

Digital pressure gauge Model CPG1200

WIKA data sheet CT 10.20

UK
CA

Applications

- Hydrostatic pressure test
- Burst tests
- Leakage measurement
- Setting of switch points on pressure switches
- Analysis of process pressures

Special features

- Setting and checking operating pressures is easier than ever
- Simple data transmission – via USB and Bluetooth®
- For mobile use and stationary continuous operation



Digital pressure gauge, model CPG1200

Description

The battery-operated and very sturdily built digital pressure gauge model CPG1200 has been designed specifically for use in mobile applications. Ranges up to -1 ... 1,000 bar [-14.5 ... 15,000 psi] (gauge pressure) feature an accuracy down to 0.25 % FS.

Checking and setting operating pressures is easier than ever

The instrument is available with the most common process connections and simplifies the workflow thanks to the data logger with up to 1 million data points and min./max. function. In practice, the quick and simple testing also minimises the risk of production downtimes due to critical pressure values in the process - thanks to the intrinsically safe Ex version also in sensitive areas of the oil and gas industry.

Simple data transmission – via USB and Bluetooth®

The model CPG1200 is equipped with a Micro-USB interface for simple and interference-resistant data transmission – and can optionally be expanded to include Bluetooth® for wireless communication.

For mobile use and stationary continuous operation

To ensure that critical pressure changes are detected at an early stage during transports, the CPG1200 continuously records the values and sends an alarm if necessary. Temporary monitoring is no problem thanks to data logger and battery operation.

An energy-saving mode and variable measuring rates allow for operating times of up to 4,000 hours without changing the battery. The battery status display shows when a change is necessary. Thanks to power supply via USB interface, the CPG1200 is also a reliable solution for stationary operation.

Specifications

Basic information		
Accuracy ¹⁾	■ 0.5 % FS ²⁾ ■ 0.25 % FS ²⁾	
Non-repeatability (per IEC 61298-2)	≤ 0.1 % FS ²⁾	
Long-term stability (per IEC 61298-2)	≤ 0.2 % FS ²⁾	
Connection location	Vertical mounting position, process connection lower mount	
Adjustment	Offset and span factor adjustable	
Functions		
Menu functions	■ Min./Max. alarm (visual) ■ Power-off function ■ Measuring rate ■ Level indication ■ Tare offset ■ Indication damping	
Memory	■ Min./Max. memory ■ Integrated data logger	
Data logger	■ Automatic recording of up to 1,000,000 values ■ Interval ⇒ Selectable from 1 ... 3,600 s in 1-second steps or ⇒ Selectable with the measuring rate in the following steps: 1/s, 2/s, 4/s, 10/s	
Battery status display	Symbol display with 4 bars indicates the battery status in 25 % steps.	
Case		
Material	Case	PBT with 30 % glass fibre
	Protective case cap	VMQ (silicone)
Dimensions	See dimensions in mm [in], page 7	
Ingress protection	IP65	
Weight ³⁾	Incl. batteries	■ Standard: 350 g ■ ATEX: 363 g
	With protective case cap	■ Standard: 440 g ■ ATEX: 453 g

1) Including non-linearity, hysteresis, zero offset and end value deviation (corresponds to measured error per IEC 61298-2).

2) FS = Full span = end of measuring range - start of measuring range

3) Weights determined with process connection G ½. When other process connections, protective case caps and batteries are used, the weight can differ from the values specified here.

Digital display		
Display		
Display range	-9999 ... 19999 digits 4 ½-digit 15-segment display (incl. a large matrix area for auxiliary information)	
Display resolution	4 ½-digit	
Backlighting	Activated via button	
Bar graph	0 ... 100 %, 20 individual segments, which show 5 % steps	
Menu languages	Adjustable via menu	
Units (adjustable via menu)	■ English ■ German ■ Spanish ■ French ■ Italian ■ Russian ■ Polish	
	■ bar ■ mbar ■ psi ■ MPa ■ kg/cm² ■ 1 x user-defined unit Additional units only in conjunction with increased accuracy, 0.25 % FS ¹⁾ ■ mmH₂O ■ mH₂O ■ inH₂O ■ ftH₂O ■ kN/m² ■ mmHg ■ inHg ■ Pa ■ kPa ■ m ■ cm ■ mm ■ feet ■ inch ■ 1 x user-defined unit	

1) FS = Full span = end of measuring range - start of measuring range

Reference conditions per IEC 61298-1	
Ambient temperature	15 ... 25 °C [59 ... 77 °F]
Atmospheric pressure	860 ... 1,060 mbar [12.5 ... 15.4 psi]
Air humidity	45 ... 75 % r. h. (non-condensing)

Measuring range, gauge pressure

bar	
0 ... 0.4	0 ... 50
0 ... 1	0 ... 60
0 ... 1.6	0 ... 80
0 ... 2.5	0 ... 100
0 ... 4	0 ... 160
0 ... 5	0 ... 250
0 ... 6	0 ... 350
0 ... 8	0 ... 400
0 ... 10	0 ... 500
0 ... 16	0 ... 600
0 ... 20	0 ... 700
0 ... 25	0 ... 800
0 ... 35	0 ... 1,000
0 ... 40	

psi	
0 ... 5	0 ... 600
0 ... 10	0 ... 750
0 ... 15	0 ... 1,000
0 ... 30	0 ... 1,450
0 ... 70	0 ... 1,500
0 ... 100	0 ... 2,000
0 ... 120	0 ... 3,000
0 ... 145	0 ... 4,000
0 ... 150	0 ... 5,000
0 ... 160	0 ... 6,000
0 ... 200	0 ... 7,500
0 ... 250	0 ... 10,000
0 ... 300	0 ... 12,000
0 ... 400	0 ... 15,000
0 ... 500	

Measuring range, absolute pressure

bar abs.	
0 ... 0.4	0 ... 6
0 ... 1	0 ... 8
0 ... 1.6	0 ... 10
0 ... 2	0 ... 16
0 ... 2.5	0 ... 25
0 ... 4	0 ... 35

psi abs.	
0 ... 5	0 ... 120
0 ... 15	0 ... 150
0 ... 30	0 ... 300
0 ... 70	0 ... 500

Measuring range, vacuum and +/- measuring range

bar	
-0.2 ... +0.2	-1 ... 15
-1 ... 0	-1 ... 16
-1 ... 1	-1 ... 20
-1 ... 5	-1 ... 24
-1 ... 9	-1 ... 30
-1 ... 10	-1 ... 40

psi	
-14.5 ... 0	-14.5 ... 200
-14.5 ... +15	-14.5 ... 300
-14.5 ... 160	-14.5 ... 450
-14.5 ... 200	-14.5 ... 600

Further details on: Measuring range

Overpressure limit

3 times	≤ 6 bar	≤ 70 psi
2 times	≥ 10 ... 600 bar	≥ 100 ... 7,500 psi
1.43 times	> 600	> 7,500 psi
Vacuum resistance	Yes	

Process connection

Standard	Thread sizes	Possible measuring ranges
EN 837	■ G ¼ B	≤ 1,000 bar [≤ 15,000 psi]
	■ G ½ B	
	■ G ¾ B	≤ 400 bar [≤ 6,000 psi]
ANSI/ASME B1.20.1	■ ¼ NPT	≤ 1,000 bar [≤ 15,000 psi]

Further details on: Process connection

Pressure port diameter / restrictor	3.5 mm [0.138 in]
Other versions	■ Oil- and grease-free ¹⁾ ■ For oxygen, oil- and grease-free ²⁾
Material	
Wetted parts ¹⁾	Stainless steel 316L
Internal pressure transmission medium	■ Without ■ Synthetic oil (for measuring ranges ≤ 6 bar [≤ 70 psi])

1) Specifications in accordance with technical information IN 00.41

2) 3.1 inspection certificate per DIN EN 10204 (listing of the individual measured values)

→ For drawings of process connections, see page 8

Input signal

Micro-USB type B

Max. input voltage	DC 5 V
Max. input current	100 mA
Max. power	500 mW

Radio standard

Bluetooth®

Version	5.2 Low Energy
Frequency range	2.4 ... 2.5 GHz
Range in free field	5 m [16.4 ft]
Transmission power	Max. 3.3 mW

Voltage supply and performance data

Battery	3 x 1.5 V AA alkaline batteries ¹⁾
Battery life	Typically > 4,000 h (without backlighting and with Bluetooth® not active)

1) For hazardous areas, only approved models are permitted. These are listed separately in the operating instructions and in the additional information.

Operating conditions	
Place of use	For indoor and outdoor use
Altitude	2.000 m [6.562 ft] above sea level
Medium temperature range	-20 ... +50 °C [-4 ... +122 °F]
Operating temperature	-10 ... +50 °C [14 ... 122 °F]
Storage temperature range	-18 ... +55 °C [0 ... 122 °F]
Relative humidity, condensation	< 84 % r. h. (non-condensing)
Permissible media	All liquids and gases of fluid group 2 which are compatible with 316 stainless steel
Permissible pollution degree	2 per EN 61010-1

Approvals

Logo	Description	Region
	EU declaration of conformity	European Union
	EMC directive EN 61326 emission (group 1, class B) and immunity (industrial environment)	
	Pressure equipment directive	
	RED - Radio Equipment Directive EN 300 328 harmonised frequency range 2,400 ... 2,500 MHz is used; Bluetooth® 5.2 Low Energy (BLE), max. transmission power 10 mW. The instrument may be used without restrictions in the EU and in the countries of the EFTA	
	RoHS directive	
	UKCA	United Kingdom
	Electromagnetic compatibility regulations	
	Pressure equipment (safety) regulations	
	Radio equipment regulations	
	Restriction of hazardous substances (RoHS) regulations	

Optional approvals

Logo	Description	Region
	EU declaration of conformity (expected to be available from Q3/2023)	European Union
	ATEX directive Hazardous areas	
	Ex i Zone 1 mounting to zone 0 gas II 2G Ex ia IIC T4 Ga/Gb	
	Zone 1 gas II 2G Ex ib IIC T4 Gb	
	Zone 2 gas II 2G Ex ic IIC T4 Gc	
	T4 at -10 ... +50 °C	
	IECEx (expected to be available from Q3/2023)	International
	Hazardous areas	
	Ex i Zone 1 mounting to zone 0 gas Ex ia IIC T4 Ga/Gb	
	Zone 1 gas Ex ib IIC T4 Gb	
	Zone 2 gas Ex ic IIC T4 Gc	
	T4 at -10 ... +50 °C	

Logo	Description	Region
	UKCA (expected to be available from Q3/2023) Equipment and protective systems intended for use in potentially explosive atmospheres regulations Ex i Zone 1 mounting to zone 0 gas II 2G Ex ia IIC T4 Ga/Gb Zone 1 gas II 2G Ex ib IIC T4 Gb Zone 2 gas II 2G Ex ic IIC T4 Gc T4 at -10 ... +50 °C	United Kingdom
	North America (expected to be available from Q4/2023) Safety (e.g. electr. safety, overpressure, ...) Class - 3631 06 - Electrical measurement and inspection equipment Class - 3631 86 - Electrical equipment for measurement - certified according to US standards Hazardous areas Class - 2258 04 - PROCESS CONTROL EQUIPMENT - Intrinsically safe, entity - hazardous areas Ex i Class I, zone 0 Ex ia IIC T4 Ga Class I, division 1, groups A, B, C and D T4 T4 at -10 ... +50 °C Class - 2258 84 - PROCESS CONTROL EQUIPMENT - Intrinsically safe, entity - hazardous areas - certified in accordance with US standards AEx i Class I, zone 0 AEx ia IIC T4 Ga Class I, division 1, groups A, B, C and D T4 T4 at -10 ... +50 °C	USA and Canada

Test report

Test report ¹⁾

3 measuring points

1) Only accessible online via the [Product passport](#).

Certificates

Certificates

Calibration ¹⁾

- Without
- 3.1 inspection certificate per DIN EN 10204 (factory calibration)
- DAkkS calibration certificate (traceable and accredited in accordance with ISO/IEC 17025)

Recommended calibration interval

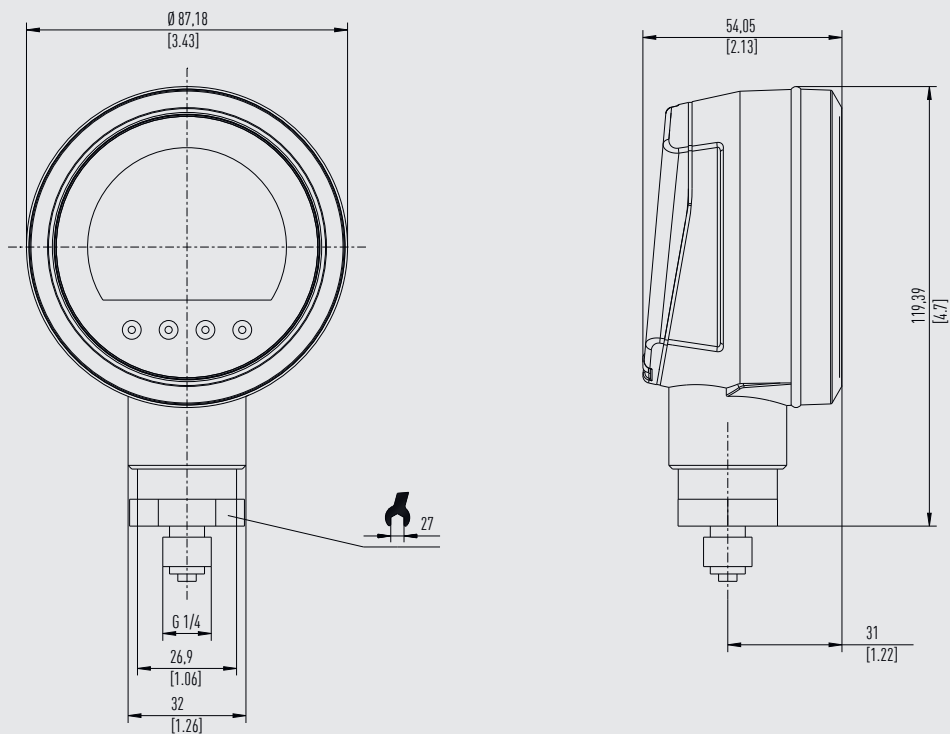
1 year (dependent on conditions of use)

1) Calibrated in vertical mounting position with process connection facing downwards

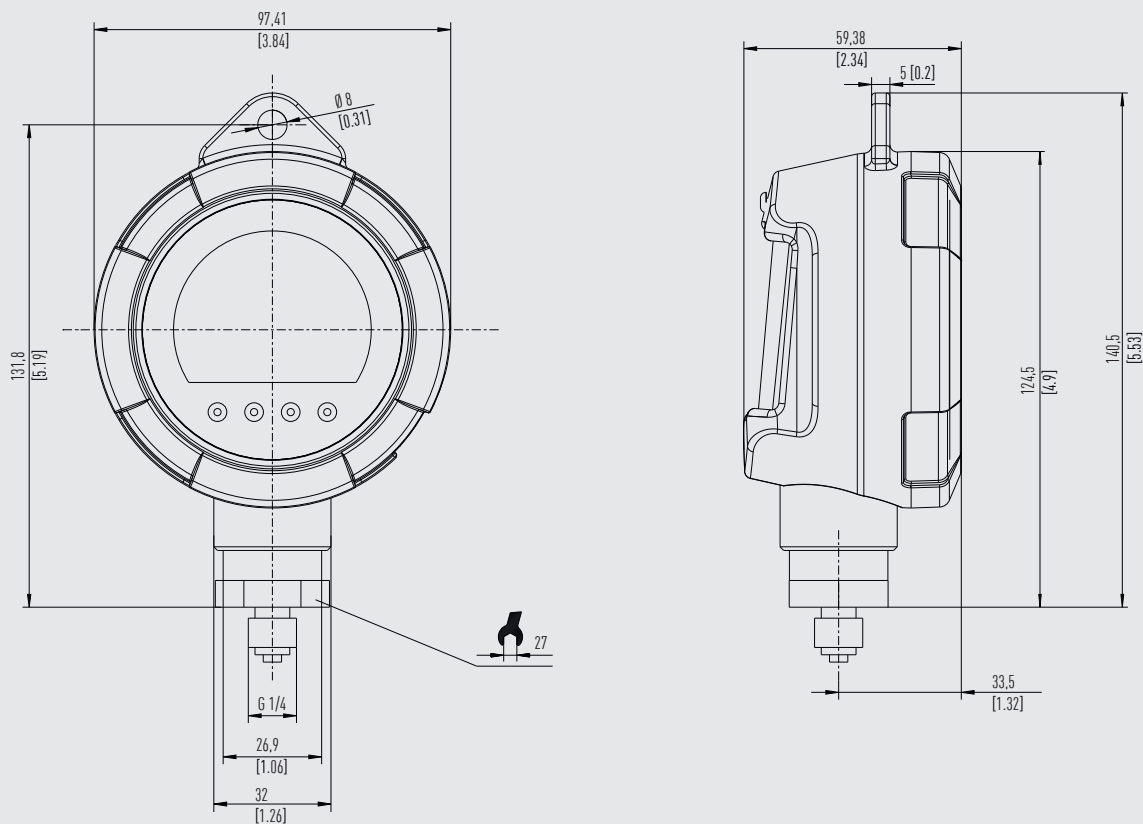
→ For approvals and certificates, see website

Dimensions in mm [in]

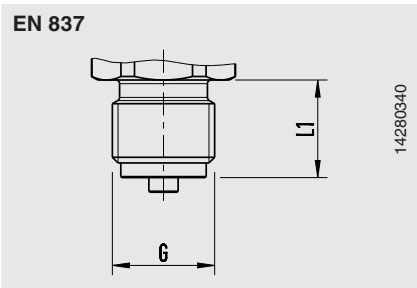
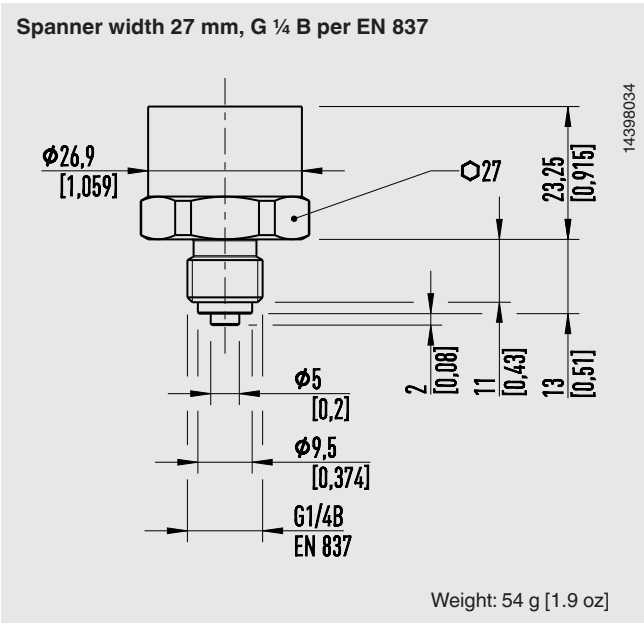
CPG1200 without protective case cap



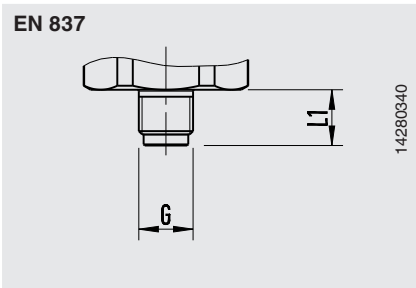
CPG1200 with protective case cap



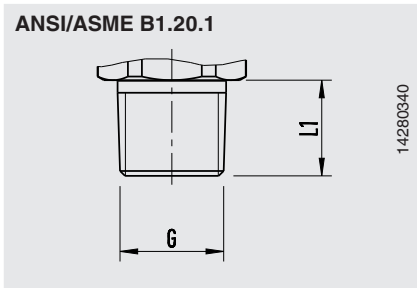
Process connections



G	L1
G ¼ B	13 [0.51]
G ½ B	20 [0.79]

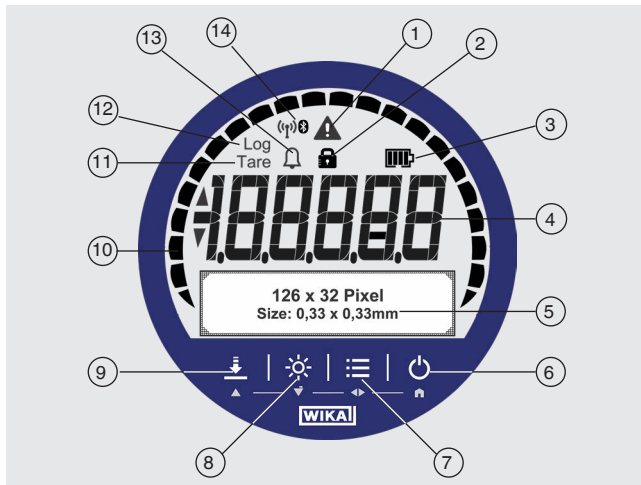


G	L1
G ¼ B	15 [0.59]



G	L1
¼ NPT	13 [0.51]

Front foil



- ① **Warning notice for:**
 - Exceeding or dropping below the pressure range
 - Exceeding or dropping below the temperature range
 - Logger memory is more than 90 % full
 - Instrument error or battery status < 10 %
- ② **Lock symbol**
Menu button or ZERO button locked/unlocked
- ③ **Battery status**
- ④ **Pressure indication**
- ⑤ **Matrix field**
Serves as menu and secondary display
- ⑥ **On/Off button**
- ⑦ **MENU button**
Calling up the menu
- ⑧ **LIGHT button**
Turning the backlighting on and off
- ⑨ **ZERO button**
The current pressure value will be set to "0" (gauge) or reference pressure (abs.)
- ⑩ **Bar graph**
Indicates the current pressure graphically
- ⑪ **Tare**
Tare active/inactive
- ⑫ **Log**
Logger function active/inactive
- ⑬ **Alarm**
Measured value has exceeded or dropped below the alarm limit
- ⑭ **Bluetooth® symbol**
Bluetooth® active/inactive

"myWIKA device" app

Via the app "myWIKa device" and the Bluetooth® connection, the CPG1200 can be configured for calibration and logging tasks in a convenient way through a mobile device.

During the pressure measurement, the value is displayed in the required unit directly on the mobile device.

Moreover, further parameters like temperature and pressure change rate can be monitored.

It is also possible to retrieve more detailed instrument information directly from the WIKa website. In addition, the app allows configuration, control and saving of log procedures.

Logs that were saved on the mobile device can be transferred to a PC and be read by WIKa-Cal. This enables them to be processed further and the app forms the final part of a complete solution for handling data from the CPG1200.

For connect to a PC and/or an Android or iOS-enabled device, Bluetooth® 5.2 Low Energy is recommended.



For iOS-based mobile devices, the app is available in the Apple Store under the link below.

[Download here](#)



For mobile devices with an Android operating system, the app is available in the Play Store under the link below.

[Download here](#)



WIKA-Cal calibration software

Easy and fast creation of a high-quality calibration certificate

WIKA-Cal calibration software serves for the creation of logger protocols or calibration certificates for pressure measuring instruments. The demo version is available for a cost-free download.

To switch from the demo version to a licenced version, a USB dongle with a valid licence must be purchased.

The preinstalled demo version changes automatically to the selected version when plugging in the USB dongle and remains available as long as the USB dongle is connected to the PC.



- The user is guided through the logger or calibration process
- Management of calibration data and instrument data
- Intelligent preselection via SQL database
- Menu languages: German, English, Italian, French, Dutch, Polish, Portuguese, Romanian, Spanish, Swedish, Russian, Greek, Japanese, Chinese
More languages are due with software updates
- Customer-specific complete solutions possible
- Maximum degree of automation in connection with our CPG series

The supported instruments are continuously expanded and even customer-specific adaptations are possible.

For further information, see data sheet CT 95.10

Two WIKA-Cal licences are available together with a digital pressure gauge of the CPG series

The WIKA-Cal calibration software is available both for reading the logger data stored in the digital pressure gauge as well as for online calibrations together with a PC. The scope of software functions depends on the selected licence. Several licences can be combined on one USB dongle.

Cal-Template (demo version)	Log-Template (full version)
Fully automatic calibration	■ Live measured value recording for a certain period of time with selectable interval, duration and start time ■ Readout of the integrated data logger of the digital pressure gauge ■ Creation of logger protocols with graphic and/or tabular representation of the measuring results in PDF format ■ Possibility of exporting measuring results as CSV file
Limitation to two measuring points	
■ Creation of 3.1 inspection certificates per DIN EN 10204 ■ Calibration data can be exported to Excel® template or XML file ■ Calibration of pressure measuring instruments	
Ordering information for your enquiry for a single licence:	
Is available for a cost-free download	WIKA-CAL-ZZ-L-Z

WIKI-DCS configuration software

As a supplement to the model CPG1200 and CPG1500 digital pressure gauges, in addition to the WIKI-Cal calibration software, the WIKI-DCS configuration software is also available.

With the help of the software, the instruments can be easily configured, either via the USB or Bluetooth® connection. The configuration includes, for example, setting the indication unit, displaying the temperature, min./max values and other menu settings.

The software also enables the configuration, control and storage of logger operations.

- Configuring the instrument
- Configuring logger sequences with the CPG1200/CPG1500
- Carrying out logger sequences with the CPG1200/CPG1500
- Downloading log files from the CPG1200/CPG1500
- Download the logger protocols as a CSV file
- Menu languages: German, English, French and Spanish



Minimum system requirements	
Processor	Intel® Pentium® 4 or AMD Athlon® 64
Software	■ Microsoft® Windows® XP with Service Pack 3 ■ Windows® 7 with Service Pack 1 ■ Windows® 8 ■ Windows® 10
Storage	1 GB RAM and 1 GB free hard disc space (no installation possible on portable flash storage media)
Display	1024 x 768 pixel screen resolution (1280 x 800 pixel recommended) with 16-bit colour depth and 256 MB VRAM

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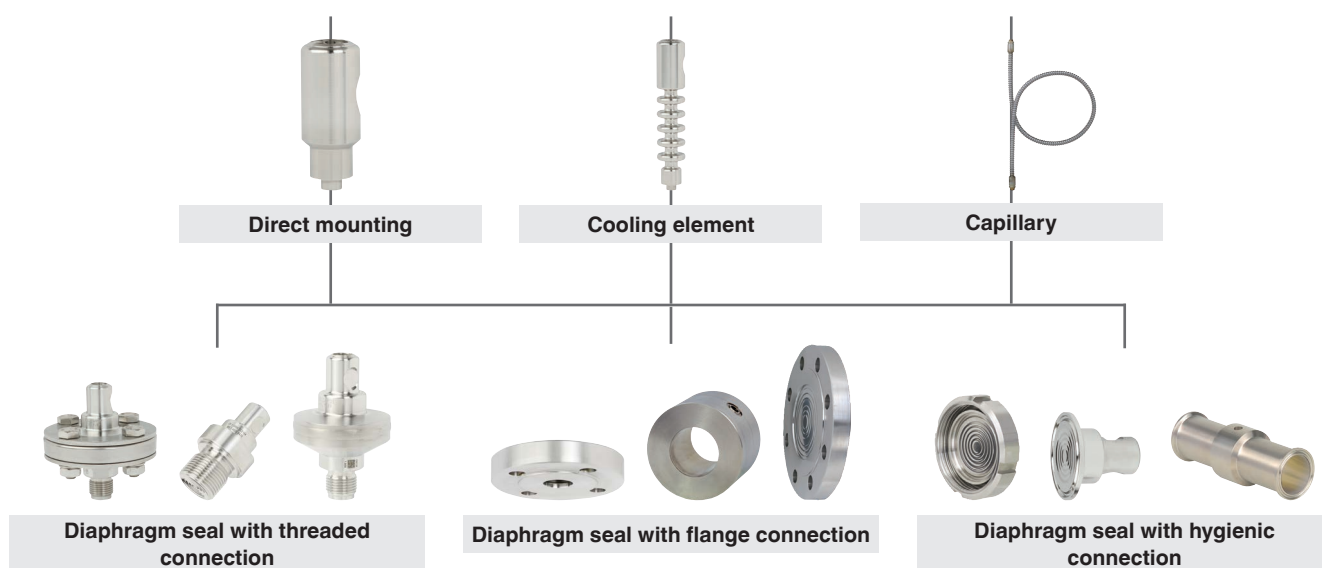
Bluetooth® is a registered trademark of Bluetooth SIG, Inc..

Haven't found the right process connection for your application?

Our diaphragm seals are the right solution

By using diaphragm seals, pressure measuring instruments can be adapted to even the harshest of process conditions. The diaphragm seal systems can be used for processes with gases, compressed air or vapour, with liquid, pasty, powdery and crystallising media and also with aggressive, adhesive, corrosive, highly viscous, environmentally hazardous or toxic media. A diaphragm separates the medium to be measured from the pressure measuring instrument. The internal space between the diaphragm and the pressure measuring instrument is completely filled with a pressure transmission medium. The pressure is transmitted to the measuring instrument via the pressure transmission medium.

There are a wide variety of different designs, process connections and material combinations available for customer-specific solutions. The accurate pressure measurement of all ranges from approx. 10 mbar up to 3,600 bar [0.145 ... 52,214.4 psi], even at extreme temperatures (range -130 ... +400 °C [-202 ... +752 °F]), is thus possible under extreme conditions.



The realisation of your individual solution



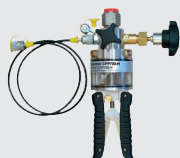
Create your perfect diaphragm seal solution together with us. From the wide variety of realisable combinations, our technology experts will find a proven solution for your application. As required, we will adapt our systems to your individual application.

Talk to us – we are happy to provide you with advice!

Complete measuring and test cases

The available test and service cases are individually equipped according to your needs.
There is a differentiation between 2 different variants.

Case variants	Measuring case	Test case
Recesses for standard components		
Digital pressure gauge model CPG1200	x	x
Case for CPG1200 and accessories	x	x
Batteries	x	x
USB cable	x	x
Sealing set	-	x
Recesses for adapter set, optional:		
Series 1620	x	-
Series 1215	x	-
“BSP” adapter set for test item hose; with bar measuring ranges G ¼, male thread to G ⅛, G ⅜ and G ½, female thread	-	x
“NPT” adapter set for test item hose; with psi measuring ranges G ¼, male thread to ⅛ NPT, ¼ NPT, ⅜ NPT and ½ NPT, female thread	-	x
Recesses for hand test pump, optional:		
Pneumatic, model CPP30, for measuring ranges ≤ 30 bar [≤ 500 psi]	-	x
Hydraulic, model CPP700-H, for measuring ranges > 30 ... ≤ 700 bar [> 500 ... ≤ 10,000 psi]	-	x
Hydraulic, model CPP1000-H, for measuring ranges > 700 ... ≤ 1,000 bar [> 10,000 ... ≤ 14,500 psi]	-	x
Ordering information for your enquiry	DMK1200	DTK1200

Recommended pressure generation		
Hand test pump	Pneumatic, model CPP30	Hydraulic, model CPP700-H / CPP1000-H
		
Pressure range	-0.95 ... +35 bar [-28 inHg ... +500 psi]	■ 0 ... 700 bar [0 ... 10,000 psi] ■ 0 ... 1,000 bar [0 ... 14,500 psi]
For further specifications, see data sheet	CT 91.06	CT 91.07

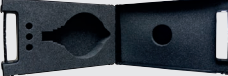
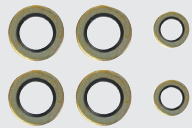


**Pneumatic service kit incl.
pneumatic hand test pump**



**Hydraulic service kit incl. hydraulic
hand test pump**

Accessories

Description ¹⁾		Order code
		CPG-A-12-
	Alkaline batteries - Ex-approved 3 x 1.5 V AA	-A-
	Micro-USB type B to USB cable Length: 2 m [6.6 ft]  May not be used in hazardous areas!	-M-
	Bluetooth® USB stick  May not be used in hazardous areas!	-U-
	USB power supply unit Power supply unit, DC 5 V with Micro-USB type B connector 1,000 mA  May not be used in hazardous areas!	-P-
	Protective case cap - Ex-approved For CPG1200 case	-B-
	Plastic case For 1 x CPG1200 for storage and transport  The plastic case is not permitted to be used in hazardous areas!	-H-
	Plastic case For 3 x CPG1200 for storage and transport  The plastic case is not permitted to be used in hazardous areas!	-I-
	Plastic case For 1 x digital pressure gauge, 1 x hydraulic hand test pump CPP700-H / CPP1000-H  The plastic case is not permitted to be used in hazardous areas!	-K-
	Plastic case For 1 x digital pressure gauge, 1 x CPP10-H or CPP30 pneumatic hand test pump  The plastic case is not permitted to be used in hazardous areas!	-L-
	Sealing set Consisting of: ■ 4 x G ½ USIT seals ■ 2 x G ¼ USIT seals ■ Plastic box	-D-
Ordering information for your enquiry:		
1. Order code: CPG-A-12 2. Option:		↓ []

1) The figures are an example and may change depending on the state of the art in design, material composition and representation.

Description ¹⁾		Order code
		CPK-MM-
	Series 1620 adapter set in storage case Consisting of: 1 x direct connection G ½ female thread; P _{max} 400 bar [5,800 psi] 1 x direct connection ¼ NPT female thread; P _{max} 630 bar [9,130 psi] 1 x test coupling ISO 228-G ¼ male thread; P _{max} 630 bar [9,130 psi] 2 x test couplings ISO 228-G ½ male thread; P _{max} 400 bar [5,800 psi] 1 x test coupling ¼ NPTF male thread; P _{max} 630 bar [9,130 psi] 1 x measuring hose (without check valve); P _{max} 630 bar [9,130 psi] 1 x measuring hose DN 2, length 0.5 m [1.6 ft]; P _{max} 630 bar [9,130 psi] → For further specifications, see data sheet AC 87.02	-1SZ-
		-2SZ-
Ordering information for your enquiry:		
1. Order code: CPK-MM 2. Option:		↓ []

1) The figures are an example and may change depending on the state of the art in design, material composition and representation.

Scope of delivery

- Digital pressure gauge model CPG1200
- 3 x 1.5 V AA alkaline batteries
- Operating instructions
- Calibration certificate

Ordering information

CPG1200 / Explosion protection / Ignition protection type / Zone / Communication / Unit / Pressure type / Measuring range / Process connection / Accuracy / Type of certificate / Ambient temperature / Version for special media / Data logger / Protective case cap / Software / Communications accessories / Interface cable / USB power supply units / Additional accessories / Carrying case / Further approvals / Additional ordering information

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