Bimetal thermometer
Model 55, stainless steel version

Applications

- Chemical, petrochemical industry
- Power engineering
- Machine building and general plant construction
- Food industry

Special features

- Application ranges from -70 ... +600 °C
- 6 different connection designs selectable
- Case and stem from stainless steel

Fig. left: bimetal thermometer model R5502
Fig. right: bimetal thermometer, adjustable stem and dial model S5550

Description

This series of thermometers is designed for installation in pipes, vessels, plant and machinery.

Stem and case are made of stainless steel. To allow fitting to the process, different insertion lengths and process connections are available.
Through the high ingress protection of the thermometer (IP 65) and its liquid damping, operation under high vibration conditions is possible.

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Standard version

Measuring element
Bimetal coil

Nominal size in mm
63, 100, 160

Connection design
S Standard (male thread connection)
1 Plain stem (without thread)
2 Male nut
3 Union nut (female)
4 Compression fitting (sliding on stem)
5 Union nut with fitting

Models

Model	NS	Version
A5525	63	Back mount (axial)
A5500	100	
A5501	160	
R5526	63	Lower mount (radial)
R5502	100	
R5503	160	
S5550	100	Back mount, adjustable stem and dial
S5551	160	

Accuracy class
Class 1 per EN 13190

Working pressure
Normal (1 year): Measuring range (EN 13190)
Short time (24 h max.): Scale range (EN 13190)

Case and bayonet ring
Stainless steel

Stem and process connection
Stainless steel 1.4571

Dial
Aluminium white, black lettering

Window
Instrument glass
NS 63: Window from polycarbonate

Pointer
Aluminium, black, micro adjustable pointer

Zero adjustment
on case back side, external only for adjustable stem and dial (option)

Permissible pressure rating of stem
max. 25 bar, static

Permissible ambient temperature at case
-20 ... +60 °C (optional: -50 ... +60 °C)

Temperature limits for storage and transport
-20 ... +60 °C (EN 13190)

Ingress protection
IP 65 per EN 60529

Options

- Scale range °F, °C/°F (dual scale)
- Liquid damping up to max. 250 °C (at the sensor)
- Laminated safety glass, acrylic plastic
- Stem diameter 6, 10, 12 mm
- Ingress protection IP 66
- Thermometer with switch contacts (data sheet TV 25.01)
- Special measuring ranges or dial printing to customer specifications (on request)
- Version per ATEX Ex II 2 GD c TX

Scale ranges, measuring ranges [1], error limits (EN 13190)
Scale graduation per WIKA standard

Scale range in °C	Measuring range [1] in °C	Scale spacing in °C	Error limit ±°C
-70 ... +30	-60 ... +20	1	1.0
-50 ... +50	-40 ... +40	1	1.0
-30 ... +50	-20 ... +40	1	1.0
-20 ... +60	-10 ... +50	1	1.0
0 ... 60	10 ... 50	1	1.0
0 ... 80	10 ... 70	1	1.0
0 ... 100	10 ... 90	1	1.0
0 ... 120	10 ... 110	2	2.0
0 ... 160	20 ... 140	2	2.0
0 ... 200	20 ... 180	2	2.0
0 ... 250	30 ... 220	5	2.5
0 ... 300	30 ... 270	5	5.0
0 ... 400	50 ... 350	5	5.0
0 ... 500	50 ... 450	5	5.0
0 ... 600	100 ... 500	10	10.0

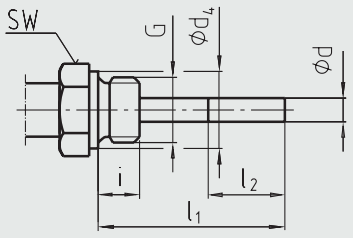
1) The measuring range is indicated on the dial by two triangular marks. Only within this range is the stated error limit valid per EN 13190.

Connection design

Design standard (male thread connection)

Connection, male: G ½ B, G ¾ B, ½ NPT, ¾ NPT
Insertion length l_1 = 63, 100, 160, 200, 250 mm

Nominal size NS	Process connection G	i	Dimensions in mm SW	d_4	Ø d
63, 100, 160	G ½ B	14	27	26	8
	G ¾ B	16	32	32	8
	½ NPT	19	22	-	8
	¾ NPT	20	30	-	8



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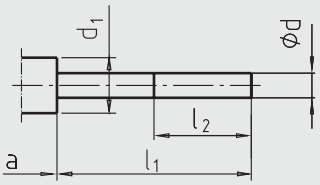
Legend:

G	Male thread	SW	Flats
i	Thread length	Ø d	Stem diameter
Ø d_4	Diameter of the sealing collar	l_2	Active length

Design 1, plain stem (without thread)

Insertion length l_1 = 140, 200, 240, 290 mm

Nominal size NS	Dimensions in mm d1	Ød	a for axial	a for adjustable stem and dial
63	14	8	15	25
100, 160	18	8	15	25



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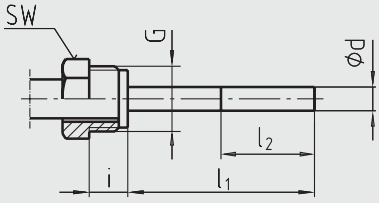
Legend:

a	Distance to case/ articulated joint	Ø d	Stem diameter
		l_2	Active length
Ø d_1	Plain diameter		

Design 2, male nut

Insertion length l_1 = 80, 140, 180, 230 mm

Nominal size NS	Process connection G	i	Dimensions in mm SW	Ød
63, 100, 160	G ½ B	20	27	8



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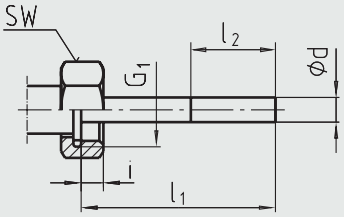
Legend:

G	Male thread	Ø d	Stem diameter
i	Thread length incl. collar	l_2	Active length
SW	Flats		

Design 3, union nut

Insertion length l_1 = 89, 126, 186, 226, 276 mm

Nominal size NS	Process connection G_1	i	Dimensions in mm SW	Ød
63, 100, 160	G ½	8.5	27	8
	G ¾	10.5	32	8
	M24 x 1.5	13.5	32	8



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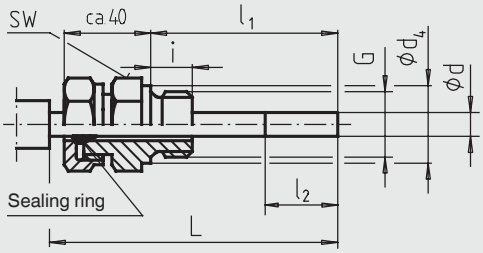
Legend:

G_1	Female thread	Ø d	Stem diameter
i	Thread length	l_2	Active length
SW	Flats		

Design 4, compression fitting (sliding on stem)

Standard insertion length l_1 = 63, 100, 160, 200, 250 mm
Length L = l_1 + 40 mm

Nominal size NS	Process connection G	i	Dimensions in mm SW	d_4	Ød
63, 100, 160	G ½ B	14	27	26	8
	G ¾ B	16	32	32	8
	M18 x 1.5	12	24	23	8
	½ NPT	19	22	-	8
	¾ NPT	20	30	-	8



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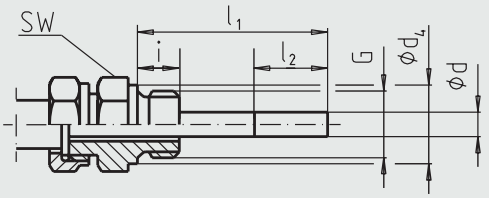
Legend:

G	Male thread	SW	Flats
i	Thread length	Ø d	Stem diameter
Ø d_4	Diameter of the sealing collar	l_2	Active length

Design 5, union nut with loose fitting
G ½ B, G ¾ B, M18 x 1.5 as well as ½ NPT, ¾ NPT
Minimum insertion depth l_{min} approx. 60 mm
Insertion length l_1 = variable
Length L = l_1 + 40 mm
Stainless steel 1.4571

Nominal size	Process connection		Dimensions in mm		
NS	G	i	SW	d_4	Ød
63, 100, 160	G ½ B	14	27	26	8
	G ¾ B	16	32	32	8
	M18 x 1.5	12	24	23	8
	½ NPT	19	22	-	8
	¾ NPT	20	30	-	8



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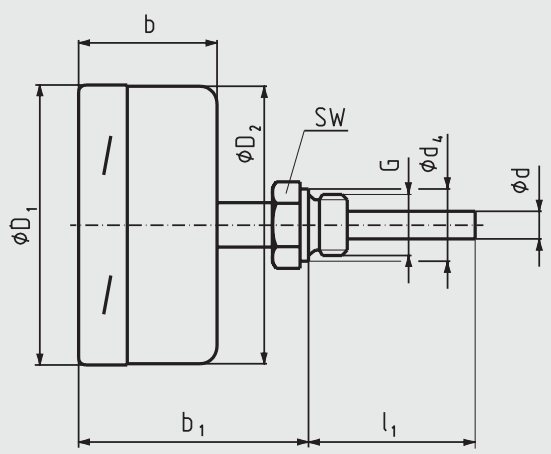
Legend:
G Male thread
i Thread length
Ø d_4 Diameter of the sealing collar
SW Flats
Ø d Stem diameter
l_2 Active length

Dimensions in mm

Back mount (BM)



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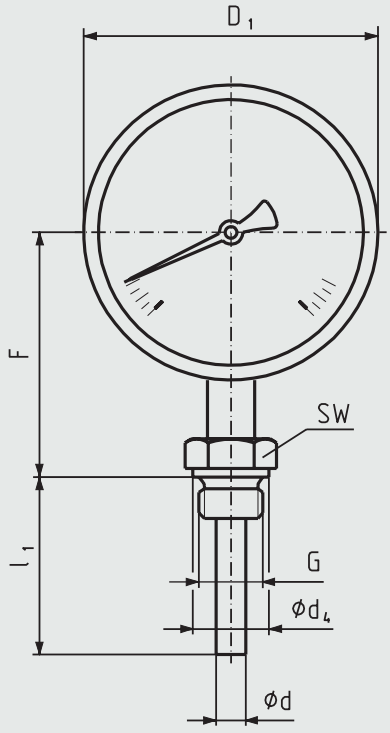
Lower mount (LM)



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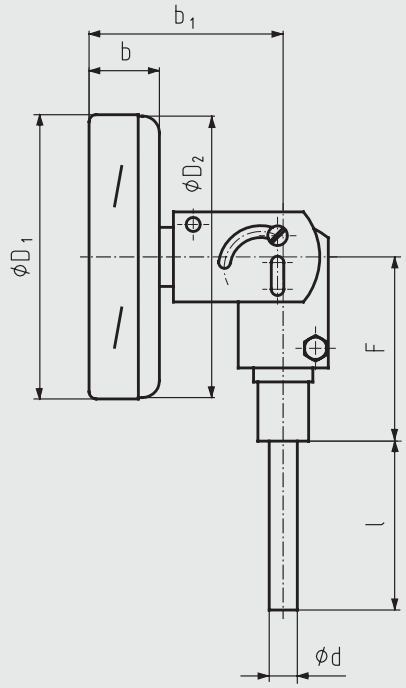
NS	Dimensions in mm									Weight in kg	
	b	b_1 1)	d 2)	d_4	Ø D_1	Ø D_2	F 1)	G	SW	Model A55xx	Model R55xx
63	35	60	8	26	64	62	57	G ½ B	27	0.25	0.25
100	50	83	8	26	101	99	83	G ½ B	27	0.8	0.8
160	50	83	8	26	161	159	113	G ½ B	27	1.1	1.1

1) With scale ranges ≥ 0 ... 300 °C the dimensions increase by 40 mm
2) Option: Stem Ø 6, 10, 12 mm

Adjustable stem and dial version



NS	Dimensions in mm						Weight in kg
	b	b1	d [1]	Ø D_1	Ø D_2	F	Model S55xx
100	25	68	8	101	99	68	0.5
160	25	68	8	161	159	68	0.7

1) Option: Stem Ø 6, 10, 12 mm

Ordering information

Model / Nominal size / Scale range / Connection size / Connection location / Options

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WIKA Alexander Wiegand SE & Co. KG
Alexander-Wiegand-Straße 30
63911 Klingenberg/Germany
Tel. (+49) 9372/132-0
Fax (+49) 9372/132-406
E-mail info@wika.de
www.wika.de