

# 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

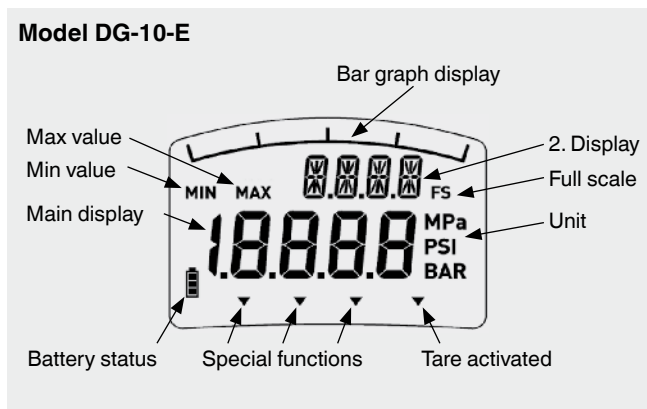
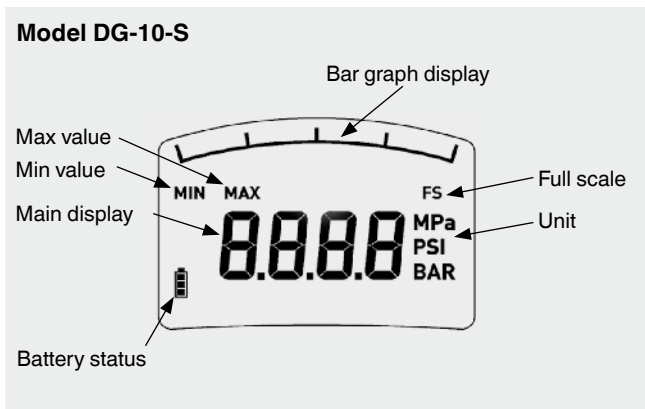
Relative pressure							
<b>bar</b>	<b>Measuring range</b>	<b>0 ... 2</b>	<b>0 ... 5</b>	<b>0 ... 10</b>	<b>0 ... 20</b>	<b>0 ... 50</b>	<b>0 ... 100</b>
	Overpressure limit	5	10	20	40	100	200
	Burst pressure	6	12	25	50	120	800
	<b>Measuring range</b>	<b>0 ... 160</b>	<b>0 ... 250</b>	<b>0 ... 400</b>	<b>0 ... 600</b>		
	Overpressure limit	320	500	800	1,200		
	Burst pressure	1,000	1,200	1,700	2,400		
<b>psi</b>	<b>Measuring range</b>	<b>0 ... 30</b>	<b>0 ... 60</b>	<b>0 ... 145</b>	<b>0 ... 300</b>	<b>0 ... 600</b>	<b>0 ... 1,450</b>
	Overpressure limit	70	145	290	580	1,450	2,900
	Burst pressure	85	170	360	725	1,740	11,600
	<b>Measuring range</b>	<b>0 ... 2,000</b>	<b>0 ... 3,000</b>	<b>0 ... 5,000</b>	<b>0 ... 7,500</b>	<b>0 ... 10,000<sup>1)</sup></b>	
	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				
<b>bar</b>	<b>Measuring range</b>	<b>-1 ... 2</b>	<b>-1 ... 5</b>	<b>-1 ... 10</b>
	Overpressure limit	5	10	20
	Burst pressure	6	12	25
<b>psi</b>	<b>Measuring range</b>	<b>-30 inHg ... +29 psi</b>	<b>-30 inHg ... +72 psi</b>	<b>-30 inHg ... +145 psi</b>
	Overpressure limit	70	145	290
	Burst pressure	85	170	360

# Digital indicator

	Model DG-10-S	Model DG-10-E
<b>Type of indication</b>	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")



## 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  $\pm 1$  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

$\leq 0.1$  % of span (power-up reset)

### Adjustability of zero point

$\leq 20$  % 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  
 $\leq 0.15$  % of span/10 K

■ Mean temperature coefficient of span  
 $\leq 0.15$  % of span/10 K

### Long-term stability

$\leq 0.2$  % 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

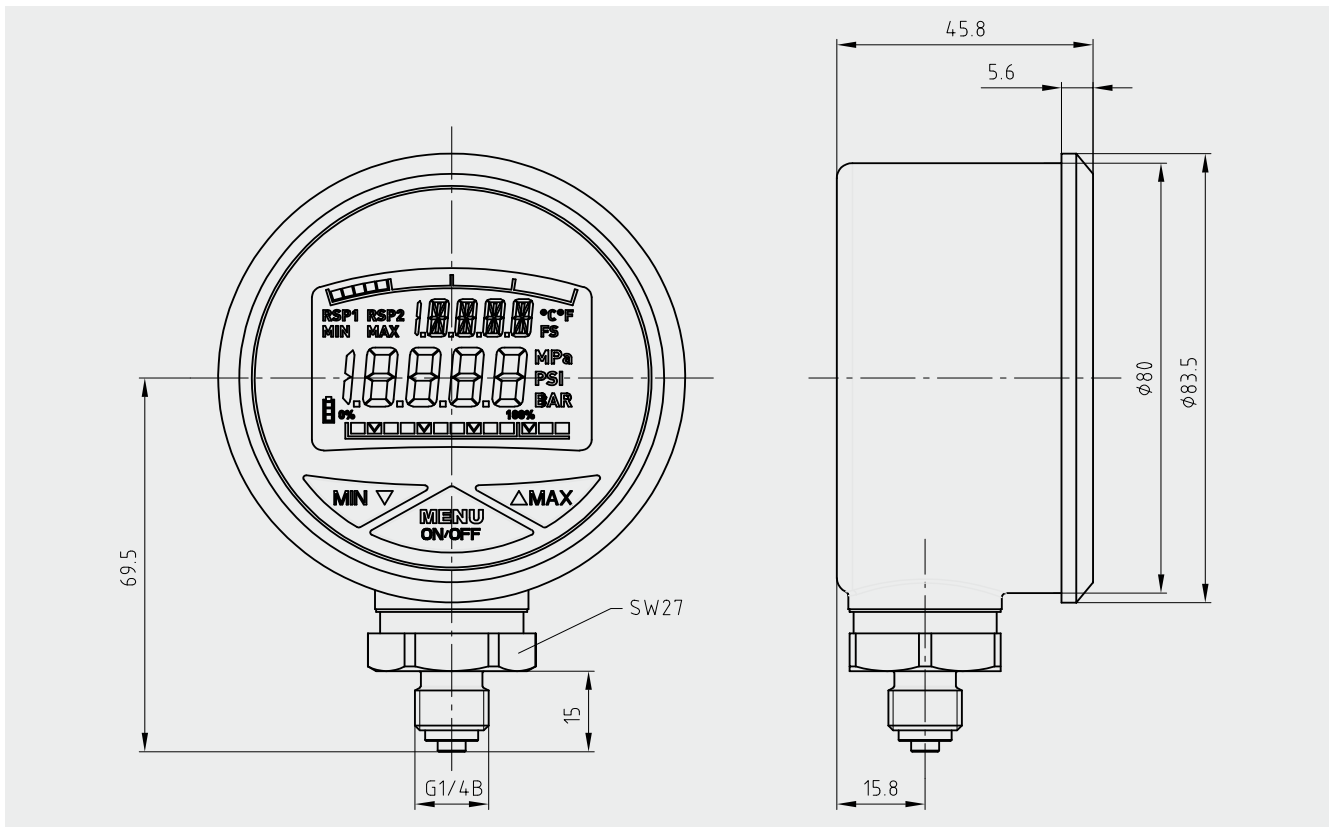
- Process connection: Stainless steel 1.4571
- Sealing material: See "Process connections"
- Sensor element  $\leq$  50 bar: Ceramic Al<sub>2</sub>O<sub>3</sub> 96%  
NBR (option: EPDM)
- Sensor element > 100 bar: XM-13 (stainless steel 1.4534)

### Non-wetted parts

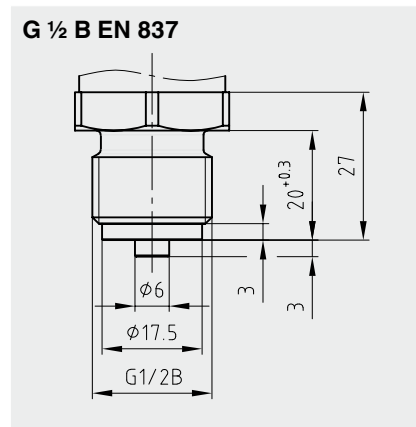
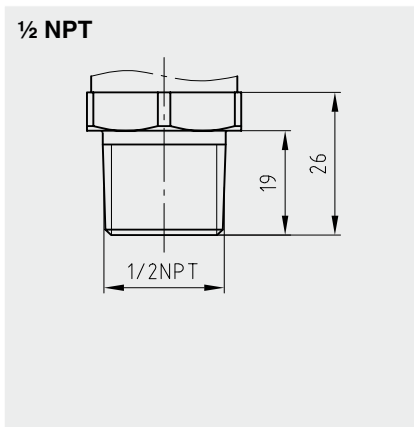
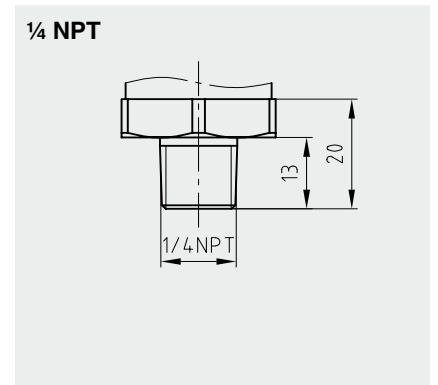
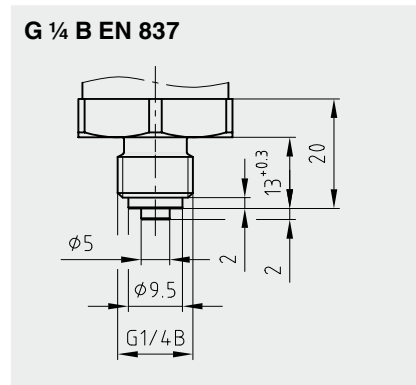
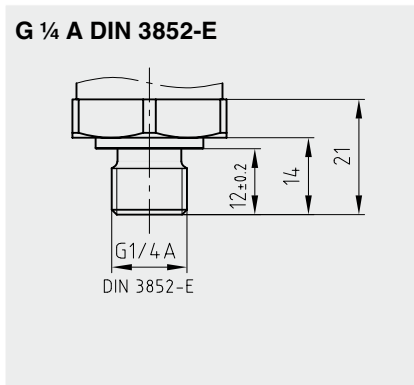
- Case: Stainless steel 1.4301
- Front foil and membrane: Polyester

## Dimensions in mm


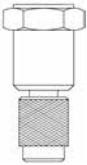

### Digital pressure gauge



### Process connections



## Accessories

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

## Ordering information

Model / Measuring range / Process connection

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