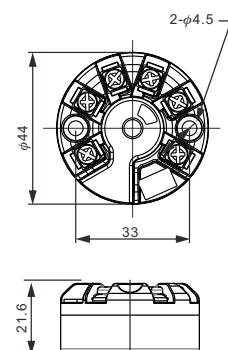
Features:

Power supply(Vdc)	12~36 Vdc (Loop Power)	24 VDC ± 20%
Ambient temp. range(°C)	-40~85	-40~85
Isolation	N/A	1500Vac
Channels	1	1
CJC Accuracy(°C)	± 1	± 1
Input:		
PT100 Span /min. span(°C)	-200~850 / 10	-200~850 / 10
PT1000 Span /min. Span(°C)	-200~850 / 10	-200~850 / 10
Rohm Span /min. Span(Ω)	0~400 or 0~4000 /10	0~400 or 0~4000 /10
TC types	B, E, J, K, N, R, S, T	B, E, J, K, N, R, S, T
Output:		
Loop power 2-wire output	4~20mA or 20~4mA	4~20mA or 20~4mA

Technical summary

	Basic Accuracy	Temperature Coefficient
PT100-2Wiers/PT1000-2Wiers	± 1°C	± 0.005% / °C
PT100-3Wiers/PT1000-3Wiers	± 0.5°C	± 0.005% / °C
PT100-4Wiers/PT1000-4Wiers	± 0.5°C	± 0.005% / °C
TC type: E, J, K, N, R, S	± 1.5°C	± 0.01% / °C
TC type: B	± 2°C	± 0.04% / °C
TC type: T	± 1°C	± 0.01% / °C
Rohm	± 0.1Ω	± 0.005% / °C

Dimensions

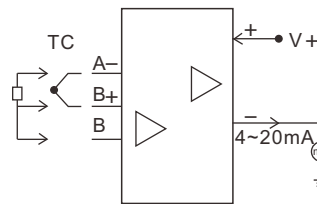


(Unit: mm)



TYPE	TR160 Series
	Economical type

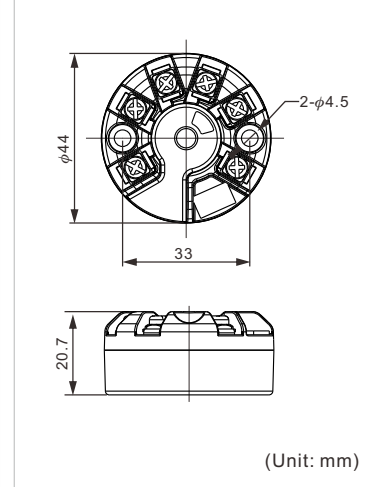
Input : RTD, TC,
 Rohm, mV,
 Linear Current,
 Linear Voltage



Function summary

Features:	
Power supply(Vdc)	18~36V
Ambient temp. range(°C)	-40~85
Isolation	None
Channels	1
CJC accuracy(°C)	± 1
Input:	
PT100 Span /min. span(°C)	-200~850 / 10
Rohm Span /min. Span(Ω)	0~400 / 5
TC types	B, E, J, K, N, R, S, T
Linear Current, signal range	0~20mA, 4~20mA
Linear Voltage, signal range	0~0.5V, 0~1V, 0~5V, 0~10V, 0~20V
Output:	
Loop Power 2-wire output	4~20mA/20~4mA

Dimensions



Technical summary

	Basic Accuracy	Temperature Coefficient
PT100	≤ ± 0.5°C	≤ ± 0.005°C
Rohm	≤ ± 0.4Ω	≤ ± 0.005°C
TC type: E, J, K, N, T	≤ ± 4°C	≤ ± 0.04°C
TC type: B	≤ ± 3°C	≤ ± 0.01°C
TC type: R, S	≤ ± 3°C	≤ ± 0.04°C
TC type: T	≤ ± 2°C	≤ ± 0.01°C
Voltage	≤ ± 0.1mV	≤ ± 0.005°C

TR160 SPECIFICATION / ORDER INFORMATION

Model Number	Order Code
TR210	TRX30100-A
TR220	TRX30100-B
TR160	TRX20100-A

TRX ⁰⁴ 0 1 0 0 - ⁰⁹ ¹⁰ ¹¹ ¹² ¹³

04 Version

- 2: Second
- 3: Third

09 Isolation type

- A: None Isolation
- B: Isolation

10 11 Input range

- | | | |
|------------|--------------------------|--------------------------|
| V1: 0~0.5V | T1: ALL | T6: R Type -50°C~1760°C |
| V2: 0~1V | T2: K Type -200°C~1370°C | T7: S Type -50°C~1760°C |
| V3: 0~5V | TK: K Type -90°C~320°C | T8: B Type -250°C~1820°C |
| V4: 0~10V | T3: J Type -210°C~1200°C | T9: N Type -200°C~1300°C |
| V5: 0~20V | TJ: J Type -90°C~320°C | TA: PT 100 -200°C~850°C |
| I1: 4~20mA | T4: T Type -200°C~400°C | R1: 0~400 Ω |
| I2: 0~20mA | T5: E Type -200°C~1000°C | |

12 Analog output

- 1: 4~20mA
- 2: 20~4mA

13 Display unit

- A: °C
- B: °F