

Industrial bimetal thermometer

Model : T110

Spec. sheet no. TD01-01

Service intended

Bimetal thermometer is used for measuring temperature of gas or fluid. It is suitable for measurement, regulation, and direct monitoring for the fluid. It meets the most stringent criteria on resistance to a corrosive atmosphere and exceptional climatic circumstances.



Nominal diameter

50, 65, 75, 100, 125 and 150 mm

Accuracy

±2.0 % of full scale

Temperature element

Coiled bimetal

Working range

Maximum scale value



Standard features

Location of stem

Center back connection, direct

Pointer

Black painted aluminium alloy

Case

304SS

Stem

6.0, 6.4, 8.0 and 10.0 mm diameter
304SS, 316SS and 316L SS
Max. Insertion length : 2,000 mm

Cover

304SS

Zero adjustment

Internal

Window

Glass

Stem, process connection

1/4", 3/8", 1/2", 3/4" PT, NPT and PF

Dial

White aluminium with black graduations

Option

±1.0 % of full scale
Not available with diameter 50 and 65 mm

Certificates

ATEX Ex II GD c IIC TX

Main order

Ordering information

1. Base model

T110 Industrial bimetal thermometer

2. Nominal diameter (mm)

- 1 50
- 2 65
- 3 75
- 4 100
- 5 125
- 6 150

3. Type of mounting

- X Center back connection, direct

4. Stem material

- 0 304SS
- 1 316SS
- 2 316L SS

5. Stem, process connection

- A None
- C 1/4"
- D 3/8"
- E 1/2"
- F 3/4"
- G 1 1/2S (Only available with sanitary)
- H 2S (Only available with sanitary)
- I 2 1/2S (Only available with sanitary)

6. Stem connection type (CF: Compression fitting)

- A None
- B PF
- C PT
- D NPT
- E CF + PT
- F CF + NPT
- G CF + PF
- H MT + PT (Movable thread),
Not available with diameter 50 and 65 mm
- I MT + NPT (Movable thread),
Not available with diameter 50 and 65 mm
- J MT + PF (Movable thread),
Not available with diameter 50 and 65 mm
- S Clamp (Sanitary type flange),
Not available with diameter 50 and 65 mm

7. Stem outer diameter (mm)

- 0 6.0
- 1 6.4
- 2 8.0
- 3 10.0 (Not available process connection, 1/4")

8. Range

- XXX Refer to scale range table

9. Insertion length

- X Refer to insertion length table

10. Accessories

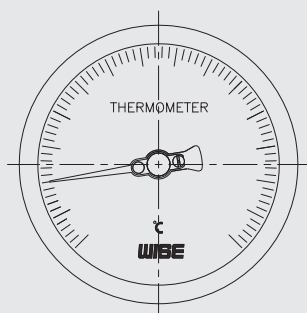
- 0 None
- 1 Thermowell
- 2 Special accuracy ($\pm 1.0\%$ of full scale)
- 3 Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T110	3	X	0	E	D	1	XXX	X	1

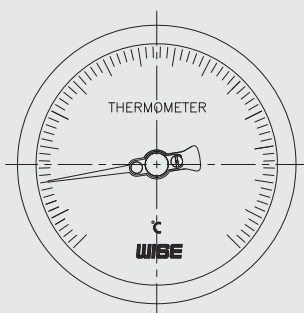
Sample
ordering code

T110 : Type of mounting

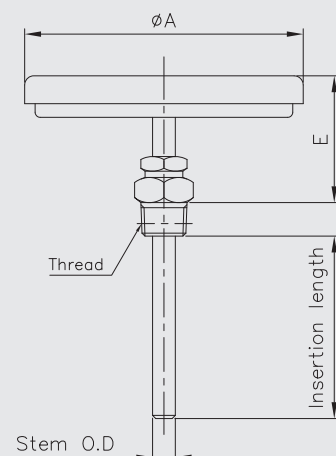
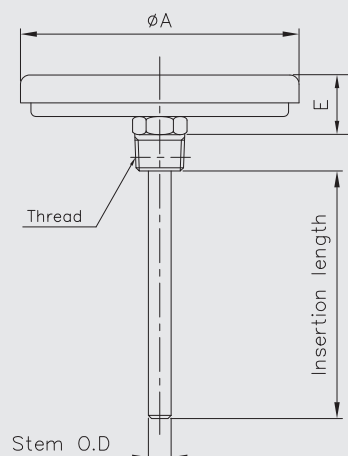
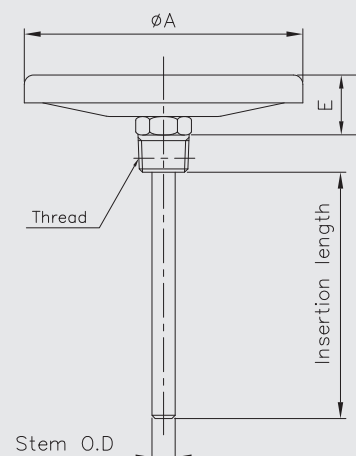
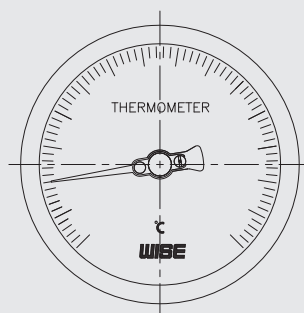
Code X



Code X*



Code X**



Dimensions (mm)

Dial Size	Available code	A	E±2
50	X	50	23.5
	X**	50	33.5
65	X	65	28.5
	X**	65	38.5
75	X	86.5	28
	X**	86.5	43
100	X	111	32
	X**	111	42
125	X	137.5	30
	X**	137.5	44
150	X*	169.5	43
	X**	169.5	51

Scale ranges

Code	Scale range (°C)	Scale spacing (°C)	Minimum stem length (mm)	
			6.0 and 6.4	8.0 and 10.0
032	-50 ~ 50	2	55	50
037	-50 ~ 100	2	45	35
054	-30 ~ 50	2	70	60
059	-30 ~ 100	2	50	45
061	-30 ~ 120	2	45	35
069	-20 ~ 50	2	80	70
074	-20 ~ 100	2	45	45
079	-20 ~ 150	5	40	35
084	-10 ~ 50	1	95	80
099	0 ~ 50	1	110	70
100	0 ~ 60	1	95	80
101	0 ~ 70	2	80	60
102	0 ~ 80	2	70	55
104	0 ~ 100	2	55	50
106	0 ~ 120	2	50	45
109	0 ~ 150	2	45	35
114	0 ~ 200	5	35	35
119	0 ~ 250	5	35	30
124	0 ~ 300	5	35	25
129	0 ~ 350	5	30	25
134	0 ~ 400	5	80	65
144	0 ~ 500	10	70	60
154	0 ~ 600	10	70	60

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Industrial bimetal thermometer

Model : T111

Spec. sheet no. TD01-02

Service intended

Bimetal thermometer is used for measuring temperature of gas or fluid. It is suitable for measurement, regulation, and direct monitoring for the fluid. It meets the most stringent criteria on resistance to a corrosive atmosphere and exceptional climatic circumstances.



Nominal diameter

75, 100, 125 and 150 mm

Accuracy

±2.0 % of full scale

Temperature element

Coiled bimetal

Working range

Maximum scale value



Standard features

Location of stem

Center back connection, direct

Pointer

Black painted aluminium alloy

Case

304SS

Stem

6.0, 6.4, 8.0 and 10.0 mm diameter
304SS, 316SS and 316L SS
Max. Insertion length : 2,000 mm

Cover

304SS

Zero adjustment

External

Window

Glass

Stem, process connection

1/4", 3/8", 1/2", 3/4" PT, NPT and PF

Dial

White aluminium with black graduations

Option

±1.0 % of full scale

Main order

Ordering information

1. Base model

T111 Industrial bimetal thermometer

2. Nominal diameter (mm)

- 3** 75
- 4** 100
- 5** 125
- 6** 150

3. Type of mounting

X Center back connection, direct

4. Stem material

- 0** 304SS
- 1** 316SS
- 2** 316L SS

5. Stem, process connection

- A** None
- C** 1/4"
- D** 3/8"
- E** 1/2"
- F** 3/4"
- G** 1 1/2S (Only available with sanitary)
- H** 2S (Only available with sanitary)
- I** 2 1/2S (Only available with sanitary)

6. Stem connection type (CF: Compression fitting)

- A** None
- B** PF
- C** PT
- D** NPT
- E** CF + PT
- F** CF + NPT
- G** CF + PF
- H** MT + PT (Movable thread)
- I** MT + NPT (Movable thread)
- J** MT + PF (Movable thread)
- S** Clamp (Sanitary type flange)

7. Stem outer diameter (mm)

- 0** 6.0
- 1** 6.4
- 2** 8.0
- 3** 10.0 (Not available process connection, 1/4")

8. Range

XXX Refer to scale range table

9. Insertion length

X Refer to insertion length table

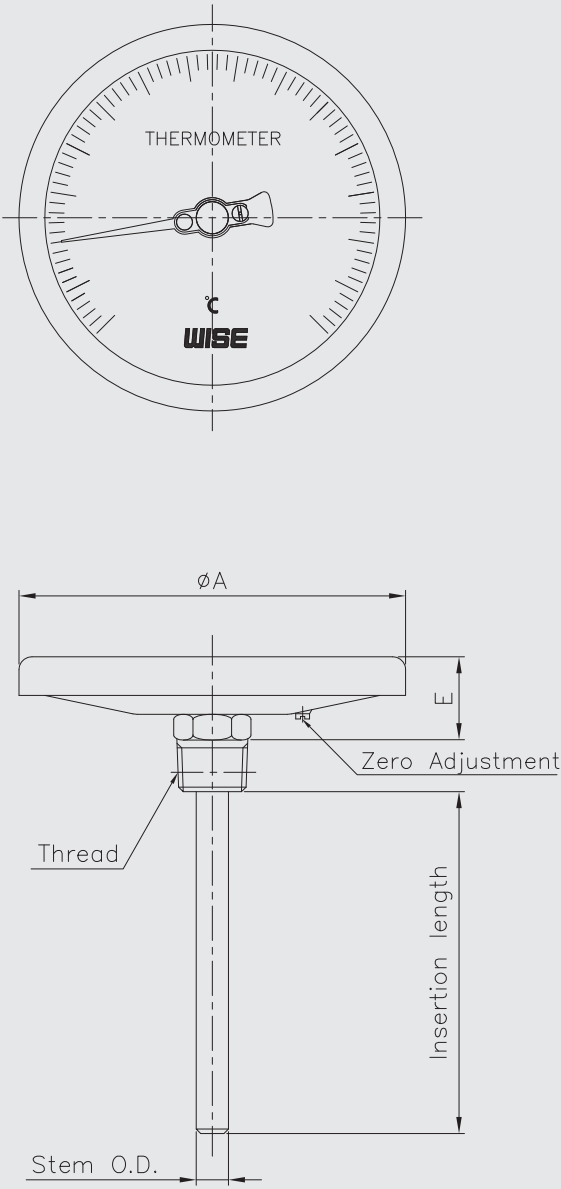
10. Accessories

- 0** None
- 1** Thermowell
- 2** Special accuracy (± 1.0 % of full scale)
- 3** Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T111	4	X	0	E	C	1	XXX	X	1

Sample
ordering code

T111 : Type of mounting



Dimensions (mm)

Dial Size	A	E±2
75	86.5	28
100	111	32
125	137.5	30
150	169.5	43

Scale ranges

Code	Scale range (°C)	Scale spacing (°C)	Minimum stem length (mm)	
			6.0 and 6.4	8.0 and 10.0
032	-50 ~ 50	2	55	50
037	-50 ~ 100	2	45	35
054	-30 ~ 50	2	70	60
059	-30 ~ 100	2	50	45
061	-30 ~ 120	2	45	35
069	-20 ~ 50	2	80	70
074	-20 ~ 100	2	45	45
079	-20 ~ 150	5	40	35
084	-10 ~ 50	1	95	80
099	0 ~ 50	1	110	70
100	0 ~ 60	1	95	80
101	0 ~ 70	2	80	60
102	0 ~ 80	2	70	55
104	0 ~ 100	2	55	50
106	0 ~ 120	2	50	45
109	0 ~ 150	2	45	35
114	0 ~ 200	5	35	35
119	0 ~ 250	5	35	30
124	0 ~ 300	5	35	25
129	0 ~ 350	5	30	25
134	0 ~ 400	5	80	65
144	0 ~ 500	10	70	60
154	0 ~ 600	10	70	60

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Hermetically sealed case bimetal thermometer

Model : T112

Spec. sheet no. TD01-03

Service intended

Bimetal thermometer is used for measuring temperature of gas or fluid. It is suitable for measurement, regulation, and direct monitoring for the fluid. It meets the most stringent criteria on resistance to a corrosive atmosphere and exceptional climatic circumstances.



Nominal diameter

65, 75, 100, 125 and 150 mm

Accuracy

±2.0 % of full scale

Temperature element

Coiled bimetal

Working range

Maximum scale value



Standard features

Location of stem

Center back connection, direct

Pointer

Black painted aluminium alloy

Case

Hermetically sealed, 316L SS

Stem

6.0, 6.4, 8.0 and 10.0 mm diameter
304SS, 316SS and 316L SS
Max. Insertion length : 2,000 mm

Cover

Hermetically sealed, 316L SS

Zero adjustment

External

Window

Glass

Stem, process connection

1/4", 3/8", 1/2", 3/4" PT, NPT and PF

Dial

White aluminium with black graduations

Option

±1.0 % of full scale
Not available with diameter 65 mm

Main order

Ordering information

1. Base model

T112 Hermetically sealed case bimetal thermometer

2. Nominal diameter (mm)

- 2 65
- 3 75
- 4 100
- 5 125
- 6 150

3. Type of mounting

- X Center back connection, direct

4. Stem material

- 0 304SS
- 1 316SS
- 2 316L SS

5. Stem, process connection

- A None
- C 1/4"
- D 3/8"
- E 1/2"
- F 3/4"
- G 1 1/2S (Only available with sanitary)
- H 2S (Only available with sanitary)
- I 2 1/2S (Only available with sanitary)

6. Stem connection type (CF: Compression fitting)

- A None
- B PF
- C PT
- D NPT
- E CF + PT
- F CF + NPT
- G CF + PF
- H MT + PT (Movable thread),
Not available with diameter 50 and 65 mm
- I MT + NPT (Movable thread),
Not available with diameter 50 and 65 mm
- J MT + PF (Movable thread),
Not available with diameter 50 and 65 mm
- S Clamp (Movable thread),
Not available with diameter 50 and 65 mm

7. Stem outer diameter (mm)

- 0 6.0
- 1 6.4
- 2 8.0
- 3 10.0 (Not available process connection, 1/4")

8. Range

- XXX Refer to scale range table

9. Insertion length

- X Refer to insertion length table

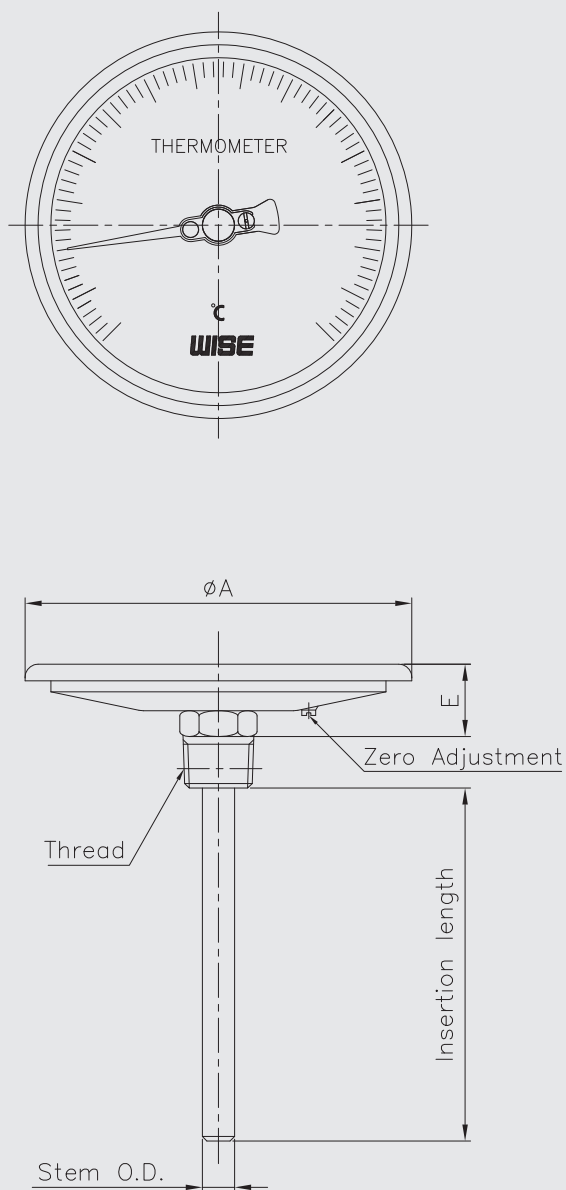
10. Accessories

- 0 None
- 1 Thermowell
- 2 Special accuracy (± 1.0 % of full scale)
- 3 Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T112	6	X	1	E	D	1	XXX	X	1

Sample
ordering code

T112 : Type of mounting



Dimensions (mm)

Dial Size	A	E $\pm$ 2
65	65	28
75	86	29
100	110	31.5
125	137.2	30.5
150	166.2	30

Scale ranges

Code	Scale range (°C)	Scale spacing (°C)	Minimum stem length (mm)	
			6.0 and 6.4	8.0 and 10.0
032	-50 ~ 50	2	55	50
037	-50 ~ 100	2	45	35
054	-30 ~ 50	2	70	60
059	-30 ~ 100	2	50	45
061	-30 ~ 120	2	45	35
069	-20 ~ 50	2	80	70
074	-20 ~ 100	2	45	45
079	-20 ~ 150	5	40	35
084	-10 ~ 50	1	95	80
099	0 ~ 50	1	110	70
100	0 ~ 60	1	95	80
101	0 ~ 70	2	80	60
102	0 ~ 80	2	70	55
104	0 ~ 100	2	55	50
106	0 ~ 120	2	50	45
109	0 ~ 150	2	45	35
114	0 ~ 200	5	35	35
119	0 ~ 250	5	35	30
124	0 ~ 300	5	35	25
129	0 ~ 350	5	30	25
134	0 ~ 400	5	80	65
144	0 ~ 500	10	70	60
154	0 ~ 600	10	70	60

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

General service bimetal thermometer

Model : T114

Spec. sheet no. TD01-04

Service intended

Bimetal thermometer is used for measuring temperature of gas or fluid. It is suitable for measurement, regulation and direct monitoring for the fluid. It meets the most stringent criteria on resistance to a corrosive atmosphere and exceptional climatic circumstances.

Nominal diameter

75 and 100 mm

Accuracy

±2.0 % of full scale

Temperature element

Coiled bimetal

Working range

Maximum scale value



Standard features

Location of stem

Center back connection, direct

Pointer

Black painted aluminium alloy

Case

Nickel plated steel

Stem

6.4 mm diameter
304SS, 316SS and 316L SS
Max. Insertion length : 400 mm

Cover

Nickel plated steel

Window

Glass

Dial

White aluminium with black graduations

Stem, process connection

¼", ⅜", ½" PT, NPT and PF

Main order

Ordering information

1. Base model

T114 General service bimetal thermometer

2. Nominal diameter (mm)

- 3 75
- 4 100

3. Type of mounting

- X Center back connection, direct

4. Stem material

- 0 304SS
- 1 316SS
- 2 316L SS

5. Stem, process connection

- C 1/4"
- D 3/8"
- E 1/2"

6. Stem connection type (CF: Compression fitting)

- A None
- B PF
- C PT
- D NPT
- E CF + PT
- F CF + NPT
- G CF + PF

7. Stem outer diameter (mm)

- 1 6.4

8. Range

XXX Refer to scale range table

9. Insertion length

- X Refer to insertion length table

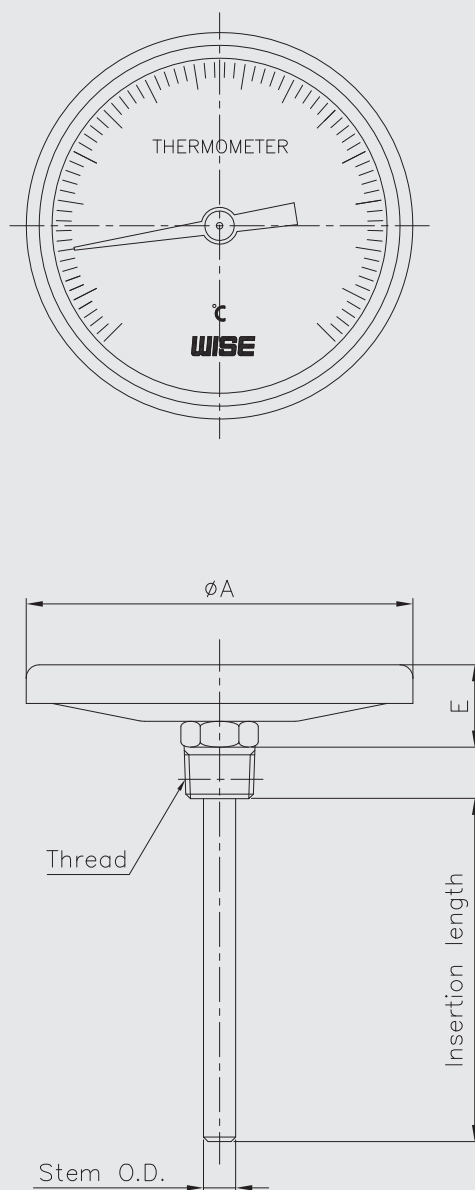
10. Accessories

- 0 None
- 1 Thermowell

1	2	3	4	5	6	7	8	9	10
T114	3	X	0	E	C	1	XXX	X	1

Sample
ordering code

T114 : Type of mounting



Dimensions (mm)

Dial Size	A	E ± 2
75	86.5	28
100	111	32

Scale ranges

Code	Scale range (°C)	Scale spacing (°C)	Minimum stem length (mm)
099	0 ~ 50	1	110
101	0 ~ 70	2	80
102	0 ~ 80	2	70
104	0 ~ 100	2	55
109	0 ~ 150	5	45
114	0 ~ 200	5	35
119	0 ~ 250	5	35
124	0 ~ 300	5	35
129	0 ~ 350	5	35

Insertion length

Code	1	2	3	4	5	6	7	8	9
Length (mm)	50	60	70	80	100	120	130	150	175

Code	A	B	C	D	E	F	G	H
Length (mm)	200	225	250	275	300	350	375	400

Process industry bimetal thermometer

Model : T120

Spec. sheet no. TD01-05

Service intended

Bimetal thermometer is used for measuring temperature of gas or fluid. It is suitable for measurement, regulation, and direct monitoring for the fluid. It meets the most stringent criteria on resistance to a corrosive atmosphere and exceptional climatic circumstances.



Nominal diameter

75 and 100 mm

Accuracy

±2.0 % of full scale

Temperature element

Coiled bimetal

Working range

Maximum scale value

Degree of protection

EN60529/IEC529/IP65 (100 mm)



Standard features

Location of stem

Bottom connection, direct

Pointer

Black painted aluminium alloy

Case

304SS

Stem

6.0, 6.4, 8.0 and 10.0 mm diameter
304SS, 316SS and 316L SS
Max. Insertion length : 2,000 mm

Cover

304SS

Zero adjustment

Internal

Window

Glass

Stem, process connection

1/4", 3/8", 1/2", 3/4" PT, NPT and PF

Dial

White aluminium with black graduations

Option

±1.0 % of full scale

Main order

Ordering information

1. Base model

T120 Process industry bimetal thermometer

2. Nominal diameter (mm)

3 75
4 100

3. Type of mounting

W Bottom connection, direct

4. Stem material

0 304SS
1 316SS
2 316L SS

5. Stem, process connection

A None
C 1/4"
D 3/8"
E 1/2"
F 3/4"
G 1 1/2S (Only available with sanitary)
H 2S (Only available with sanitary)
I 2 1/2S (Only available with sanitary)

6. Stem connection type (CF: Compression fitting)

A None
B PF
C PT
D NPT
E CF + PT
F CF + NPT
G CF + PF
H MT + PT (Movable thread)
I MT + NPT (Movable thread)
J MT + PF (Movable thread)
S Clamp (Sanitary type flange)

7. Stem outer diameter (mm)

0 6.0
1 6.4
2 8.0
3 10.0 (Not available process connection, 1/4")

8. Range

XXX Refer to scale range table

9. Insertion length

X Refer to insertion length table

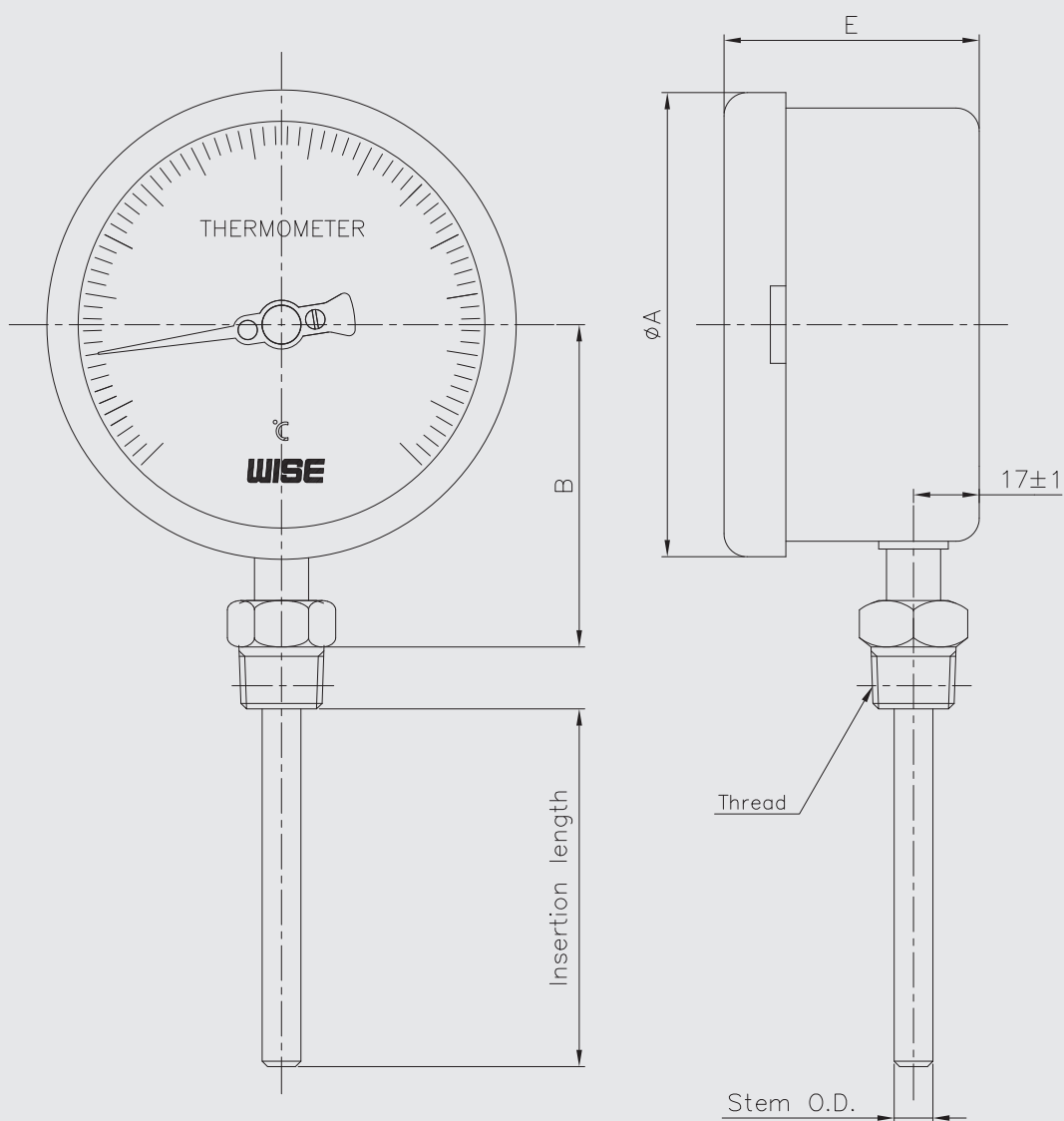
10. Accessories

0 None
1 Thermowell
2 Special accuracy (± 1.0 % of full scale)
3 Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T120	4	W	0	E	C	1	XXX	X	1

Sample
ordering code

T120 : Type of mounting



Dimensions (mm)

Dial Size	A	B ± 2	E ± 2
75	86.5	64	43
100	111	75	50.5

Scale ranges

Code	Scale range (°C)	Scale spacing (°C)	Minimum stem length (mm)	
			6.0 and 6.4	8.0 and 10.0
032	-50 ~ 50	2	55	50
037	-50 ~ 100	2	45	35
054	-30 ~ 50	2	70	60
059	-30 ~ 100	2	50	45
061	-30 ~ 120	2	45	35
069	-20 ~ 50	2	80	70
074	-20 ~ 100	2	45	45
079	-20 ~ 150	5	40	35
084	-10 ~ 50	1	95	80
099	0 ~ 50	1	110	70
100	0 ~ 60	1	95	80
101	0 ~ 70	2	80	60
102	0 ~ 80	2	70	55
104	0 ~ 100	2	55	50
106	0 ~ 120	2	50	45
109	0 ~ 150	2	45	35
114	0 ~ 200	5	35	35
119	0 ~ 250	5	35	30
124	0 ~ 300	5	35	25
129	0 ~ 350	5	30	25
134	0 ~ 400	5	80	65
144	0 ~ 500	10	70	60
154	0 ~ 600	10	70	60

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Sanitary bimetal thermometer (3-A Marking)

Model : T123

Spec. sheet no. TD01-06

Service intended

Sanitary bimetal thermometer is used for measuring temperature of corrosive and contaminated materials. Its usage expands to food, beverage, biochemical and pharmaceutical industry.



Nominal diameter

75 and 100 mm

Accuracy

±2.0 % of full scale

Temperature element

Coiled bimetal

Working range

Maximum scale value



Standard features

Location of stem

Bottom connection, direct

Pointer

Black painted aluminium alloy

Case

304SS

Stem

6.0, 6.4 and 8.0 mm diameter
304SS, 316SS and 316L SS

Cover

304SS

Zero adjustment

Internal

Window

Glass

Stem, process connection

Tri-clamp
1S, 1½S, 2S

Dial

White aluminium with black graduations

Option

±1.0 % of full scale

1. Base model**T123** Sanitary bimetal thermometer (3-A marking)**2. Nominal diameter (mm)**

- 3** 75
4 100

3. Type of mounting**W** Bottom connection, direct**4. Stem material**

- 0** 304SS
1 316SS
2 316L SS

5. Stem, process connection

- D** 1S
E 1½S
F 2S

6. Stem connection type**T** Tri-clamp**7. Stem outer diameter (mm)**

- 0** 6.0
1 6.4
2 8.0

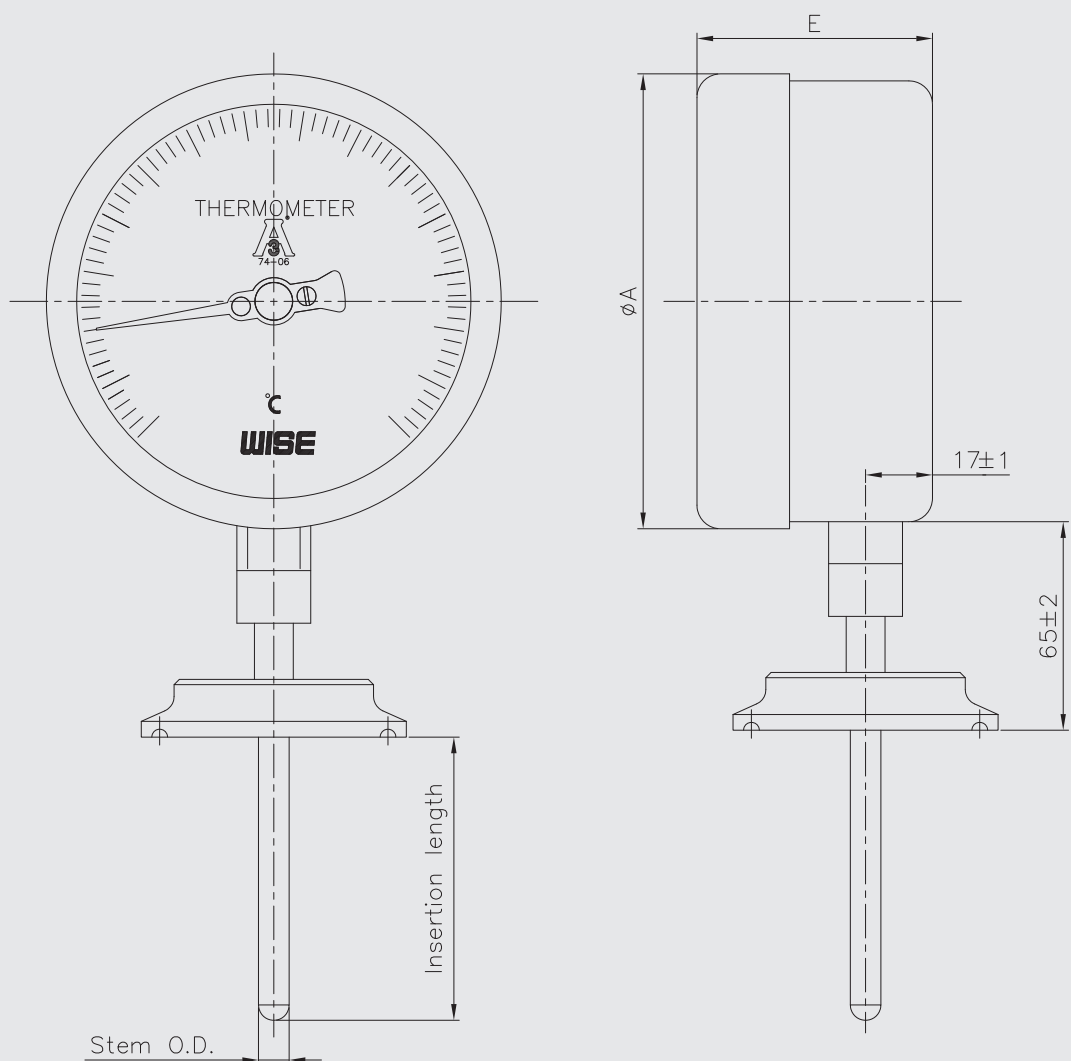
8. Range**XXX** Refer to scale range table**9. Insertion length****X** Refer to insertion length table**10. Accessories**

- 0** None
1 Thermowell
2 Special accuracy (±1.0 % of full scale)
3 Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T123	4	W	1	F	T	2	XXX	X	0

Sample
ordering code

T123 : Type of mounting



Dimensions (mm)

Dial Size	A	E±2
75	86.5	43
100	111	50.5

Scale ranges

Code	Scale range (°C)	Scale spacing (°C)	Minimum stem length (mm)	
			6.0 and 6.4	8.0 and 10.0
061	-30 ~ 120	2	45	35
079	-20 ~ 150	5	40	35
084	-10 ~ 50	1	95	80
106	0 ~ 120	2	50	45
109	0 ~ 150	2	45	35
114	0 ~ 200	5	35	35
119	0 ~ 250	5	35	30
124	0 ~ 300	5	35	25
129	0 ~ 350	5	30	25
134	0 ~ 400	10	80	65
144	0 ~ 500	10	70	60
154	0 ~ 600	10	70	60

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Process industry bimetal thermometer

Model : T140

Spec. sheet no. TD01-07

Service intended

Bimetal thermometer is used for measuring temperature of gas or fluid. It is suitable for measurement, regulation and direct monitoring for the fluid. It meets the most stringent criteria on resistance to a corrosive atmosphere and exceptional climatic circumstances.



Nominal diameter

75, 100, 125 and 150 mm

Accuracy

±2.0 % of full scale

Temperature element

Coiled bimetal

Working range

Maximum scale value



Standard features

Location of stem

Center back with angle stem

Pointer

Black painted aluminium alloy

Case

304SS

Stem

6.0, 6.4, 8.0 and 10.0 mm diameter
304SS, 316SS and 316L SS
Max. Insertion length : 2,000 mm

Cover

304SS

Zero adjustment

External

Window

Glass

Stem, process connection

1/4", 3/8", 1/2", 3/4" PT, NPT and PF

Dial

White aluminium with black graduations

Option

±1.0 % of full scale

Main order

Ordering information

1. Base model

T140 Process industry bimetal thermometer

2. Nominal diameter (mm)

- 3** 75
- 4** 100
- 5** 125
- 6** 150

3. Type of mounting

W Bottom connection, direct

4. Stem material

- 0** 304SS
- 1** 316SS
- 2** 316L SS

5. Stem, process connection

- A** None
- C** ¼"
- D** ⅜"
- E** ½"
- F** ¾"
- G** 1½S (Only available with sanitary)
- H** 2S (Only available with sanitary)
- I** 2½S (Only available with sanitary)

6. Stem connection type (CF: Compression fitting)

- A** None
- B** PF
- C** PT
- D** NPT
- E** CF + PT
- F** CF + NPT
- G** CF + PF
- H** MT + PT (Movable thread)
- I** MT + NPT (Movable thread)
- J** MT + PF (Movable thread)
- S** Clamp (Sanitary type flange)

7. Stem outer diameter (mm)

- 0** 6.0
- 1** 6.4
- 2** 8.0
- 3** 10.0 (Not available process connection, ¼")

8. Range

XXX Refer to scale range table

9. Insertion length

X Refer to insertion length table

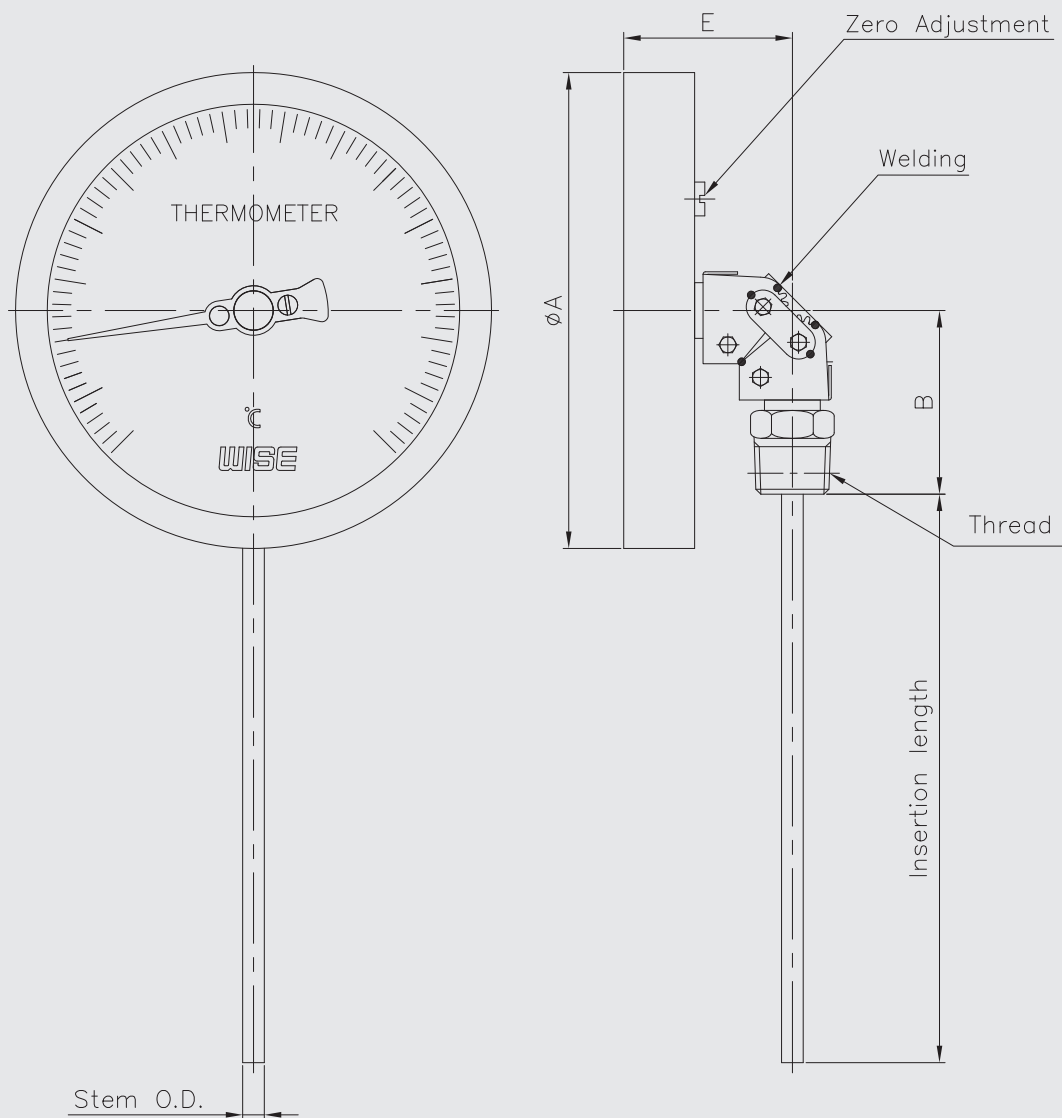
10. Accessories

- 0** None
- 1** Thermowell
- 2** Special accuracy (±1.0 % of full scale)
- 3** Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T140	4	W	0	E	C	1	XXX	X	1

Sample
ordering code

T140 : Type of mounting



Dimensions (mm)

Dial Size	A	B ± 2	E ± 2
75	86.5	70	53
100	111	70	57
125	137.5	70	55
150	169.5	95	68

Scale ranges

Code	Scale range (°C)	Scale spacing (°C)	Minimum stem length (mm)	
			6.0 and 6.4	8.0 and 10.0
032	-50 ~ 50	2	55	50
037	-50 ~ 100	2	45	35
054	-30 ~ 50	2	70	60
059	-30 ~ 100	2	50	45
061	-30 ~ 120	2	45	35
069	-20 ~ 50	2	80	70
074	-20 ~ 100	2	45	45
079	-20 ~ 150	5	40	35
084	-10 ~ 50	1	95	80
099	0 ~ 50	1	110	70
100	0 ~ 60	1	95	80
101	0 ~ 70	2	80	60
102	0 ~ 80	1	70	55
104	0 ~ 100	2	55	50
106	0 ~ 120	2	50	45
109	0 ~ 150	2	45	35
114	0 ~ 200	5	35	35
119	0 ~ 250	5	35	30
124	0 ~ 300	5	35	25
129	0 ~ 350	5	30	25
134	0 ~ 400	5	80	65
144	0 ~ 500	10	70	60
154	0 ~ 600	10	70	60

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Euro gauge Bimetal thermometer

Model : T150

Spec. sheet no. TD01-08

Service intended (EN13190)

Bimetal thermometer is used for measuring temperature of gas or fluid. It is suitable for measurement, regulation and direct monitoring for the fluid. It meets the most stringent criteria on resistance to a corrosive atmosphere and exceptional climatic circumstances.

Nominal diameter

100 and 160 mm

Accuracy

±2.0 % of full scale

Temperature element

Coiled bimetal

Working range

Normal (1 year) : Measuring range
Short time (24 hours) : Scale range

Ambient temperature

-20 ~ 60 °C

Degree of protection

EN60529/IEC529/IP67



Standard features

Location of stem

Center back with adjustable stem
Center back
Bottom

Case

304SS
Bayonet type

Cover

304SS

Window

Glass

Dial

White aluminium with black graduations

Pointer

Micro adjustable aluminium pointer

Stem

6.0, 6.4, 8.0 and 10.0 mm diameter
304SS, 316SS and 316L SS
Max. Insertion length : 2,000 mm

Stem, process connection

1/4", 3/8", 1/2", 3/4" PT, NPT and PF
G1/2B, G3/4B

Option

Special accuracy : ±1.0 % of full scale

1. Base model

T150 Euro gauge bimetal thermometer

2. Nominal diameter (mm)

4 100
6 160

3. Type of mounting

V Bottom connection, direct
X Center back connection, direct
Y Center back with adjustable stem

4. Stem material

0 304SS
1 316SS
2 316L SS

5. Stem, process connection

C 1/4"
D 3/8"
E 1/2"
F 3/4"

6. Stem connection type (CF: Compression fitting)

B PF
C PT
D NPT
E CF + PT
F CF + NPT
G CF + PF

7. Stem outer diameter (mm)

0 6.0
1 6.4
2 8.0
3 10.0 (Not available process connection, 1/4")

8. Range

XXX Refer to scale range table

9. Insertion length

X Refer to insertion length table

10. Accessories

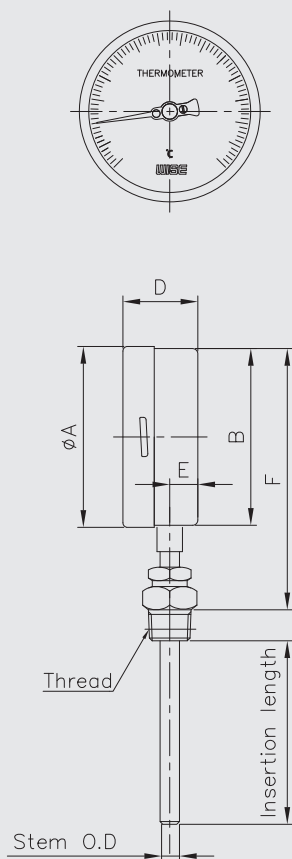
0 None
1 Thermowell
2 Special accuracy (Class 1)
3 Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T150	6	Y	1	F	C	1	XXX	X	1

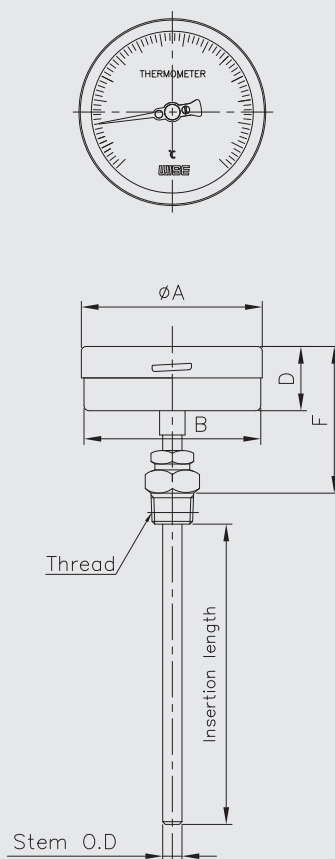
Sample
ordering code

T150 : Type of mounting

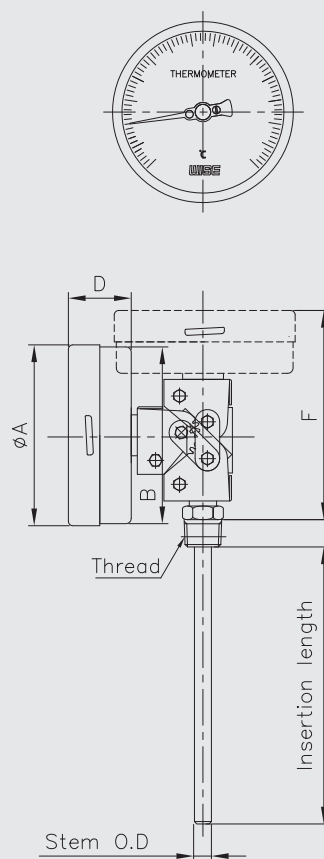
Code V



Code X



Code Y



Dimensions (mm)

Dial Size	Available code	A	B	D ± 2	E ± 1	F ± 2
100	V	101.3	99	50	16	136.5
	X	101.3	99	25		111
	Y	101.3	99	25		106
160	V	160.6	159	52.5	16	166.5
	X	160.6	159	25		111
	Y	160.6	159	25		143

Scale ranges

Code	Scale range (°C)	Measuring range (°C)	Scale spacing (°C)	Limits of error (EN 13190)	Minimum stem length (mm)	
					6.0 and 6.4	8.0 and 10.0
002	-70 ~ 30	-60 ~ 20	1	1	55	55
032	-50 ~ 50	-40 ~ 40	1	1	55	55
054	-30 ~ 50	-20 ~ 40	1	1	70	70
070	-20 ~ -60	-10 ~ 50	1	1	95	95
100	0 ~ 60	10 ~ 50	1	1	95	95
102	0 ~ 80	10 ~ 70	1	1	70	70
104	0 ~ 100	10 ~ 90	1	1	55	55
106	0 ~ 120	10 ~ 110	2	2	50	50
110	0 ~ 160	20 ~ 140	2	2	45	45
114	0 ~ 200	20 ~ 180	2	2	35	35
119	0 ~ 250	30 ~ 220	5	2.5	35	35
124	0 ~ 300	30 ~ 270	5	5	35	35
134	0 ~ 400	50 ~ 350	5	5	80	80
144	0 ~ 500	50 ~ 450	5	5	70	70
154	0 ~ 600	100 ~ 500	10	10	70	70

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Process industry bimetal thermometer with adjustable stem

Model : T190

Spec. sheet no. TD01-09

Service intended

Bimetal thermometer is used for measuring temperature of gas or fluid. It is suitable for measurement, regulation and direct monitoring for the fluid. It meets the most stringent criteria on resistance to a corrosive atmosphere and exceptional climatic circumstances.



Nominal diameter

75, 100, 125 and 150 mm

Accuracy

±2.0 % of full scale

Temperature element

Coiled bimetal

Working range

Maximum scale value

Degree of protection

EN60529/IEC529/IP67 (100 mm)



Standard features

Location of stem

Center back with adjustable stem

Pointer

Black painted aluminium alloy

Case

304SS, Adjustable on stem 90°

Stem

6.0, 6.4, 8.0 and 10.0 mm diameter
304SS, 316SS and 316L SS
Max. Insertion length : 2,000 mm

Cover

304SS

Zero adjustment

External

Window

Glass

Stem, process connection

1/4", 3/8", 1/2", 3/4" PT, NPT and PF

Dial

White aluminium with black graduations

Option

±1.0 % of full scale
Window : Safety glass
Special range : 0 ~ 600 °C

Main order

Ordering information

1. Base model

T190 Process industry bimetal thermometer with adjustable stem

2. Nominal diameter (mm)

- 3** 75
- 4** 100
- 5** 125
- 6** 150

3. Type of mounting

- Y** Center back with adjustable stem

4. Stem material

- 0** 304SS
- 1** 316SS
- 2** 316L SS

5. Stem, process connection

- A** None
- C** ¼"
- D** ⅜"
- E** ½"
- F** ¾"
- G** 1½S (Only available with sanitary)
- H** 2S (Only available with sanitary)
- I** 2½S (Only available with sanitary)

6. Stem connection type (CF: Compression fitting)

- A** None
- B** PF
- C** PT
- D** NPT
- E** CF + PT
- F** CF + NPT
- G** CF + PF
- H** MT + PT (Movable thread)
- I** MT + NPT (Movable thread)
- J** MT + PF (Movable thread)
- S** Clamp (Sanitary type flange)

7. Stem outer diameter (mm)

- 0** 6.0
- 1** 6.4
- 2** 8.0
- 3** 10.0 (Not available process connection, ¼")

8. Range

XXX Refer to scale range table

9. Insertion length

X Refer to insertion length table

10. Accessories

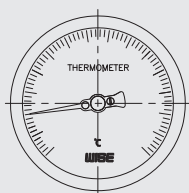
- 0** None
- 1** Thermowell
- 2** Special accuracy (±1.0 % of full scale)
- 3** Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T190	4	Y	0	E	C	1	XXX	X	1

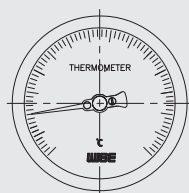
Sample
ordering code

T190 : Type of mounting

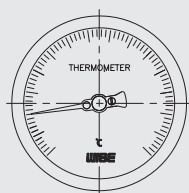
Code Y



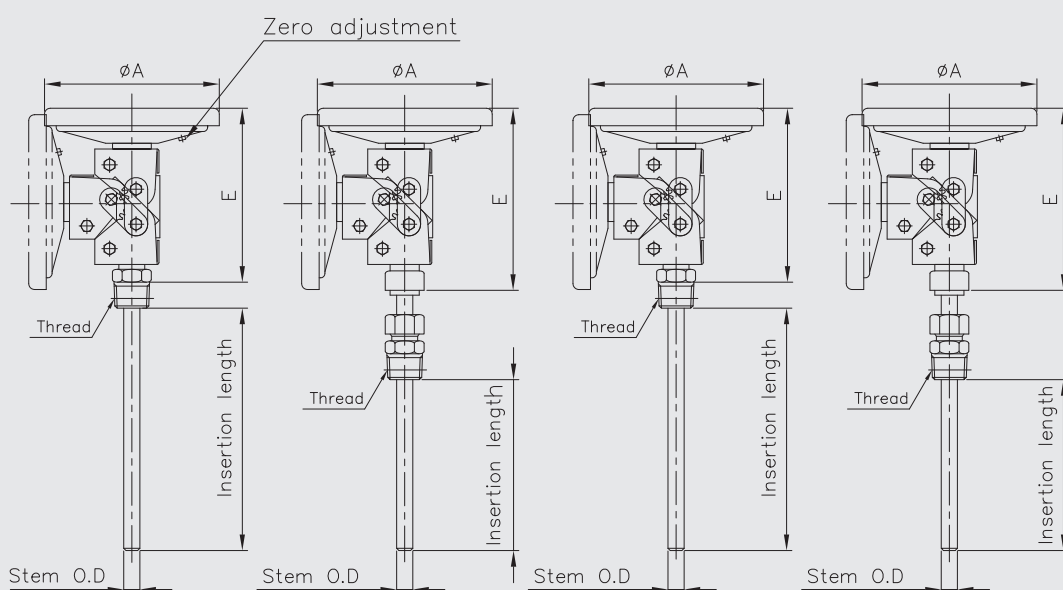
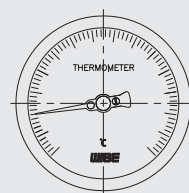
Code Y*



Code Y**



Code Y***



Dimensions (mm)

Dial Size	Available code	A	E±2
75	Y	86.5	101
	Y*	86.5	99
100	Y	111	105
	Y*	111	103
125	Y	137.5	103
	Y*	137.5	101
150	Y**	169.5	132
	Y***	169.5	130

Scale ranges

Code	Scale range (°C)	Scale spacing (°C)	Minimum stem length (mm)	
			6.0 and 6.4	8.0 and 10.0
032	-50 ~ 50	2	55	50
037	-50 ~ 100	2	45	35
054	-30 ~ 50	2	70	60
059	-30 ~ 100	2	50	45
061	-30 ~ 120	2	45	35
069	-20 ~ 50	2	80	70
074	-20 ~ 100	2	45	45
079	-20 ~ 150	5	40	35
084	-10 ~ 50	1	95	80
099	0 ~ 50	1	110	70
100	0 ~ 60	1	95	80
101	0 ~ 70	2	80	60
102	0 ~ 80	1	70	55
104	0 ~ 100	2	55	50
106	0 ~ 120	2	50	45
109	0 ~ 150	2	45	35
114	0 ~ 200	5	35	35
119	0 ~ 250	5	35	30
124	0 ~ 300	5	35	25
129	0 ~ 350	5	30	25
134	0 ~ 400	5	80	65
144	0 ~ 500	10	70	60
154	0 ~ 600	10	70	60

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Hermetically sealed case bimetal thermometer with adjustable stem

Model : T191

Spec. sheet no. TD01-10

Service intended

Bimetal thermometer is used for measuring temperature of gas or fluid. This thermometer prevents entry of moisture into the casing, thus minimizing the possibility of icing or fogging inside the case.



Nominal diameter

75, 100, 125 and 150 mm

Accuracy

±2.0 % of full scale

Temperature element

Coiled bimetal

Working range

Maximum scale value

Degree of protection

EN60529/IEC529/IP67 (125 mm)

EN60529/IEC529/IP66 (100 mm)



Standard features

Location of stem

Center back with adjustable stem

Case

Hermetically sealed, 316L SS

Cover

Hermetically sealed, 316L SS

Window

Safety glass

Dial

White aluminium with black graduations

Pointer

Black painted aluminium alloy

Stem

6.0, 6.4, 8.0 and 10.0 mm diameter

304SS, 316SS and 316L SS

Max. Insertion length : 2,000 mm

Zero adjustment

External

Stem, process connection

¼", ⅜", ½", ¾" PT, NPT and PF

Option

±1.0 % of full scale

Window : Safety glass

Special range : 0 ~ 600 °C

1. Base model

T191 Hermetically sealed case bimetal thermometer with adjustable stem

2. Nominal diameter (mm)

- 3** 75
- 4** 100
- 5** 125
- 6** 150

3. Type of mounting

- Y** Center back with adjustable stem

4. Stem material

- 0** 304SS
- 1** 316SS
- 2** 316L SS

5. Stem, process connection

- A** None
- C** ¼"
- D** ⅜"
- E** ½"
- F** ¾"
- G** 1½S (Only available with sanitary)
- H** 2S (Only available with sanitary)
- I** 2½S (Only available with sanitary)

6. Stem connection type (CF: Compression fitting)

- A** None
- B** PF
- C** PT
- D** NPT
- E** CF + PT
- F** CF + NPT
- G** CF + PF
- H** MT + PT (Movable thread)
- I** MT + NPT (Movable thread)
- J** MT + PF (Movable thread)
- S** Clamp (Sanitary type flange)

7. Stem outer diameter (mm)

- 0** 6.0
- 1** 6.4
- 2** 8.0
- 3** 10.0 (Not available process connection, ¼")

8. Range

XXX Refer to scale range table

9. Insertion length

X Refer to insertion length table

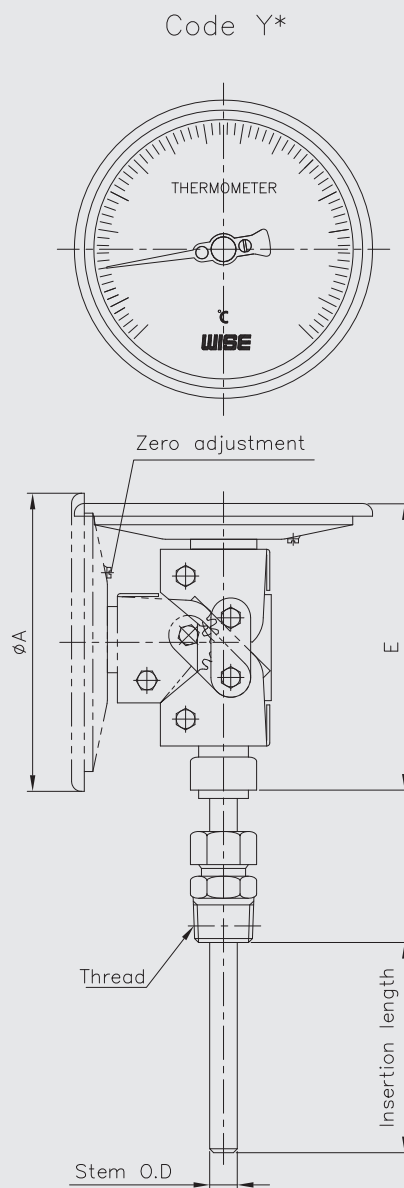
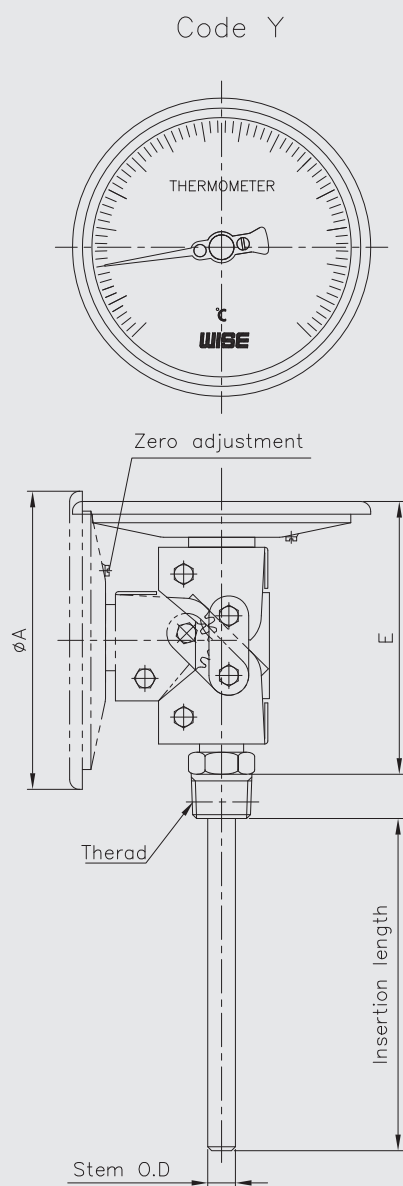
10. Accessories

- 0** None
- 1** Thermowell
- 2** Special accuracy (±1.0 % of full scale)
- 3** Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T191	6	Y	1	F	C	1	XXX	X	1

Sample
ordering code

T191 : Type of mounting



Dimensions (mm)

Dial Size	Available code	A	E
75	Y	86	102
	Y*	86	100
100	Y	110	104.5
	Y*	110	102.5
125	Y	137.2	103.5
	Y*	137.2	101.5
150	Y**	166.2	103
	Y***	166.2	101

Scale ranges

Code	Scale range (°C)	Scale spacing (°C)	Minimum stem length (mm)	
			6.0 and 6.4	8.0 and 10.0
032	-50 ~ 50	2	55	50
037	-50 ~ 100	2	45	35
054	-30 ~ 50	2	70	60
059	-30 ~ 100	2	50	45
061	-30 ~ 120	2	45	35
069	-20 ~ 50	2	80	70
074	-20 ~ 100	2	45	45
079	-20 ~ 150	5	40	35
084	-10 ~ 50	1	95	80
099	0 ~ 50	1	110	70
100	0 ~ 60	1	95	80
101	0 ~ 70	2	80	60
102	0 ~ 80	1	70	55
104	0 ~ 100	2	55	50
106	0 ~ 120	2	50	45
109	0 ~ 150	2	45	35
114	0 ~ 200	5	35	35
119	0 ~ 250	5	35	30
124	0 ~ 300	5	35	25
129	0 ~ 350	5	30	25
134	0 ~ 400	5	80	65
144	0 ~ 500	10	70	60
154	0 ~ 600	10	70	60

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Remote reading thermometer

Model : T210

Spec. sheet no. TD02-01

Service intended

This thermometer is used for measuring temperature of corrosive and non-corrosive fluid in all industries. It operates in aggressive and non-aggressive environment. Linear dials and temperature compensate line assure an accurate temperature indication at varying ambient conditions.



Nominal diameter

100 and 150 mm

Accuracy

±2.0 % of full scale

Measuring system (SAMA class III B)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value

Degree of protection

EN60529/IEC529/IP67 (100 mm)



Standard features

Location of stem and mounting

Bottom connection, surface, case mounting
lower back connection, flush, case center mounting

Case

304SS

Cover

304SS

Capillary

Capillary : 1.6/0.2 mm, 316SS

Armored tube : 7.5/5.5 mm, 304SS

Window

Tempered safety glass

Dial

White aluminium with black graduation

Pointer

304SS, Black painted

Stem

8.0, 10.0 and 12.0 mm

316SS and 316L SS

Zero adjustment

Internal

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Option

±1.0 % of full scale

WISE®

| T210_01

Main order

Ordering information

1. Base model

T210 Remote reading thermometer

2. Nominal diameter (mm)

4 100
6 150

3. Type of mounting

B Bottom connection, surface, case mounting plate
M Lower back connection, flush, case center mounting plate

4. Stem material

1 316SS
2 316L SS

5. Stem, process connection

A None
D $\frac{3}{8}$ "
E $\frac{1}{2}$ "
F $\frac{3}{4}$ "

6. Stem connection type (CF: Compression fitting)

A None
E CF + PT
F CF + NPT
G CF + PF
H MT + PT (Movable thread)
I MT + NPT (Movable thread)
J MT + PF (Movable thread)

7. Stem outer diameter (mm)

2 8.0
3 10.0
4 12.0
Z Other

8. Range

XXX Refer to scale range table

9. Capillary length (m)

P 2
Q 3
S 5
V 8
X 10
Z Other

10. Accessories

0 None
1 Thermowell
S Special accuracy (± 1.0 % of full scale)
T Thermowell and special accuracy

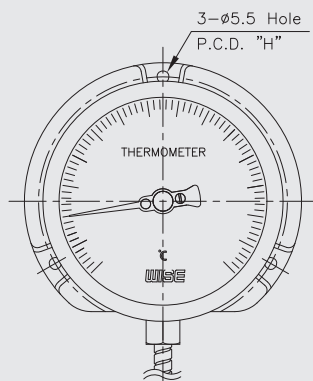
11. Insertion length (mm)

XX Refer to Insertion length table

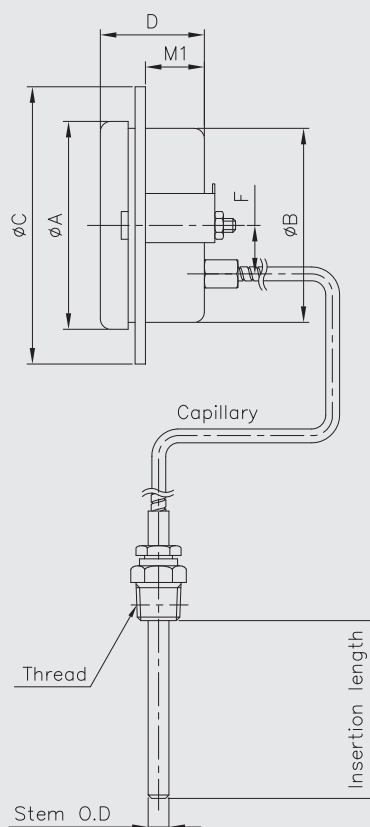
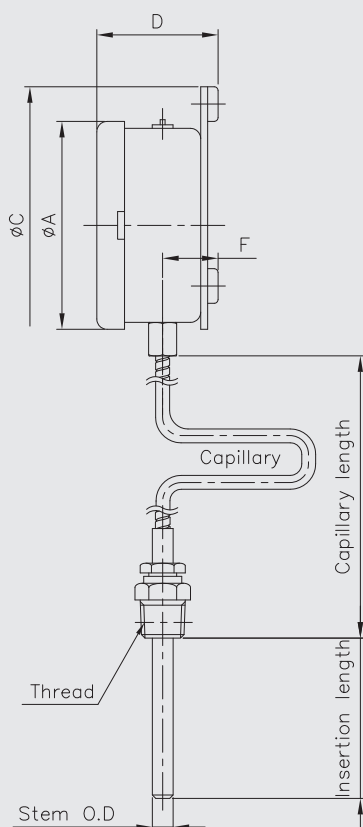
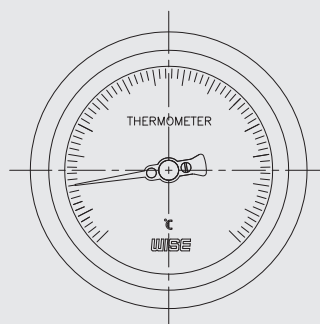
1	2	3	4	5	6	7	8	9	10	11	Sample ordering code
T210	4	B	1	E	C	2	XXX	P	1	XX	

T210 : Type of mounting

Code B



Code M



Dimensions (mm)

Dial Size	Available code	A	B	C	D±2	F±1	H	M1
100	B	111		128	53.5	18	115	
	M	111	99.5	128	50.5	30		28.5
150	B	169.5		178	66.5	25.5	165	
	M	169.5	153	178	63	55		38.5

Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Minimum stem length (mm)			Standard stem length (mm)		
			8.0	10.0	12.0	8.0	10.0	12.0
031	-200 ~ 100	5	100	85	65	200	130	100
032	-50 ~ 50	2	100	85	65	200	130	100
037	-50 ~ 100	2	100	88	65	200	130	100
054	-30 ~ 50	2	100	85	65	200	130	100
059	-30 ~ 100	2	100	85	65	200	130	100
061	-30 ~ 120	2	100	85	65	200	130	100
069	-20 ~ 50	2	100	85	65	200	130	100
074	-20 ~ 100	2	100	85	65	200	130	100
079	-20 ~ 150	5	100	85	65	200	130	100
084	-10 ~ 50	1	100	85	65	200	130	100
099	0 ~ 50	1	100	85	65	200	130	100
100	0 ~ 60	1	100	85	65	200	130	100
101	0 ~ 70	2	100	85	65	200	130	100
102	0 ~ 80	2	100	85	65	200	130	100
104	0 ~ 100	2	100	85	65	200	130	100
106	0 ~ 120	2	100	85	65	200	130	100
109	0 ~ 150	2	100	85	65	200	130	100
114	0 ~ 200	5	100	85	65	200	130	100
119	0 ~ 250	5	100	85	65	200	130	100
124	0 ~ 300	5	100	85	65	200	130	100
129	0 ~ 350	5	100	85	65	200	130	100
134	0 ~ 400	10	100	85	65	200	130	100
144	0 ~ 500	10	100	85	65	200	130	100
154	0 ~ 600	10	100	85	65	200	130	100
164	0 ~ 700	10	100	85	65	200	130	100

* 0 ~ 700 °C/Special range

* -200 ~ 100 °C/Special range

Insertion length

Code	K1	K2	K3	K4	K5	K6	K7	K8	K9	KA	KB	KC
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	KD	KE	KF	KG	KH	KJ	KK	KL	KM	KN	KP
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Remote reading thermometer with aluminium case

Model : T212

Spec. sheet no. TD02-02

Service intended

This thermometer is used for measuring temperature of corrosive and non-corrosive fluid in all industries. It operates in aggressive and non-aggressive environment. Linear dials and temperature compensate line assure an accurate temperature indication at varying ambient conditions.



Nominal diameter

75, 100 and 150 mm

Accuracy

±2.0 % of full scale

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem and mounting

Bottom connection, surface, case mounting
Lower back connection, flush, case lower mounting
Lower back connection, flush, case center mounting

Case

Black finished aluminium

Cover

Black finished aluminium

Capillary

Capillary : 1.6/0.2 mm, 316SS

Armored tube : 7.5/5.5 mm, 304SS

Window

Tempered safety glass

Dial

White aluminium with black graduation

Pointer

Black painted aluminium alloy

Stem

8.0, 10.0 and 12.0 mm

316SS and 316L SS

Zero adjustment

Internal

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Option

±1.0 % of full scale

WISE®

Main order

Ordering information

1. Base model

T212 Remote reading thermometer with aluminium case

2. Nominal diameter (mm)

3 75
4 100
6 150

3. Type of mounting

B Bottom connection, surface, case mounting plate, not available with diameter 75 mm
K Lower back connection, flush, case mounting plate, only available with diameter 100 mm
L Lower back connection, flush, case center mounting plate, not available with diameter 150 mm

4. Stem material

1 316SS
2 316L SS

5. Stem, process connection

A None
D $\frac{3}{8}$ "
E $\frac{1}{2}$ "
F $\frac{3}{4}$ "

6. Stem connection type (CF: Compression fitting)

A None
E CF + PT
F CF + NPT
G CF + PF
H MT + PT (Movable thread)
I MT + NPT (Movable thread)
J MT + PF (Movable thread)

7. Stem outer diameter (mm)

2 8.0
3 10.0
4 12.0
Z Other

8. Range

XXX Refer to scale range table

9. Capillary length (m)

P 2
Q 3
S 5
V 8
X 10
Z Other

10. Accessories

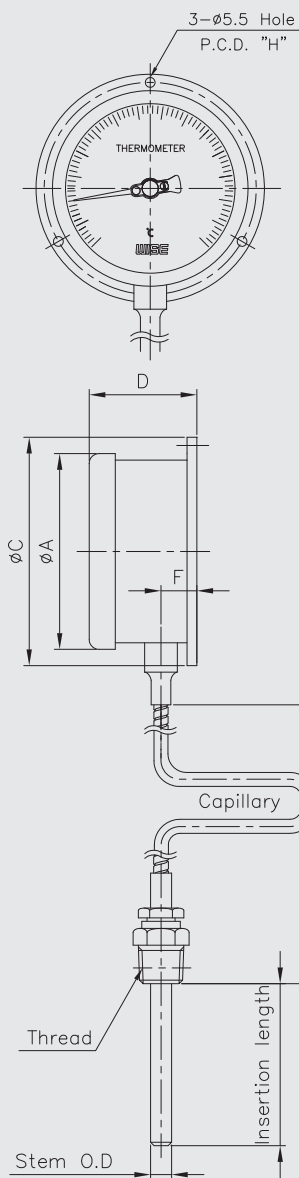
0 None
1 Thermowell
S Special accuracy (± 1.0 % of full scale)
T Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T212	4	B	1	E	C	3	XXX	P	1

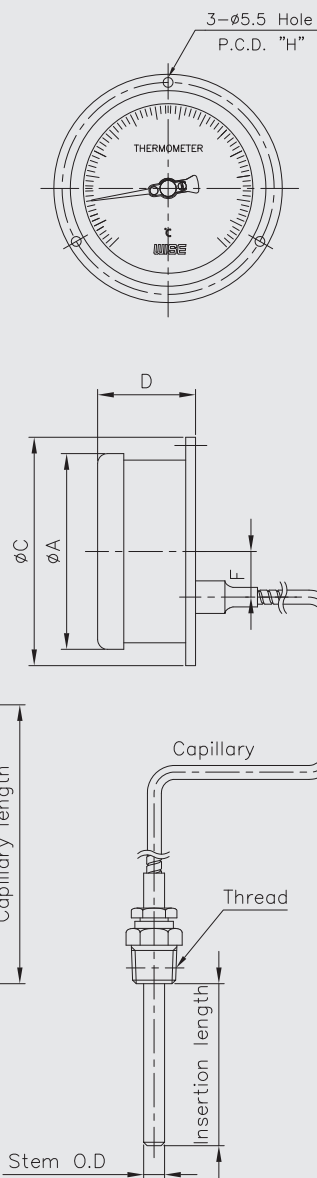
Sample
ordering code

T212 : Type of mounting

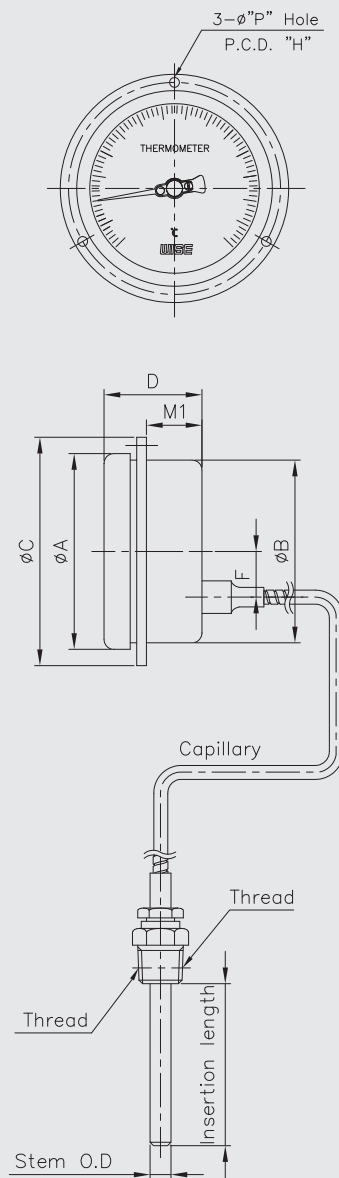
Code B



Code K



Code L



Dimensions (mm)

Dial Size	Available code	A	B	C	D±2	F±1	H	M1	P
75	L	85	80	105	46	25	95	24.5	4.5
100	B	110		128	52	20.5	115		
	K	110		128	52	25	115		
	L	110	105	135	46.5	25	122	25.5	5.5
150	B	172		185	64	19.5	174		

Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Minimum stem length (mm)			Standard stem length (mm)		
			8.0	10.0	12.0	8.0	10.0	12.0
031	-200 ~ 100	5	100	85	65	200	130	100
032	-50 ~ 50	2	100	85	65	200	130	100
037	-50 ~ 100	2	100	88	65	200	130	100
054	-30 ~ 50	2	100	85	65	200	130	100
059	-30 ~ 100	2	100	85	65	200	130	100
061	-30 ~ 120	2	100	85	65	200	130	100
069	-20 ~ 50	2	100	85	65	200	130	100
074	-20 ~ 100	2	100	85	65	200	130	100
079	-20 ~ 150	5	100	85	65	200	130	100
084	-10 ~ 50	1	100	85	65	200	130	100
099	0 ~ 50	1	100	85	65	200	130	100
100	0 ~ 60	1	100	85	65	200	130	100
101	0 ~ 70	2	100	85	65	200	130	100
102	0 ~ 80	2	100	85	65	200	130	100
104	0 ~ 100	2	100	85	65	200	130	100
106	0 ~ 120	2	100	85	65	200	130	100
109	0 ~ 150	2	100	85	65	200	130	100
114	0 ~ 200	5	100	85	65	200	130	100
119	0 ~ 250	5	100	85	65	200	130	100
124	0 ~ 300	5	100	85	65	200	130	100
129	0 ~ 350	5	100	85	65	200	130	100
134	0 ~ 400	10	100	85	65	200	130	100
144	0 ~ 500	10	100	85	65	200	130	100
154	0 ~ 600	10	100	85	65	200	130	100
164	0 ~ 700	10	100	85	65	200	130	100

* 0 ~ 700 °C/Special range

* -200 ~ 100 °C/Special range

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Remote reading thermometer with external mounting bracket on pipes and tanks

Model : T213

Spec. sheet no. TD02-03

Service intended

Liquid filled thermometer is used for measuring temperature of various pipes and tanks external in all industries, operated in aggressive and non-aggressive environment. Linear dials and temperature compensate line assure an accurate temperature indication at varying ambient conditions.

Nominal diameter

100 and 150 mm

Accuracy

±2.0 % of full scale (Standard)

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem and mounting

Bottom connection, surface, case mounting

Case

304SS

Cover

304SS

Capillary

Capillary : 1.6/0.2 mm, 316SS

Armored tube : 6.5/4.5 mm, 304SS

Window

Tempered safety glass

Dial

White aluminium with black graduation

Pointer

Black painted aluminium alloy

Mounting bracket

120 x 22 x 12 (mm)

316SS

Filled fluid in case

Glycerin or silicone (Option)

Zero adjustment

Internal

Stem connection

Surface mounting

Option

±1.0 % of full scale

1. Base model

T213 Remote reading thermometer with external mounting
on pipes and tanks

2. Nominal diameter (mm)

4 100
6 150

3. Type of mounting

B Surface mounting plate

4. Stem material

1 316SS

5. Stem, process connection

A 120 x 22 x 12 (mm)

6. Stem connection type

A Surface mounting, only available with 2" pipe (Standard)
B Surface mounting, only available with 2.5 ~ 30" pipe

7. Stem outer diameter

9 Ø21.3 mm x 2.8t

8. Range

XXX Refer to scale range table

9. Capillary length (m)

P 2
Q 3
S 5
V 8
X 10
Z Other

10. Accessories

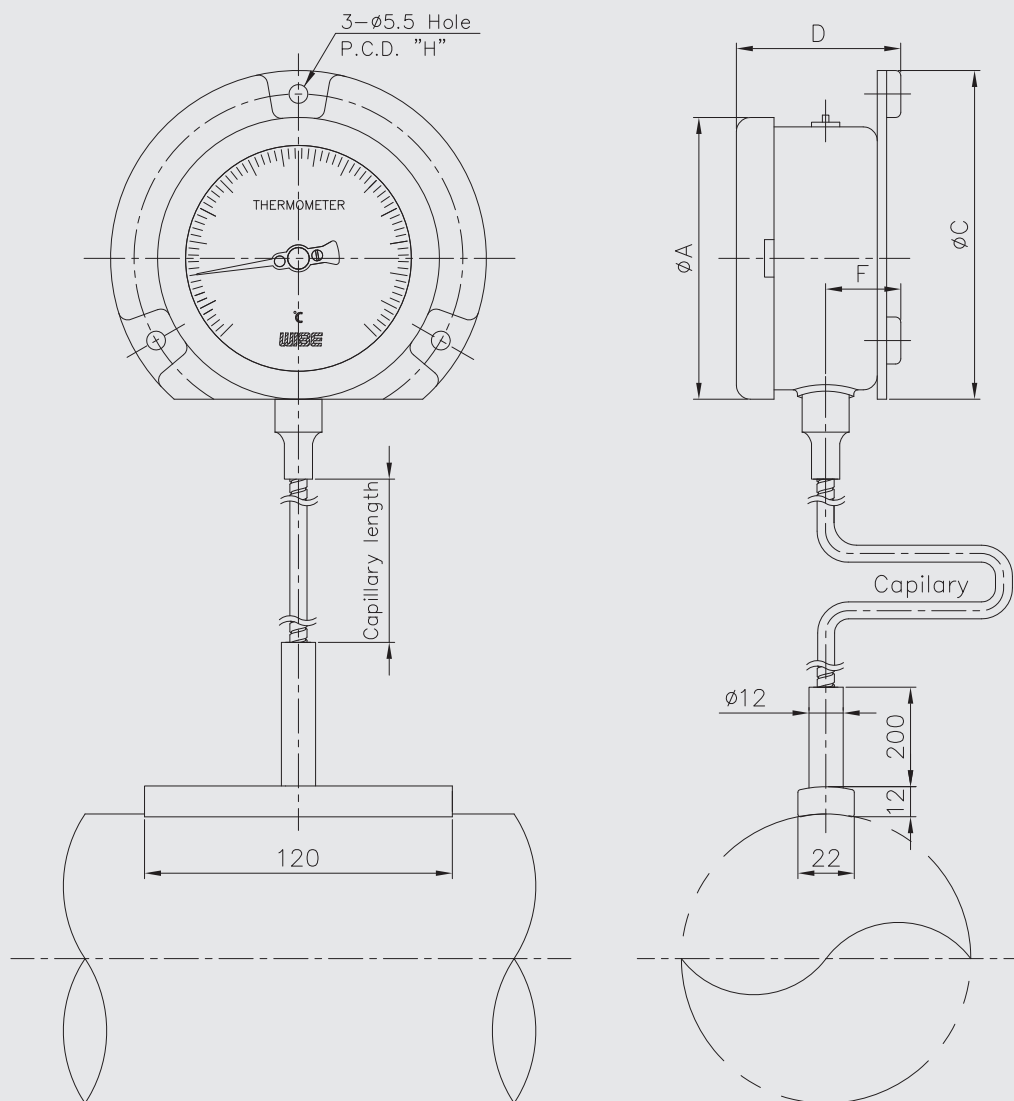
0 None
1 Other

1	2	3	4	5	6	7	8	9	10
T213	4	B	1	A	A	9	XXX	P	0

Sample
ordering code

T213 : Type of mounting

Code B



Dimensions (mm)

Dial Size	Available code	A	C	D ± 2	F ± 1	H
100	B	111	128	53.5	18	115
150	B	168.5	178	66.5	25.5	165

Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Standard stem size (mm)
031	-200 ~ 100	5	120 x 22 x 12
032	-50 ~ 50	2	
037	-50 ~ 100	5	
054	-30 ~ 50	2	
059	-30 ~ 100	2	
061	-30 ~ 120	5	
069	-20 ~ 50	2	
074	-20 ~ 100	2	
079	-20 ~ 150	5	
084	-10 ~ 50	1	
099	0 ~ 50	1	
100	0 ~ 60	1	
101	0 ~ 70	2	
102	0 ~ 80	2	
104	0 ~ 100	2	
106	0 ~ 120	2	
109	0 ~ 150	5	
114	0 ~ 200	5	
119	0 ~ 250	5	
124	0 ~ 300	5	
129	0 ~ 350	5	
134	0 ~ 400	10	
144	0 ~ 500	10	
154	0 ~ 600	10	
164	0 ~ 700	10	

* 0 ~ 700 °C/Special range

* -200 ~ 100 °C/Special range

Liquid filled remote reading thermometer

Model : T219

Spec. sheet no. TD02-04

Service intended

Liquid filled thermometer is used for measuring temperature of corrosive and non-corrosive fluid in all industries. It operates in aggressive and non-aggressive environment. Linear dials and temperature compensate line assure an accurate temperature indication at varying ambient conditions.



Nominal diameter

100 and 150 mm

Accuracy

±2.0 % of full scale

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem and mounting

Bottom connection, surface, case mounting
lower back connection, flush,
case center mounting bracket

Case

304SS

Cover

304SS

Capillary

Capillary : 1.6/0.2 mm, 316SS

Armored tube : 7.5/5.5 mm, 304SS

Window

Tempered safety glass

Dial

White aluminium with black graduation

Pointer

304SS, Black painted

Stem

8.0, 10.0 and 12.0 mm

316SS and 316L SS

Filling liquid

Glycerin or silicone

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Option

±1.0 % of full scale

WISE®

I T219_01

Main order

Ordering information

1. Base model

T219 Liquid filled remote reading thermometer

2. Nominal diameter (mm)

4 100
6 150

3. Type of mounting

B Bottom connection, surface, case mounting plate
M Lower back connection, flush, case center mounting bracket

4. Stem material

1 316SS
2 316L SS

5. Stem, process connection

A None
D 3/8"
E 1/2"
F 3/4"

6. Stem connection type (CF: Compression fitting)

A None
E CF + PT
F CF + NPT
G CF + PF
H MT + PT (Movable thread)
I MT + NPT (Movable thread)
J MT + PF (Movable thread)

7. Stem outer diameter (mm)

2 8.0
3 10.0
4 12.0
Z Other

8. Range

XXX Refer to scale range table

9. Capillary length (m)

P 2
Q 3
S 5
V 8
X 10
Z Other

10. Accessories

0 None
1 Thermowell
2 Special accuracy (± 1.0 % of full scale)
3 Thermowell and special accuracy

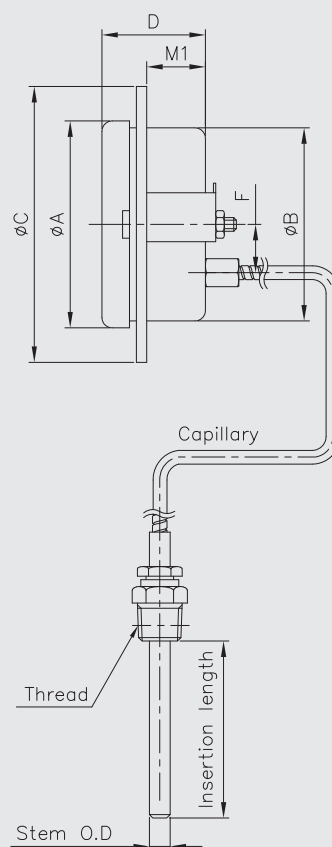
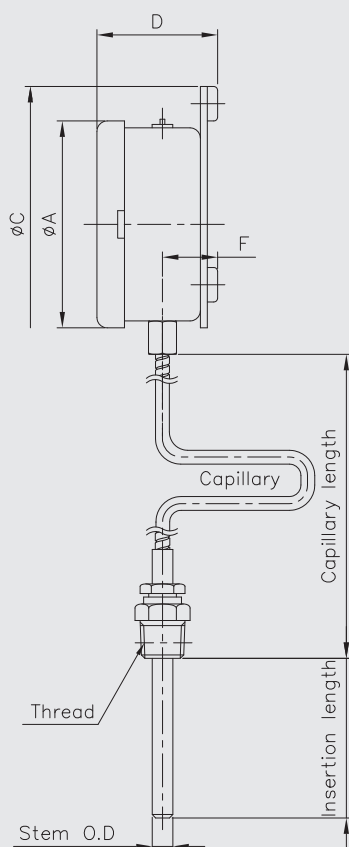
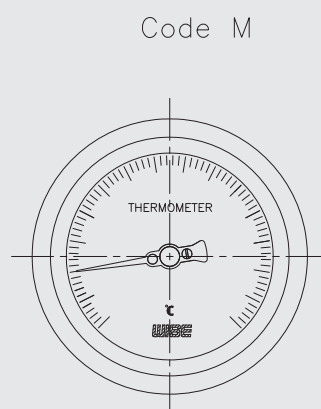
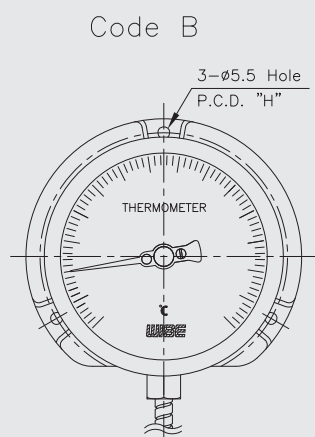
11. Insertion length (mm)

XX Refer to Insertion length table

1	2	3	4	5	6	7	8	9	10	11
T219	4	B	1	E	C	3	XXX	P	1	XX

Sample
ordering
code

T219 : Type of mounting



Dimensions (mm)

Dial Size	Available code	A	B	C	D±2	F±1	H	M1
100	B	111		128	53.5	18	115	
	M	111	99.5	128	50.5	30		28.5
150	B	169.5		178	66.5	25.5	165	
	M	169.5	153	178	63	55		38.5

Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Minimum stem length (mm)			Standard stem length (mm)		
			8.0	10.0	12.0	8.0	10.0	12.0
031	-200 ~ 100	5	100	85	65	200	130	100
032	-50 ~ 50	2	100	85	65	200	130	100
037	-50 ~ 100	2	100	88	65	200	130	100
054	-30 ~ 50	2	100	85	65	200	130	100
059	-30 ~ 100	2	100	85	65	200	130	100
061	-30 ~ 120	2	100	85	65	200	130	100
069	-20 ~ 50	2	100	85	65	200	130	100
074	-20 ~ 100	2	100	85	65	200	130	100
079	-20 ~ 150	5	100	85	65	200	130	100
084	-10 ~ 50	1	100	85	65	200	130	100
099	0 ~ 50	1	100	85	65	200	130	100
100	0 ~ 60	1	100	85	65	200	130	100
101	0 ~ 70	2	100	85	65	200	130	100
102	0 ~ 80	2	100	85	65	200	130	100
104	0 ~ 100	2	100	85	65	200	130	100
106	0 ~ 120	2	100	85	65	200	130	100
109	0 ~ 150	2	100	85	65	200	130	100
114	0 ~ 200	5	100	85	65	200	130	100
119	0 ~ 250	5	100	85	65	200	130	100
124	0 ~ 300	5	100	85	65	200	130	100
129	0 ~ 350	5	100	85	65	200	130	100
134	0 ~ 400	10	100	85	65	200	130	100
144	0 ~ 500	10	100	85	65	200	130	100
154	0 ~ 600	10	100	85	65	200	130	100
164	0 ~ 700	10	100	85	65	200	130	100

* 0 ~ 700 °C/Special range

* -200 ~ 100 °C/Special range

Insertion length

Code	K1	K2	K3	K4	K5	K6	K7	K8	K9	KA	KB	KC
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	KD	KE	KF	KG	KH	KJ	KK	KL	KM	KN	KP
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Direct reading thermometer

Model : T220

Spec. sheet no. TD02-05

Service intended

This thermometer is used for measuring temperature of corrosive and non-corrosive fluid in all industries. It operates in aggressive and non-aggressive environment. Linear dials and temperature compensate line assure an accurate temperature indication at varying ambient conditions.



Nominal diameter

100 and 150 mm

Accuracy

±2.0 % of full scale

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem

Bottom connection, direct
Lower back connection, direct

Pointer

304SS, Black painted

Case

304SS

Stem

8.0, 10.0 and 12.0 mm
316SS and 316L SS

Cover

304SS

Zero adjustment

Internal

Window

Tempered safety glass

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Dial

White aluminium with black graduation

Option

±1.0 % of full scale

1. Base model**T220** Direct reading thermometer**2. Nominal diameter (mm)**

- 4** 100
6 150

3. Type of mounting

- A** Bottom connection, direct
G Lower back connection, direct

4. Stem material

- 1** 316SS
2 316L SS

5. Stem, process connection

- A** None
D $\frac{3}{8}$ "
E $\frac{1}{2}$ "
F $\frac{3}{4}$ "

6. Stem connection type (CF: Compression fitting)

- A** None
E CF + PT
F CF + NPT
G CF + PF
H MT + PT (Movable thread)
I MT + NPT (Movable thread)
J MT + PF (Movable thread)

7. Stem outer diameter (mm)

- 2** 8.0
3 10.0
4 12.0
Z Other

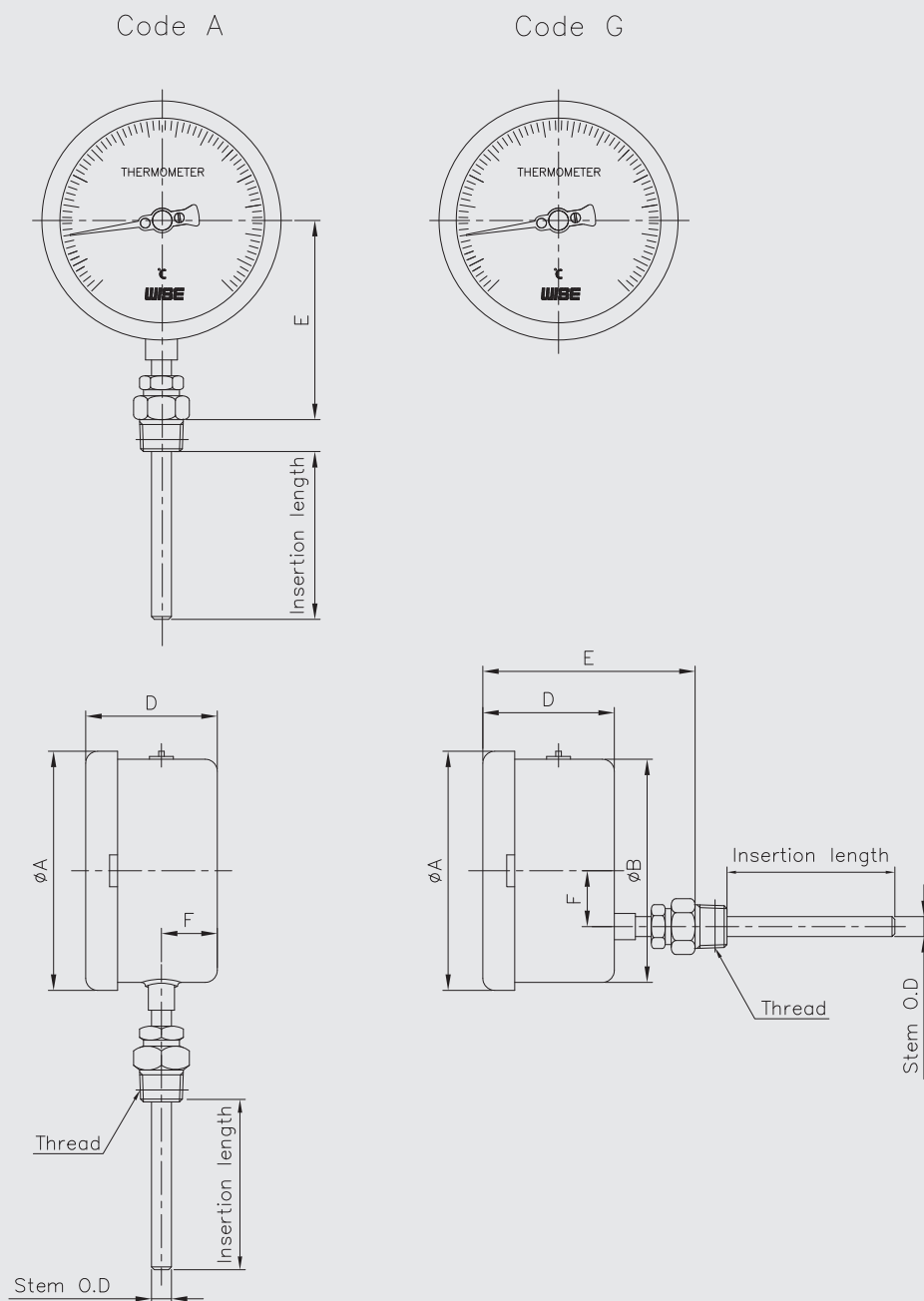
8. Range**XXX** Refer to scale range table**9. Insertion length****X** Refer to insertion length table**10. Accessories**

- 0** None
1 Thermowell
2 Special accuracy (± 1.0 % of full scale)
3 Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T220	4	A	1	E	C	3	XXX	X	1

Sample
ordering code

T220 : Type of mounting



Dimensions (mm)

Dial Size	Available code	A	B	D ± 2	E ± 2	F ± 1
100	A	111		48.5	100	17
	G	111	99.5	48.5	98.5	30
150	A	168.5		63	125	22
	G	168.5	153	63	113	55

Scale ranges

Code	Scale range (°C)	Scale spacing (°C)	Minimum stem length (mm)		
			8.0	10.0	12.0
031	-200 ~ 100	5	500	500	500
032	-50 ~ 50	2	100	85	65
037	-50 ~ 100	2	100	85	65
054	-30 ~ 50	2	100	88	65
059	-30 ~ 100	5	100	85	65
061	-30 ~ 120	2	100	85	65
069	-20 ~ 50	2	100	85	65
074	-20 ~ 100	2	100	85	65
079	-20 ~ 150	5	100	85	65
084	-10 ~ 50	1	100	85	65
099	0 ~ 50	1	100	85	65
100	0 ~ 60	1	100	85	65
101	0 ~ 70	2	100	85	65
102	0 ~ 80	1	100	85	65
104	0 ~ 100	2	100	85	65
106	0 ~ 120	2	100	85	65
109	0 ~ 150	2	100	85	65
114	0 ~ 200	5	100	85	65
119	0 ~ 250	5	100	85	65
124	0 ~ 300	5	100	85	65
129	0 ~ 350	5	100	85	65
134	0 ~ 400	5	100	85	65
144	0 ~ 500	10	100	85	65
154	0 ~ 600	10	100	85	65
164	0 ~ 700	10	100	85	65

* 0 ~ 700 °C/Special range

* -200 ~ 100 °C/Special range

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Direct reading thermometer with aluminium case

Model : T222

Spec. sheet no. TD02-06

Service intended

This thermometer is used for measuring temperature of corrosive and non-corrosive fluid in all industries. It operates in aggressive and non-aggressive environment. Linear dials and temperature compensate line assure an accurate temperature indication at varying ambient conditions.



Nominal diameter

100 and 150 mm

Accuracy

±2.0 % of full scale

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem

Bottom connection, direct
Bottom connection, surface, case mounting
Lower back connection, direct

Case

Black finished aluminium

Cover

Black finished aluminium

Window

Tempered safety glass

Dial

White aluminium with black graduation

Pointer

Black painted aluminium alloy

Stem

8.0, 10.0 and 12.0 mm
316SS and 316L SS

Zero adjustment

Internal

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Option

±1.0 % of full scale

1. Base model

T222 Direct reading thermometer with aluminium case

2. Nominal diameter (mm)

- 4 100
6 150

3. Type of mounting

- A Bottom connection, direct
B Bottom connection, surface, case mounting
G Lower back connection, direct

4. Stem material

- 1 316SS
2 316L SS

5. Stem, process connection

- A None
D $\frac{3}{8}$ "
E $\frac{1}{2}$ "
F $\frac{3}{4}$ "

6. Stem connection type (CF: Compression fitting)

- A None
E CF + PT
F CF + NPT
G CF + PF
H MT + PT (Movable thread)
I MT + NPT (Movable thread)
J MT + PF (Movable thread)

7. Stem outer diameter (mm)

- 2 8.0
3 10.0
4 12.0
Z Other

8. Range

XXX Refer to scale range table

9. Insertion length

X Refer to insertion length table

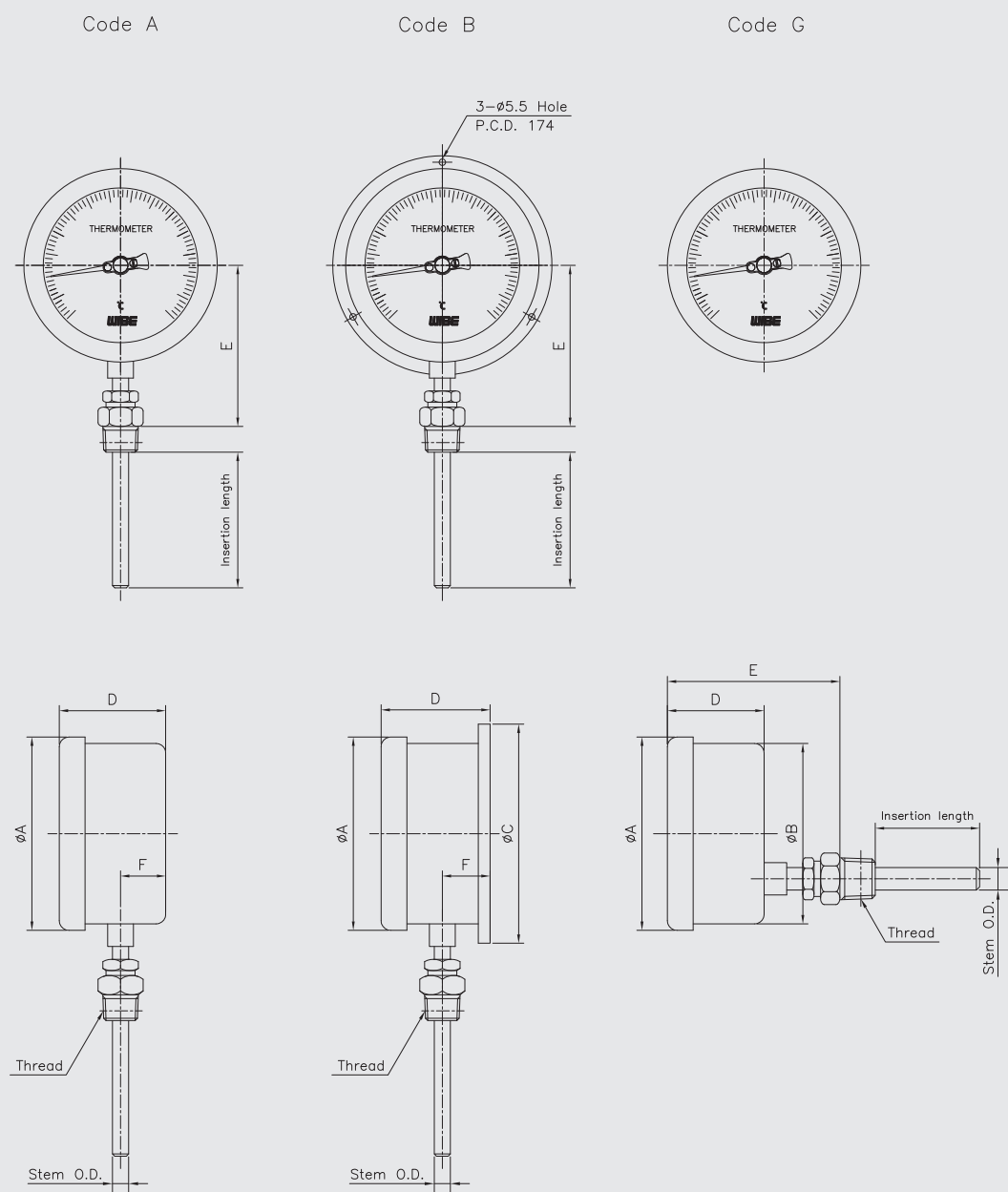
10. Accessories

- 0 None
1 Thermowell
2 Special accuracy (± 1.0 % of full scale)
3 Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T222	4	A	1	E	C	3	XXX	X	1

Sample
ordering code

T222 : Type of mounting



Dimensions (mm)

Dial Size	Available code	A	B	C	D ± 2	E ± 2	F ± 1
100	A	110			52	100	20.5
	B	110		128	52	112	20.5
	G	110	105		52	112	25
150	B	172		185	64	150	19.5
	G	172	159		64	124	25

Scale ranges

Code	Scale range (°C)	Scale spacing (°C)	Minimum stem length (mm)		
			8.0	10.0	12.0
031	-200 ~ 100	5	500	500	500
032	-50 ~ 50	2	100	85	65
037	-50 ~ 100	2	100	85	65
054	-30 ~ 50	2	100	88	65
059	-30 ~ 100	5	100	85	65
061	-30 ~ 120	2	100	85	65
069	-20 ~ 50	2	100	85	65
074	-20 ~ 100	2	100	85	65
079	-20 ~ 150	2	100	85	65
084	-10 ~ 50	1	100	85	65
099	0 ~ 50	1	100	85	65
100	0 ~ 60	1	100	85	65
101	0 ~ 70	2	100	85	65
102	0 ~ 80	1	100	85	65
104	0 ~ 100	2	100	85	65
106	0 ~ 120	2	100	85	65
109	0 ~ 150	2	100	85	65
114	0 ~ 200	5	100	85	65
119	0 ~ 250	5	100	85	65
124	0 ~ 300	5	100	85	65
129	0 ~ 350	5	100	85	65
134	0 ~ 400	5	100	85	65
144	0 ~ 500	10	100	85	65
154	0 ~ 600	10	100	85	65
164	0 ~ 700	10	100	85	65

* 0 ~ 700 °C/Special range

* -200 ~ 100 °C/Special range

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Liquid filled direct reading thermometer

Model : T229

Spec. sheet no. TD02-07

Service intended

Liquid filled thermometer is used for measuring temperature of corrosive and non-corrosive fluid in all industries. It operates in aggressive and non-aggressive environment. Linear dials and temperature compensate line assure an accurate temperature indication at varying ambient conditions.



Nominal diameter

100 and 150 mm

Accuracy

±2.0 % of full scale

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem

Bottom connection, direct
Lower back connection, direct

Pointer

Black painted aluminium alloy

Case

304SS

Stem

8.0, 10.0 and 12.0 mm
316SS and 316L SS

Cover

304SS

Filling liquid

Glycerin or silicone

Window

Tempered safety glass

Stem, process connection

$\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ " PT, NPT and PF

Dial

White aluminium with black graduation

Option

±1.0 % of full scale

1. Base model

T229 Liquid filled direct reading thermometer

2. Nominal diameter (mm)

4 100
6 150

3. Type of mounting

A Bottom connection, direct
G Lower back connection, direct

4. Stem material

1 316SS
2 316L SS

5. Stem, process connection

A None
D $\frac{3}{8}$ "
E $\frac{1}{2}$ "
F $\frac{3}{4}$ "

6. Stem connection type (CF: Compression fitting)

A None
E CF + PT
F CF + NPT
G CF + PF
H MT + PT (Movable thread)
I MT + NPT (Movable thread)
J MT + PF (Movable thread)

7. Stem outer diameter (mm)

2 8.0
3 10.0
4 12.0
Z Other

8. Range

XXX Refer to scale range table

9. Insertion length

X Refer to insertion length table

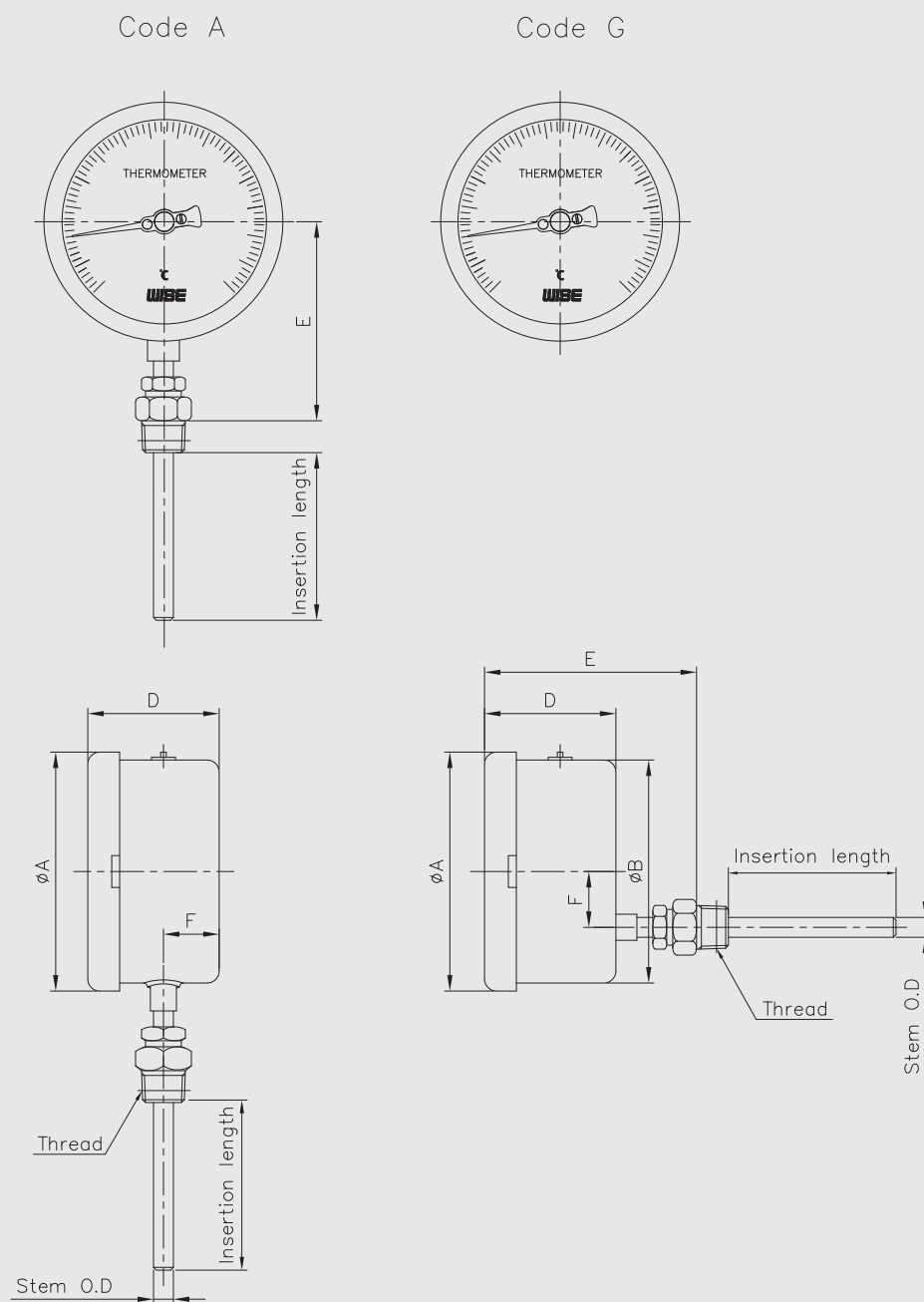
10. Accessories

0 None
1 Thermowell
2 Special accuracy (± 1.0 % of full scale)
3 Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T229	4	A	1	A	A	2	XXX	X	1

Sample
ordering code

T229 : Type of mounting



Dimensions (mm)

Dial Size	Available code	A	B	D ± 2	E ± 2	F ± 1
100	A	111		48.5	100	17
	G	111	99.5	48.5	98.5	30
150	A	168.5		63	125	22
	G	168.5	153	63	113	55

Scale ranges

Code	Scale range (°C)	Scale spacing (°C)	Minimum stem length (mm)		
			8.0	10.0	12.0
031	-200 ~ 100	5	500	500	500
032	-50 ~ 50	2	100	85	65
037	-50 ~ 100	2	100	85	65
054	-30 ~ 50	2	100	88	65
059	-30 ~ 100	5	100	85	65
061	-30 ~ 120	2	100	85	65
069	-20 ~ 50	2	100	85	65
074	-20 ~ 100	2	100	85	65
079	-20 ~ 150	2	100	85	65
084	-10 ~ 50	1	100	85	65
099	0 ~ 50	1	100	85	65
100	0 ~ 60	1	100	85	65
101	0 ~ 70	2	100	85	65
102	0 ~ 80	1	100	85	65
104	0 ~ 100	2	100	85	65
106	0 ~ 120	2	100	85	65
109	0 ~ 150	2	100	85	65
114	0 ~ 200	5	100	85	65
119	0 ~ 250	5	100	85	65
124	0 ~ 300	5	100	85	65
129	0 ~ 350	5	100	85	65
134	0 ~ 400	5	100	85	65
144	0 ~ 500	10	100	85	65
154	0 ~ 600	10	100	85	65
164	0 ~ 700	10	100	85	65

* 0 ~ 700 °C/Special range

* -200 ~ 100 °C/Special range

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Euro gauge Remote reading thermometer Model : T230

Spec. sheet no. TD02-08

Service intended

This thermometer is used for measuring temperature of corrosive and non-corrosive fluid in all industries. It operates in aggressive and non-aggressive environment. Linear dials and temperature compensate line assure an accurate temperature indication at varying ambient conditions.



Nominal diameter

100 and 160 mm

Accuracy

±2.0 % of full scale

Measuring system (SAMA class III B)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value

Degree of protection

EN60529/IEC529/IP67 (100 mm)



Standard features

Location of stem and mounting

Bottom connection, surface, case mounting

Lower back connection, flush, case center mounting

Case

304SS

Cover

304SS

Bayonet type

Window

Tempered safety glass

Capillary

Capillary : 1.6/0.2 mm, 316SS

Armored : 7.5/5.5 mm, 304SS

Dial

White aluminium with black graduation

Pointer

Black painted aluminium alloy

Stem

8.0, 10.0 and 12.0 mm

316SS and 316L SS

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Option

±1.0 % of full scale

Window : Safety glass

Special range : 0 ~ 700 °C

Main order

Ordering information

1. Base model

T230 Euro gauge remote reading thermometer

2. Nominal diameter (mm)

4 100
6 160

3. Type of mounting

B Bottom connection, surface, case mounting plate
M Lower back connection, flush, case center mounting plate

4. Stem material

1 316SS
2 316L SS

5. Stem, process connection

A None
D 3/8"
E 1/2"
F 3/4"

6. Stem connection type (CF: Compression fitting)

A None
E CF + PT
F CF + NPT
G CF + PF
H MT + PT (Movable thread)
I MT + NPT (Movable thread)
J MT + PF (Movable thread)

7. Stem outer diameter (mm)

2 8.0
3 10.0
4 12.0
Z Other

8. Range

XXX Refer to scale range table

9. Capillary length (m)

P 2
Q 3
S 5
V 8
X 10
Z Other

10. Accessories

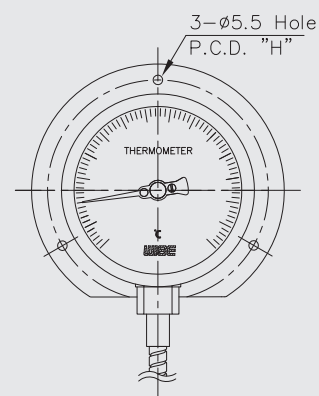
0 None
1 Thermowell
2 Special accuracy (± 1.0 % of full scale)
3 Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T230	4	B	1	E	C	2	XXX	P	1

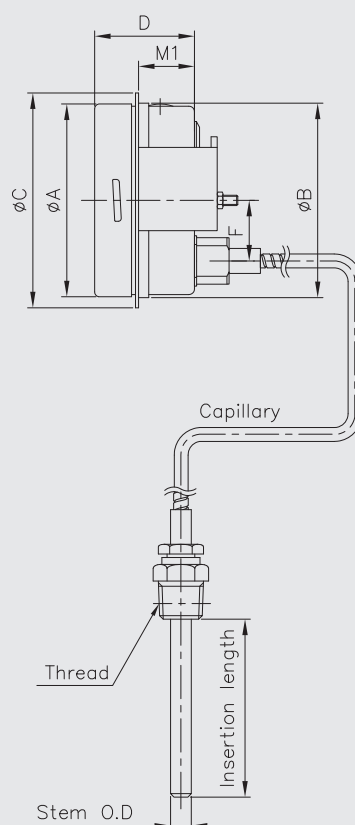
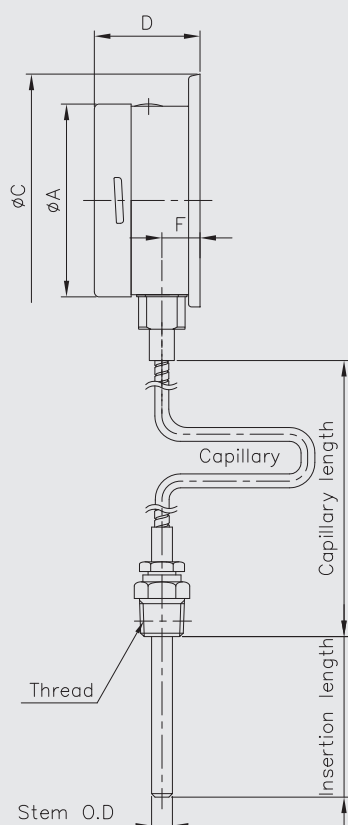
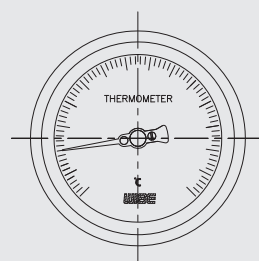
Sample
ordering code

T230 : Type of mounting

Code B



Code M



Dimensions (mm)

Dial Size	Available code	A	B	C	D±2	F±1	H	M1
100	B	101.3		133	54.4	19.4	116	
	M	101.3	101	107.5	50	29		29.5
160	B	160.6		196	56	19.4	178	

Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Minimum stem length (mm)			Standard stem length (mm)		
			8.0	10.0	12.0	8.0	10.0	12.0
031	-200 ~ 100	5	100	85	65	200	130	100
032	-50 ~ 50	2	100	85	65	200	130	100
037	-50 ~ 100	5	100	88	65	200	130	100
054	-30 ~ 50	2	100	85	65	200	150	100
059	-30 ~ 100	2	100	85	65	200	130	100
061	-30 ~ 120	5	100	85	65	200	130	100
069	-20 ~ 50	2	100	85	65	200	130	100
074	-20 ~ 100	2	100	85	65	200	130	100
079	-20 ~ 150	5	100	85	65	200	130	100
084	-10 ~ 50	1	100	85	65	200	130	100
099	0 ~ 50	1	100	85	65	200	130	100
100	0 ~ 60	1	100	85	65	200	130	100
101	0 ~ 70	2	100	85	65	200	130	100
102	0 ~ 80	2	100	85	65	200	130	100
104	0 ~ 100	2	100	85	65	200	130	100
106	0 ~ 120	2	100	85	65	200	130	100
109	0 ~ 150	5	100	85	65	200	130	100
114	0 ~ 200	5	100	85	65	200	130	100
119	0 ~ 250	5	100	85	65	200	130	100
124	0 ~ 300	5	100	85	65	200	130	100
129	0 ~ 350	5	100	85	65	200	130	100
134	0 ~ 400	10	100	85	65	200	130	100
144	0 ~ 500	10	100	85	65	200	130	100
154	0 ~ 600	10	100	85	65	200	130	100
164	0 ~ 700	10	100	85	65	200	130	100

* 0 ~ 700 °C/Special range

* -200 ~ 100 °C/Special range

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Euro gauge

Liquid filled remote reading thermometer

Model : T239

Spec. sheet no. TD02-09

Service intended

Liquid filled thermometer is used for measuring temperature of corrosive and non-corrosive fluid in all industries. It operates in aggressive and non-aggressive environment. Linear dials and temperature compensate line assure an accurate temperature indication at varying ambient conditions.



Nominal diameter

100 and 160 mm

Accuracy

±2.0 % of full scale

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem and mounting

Bottom connection, surface, case mounting

Lower back connection, flush, case center mounting

Case

304SS

Cover

304SS

Bayonet type

Capillary

Capillary : 1.6/0.2 mm, 316SS

Armored tube : 7.5/5.5 mm, 304SS

Window

Tempered safety glass

Dial

White aluminium with black graduation

Pointer

Black painted aluminium alloy

Stem

8.0, 10.0 and 12.0 mm

316SS and 316L SS

Filling liquid

Glycerin or silicone

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Option

Special accuracy, ±1.0 % of full scale

Main order

Ordering information

1. Base model

T239 Liquid filled remote reading thermometer

2. Nominal diameter (mm)

4 100
6 160

3. Type of mounting

B Bottom connection, surface, case mounting plate
M Lower back connection, flush, case center mounting plate

4. Stem material

1 316SS
2 316L SS

5. Stem, process connection

A None
D $\frac{3}{8}$ "
E $\frac{1}{2}$ "
F $\frac{3}{4}$ "

6. Stem connection type (CF: Compression fitting)

A None
E CF + PT
F CF + NPT
G CF + PF
H MT + PT (Movable thread)
I MT + NPT (Movable thread)
J MT + PF (Movable thread)

7. Stem outer diameter (mm)

2 8.0
3 10.0
4 12.0
Z Other

8. Range

XXX Refer to scale range table

9. Capillary length (m)

P 2
Q 3
S 5
V 8
X 10
Z Other

10. Accessories

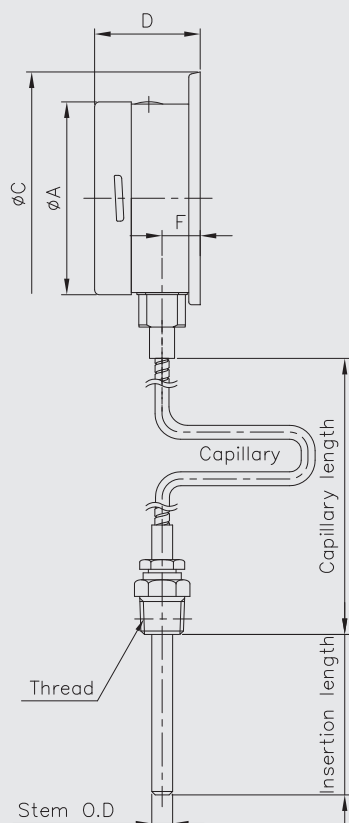
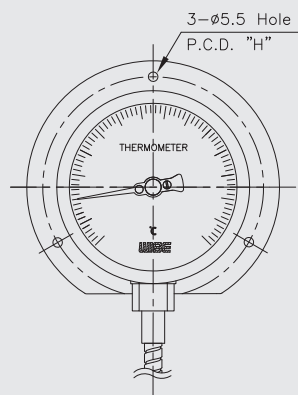
0 None
1 Thermowell
2 Special accuracy (± 1.0 % of full scale)
3 Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T239	4	B	1	E	C	2	XXX	P	1

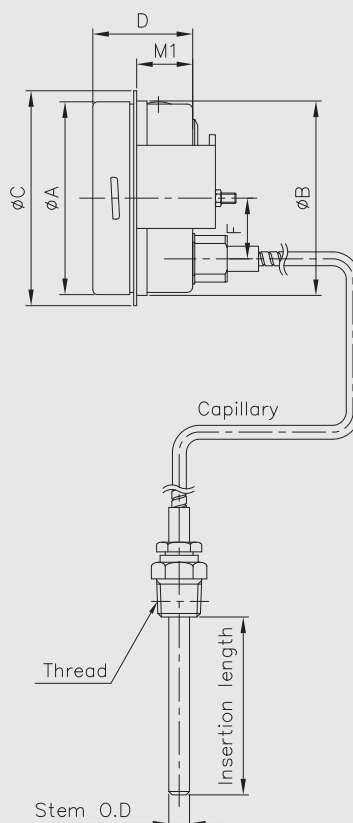
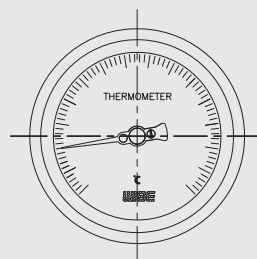
Sample
ordering code

T239 : Type of mounting

Code B



Code M



Dimensions (mm)

Dial Size	Available code	A	B	C	D±2	F±1	H	M1
100	B	101.3		133	54.4	19.4	116	
	M	101.3	101	107.5	50	29		29.5
160	B	160.6		196	56	19.4	178	

Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Minimum stem length (mm)			Standard stem length (mm)		
			8.0	10.0	12.0	8.0	10.0	12.0
031	-200 ~ 100	5	100	85	65	200	130	100
032	-50 ~ 50	2	100	85	65	200	130	100
037	-50 ~ 100	5	100	88	65	200	130	100
054	-30 ~ 50	2	100	85	65	200	150	100
059	-30 ~ 100	2	100	85	65	200	130	100
061	-30 ~ 120	5	100	85	65	200	130	100
069	-20 ~ 50	2	100	85	65	200	130	100
074	-20 ~ 100	2	100	85	65	200	130	100
079	-20 ~ 150	5	100	85	65	200	130	100
084	-10 ~ 50	1	100	85	65	200	130	100
099	0 ~ 50	1	100	85	65	200	130	100
100	0 ~ 60	1	100	85	65	200	130	100
101	0 ~ 70	2	100	85	65	200	130	100
102	0 ~ 80	2	100	85	65	200	130	100
104	0 ~ 100	2	100	85	65	200	130	100
106	0 ~ 120	2	100	85	65	200	130	100
109	0 ~ 150	5	100	85	65	200	130	100
114	0 ~ 200	5	100	85	65	200	130	100
119	0 ~ 250	5	100	85	65	200	130	100
124	0 ~ 300	5	100	85	65	200	130	100
129	0 ~ 350	5	100	85	65	200	130	100
134	0 ~ 400	10	100	85	65	200	130	100
144	0 ~ 500	10	100	85	65	200	130	100
154	0 ~ 600	10	100	85	65	200	130	100
164	0 ~ 700	10	100	85	65	200	130	100

* 0 ~ 700 °C/Special range

* -200 ~ 100 °C/Special range

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Euro gauge

Direct reading thermometer

Model : T250

Spec. sheet no. TD02-11

Service intended

This thermometer is used for measuring temperature of corrosive and non-corrosive fluid in all industries. It operates in aggressive and non-aggressive environment. Linear dials and temperature compensate line assure an accurate temperature indication at varying ambient conditions.



Nominal diameter

100 and 160 mm

Accuracy

±2.0 % of full scale

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem

Bottom connection, direct

Lower back connection, direct

Case

304SS

Cover

304SS

Bayonet type

Window

Tempered safety glass

Dial

White aluminium with black graduation

Pointer

Black painted aluminium alloy

Stem

8.0, 10.0 and 12.0 mm

316SS and 316L SS

Stem, process connection

$\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ " PT, NPT and PF

Option

Special accuracy, ±1.0 % of full scale

1. Base model

T250 Euro gauge direct reading thermometer

2. Nominal diameter (mm)

4 100
6 160

3. Type of mounting

A Bottom connection, direct
G Lower back connection, direct

4. Stem material

1 316SS
2 316L SS

5. Stem, process connection

A None
D $\frac{3}{8}$ "
E $\frac{1}{2}$ "
F $\frac{3}{4}$ "

6. Stem connection type (CF: Compression fitting)

A None
E CF + PT
F CF + NPT
G CF + PF
H MT + PT (Movable thread)
I MT + NPT (Movable thread)
J MT + PF (Movable thread)

7. Stem outer diameter (mm)

2 8.0
3 10.0
4 12.0
Z Other

8. Range

XXX Refer to scale range table

9. Insertion length

X Refer to insertion length table

10. Accessories

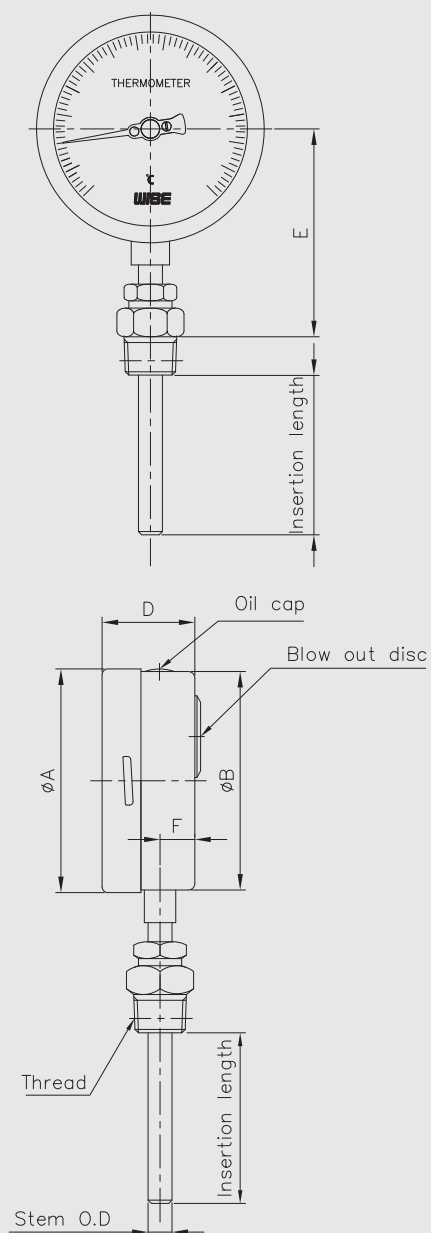
0 None
1 Thermowell
2 Special accuracy ($\pm 1.0\%$ of full scale)
3 Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T250	4	A	1	E	C	3	XXX	X	1

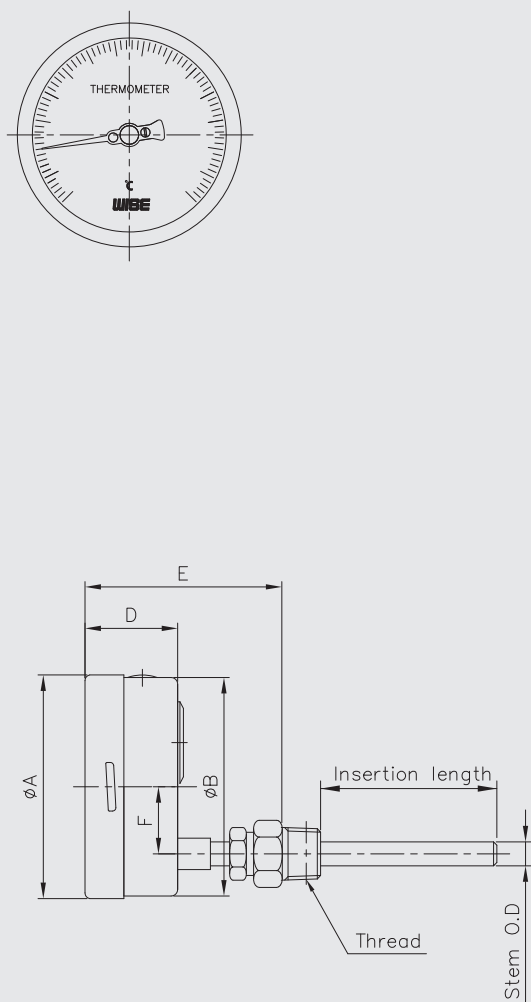
Sample
ordering code

T250 : Type of mounting

Code A



Code G



Dimensions (mm)

Dial Size	Available code	A	B	D ± 2	E ± 2	F ± 1
100	A	101.3	99		127	16
	G	101.3	99	136.5	127	16
160	A	160.6	159		155	15.8
	G	160.6	159	136.5	129.5	15.8

Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Minimum stem length (mm)			Standard stem length (mm)		
			8.0	10.0	12.0	8.0	10.0	12.0
031	-200 ~ 100	5	500	500	500	500	500	500
032	-50 ~ 50	2	100	85	65	200	130	100
037	-50 ~ 100	5	100	88	65	200	130	100
054	-30 ~ 50	2	100	85	65	200	130	100
059	-30 ~ 100	2	100	85	65	200	130	100
061	-30 ~ 120	5	100	85	65	200	130	100
069	-20 ~ 50	2	100	85	65	200	130	100
074	-20 ~ 100	2	100	85	65	200	130	100
079	-20 ~ 150	5	100	85	65	200	130	100
084	-10 ~ 50	1	100	85	65	200	130	100
099	0 ~ 50	1	100	85	65	200	130	100
100	0 ~ 60	1	100	85	65	200	130	100
101	0 ~ 70	2	100	85	65	200	130	100
102	0 ~ 80	2	100	85	65	200	130	100
104	0 ~ 100	2	100	85	65	200	130	100
106	0 ~ 120	2	100	85	65	200	130	100
109	0 ~ 150	5	100	85	65	200	130	100
114	0 ~ 200	5	100	85	65	200	130	100
119	0 ~ 250	5	100	85	65	200	130	100
124	0 ~ 300	5	100	85	65	200	130	100
129	0 ~ 350	5	100	85	65	200	130	100
134	0 ~ 400	10	100	85	65	200	130	100
144	0 ~ 500	10	100	85	65	200	130	100
154	0 ~ 600	10	100	85	65	200	130	100
164	0 ~ 700	10	100	85	65	200	130	100

* 0 ~ 700 °C/Special range

* -200 ~ 100 °C/Special range

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Euro gauge

Liquid filled direct reading thermometer

Model : T259

Spec. sheet no. TD02-12

Service intended

Liquid filled thermometer is used for measuring temperature of corrosive and non-corrosive fluid in all industries. It operates in aggressive and non-aggressive environment. Linear dials and temperature compensate line assure an accurate temperature indication at varying ambient conditions.



Nominal diameter

100 and 160 mm

Accuracy

±2.0 % of full scale

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem

Bottom connection, direct
Lower back connection, direct

Case

304SS

Cover

304SS
Bayonet type

Window

Tempered safety glass

Dial

White aluminium with black graduation

Pointer

Black painted aluminium alloy

Stem

8.0, 10.0 and 12.0 mm
316SS and 316L SS

Filling liquid

Glycerin or silicone

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Option

Special accuracy, ±1.0 % of full scale

1. Base model

T259 Euro guage liquid filled direct reading thermometer

2. Nominal diameter (mm)

- 4 100
6 160

3. Type of mounting

- A Bottom connection, direct
G Lower back connection, direct

4. Stem material

- 1 316SS
2 316L SS

5. Stem, process connection

- A None
D $\frac{3}{8}$ "
E $\frac{1}{2}$ "
F $\frac{3}{4}$ "

6. Stem connection type (CF: Compression fitting)

- A None
E CF + PT
F CF + NPT
G CF + PF
H MT + PT (Movable thread)
I MT + NPT (Movable thread)
J MT + PF (Movable thread)

7. Stem outer diameter (mm)

- 2 8.0
3 10.0
4 12.0
Z Other

8. Range

XXX Refer to scale range table

9. Insertion length

X Refer to insertion length table

10. Accessories

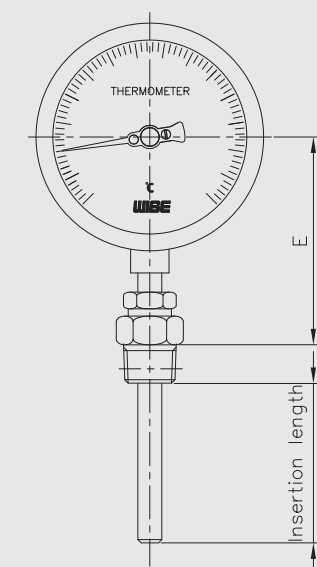
- 0 None
1 Thermowell
2 Special accuracy (± 1.0 % of full scale)
3 Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T259	4	A	1	E	C	3	XXX	X	1

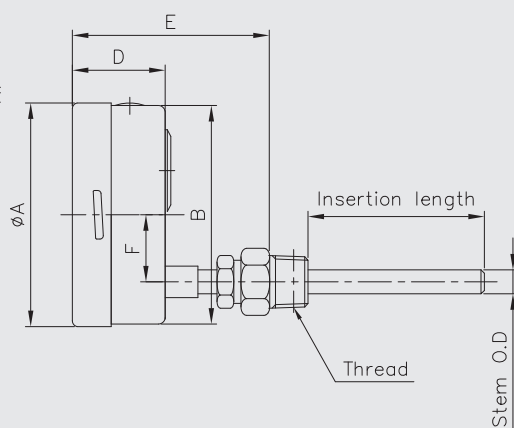
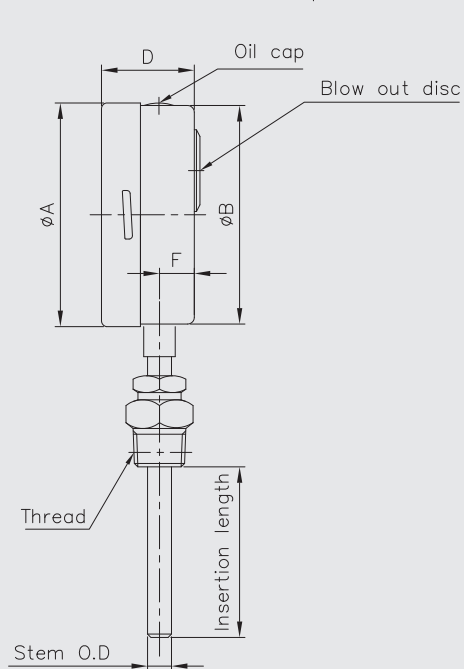
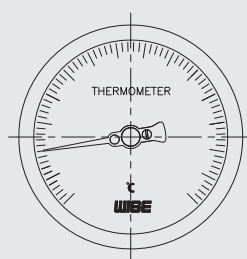
Sample
ordering code

T259 : Type of mounting

Code A



Code B



Dimensions (mm)

Dial Size	Available code	A	B	$D \pm 2$	$E \pm 2$	$F \pm 1$
100	A	101.3	99		127	16
	G	101.3	99	136.5	127	16
160	A	160.6	159		155	15.8
	G	160.6	159	136.5	129.5	15.8

Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Minimum stem length (mm)			Standard stem length (mm)		
			8.0	10.0	12.0	8.0	10.0	12.0
** 031	-200 ~ 100	5	500	500	500	500	500	500
032	-50 ~ 50	2	100	85	65	200	130	100
037	-50 ~ 100	2	100	88	65	200	130	100
054	-30 ~ 50	2	100	85	65	200	130	100
059	-30 ~ 100	2	100	85	65	200	130	100
061	-30 ~ 120	2	100	85	65	200	130	100
069	-20 ~ 50	2	100	85	65	200	130	100
074	-20 ~ 100	2	100	85	65	200	130	100
079	-20 ~ 150	5	100	85	65	200	130	100
084	-10 ~ 50	1	100	85	65	200	130	100
099	0 ~ 50	1	100	85	65	200	130	100
100	0 ~ 60	1	100	85	65	200	130	100
101	0 ~ 70	2	100	85	65	200	130	100
102	0 ~ 80	2	100	85	65	200	130	100
104	0 ~ 100	2	100	85	65	200	130	100
106	0 ~ 120	2	100	85	65	200	130	100
109	0 ~ 150	2	100	85	65	200	130	100
114	0 ~ 200	5	100	85	65	200	130	100
119	0 ~ 250	5	100	85	65	200	130	100
124	0 ~ 300	5	100	85	65	200	130	100
129	0 ~ 350	5	100	85	65	200	130	100
134	0 ~ 400	10	100	85	65	200	130	100
144	0 ~ 500	10	100	85	65	200	130	100
154	0 ~ 600	10	100	85	65	200	130	100
164	0 ~ 700	10	100	85	65	200	130	100

* 0 ~ 700 °C/Special range

* -200 ~ 100 °C/Special range

** Code 031, bottom connection type can be used more than 500 mm

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Heavy duty service remote reading thermometer

Model : T263

Spec. sheet no. **TD02-13**

Service intended

This thermometer is designed to withstand the shock and vibration inherent in heavy duty services.

Nominal diameter

80 mm

Accuracy

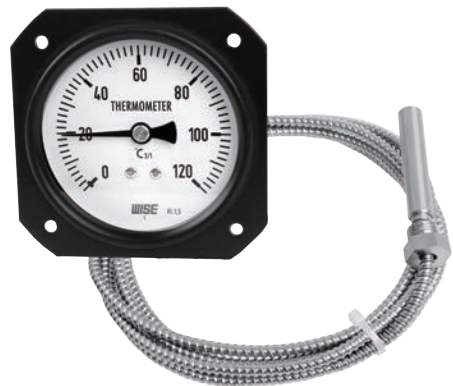
±1.5 % of full scale

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Working range

Maximum scale value



Standard features

Location of stem and mounting

Center back connection, flush, cover mounting

Case and cover

Black finished bronze

Capillary

Capillary : 1.6/0.2 mm, 316SS
Armored tube : 7.5/5.5 mm, 304SS

Window

Laminated safety glass

Dial

White aluminium with black graduation

Movement

Stainless steel
Damper vibration and pulsation

Pointer

Black painted aluminium alloy

Stem

8.0, 10.0 and 12.0 mm
316SS and 316L SS

Zero adjustment

Internal

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Option

±1.0 % of full scale

Main order

Ordering information

1. Base model

T263 Heavy duty service remote reading thermometer

2. Nominal diameter (mm)

3 80

3. Type of mounting

L Center back connection, flush, cover mounting plate

4. Stem material

1 316SS

2 316L SS

5. Stem, process connection

A None

D 3/8"

E 1/2"

F 3/4"

6. Stem connection type (CF: Compression fitting)

A None

B PF

C PT

D NPT

E CF + PT

F CF + NPT

G CF + PF

H MT + PT (Movable thread)

I MT + NPT (Movable thread)

J MT + PF (Movable thread)

7. Stem outer diameter (mm)

2 8.0

3 10.0

4 12.0

8. Range

XXX Refer to scale range table

9. Capillary length (m)

P 2

Q 3

S 5

V 8

X 10

Z Other

10. Accessories

0 None

1 Thermowell

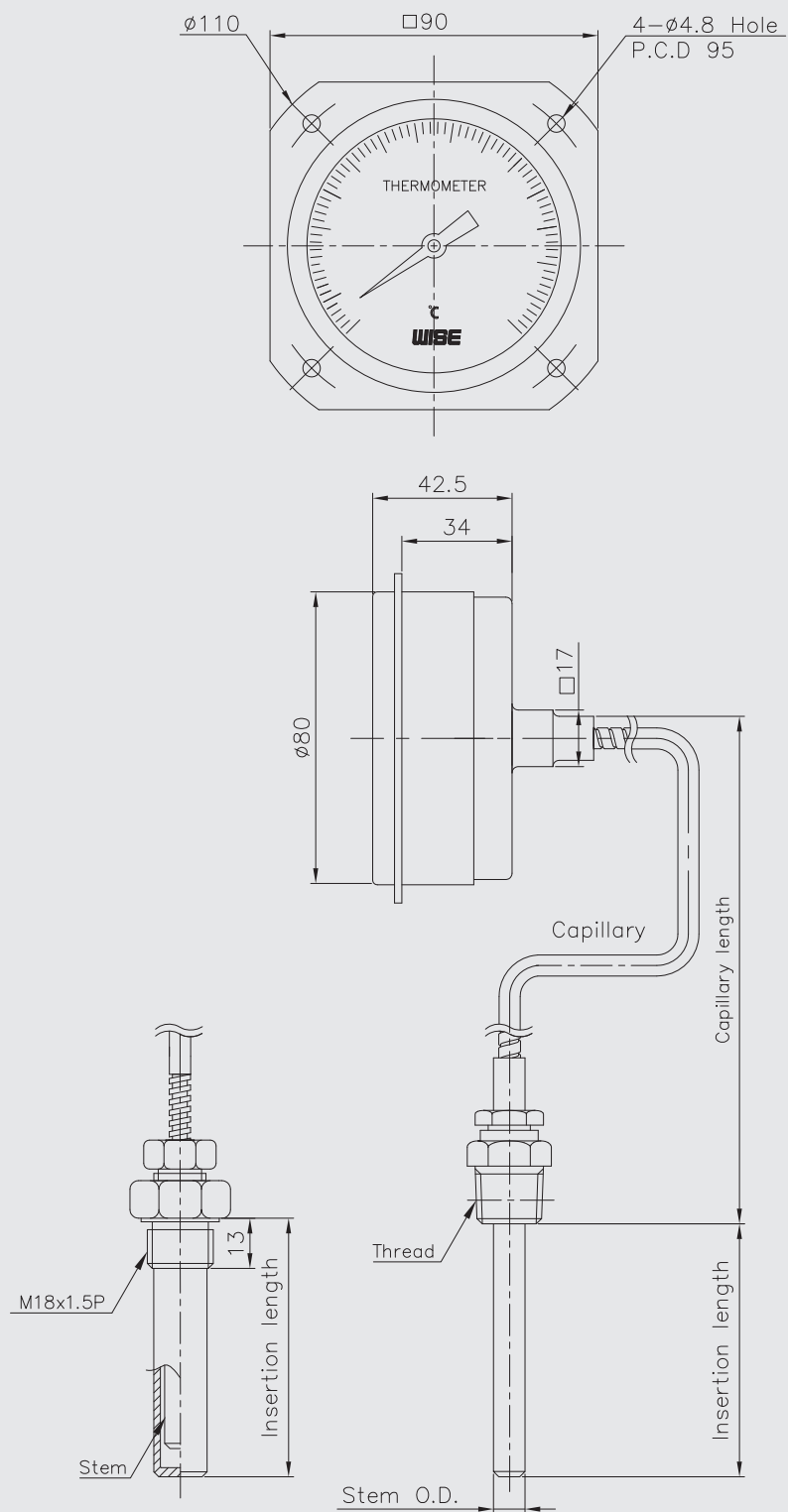
S Special accuracy (± 1.0 % of full scale)

T Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T263	3	L	1	E	C	3	XXX	P	1

Sample
ordering code

T263 : Type of mounting



Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Minimum stem length (mm)			Standard stem length (mm)		
			8.0	10.0	12.0	8.0	10.0	12.0
099	0 ~ 50	1	100	85	65	200	130	100
100	0 ~ 60	1	100	85	65	200	130	100
101	0 ~ 70	2	100	85	65	200	130	100
102	0 ~ 80	2	100	85	65	200	130	100
104	0 ~ 100	2	100	85	65	200	130	100
106	0 ~ 120	2	100	85	65	200	130	100
109	0 ~ 150	2	100	85	65	200	130	100
114	0 ~ 200	5	100	85	65	200	130	100

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Direct reading thermometer with adjustable stem

Model : T290

Spec. sheet no. TD02-14

Service intended

This thermometer is used for measuring temperature of corrosive and non-corrosive fluid in all industries. It operates in aggressive and non-aggressive environment. Linear dials and temperature compensate line assure an accurate temperature indication at varying ambient conditions.

Nominal diameter

100 and 150 mm

Accuracy

±2.0 % of full scale

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem

Lower back with adjustable stem

Pointer

Black painted aluminium alloy

Case

304SS, Adjustable on stem 90°

Stem

8.0, 10.0 and 12.0 mm

316SS and 316L SS

Cover

304SS

Zero adjustment

Internal

Window

Tempered safety glass

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Dial

White aluminium with black graduation

Stem connection type

Movable thread

Option

±1.0 % of full scale

1. Base model

T290 Direct reading thermometer with adjustable stem

2. Nominal diameter (mm)

4 100
6 150

3. Type of mounting

Y Lower back with adjustable stem

4. Stem material

1 316SS
2 316L SS

5. Stem, process connection

A None
D $\frac{3}{8}$ "
E $\frac{1}{2}$ "
F $\frac{3}{4}$ "

6. Stem connection type (CF: Compression fitting)

A None
E CF + PT
F CF + NPT
G CF + PF
H MT + PT (Movable thread)
I MT + NPT (Movable thread)
J MT + PF (Movable thread)

7. Stem outer diameter (mm)

2 8.0
3 10.0
4 12.0
Z Other

8. Range

XXX Refer to scale range table

9. Insertion length

X Refer to insertion length table

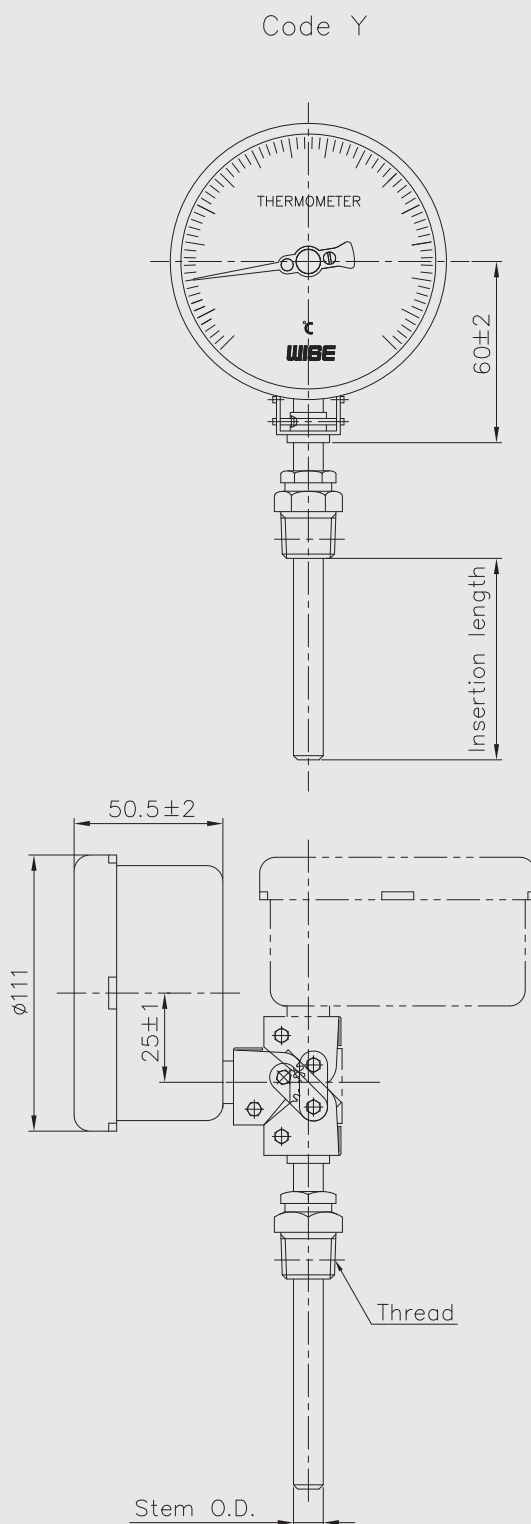
10. Accessories

0 None
1 Thermowell
S Special accuracy (± 1.0 % of full scale)
T Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T290	4	Y	1	E	C	3	XXX	X	1

Sample
ordering code

T290 : Type of mounting



Scale ranges

Code	Scale range (°C)	Scale spacing (°C)	Minimum stem length (mm)		
			8.0	10.0	12.0
031	-200 ~ 100	5	500	500	500
032	-50 ~ 50	2	100	85	65
037	-50 ~ 100	5	100	85	65
054	-30 ~ 50	2	100	88	65
059	-30 ~ 100	5	100	85	65
061	-30 ~ 120	2	100	85	65
069	-20 ~ 50	2	100	85	65
074	-20 ~ 100	2	100	85	65
079	-20 ~ 150	5	100	85	65
084	-10 ~ 50	1	100	85	65
099	0 ~ 50	1	100	85	65
100	0 ~ 60	1	100	85	65
101	0 ~ 70	2	100	85	65
102	0 ~ 80	1	100	85	65
104	0 ~ 100	2	100	85	65
106	0 ~ 120	2	100	85	65
109	0 ~ 150	2	100	85	65
114	0 ~ 200	5	100	85	65
119	0 ~ 250	5	100	85	65
124	0 ~ 300	5	100	85	65
129	0 ~ 350	5	100	85	65
134	0 ~ 400	5	100	85	65
144	0 ~ 500	10	100	85	65
154	0 ~ 600	10	100	85	65
164	0 ~ 700	10	100	85	65

* 0 ~ 700 °C/Special range

* -200 ~ 100 °C/Special range

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Safety pattern type direct reading thermometer solid-front turret style thermoplastic case

Model : T359

Spec. sheet no. **TD03-01**

Service intended

This thermometer is used for measuring temperature of corrosive and non-corrosive fluid in all industries. It operates in aggressive and non-aggressive environment. Linear dials and temperature compensate line assure an accurate temperature indication at varying ambient conditions.



Nominal diameter

125 mm

Accuracy

±2.0 % of full scale

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem

Bottom connection, direct
Lower back connection, direct

Stem

6.4, 8.0, 10.0 and 12.0 mm
316SS and 316L SS

Case and cover

Black glass reinforced thermoplastic (PBTB)
Solid front, blow-out back
Turret style case with built in rear flange lugs

Zero adjustment

Internal

Window

Polycarbonate

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Dial

White aluminium with black graduation

Option

Special accuracy, ±1.0 % of full scale

Pointer

Black painted aluminium alloy

Certificates

ATEX Ex II GD c IIB TX

1. Base model

T359 Safety pattern type direct reading thermometer
solid-front turret style thermoplastic case

2. Nominal diameter (mm)

5 125

3. Type of mounting

B Bottom connection, direct, surface, case mounting lugs
L Lower back connection, direct, case center mounting lugs

4. Stem material

1 316SS
2 316L SS

5. Stem, process connection

A None
D $\frac{3}{8}$ "
E $\frac{1}{2}$ "
F $\frac{3}{4}$ "

6. Stem connection type (CF: Compression fitting)

A None
E CF + PT
F CF + NPT
G CF + PF
H MT + PT (Movable thread)
I MT + NPT (Movable thread)
J MT + PF (Movable thread)

7. Stem outer diameter (mm)

2 8.0
3 10.0
4 12.0
Z Other

8. Range

XXX Refer to scale range table

9. Insertion length

X Refer to insertion length table

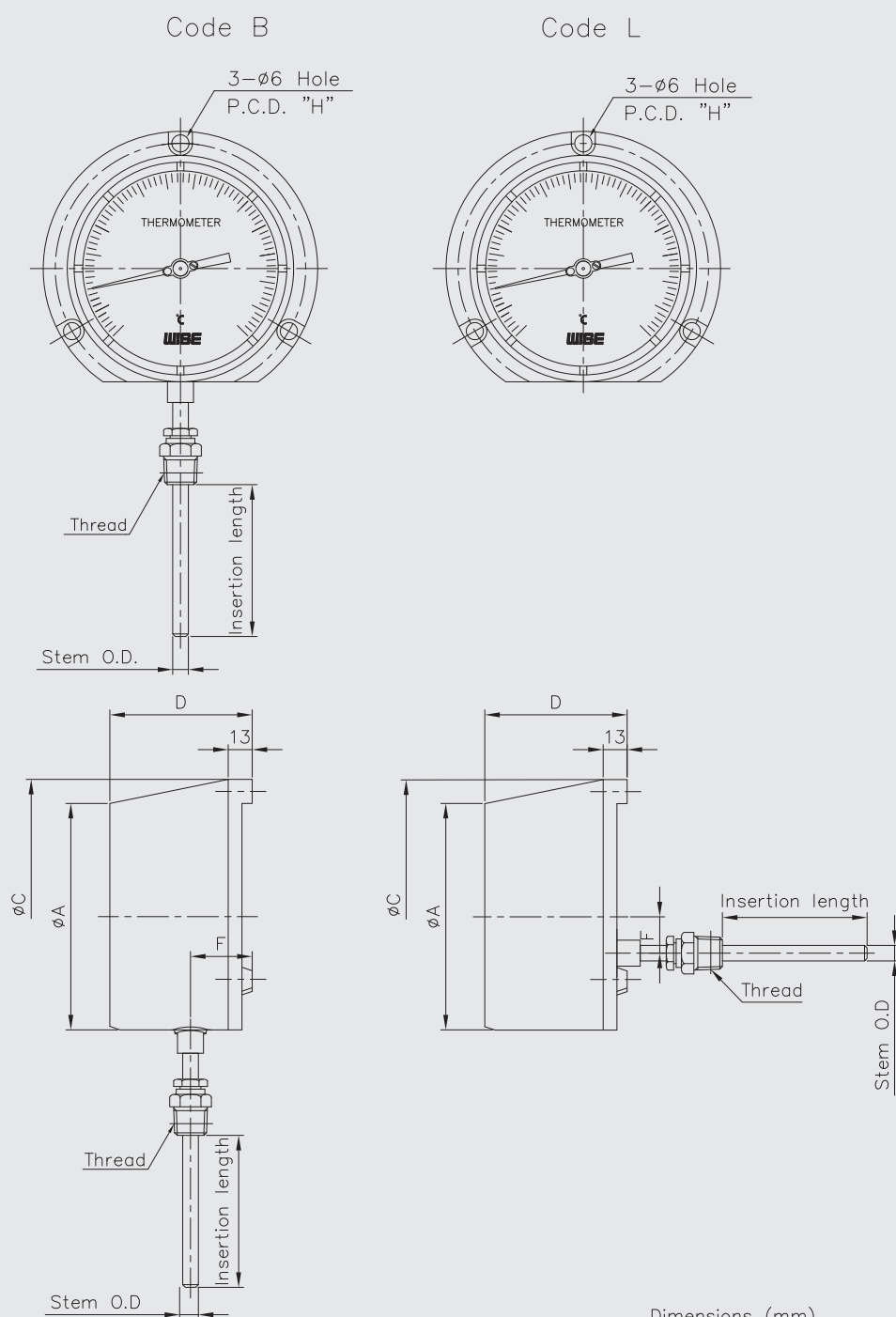
10. Accessories

0 None
1 Thermowell
2 Special accuracy (± 1.0 % of full scale)
3 Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T359	5	B	1	E	C	3	XXX	X	1

Sample
ordering code

T359 : Type of mounting



Dial Size	Available code	A	C	D±2	F±1	H
125	B	129	149.5	82.5	37.5	137.5
	L	129	149.5	82.5	27	137.5

Scale ranges

Code	Scale range (°C)	Scale spacing (°C)	Minimum stem length (mm)		
			8.0	10.0	12.0
031	-200 ~ 100	5	500	500	500
032	-50 ~ 50	2	100	85	65
037	-50 ~ 100	5	100	85	65
054	-30 ~ 50	2	100	88	65
059	-30 ~ 100	5	100	85	65
061	-30 ~ 120	2	100	85	65
069	-20 ~ 50	2	100	85	65
074	-20 ~ 100	2	100	85	65
079	-20 ~ 150	5	100	85	65
084	-10 ~ 50	1	100	85	65
099	0 ~ 50	1	100	85	65
100	0 ~ 60	1	100	85	65
101	0 ~ 70	2	100	85	65
102	0 ~ 80	1	100	85	65
104	0 ~ 100	2	100	85	65
106	0 ~ 120	2	100	85	65
109	0 ~ 150	2	100	85	65
114	0 ~ 200	5	100	85	65
119	0 ~ 250	5	100	85	65
124	0 ~ 300	5	100	85	65
129	0 ~ 350	5	100	85	65
134	0 ~ 400	5	100	85	65
144	0 ~ 500	10	100	85	65
154	0 ~ 600	10	100	85	65
164	0 ~ 700	10	100	85	65

* 0 ~ 700 °C/Special range

* -200 ~ 100 °C/Special range

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Safety pattern type remote reading thermometer solid-front turret style thermoplastic case

Model : T360

Spec. sheet no. TD03-02

Service intended

This thermometer is used for measuring temperature of corrosive and non-corrosive fluid in all industries. It operates in aggressive and non-aggressive environment. Linear dials and temperature compensate line assure an accurate temperature indication at varying ambient conditions.

Nominal diameter

125 mm

Accuracy

±2.0% of full scale

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem and mounting

Bottom connection, surface, case mounting lugs
Lower back connection, surface, case mounting lugs

Case and cover

Black glass reinforced thermoplastic (PBTB)
Solid front, blow-out back
Turret style case with built in rear flange lugs

Capillary

Capillary : 1.6/0.2 mm, 316SS
Armored tube : 7.5/5.5 mm, 304SS

Window

Polycarbonate

Dial

White aluminium with black graduation

Pointer

Black painted aluminium alloy

Stem

8.0, 10.0 and 12.0 mm
316SS and 316L SS

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Option

Special accuracy, ±1.0 % of full scale

Main order

Ordering information

1. Base model

T360 Safety pattern type remote reading thermometer
solid-front turret style thermoplastic case

2. Nominal diameter (mm)

5 125

3. Type of mounting

B Bottom connection, surface, case mounting lugs
L Lower back connection, surface, case center mounting lugs

4. Stem material

1 316SS
2 316L SS

5. Stem, process connection

A None
D $\frac{3}{8}$ "
E $\frac{1}{2}$ "
F $\frac{3}{4}$ "

6. Stem connection type (CF: Compression fitting)

A None
E CF + PT
F CF + NPT
G CF + PF
H MT + PT (Movable thread)
I MT + NPT (Movable thread)
J MT + PF (Movable thread)

7. Stem outer diameter (mm)

2 8.0
3 10.0
4 12.0
Z Other

8. Range

XXX Refer to scale range table

9. Capillary length (m)

P 2
Q 3
S 5
V 8
X 10
Z Other

10. Accessories

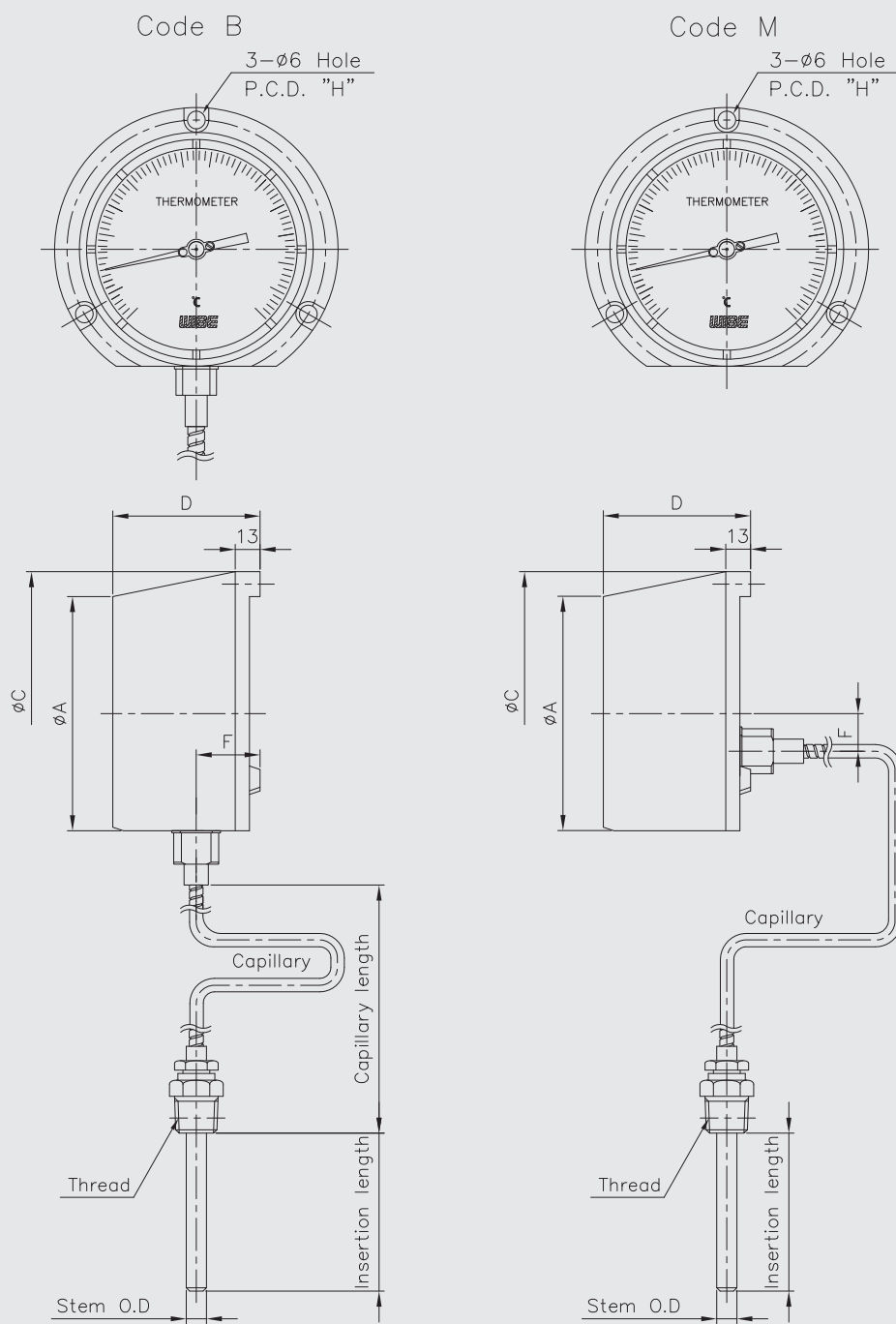
0 None
1 Thermowell
S Special accuracy (± 1.0 % of full scale)
T Thermowell and special accuracy

11. Insertion length (mm)

XX Refer to Insertion length table

1	2	3	4	5	6	7	8	9	10	11	Sample ordering code
T360	5	B	1	E	C	2	XXX	P	1	XX	

T360 : Type of mounting



Dimensions (mm)

Dial Size	Available code	A	C	D±2	F±1	H
125	B	129	149.5	82.5	37.5	137.5
	L	129	149.5	82.5	27	137.5

Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Minimum stem length (mm)			Standard stem length (mm)		
			8.0	10.0	12.0	8.0	10.0	12.0
031	-200 ~ 100	5	100	85	65	200	130	100
032	-50 ~ 50	2	100	85	65	200	130	100
037	-50 ~ 100	5	100	88	65	200	130	100
054	-30 ~ 50	2	100	85	65	200	130	100
059	-30 ~ 100	2	100	85	65	200	130	100
061	-30 ~ 120	5	100	85	65	200	130	100
069	-20 ~ 50	2	100	85	65	200	130	100
074	-20 ~ 100	2	100	85	65	200	130	100
079	-20 ~ 150	5	100	85	65	200	130	100
084	-10 ~ 50	1	100	85	65	200	130	100
099	0 ~ 50	1	100	85	65	200	130	100
100	0 ~ 60	1	100	85	65	200	130	100
101	0 ~ 70	2	100	85	65	200	130	100
102	0 ~ 80	2	100	85	65	200	130	100
104	0 ~ 100	2	100	85	65	200	130	100
106	0 ~ 120	2	100	85	65	200	130	100
109	0 ~ 150	5	100	85	65	200	130	100
114	0 ~ 200	5	100	85	65	200	130	100
119	0 ~ 250	5	100	85	65	200	130	100
124	0 ~ 300	5	100	85	65	200	130	100
129	0 ~ 350	5	100	85	65	200	130	100
134	0 ~ 400	10	100	85	65	200	130	100
144	0 ~ 500	10	100	85	65	200	130	100
154	0 ~ 600	10	100	85	65	200	130	100
164	0 ~ 700	10	100	85	65	200	130	100

* 0 ~ 700 °C/Special range

* -200 ~ 100 °C/Special range

Insertion length

Code	K1	K2	K3	K4	K5	K6	K7	K8	K9	KA	KB	KC
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	KD	KE	KF	KG	KH	KJ	KK	KL	KM	KN	KP
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Glass thermometer

Model : T400

Spec. sheet no. TD04-01

Service intended

Glass thermometer is suitable to be used for temperature measurement in various industrial plants such as oil refinery, sugar factory, chemical industry, rubber plant and etc.

Form

Rectangular

Accuracy

±2.0 % of full scale

Measuring system

Liquid filled : 0 ~ 600 °C

Working range

Maximum scale value



Standard features

Location of stem

Bottom connection, direct, "I" type
Lower back connection, direct, "L" type

Stem

8.0, 10.0 and 12.0 mm
Brass, 316SS and 316L SS

Case

Aluminium alloy

Stem, process connection

3/8", 1/2" PT, NPT and PF, 22 mm

Stem connection type

Movable thread

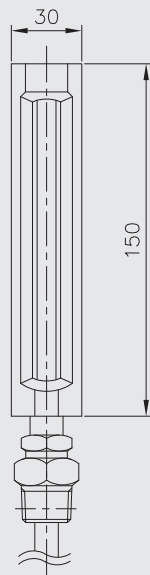
1. Base model**T400** Glass thermometer**2. Nominal diameter****9** Rectangular**3. Type of mounting****V** Bottom connection, direct, "I" type**W** Lower back connection, direct, "L" type**4. Stem material****0** Brass**1** 316SS**2** 316L SS**5. Stem, process connection****A** None**D** 3/8"**E** 1/2"**F** 3/4"**M** 22 mm, Only available with connection type MM (Standard)**6. Stem connection type (CF: Compression fitting)****A** None**E** CF + PT**F** CF + NPT**G** CF + PF**H** MT + PT (Movable thread)**I** MT + NPT (Movable thread)**J** MT + PF (Movable thread)**M** MM, only available with connection size 22 mm**7. Stem outer diameter (mm)****2** 8.0**3** 10.0 (Standard)**4** 12.0**Z** Other**8. Range****XXX** Refer to scale range table**9. Insertion length****X** Refer to insertion length table**10. Accessories****0** None**1** Thermowell

1	2	3	4	5	6	7	8	9	10
T400	9	V	0	E	C	3	XXX	X	1

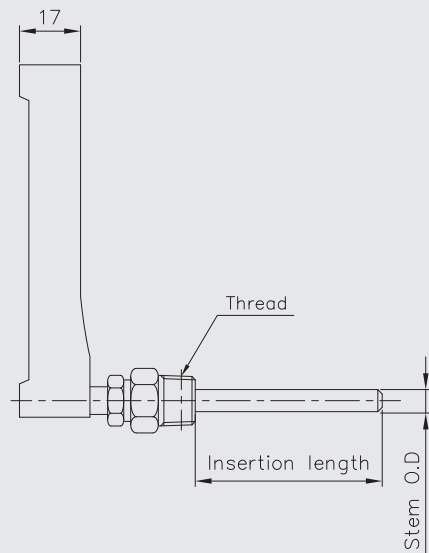
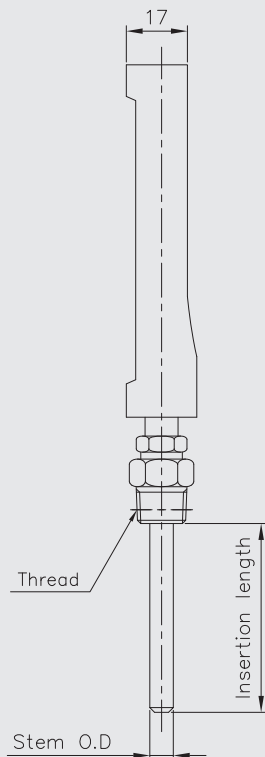
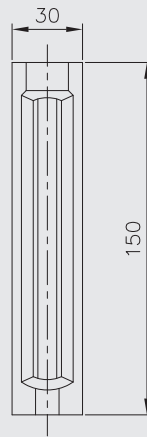
Sample
ordering code

T400 : Type of mounting

Code V



Code W



Scale ranges

Code	Scale range (°C)	Scale spacing (°C)	Minimum stem length (mm)		
			8.0	10.0	12.0
032	-50 ~ 50	2	30	30	50
037	-50 ~ 100	5	30	30	50
054	-30 ~ 50	2	30	30	50
059	-30 ~ 100	5	30	30	50
061	-30 ~ 120	2	30	30	50
069	-20 ~ 50	2	30	30	50
074	-20 ~ 100	2	30	30	50
079	-20 ~ 150	5	30	30	50
084	-10 ~ 50	1	30	30	50
099	0 ~ 50	1	30	30	50
100	0 ~ 60	1	30	30	50
101	0 ~ 70	2	30	30	50
102	0 ~ 80	1	30	30	50
104	0 ~ 100	2	30	30	50
106	0 ~ 120	2	30	30	50
109	0 ~ 150	2	30	30	50
114	0 ~ 200	5	30	30	50
119	0 ~ 250	5	30	30	50
124	0 ~ 300	5	30	30	50
129	0 ~ 350	5	30	30	50
134	0 ~ 400	5	30	30	50
144	0 ~ 500	10	30	30	50
154	0 ~ 600	10	100	45	50

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Euro gauge

Inductive contact type temperature gauge

Model : T501(H), T502(H/L), T503(L), T504(H/HH), T505(L/LL)

Spec. sheet no. TD05-01

Service intended

Contact type temperature gauge is installed with electric contact actuated by pointer. It provides the function which electrical circuit can be opened or closed by manual set point. It is applicable where signal is required (Audible or visual alarm) for control of resistance or any other application with auxiliary relay and contact.



Nominal diameter

100 and 160 mm

Accuracy

±2.0 % of full scale

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem and mounting

Bottom connection, surface, case mounting

Case

304SS

Cover

Stainless steel (304SS)

Bayonet type

Capillary

Capillary : 1.6/0.2 mm, 316SS

Armored tube : 7.5/5.5 mm, 304SS

Window

Safety glass : Only available with diameter 100 mm

Polycarbonate : 100 and 160 mm

Dial

White aluminium with black graduation

Contacts

Maximum voltage : 250 V AC

Contact rating : AC 220 V, 0.25 A

DC 100 V, 0.5 A

With max. no of contact : 2 sets per gauge

Pointer

Black painted aluminium alloy

Stem

8.0, 10.0 and 12.0 mm

316SS and 316L SS

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Option

Special accuracy, ±1.0 % of full scale

Certificates

NEPSI Ex ia IIC T6 Ga

Tamb = -20 ~ 56 °C

Main order

Ordering information

1. Base model

- T501** Inductive contact type temperature gauge (High alarm)
T502 Inductive contact type temperature gauge (High and low alarm)
T503 Inductive contact type temperature gauge (Low alarm)
T504 Inductive contact type temperature gauge (High and hihigh alarm)
T505 Inductive contact type temperature gauge (Low and lolow alarm)

2. Nominal diameter (mm)

- 4** 100 mm and safety glass
5 100 mm and polycarbonate window
6 160 mm and polycarbonate window

3. Type of mounting

- A** Bottom connection (Only direct mounting)
B Bottom connection, surface, case mounting plate
N Lower back entry and panel mounting (Only available with diameter 100 mm)

4. Stem material

- 1** 316SS
2 316L SS

5. Stem, process connection

- A** None
D $\frac{3}{8}$ "
E $\frac{1}{2}$ "
F $\frac{3}{4}$ "

6. Stem connection type (CF: Compression fitting)

- A** None
E CF + PT
F CF + NPT
G CF + PF
H MT + PT (Movable thread)
I MT + NPT (Movable thread)
J MT + PF (Movable thread)

7. Stem outer diameter (mm)

- 2** 8.0
3 10.0
4 12.0
Z Other

8. Range

XXX Refer to scale range table

9. Capillary length (m)

- A** Direct mounting type
P 2
Q 3
S 5
V 8
X 10
Z Other

10. Accessories

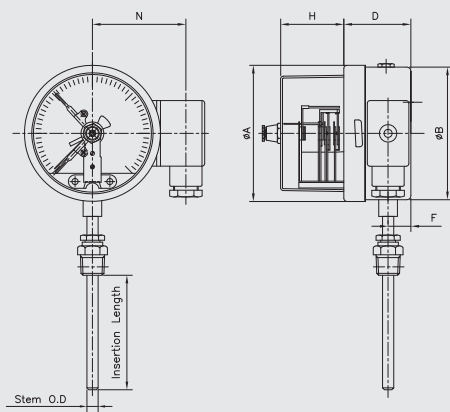
- 0** None
1 Thermowell
2 Special accuracy (± 1.0 % of full scale)
3 Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T501	4	B	1	E	C	3	XXX	P	1

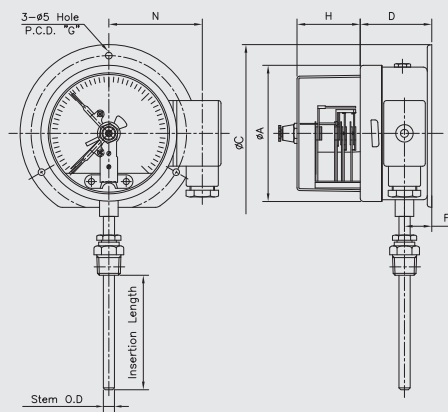
Sample
ordering code

T50X : Type of mounting (1/2)

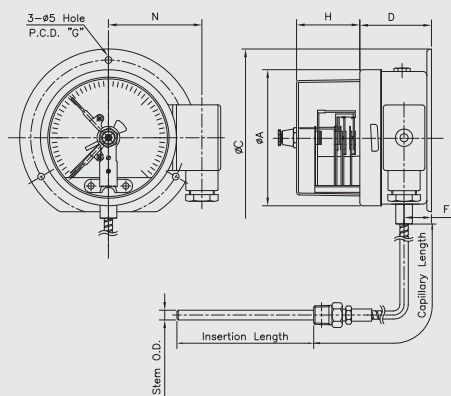
Code A



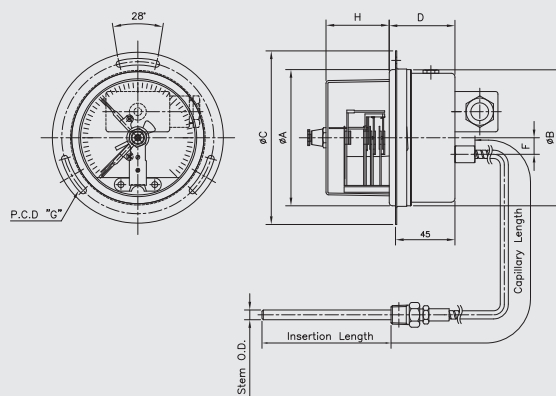
Code B



Code B*



Code N

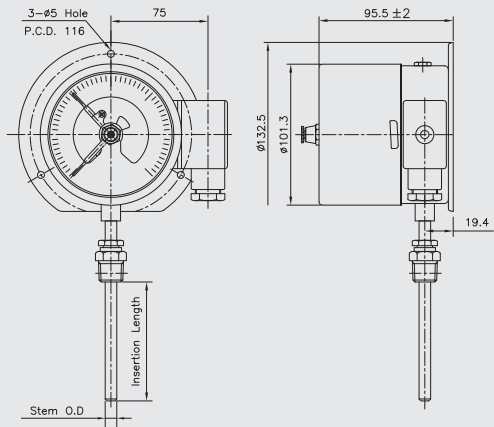
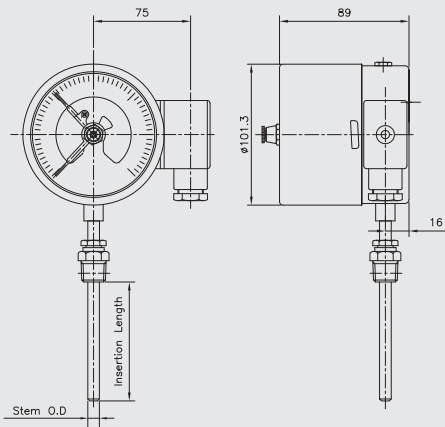


Dimensions (mm)

Dial size	Available code	A	B	C	D±2	F±1	G	H	N
100	A	101.3	99		50	16		34.5	75
	B	101.3		133	54.4	19.4	116	34.5	75
	B*	101.3		133	54.4	19.4		34.5	75
	N	101.3	103.1	131	50	12	116	34.5	
160	A	160.6	159		52.5	16		34	105
	B	160.6		196	56	19.4	178	34	105
	B*	160.6			52.5	19.4		34	105
	N	160.6	165	196	56	12	178	34	

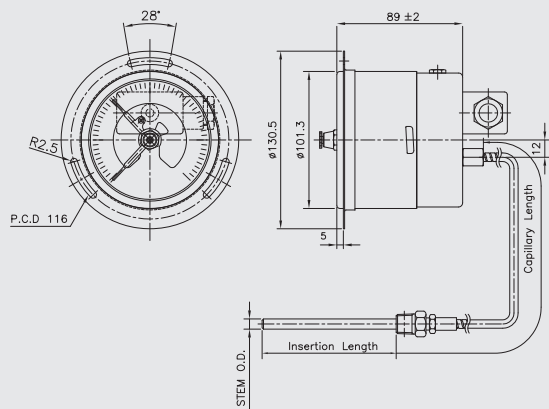
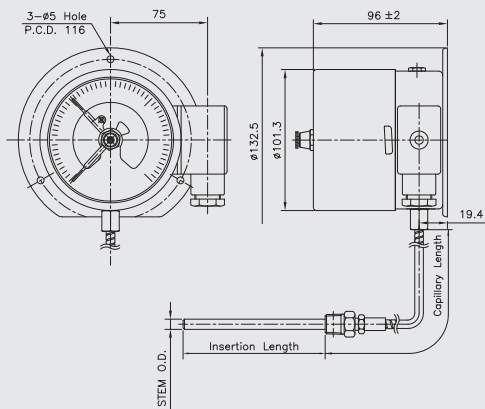
T50X : Type of mounting (2/2)

Code A (Only 100mm) Code B



Code B*

Code N



Inductive contacts

General

Electromechanical limit switches in pointer type measuring instrument are equipped with electrical distance sensor (Proximity sensor).

The output signal is govern by the presence or absence of control vane moved by actual value pointer in the magnetic field of the proximity sensor.

Electronic contact essentially comprise

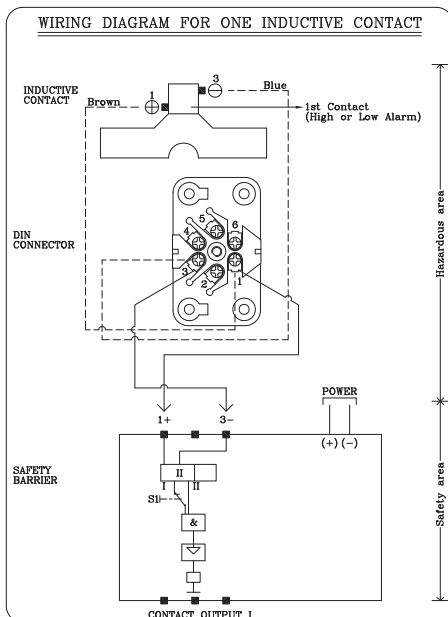
- An adjustable red set pointer
- A supporting arm which is connected with the end set pointer and the carries the proximity sensor, and
- A control vane moved by actual value pointer.

An adjusting lock provided with a separate or fixed key is used for external adjustment of the set pointers of the built-in limit value at which the switching operation is to take place.

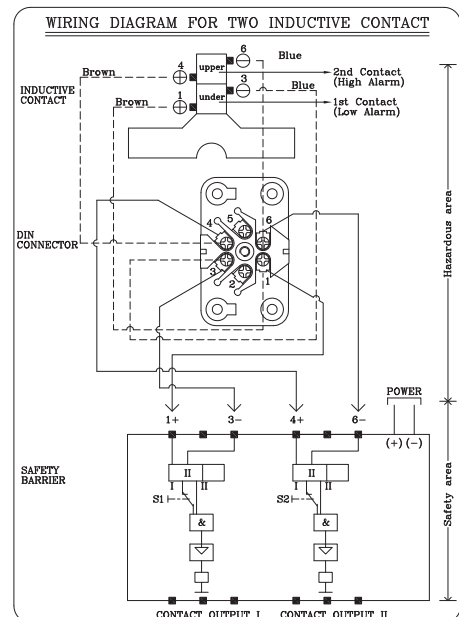
Technical data

Nominal operating voltage	10 ~ 30 V max.
Breaking capacity	Less than 100 mA
Switching accuracy	Approx 0.5 % of the full scale value
Ambient temperature	-25 ~ 70 °C
Adjusting range	Max. 280°

Terminal block arrangement



SAFETY BARRIER MODEL	Contact Output I (High or Low Alarm)	POWER
KFA5-SR2-Ex1.W(115V, AC)	7(COMMON) 8(OPEN) 9(CLOSE)	14(+) 15(-)
KFA6-SR2-Ex1.W(230V, AC)		
KFD2-SR2-Ex1.W(24V.DC)		



SAFETY BARRIER MODEL	Contact Output I (Low Alarm)	Contact Output II (High Alarm)	POWER
KFA5-SR2-Ex2.W(115V, AC)	7(COMMON) 8(OPEN) 9(CLOSE)	10(COMMON) 11(OPEN) 12(CLOSE)	14(+) 15(-)
KFA6-SR2-Ex2.W(230V, AC)			
KFD2-SR2-Ex2.W(24V.DC)			

Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Minimum stem length (mm)			Standard stem length (mm)		
			8.0	10.0	12.0	8.0	10.0	12.0
032	-50 ~ 50	2	100	85	65	200	130	100
037	-50 ~ 100	5	100	88	65	200	130	100
054	-30 ~ 50	2	100	85	65	200	130	100
059	-30 ~ 100	2	100	85	65	200	130	100
061	-30 ~ 120	5	100	85	65	200	130	100
069	-20 ~ 50	2	100	85	65	200	130	100
074	-20 ~ 100	2	100	85	65	200	130	100
079	-20 ~ 150	5	100	85	65	200	130	100
084	-10 ~ 50	1	100	85	65	200	130	100
099	0 ~ 50	1	100	85	65	200	130	100
100	0 ~ 60	1	100	85	65	200	130	100
101	0 ~ 70	2	100	85	65	200	130	100
102	0 ~ 80	2	100	85	65	200	130	100
104	0 ~ 100	2	100	85	65	200	130	100
106	0 ~ 120	2	100	85	65	200	130	100
109	0 ~ 150	5	100	85	65	200	130	100
114	0 ~ 200	5	100	85	65	200	130	100
119	0 ~ 250	5	100	85	65	200	130	100
124	0 ~ 300	5	100	85	65	200	130	100
129	0 ~ 350	5	100	85	65	200	130	100
134	0 ~ 400	10	100	85	65	200	130	100
144	0 ~ 500	10	100	85	65	200	130	100
154	0 ~ 600	10	100	85	65	200	130	100
164	0 ~ 700	10	100	85	65	200	130	100

* 0 ~ 700 °C/Special range

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Euro gauge

Inductive contact type bimetal temperature gauge

Model : T511(H), T512(H/L), T513(L), T514(H/HH), T515(L/LL)

Spec. sheet no. TD05-02

Service intended

Contact type temperature gauge is installed with electric contact actuated by pointer. It provides the function which electrical circuit can be opened or closed by manual set point. It is applicable where signal is required (Audible or visual alarm) for control of resistance or any other application with auxiliary relay and contact.



Nominal diameter

100 and 160 mm

Accuracy

±2.0 % of full scale

Temperature element

Coiled bimetal

Working range

Maximum scale value



Standard features

Location of stem

Bottom connection, surface, case mounting

Case

Stainless steel (304SS)

Cover

304SS

Bayonet type

Window

Safety glass : Only available with diameter 100 mm
Polycarbonate : 100 and 160 mm

Dial

White aluminium with black graduation

Contacts

Maximum voltage : 250 V AC

Contact rating : AC 220 V, 0.25 A

DC 100 V, 0.5 A

With max. no of contact : 2 sets per gauge

Pointer

Black painted aluminium alloy

Stem out diameter

6.0, 6.4, 8.0 and 10.0 mm diameter

304SS, 316SS and 316L SS

Max. Insertion length : 2,000 mm

Stem, process connection

$\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ " PT or NPT

G1/2B, G3/4B

Option

Special accuracy, ±1.0 % of full scale

WISE®

1. Base model

- T511** Inductive contact type bimetal temperature gauge (High alarm)
- T512** Inductive contact type bimetal temperature gauge (High and low alarm)
- T513** Inductive contact type bimetal temperature gauge (Low alarm)
- T514** Inductive contact type bimetal temperature gauge (High and high alarm)
- T515** Inductive contact type bimetal temperature gauge (Low and low alarm)

2. Nominal diameter (mm)

- 4** 100 mm and safety glass
- 5** 100 mm and polycarbonate window
- 6** 160 mm and polycarbonate window

3. Type of mounting

- A** Bottom connection (Only direct mounting)
- B** Bottom connection, surface, case mounting plate

4. Stem material

- 0** 304SS
- 1** 316SS
- 2** 316L SS

5. Stem, process connection

- D** 3/8"
- E** 1/2"
- F** 3/4"

6. Stem connection type (CF: Compression fitting)

- E** CF + PT
- F** CF + NPT
- G** CF + PF
- H** MT + PT (Movable thread)
- I** MT + NPT (Movable thread)
- J** MT + PF (Movable thread)
- S** Clamp (Sanitary type flange)

7. Stem outer diameter (mm)

- 0** 6.0
- 1** 6.4
- 2** 8.0
- 3** 10.0

8. Range

- XXX** Refer to scale range table

9. Insertion length

- X** Refer to insertion length table

10. Accessories

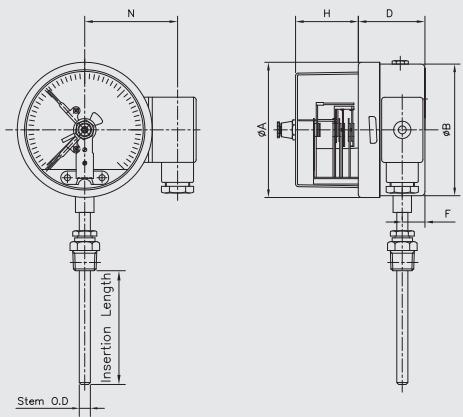
- 0** None
- 1** Thermowell
- 2** Special accuracy (± 1.0 % of full scale)
- 3** Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T511	4	A	1	E	C	3	XXX	X	1

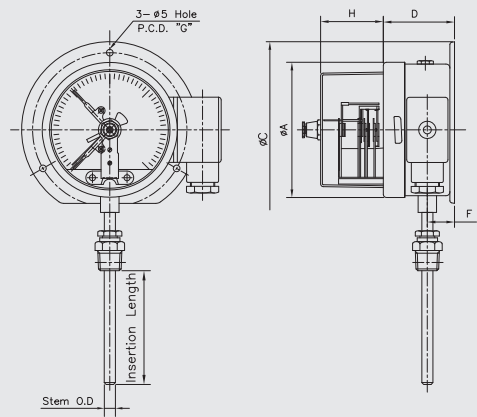
Sample
ordering code

T51X : Type of mounting

Code A



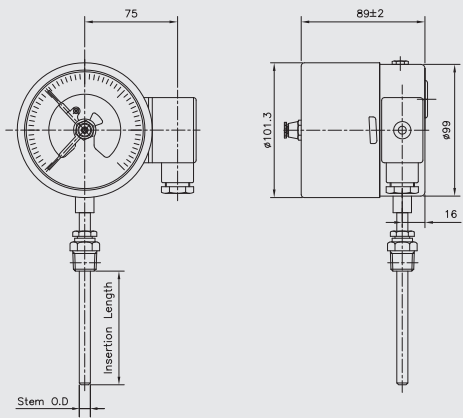
Code B



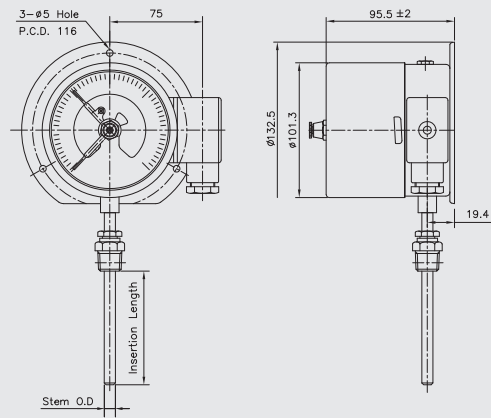
Dimensions (mm)									
Dial size	Available code	A	B	C	D±2	F±1	G	H	N
100	A	101.3	99		50	16		34.5	75
	B	101.3		133	54.4	19.4	116	34.5	
160	A	160.6	159		52.5	16		34	105
	B	160.6		196	56	19.4	178	34	

(Polycarbonate window)

Code A



Code B



(Safety glass window / only 100mm)

Inductive contacts

General

Electromechanical limit switches in pointer type measuring instrument are equipped with electrical distance sensor (Proximity sensor).

The output signal is govern by the presence or absence of control vane moved by actual value pointer in the magnetic field of the proximity sensor.

Electronic contact essentially comprise

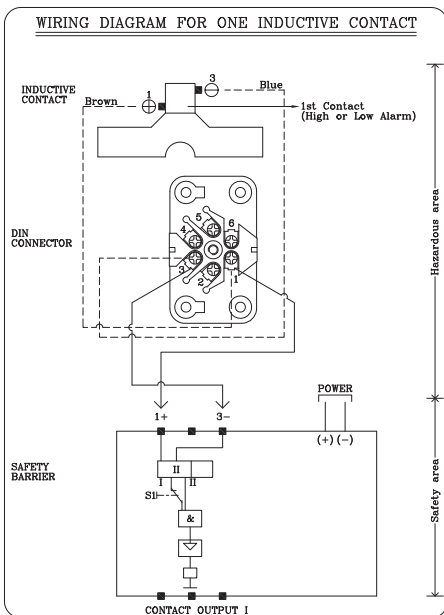
- An adjustable red set pointer
- A supporting arm which is connected with the end set pointer and the carries the proximity sensor, and
- A control vane moved by actual value pointer.

An adjusting lock provided with a separate or fixed key is used for external adjustment of the set pointers of the built-in limit value at which the switching operation is to take place.

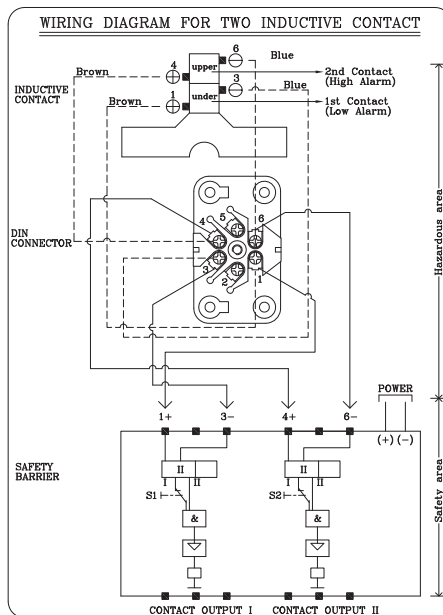
Technical data

Nominal operating voltage	10 ~ 30 V max.
Breaking capacity	Less than 100 mA
Switching accuracy	Approx 0.5 % of the full scale value
Ambient temperature	-25 ~ 70 °C
Adjusting range	Max. 280°

Terminal block arrangement



SAFETY BARRIER MODEL	Contact Output I (High or Low Alarm)	POWER
KPA5-SR2-Ex1.W(115V, AC)	7(COMMON) 8(OPEN) 9(CLOSE)	14(+) 15(-)
KPA6-SR2-Ex1.W(230V, AC)		
KPD2-SR2-Ex1.W(24V,DC)		



SAFETY BARRIER MODEL	Contact Output I (Low Alarm)	Contact Output II (High Alarm)	POWER
KPA5-SR2-Ex2.W(115V, AC)	7(COMMON) 8(OPEN) 9(CLOSE)	10(COMMON) 11(OPEN) 12(CLOSE)	14(+) 15(-)
KPA6-SR2-Ex2.W(230V, AC)			
KPD2-SR2-Ex2.W(24V,DC)			

Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Minimum stem length (mm)	
			6.0 and 6.4	8.0 and 10.0
032	-50 ~ 50	2	55	50
037	-50 ~ 100	5	45	35
054	-30 ~ 50	2	70	60
059	-30 ~ 100	2	50	45
061	-30 ~ 120	5	45	35
069	-20 ~ 50	2	80	70
074	-20 ~ 100	2	45	45
079	-20 ~ 150	5	40	35
084	-10 ~ 50	1	95	80
099	0 ~ 50	1	110	70
100	0 ~ 60	1	95	80
101	0 ~ 70	2	80	60
102	0 ~ 80	2	70	55
104	0 ~ 100	2	55	50
106	0 ~ 120	2	50	45
109	0 ~ 150	5	45	35
114	0 ~ 200	5	35	35
119	0 ~ 250	5	35	30
124	0 ~ 300	5	35	25
129	0 ~ 350	5	30	25
134	0 ~ 400	5	80	65
144	0 ~ 500	10	70	60
154	0 ~ 600	10	70	60

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Euro gauge

Electrical contact type temperature gauge

Model : T521(H), T522(H/L), T523(L), T524(H/HH), T525(L/LL), T526(H/L)

Spec. sheet no. TD05-03

Service intended

Contact type temperature gauge is installed with electric contact actuated by pointer. It provides the function which electrical circuit can be opened or closed by manual set point. It is applicable where signal is required (Audible or visual alarm) for control of resistance or any other application with auxiliary relay and contact.



Nominal diameter

100 mm

Accuracy

±2.0 % of full scale

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem and mounting

Bottom connection, surface, case mounting

Case

304SS

Cover

304SS

Bayonet type

Capillary

Capillary : 1.6/0.2 mm, 316SS

Armored tube : 7.5/5.5 mm, 304SS

Window

Safety glass

Polycarbonate

Dial

White aluminium with black graduation

Contacts

Maximum voltage : 250 V AC

Contact rating : AC 220 V, 0.25 A

DC 100 V, 0.5 A

With max. no of contact : 2 sets per gauge

Pointer

Black painted aluminium alloy

Stem

8.0, 10.0 and 12.0 mm

316SS and 316L SS

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Option

Special accuracy, ±1.0 % of full scale

1. Base model

- T521** Electrical contacts type temperature gauge (High alarm)
- T522** Electrical contacts type temperature gauge (High and low alarm)
- T523** Electrical contacts type temperature gauge (Low alarm)
- T524** Electrical contacts type temperature gauge (Two high alarm)
- T525** Electrical contacts type temperature gauge (Two low alarm)
- T526** Failsafe high and low alarm

2. Nominal diameter and window material

- 4** 100 mm and safety glass
- 5** 100 mm and polycarbonate window

3. Type of mounting

- A** Bottom connection (Only direct mounting)
- B** Bottom connection, surface, case mounting plate
- N** Lower back entry and panel mounting

4. Stem material

- 1** 316SS
- 2** 316L SS

5. Stem, process connection

- A** None
- D** 3/8"
- E** 1/2"
- F** 3/4"

6. Stem connection type (CF: Compression fitting)

- A** None
- E** CF + PT
- F** CF + NPT
- G** CF + PF
- H** MT + PT (Movable thread)
- I** MT + NPT (Movable thread)
- J** MT + PF (Movable thread)

7. Stem outer diameter (mm)

- 2** 8.0
- 3** 10.0
- 4** 12.0 (Standard)
- Z** Other

8. Range

- XXX** Refer to scale range table

9. Capillary length (m)

- A** Direct mounting type
- P** 2
- Q** 3
- S** 5
- V** 8
- X** 10
- Z** Other

10. Accessories

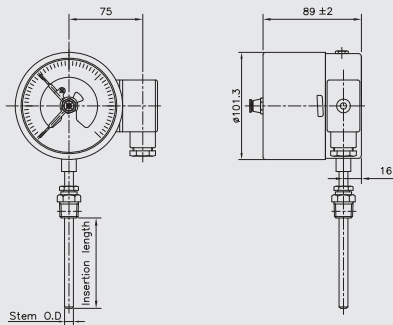
- 0** None
- 1** Thermowell
- 2** Special accuracy (± 1.0 % of full scale)
- 3** Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T521	4	B	1	E	C	3	XXX	P	1

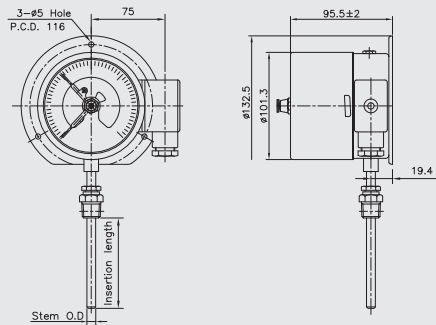
Sample
ordering code

T52X : Type of mounting

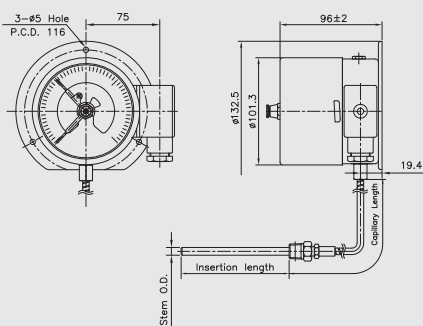
Code A



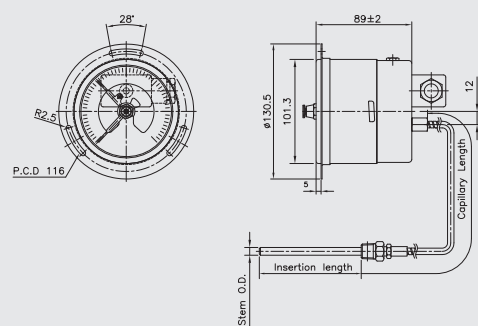
Code B



Code B*

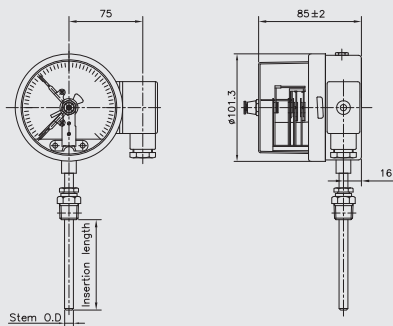


Code N

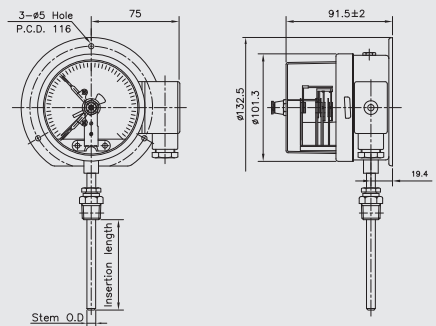


(Safety glass window)

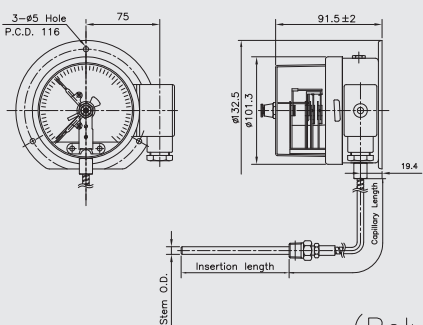
Code A



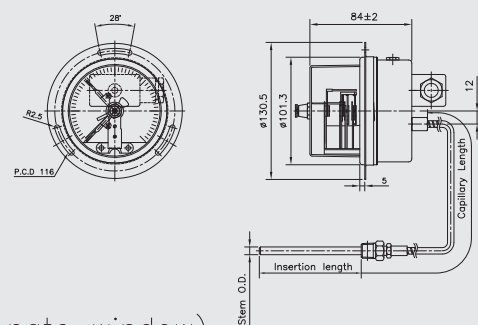
Code B



Code B*



Code N



(Polycarbonate window)

Snap - action contacts

General

Electromechanical limit switches in pointer type measuring instruments are auxiliary current switches which open or close electrical circuits at set limit values by means of a contact arm which is moved by the actual value pointer.

The snap action contact is a mechanical contact for switching capacities up to 30 W 50 VA max.

Contact making will be delayed and or advanced in relation to the movement of the actual value pointer.

To closed the circuit, the contact pin of the movable contact arm is attracted in a jump by the permanent magnet fastened to the supporting arm shortly before the set value has been reached.

Due to the retention force of the magnet, snap action contacts are more resistant against shock and vibration.

The switching safety is increased by the increased contact pressure.

When the circuit is opened, the magnet keeps the contact arm in its place until the restoring force of the measuring element exceeds the magnetic force, and the contact opens in a jump.

Specifications

Maximum contact rating with non-inductive (ohmic) load		Electrical contacts type temperature gauge model T520 series	
		Dry gauges	Liquid filled gauges
Maximum voltage		250 V	250 V
Current ratings	Make ratings	1.0 A	1.0 A
	Break ratings	1.0 A	1.0 A
	Continuos load	0.6 A	0.6 A
Maximum load		30 W 50 VA	20 W 20 VA
Material of contact points		Silver-Nickel alloy (80 % Ag / 20 %Ni / 10 µm) gold-plated	
Ambient operating temperature		-20 ...+70 °C	
Max. no. of contacts		2	
Voltage test		Circuit / protective earth conductor - 2,000 vac 1 minute	
		Circuit /circuit - 2,000 vac 1 minute	

Recommended contact ratings with ohmic and inductive load

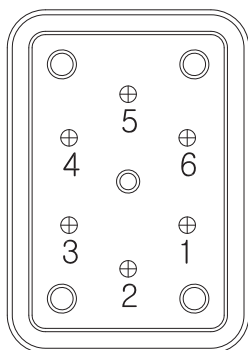
Voltage (DIN IEC 38) DC / AC	Electrical contacts type temperature gauge model T520 series					
	Dry gauges			Liquid filled gauges		
	Ohmic load		Inductive load	Ohmic load		Inductive load
	DC	AC		DC	AC	
			cosØ > 0.7			cosØ > 0.7
V	mA	mA	mA	mA	mA	mA
220 / 230	100	120	65	65	90	40
110 / 110	200	240	130	130	180	85
48 / 48	300	450	200	190	330	130
24 / 24	400	600	250	250	450	150

In order to ensure a high switching reliability of the contacts the switching voltage should not be below 24 V, also taking environmental influences in the long term into account.

Contact function table

CODE	Wiring Scheme	Contact Function		Wiebrock Code No.	Remark
		1st Contact	2nd Contact		
Single Contact					
1	Contact make when pointer reachse setpoint (Normal open - NO)			S/M-1	Normal use high alarm system
3	Contact break when pointer reachse setpoint (Normal close - NC)			S/M-2	Normal use low alarm system
Double Contact - Common Circuit					
4	1st and 2nd contact make when pointer reaches setpoint			S/M-11	Normal use high and hihigh alarm system
6	1st contact make 2nd contact break when pointer reaches setpoint			S/M-12	Normal use failsafe high and low alarm system
2	1st contact break 2nd contact make when pointer reaches setpoint			S/M-21	Normal use high and low alarm system
5	1st and 2nd contact break when pointer reaches setpoint			S/M-22	Normal use low and lolow alarm system

Terminal block arrangement



1. High alarm (S/M-1)

- ① Normal open
- ② Common
- ④ Ground

2. High and low alarm (S/M-21)

Low alarm

- ① Normal close
- ② Common
- ④ Ground

High alarm

- ② Common
- ③ Normal open

3. Low alarm (S/M-2)

- ① Normal close
- ② Common
- ④ Ground

4. Two high alarm (S/M-11)

No.1 High alarm

- ① Normal open
- ② Common
- ④ Ground

No.2 High alarm

- ② Common
- ③ Normal open

5. Two low alarm (S/M-22)

No.2 Low alarm

- ① Normal close
- ② Common
- ④ Ground

No.1 Low alarm

- ② Common
- ③ Normal close

6. Failsafe high and low alarm (S/M-12)

High alarm

- ② Common
- ③ Normal close
- ④ Ground

Low alarm

- ① Normal open
- ② Common

Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Minimum stem length (mm)			Standard stem length (mm)		
			8.0	10.0	12.0	8.0	10.0	12.0
032	-50 ~ 50	2	100	85	65	200	130	100
037	-50 ~ 100	5	100	88	65	200	130	100
054	-30 ~ 50	2	100	85	65	200	130	100
059	-30 ~ 100	2	100	85	65	200	130	100
061	-30 ~ 120	5	100	85	65	200	130	100
069	-20 ~ 50	2	100	85	65	200	130	100
074	-20 ~ 100	2	100	85	65	200	130	100
079	-20 ~ 150	5	100	85	65	200	130	100
084	-10 ~ 50	1	100	85	65	200	130	100
099	0 ~ 50	1	100	85	65	200	130	100
100	0 ~ 60	1	100	85	65	200	130	100
101	0 ~ 70	2	100	85	65	200	130	100
102	0 ~ 80	2	100	85	65	200	130	100
104	0 ~ 100	2	100	85	65	200	130	100
106	0 ~ 120	2	100	85	65	200	130	100
109	0 ~ 150	5	100	85	65	200	130	100
114	0 ~ 200	5	100	85	65	200	130	100
119	0 ~ 250	5	100	85	65	200	130	100
124	0 ~ 300	5	100	85	65	200	130	100
129	0 ~ 350	5	100	85	65	200	130	100
134	0 ~ 400	10	100	85	65	200	130	100
144	0 ~ 500	10	100	85	65	200	130	100
154	0 ~ 600	10	100	85	65	200	130	100
164	0 ~ 700	10	100	85	65	200	130	100

* 0 ~ 700 °C/Special range

Insertion length

(For direct mounting)

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Euro gauge

Electrical contact type bimetal temperature gauge

Model : T531(H), T532(H/L), T533(L), T534(H/HH), T535(L/LL), T536(H/L)

Spec. sheet no. TD05-04

Service intended

Contact type temperature gauge is installed with electric contact actuated by pointer. It provides the function which electrical circuit can be opened or closed by manual set point. It is applicable where signal is required (Audible or visual alarm) for control of resistance or any other application with auxiliary relay and contact.

Nominal diameter

100 mm

Accuracy

±2.0 % of full scale

Temperature element

Coiled bimetal

Working range

Maximum scale value



Standard features

Location of stem

Bottom connection, surface, case mounting

Case

304SS

Cover

304SS

Bayonet type

Window

Safety glass

Polycarbonate

Dial

White aluminium with black graduation

Contacts

Maximum voltage : 250 V AC

Contact rating : AC 220 V, 0.25 A

DC 100 V, 0.5 A

With max. no of contact : 2 sets per gauge

Pointer

Black painted aluminium alloy

Stem out diameter

6.0, 6.4, 8.0 and 10.0 mm diameter

304SS, 316SS and 316L SS

Max. Insertion length : 2,000 mm

Stem, process connection

3/8", 1/2", 3/4" PT or NPT

G1/2B, G3/4B

Option

Special accuracy, ±1.0 % of full scale

WISE®

Main order

Ordering information

1. Base model

- T531** Electrical contact type bimetal temperature gauge (High alarm)
- T532** Electrical contact type bimetal temperature gauge (High and low alarm)
- T533** Electrical contact type bimetal temperature gauge (Low alarm)
- T534** Electrical contact type bimetal temperature gauge (Two high alarm)
- T535** Electrical contact type bimetal temperature gauge (Two low alarm)
- T536** Failsafe high and low alarm

2. Nominal diameter and window material

- 4** 100 mm and safety glass
- 5** 100 mm and polycarbonate window

3. Type of mounting

- A** Bottom connection (Only direct mounting)
- B** Bottom connection, surface, case mounting plate

4. Stem material

- 0** 304SS
- 1** 316SS
- 2** 316L SS

5. Stem, process connection

- D** 3/8"
- E** 1/2"
- F** 3/4"

6. Stem connection type (CF: Compression fitting)

- E** CF + PT
- F** CF + NPT
- G** CF + PF
- H** Clamp (Sanitary type flange)
- I** MT + PT (Movable thread)
- J** MT + NPT (Movable thread)
- S** MT + PF (Movable thread)

7. Stem outer diameter (mm)

- 0** 6.0
- 1** 6.4
- 2** 8.0
- 3** 10.0

8. Range

- XXX** Refer to scale range table

9. Insertion length

- X** Refer to insertion length table

10. Accessories

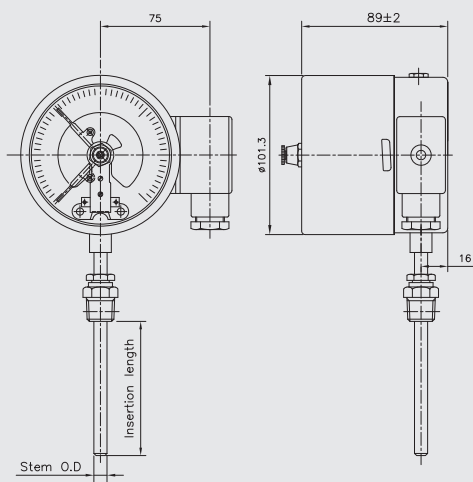
- 0** None
- 1** Thermowell
- 2** Special accuracy (± 1.0 % of full scale)
- 3** Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T531	4	A	1	E	C	3	XXX	X	1

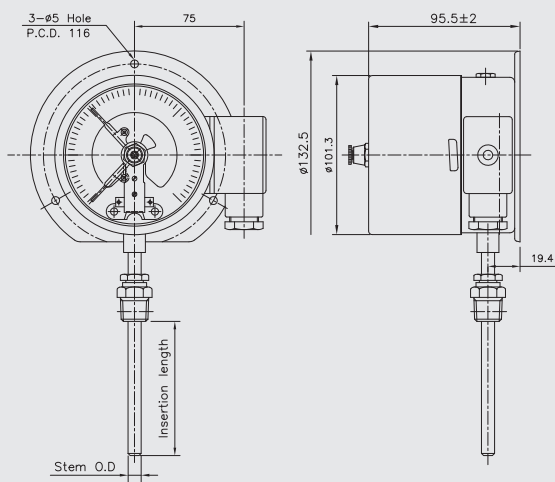
Sample
ordering code

T53X : Type of mounting

Code A

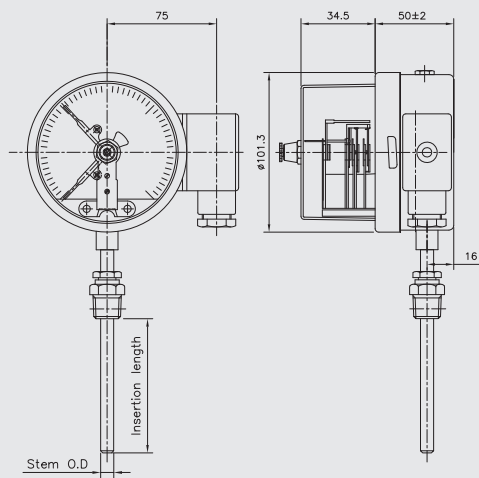


Code B

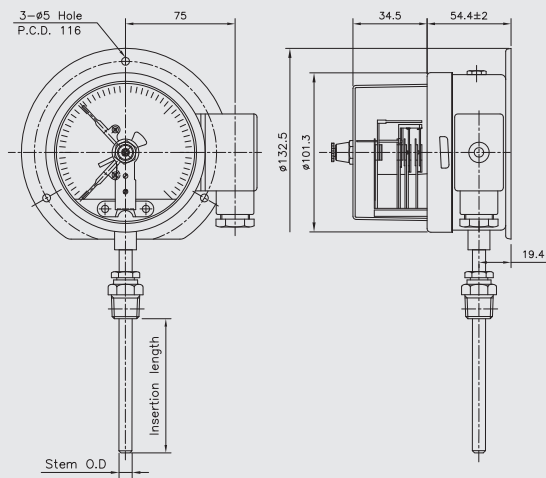


(Safety glass window)

Code A



Code B



(Polycarbonate window)

Snap - action contacts

General

Electromechanical limit switches in pointer type measuring instruments are auxiliary current switches which open or close electrical circuits at set limit values by means of a contact arm which is moved by the actual value pointer.

The snap action contact is a mechanical contact for switching capacities up to 30 W 50 VA max.

Contact making will be delayed and or advanced in relation to the movement of the actual value pointer.

To closed the circuit, the contact pin of the movable contact arm is attracted in a jump by the permanent magnet fastened to the supporting arm shortly before the set value has been reached.

Due to the retention force of the magnet, snap action contacts are more resistant against shock and vibration.

The switching safety is increased by the increased contact pressure.

When the circuit is opened, the magnet keeps the contact arm in its place until the restoring force of the measuring element exceeds the magnetic force, and the contact opens in a jump.

Specifications

Maximum contact rating with non-inductive (ohmic) load		Electrical contacts type pressure gauge model P510 series	
		Dry gauges	Liquid filled gauges
Maximum voltage		250 V	250 V
Current ratings	Make ratings	1.0 A	1.0 A
	Break ratings	1.0 A	1.0 A
	Continuos load	0.6 A	0.6 A
Maximum load		30 W 50 VA	20 W 20 VA
Material of contact points		Silver-Nickel alloy (80 % Ag / 20 %Ni / 10 µm) gold-plated	
Ambient operating temperature		-20 ...+70 °C	
Max. no. of contacts		2	
Voltage test		Circuit / protective earth conductor - 2,000 vac 1 minute	
		Circuit /circuit - 2,000 vac 1 minute	

Recommended contact ratings with ohmic and inductive load

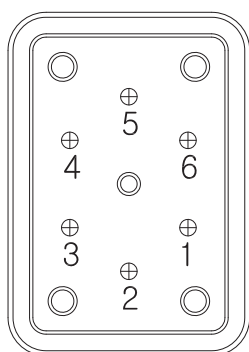
Voltage (DIN IEC 38) DC / AC	Electrical contacts type pressure gauge model P510 series					
	Dry gauges			Liquid filled gauges		
	Ohmic load		Inductive load	Ohmic load		Inductive load
	DC	AC		DC	AC	
			cosØ > 0.7			cosØ > 0.7
V	mA	mA	mA	mA	mA	mA
220 / 230	100	120	65	65	90	40
110 / 110	200	240	130	130	180	85
48 / 48	300	450	200	190	330	130
24 / 24	400	600	250	250	450	150

In order to ensure a high switching reliability of the contacts the switching voltage should not be below 24 V, also taking environmental influences in the long term into account.

Contact function table

CODE	Wiring Scheme	Contact Function		Wiebrock Code No.	Remark	
		1st Contact	2nd Contact			
Single Contact						
1	Contact make when pointer reachse setpoint (Normal open - NO)			S/M-1	Normal use high alarm system	
3	Contact break when pointer reachse setpoint (Normal close - NC)			S/M-2	Normal use low alarm system	
Double Contact - Common Circuit						
4	1 st and 2 nd contact make when pointer reaches setpoint				S/M-11	Normal use high and hihigh alarm system
6	1 st contact make 2 nd contact break when pointer reaches setpoint				S/M-12	Normal use failsafe high and low alarm system
2	1 st contact break 2 nd contact make when pointer reaches setpoint				S/M-21	Normal use high and low alarm system
5	1 st and 2 nd contact break when pointer reaches setpoint				S/M-22	Normal use low and lolow alarm system

Terminal block arrangement



1. High alarm (S/M-1)

- ① Normal open
- ② Common
- ④ Ground

2. High and low alarm (S/M-21)

Low alarm

- ① Normal close
- ② Common
- ④ Ground

High alarm

- ② Common
- ③ Normal open

3. Low alarm (S/M-2)

- ① Normal close
- ② Common
- ④ Ground

4. Two high alarm (S/M-11)

No.1 High alarm

- ① Normal open
- ② Common
- ④ Ground

No.2 High alarm

- ② Common
- ③ Normal open

5. Two low alarm (S/M-22)

No.2 Low alarm

- ① Normal close
- ② Common
- ④ Ground

No.1 Low alarm

- ② Common
- ③ Normal close

6. Failsafe high and low alarm (S/M-12)

High alarm

- ② Common
- ③ Normal close
- ④ Ground

Low alarm

- ① Normal open
- ② Common

Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Minimum stem length (mm)	
			6.0 and 6.4	8.0 and 10.0
032	-50 ~ 50	2	55	50
037	-50 ~ 100	5	45	35
054	-30 ~ 50	2	70	60
059	-30 ~ 100	2	50	45
061	-30 ~ 120	5	45	35
069	-20 ~ 50	2	80	70
074	-20 ~ 100	2	45	45
079	-20 ~ 150	5	40	35
084	-10 ~ 50	1	95	80
099	0 ~ 50	1	110	70
100	0 ~ 60	1	95	80
101	0 ~ 70	2	80	60
102	0 ~ 80	2	70	55
104	0 ~ 100	2	55	50
106	0 ~ 120	2	50	45
109	0 ~ 150	5	45	35
114	0 ~ 200	5	35	35
119	0 ~ 250	5	35	30
124	0 ~ 300	5	35	25
129	0 ~ 350	5	30	25
134	0 ~ 400	5	80	65
144	0 ~ 500	10	70	60
154	0 ~ 600	10	70	60

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Remote reading aluminium case thermometer with electrical contact

Model : T711(H), T712(H/L), T713(L), T714(H/HH)

Spec. sheet no. **TD07-01**

Service intended

Contact type temperature gauge is installed with electric contact actuated by pointer. It provides the function which electrical circuit can be opened or closed by manual setpoint. It is applicable where signal is required (Audible or visual alarm) for control of resistance or any other application with auxiliary relay and contact.

Nominal diameter

100 and 150 mm

Accuracy

±2.0 % of full scale

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem and mounting

Bottom connection, surface, case mounting
Lower back connection, flush, case lower mounting
Lower back connection, flush, case centre mounting

Case

Black finished aluminium

Cover

Black finished aluminium

Capillary

Capillary : 1.6/0.2 mm, 316SS

Armored tube : 7.5/5.5 mm, 304SS

Window

Acrylic

Dial

White aluminium with black graduation

Contacts

Maximum voltage : 250 V AC

Contact rating : AC 220 V, 0.25 A

DC 100 V, 0.5 A

With max. no of contact : 2 sets per gauge

Pointer

Black finished brass

Stem

6.4, 8.0, 10.0 and 12.0 mm

316SS and 316L SS

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Option

±1.0 % of full scale

1. Base model

- T711** Remote reading aluminium case thermometer with electric contact (High alarm)
- T712** Remote reading aluminium case thermometer with electric contact (High and low alarm)
- T713** Remote reading aluminium case thermometer with electric contact (Low alarm)
- T714** Remote reading aluminium case thermometer with electric contact (High and high alarm)

2. Nominal diameter (mm)

- 4** 100
- 6** 150

3. Type of mounting

- B** Bottom connection, surface, case mounting plate
- K** Lower back connection, flush, case lower mounting plate, not available with diameter 150 mm
- L** Lower back connection, flush, case center mounting plate, not available with diameter 150 mm

4. Stem material

- 1** 316SS
- 2** 316L SS

5. Stem, process connection

- A** None
- D** $\frac{3}{8}$ "
- E** $\frac{1}{2}$ "
- F** $\frac{3}{4}$ "

6. Stem connection type (CF: Compression fitting)

- A** None
- E** CF + PT
- F** CF + NPT
- G** CF + PF
- H** MT + PT (Movable thread)
- I** MT + NPT (Movable thread)
- J** MT + PF (Movable thread)

7. Stem outer diameter (mm)

- 2** 8.0
- 3** 10.0
- 4** 12.0 (Standard)
- Z** Other

8. Range

- XXX** Refer to scale range table

9. Capillary length (m)

- P** 2
- Q** 3
- S** 5
- V** 8
- X** 10
- Z** Other

10. Accessories

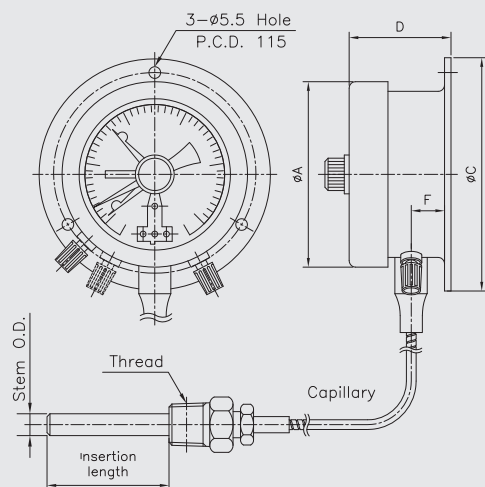
- 0** None
- 1** Thermowell
- S** Special accuracy (± 1.0 % of full scale)
- T** Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T711	4	B	1	E	C	3	XXX	P	1

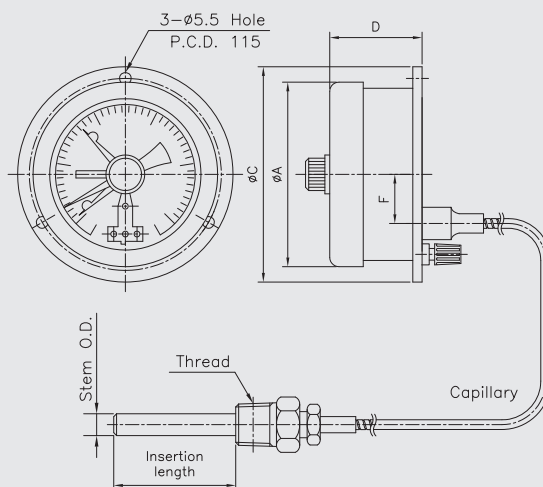
Sample
ordering code

T71X : Type of mounting

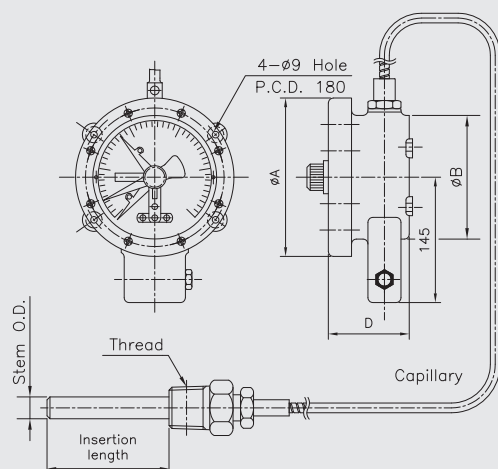
Code B



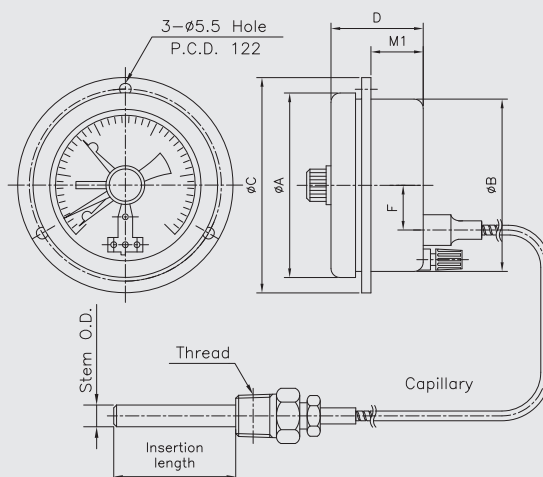
Code K



Code B*



Code L



Dimensions (mm)

Dial Size	Available code		A	B	C	D±2	F±1	M1
100	T711,T713	B	110		128	83.7	20.5	
	T712,T714		110		128	83.7	20.5	
	T711,T713	K	110		128	83.7	25	
	T712,T714		110		128	83.7	25	
	T711,T713	L	110	105	135	83.7	25	32
	T712,T714		110	105	135	83.7	25	32
150	T711,T713	B*	186	158		90		
	T712,T714		186	158		90		

Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Minimum stem length (mm)			Standard stem length (mm)		
			8.0	10.0	12.0	8.0	10.0	12.0
032	-50 ~ 50	2	100	85	65	200	130	100
037	-50 ~ 100	5	100	88	65	200	130	100
054	-30 ~ 50	2	100	85	65	200	130	100
059	-30 ~ 100	2	100	85	65	200	130	100
061	-30 ~ 120	5	100	85	65	200	130	100
069	-20 ~ 50	2	100	85	65	200	130	100
074	-20 ~ 100	2	100	85	65	200	130	100
079	-20 ~ 150	5	100	85	65	200	130	100
084	-10 ~ 50	1	100	85	65	200	130	100
099	0 ~ 50	1	100	85	65	200	130	100
100	0 ~ 60	1	100	85	65	200	130	100
101	0 ~ 70	2	100	85	65	200	130	100
102	0 ~ 80	2	100	85	65	200	130	100
104	0 ~ 100	2	100	85	65	200	130	100
106	0 ~ 120	2	100	85	65	200	130	100
109	0 ~ 150	5	100	85	65	200	130	100
114	0 ~ 200	5	100	85	65	200	130	100
119	0 ~ 250	5	100	85	65	200	130	100
124	0 ~ 300	5	100	85	65	200	130	100
129	0 ~ 350	5	100	85	65	200	130	100
134	0 ~ 400	10	100	85	65	200	130	100
144	0 ~ 500	10	100	85	65	200	130	100
154	0 ~ 600	10	100	85	65	200	130	100
164	0 ~ 700	10	100	85	65	200	130	100

* 0 ~ 700 °C/Special range

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Remote reading aluminium case thermometer with electrical contact

Model : T711(H), T712(H/L), T713(L), T714(H/HH)

Spec. sheet no. **TD07-01**

Service intended

Contact type temperature gauge is installed with electric contact actuated by pointer. It provides the function which electrical circuit can be opened or closed by manual setpoint. It is applicable where signal is required (Audible or visual alarm) for control of resistance or any other application with auxiliary relay and contact.

Nominal diameter

100 and 150 mm

Accuracy

±2.0 % of full scale

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem and mounting

Bottom connection, surface, case mounting
Lower back connection, flush, case lower mounting
Lower back connection, flush, case centre mounting

Case

Black finished aluminium

Cover

Black finished aluminium

Capillary

Capillary : 1.6/0.2 mm, 316SS
Armored tube : 7.5/5.5 mm, 304SS

Window

Acrylic

Dial

White aluminium with black graduation

Contacts

Maximum voltage : 250 V AC
Contact rating : AC 220 V, 0.25 A
DC 100 V, 0.5 A
With max. no of contact : 2 sets per gauge

Pointer

Black finished brass

Stem

6.4, 8.0, 10.0 and 12.0 mm
316SS and 316L SS

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Option

±1.0 % of full scale

1. Base model

- T711** Remote reading aluminium case thermometer with electric contact (High alarm)
- T712** Remote reading aluminium case thermometer with electric contact (High and low alarm)
- T713** Remote reading aluminium case thermometer with electric contact (Low alarm)
- T714** Remote reading aluminium case thermometer with electric contact (High and high alarm)

2. Nominal diameter (mm)

- 4** 100
- 6** 150

3. Type of mounting

- B** Bottom connection, surface, case mounting plate
- K** Lower back connection, flush, case lower mounting plate, not available with diameter 150 mm
- L** Lower back connection, flush, case center mounting plate, not available with diameter 150 mm

4. Stem material

- 1** 316SS
- 2** 316L SS

5. Stem, process connection

- A** None
- D** $\frac{3}{8}$ "
- E** $\frac{1}{2}$ "
- F** $\frac{3}{4}$ "

6. Stem connection type (CF: Compression fitting)

- A** None
- E** CF + PT
- F** CF + NPT
- G** CF + PF
- H** MT + PT (Movable thread)
- I** MT + NPT (Movable thread)
- J** MT + PF (Movable thread)

7. Stem outer diameter (mm)

- 2** 8.0
- 3** 10.0
- 4** 12.0 (Standard)
- Z** Other

8. Range

- XXX** Refer to scale range table

9. Capillary length (m)

- P** 2
- Q** 3
- S** 5
- V** 8
- X** 10
- Z** Other

10. Accessories

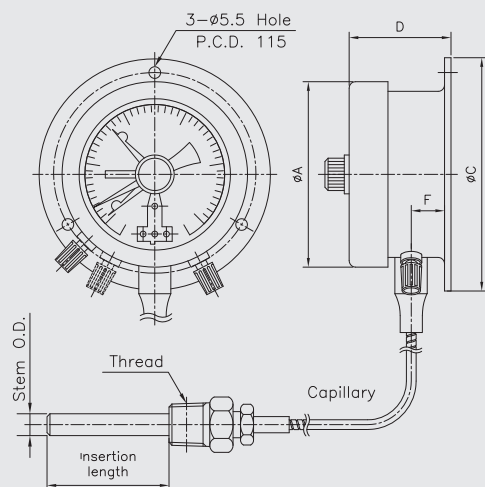
- 0** None
- 1** Thermowell
- S** Special accuracy (± 1.0 % of full scale)
- T** Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T711	4	B	1	E	C	3	XXX	P	1

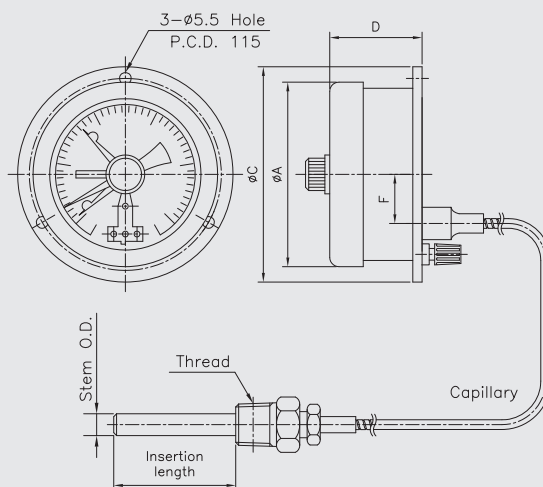
Sample
ordering code

T71X : Type of mounting

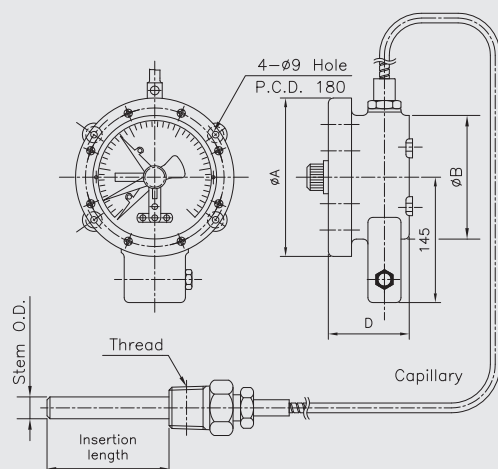
Code B



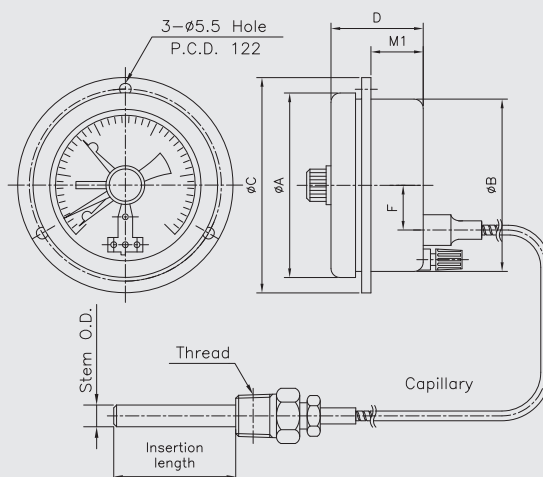
Code K



Code B*



Code L



Dimensions (mm)

Dial Size	Available code		A	B	C	D±2	F±1	M1
100	T711,T713	B	110		128	83.7	20.5	
	T712,T714		110		128	83.7	20.5	
	T711,T713	K	110		128	83.7	25	
	T712,T714		110		128	83.7	25	
	T711,T713	L	110	105	135	83.7	25	32
	T712,T714		110	105	135	83.7	25	32
150	T711,T713	B*	186	158		90		
	T712,T714		186	158		90		

Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Minimum stem length (mm)			Standard stem length (mm)		
			8.0	10.0	12.0	8.0	10.0	12.0
032	-50 ~ 50	2	100	85	65	200	130	100
037	-50 ~ 100	5	100	88	65	200	130	100
054	-30 ~ 50	2	100	85	65	200	130	100
059	-30 ~ 100	2	100	85	65	200	130	100
061	-30 ~ 120	5	100	85	65	200	130	100
069	-20 ~ 50	2	100	85	65	200	130	100
074	-20 ~ 100	2	100	85	65	200	130	100
079	-20 ~ 150	5	100	85	65	200	130	100
084	-10 ~ 50	1	100	85	65	200	130	100
099	0 ~ 50	1	100	85	65	200	130	100
100	0 ~ 60	1	100	85	65	200	130	100
101	0 ~ 70	2	100	85	65	200	130	100
102	0 ~ 80	2	100	85	65	200	130	100
104	0 ~ 100	2	100	85	65	200	130	100
106	0 ~ 120	2	100	85	65	200	130	100
109	0 ~ 150	5	100	85	65	200	130	100
114	0 ~ 200	5	100	85	65	200	130	100
119	0 ~ 250	5	100	85	65	200	130	100
124	0 ~ 300	5	100	85	65	200	130	100
129	0 ~ 350	5	100	85	65	200	130	100
134	0 ~ 400	10	100	85	65	200	130	100
144	0 ~ 500	10	100	85	65	200	130	100
154	0 ~ 600	10	100	85	65	200	130	100
164	0 ~ 700	10	100	85	65	200	130	100

* 0 ~ 700 °C/Special range

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Bimetal thermometer with electrical contact

Model : T751(H), T752(H/L), T753(L), T754(H/HH)

Spec. sheet no. **TD07-03**

Service intended

Contact type temperature gauge is installed with electric contact actuated by pointer. It provides the function which electrical circuit can be opened or closed by manual setpoint. It is applicable where signal is required (Audible or visual alarm) for control of resistance or any other application with auxiliary relay and contact.

Nominal diameter

100 mm

Accuracy

±2.0 % of full scale

Temperature element

Coiled bimetal

Working range

Maximum scale value

Degree of protection

EN60529/IEC529/IP65



Standard features

Location of stem

Bottom connection, direct
Center back connection, direct

Case

304SS

Cover

304SS

Window

Acrylic

Dial

White aluminium with black graduation

Contacts

Maximum voltage : 250 V AC
Contact rating : AC 220 V, 0.25 A
DC 100 V, 0.5 A
With max. no of contact : 2 sets per gauge

Pointer

Black painted aluminium alloy

Stem

6.0, 6.4, 8.0 and 10.0 mm
304SS, 316SS and 316L SS

Stem, process connection

¼", ⅜", ½", ¾" PT, NPT and PF

Option

±1.0 % of full scale

Main order

Ordering information

1. Base model

- T751** Bimetal thermometer with electric contact (High alarm)
- T752** Bimetal thermometer with electric contact (High and low alarm)
- T753** Bimetal thermometer with electric contact (Low alarm)
- T754** Bimetal thermometer with electric contact (High and high alarm)

2. Nominal diameter (mm)

- 4** 100

3. Type of mounting

- W** Bottom connection, direct
- X** Center back connection, direct

4. Stem material

- 0** 304SS
- 1** 316SS
- 2** 316L SS

5. Stem, process connection

- A** None
- C** 1/4"
- D** 3/8"
- E** 1/2"
- F** 3/4"

6. Stem connection type (CF: Compression fitting)

- A** None
- E** CF + PT
- F** CF + NPT
- G** CF + PF
- H** MT + PT (Movable thread)
- I** MT + NPT (Movable thread)
- J** MT + PF (Movable thread)
- S** Clamp (Sanitary type flange)

7. Stem outer diameter (mm)

- 0** 6.0
- 1** 6.4
- 2** 8.0
- 3** 10.0 (Not available process connection, 1/4")

8. Range

- XXX** Refer to scale range table

9. Insertion length

- X** Refer to insertion length table

10. Accessories

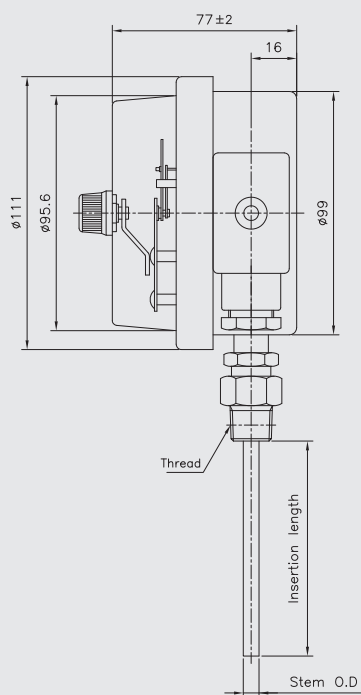
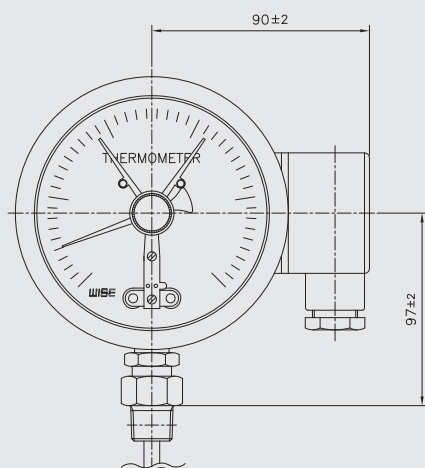
- 0** None
- 1** Thermowell
- 2** Special accuracy (± 1.0 % of full scale)
- 3** Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T751	4	W	0	E	C	3	XXX	X	1

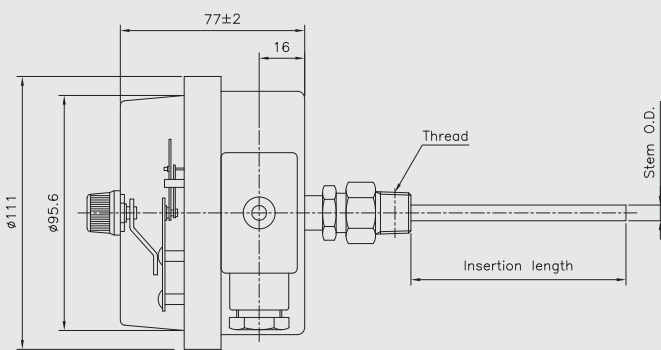
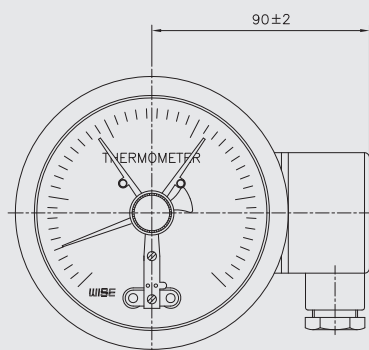
Sample
ordering code

T75X : Type of mounting

Code W



Code X



Snap-action contacts

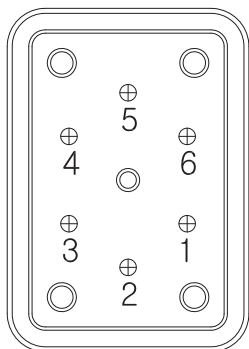
General

Electromechanical limit switches in pointer type measuring instruments are auxiliary current switches which open or close electrical circuits at set limit value by means of a contacts arm which is moved by the actual value pointer. The snap action contact is a mechanical contact for switching capacities up to 30 W 50 VA max. Contact making will be delayed or advanced in relation to the movement of the actual value pointer. To closed the circuit, the contact pin of the movable contact arm is attracted in a jump by the permanent magnet fasten to the supporting arm shortly before the set value has been reached. Due to the retention force of the magnet, snap action contacts are more resistance against shock and vibration. The switching safety is increased by the increased contact pressure. When the circuit is opened, the magnet keeps the contact arm in its place until the restoring force of the measuring element exceeds the magnetic force, and the contact opens in a jump.

Technical data

Normal operating voltage	Max. 250 V
Making and breaking current	Max. 1.0 A
Permanent current	Max. 0.6 A
Switching capacity	Max. 30 W 50 VA
Contact material	Ag80-Ni20
Switching accuracy	Approx. 2-5 % of full scale value
No. of contact	Max. 2

Terminal block arrangement



1. High alarm (S/M-1)

- ① Normal open
- ② Common
- ④ Ground

2. High and low alarm (S/M-21)

Low alarm

- ① Normal close
- ② Common
- ④ Ground

High alarm

- ② Common
- ③ Normal open

3. Low alarm (S/M-2)

- ① Normal close
- ② Common
- ④ Ground

4. Two high alarm (S/M-11)

No.1 High alarm

- ① Normal open
- ② Common
- ④ Ground

No.2 High alarm

- ② Common
- ③ Normal open

5. Two low alarm (S/M-22)

No.2 Low alarm

- ① Normal close
- ② Common
- ④ Ground

No.1 Low alarm

- ② Common
- ③ Normal close

6. Failsafe high and low alarm (S/M-12)

High alarm

- ② Common
- ③ Normal close
- ④ Ground

Low alarm

- ① Normal open
- ② Common

Scale ranges

Code	Scale range (°C)	Scale spacing (°C)	Minimum stem length (mm)	
			6.0 and 6.4	8.0 and 10.0
032	-50 ~ 50	2	55	50
037	-50 ~ 100	5	45	35
054	-30 ~ 50	2	70	60
059	-30 ~ 100	5	50	45
061	-30 ~ 120	2	45	35
069	-20 ~ 50	2	80	70
074	-20 ~ 100	2	45	45
079	-20 ~ 150	5	40	35
084	-10 ~ 50	1	95	80
099	0 ~ 50	1	110	70
100	0 ~ 60	1	95	80
101	0 ~ 70	2	80	60
102	0 ~ 80	1	70	90
104	0 ~ 100	2	55	50
106	0 ~ 120	2	50	45
109	0 ~ 150	2	45	35
114	0 ~ 200	5	35	35
119	0 ~ 250	5	35	30
124	0 ~ 300	5	35	25
129	0 ~ 350	5	30	25
134	0 ~ 400	5	80	65
144	0 ~ 500	10	70	60
154	0 ~ 600	10	70	60

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Remote reading thermometer with electrical contact

Model : T761(H), T762(H/L), T763(L), T764(H/HH)

Spec. sheet no. TD07-04

Service intended

Contact type temperature gauge is installed with electrical contact actuated by pointer. It provides the function which electrical circuit can be opened or closed by manual setpoint. It is applicable where signal is required (Audible or visual alarm) for control of resistance or any other application with auxiliary relay and contact.



Nominal diameter

100 mm

Accuracy

±2.0 % of full scale

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem and mounting

Bottom connection, surface, case mounting
Lower back connection, flush, case lower mounting
Lower back connection, flush, case center mounting

Case

304SS

Cover

304SS

Capillary

Capillary : 1.6/0.2 mm, 316SS

Armored tube : 7.5/5.5 mm, 304SS

Window

Acrylic

Dial

White aluminium with black graduation

Contacts

Maximum voltage : 250 V AC

Contact rating : AC 220 V, 0.25 A

DC 100 V, 0.5 A

With max. no of contact : 2 sets per gauge

Pointer

Black finished brass

Stem

8.0, 10.0 and 12.0 mm

316SS and 316L SS

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Option

±1.0 % of full scale

Main order

Ordering information

1. Base model

- T761** Remote reading thermometer with electrical contact (High alarm)
- T762** Remote reading thermometer with electrical contact (High and low alarm)
- T763** Remote reading thermometer with electrical contact (Low alarm)
- T764** Remote reading thermometer with electrical contact (High and hi/high alarm)

2. Nominal diameter (mm)

- 4** 100

3. Type of mounting

- B** Bottom connection, surface, case mounting plate
- K** Lower back connection, surface, case lower mounting plate
- L** Lower back connection, flush, case center mounting plate

4. Stem material

- 1** 316SS
- 2** 316L SS

5. Stem, process connection

- A** None
- D** $\frac{3}{8}$ "
- E** $\frac{1}{2}$ "
- F** $\frac{3}{4}$ "

6. Stem connection type (CF: Compression fitting)

- A** None
- E** CF + PT
- F** CF + NPT
- G** CF + PF
- H** MT + PT (Movable thread)
- I** MT + NPT (Movable thread)
- J** MT + PF (Movable thread)

7. Stem outer diameter (mm)

- 2** 8.0
- 3** 10.0
- 4** 12.0 (Standard)
- Z** Other

8. Range

- XXX** Refer to scale range table

9. Capillary length (m)

- P** 2
- Q** 3
- S** 5
- V** 8
- X** 10
- Z** Other

10. Accessories

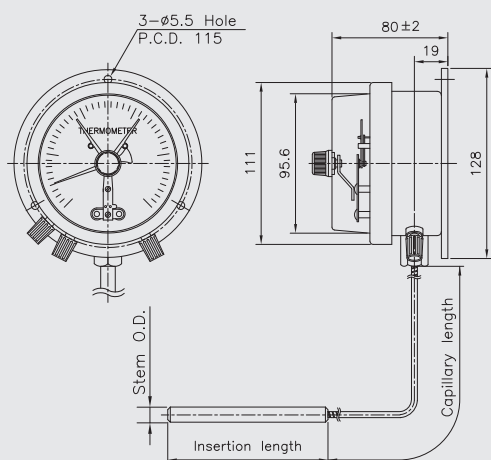
- 0** None
- 1** Thermowell
- 2** Special accuracy (± 1.0 % of full scale)
- 3** Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T761	4	B	1	E	C	4	XXX	P	1

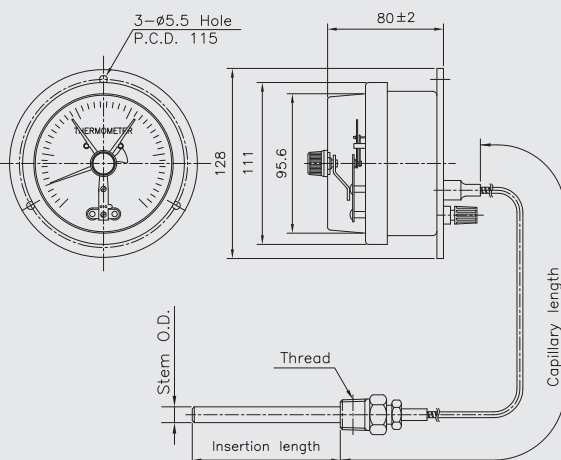
Sample
ordering code

T76X : Type of mounting

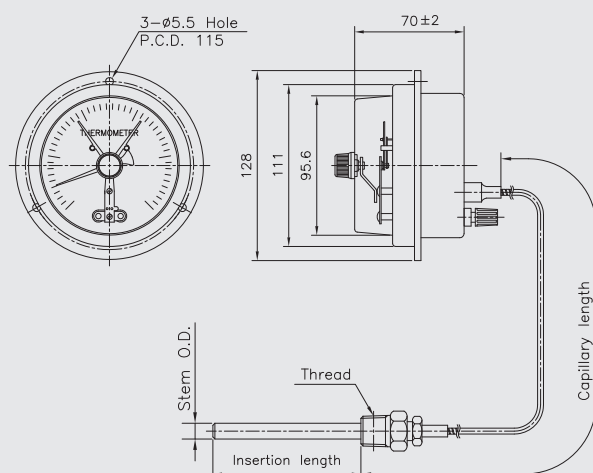
Code B



Code K



Code L



Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Minimum stem length (mm)			Standard stem length (mm)		
			8.0	10.0	12.0	8.0	10.0	12.0
032	-50 ~ 50	2	100	85	65	200	130	100
037	-50 ~ 100	2	100	88	65	200	130	100
054	-30 ~ 50	2	100	85	65	200	130	100
059	-30 ~ 100	2	100	85	65	200	130	100
061	-30 ~ 120	2	100	85	65	200	130	100
069	-20 ~ 50	2	100	85	65	200	130	100
074	-20 ~ 100	2	100	85	65	200	130	100
079	-20 ~ 150	5	100	85	65	200	130	100
084	-10 ~ 50	1	100	85	65	200	130	100
099	0 ~ 50	1	100	85	65	200	130	100
100	0 ~ 60	1	100	85	65	200	130	100
101	0 ~ 70	2	100	85	65	200	130	100
102	0 ~ 80	2	100	85	65	200	130	100
104	0 ~ 100	2	100	85	65	200	130	100
106	0 ~ 120	2	100	85	65	200	130	100
109	0 ~ 150	5	100	85	65	200	130	100
114	0 ~ 200	5	100	85	65	200	130	100
119	0 ~ 250	5	100	85	65	200	130	100
124	0 ~ 300	5	100	85	65	200	130	100
129	0 ~ 350	5	100	85	65	200	130	100
134	0 ~ 400	10	100	85	65	200	130	100
144	0 ~ 500	10	100	85	65	200	130	100
154	0 ~ 600	10	100	85	65	200	130	100
164	0 ~ 700	10	100	85	65	200	130	100

* 0 ~ 700 °C/Special range

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Temperature recorder (Case compensation system)

Model : T930

Spec. sheet no. TD09-01

Service intended

This recorder provides a single pen and 200 mm circular chart recorder with the function of measurement and recording. It is suitable for hazardous environment such as gas or chemical process.

Nominal diameter

246 (W) x 271 mm (H)

Accuracy

±2.0 % of full scale

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem and mounting

Bottom connection, surface, case mounting

Case

ALDC

Cover

ALDC

Capillary

Capillary : 1.6/0.2 mm, 316SS

Armored tube : 7.5/5.5 mm, 304SS

Window

Acrylic resin

Chart drive

Spring wound type

24 hours or 168 hours (7 days) rotation

Chart paper

200 mm circular

Mounting

Surface

Stem

8.0, 10.0 and 12.0 mm

316SS and 316L SS

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Main order

Ordering information

1. Base model

T930 Temperature recorder

2. Nominal diameter (mm)

9 246 (W) x 271 (H)

3. Type of mounting

B Bottom connection, surface, case mounting plate

4. Stem material

1 316SS

2 316L SS

5. Stem, process connection

A None

D 3/8"

E 1/2"

F 3/4"

6. Stem connection type (CF: Compression fitting)

A None

E CF + PT

F CF + NPT

G CF + PF

H MT + PT (Movable thread)

I MT + NPT (Movable thread)

J MT + PF (Movable thread)

7. Stem outer diameter (mm)

2 8.0

3 10.0

4 12.0

Z Other

8. Range

XXX Refer to scale range table

9. Capillary length (m)

A Direct mounting type

P 2

Q 3

S 5

V 8

X 10

Z Other

10. Accessories

0 None

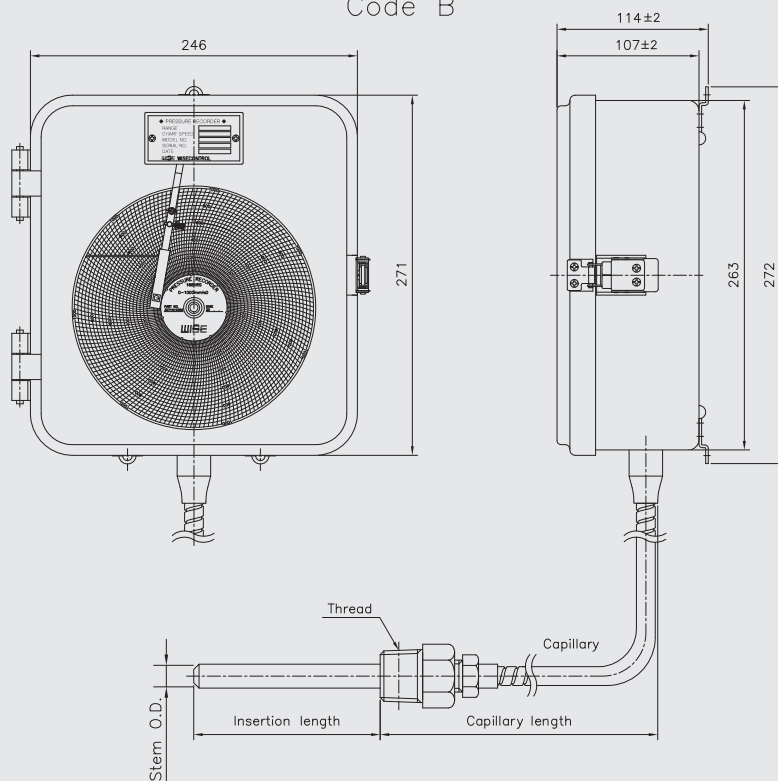
1 Thermowell

1	2	3	4	5	6	7	8	9	10
T930	9	B	1	E	C	3	XXX	Q	1

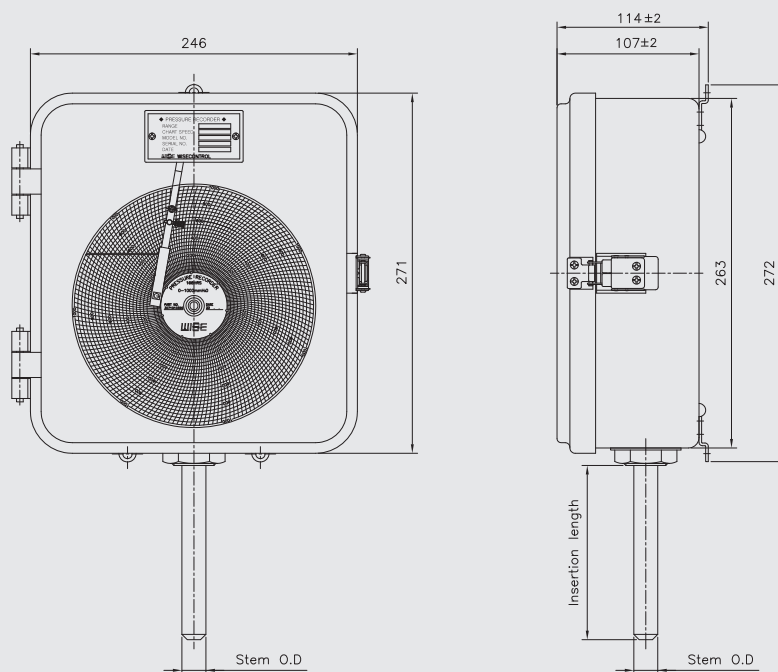
Sample
ordering code

T930 : Type of mounting

Code B



Code B



Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Minimum stem length (mm)			Standard stem length (mm)		
			8.0	10.0	12.0	8.0	10.0	12.0
032	-50 ~ 50	2	100	85	65	200	130	100
037	-50 ~ 100	5	100	88	65	200	130	100
054	-30 ~ 50	2	100	85	65	200	130	100
059	-30 ~ 100	2	100	85	65	200	130	100
061	-30 ~ 120	5	100	85	65	200	130	100
069	-20 ~ 50	2	100	85	65	200	130	100
074	-20 ~ 100	2	100	85	65	200	130	100
079	-20 ~ 150	5	100	85	65	200	130	100
084	-10 ~ 50	1	100	85	65	200	130	100
099	0 ~ 50	1	100	85	65	200	130	100
100	0 ~ 60	1	100	85	65	200	130	100
101	0 ~ 70	2	100	85	65	200	130	100
102	0 ~ 80	2	100	85	65	200	130	100
104	0 ~ 100	2	100	85	65	200	130	100
106	0 ~ 120	2	100	85	65	200	130	100
109	0 ~ 150	5	100	85	65	200	130	100
114	0 ~ 200	5	100	85	65	200	130	100
119	0 ~ 250	5	100	85	65	200	130	100
124	0 ~ 300	5	100	85	65	200	130	100
129	0 ~ 350	5	100	85	65	200	130	100
134	0 ~ 400	10	100	85	65	200	130	100
144	0 ~ 500	10	100	85	65	200	130	100
154	0 ~ 600	10	100	85	65	200	130	100
164	0 ~ 700	10	100	85	65	200	130	100

* 0 ~ 700 °C/Special range

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Indicating temperature switch

Model : T931 (Case compensation system SAMA class IIIB)

Model : T932 (Full compensation system SAMA class IIIA)

Spec. sheet no. TD09-02

Service intended

This temperature switch is installed with a micro contact and it is suitable for measuring the temperature of corrosive fluid. Dead band is fixed.

Nominal diameter

150 mm

Repeatability

±1.0 % of adjustable range

Accuracy

±2.0 % of full scale

Measuring system

Organic gas : 0 ~ 200 °C (Only T932)

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem and mounting

Bottom connection, surface, case mounting

Case

Silver gray finished aluminium

Cover

Silver gray finished aluminium

Window

Instrument glass

Switch type

Micro switch snap action

Switch form

One SPDT for single setpoint

Two SPDT for dual setpoint

Capillary

Capillary : 1.6/0.2 mm, 316SS

Armored tube : 7.5/5.5 mm, 304SS

Contacts

AC 125 V / 250 V, 7 A

AC 125 V / 250 V, 7 A for resistance load

AC 125 V / 250 V, 7 A for inductive load

Conduit connection

½", ¾" PF

Stem

8.0, 10.0 and 12.0 mm

316SS and 316L SS

Stem, process connection

¾", 1½", ¾" PT, NPT and PF

Option

Special accuracy : ±1.0 % of full scale

1. Base model

- T931** Indicating temperature switch
(Case compensation system)
- T932** Indicating temperature switch
(Full compensation system)

2. Switch form

- 1** One SPDT contact for single setpoint
- 2** Two SPDT contact for dual setpoint

3. Type of mounting

- B** Bottom connection, surface, case mounting plate

4. Stem material

- 1** 316SS
- 2** 316L SS

5. Stem, process connection

- A** None
- D** $\frac{3}{8}$ "
- E** $\frac{1}{2}$ "
- F** $\frac{3}{4}$ "

6. Stem connection type (CF: Compression fitting)

- A** None
- E** CF + PT
- F** CF + NPT
- G** CF + PF
- H** MT + PT (Movable thread)
- I** MT + NPT (Movable thread)
- J** MT + PF (Movable thread)

7. Stem outer diameter (mm)

- 2** 8.0
- 3** 10.0
- 4** 12.0
- Z** Other

8. Range

XXX Refer to scale range table

9. Capillary length (m)

- A** Direct mounting type
- P** 2
- Q** 3
- S** 5
- V** 8
- X** 10
- Z** Other

10. Accessories

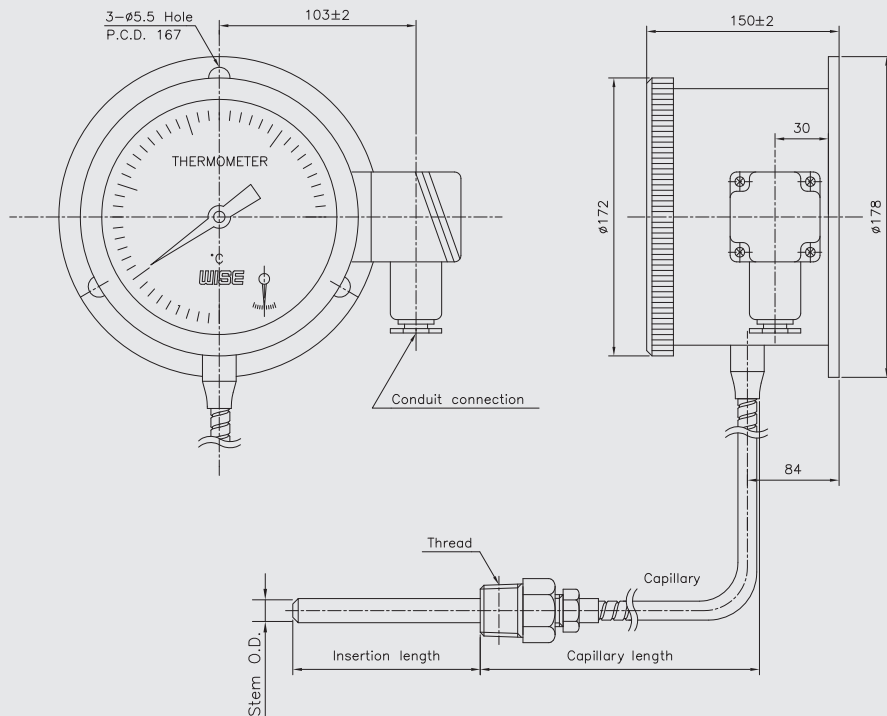
- 0** None
- 1** Thermowell
- 2** Special accuracy (± 1.0 % of full scale)
- 3** Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T931	1	B	1	E	C	3	XXX	P	1

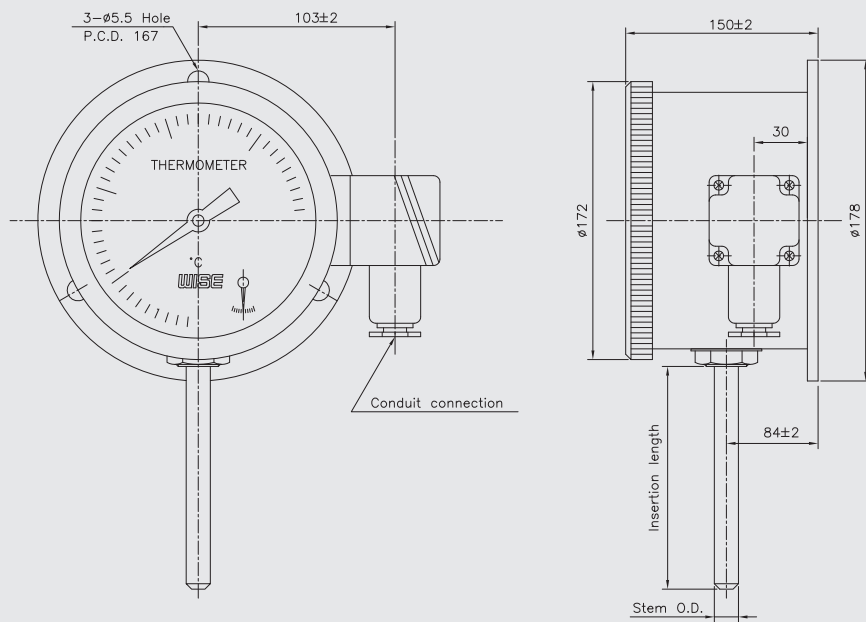
Sample
ordering code

T931, T932 : Type of mounting

Code B



Code B



Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Minimum stem length (mm)					
			T931			T932		
			8.0	10.0	12.0	8.0	10.0	12.0
032	-50 ~ 50	2	100	85	65	X	X	X
037	-50 ~ 100	5	100	88	65	X	X	X
054	-30 ~ 50	2	100	85	65	X	140	90
059	-30 ~ 100	2	100	85	65	150	80	60
061	-30 ~ 120	5	100	85	65	150	80	60
069	-20 ~ 50	2	100	85	65	X	160	100
074	-20 ~ 100	2	100	85	65	150	80	60
079	-20 ~ 150	5	100	85	65	150	80	60
084	-10 ~ 50	1	100	85	65	X	180	110
099	0 ~ 50	1	100	85	65	X	190	120
100	0 ~ 60	1	100	85	65	X	180	110
101	0 ~ 70	2	100	85	65	X	160	100
102	0 ~ 80	2	100	85	65	X	140	90
104	0 ~ 100	2	100	85	65	180	100	70
106	0 ~ 120	2	100	85	65	150	80	60
109	0 ~ 150	5	100	85	65	150	80	60
114	0 ~ 200	5	100	85	65	150	80	60
119	0 ~ 250	5	100	85	65	X	X	X
124	0 ~ 300	5	100	85	65	X	X	X
129	0 ~ 350	5	100	85	65	X	X	X
134	0 ~ 400	10	100	85	65	X	X	X
144	0 ~ 500	10	100	85	65	X	X	X
154	0 ~ 600	10	100	85	65	X	X	X
164	0 ~ 700	10	100	85	65	X	X	X

* 0 ~ 700 °C/Special range

X : Not available

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Weatherproof temperature switch

Model : T941, T942

Spec. sheet no. **TD09-03**

Service intended

This temperature switch is installed with a micro contact, and it is suitable for measuring the temperature of corrosive fluid. Dead band is fixed.

Dimension

Refer to type of mounting

Repeatability

±1.0 % of adjustable range

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Dead band

One SPDT : 5 ~ 6 % of full scale

Two SPDT : 12 % of full scale

Working range

Maximum scale value



Standard features

Location of stem and mounting

Bottom connection, surface, case mounting

Case

Silver gray finished aluminium

Cover

Silver gray finished aluminium

Switch type

Micro switch snap action

Switch form

One SPDT or Two SPDT

DPDT

Capillary

Capillary : 1.6/0.2 mm, 316SS

Armored tube : 7.5/5.5 mm, 304SS

Contact rating

■ AC 125 V/250 V, 15 A and DC 30 V, 2 A
DC 125 V, 0.5 A for resistance load

■ AC 125 V/250 V, 15 A and DC 30 V, 1 A
DC 125 V, 0.05 A for inductive load

Conduit connection

½" or ¾" PF

Stem

8.0, 10.0 and 12.0 mm

316SS and 316L SS

Stem, process connection

⅜", ½", ¾" PT, NPT and PF

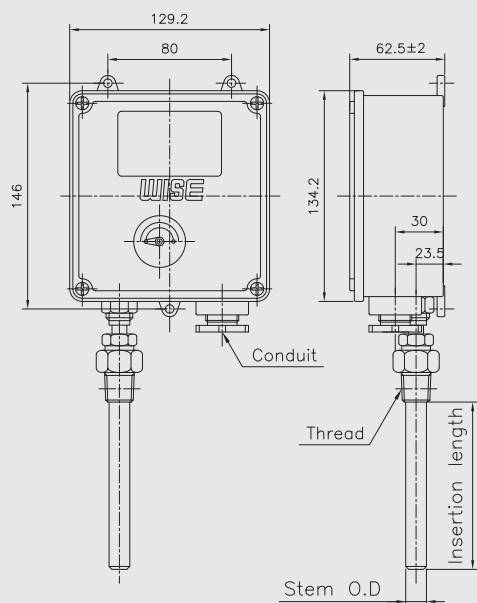
1. Base model**T941** Weatherproof temperature switch (Single setpoint)**T942** Weatherproof temperature switch (Dual setpoint)**2. Unused character****9B** None**3. Stem material****1** 316SS**2** 316L SS**4. Stem, process connection****A** None**D** $\frac{3}{8}$ "**E** $\frac{1}{2}$ "**F** $\frac{3}{4}$ "**5. Stem connection type (CF: Compression fitting)****A** None**E** CF + PT**F** CF + NPT**G** CF + PF**H** MT + PT (Movable thread)**I** MT + NPT (Movable thread)**J** MT + PF (Movable thread)**6. Stem outer diameter (mm)****2** 8.0**3** 10.0**4** 12.0**Z** Other**7. Range****XXX** Refer to scale range table**8. Capillary length (m)****A** Direct mounting type**P** 2**Q** 3**S** 5**V** 8**X** 10**Z** Other**9. Accessories****0** None**1** Thermowell

1	2	3	4	5	6	7	8	9
T941	9B	1	D	C	3	XXX	P	1

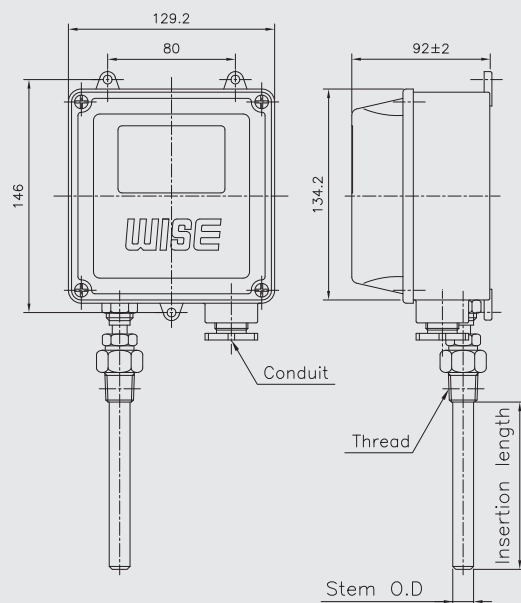
Sample
ordering code

T941, T942 : Type of mounting

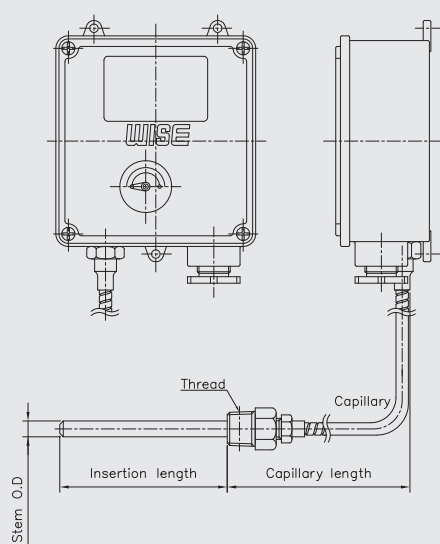
Code T941



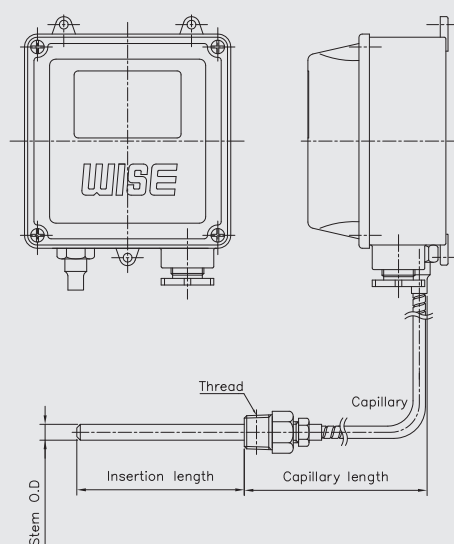
Code T942



Code T941*



Code T942*



Scale ranges

Code	Scale range (°C)	Scale spacing(°C)	Minimum stem length (mm)			Standard stem length (mm)		
			8.0	10.0	12.0	8.0	10.0	12.0
032	-50 ~ 50	2	100	85	65	200	130	100
037	-50 ~ 100	5	100	88	65	200	130	100
054	-30 ~ 50	2	100	85	65	200	130	100
059	-30 ~ 100	2	100	85	65	200	130	100
061	-30 ~ 120	5	100	85	65	200	130	100
069	-20 ~ 50	2	100	85	65	200	130	100
074	-20 ~ 100	2	100	85	65	200	130	100
079	-20 ~ 150	5	100	85	65	200	130	100
084	-10 ~ 50	1	100	85	65	200	130	100
099	0 ~ 50	1	100	85	65	200	130	100
100	0 ~ 60	1	100	85	65	200	130	100
101	0 ~ 70	2	100	85	65	200	130	100
102	0 ~ 80	2	100	85	65	200	130	100
104	0 ~ 100	2	100	85	65	200	130	100
106	0 ~ 120	2	100	85	65	200	130	100
109	0 ~ 150	5	100	85	65	200	130	100
114	0 ~ 200	5	100	85	65	200	130	100
119	0 ~ 250	5	100	85	65	200	130	100
124	0 ~ 300	5	100	85	65	200	130	100
129	0 ~ 350	5	100	85	65	200	130	100
134	0 ~ 400	10	100	85	65	200	130	100
144	0 ~ 500	10	100	85	65	200	130	100
154	0 ~ 600	10	100	85	65	200	130	100
164	0 ~ 700	10	100	85	65	200	130	100

* 0 ~ 700 °C/Special range

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Explosion proof temperature switch

Model : T953 (953 series)

Spec. sheet no. TD09-04

Service intended

This temperature switch is installed with a micro contact, and it is suitable for measuring the temperature of corrosive fluid. Dead band is fixed.



Repeatability

±1.0 % of adjustable range

Dimension

Refer to type of mounting

Measuring system

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 300 °C

Working range

Maximum scale value

Working temperature

Ambient : -40 ~ 65 °C

Degree of protection

EN60529/IEC529/IP67



Standard features

Location of stem

Bottom connection, surface, case mounting

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Case

Silver gray finished aluminium

Cover

Silver gray finished aluminium

Switch form

Micro contact type

One SPDT (Model : T953-1B3)

Two SPDT (Model : T953-2B3)

Capillary

Capillary : 1.6/0.2 mm, 316SS

Armored tube : 7.5/5.5 mm, 304SS

Certificates

KCS Ex d IIC T6

ATEX II 2G Ex d IIC T6 Gb

IECEx Ex d IIC T6 Gb

Stem

8.0, 10.0 and 12.0 mm

316SS and 316L SS

Main order

Ordering information

1. Base model

T953 Explosion proof temperature switch
(Only available with single setpoint)

2. Switch form

- 1 One SPDT
- 2 Two SPDT

3. Unused character

B3 None

4. Stem material

- 1 316SS
- 2 316L SS

5. Stem, process connection

- A None
- D $\frac{3}{8}$ "
- E $\frac{1}{2}$ "
- F $\frac{3}{4}$ "

6. Stem connection type (CF: Compression fitting)

- A None
- E CF + PT
- F CF + NPT
- G CF + PF
- H MT + PT (Movable thread)
- I MT + NPT (Movable thread)
- J MT + PF (Movable thread)

7. Stem outer diameter (mm)

- 2 8.0
- 3 10.0
- 4 12.0
- Z Other

8. Range

XXX Refer to temperature range table

9. Capillary length (m)

- A Direct mounting type
- P 2
- Q 3
- S 5
- V 8
- X 10
- Z Other

10. Accessories

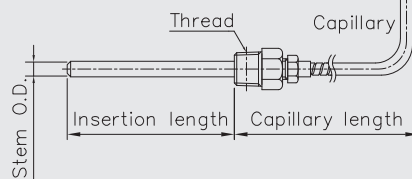
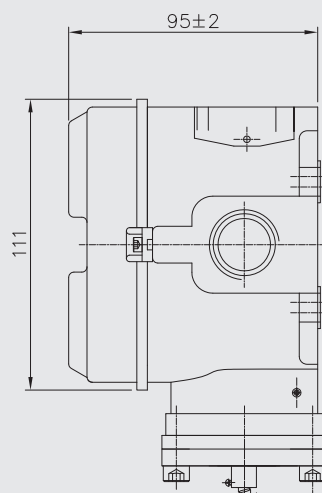
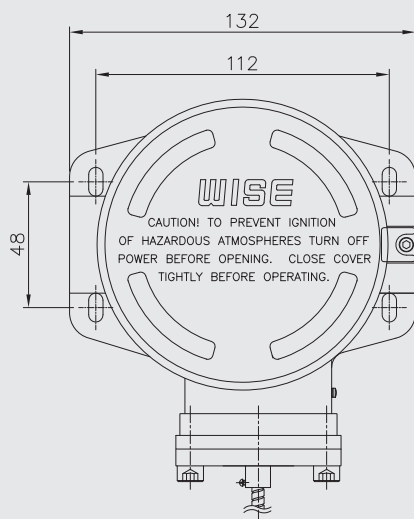
- 0 None
- 1 Thermowell

1	2	3	4	5	6	7	8	9	10
T953	1	B3	1	E	C	3	XXX	P	1

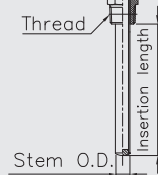
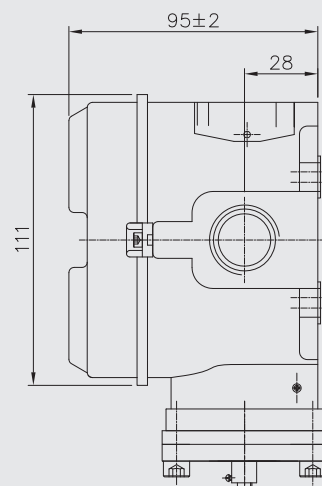
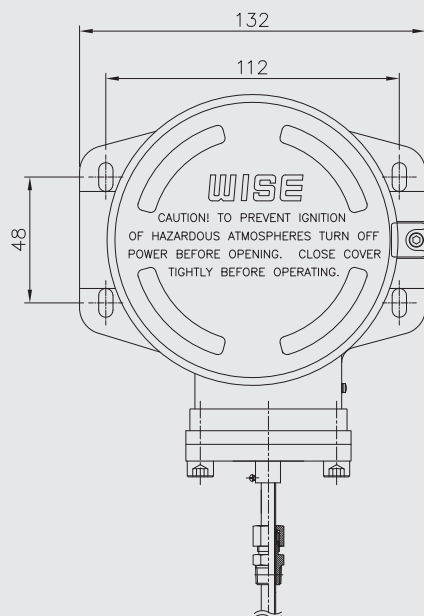
Sample
ordering code

T953 : Type of mounting

* Remote reading type



* Direct mounting type



Temperature switch

A bi-stable electro-mechanical device than actuates/deactuates one or more electrical switching element at a predetermined discrete temperature upon rising or falling.

Adjustable range

The span of temperature between upper and lower limited within which the temperature switch can be adjusted to actuate/deactuate.

It is expressed for increasing temperature.

Setpoint

That discrete temperature at which the temperature switch is adjusted to actuate/deactuate on rising or falling temperature. It must fall with the adjustable range and be called out as increasing.

Dead band

The difference in temperature between the increasing setpoint and decreasing setpoint.

Proof pressure

The maximum input temperature that can be continuously applied to the pressure switch without causing permanent change of setpoint, leakage or falling, material failure.

Burst temperature

The maximum input temperature that can be continuously applied to the temperature switch without causing leakage or catastrophic material failure. Permanent change of setpoint may occur, or the device may be rendered inoperative.

Repeatability

The ability of a temperature switch to successively operate at a setpoint that is approached from a starting point in the same direction and returns to the starting point over three consecutive cycles to establish a temperature profile.

Temperature range table

Code	Adjustable setting range (°C)	Maximum working temperature (°C)	Minimum stem length (mm)			Standard stem length (mm)		
			8.0	10.0	12.0	8.0	10.0	12.0
032	-50 ~ 30	35	100	85	65	200	130	100
037	-50 ~ 80	90	100	88	65	200	130	100
074	-10 ~ 65	75	100	85	65	200	130	100
104	20 ~ 90	95	100	85	65	200	130	100
109	50 ~ 120	130	100	85	65	200	130	100
114	100 ~ 170	180	100	85	65	200	130	100
119	150 ~ 220	230	100	85	65	200	130	100
124	190 ~ 260	270	100	85	65	200	130	100
129	230 ~ 300	310	100	85	65	200	130	100

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Rated voltage	Resistance load		Inductive load	
	NC	NO	NC	NO
125 V AC	15 (10)		15 (10)	
250 V AC	15 (10)		15 (10)	
480 V AC	10		10	
8 VDC	15		15	
14 V DC	15		10	
30 V DC	2		1	
125 V DC	0.4		0.03	
250 V DC	0.2		0.02	

SPDT switching element

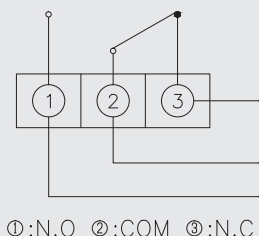
Single-pole, double throw(SPDT) has three connection : C-common, NO-normally open and NC-normally closed, which allows the switching element to be electrically to the circuit NO or NC state.

DPDT switching element

Double-pole, double throw(DPDT) is two SPDT switching elements operated by a common lever assembly so simultaneous actuation/deactuation occurs at both the increasing and the decreasing set point. Two independent electrical circuits can be switched, i.e. one AC and one DC.

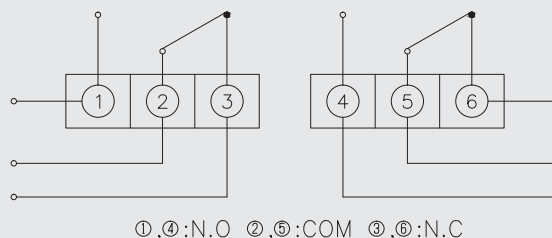
Single type

When the input pressure reach the upper or lower limit setpoint. The circuit is closed and opened.



Double type

When the input pressure reach the upper or lower limit setpoint. Two circuit are simultaneously closed and opened.



N.O : Normal open
N.C : Normal close

Explosion proof type indicating temperature switch

Model : T990

Spec. sheet no. TD09-05

Service intended

This temperature switch is installed with a micro contact, and it is suitable for measuring the temperature of corrosive fluid. Dead band is fixed.



Ambient temperature

-20 ~ 60 °C

Nominal diameter

125 mm

Repeatability

±1.0 % of adjustable range

Accuracy

±2.0 % of full scale

Measuring system (SAMA class IIIB)

Organic gas : 0 ~ 200 °C

Inert gas : -200 ~ 700 °C

Working range

Maximum scale value



Standard features

Location of stem

Bottom connection, surface,
Case mounting

Case

Silver gray finished aluminium

Cover

Silver gray finished aluminium

Capillary

Capillary : 1.6/0.2 mm, 316SS

Armored tube : 7.5/5.5 mm, 304SS

Switch form

Micro contact type

One SPDT or Two SPDT

One DPDT

Contact rating

■ AC 125 V/250 V, 15 A and DC 30 V, 2 A
DC 125 V, 0.5 A for resistance load

■ AC 125 V/250 V, 15 A and DC 30 V, 1 A
DC 125 V, 0.05 A for inductive load

Stem

8.0, 10.0 and 12.0 mm

316SS and 316L SS

Stem, process connection

3/8", 1/2", 3/4" PT, NPT and PF

Optional

Special accuracy, ±1.0 % of full scale

Certificates

KCS Ex d IIB+H2 T6

Main order

Ordering information

1. Base model

T990 Explosion proof type indicating temperature switch

2. Stem material

- 1 316SS
- 2 316L SS

3. Mounting

B Bottom connection, surface, case mounting

4. Alarm type

- 1 High
- 2 Low
- 3 High and low
- 4 High and hihigh
- 5 Low and lolow

5. Stem, process connection

- A** None
- D** 3/8"
- E** 1/2"
- F** 3/4"

6. Stem connection type (CF: Compression fitting)

- A** None
- E** CF + PT
- F** CF + NPT
- G** CF + PF
- H** MT + PT (Movable thread)
- I** MT + NPT (Movable thread)
- J** MT + PF (Movable thread)

7. Stem outer diameter (mm)

- 2** 8.0
- 3** 10.0
- 4** 12.0 (Standard)
- Z** Other

8. Range

XXX Refer to scale range table

9. Capillary length (m)

- P** 2
- Q** 3
- S** 5
- V** 8
- X** 10
- Z** Other

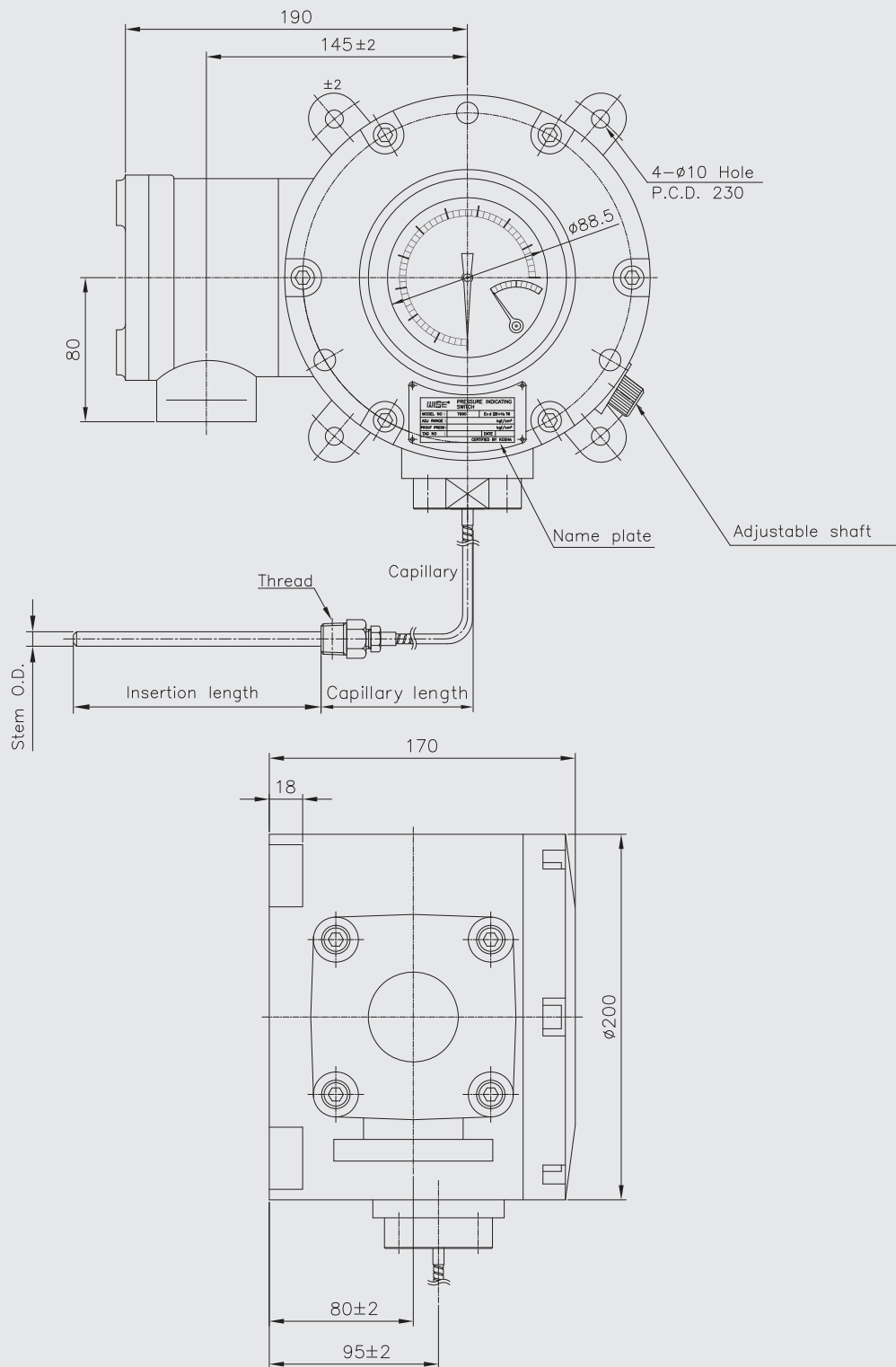
10. Accessories

- 0** None
- 1** Thermowell
- 2** Special accuracy (± 1.0 % of full scale)
- 3** Thermowell and special accuracy

1	2	3	4	5	6	7	8	9	10
T990	5	B	1	E	C	3	XXX	P	1

Sample
ordering code

T990 : Type of mounting



Temperature switch

A bi-stable electro-mechanical device that actuates/deactuates one or more electrical switching element at a predetermined discrete temperature upon rising or falling.

Adjustable range

The span of temperature between upper and lower limited within which the temperature switch can be adjusted to actuate/deactuate.

It is expressed for increasing temperature.

Setpoint

That discrete temperature at which the temperature switch is adjusted to actuate/deactuate on rising or falling temperature. It must fall within the adjustable range and be called out as increasing.

Dead band

The difference in temperature between the increasing setpoint and decreasing set point.

Proof pressure

The maximum input pressure that can be continuously applied to the pressure switch without causing permanent change of set point, leakage or failure.

Burst temperature

The maximum input temperature that can be continuously applied to the temperature switch without causing leakage or catastrophic material failure. Permanent change of set point may occur, or the device may be rendered inoperative.

Repeatability

The ability of a temperature switch to successively operate at a setpoint that is approached from a starting point in the same direction and returns to the starting point over three consecutive cycles to establish a temperature profile.

Temperature range table

Code	Scale range (°C)	Scale spacing (°C)	Minimum stem length (mm)			Standard stem length (mm)		
			8.0	10.0	12.0	8.0	10.0	12.0
032	-50 ~ 50	2	100	85	65	200	130	100
037	-50 ~ 100	5	100	88	65	200	130	100
054	-30 ~ 50	2	100	85	65	200	130	100
059	-30 ~ 100	2	100	85	65	200	130	100
061	-30 ~ 120	5	100	85	65	200	130	100
069	-20 ~ 50	2	100	85	65	200	130	100
074	-20 ~ 100	2	100	85	65	200	130	100
079	-20 ~ 150	5	100	85	65	200	130	100
084	-10 ~ 50	1	100	85	65	200	130	100
099	0 ~ 50	1	100	85	65	200	130	100
100	0 ~ 60	1	100	85	65	200	130	100
101	0 ~ 70	2	100	85	65	200	130	100
102	0 ~ 80	2	100	85	65	200	130	100
104	0 ~ 100	2	100	85	65	200	130	100
106	0 ~ 120	2	100	85	65	200	130	100
109	0 ~ 150	5	100	85	65	200	130	100
114	0 ~ 200	5	100	85	65	200	130	100
119	0 ~ 250	5	100	85	65	200	130	100
124	0 ~ 300	5	100	85	65	200	130	100
129	0 ~ 350	5	100	85	65	200	130	100
134	0 ~ 400	10	100	85	65	200	130	100
144	0 ~ 500	10	100	85	65	200	130	100
154	0 ~ 600	10	100	85	65	200	130	100
164	0 ~ 700	10	100	85	65	200	130	100

* 0 ~ 700 °C/Special range

Insertion length

Code	1	2	3	4	5	6	7	8	9	A	B	C
Length (mm)	50	60	70	80	100	120	130	150	175	200	225	250

Code	D	E	F	G	H	J	K	L	M	N	P
Length (mm)	275	300	350	375	400	450	500	550	1,000	1,500	2,000

Rated voltage	Resistance load		Inductive load	
	NC	NO	NC	NO
125 V AC	15 (10)		15 (10)	
250 V AC	15 (10)		15 (10)	
480 V AC	10		10	
8 VDC	15		15	
14 V DC	15		10	
30 V DC	2		1	
125 V DC	0.4		0.03	
250 V DC	0.2		0.02	

SPDT switching element

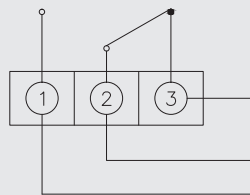
Single-pole, double throw (SPDT) has three connection : C-common, NO-normally open and NC-normally closed, which allows the switching element to be electrically to the circuit NO or NC state.

DPDT switching element

Double-pole, double throw (DPDT) is two SPDT switching elements operated by a common lever assembly so simultaneous actuation/deactuation occurs at both the increasing and the decreasing set point. Two independent electrical circuits can be switched, i.e. one AC and one DC.

Single type

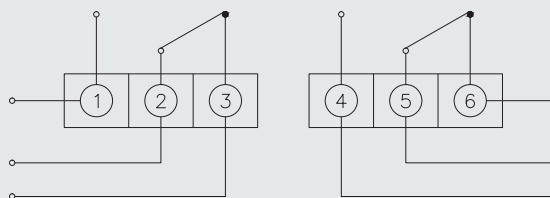
When the input pressure reach the upper or lower limit setpoint. The circuit is closed and opened.



①:N.O ②:COM ③:N.C

Double type

When the input pressure reach the upper or lower limit setpoint. Two circuit are simultaneously closed and opened.



①,④:N.O ②,⑤:COM ③,⑥:N.C

N.O : Normal open
N.C : Normal close

