Bourdon tube pressure gauge with output signal
Stainless steel case, ingress protection IP41
Model PGT11, NS 40 [1 ½"], 50 [2"] and 63 [2 ½"]

For further approvals, see page 6

Applications

- General machine building
- Medical gases

Special features

- Non-contact sensor (wear-free)
- Measuring ranges of up to 0 ... 400 bar or 0 ... 6,000 psi
- Nominal size 40 [1 ½"], 50 [2"], 63 [2 ½"]
- Current signal 4 … 20 mA or voltage signal, e.g. DC 0.5 … 4.5 V
- Patents and property rights, e.g. US 8030990, DE 112007000980, CN 101438333

intelliGAUGE, model PGT11

Description

The model PGT11 intelliGAUGE® is a combination of a Bourdon tube pressure gauge and a pressure sensor. Wherever the process pressure has to be indicated locally under limited space conditions and, at the same time, a signal transmission to the central control or remote centre is desired, this model can be used.

The output signal is available either as a current signal (4 ... 20 mA, 2-wire) or as a voltage signal (e.g. DC 0.5…4.5 V ratiometric with supply voltage DC 5 V or non-ratiometric with supply voltage DC 12 … 32 V). In conjunction with the options for the electrical connection (round cable or connector), this variety enables the customer-specific definition of the instrument for the respective application.

The mechanical measuring system with Bourdon tube fulfils the requirements of EN 837-1 or ASME B40.100 and the electronic components have been tested in accordance with EN 61000-4-3 und EN 61000-4-6.

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

Data sheets showing similar products:
intelliGAUGE®, stainless steel case, NS 50 and 63; model PGT21; see data sheet PV 11.03
switchGAUGE, stainless steel case, NS 50 and 63; model PGS25; see data sheet PV 21.04

Specifications

Basic information	
Standard	■ EN 837-1 ■ ASME B40.100
	For information on the “Selection, installation, handling and operation of pressure gauges”, see technical information IN 00.05.
Further version	■ Oil- and grease-free ■ For oxygen, oil- and grease-free
Nominal size (NS)	■ Ø 40 mm [1 ½"] ■ Ø 50 mm [2"] ■ Ø 63 mm [2 ½"]
Connection location	■ Lower mount ■ Centre back mount
Window	Plastic, crystal-clear, snap-fitted in case
Case	
Design	■ Without safety level ■ Safety level “S1” per EN 837-1: With blow-out device
Material	■ Stainless steel 1.4301 (304) ■ Plastic, black
Movement	Copper alloy

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

Accuracy specifications	
Accuracy of mechanical indication	
EN 837-1	Class 2.5
ASME B40.100	±3 % | ±2 % | ±3 % of measuring span (grade B)
Accuracy of output signal	
Accuracy	±2.5 % of measuring span
Linearity error	≤ 2.5 % of measuring span (terminal method) [1)]
Temperature error	On deviation from the reference conditions at the measuring system: ≤ ±0.4 % per 10 °C [≤ ±0.4 % per 18 °F] of measuring span
Reference conditions	
Ambient temperature	+20 °C [68 °F]

1) For technical reasons, up to the first scale marking, the measured value can lie outside of the class accuracy

Measuring ranges

bar	
0 ... 1.6	0 ... 30
0 ... 2	0 ... 40
0 ... 2.5	0 ... 60
0 ... 4	0 ... 70
0 ... 6	0 ... 100
0 ... 7	0 ... 140
0 ... 10	0 ... 160
0 ... 14	0 ... 200
0 ... 16	0 ... 250
0 ... 20	0 ... 315
0 ... 25	0 ... 400

kg/cm²	
0 ... 1.6	0 ... 30
0 ... 2	0 ... 40
0 ... 2.5	0 ... 60
0 ... 4	0 ... 70
0 ... 6	0 ... 100
0 ... 7	0 ... 140
0 ... 10	0 ... 160
0 ... 14	0 ... 200
0 ... 16	0 ... 250
0 ... 20	0 ... 315
0 ... 25	0 ... 400

kPa	
0 ... 160	0 ... 3,000
0 ... 200	0 ... 4,000
0 ... 250	0 ... 6,000
0 ... 300	0 ... 7,000
0 ... 400	0 ... 10,000
0 ... 600	0 ... 14,000
0 ... 700	0 ... 16,000
0 ... 1,000	0 ... 20,000
0 ... 1,400	0 ... 25,000
0 ... 1,600	0 ... 31,500
0 ... 2,500	0 ... 40,000

MPa	
0 ... 0.16	0 ... 3
0 ... 0.2	0 ... 4
0 ... 0.25	0 ... 6
0 ... 0.4	0 ... 7
0 ... 0.6	0 ... 10
0 ... 0.7	0 ... 14
0 ... 1	0 ... 16
0 ... 1.4	0 ... 20
0 ... 1.6	0 ... 25
0 ... 2	0 ... 31.5
0 ... 2.5	0 ... 40

psi	
0 ... 30	0 ... 600
0 ... 60	0 ... 800
0 ... 100	0 ... 1,000
0 ... 150	0 ... 1,500
0 ... 160	0 ... 2,000
0 ... 200	0 ... 3,000
0 ... 250	0 ... 4,000
0 ... 300	0 ... 5,000
0 ... 400	0 ... 6,000
0 ... 500	

Vacuum and +/- measuring ranges

bar	
-0.6 ... 0	-1 ... 0

kg/cm²	
-0.6 ... 0	-1 ... 0

kPa	
-60 ... 0	-100 ... 0

MPa	
-0.06 ... 0	-0.1 ... 0

psi	
-30 inHg ... 0	-

Further details on: Measuring ranges	
Special measuring ranges	Other measuring ranges on request
Unit	■ bar ■ psi ■ kg/cm² ■ kPa ■ MPa
Vacuum resistance	■ Without ■ Vacuum-resistant to -1 bar [-30 inHg]
Dial	
Scale colour	Black
Material	Plastic
Special scale	■ Without ■ With temperature scale for refrigerant
	Other scales or customer-specific dials, e.g. with red mark, circular arcs or circular sectors, on request
Pointer	
Instrument pointer	Plastic, black
Pointer stop pin	■ Without ■ At zero point

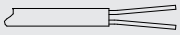
Process connection	
Standard	■ EN 837-1 ■ ISO 7 ■ ANSI/B1.20.1
Size	
EN 837-1	■ G ⅛ B, male thread ■ G ¼ B, male thread
ISO 7	■ R ⅛, male thread ■ R ¼, male thread
ANSI/B1.20.1	■ ⅛ NPT, male thread ■ ¼ NPT, male thread
Restrictor	■ Without ■ Ø 0.5 mm [0.02"], copper alloy ■ Ø 0.3 mm [0.012"], copper alloy ■ Sintered metal insert
Material (wetted)	
Process connection	Copper alloy
Bourdon tube	Copper alloy

Other process connections on request

Output signal

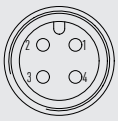
Signal type	
Current (2-wire)	4 ... 20 mA
Voltage (3-wire)	■ DC 0.5 ... 2.5 V ■ DC 0.5 ... 3.5 V ■ DC 0.5 ... 4.5 V
Ratiometric (3-wire)	■ DC 0.5 ... 2.5 V ■ DC 0.5 ... 3.5 V ■ DC 0.5 ... 4.5 V
Auxiliary power	
Supply voltage for current (2-wire) or voltage (3-wire)	U_B = DC > 12 ... ≤ 32 V
Supply voltage for ratiometric (3-wire)	U_B = DC 5 V
Load	
Current (2-wire)	$R_A \leq (U_B - 10\ V)/0.02\ A$
Voltage (3-wire) or ratiometric (3-wire)	$R_A > 5\ k\Omega$

Electrical connection

Connection type	■ Cable, 2 m [6.6 ft], flying leads ■ Circular connector M12 x 1 (4-pin)
Wire cross-section	3 x 0.14 mm²
Cable diameter	4 mm [0.16 in]
Pin assignment, cable	

	2-wire	3-wire
U_B	Red	Red
GND	Black	Black
S+	-	Orange

Pin assignment, circular connector M12 x 1 (4-pin)



	2-wire	3-wire
U_B	1	1
GND	3	3
S+	-	4

Other electrical connections on request

Operating conditions

Medium temperature	-20 ... +60 °C [-4 ... +140 °F]
Ambient temperature	-20 ... +60 °C [-4 ... +140 °F]
Pressure limitation	
Steady	3/4 x full scale value
Fluctuating	2/3 x full scale value
Short time	Full scale value
Ingress protection per IEC/EN 60529	IP41

Approvals

Logo	Description	Region
CE	**EU declaration of conformity**	European Union
	EMC directive	
	Pressure Equipment Directive PS > 200 bar, module A, pressure accessory	
UKCA	**UKCA**	United Kingdom
	Electromagnetic compatibility regulations	
	Pressure equipment (safety) regulations	
-	**CRN** Safety (e.g. electr. safety, overpressure, ...)	Canada

Optional approvals

Logo	Description	Region
EAC	**EAC** EMC directive	Eurasian Economic Community
-	**MChS** Permission for commissioning	Kazakhstan
	PAC Uzbekistan Metrology, measurement technology	Uzbekistan

Manufacturer's information and certificates

Logo	Description
-	Pressure equipment directive (PED) for maximum allowable pressure PS ≤ 200 bar
-	Suitability of wetted materials for drinking water per European 4MS initiative

Certificates (option)

Certificates	
Certificates	■ 2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, indication accuracy) ■ 3.1 inspection certificate for indication accuracy per EN 10204 ■ PCA calibration certificate, traceable and accredited in accordance with ISO/IEC 17025 ■ Calibration certificate by a national accreditation body, traceable and accredited in accordance with ISO/IEC 17025 on request
Recommended calibration interval	1 year (dependent on conditions of use)

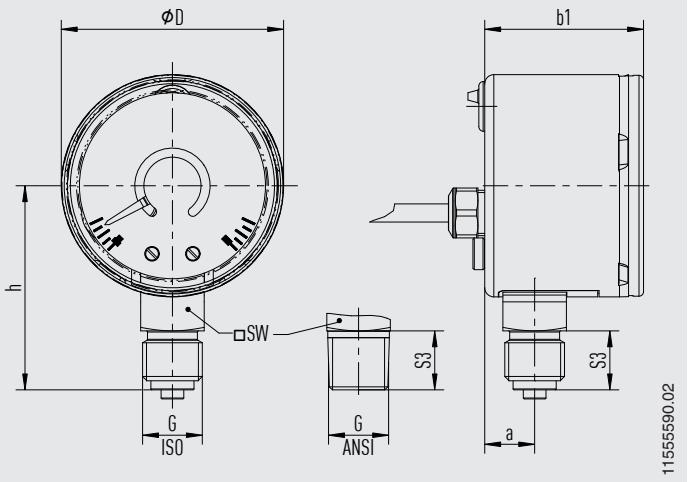
→ For approvals and certificates, see website

Patents, property rights

Pointer measuring instrument with output signal 4 ... 20 mA (patent, property right: e.g. US 8030990, DE 112007000980, CN 101438333)

Dimensions in mm [in]

Model PGT11, lower mount, stainless steel case



NS	Weight in g [oz]
40 [1 ½"]	150 [5.29]
50 [2"]	170 [6]
63 [2 ½"]	200 [7.76]

Process connection with thread per EN 837-3

NS	G [1]	Dimensions in mm [in]					
		h ±1 [0.04]	S3	a	b1 ±0.5 [0.02]	D	SW
40 [1 ½"]	G ⅛ B	36 [1.42]	13.0 [0.51]	11 [0.43]	30.5 [1.2]	40 [1.57]	14 [0.55]
	G ¼ B	43 [1.69]	20 [0.79]	11 [0.43]	30.5 [1.2]	40 [1.57]	14 [0.55]
50 [2"]	G ⅛ B	38 [1.5]	13.0 [0.51]	11 [0.43]	35 [1.38]	49 [1.93]	14 [0.55]
	G ¼ B	45 [1.77]	20 [0.79]	11 [0.43]	35 [1.38]	49 [1.93]	14 [0.55]
63 [2 ½"]	G ⅛ B	46.5 [1.83]	13.0 [0.51]	11.4 [0.45]	35 [1.38]	62 [2.44]	14 [0.55]
	G ¼ B	53.5 [2.11]	20 [0.79]	11.4 [0.45]	35 [1.38]	62 [2.44]	14 [0.55]

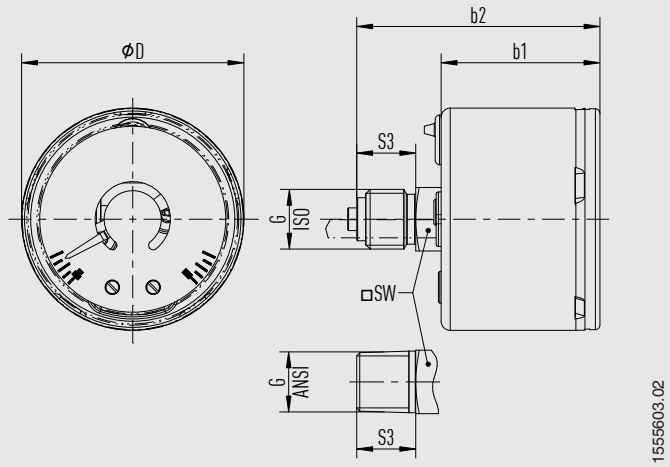
Process connection with thread per ISO 7

NS	G [1]	Dimensions in mm [in]					
		h ±1 [0.04]	S3	a	b1 ±0.5 [0.02]	D	SW
40 [1 ½"]	R ⅛	36 [1.42]	13.0 [0.51]	11 [0.43]	30.5 [1.2]	40 [1.57]	14 [0.55]
	R ¼	42 [1.65]	19 [0.75]	11 [0.43]	30.5 [1.2]	40 [1.57]	14 [0.55]
50 [2"]	R ⅛	38 [1.5]	13.0 [0.51]	11 [0.43]	35 [1.38]	49 [1.93]	14 [0.55]
	R ¼	44 [1.73]	19 [0.75]	11 [0.43]	35 [1.38]	49 [1.93]	14 [0.55]
63 [2 ½"]	R ⅛	46.5 [1.83]	13.0 [0.51]	11.4 [0.45]	35 [1.38]	62 [2.44]	14 [0.55]
	R ¼	52,5 [2.07]	19 [0.75]	11.4 [0.45]	35 [1.38]	62 [2.44]	14 [0.55]

Process connection with thread per ANSI/B1.20.1

NS	G [1]	Dimensions in mm [in]					
		h ±1 [0.04]	S3	a	b1 ±0.5 [0.02]	D	SW
40 [1 ½"]	⅛ NPT	36 [1.42]	13.0 [0.51]	11 [0.43]	30.5 [1.2]	40 [1.57]	14 [0.55]
	¼ NPT	42 [1.65]	19 [0.75]	11 [0.43]	30.5 [1.2]	40 [1.57]	14 [0.55]
50 [2"]	⅛ NPT	38 [1.5]	13.0 [0.51]	11 [0.43]	35 [1.38]	49 [1.93]	14 [0.55]
	¼ NPT	44 [1.73]	19 [0.75]	11 [0.43]	35 [1.38]	49 [1.93]	14 [0.55]
63 [2 ½"]	⅛ NPT	46.5 [1.83]	13.0 [0.51]	11.4 [0.45]	35 [1.38]	62 [2.44]	14 [0.55]
	¼ NPT	52,5 [2.07]	19 [0.75]	11.4 [0.45]	35 [1.38]	62 [2.44]	14 [0.55]

Model PGT11, centre back mount, stainless steel case



NS	Weight in kg [lb]
40 [1 ½"]	150 [5.29]
50 [2"]	170 [6]
63 [2 ½"]	200 [7.76]

Process connection with thread per EN 837-3

NS	G [1]	Dimensions in mm [in]				
		b1 ±0.5 [0.02]	b2 ±1 [0.04]	S3	D	SW
40 [1 ½"]	G ⅛ B	30.5 [1.2]	48 [1.89]	13.0 [0.51]	40 [1.57]	14 [0.55]
	G ¼ B	30.5 [1.2]	55 [2.17]	20 [0.79]	40 [1.57]	14 [0.55]
50 [2"]	G ⅛ B	35 [1.38]	53.5 [2.11]	13.0 [0.51]	49 [1.93]	14 [0.55]
	G ¼ B	35 [1.38]	60.5 [2.38]	20 [0.79]	49 [1.93]	14 [0.55]
63 [2 ½"]	G ⅛ B	35 [1.38]	55 [2.17]	13.0 [0.51]	62 [2.44]	14 [0.55]
	G ¼ B	35 [1.38]	62 [2.44]	20 [0.79]	62 [2.44]	14 [0.55]

Process connection with thread per ISO 7

NS	G [1]	Dimensions in mm [in]				
		b1 ±0.5 [0.02]	b2 ±1 [0.04]	S3	D	SW
40 [1 ½"]	R ⅛	30.5 [1.2]	48 [1.89]	13.0 [0.51]	40 [1.57]	14 [0.55]
	R ¼	30.5 [1.2]	54.2 [2.13]	20 [0.79]	40 [1.57]	14 [0.55]
50 [2"]	R ⅛	35 [1.38]	53.5 [2.11]	13.0 [0.51]	49 [1.93]	14 [0.55]
	R ¼	35 [1.38]	59.5 [2.34]	20 [0.79]	49 [1.93]	14 [0.55]
63 [2 ½"]	R ⅛	35 [1.38]	55 [2.17]	13.0 [0.51]	62 [2.44]	14 [0.55]
	R ¼	35 [1.38]	61 [2.4]	20 [0.79]	62 [2.44]	14 [0.55]

Process connection with thread per ANSI/B1.20.1

NS	G [1]	Dimensions in mm [in]				
		b1 ±0.5 [0.02]	b2 ±1 [0.04]	S3	D	SW
40 [1 ½"]	⅛ NPT	30.5 [1.2]	48 [1.89]	13.0 [0.51]	40 [1.57]	14 [0.55]
	¼ NPT	30.5 [1.2]	54.2 [2.13]	20 [0.79]	40 [1.57]	14 [0.55]
50 [2"]	⅛ NPT	35 [1.38]	53.5 [2.11]	13.0 [0.51]	49 [1.93]	14 [0.55]
	¼ NPT	35 [1.38]	59.5 [2.34]	20 [0.79]	49 [1.93]	14 [0.55]
63 [2 ½"]	⅛ NPT	35 [1.38]	55 [2.17]	13.0 [0.51]	62 [2.44]	14 [0.55]
	¼ NPT	35 [1.38]	61 [2.4]	20 [0.79]	62 [2.44]	14 [0.55]

Accessories and spare parts

Model		Description
	**910.33**	Adhesive label set for red and green circular arcs → See data sheet AC 08.03
	**910.17**	Sealings → See data sheet AC 09.08
	**910.15**	Syphons → See data sheet AC 09.06
	**910.13**	Overpressure protector → See data sheet AC 09.04
	**910.10**	Stopcock → See data sheet AC 09.01
	**910.11**	Shut-off valve → See data sheet AC 09.02
	**IV10, IV11**	Needle valve and multiport valve → See data sheet AC 09.22

Ordering information

Model / Measuring range / Process connection / Electrical connection / Options

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