Bourdon tube pressure gauge with electrical output signal
Stainless steel case, ingress protection IP65
Model PGT21

for further approvals
see page 3

intelliGAUGE®

Applications

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

Special features

- Non-contact sensor (wear-free)
- Robust stainless steel case
- Nominal size 50, 63
- Scale ranges 0 ... 1.6 bar to 0 ... 400 bar
- Analogue output signal 4 … 20 mA or DC 0.5 ... 4.5 V

Bourdon tube pressure gauge model PGT21

Description

The model PGT21 intelliGAUGE® is a combination of a Bourbon tube pressure gauge and a pressure transmitter. It offers the usual analogue display, which enables reading the process pressure on site, and in addition an analogue output signal (4 ... 20 mA or DC 0.5 ... 4.5 V).

The measuring system with Bourdon tube per EN 837-1 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.

The intelliGAUGE® 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 1 m round cable for the electical 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.

Through various options (e.g. higher accuracy class, other cable length) the pressure measuring instrument can be matched exactly to the customer-specific requirements of each application.

Data sheets showing similar products:
intelliGAUGE, standard version, plug outlet; model PGT01; see data sheet PV 11.01
intelliGAUGE, standard version, cable outlet; model PGT02; see data sheet PV 11.02

Specifications

Design
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. ±0.4 %/10 K of the span

Process connection
Copper alloy
Lower mount (radial) or centre back mount
NS 50, 63: G ¼ 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 EN/IEC 60529

Electronics

Power supply (U_B)
DC 5 V / DC 12 ... 32 V

Electrical connection
Cable outlet, standard length 2 m

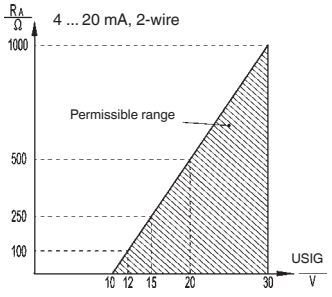
U_B	Output signal U_{SIG}
DC 5 V	0.5 ... 2.5 V, 0.5 ... 3.5 V or 0.5 ... 4.5 V, ratiometric
DC 12 ... 32 V	0.5 ... 2.5 V, 0.5 ... 3.5 V or 0.5 ... 4.5 V, not ratiometric or 4 ... 20 mA, 2-wire

Colour	Assign-ment
red	U_B
black	GND
orange	SP1
brown	SP2

Output signal and permissible load

Voltage output (3-wire):
$R_A > 5$ kΩ

Current output (2-wire)
4 ... 20 mA:
$R_A \leq (U_{SIG} - 10\ V) / 0.02\ A$ with
R_A in Ω and U_{SIG} in DC V



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
- Version for CNG vehicles (model LIG12)

Approvals

Logo	Description	Country
CE	**EU declaration of conformity** ■ EMC directive[1)] EN 61326 emission (group 1, class B) and interference immunity (industrial application) Per test standards EN 61000-4-6 / EN 61000-4-3 ■ Pressure equipment directive	European Community
EAC	**EAC** ■ Electromagnetic compatibility ■ Pressure equipment directive	Eurasian Economic Community
	GOST Metrology, measurement technology	Russia
	KazInMetr Metrology, measurement technology	Kazakhstan
	BelGIM Metrology, measurement technology	Belarus
	UkrSEPRO Metrology, measurement technology	Ukraine
	Uzstandard Metrology, measurement technology	Uzbekistan
-	**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 ±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 cables have to be used in order to efficiently reduce the effects of failures in the form of fast transients.

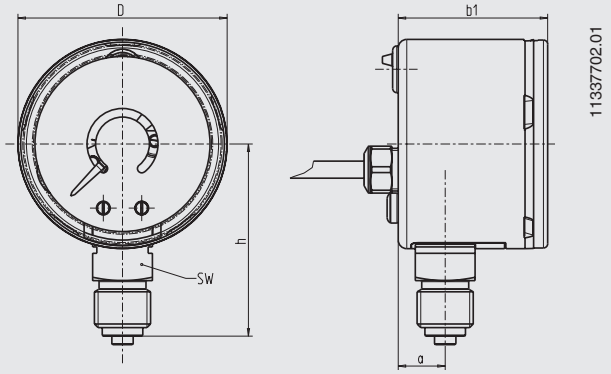
Certificates (option)

- 2.2 test report
- 3.1 inspection certificate

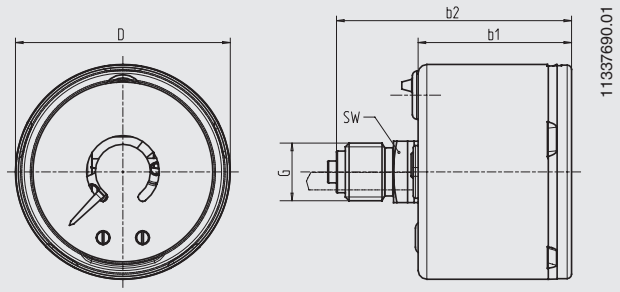
Dimensions in mm

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 / Output signal / Options

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