

Bourdon tube pressure gauge with electronic pressure switch

Stainless steel case, NS 50 and 63

Model PGS25

WIKA data sheet PV 21.04



for further approvals
see page 3

switchGAUGE

Applications

- General machine building
- Industrial and medical gases
- Renewable energies

Special features

- Non-contact sensor (wear-free)
- Robust stainless steel case
- Scale ranges 0 ... 1.6 bar to 0 ... 400 bar
- NPN or PNP switching outputs
- Both switch points factory-programmable between 5 ... 95 % of the scale range


switchGAUGE model PGS25

Description

The robust model PGS25 switchGAUGE is a combination of a Bourdon tube pressure gauge and a pressure switch. It offers the usual analogue display, which enables reading the process pressure on-site, and in addition the possibility to switch up to two electrical signals. The switch contacts are pre-programmed at the factory between 5 ... 95 % of the scale range.

The robust Bourdon tube measuring system 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. The sensors work without contact and are therefore completely free from wear and friction. Depending on the signal of the angle encoder, the circuit is opened or closed.

The switchGAUGE is available as standard in scale ranges from 0 ... 1.6 bar to 0 ... 400 bar with an accuracy class of 2.5 and a 2 m round cable for the electrical connection. The stainless steel case fulfils the requirements of IP65 ingress protection. The resistance to shock and vibration can be increased by the silicone oil case filling. Thus the instrument is perfectly suited for use in harsh industrial environments. The switchGAUGE can be used actively for process monitoring, for example to control the level of a gas cylinder or a hydraulic circuit. Through various options (e.g. higher accuracy class, other cable length) the pressure gauge can be matched exactly to the customer-specific requirements of each application.

Specifications

Design

Measuring system with Bourdon tube per EN 837-1

Nominal size in mm

50, 63

Accuracy class

2.5

Scale ranges

0 ... 1.6 to 0 ... 400 bar

or all other equivalent vacuum or combined pressure and vacuum ranges

Pressure limitation

Steady: 3/4 x full scale value

Fluctuating: 2/3 x full scale value

Short time: Full scale value

Permissible temperature

Ambient: -20 ... +60 °C

Medium: +60 °C maximum

Storage temperature: -40 ... +70 °C

Temperature effect

When the temperature of the measuring system deviates from the reference temperature (+20 °C): max. $\pm 0.4 \%$ /10 K of the span

Process connection

Copper alloy

Lower mount (radial) or centre back mount

G 1/4 B (male), SW 14

Pressure element

Copper alloy

Movement

Copper alloy

Dial

Plastic, white, black lettering

Pointer

Plastic, black

Case

Stainless steel

Window

Plastic, crystal-clear (PC)

Ingress protection

IP65 per IEC/EN 60529

Electronics

Supply voltage (U_B)

DC 12 ... 32 V

Switching output

■ NPN

■ PNP

Normally closed (NC) or normally open (NO)

1 or 2 switching outputs selectable

Electrical connection

Cable outlet, standard length 2 m

Colour	Assignment
red	U_B
black	GND
orange	SP1
brown	SP2







Switching current

Max. 1 A, short-circuit-proof

Options

- Other process connection (with adapter, copper alloy)
- Other cable length
- Other electrical connection (e.g. M12 x 1)
- Ingress protection IP67
- Accuracy class 1.6
- Case filling (silicone oil)

Approvals

Logo	Description	Country
	EU declaration of conformity ■ EMC directive ¹⁾ EN 61326 emission (group 1, class B) and immunity (industrial application) Per test standards EN 61000-4-6 / EN 61000-4-3 ■ Pressure equipment directive	European Union
	EAC (option) EMC directive	Eurasian Economic Community
	GOST Metrology, measurement technology	Russia
	KazInMetr (option) Metrology, measurement technology	Kazakhstan
	BelGIM (option) Metrology, measurement technology	Belarus
	UkrSEPRO (option) Metrology, measurement technology	Ukraine
-	CRN Safety (e.g. electr. safety, overpressure, ...)	Canada

1) In the case of electrostatic discharge per IEC 61000-4-2 and fast transients per IEC 61000-4-4, the measuring signal can deviate by up to $\pm 75\%$ of the measuring span for the duration of the failure. After the failure, the instrument will operate within the specification again. For cable lengths of > 3 m, shielded wires have to be used in order to efficiently reduce the effects of failures in the form of fast transients.

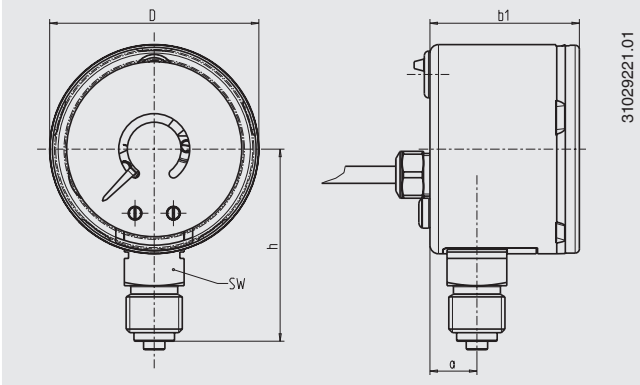
Certificates (option)

- 2.2 test report
- 3.1 inspection certificate

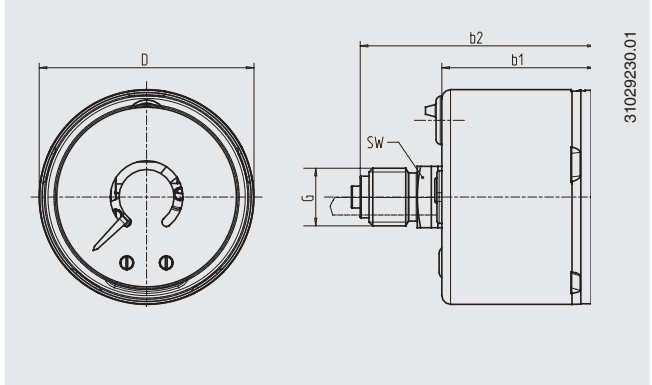
Dimensions in mm

Standard version

Lower mount (radial)



Centre back mount



NS	Dimensions in mm							Weight in kg
	D	a	b ₁ ±0.5	b ₂ ±1	G	h	SW	
50	55	11.8	35.5	63	G ¼ B	50	14	0.18
63	68	13	36.8	63	G ¼ B	54.2	14	0.20

Process connection per EN 837-1 / 7.3

Ordering information

Model / Nominal size / Scale range / Connection size / Connection location / Switch point and function (1 or 2) / Options

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