

Bimetal thermomanometer

For pressure and temperature measurement

Models 100.10 and 100.12, NS 63 [2 ½"] and NS 80 [3"]

WIKA data sheet PM 01.23

Applications

- Heating systems
- Combi-boilers with hot water and heating

Special features

- Combined indication for pressure and temperature
 - Model 100.10: – Pressure scale at the top
 - Temperature scale at the bottom
 - Scale orientation from left to right
 - Model 100.12: – Pressure scale at the top
 - Temperature scale at the bottom
 - Pressure scale from left to right
 - Temperature scale from right to left
- Scale ranges to 0 ... 16 bar [0 ... 230 psi] and 0 ... 160 °C [32 ... 320 °F]

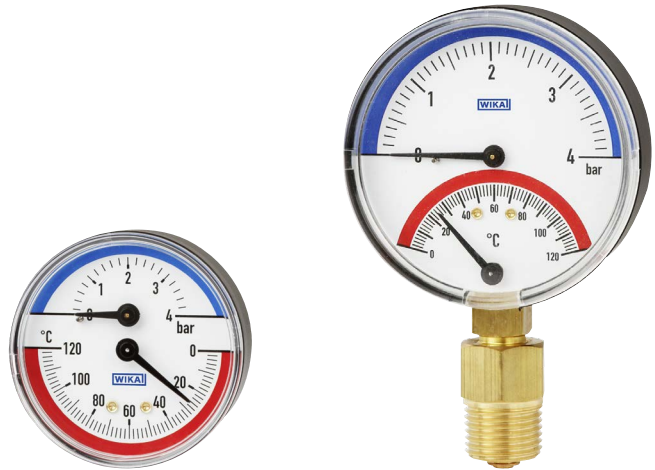


Fig. left: model 100.12.063, centre back mount

Fig. right: model 100.10.080, lower mount, with shut-off valve

Configurator



Description

Thermomanometers combine the measurement of pressure and temperature in one instrument. This enables the control of both measurands at one single measuring location. The built-in measuring elements – Bourdon tube and bimetal coil – guarantee reliable measuring results.

By using the self-sealing shut-off valve, the measuring instrument can be dismantled at any time and without having to empty the heating circuit first. The bimetal thermomanometer is delivered with a shut-off valve as standard. WIKA manufactures and qualifies this instrument in accordance with the standard EN 837-1.

Specifications

Basic information	
Standard	
Pressure	EN 837-1 For information on the "Selection, installation, handling and operation of pressure gauges", see technical information IN 00.05.
Nominal size (NS)	■ Ø 63 mm [2 ½"] ■ Ø 80 mm [3"]
Connection location	
Model 100.10	Lower mount (radial) ¹⁾
Model 100.12	Centre back mount
Window	■ Plastic, crystal-clear, snap-fitted in case ■ Instrument glass ²⁾
Case	■ Plastic, black ■ Steel, black painted
Ring ³⁾	■ Without ■ Slip-on bezel, steel, black painted ■ Slip-on bezel, steel, chrome plated
Movement	Copper alloy

1) Only available for NS 80 [3"]

2) Only available for model 100.10 in combination with slip-on bezel

3) Slip-on bezel only available for steel case

Measuring element	
Type of measuring element	
Pressure	Bourdon tube, C-type
Temperature	Bimetal coil
Material	Copper alloy

Accuracy specifications	
Accuracy class	
Pressure	Class 2.5 per EN 837-1
Temperature	±2.5 °C [±4.5 °F]
Temperature error (pressure)	On deviation from the reference conditions at the measuring system: ≤ ±0.4 % per 10 °C [≤ ±0.4 % per 18 °F] of full scale value
Reference conditions (pressure)	
Ambient temperature	+20 °C [+68 °F]

Scale ranges for pressure

bar	
0 ... 4	0 ... 10
0 ... 6	0 ... 16

psi	
0 ... 60	0 ... 150
0 ... 100	0 ... 200

MPa	
0 ... 0.4	0 ... 1
0 ... 0.6	0 ... 1.6

Scale ranges for temperature

Scale range in °C	Scale interval in °C
0 ... 100 ¹⁾	2
0 ... 120	2
20 ... 120 ¹⁾	2
0 ... 150	2
0 ... 160 ¹⁾	2

¹⁾ Only available for model 100.12

Scale range in °F	Scale interval in °F
32 ... 248	4

→ Other scale ranges on request

Further details on: scale ranges		
Special scale ranges	Other scale ranges on request	
Unit		
Pressure	■ bar ■ MPa ■ psi	
Temperature	■ °C ■ °F	
Dial		
Scale colour	Black	
Scale position	Depending on model, see page 1	
Circular arc	Pressure	Blue
	Temperature	Red
Material	Aluminium, white	
Special scale	Customer-specific dials, e.g. with red mark, circular arcs or circular sectors, on request	
Pointer		
Instrument pointer	Pressure	Blue
	Temperature	Red
Material	Aluminium, black	
Pointer stop pin	At zero point (only for pressure scale)	

Process connection	
Standard	■ EN 837-1 ■ ISO 7 ■ ANSI/B1.20.1
Size	
EN 837-1	G ¼ B, male thread
ISO 7	R ¼, male thread
ANSI/B1.20.1	¼ NPT, male thread
Material (wetted)	
Process connection	Copper alloy
Bourdon tube	Copper alloy

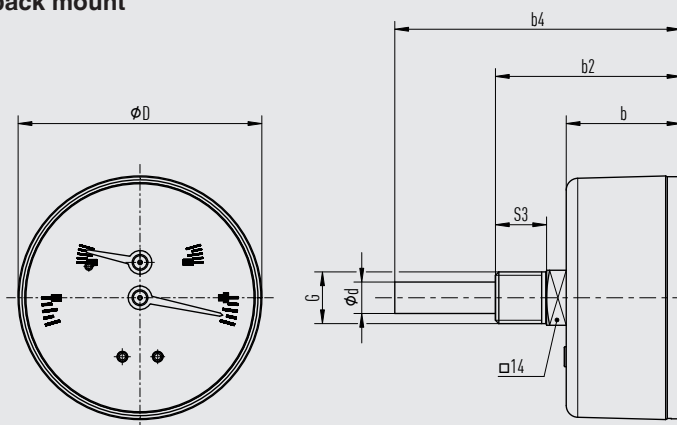
→ Other process connections on request

Shut-off valve	
Instrument connection	G ¼, female thread per EN 837-1
Process connection	■ G ½ B, male thread per EN 837-1 ■ M20 x 1.5, male thread per EN 837-1 ■ R ½, male thread per ISO 7 ■ ½ NPT, male thread per ANSI/B1.20.1
Material (wetted)	Copper alloy

Operating conditions	
Medium temperature	-20 ... +160 °C [-4 ... +320 °F]
Ambient temperature	-20 ... +60 °C [-4 ... +140 °F]
Pressure limitation	
Steady	3/4 x full scale value
Fluctuating	2/3 x full scale value
Short time	Full scale value
Ingress protection per IEC/EN 60529	IP31

Dimensions in mm [in]

Model 100.12, centre back mount

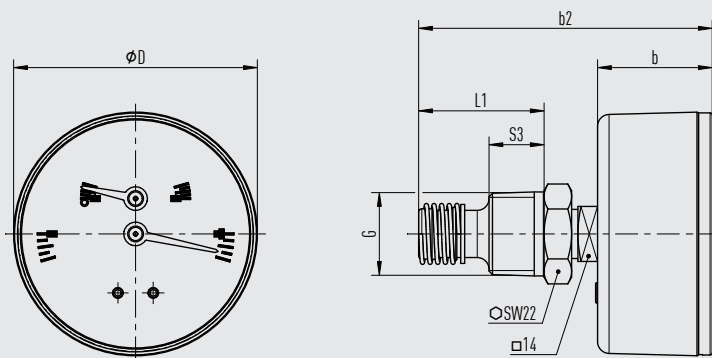


14879675.01

Case version	NS	G	Dimensions in mm [in]					
			b ±0.5 [0.02]	b2 ±1 [0.04]	b4 ±1 [0.04]	D	d	S3
Plastic	63 [2 ½"]	G ¼ B, ¼ NPT, R ¼	29 [1.14]	47 [1.85]	73 [2.87]	61.5 [2.42]	8 [0.31]	13 [0.51]
Steel	63 [2 ½"]	G ¼ B, ¼ NPT, R ¼	29 [1.14]	47 [1.85]	73 [2.87]	62 [2.44]	8 [0.31]	13 [0.51]
Steel, with slip-on bezel	63 [2 ½"]	G ¼ B, ¼ NPT, R ¼	30 [1.18]	48.5 [1.91]	74 [2.91]	63 [2.44]	8 [0.31]	13 [0.51]
Plastic	80 [3"]	G ¼ B, ¼ NPT, R ¼	32 [1.26]	49 [1.93]	74.5 [2.93]	78.5 [3.09]	8 [0.31]	13 [0.51]
Steel	80 [3"]	G ¼ B, ¼ NPT, R ¼	31 [1.22]	49 [1.93]	74.5 [2.93]	79 [3.11]	8 [0.31]	13 [0.51]
Steel, with slip-on bezel	80 [3"]	G ¼ B, ¼ NPT, R ¼	31.5 [1.24]	49.5 [1.95]	75 [2.95]	80 [3.15]	8 [0.31]	13 [0.51]

Case version	NS	Weight in g [oz]
Plastic	63 [2 ½"]	Approx. 80 [2.82]
Steel	63 [2 ½"]	Approx. 150 [5.29]
Steel, with slip-on bezel	63 [2 ½"]	Approx. 170 [6.00]
Plastic	80 [3"]	Approx. 100 [3.53]
Steel	80 [3"]	Approx. 260 [9.17]
Steel, with slip-on bezel	80 [3"]	Approx. 290 [10.23]

Model 100.12, centre back mount, with shut-off valve

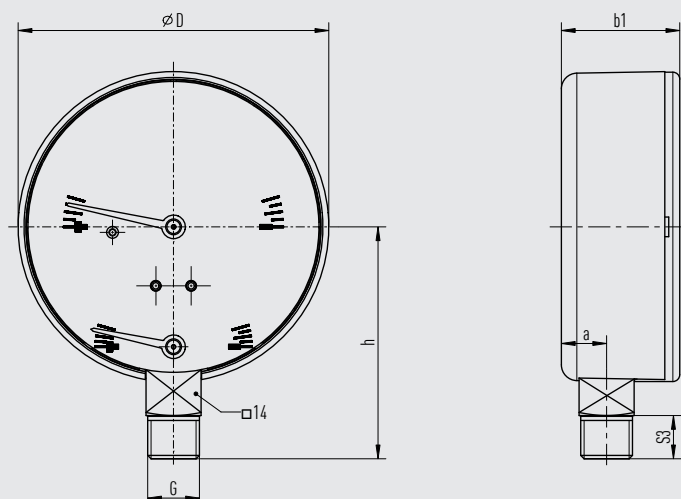


31045537-04

Case version	NS	G	Dimensions in mm [in]				
			b ±0.5 [0.02]	b2 ±1 [0.04]	L1	D	S3
Plastic	63 [2 ½"]	G ½ B, ½ NPT, R ½	29 [1.14]	75 [2.95]	32 [1.26]	61.5 [2.42]	14 [0.55]
Steel	63 [2 ½"]	G ½ B, ½ NPT, R ½	29 [1.14]	75 [2.95]	32 [1.26]	62 [2.44]	14 [0.55]
Steel, with slip-on bezel	63 [2 ½"]	G ½ B, ½ NPT, R ½	30 [1.18]	76 [2.99]	32 [1.26]	63 [2.48]	14 [0.55]
Plastic	80 [3"]	G ½ B, ½ NPT, R ½	32 [1.26]	77 [3.03]	32 [1.26]	78.5 [3.09]	14 [0.55]
Steel	80 [3"]	G ½ B, ½ NPT, R ½	31 [1.22]	76 [2.99]	32 [1.26]	79 [3.11]	14 [0.55]
Steel, with slip-on bezel	80 [3"]	G ½ B, ½ NPT, R ½	31.5 [1.24]	77 [3.03]	32 [1.26]	80 [3.15]	14 [0.55]

Case version	NS	Weight in g [oz]
Plastic	63 [2 ½"]	Approx. 140 [4.94]
Steel	63 [2 ½"]	Approx. 210 [7.41]
Steel, with slip-on bezel	63 [2 ½"]	Approx. 230 [8.11]
Plastic	80 [3"]	Approx. 160 [5.64]
Steel	80 [3"]	Approx. 320 [11.29]
Steel, with slip-on bezel	80 [3"]	Approx. 360 [12.70]

Model 100.10, NS 80 [3"], lower mount

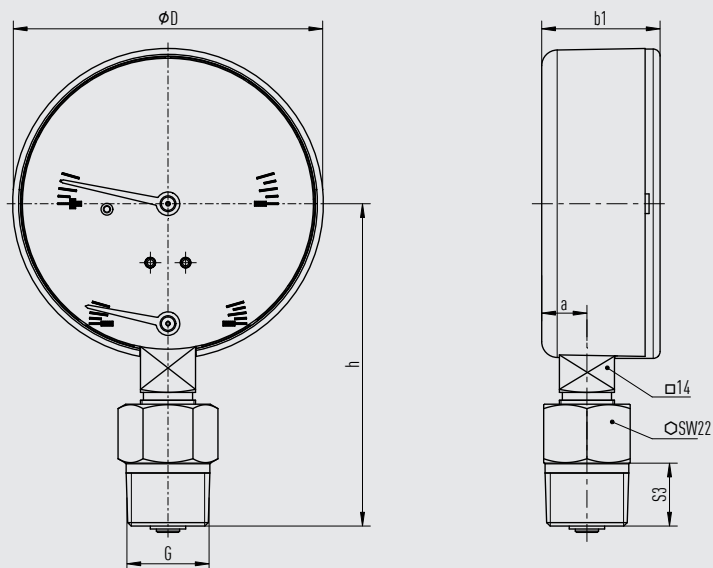


14879625.01

Case version	NS	G	Dimensions in mm [in]				
			a	b1 ±0.5 [0.02]	h ±1 [0.04]	D	S3
Plastic	80 [3"]	G ¼ B	11.5 [0.45]	30 [1.18]	59 [2.32]	79 [3.11]	11 [0.43]
		¼ NPT, R ¼	11.5 [0.45]	30 [1.18]	59 [2.32]	79 [3.11]	13 [0.51]
Steel	80 [3"]	G ¼ B	10 [0.39]	29 [1.14]	59 [2.32]	79 [3.11]	11 [0.43]
		¼ NPT, R ¼	10 [0.39]	29 [1.14]	59 [2.32]	79 [3.11]	13 [0.51]
Steel, with slip-on bezel	80 [3"]	G ¼ B	10 [0.39]	30 [1.18]	59 [2.32]	80 [3.15]	11 [0.43]
		¼ NPT, R ¼	10 [0.39]	30 [1.18]	59 [2.32]	80 [3.15]	13 [0.51]

Case version	NS	Weight in g [oz]
Plastic	80 [3"]	Approx. 180 [6.35]
Steel	80 [3"]	Approx. 260 [9.17]
Steel, with slip-on bezel	80 [3"]	Approx. 280 [9.88]

Model 100.10, NS 80 [3"], lower mount, with shut-off valve



31045472.04

Case version	NS	G	Dimensions in mm [in]				
			a	b1 ±0.5 [0.02]	h ±1 [0.04]	D	S3
Plastic	80 [3"]	G ½ B, ½ NPT, R ½	11.5 [0.45]	30 [1.18]	82 [3.23]	79 [3.11]	16 [0.63]
Steel	80 [3"]	G ½ B, ½ NPT, R ½	11.5 [0.45]	29 [1.14]	82 [3.23]	79 [3.11]	16 [0.63]
Steel, with slip-on bezel	80 [3"]	G ½ B, ½ NPT, R ½	11.5 [0.45]	30 [1.18]	82 [3.23]	80 [3.15]	16 [0.63]

Case version	NS	Weight in g [oz]
Plastic	80 [3"]	Approx. 240 [8.47]
Steel	80 [3"]	Approx. 310 [10.93]
Steel, with slip-on bezel	80 [3"]	Approx. 350 [12.35]

Accessories and spare parts

Model		Description	Order number
	910.17	Seals → See data sheet AC 09.08	-

Ordering information

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



© 02/2013 WIKA Alexander Wiegand SE & Co. KG, all rights reserved.
The specifications given in this document represent the state of engineering at the time of publishing.
We reserve the right to make modifications to the specifications and materials.



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