Digital pressure gauge
Model CPG1200

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. It 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.

Smart in sensing

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	Lower mount (radial)		
Adjustment	Offset and span factor adjustable		
Functions			
Menu functions	■ Min./Max. alarm (visual) ■ Power-off function ■ Sample 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 sample rate in the following steps: 1/s, 2/s, 4/s, 10/s		
	Data logger must be activated. For instrument that have already been delivered, the data logger can also be activated subsequently via an activation code.		
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		
	■ English ■ German	■ Spanish ■ French	■ Italian ■ Russian	■ Polish
Units (adjustable via menu)	■ 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 ■ inch	■ m ■ cm ■ mm ■ feet ■ 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		psi	
0 ... 0.4	0 ... 50	0 ... 5	0 ... 600
0 ... 1	0 ... 60	0 ... 10	0 ... 750
0 ... 1.6	0 ... 80	0 ... 15	0 ... 1,000
0 ... 2.5	0 ... 100	0 ... 30	0 ... 1,450
0 ... 4	0 ... 160	0 ... 70	0 ... 1,500
0 ... 5	0 ... 250	0 ... 100	0 ... 2,000
0 ... 6	0 ... 350	0 ... 120	0 ... 3,000
0 ... 8	0 ... 400	0 ... 145	0 ... 4,000
0 ... 10	0 ... 500	0 ... 150	0 ... 5,000
0 ... 16	0 ... 600	0 ... 160	0 ... 6,000
0 ... 20	0 ... 700	0 ... 200	0 ... 7,500
0 ... 25	0 ... 800	0 ... 250	0 ... 10,000
0 ... 35	0 ... 1,000	0 ... 300	0 ... 12,000
0 ... 40	-	0 ... 400	0 ... 15,000
		0 ... 500	-

Measuring range, absolute pressure

bar abs.		psi abs.	
0 ... 0.4	0 ... 6	0 ... 5	0 ... 120
0 ... 1	0 ... 8	0 ... 15	0 ... 150
0 ... 1.6	0 ... 10	0 ... 30	0 ... 300
0 ... 2	0 ... 16	0 ... 70	0 ... 500
0 ... 2.5	0 ... 25		
0 ... 4	0 ... 35		

Measuring range, vacuum and +/- measuring range

bar		psi	
-0.2 ... +0.2	-1 ... +15	-14.5 ... 0	-14.5 ... +200
-1 ... 0	-1 ... +16	-14.5 ... +15	-14.5 ... +300
-1 ... +1	-1 ... +20	-14.5 ... +160	-14.5 ... +450
-1 ... +5	-1 ... +24	-14.5 ... +200	-14.5 ... +600
-1 ... +9	-1 ... +30		
-1 ... +10	-1 ... +40		

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 ■ G ½ B	≤ 1,000 bar [≤ 15,000 psi]
	■ G ⅛ 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)

Input signal USB

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	2,400 ... 2,500 MHz
Range in free field	5 m [16.4 ft]
Max. transmission power	5.2 dBm / 3.31 mW

Voltage supply and performance data	
Battery	3 x 1.5 V AA alkaline batteries [1]
Battery voltage	DC 4.95 V
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
CE	**EU declaration of conformity**	European Union
	EMC directive EN 61326 emission (group 1, class B) and immunity (industrial environment)	
	Pressure equipment directive PS > 200 bar, module A, pressure accessory	
	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	
(logo)	**Radio Law Japan** Radio approval	Japan
FC	**Federal Communications Commission (FCC) for US** Radio approval	USA
-	**Innovation, Science and Economic Development (ISED) for Canada** Radio approval	Canada
(logo)	**Radiocommunications Equipment Rules** Radio approval Australia - ABN 49 004 465 936 New Zealand - Company number 400909	Australia and New Zealand

Test report

Test report [1]
3 measuring points

1) Only accessible online via the Product passport.
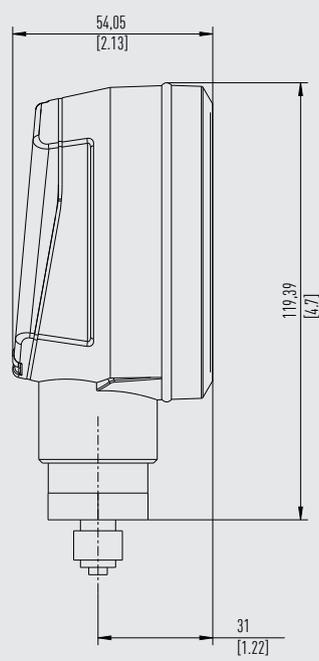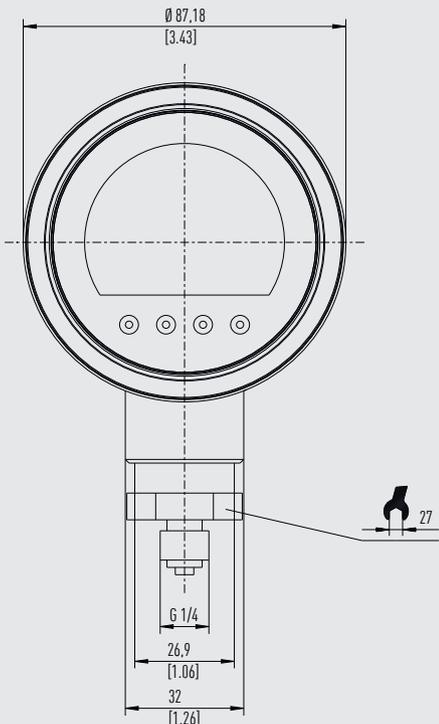
Certificates

Certificates	
Certificates	■ Without ■ 2.2 test report with material proof for wetted metal parts ■ 3.1 inspection certificate with wetted parts approval and melting analysis ■ 2.2 test report with wetted metal parts approval together with 3.1 inspection certificate with wetted parts approval and melting analysis
Calibration [1]	■ Without ■ 3.1 inspection certificate per DIN EN 10204 ■ DAkkS calibration certificate (traceable and accredited in accordance with ISO/IEC 17025)
Recommended calibration interval	1 year (dependent on conditions of use)

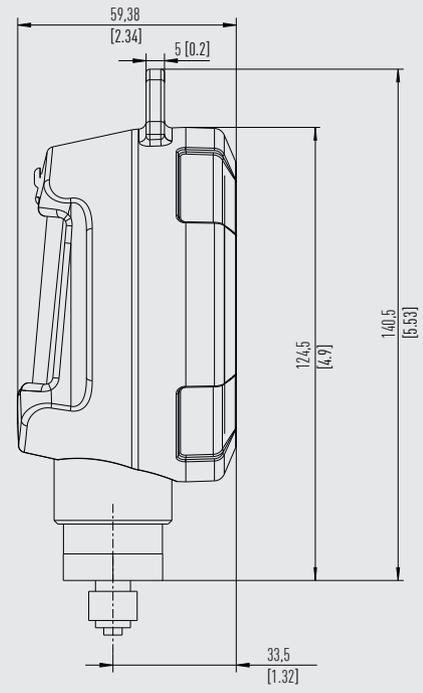1) Calibrated in vertical mounting position with process connection facing downwards
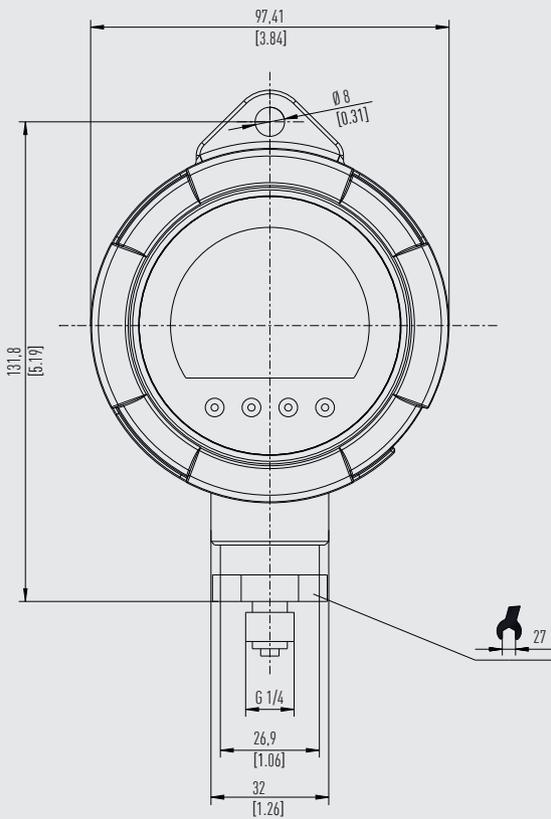
→ For approvals and certificates, see website
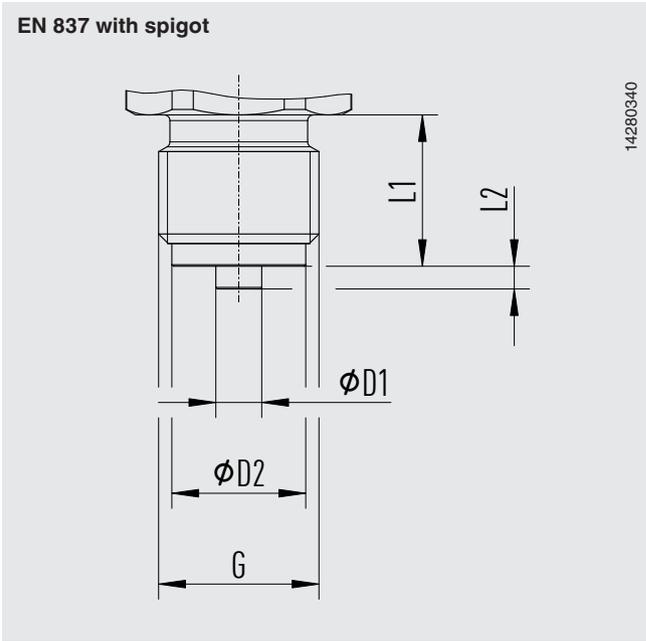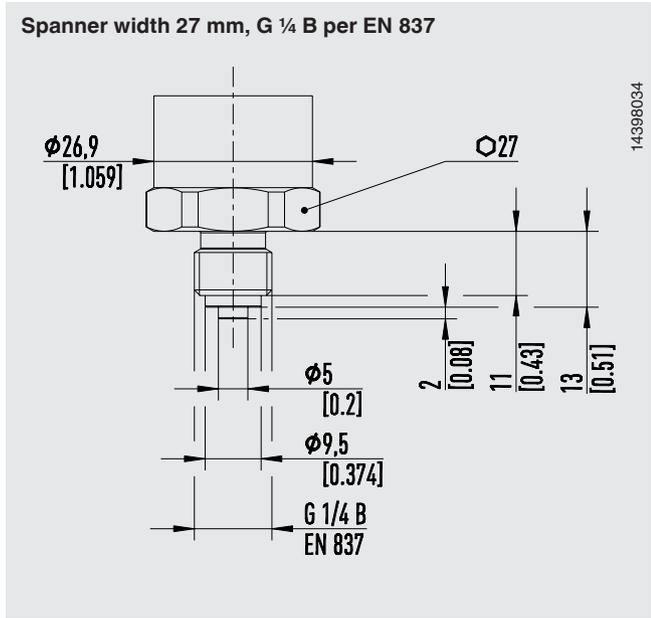
Dimensions in mm [in]

CPG1200 without protective case cap

Ø 87,18 [3.43]

54,05 [2.13]

119,39 [4.7]

G 1/4

27

26,9 [1.06]

32 [1.26]

31 [1.22]

CPG1200 with protective case cap

97,41 [3.84]

Ø 8 [0.31]

131,8 [5.19]

59,38 [2.34]

5 [0.2]

140,5 [5.53]

124,5 [4.9]

G 1/4

27

26,9 [1.06]

32 [1.26]

33,5 [1.32]

Process connections in mm [in]

Spanner width 27 mm, G ¼ B per EN 837

Ø26,9 [1.059]
☐27
Ø5 [0.2]
Ø9,5 [0.374]
G 1/4 B EN 837
2 [0.08]
11 [0.43]
13 [0.51]

14398034

EN 837 with spigot

L1
L2
ØD1
ØD2
G

14280340

G	L1	L2	D1	D2
G ¼ B	13 [0.51]	2 [0.08]	5 [0.19]	9.5 [0.374]
G ½ B	20 [0.79]	3 [0.12]	6 [0.24]	17.5 [0.689]

EN 837 without spigot

L1
G

14280340

G	L1
G ⅛ B	10 [0.39]

ANSI/ASME B1.20.1

L1
G

14280340
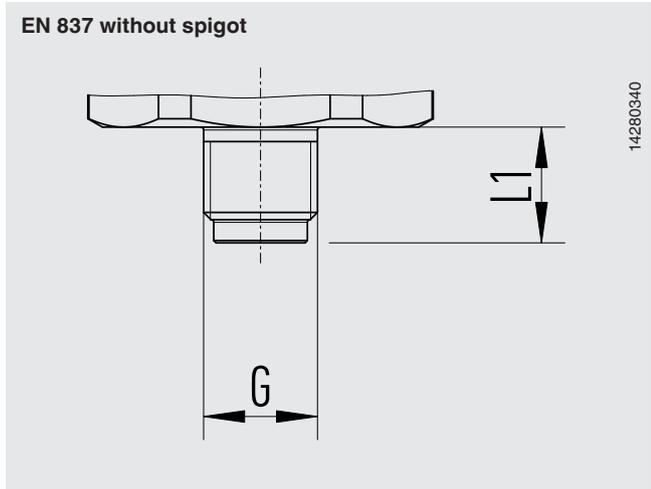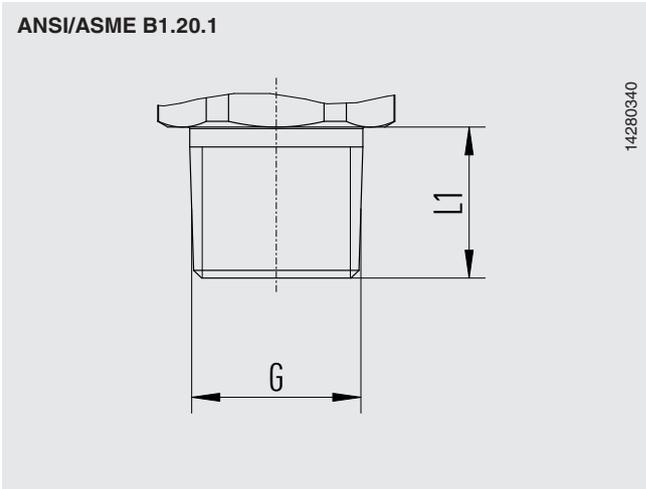
G	L1
¼ NPT	13 [0.51]

Front foil
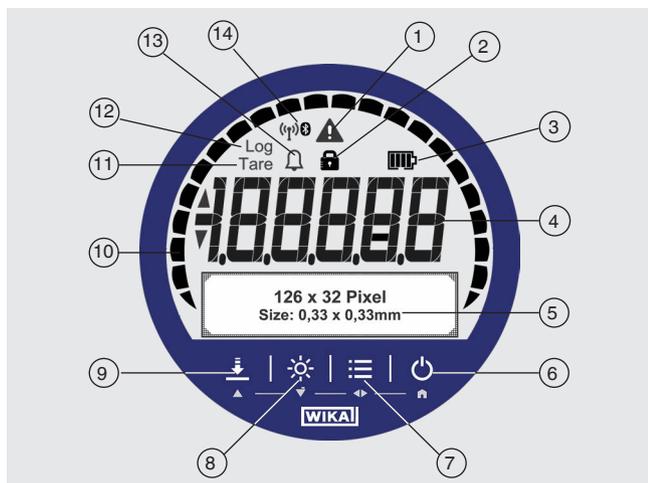
1. **Warning notice for:**
   - Exceeding or dropping below the pressure range
   - Exceeding or dropping below the temperature range
   - Logger memory is more than 90 % full
   - Instrument error or battery status < 10 %
2. **Lock symbol**
   Menu button or ZERO button locked/unlocked
3. **Battery 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 CPx-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 CPx 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.

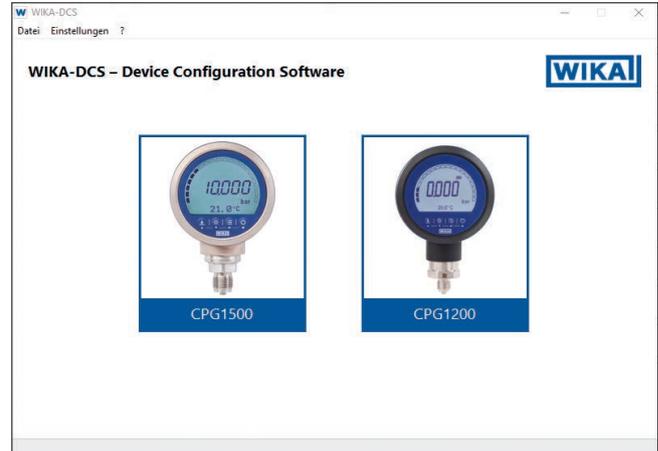| Cal-Template (demo version)	Log-Template (full version)
Fully automatic calibration	■ Live measured value recording for a certain period of time with selectable interval, duration and start time
Limitation to two measuring points	■ Readout of the integrated data logger of the digital pressure gauge
■ 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	■ 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
Ordering information for your enquiry for a single licence:	
Is available for a cost-free download	WIKA-CAL-ZZ-L-Z

WIKA-DCS configuration software

As a supplement to the model CPG1200 and CPG1500 digital pressure gauges, in addition to the WIKA-Cal calibration software, the WIKA-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
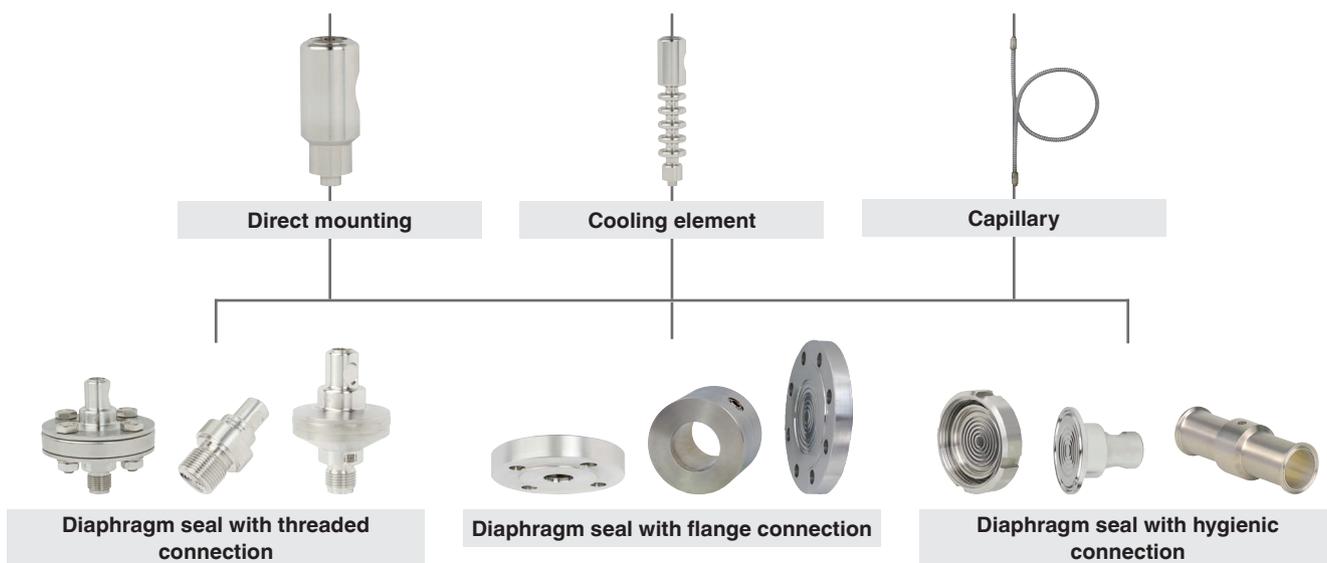- Menu languages: German, English, French and Spanish

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

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.

Direct mounting **Cooling element** **Capillary**

Diaphragm seal with threaded connection **Diaphragm seal with flange connection** **Diaphragm seal with hygienic connection**

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 measuring and test cases are equipped according to your needs.

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 enquiry	DMK1200	DTK1X00
→ For further information, see data sheet	CT 93.04	CT 93.03

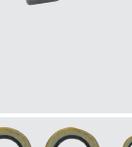| Recommended pressure generation		
Hand test pump	**Pneumatic Model CPP30**	**Hydraulic Model CPP700-H / CPP1000-H**
Pressure range	-0.95 ... +35 bar [-28 inHg ... +500 psi]	■ 0 ... 700 bar [0 ... 10,000 psi] ■ 0 ... 1,000 bar [0 ... 14,500 psi]
→ For further information, see data sheet	CT 91.06	CT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

Test case incl. pneumatic hand test pump

Test case incl. hydraulic hand test pump

Accessories

Description [1]		Order number
	Alkaline batteries - Ex-approved 3 x 1.5 V AA	14683110
	Micro-USB type B to USB cable Length: 1.8 m [5.91 ft] ⚠ **May not be used in hazardous areas!**	48844606
	Bluetooth® USB stick ⚠ **May not be used in hazardous areas!**	48844607
	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!**	14683112
	Protective case cap - Ex-approved For CPG1200 case	14577641
	Plastic case For 1 x CPG1200 for storage and transport ⚠ **The plastic case is not permitted to be used in hazardous areas!**	14636757
	Plastic case For 3 x CPG1200 for storage and transport ⚠ **The plastic case is not permitted to be used in hazardous areas!**	14646719
	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!**	14683116
	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!**	14676937
	Sealing set Consisting of: ■ 4 x G ½ USIT seals ■ 2 x G ¼ USIT seals ■ Plastic box	14641775

Description [1]		Order number
	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 ⅛ 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	14340203
	Series 1215 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 ⅛ 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	14340204

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

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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