



Digital pressure gauge for industrial applications

Model DG-10-S, Standard version

Model DG-10-E, Enhanced version

WIKA data sheet PE 81.66

Applications

- Machine building
- Hydraulics and pneumatics
- Pumps and compressors
- Service tasks

Special features

- Measuring ranges from 0 ... 30 to 0 ... 10,000 psi (0 ... 2 to 0 ... 600 bar)
- Accuracy $\leq \pm 0.25\%$ BFSL
- Battery operation (2 x 1.5 V AA cell)
- Option: Rotatable instrument head, backlighting



Digital pressure gauge model DG-10-S (Top)
Digital pressure gauge model DG-10-E (Bottom)

Description

Robust, precise digital indicator

The robust stainless steel case and the battery power enable a flexible operation in various applications and industries. For a precise and quick on-site reading of a pressure value, a digital indicator is the ideal solution. The bargraph display and drag pointer function integrated into the display, as well as retrievable Min/Max peak values, enable effective analysis of the measuring point.

Customised installation

Through its rotatable case, the model DG-10-E can be easily adapted to local conditions. The backlighting also provides easy readability of the display in poor lighting conditions.

Additional programming functions are: Automatic power-off, tare function and password protection. There is unit switching between the units bar, psi and MPa already integrated into the standard model DG-10-S.

Proven sensor technology

For decades, sensors manufactured by WIKA have guaranteed high accuracy, long-term stability and repeatability in industrial pressure measurement. Depending on the measuring range, the most appropriate sensor technology is used (metal thin-film or ceramic).

Measuring ranges

Relative pressure

bar	Measuring range	0 ... 2	0 ... 5	0 ... 10	0 ... 20	0 ... 50	0 ... 100
	Overpressure limit	5	10	20	40	100	200
	Burst pressure	6	12	25	50	120	800
	Measuring range	0 ... 160	0 ... 250	0 ... 400	0 ... 600		
psi	Measuring range	0 ... 30	0 ... 60	0 ... 145	0 ... 300	0 ... 600	0 ... 1,450
	Overpressure limit	70	145	290	580	1,450	2,900
	Burst pressure	85	170	360	725	1,740	11,600
	Measuring range	0 ... 2,000	0 ... 3,000	0 ... 5,000	0 ... 7,500	0 ... 10,000 ¹⁾	
	Overpressure limit	4,640	7,250	11,600	17,400	21,750	
	Burst pressure	14,500	17,400	24,650	34,800	43,500	

1) only possible with DG-10-E (DG-10-S can only display up to 9999 psi)

Vacuum and +/- measuring ranges

bar	Measuring range	-1 ... 2	-1 ... 5	-1 ... 10
	Overpressure limit	5	10	20
	Burst pressure	6	12	25
psi	Measuring range	-30 inHg ... +29 psi	-30 inHg ... +72 psi	-30 inHg ... +145 psi
	Overpressure limit	70	145	290
	Burst pressure	85	170	360

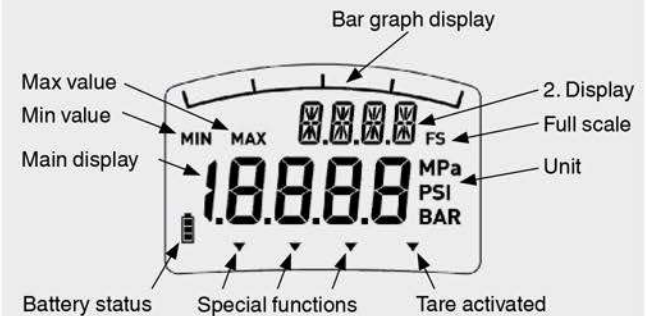
Digital indicator

	Model DG-10-S	Model DG-10-E
Type of indication	7-segment LCD	7-segment LCD 14-segment LCD (option)
■ Digits	4-digit	4 ½-digit
■ Character size	11 mm	11 mm and 7 mm
■ Indication range	-1999 ... 9999	-1999 ... 19999
■ Update	200 ms	200 ms
■ Backlighting	no	yes (see "Hardware functions")
■ Bargraph with drag pointer function	yes	yes
■ Rotatability	no	300° (see "Hardware functions")

Model DG-10-S



Model DG-10-E



Software functions

Function	Model DG-10-S	Model DG-10-E
Min/Max memory	yes	yes
Automatic power-off	no	15, 30, 60, 120 minutes
Tare function	no	yes
Unit change	bar, psi, MPa	bar, psi, MPa
Password protection	no	yes
Reset to factory settings	no	yes

Hardware functions

Rotatability of the display

The display of the model DG-10-E can be rotated through 300°, thus it can be read from almost any position. Therefore the model DG-10-E can also be used in situations where mounting is difficult.



Backlighting

The model DG-10-E features backlighting so that the display can be easily read, even under poor lighting conditions.



Approvals, directives and certificates

CE conformity

- Pressure equipment directive 97/23/EC, PS > 200 bar; module A, pressure accessory
- EMC directive 2004/108/EC interference emission (limit class B) and immunity to EN 61326-1

Voltage supply

The power supply is provided via two 1.5 V AA cells.

The operating time is approx. 4,000 hours, when using batteries with a capacity of 2,000 mAh.

Reference conditions

Temperature

32 ... 140 °F (0 ... 60 °C)

Atmospheric pressure

12.5 ... 15.4 psi (860 ... 1,060 mbar)

Humidity

< 90 % rel., non-condensing

Nominal position

Calibrated in vertical mounting position with process connection facing downwards.

Power supply

2 x 1.5 V AA cell

Accuracy

Accuracy at reference conditions

$\leq \pm 0.5$ % of span ± 1 digit

Including non-linearity, hysteresis, zero offset and end value deviation (corresponds to measured error per IEC 61298-2).

Zero error for the zero signal

≤ 0.1 % of span (power-up reset)

Adjustability of zero point

≤ 20 % of span (via tare function with model DG-10-E)

Temperature error at 32 ... 140 °F (0 ... 60 °C)

■ Mean temperature coefficient of zero point
 ≤ 0.15 % of span/10 K

■ Mean temperature coefficient of span
 ≤ 0.15 % of span/10 K

Long-term stability

≤ 0.2 % of span/year

Operating conditions

Ingress protection

IP 65 per IEC 60529

Temperatures

- Medium:
 - Measuring range < 100 bar: -22 ... 185 °F (-30 ... +85 °C)
 - Measuring range \geq 100 bar: -22 ... 212 °F (-30 ... +100 °C)
- Ambient: 14 ... 140 °F (-10 ... +60 °C)
- Storage: -4 ... 158 °F (-20 ... +70 °C)

Process connections

Standard	Thread size
DIN 3852-E	G ¼ A
EN 837	G ¼ B
	G ½ B
ANSI/ASME B1.20.1	¼ NPT
	½ NPT

Sealings

Process connections to the DIN 3852-E standard are delivered with NBR sealings as standard.

Materials

Wetted parts

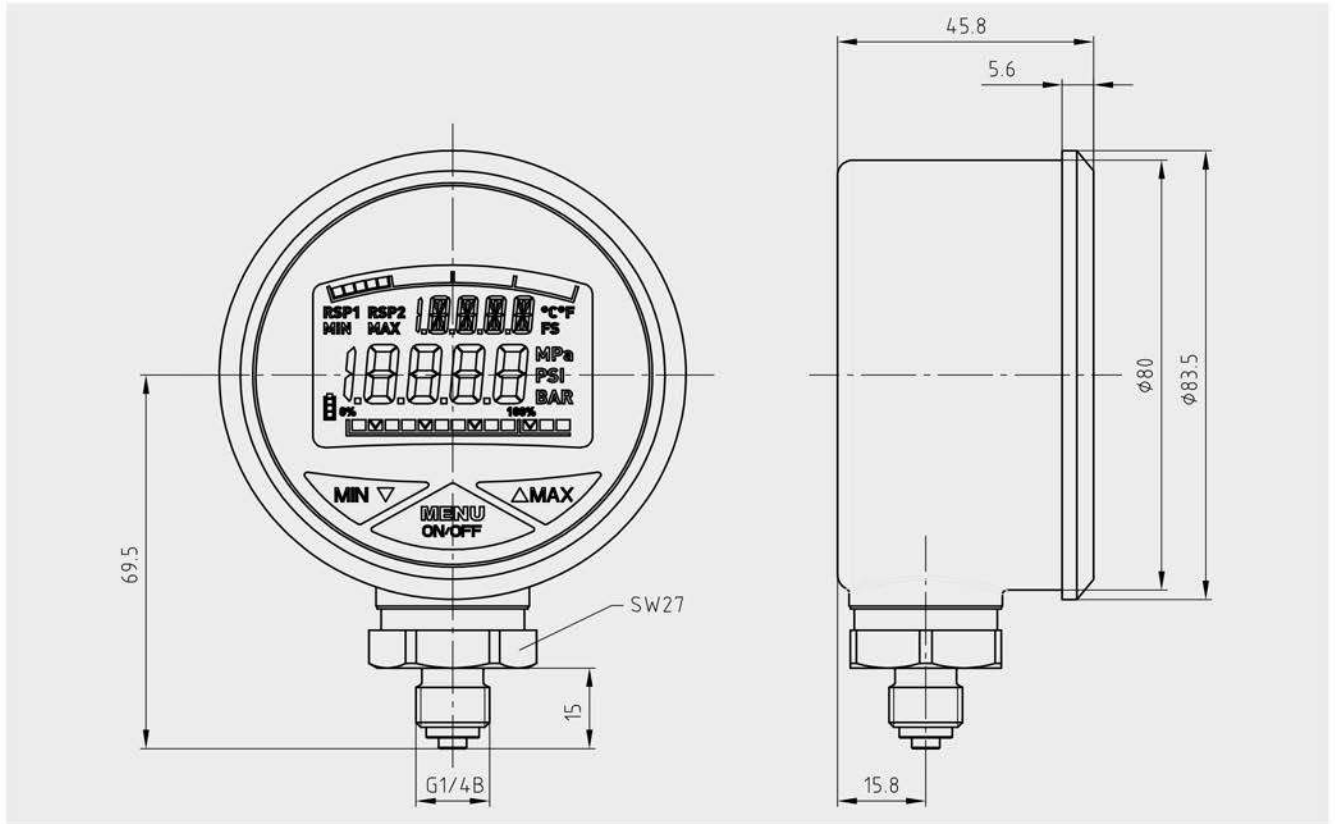
- Process connection: Stainless steel 1.4571
- Sealing material: See "Process connections"
- Sensor element ≤ 50 bar: Ceramic Al₂O₃ 96%
NBR (option: EPDM)
- Sensor element > 100 bar: XM-13 (stainless steel 1.4534)

Non-wetted parts

- Case: Stainless steel 1.4301
- Front foil and membrane: Polyester

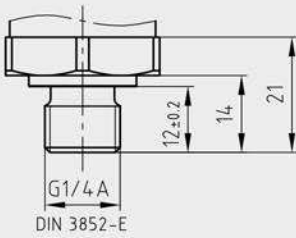
Dimensions in mm

Digital pressure gauge

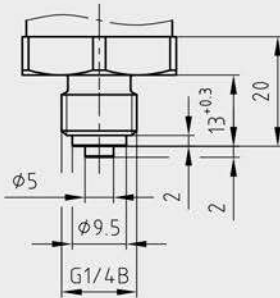


Process connections

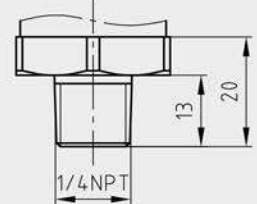
G 1/4 A DIN 3852-E



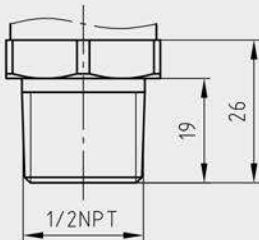
G 1/4 B EN 837



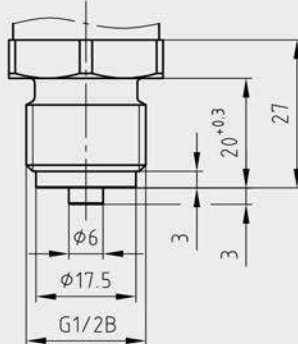
1/4 NPT






1/2 NPT



G 1/2 B EN 837



Accessories

	Description	Order no.
	Rubber protection cap (black)	11262010
	Minimess connector Maximum pressure strength 630 bar	9072314
	Sealing for process connection per DIN 3852-E Material NBR Thread size G 1/4 A DIN 3852-E	1537857



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