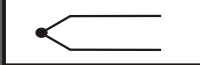
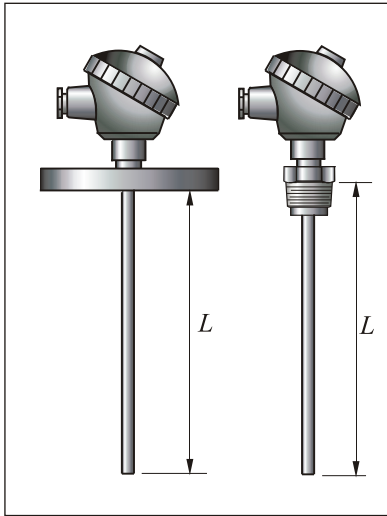
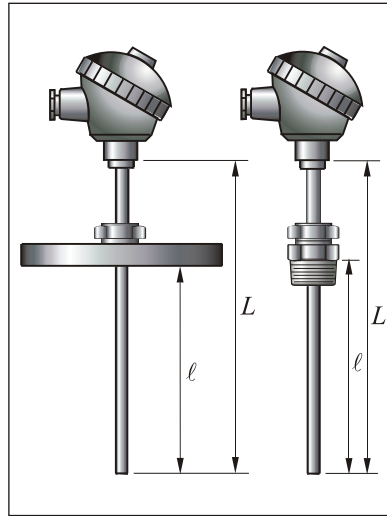
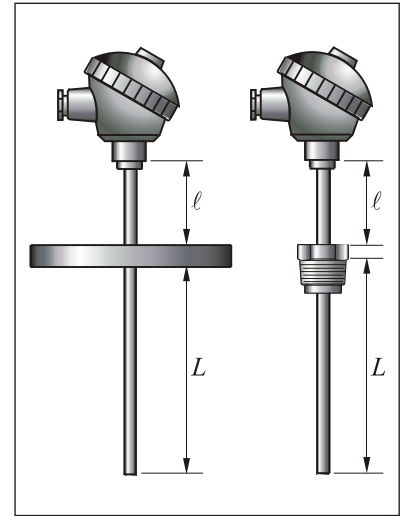








**THERMOCOUPLE**

**RESISTANCE BULB**

**STANDARD TYPE**

**ADJUSTABLE TYPE**

**EXTENSION TYPE**

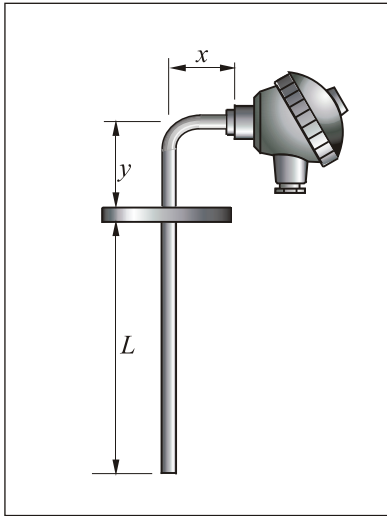
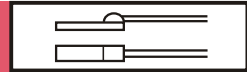
Type	 <b>GKEA</b>	 <b>GPEA</b>	 <b>GKEB/GKKB</b>	 <b>GPEB/GPKB</b>	 <b>GKEC/GKKC</b>	 <b>GPEC/GPKC</b>
Operating Temp.	0~1200°C	-50~500°C	0~1200°C	-50~500°C	0~1200°C	-50~500°C
Class Tolerance	JIS 0.75 grade $\pm 0.0075 \times  t $	IEC 751 CLASS B $0.3 \pm 0.005 \times  t $	JIS 0.75 grade $\pm 0.0075 \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 <sup>2</sup> 1/2"PT, 3/4"PT	1", 1 1/2" x 5kg/cm <sup>2</sup> 1/2"PT, 3/4"PT	1", 1 1/2" x 5kg/cm <sup>2</sup> 1/2"PT, 3/4"PT	1", 1 1/2" x 5kg/cm <sup>2</sup> 1/2"PT, 3/4"PT	1", 1 1/2" x 5kg/cm <sup>2</sup> 1/2"PT, 3/4"PT	1", 1 1/2" x 5kg/cm <sup>2</sup> 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 $\Omega$ /500V	> 1000M $\Omega$ /500V	> 1000M $\Omega$ /500V	> 1000M $\Omega$ /500V	> 1000M $\Omega$ /500V	> 1000M $\Omega$ /500V
Wire	Nickel-Aluminum Nickel-Chromium	---	Nickel-Aluminum Nickel-Chromium	---	Nickel-Aluminum Nickel-Chromium	---

★ Special specification are acceptable

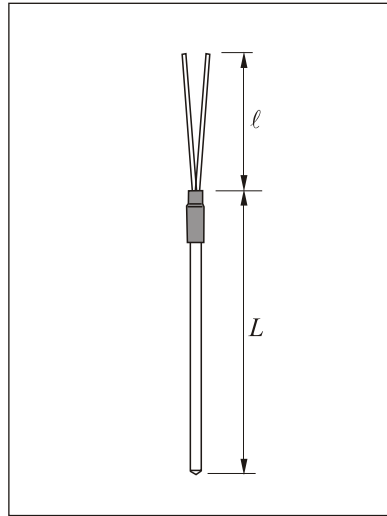
# THERMOCOUPLE



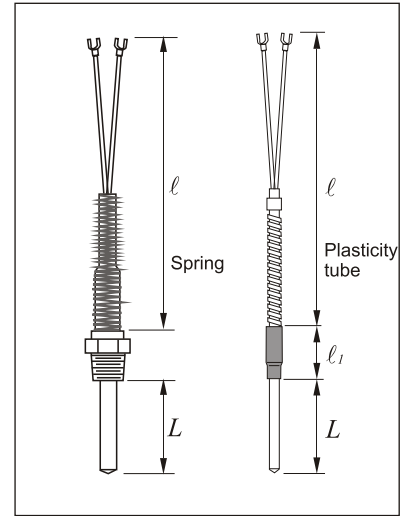
# RESISTANCE BULB









**L SHAPE TYPE**



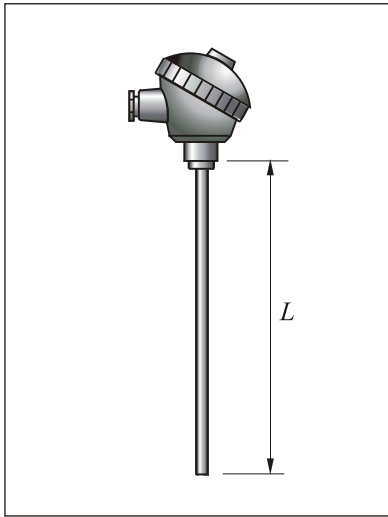
**ECONOMICAL TYPE**



**ECONOMICAL TYPE**

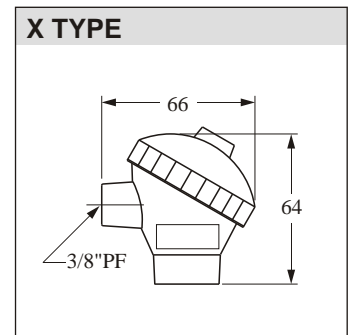
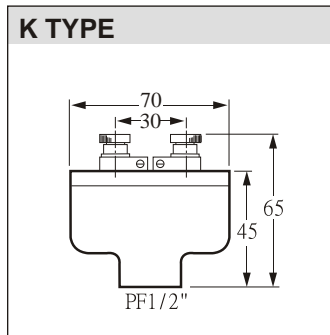
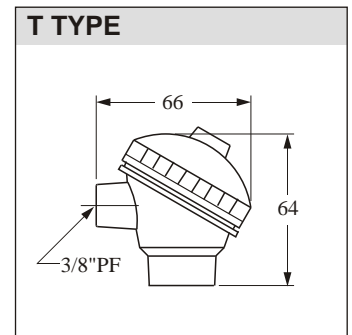
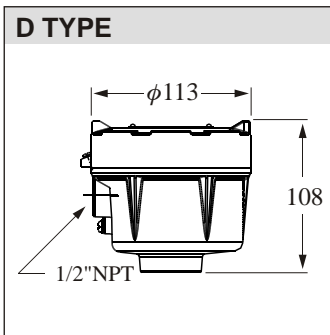
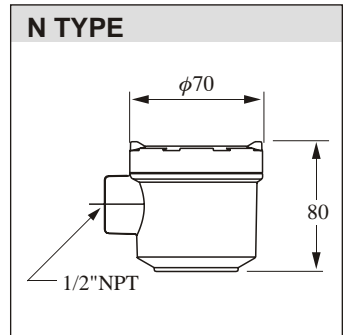
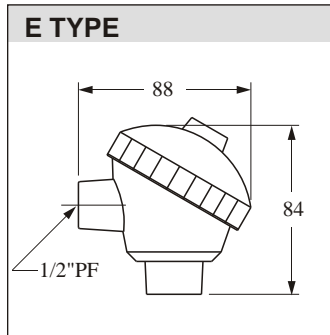
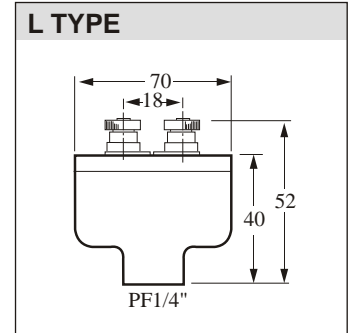
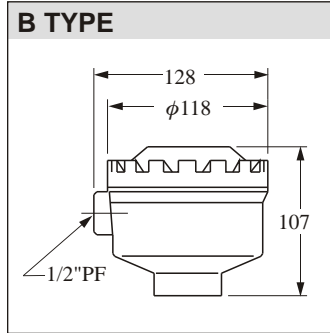
Type	 <b>GKED/TKKD</b>	 <b>GPED/GDKD</b>	 <b>GK-E</b>	 <b>GP-E</b>	 + Spring <b>GK-F</b>	 + Plasticity tube <b>GP-G</b>
Operating Temp.	0~1200°C	-50~500°C	0~480°C	-50~250°C	0~480°C	-50~250°C
Class Tolerance	JIS 0.75 grade $\pm 0.0075 \times  t $	IEC 751 CLASS B $0.3 \pm 0.005 \times  t $	JIS 0.75 grade $\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 <sup>2</sup>	1", 1 1/2" x 5kg/cm <sup>2</sup>	---	---	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 $\Omega$ /500V	> 1000M $\Omega$ /500V	> 1000M $\Omega$ /500V	> 1000M $\Omega$ /500V	> 1000M $\Omega$ /500V	> 1000M $\Omega$ /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



**INTERCALARY TYPE**

**TERMINAL BOX**



Type	 <b>GKEH</b>	 <b>GPEH</b>
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	$> 1000\text{M}\Omega/500\text{V}$	$> 1000\text{M}\Omega/500\text{V}$
Wire	Nickel-Aluminum Nickel-Chromium	---

★ Special specification are acceptable

# ORDER INFORMATION

**G P E A S 2 E M 0 1 0 0**

## TYPE

C: C Type Thermocouple      R: R Type Thermocouple  
 J: J Type Thermocouple      P: P Type Resistance Bulb  
 K: K Type Thermocouple      S: Others

## TERMINAL BOX

B: Aluminum (Big space)  
 E: Thermocouple head (Aluminum)  
 J: Explosion-proof (Exd IIB T4)  
 K: T Type terminal (Big size)  
 L: T Type terminal (small size)  
 P: Thermocouple head (plastic)  
 S: Others  
 T: Small Thermocouple head (plastic)  
 X: Small Thermocouple head (Aluminum)  
 -: Without terminal box

## CONNECTING TYPE

A: Standard Type                      F: Economical Type (Spring)  
 B: Adjustable Type                    G: Economical Type (plasticity tube)  
 C: Extension Type                    H: Intercalary Type  
 D: L shape Type                      J: Simple Type  
 E: Economical Type                    S: Others

## ROD MATERIAL & DIAMETER

S1: SUS304 $\phi$ 5	S9: SUS304 $\phi$ 12.7	P1: P.P. $\phi$ 5	T1: Titanium $\phi$ 5
S2: SUS316 $\phi$ 5	SA: SUS316 $\phi$ 12.7	P2: P.P. $\phi$ 6	T2: Titanium $\phi$ 12.7
S3: SUS304 $\phi$ 6	SB: SUS304 $\phi$ 17.2	P3: P.P. $\phi$ 9.5	TS: Others size
S4: SUS316 $\phi$ 6	SC: SUS316 $\phi$ 17.2	P4: P.P. $\phi$ 17.6	F1: Teflon $\phi$ 5
S6: SUS316 $\phi$ 8	SD: SUS304 $\phi$ 21.7	PS: Others size	F2: Teflon $\phi$ 6
S7: SUS304 $\phi$ 9.5	SE: SUS316 $\phi$ 21.7		F3: Teflon $\phi$ 8
S8: SUS316 $\phi$ 9.5	SS: Others size		FS: Others size

## CONNECTING CODE

I: 1/8"	F: 2" (50A)	M: 5 kg/cm <sup>2</sup>	W: PN10 (10Bar)
2: 1/4"	G: 2-1/2" (65A)	N: 10 kg/cm <sup>2</sup>	X: PN16 (16Bar)
3: 1-1/4" (32A)	H: 3" (80A)	O: 150 Lbs	Y: PN25 (25Bar)
A: 3/8" (12A)	I: 4" (100A)	P: 300 Lbs	Z: PN40 (40Bar)
B: 1/2" (15A)	J: 5" (125A)	Q: PT	S: Others
C: 3/4" (20A)	K: 6" (150A)	R: PF	
D: 1" (25A)		T: BSP	
E: 1-1/2" (40A)			

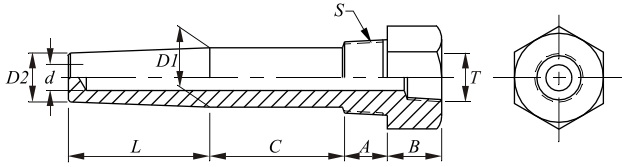
## LENGTH (UNIT: mm)

Please confirm below request information before you order it.

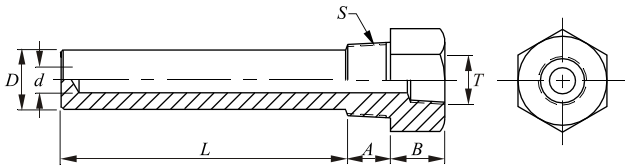
- \* Operating temperature range.
- \* Lead wire: material, length, quantity
- \* Rod length:  $\ell, \ell_1, X, Y$
- \* Quantities of sensor

## Screw Type

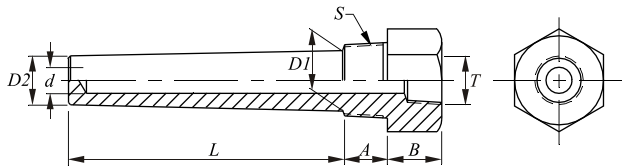
【GWTT】



【GWTD】

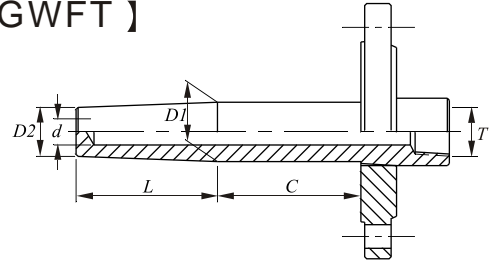


【GWTC】

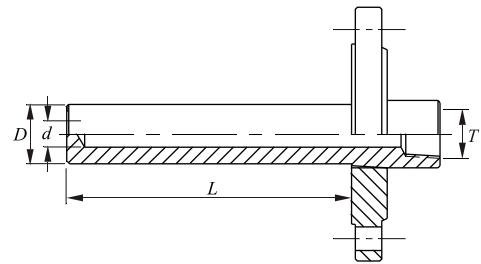


## Flange Type

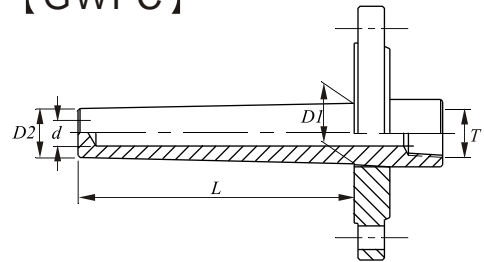
【GWFT】



【GWFD】



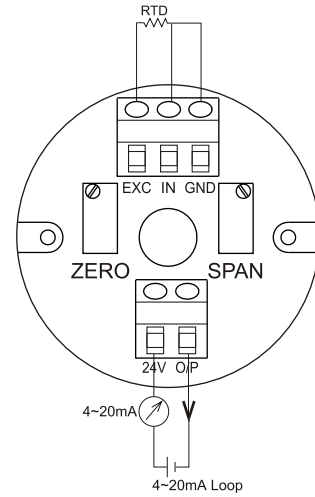
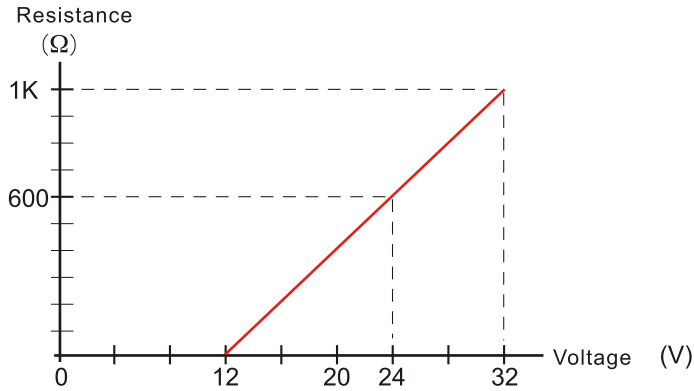
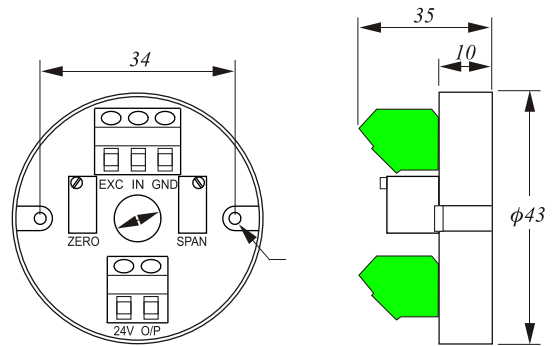
【GWFC】



# RTD TRANSDUCER

## 【TAB-1533】

Range : -50~850°C  
 Output : 4~20mA (2-wire or 3-wire)  
 Input : 12~32VDC  
 Accuracy : K 0.1%FS (at 23BC)  
 Load Resistance :  $R_0 = (V_{supply} - 12V) / 20mA$   
 Operation Temp. : 0~70°C



## TAB-1533-

**D** **2**

2: 2-wire  
 3: 3-wire

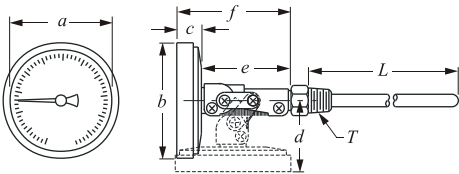
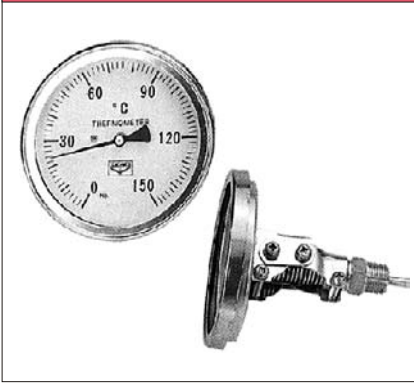
### Range

- |             |            |
|-------------|------------|
| A: -50~50°C | G: 0~500°C |
| B: 0~100°C  | H: 0~600°C |
| C: 0~120°C  | I: 0~700°C |
| D: 0~200°C  | J: 0~800°C |
| E: 0~300°C  | K: 0~850°C |
| F: 0~400°C  | L: 0~150°C |

# THERMOMETER

## BIMETALLIC THERMOMETER (ADJUSTABLE ANGLE TYPE)

MODEL : **GMBA** (without-contact)  
**GMBAC**



Size	a	b	c	d	e	f	T
3"	74	85	18	52	65	83	1/4"PT
4"	100	118	21	52	65	86	1/2"PT
5"	110	127	18	52	65	83	1/2"PT
6"	140	162	25	52	65	90	1/2"PT

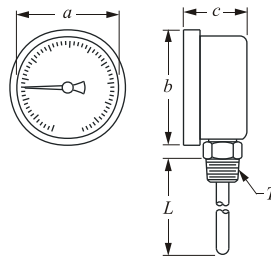
1. Material: Stainless Steel (304)  
Cases And Stems.
2. 1/4", 1/2" PT Or NPT Thread By Order.
3. Anti-parallax Sealed Glass Windows,  
Dials With Black Figures.
4. Accuracy: Within+1% Of Full Scale.
5. Temperature Ranges: -50~600°C

The following information is needed to order the products from us:

- ☞ model
- ☞ Temperature range
- ☞ Measuring distance
- ☞ diameter of sensing probe.
- ☞ Length of sensing probe.

## BIMETALLIC THERMOMETER (BOTTOM ENTRY TYPE)

MODEL : **GMBI** (without-contact)  
**GMBIC**

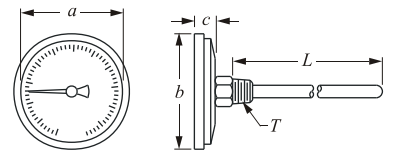


Size	a	b	c	T
3"	74	85	50	1/4"PT
4"	100	118	50	1/2"PT
5"	110	127	50	1/2"PT
6"	140	162	50	1/2"PT

1. Material: Case & cover:  
stainless steel SUS304  
(SUS316 is also available)  
Transparent plate: Resin or glass  
Dial scale plate: Aluminum White  
background, black figures & marks
2. Temperature range: -50~600°C
3. Outside dia. of stem: f6.35~9.5mm
4. Length of stem: 2-1/2"~50" by orders
5. Indicating accuracy: K1.0% for full scale.

## BIMETALLIC THERMOMETER (BACK ENTRY TYPE)

MODEL : **GMBTT**

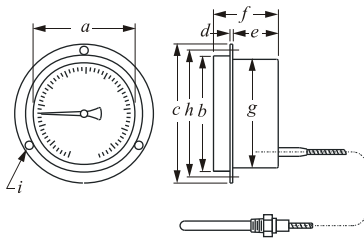


Size	a	b	c	T
1.5"	32	35	10	---
2"	50	58	15	1/4"PT
3"	74	83	15	1/4"PT
4"	100	115	15	1/2"PT
5"	110	127	18	1/2"PT
6"	140	162	28	1/2"PT

1. Material: Case & cover:  
stainless steel SUS304  
(SUS316 is also available)  
Transparent plate: Resin or glass  
Dial scale plate: Aluminum White  
background, black figures & marks
2. Temperature range: -50~600°C
3. Outside dia. of stem: f6.35~9.5mm
4. Length of stem: 2-1/2"~50" by orders
5. Indicating accuracy: K1.0% for full scale.

# THERMOMETER

**REMOTE READING THERMOMETER  
(FLUSH MOUNTING W/FLANGE TYPE)**  
MODEL : **GMFF** (without-contact)  
**GMFC**



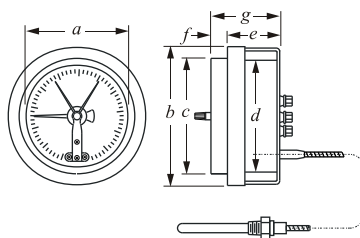
Size	a	b	c	d	e	f	g	h	i
3"	74	85	101	14	36	83	77	92	5
4"	100	118	137	15	25	86	100	122	8
5"	110	127	160	15	30	83	117	145	8
6"	140	160	191	17	30	90	150	180	8

1. Temperature Range: -50~650°C  
Accuracy: K1%
2. Capillary Length: 3M  
Longest: 20M
3. Stem Diameter:  
Standard: f12mm  
(6.35mm~12mm Is Available)
4. Material: Outer Case With SUS304  
Sensor With SUS304  
Thread Connection To Be Ordered
5. With Inner Adjustable Point

The following information is needed to order the products from us:

- ☞ model
- ☞ Temperature range
- ☞ Measuring distance
- ☞ measuring distance.
- ☞ diameten of sensing probe.
- ☞ length of sensing probe.

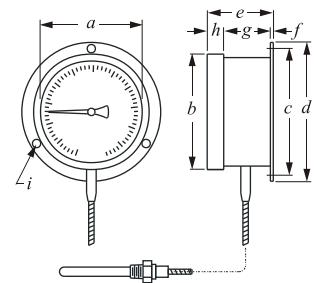
**REMOTE READING THERMOMETER  
(FLUSH MOUNTING W/O FLANGE TYPE)**  
MODEL : **GMFU** (without-contact)  
**GMFUC**



Size	a	b	c	d	e	f	g
3"	74	100	84	76	36	14	50
4"	100	108	118	100	25	16	41
5"	110	160	127	117	30	15	50
6"	140	191	160	150	30	15	45

1. Temperature Range: -50~650°C  
Accuracy: K1%
2. Capillary Length: 3M  
Longest: 20M
3. Stem Diameter:  
Standard: f12mm  
(6.35m/m~12m/m Is Available)
4. Material: Outer Case With SUS304  
Sensor With SUS304
5. With Inner Adjustable Point

**REMOTE READING THERMOMETER  
(WALL MONTING WITH FLANGE TYPE)**  
MODEL : **GMWF** (without-contact)  
**GMWFC**



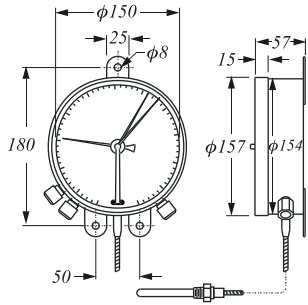
Size	a	b	c	d	e	f	g	h
3"	74	85	92	101	49	1	36	12
4"	100	118	122	137	49	3	35	11
5"	110	127	145	160	50	2	35	11

1. Temperature Range: -50~650°C  
Accuracy: K1%
2. Capillary Length: 3M  
Longest: 20M
3. Stem Diameter:  
Standard: f12mm  
(6.35mm~12mm Is Available)
4. Material: Outer Case With SUS304  
Sensor With SUS304  
Thread Connection To Be Ordered
5. With Outer Adjustable Point  
(except 3")



# THERMOMETER

**REMOTE READING  
THERMOMETER  
(WALL MOUNTING WEAR TYPE)**  
MODEL : **GMWE** (without-contact)  
**GMWEC**

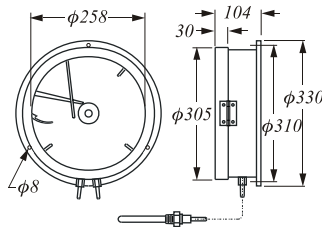
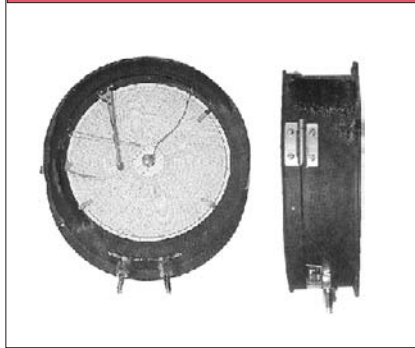


- Scale Size: 6" Only  
Temperature Range: -50~650°C  
Accuracy: K1%
- Capillary Length: 3M  
Longest: 20M
- Stem Diameter:  
Standard: f12mm  
(6.35mm~12mm Is Available)
- Material: Outer Case With SUS304  
Sensor With SUS304  
Thread Connection To Be Ordered
- With Outer Adjustable Point

The following information is needed to order the products from us:

- ☞ model
- ☞ Temperature range
- ☞ Measuring distance

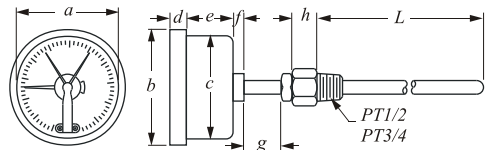
MODEL : **GMTR1**  
**THERMOMETER RECORDER**  
MODEL : **GMTR2 THERMOMETER**  
MODEL : **GMTRH**  
HYGROMETER RECORDER



- Material: Outer Case With SUS304  
Sensor With SUS304
- Recording Ranges:  
Hygrometer: 0~100°C  
0~120°C  
0~150°C  
Thermometer: -50~500°C
- Length Of Spiral:  
Standard: 3M  
Longest: 10M
- Circle Time: 24 Hours

- ☞ measuring distance.
- ☞ diameter of sensing probe.
- ☞ length of sensing probe.

**DIRECT READING THERMOMETER  
(BACK ENTRY W/O FLANGE TYPE)**  
MODEL : **GMDT** (without-contact)  
**GMDTC**

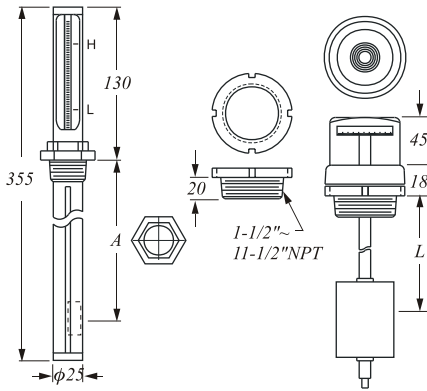


Size	a	b	c	d	e	f	g	h
3"	74	84	75	12	34	8	27	18
4"	100	118	108	11	40	8	27	18
5"	110	127	117	11	35	8	27	18
6"	140	160	148	13	32	8	27	18

- Temperature Range: -50~650°C  
Accuracy: K1%
- Material: Outer Case With SUS304  
Sensor With SUS304
- Stem: f8mm & 5" Length (standard)  
Thermowell: f11mm & 5" Length (standard)  
(standard Connection: 1/2" Chrome Brass Material)
- With Inner Adjustable Point
- For External Adjustment, Please See Right Page.

# THERMOMETER

## LEVEL THERMOMETER (COMPOUND TYPE) MODEL : GMLT1(I Type) GMITT(T Type)



### TMLTI

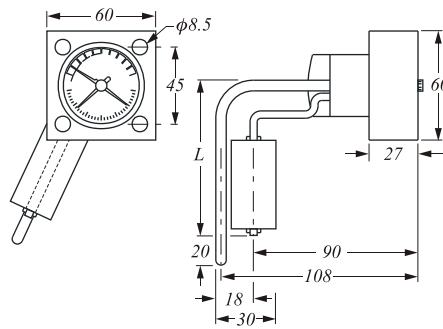
Material:  
SUS304  
Temperature  
range:  
(Spirit type)  
-0~120B°C

Model	Length (A)	Color
L01	135	Red
L02	115	Red
L03	95	Yellow

### TMLTT

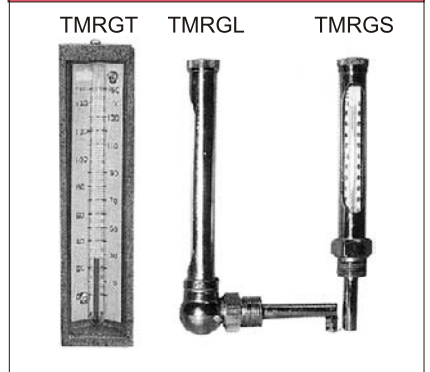
Material:  
Aluminum Alloy  
with anodize.  
Temperature range:  
(Spirit type)  
-0~120°C  
Measuring range  
of liquid level:  
30mmL

## LEVEL THERMOMETER (ALCOHOL TYPE/FLOAT TYPE) MODEL : GMLTL



Temperature range: -50~650°C  
Material: Aluminum Alloy with anodize.  
Front panel: black panel with  
fluorescent yellow-word.  
Fluorescent green-word above  
scale N  
Fluorescent red-word below scale N  
Color of pointer :  
Temperature painter-yellow  
Pointer-fluorescent green.  
Third pointer fluorescent-red.

## GLASS THERMOMETER (TRIANGLE TYPE/ROUND TYPE) MODEL : GMRGT/GMRGL /GMRGS



Model: TG Series  
Material Of Case: Plastics Or  
Aluminum  
Material Of Stem: Brass

Model: RG Series  
Material Of Case:  
Chromium Plated Brass  
Or Aluminum  
Material Of Stem:  
Chromium Plated Brass  
or SUS304

The Above Common  
Specifications:  
Filling: Red Organic Liquid  
Or Mercury  
Temperature: Organic  
Liquid Filled...-50~200°C  
Mercury Filled ...-50~500°C

The following information is needed to order the products from us:

- The length "A"
- The length of "L"
- Model
- Material
- Measuring range.
- Length of sensing probe.