Precision Digital Pressure Gauge Model CPG1000

Applications

- Oil and gas industry
- Maintenance and service facilities
- Calibration and service companies
- Simple calibrations especially on site

Special Features

- Measuring ranges from 0 ... 70 mbar up to 0 ... 700 bar (also vacuum and absoute pressure ranges available)
- Accuracy: 0.05 % FS (incl. calibration ceritficate)
- Intrinsically safe Version Ex nA IIB T6 per ATEX
- Rugged stainless steel case meets NEMA 4/IP65
- Data logger evaluation software CPGLog and complete test and service cases (incl. test pump) available

Precision Digital Pressure Gauge Model CPG1000

Description

General

The Precision Digital Pressure Gauge CPG1000 takes the concept of an analog test gauge, and brings it to a new level, as only digital calibrators can do. The CPG1000 combines the accuracy of digital technology with the simplicity of an analog gauge, and achieves performance, ease-of-use, and a feature set unmatched in the pressure measurement world.

Accuracy

The CPG1000 provides an accuracy of ± 0.05 % of full scale readings of pressure in any one of 16 ranges. The CPG1000 is temperature compensated from 0 ... 50 °C. Readings may be displayed in any one of 19 standard engineering units or in custom units you define, to eliminate tedious conversion calculations.

Reading sample rate

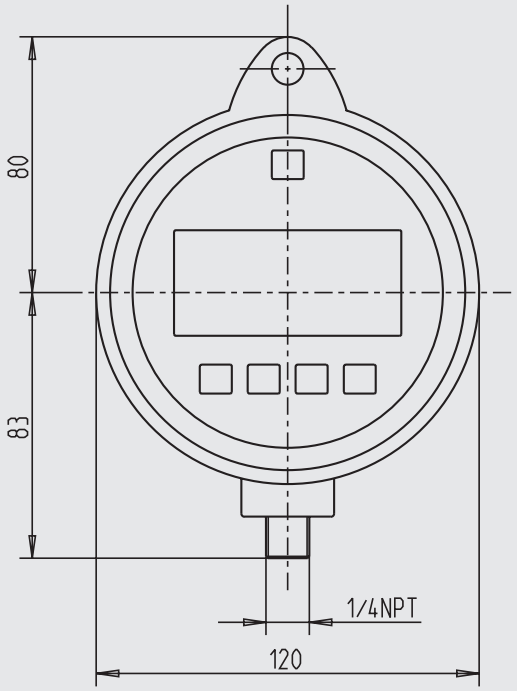
The reading sample rate can be user-adjusted to match the type of measurement required. Standard applications usually use three measured values per second. If required, this rate can also be set to ten measured values per second. A power saving mode allows the CPG1000 to change automatically to a “sleep” mode. Thereby the battery life increases to up to 2,000 hours.

Features

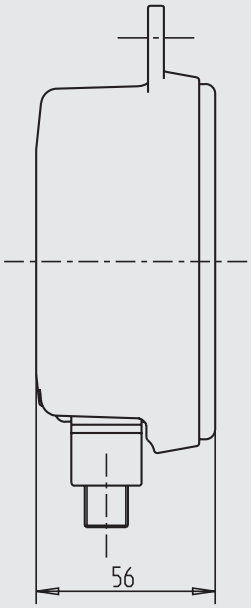
A MIN/MAX function is provided which instantly recalls the minimum and maximum pressure readings that have been automatically stored by the CPG1000. An auto power shutoff feature may be enabled for a preset time interval to extend battery life. Zero and TARE functions compensate sensor drifts. Password-protected field calibration of the CPG1000 may be initiated through the keypad.
A RS-232 port allows pressure reading data to be extracted directly from the gauge for off-line analysis. An optional external 24 V DC power input is available for applications where the CPG1000 will be permanently incorporated into a process line. The activatable damping function helps to stabilise heavily fluctuating pressures and to make it easier to read them.

Dimensions in mm

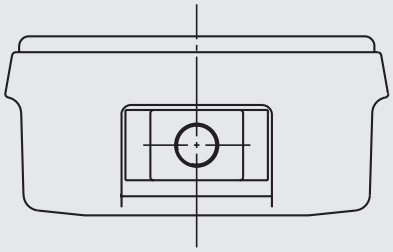
Front view



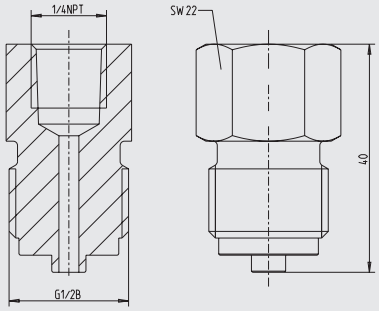
Side view



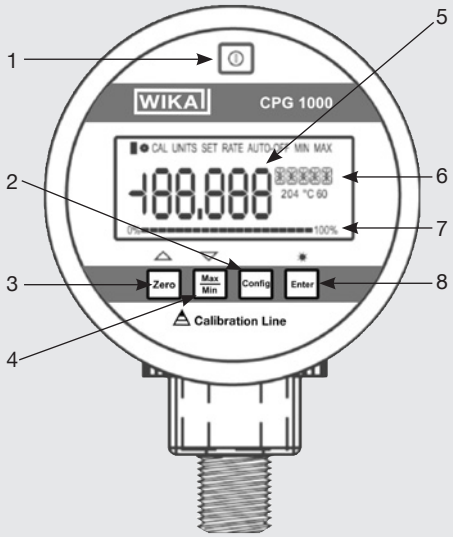
Bottom view



Adapter included



Front layer of Precision Digital Pressure Gauge Model CPG1000



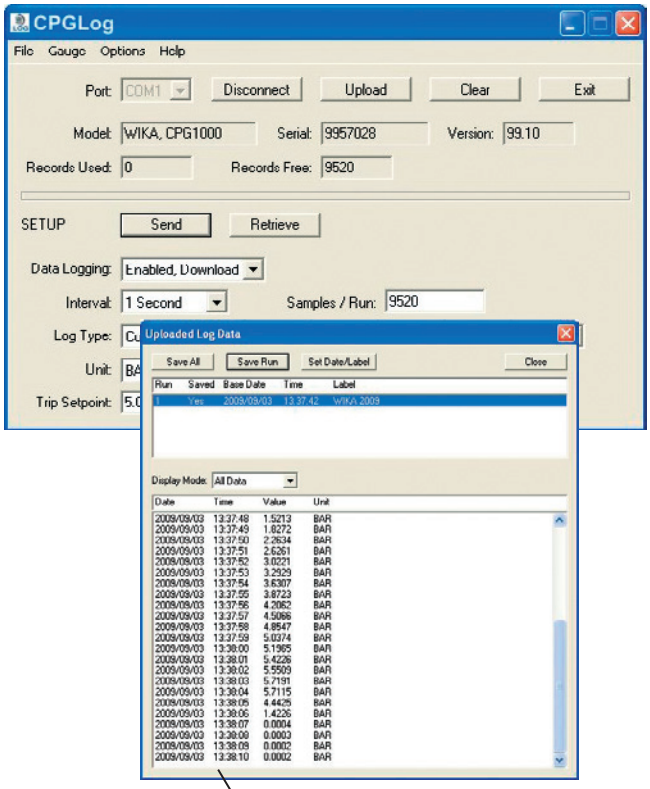
1) Turns power on/off
2) SETUP and configuration menu
3) ZERO, scrolls forward through menu display
4) Min/Max readings, scrolls backward through menu display
5) Pressure display
6) Engineering units
7) 0 ... 100 % bar graph
8) Selects an action in configuration, turns the back-light on/off

Specifications		Model CPG1000					
Pressure range	mbar	0 … 70 [1]					
Over pressure safety	mbar	350					
Burst pressure	mbar	3500					
Resolution	mbar	0.001					
Pressure range	bar	0 … 1	0 ... 2	-1 ... +1 [1]	-1 ... +2 [1]	0 ... 7	0 ... 20
Over pressure safety	bar	2	4	2	4	14	42
Burst pressure	bar	35	35	35	35	70	140
Resolution	bar	0.0001	0.0001	0.0001	0.0001	0.0001	0.001
Pressure range	bar	0 ... 35	0 ... 70	0 ... 140	0 ... 200	0 ... 350	0 ... 700
Over pressure safety	bar	70	140	210	420	700	1100
Burst pressure	bar	140	700	700	700	700	1100
Resolution	bar	0.001	0.001	0.01	0.01	0.01	0.01
Pressure range	bar abs.	0 ... 1	0 ... 2	0 ... 7	0 ... 20		
Over pressure safety	bar abs.	2	4	14	42		
Burst pressure	bar abs.	35	35	70	140		
Resolution	bar abs.	0.0001	0.0001	0.0001	0.001		
Measurement uncertainty							
■ Relative pressure	% / FS	± 0.05; (± 0.1 for 0 ... 70 mbar)					
■ Vacuum measuring ranges	% / FS % / FS	± 0.25; (measuring ranges up to max. 35 bar) [2] ± 0.1; (measuring ranges -1 ... +1 bar and -1 ... +2 bar)					
Types of pressure		Relative pressure, absolute pressure (up to 20 bar abs) and vacuum measuring ranges)					
Pressure connection		¼" NPT male (incl. adapter ¼" NPT female on G ½ male)					
Pressure medium		All liquids and gases compatible with 316 stainless steel [1]					
Data logger [3]		Cyclic logger: automatic recording of up to 8500 values; Cycle time: selectable from 1 ... 3600 sec. in the following steps 1 sec., 2 sec., 5 sec., 10 sec., 30 sec., 1 min., 2 min., 5 min., 10 min., 30 min. and 1 h					
Material							
■ Wetted parts		316 stainless steel					
■ Housing		stainless steel					
One year stability		0.05 % of span					
Permissible							
■ Medium temperature	°C	-10 ... +55 (lower boundary above the freezing temperature of the medium)					
■ Operating temperature	°C	-10 ... +55					
■ Storage temperature	°C	-20 ... +70					
Compensated temperature range	°C	0 ... +50					
Temperature coefficients		0.005 % of span per °C outside the range of 0 ... 50 °C					
Display		5 1/2-digit display, character size 16.53 mm (0.65") 20-segment bar graph, 0 ... 100 %					
Pressure units		psi, bar, mbar, Kg/cm², inH_2O (4 °C, 20 °C or 60 °F), ft H_2O (4 °C, 20 °C or 60 °F), cmH_2O (4 °C and 20 °C), mH_2O (4 °C and 20 °C), kPa, MPa, inHg, mmHg, TORR, custom engineering unit					
Recording options		Min/Max memory					
Sampling rate		0.5/second to 10/second, selectable					
PC-connection		RS-232, USB with optional USB serial adapter					
Power supply		DC 4,5 V, 3 AA batteries					
■ Battery life		1500h without backlight; 2000h at slow sample rate; battery life can be displayed on bar graph to indicate the amount of time left					
■ Low battery indicator		displayed icon near the end of battery life					
EMC		Tested to 2004/108/EC, EN 61 326-1 Emission (Group 1, Class B) and Immunity (Appendix A)					
■ ATEX		II 3G Ex nA IIB T6					
■ CSA		Class I, Division 2, Groupe A, B, C, D					
Ingress protection		IP 65					
Calibration		3.1 calibration certificate per DIN EN 10 204 (option: DKD-calibration certificate)					
Dimensions	mm	111 x 127 x 38					
Weight	g	455					

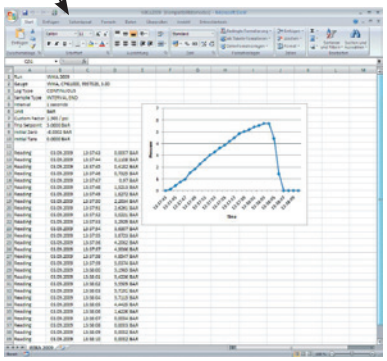
1) The measuring ranges which are thus marked are to be used exclusively with clean and non-corrosive gases.
2) For measuring instruments with a max. measuring range of up to 2 bar, the working order in the vacuum measuring range is limited to -350 mbar. (The measuring ranges -1 ... +1 bar and -1 ... +2 bar are excluded.)
3) CPGLog data logger evaluation software is required for the utiisation of the logger functionality.

CPGLog Data Logger Evaluation Software

Using the CPGLog Data Logger Evaluation Software, the logger data recorded in the CPG1000 can be transferred via an interface cable to a PC and there stored in an EXCEL® file for further documentation and evaluation.



Data export to an Excel® file for example



- Various logger intervals, from 1 second up to 1 hour, can be chosen.
- Data records can range from only a few seconds up to several weeks
- Recording of the pressure value and the sensor temperature simultaneously -> ideally suited to leak testing
- 4 different data collection modes are possible, all data recorded or also only the required points
  - Continuous (records all data within a pre-defined interval)
  - High (records only those points which lie above a previously-defined point)
  - Low (records only those points which lie below a previously-defined point)
  - Delta (records only those points which, during an interval, lie outside a predefined range)
- A maximum of 8500 points can be memorised
- Various data points can be recorded:
  - Value at the end of an interval
  - Average value
  - Minimum value
  - Maximum value
  - Median value
  - Average/Minimum/Maximum value

Scope of delivery (Software):

- CD CPGLog software
- RS-232 interface cable
- RS-232 via USB adapter
- CPGLog Operating Instructions in English (Order No: 11501511)

Complete test and service cases with pressure generation

Calibration case, pneumatic

Calibration case with Model CPG1000 precision digital pressure gauge and Model CPP30 hand test pump for pressures from -0.95 up to +35 bar consisting of:

- Plastic service case with foamed insert
- Precisions digital pressure gauge Model CPG1000
- Pneumatic hand test pump model CPP30; -0.95 ... +35 bar

Available pressure ranges:
see specification on page 3.

Further specifications see data sheet CT 91.06

Calibration case, hydraulic

Calibration case with Model CPG1000 precision digital pressure gauge and Model CPP700-H hydraulic hand test pump for pressures from 0 up to 700 bar consisting of:

- Plastic service case with foamed insert
- Precision digital pressure gauge Model CPG1000
- Hydraulic hand test Pump Model CPP700-H; 0 ... 700 bar

Available pressure ranges:
see specification on page 3.

Further specifications see data sheet CT 91.06

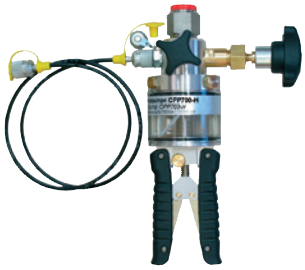
Recommended pressure generation

Pneumatic Hand Test Pump Model CPP30

Pneumatic hand test pump Model CPP30

- Pressure range: -0.95 ... +35 bar

Further specifications see data sheet CT 91.06



Hydraulic Hand Test Pump Model CPP700-H

Hydraulic hand test pump Model CPP700-H

- Pressure range: up to 700 bar

Further specifications see data sheet CT 91.07

Scope of supply

- Precision Digital Pressure Gauge CPG1000
- Operation instruction
- Calibration certificate 3.1 per DIN EN 10 204
- 3 x AA batteries
- Adapter ¼" NPT female on G ½ male
- Protective rubber boot for case

Options

- DKD calibration certificate
- External 24 V DC power input
- Back mount process connection

Accessories

- Data logger evaluation software CPGLog
- Panel mounting flange (only with back mount process connection)
- Various pressure adapters
- RS-232 interface cable
- USB serial adapter

Products and Services within our Calibration Technology Program

- DKD calibration services for pressure
- Repair of calibration units of all makes
- Portable pressure measuring devices for test and calibration tasks
- Precision pressure measuring units and pressure controllers
- Primary standards for pressure
- Testing technology system solutions
- DKD calibration services for temperature
- Dry well temperature calibrators
- Calibration baths and furnaces
- Temperature measuring instruments for test and calibration tasks
- Precision thermometers
- Primary standards for temperature
- Consulting and seminars

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