

# OEM pressure measuring system with output signal

## Module version, back mount

### Model PMT01

WIKA data sheet PV 01.25

#### Applications

- For dry gaseous and liquid media that are not highly viscous or crystallising and are suitable for copper alloy parts
- Pneumatics
- Industrial gases
- Medical engineering
- Drinking water

#### Special features

- Compact and cost-effective integration solution
- Scale ranges from 0 ... 400 bar or 0 ... 5,000 psi
- Voltage signal, e.g. DC 0.5 ... 4.5 V
- Nominal size 40 mm [1 ½"], 50 mm [2"] or 63 mm [2 ½"]
- Accuracy class 2.5

#### Description

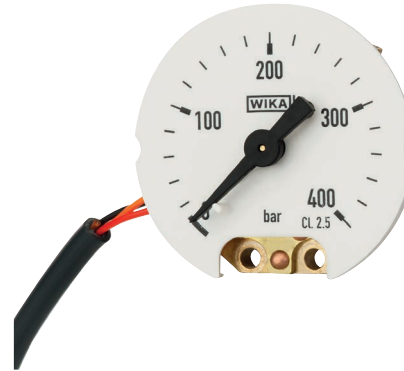
##### Measurement principle

Model PMT01 is a Bourdon tube pressure gauge with integrated sensors. The instrument offers the usual analogue display, which enables reading the process pressure on-site and in addition provides an output signal (e.g. DC 0.5 ... 4.5 V).

The measuring system with Bourdon tube produces a pointer rotation proportional to the pressure. An electronic angle encoder, proven in safety-critical automotive applications, determines the position of the pointer shaft – it is a non-contact sensor and therefore completely free from wear and friction. That provides a pressure-proportional signal for further processing.

##### Integration concept

The PMT01 is the ideal pressure measuring system for trouble-free integration into a wide variety of applications.



OEM pressure measuring system with output signal, model PMT01

This is possible through the simple mounting and sealing of the already pre-adjusted system. Due to the sealing with an O-ring and a support ring, the pressure measuring system is efficiently and cost-effectively exchangeable.

##### Design freedom for customer solutions

Without any enclosing components, the model PMT01 OEM pressure measuring system provides a simple and compact integration solution. Both the flat design and the free positionability of model PMT01 open up a multitude of integration variants with the designing of a pressure measuring system with output signal.

##### Individual customer versions

Based on many years of experience in manufacturing and development, WIKAL is happy to offer support in the construction and production of customer-specific solutions.

## Specifications

Basic information	
Standard	Following EN 837-1 For information on the "Selection, installation, handling and operation of pressure gauges", see Technical information IN 00.05.
Nominal size (NS)	<ul style="list-style-type: none"> <li>■ Ø 40 mm [1 ½"]</li> <li>■ Ø 50 mm [2"]</li> <li>■ Ø 63 mm [2 ½"]</li> </ul>
Connection location	Lower back mount
Window	Without
Case	Without The construction and the design of the enclosing components for the model PMT01 OEM pressure measuring system, along with the resulting technical specifications, are the responsibility of the customer. If you have any further questions, your WIKA contact will gladly help you.
Movement	Copper alloy

Measuring element	
Type of measuring element	Bourdon tube, C-type or helical type
Material	Copper alloy
Leak tightness	Helium tested, leakage rate: $< 5 \cdot 10^{-3}$ mbar l/s

Accuracy specifications	
Accuracy class of mechanical display	<ul style="list-style-type: none"> <li>■ 2.5</li> <li>■ 1.6</li> </ul>
Accuracy class of output signal	<ul style="list-style-type: none"> <li>■ 3.5</li> <li>■ 2.5</li> </ul>
Temperature error	On deviation from the reference conditions at the measuring system: $\leq \pm 0.4$ % per 10 °C [ $\leq \pm 0.4$ % per 18 °F] of full scale value
Reference conditions	
Ambient temperature	+20 °C [+68 °F]

## Scale ranges

bar	
0 ... 2	0 ... 10
0 ... 2.2	0 ... 12
0 ... 2.5	0 ... 100
0 ... 2.6	0 ... 160
0 ... 3	0 ... 250
0 ... 3.5	0 ... 300
0 ... 4	0 ... 315
0 ... 6	0 ... 350
0 ... 8	0 ... 400

kg/cm <sup>2</sup>	
0 ... 2	0 ... 10
0 ... 2.2	0 ... 12
0 ... 2.5	0 ... 100
0 ... 2.6	0 ... 160
0 ... 3	0 ... 250
0 ... 3.5	0 ... 300
0 ... 4	0 ... 315
0 ... 6	0 ... 350
0 ... 8	0 ... 400

kPa	
0 ... 250	0 ... 1,000
0 ... 400	0 ... 1,600

MPa	
0 ... 1	0 ... 2.5
0 ... 1.6	0 ... 4

psi	
0 ... 30	0 ... 160
0 ... 60	0 ... 200
0 ... 100	0 ... 1,500
0 ... 150	0 ... 5,000

Other scale ranges on request

Further details on: Scale ranges	
<b>Unit</b>	<input type="checkbox"/> bar <input type="checkbox"/> kg/cm <sup>2</sup> <input type="checkbox"/> kPa <input type="checkbox"/> MPa <input type="checkbox"/> psi
<b>Dial</b>	
Scale colour	Black
Material	Plastic, white
Customer-specific version	<input type="checkbox"/> Without <input type="checkbox"/> Special dial, e.g. with customer logo, red mark or circular sectors
<b>Pointer</b>	Plastic, black
<b>Pointer stop pin</b>	<input type="checkbox"/> Without <input type="checkbox"/> At zero point

Output signal	
Signal type	<ul style="list-style-type: none"> <li>■ 0.5 ... 2.5 V</li> <li>■ 0.5 ... 3.5 V</li> <li>■ 0.5 ... 4.5 V, ratiometric</li> </ul> Other signal types on request
Load	$R_A > 5 \text{ k}\Omega$
Voltage supply	
Supply voltage	$U_B = \text{DC } 5 \text{ V}$
Current supply	10 mA

Electrical connection		
Connection type	Cable outlet with 1 m cable length	
Wire cross-section	$3 \times 0.14 \text{ mm}^2$	
Cable diameter	4 mm	
Pin assignment	<b>Colour</b>	<b>Assignment</b>
	Red	$U_B$
	Black	GND
	Orange	$U_{\text{SIG}}$

Other electrical connections on request

Process connection	
Type of process connection	Module connection with O-ring sealing and support ring
Materials (wetted)	
Process connection	Copper alloy
Measuring element	Copper alloy
Sealing	<ul style="list-style-type: none"> <li>■ NBR</li> <li>■ EPDM</li> </ul>
Support ring	Copper alloy

Other process connections on request

Operating conditions	
Medium temperature range	$-20 \dots +60 \text{ }^\circ\text{C}$ [ $-4 \dots +140 \text{ }^\circ\text{F}$ ]
Ambient temperature range	$-20 \dots +60 \text{ }^\circ\text{C}$ [ $-4 \dots +140 \text{ }^\circ\text{F}$ ]
Storage temperature range	$-20 \dots +60 \text{ }^\circ\text{C}$ [ $-4 \dots +140 \text{ }^\circ\text{F}$ ]
Pressure limitation	
Steady	$3/4 \times \text{full scale value}$
Fluctuating	$2/3 \times \text{full scale value}$
Short time	Full scale value

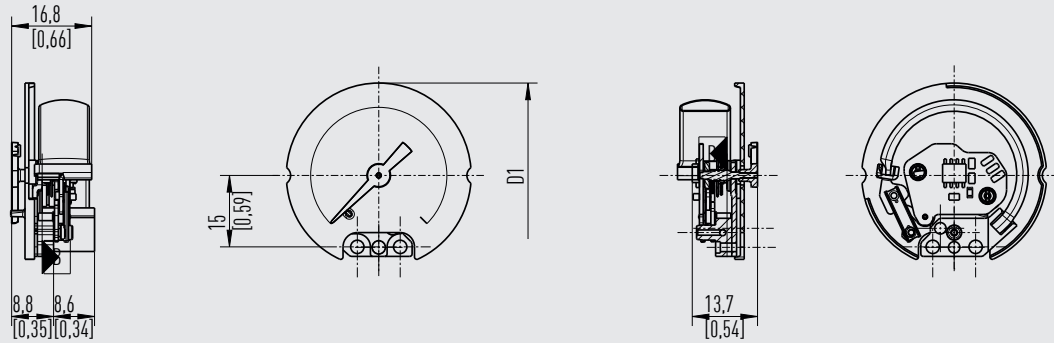
## Certificates (option)

- 2.2 test report per EN 10204
- 3.1 inspection certificate per EN 10204

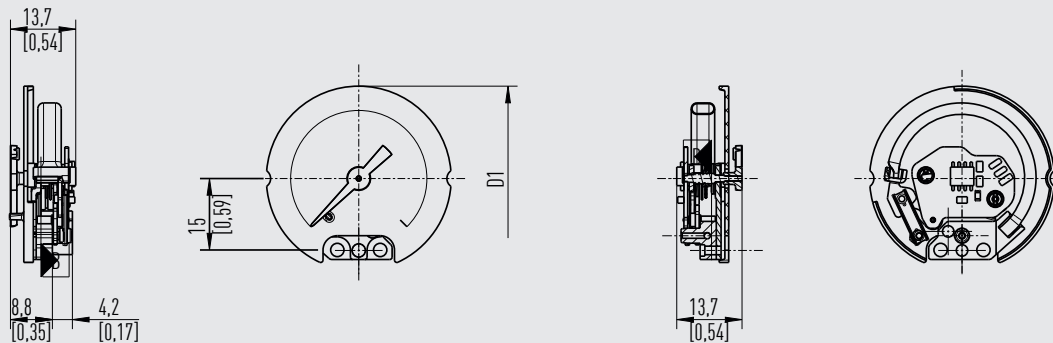
## Dimensions in mm [in]

### Pressure element: C-type

Pressure range 2.5 ... < 16 bar

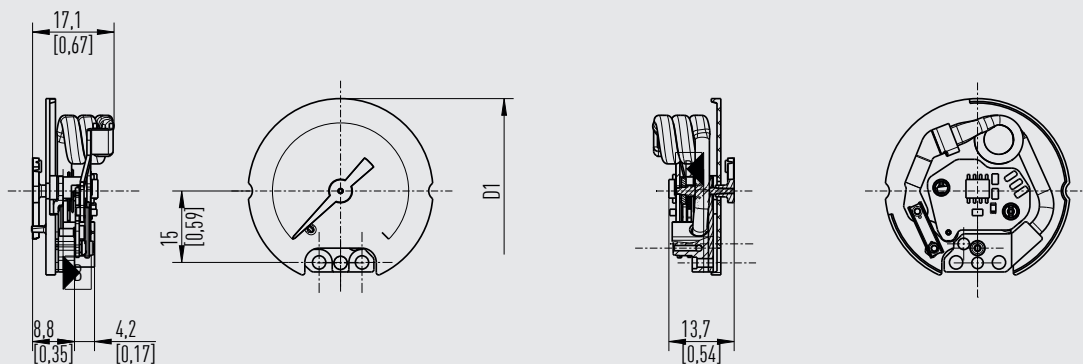


Pressure range  $\geq 16 \dots \leq 60$  bar



### Pressure element: Helical type

Pressure range > 60 bar



NS	Dimensions in mm [in]		Pressure element	Weight in kg [lbs]
	D1			
40 [1 ½"]	38.8 ±0.25 [1.53 ±0.01]		C-type	0.012 [0.026]
			Helical type	0.014 [0.031]
50 [2"]	45.4 ±0.25 [1.79 ±0.01]		C-type	0.013 [0.029]
			Helical type	0.015 [0.033]
63 [2 ½"]	57.4 ±0.25 [2.26 ±0.01]		C-type	0.015 [0.033]
			Helical type	0.017 [0.037]

## Ordering information

Model / Nominal size / Scale range / Output signal / Options

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