

Digital pressure gauge Model CPG1200

WIKA data sheet CT 10.20



For further approvals,
see page 5



Applications

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

Special features

- Checking and setting operating pressures is easier than ever
- Simple data transmission via USB or Bluetooth®
- For mobile use and stationary continuous operation

Configurator



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 from -1 ... 1,000 bar [-14.5 ... 15,000 psi] (gauge pressure) are covered with an accuracy of up to 0.25 % FS ¹⁾.

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 or 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 replacement is necessary. Thanks to power supply via USB interface, the CPG1200 is also a reliable solution for stationary continuous operation.

¹⁾ FS = Full span = End of measuring range - Start of measuring range

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 ■ Measuring rate ■ Level indication ■ Tare offset ■ Indication damping	
Memory	■ Min./Max. memory ■ Integrated data logger	
Data logger ³⁾	Accuracy	■ 0.5 % FS ²⁾ ■ 0.25 % FS ²⁾
	■ 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 ■ Recording time ⇒ Only in combination with increased accuracy of 0.25 % FS ²⁾ ■ Switch-on delay ⇒ Setting the start time for recording ⇒ Only in combination with increased accuracy of 0.25 % FS ²⁾	
	Data logger must be activated. When ordering, the data logger must also be ordered in advance. For instruments already delivered, the data logger can also be activated subsequently via an unlock code.	
	Battery status display	
Icon display with 4 bars indicates the battery status in 25 % steps.		
Case		
Material	Case	PBT with 30 % glass fibre
	Protective case cap	VMQ (silicone)
Ingress protection	IP65	
Weight ⁴⁾	Incl. batteries	■ Standard: 350 g ■ ATEX: 363 g
	With protective case cap	■ Standard: 440 g ■ ATEX: 453 g

1) Including non-linearity, hysteresis, zero point 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) No real-time clock is used for the data logger in the CPG1200.

4) Weight determined with a G ½ process connection. 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 field for auxiliary information)
Display resolution	4 ½-digit; depending on the selected pressure unit
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

Digital display			
Units (adjustable via menu)	■ bar	■ psi	■ kg/cm ²
	■ mbar	■ MPa	■ 1 x user-defined unit
	Additional units only in conjunction with increased accuracy, 0.25 % FS ¹⁾		
	■ mmH ₂ O	■ mmHg	■ m
	■ mH ₂ O	■ inHg	■ cm
	■ inH ₂ O	■ Pa	■ mm
	■ ftH ₂ O	■ kPa	■ feet
	■ kN/m ²	■ 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]
Humidity	45 ... 75 % relative humidity
Condensation	Non-condensing

Measuring ranges, 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 ranges, 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 ranges, vacuum and compound 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
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Process connection

Standard	Thread sizes	Possible measuring ranges
EN 837	■ G ¼ B	≤ 1,000 bar [≤ 15,000 psi]
	■ G ½ B	
	■ G ⅝ B	≤ 400 bar [≤ 6,000 psi]
ANSI/ASME B1.20.1	■ ¼ NPT	≤ 1,000 bar [≤ 15,000 psi]
-	7/16-20 UNF SAE with O-ring (BOSS)	Max. 25 bar [300 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
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 9

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

Voltage supply and performance data	
Battery	3 x 1.5 V AA 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 operating instructions.

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	
Instrument	-10 ... +50 °C [14 ... 122 °F]
USB power supply unit	-10 ... +40 °C [14 ... 104 °F]
Storage temperature range	-18 ... 55 °C [-0.4 ... +131 °F]
Humidity	< 84 % relative humidity
Condensation	Non-condensing
Permissible media	All liquids and gases of the 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 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 EFTA countries.	
	RoHS directive	
	Radio Law Japan Radio approval	Japan
	Federal Communications Commission (FCC) for US Radio approval	USA
-	Innovation, Science and Economic Development (ISED) for Canada Radio approval	Canada
	Radiocommunications Equipment Rules Radio approval Australia - ABN 49 004 465 936 New Zealand - company no. 400909	Australia and New Zealand
	Agência Nacional de Telecomunicações Radio approval	Brazil

Optional approvals

Logo	Description	Region
	EU declaration of conformity	European Union
	ATEX directive Hazardous areas	
	Ex i Zone 0 gas Zone 1 mounting to zone 0 gas II 1G Ex ia IIC T4 Ga II 1/2G Ex ia IIC T4 Ga/Gb T4 at -10 ... +50 °C	
-	CRN Safety (e.g. electr. safety, overpressure, ...)	Canada

Test report

Test report 1)
3 measuring points

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

Certificates

Description	
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

Safety-related characteristic values (Ex)

Permissible temperature ranges

Parameters	
Ambient temperature range (T_a)	$-10 \leq T_a \leq +50 \text{ °C}$
Max. medium temperature range (T_m)	$-20 \leq T_m \leq +50 \text{ °C}$

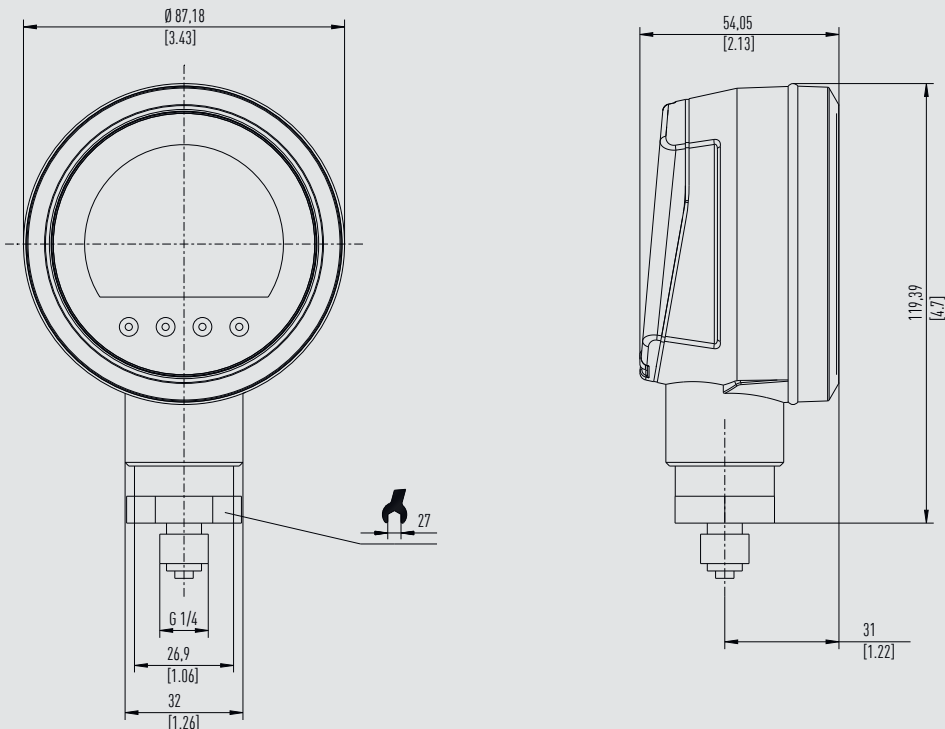
USB interface

Parameters	
Connection values of the USB interface	
Max. voltage U_m	DC 60 V
Max. output voltage U_o	DC 8.25 V
Max. output current I_o	0.94 A
Max. output power P_o	0.87 W
Max. external capacitance C_o	- 1)
Max. external inductance L_o	- 1)
Max. input voltage U_i	DC 60 V
Max. input current I_i	3.33 A
Max. input power P_i	5 W
Effective internal capacitance C_i	0
Effective internal inductance L_i	0

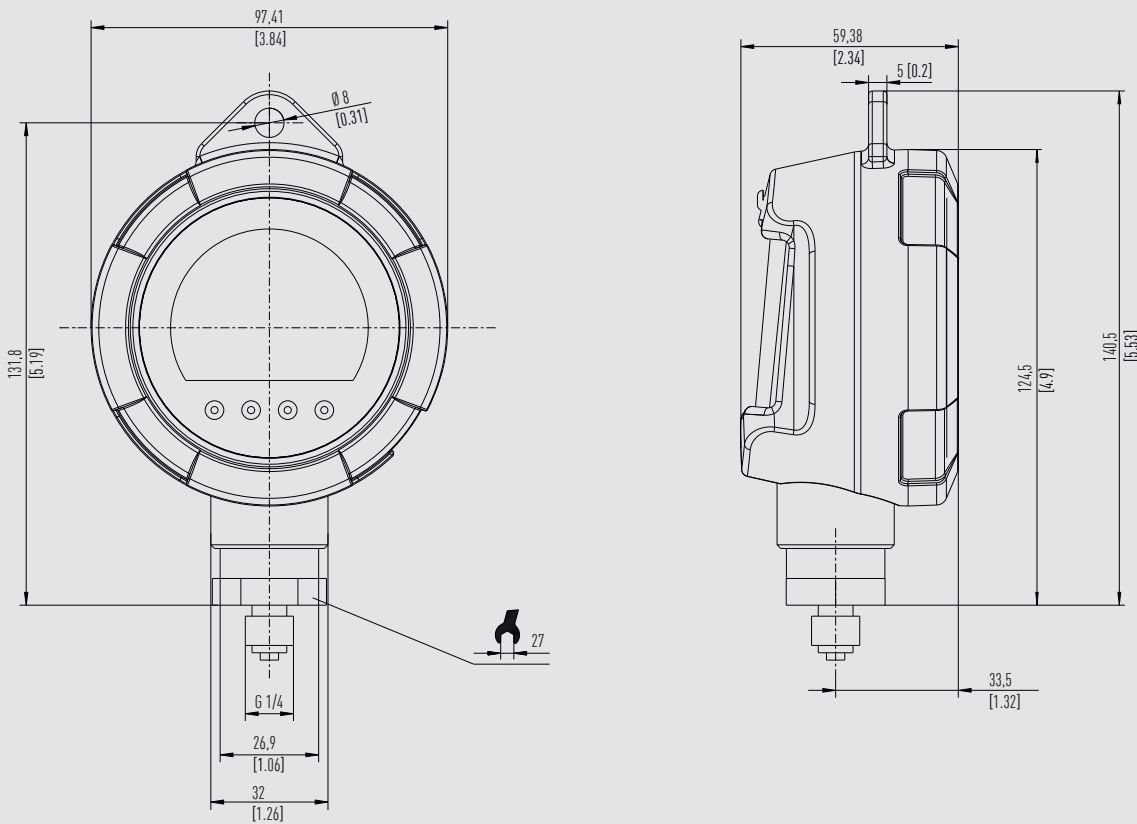
- 1) The combination of $U_i = 60 \text{ V}$ and $I_i = 3.33 \text{ A}$ is not intrinsically safe for any gas group.
For further information, see operating instructions.

Dimensions in mm [in]

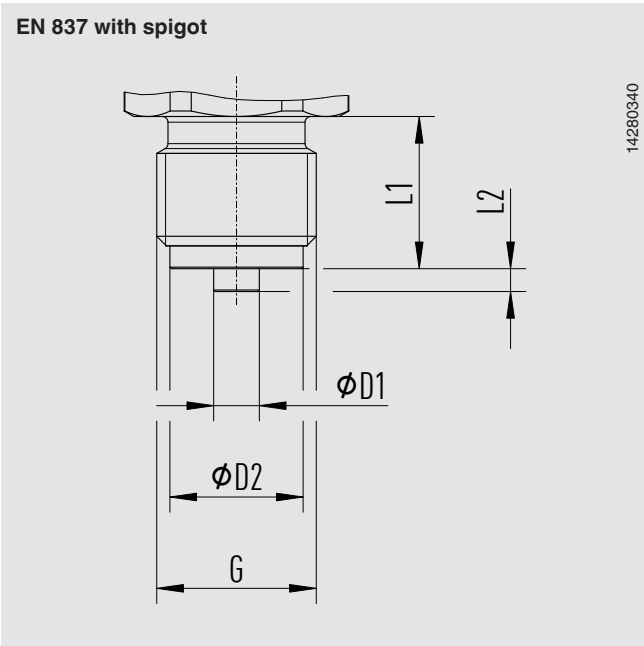
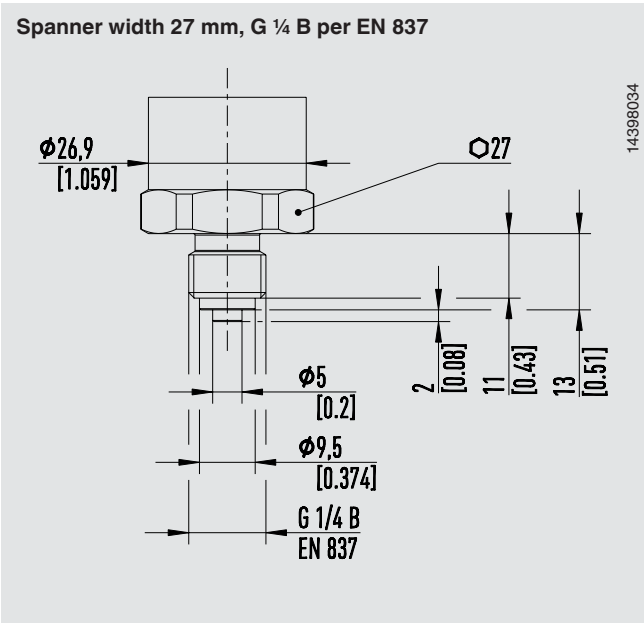
CPG1200 without protective case cap



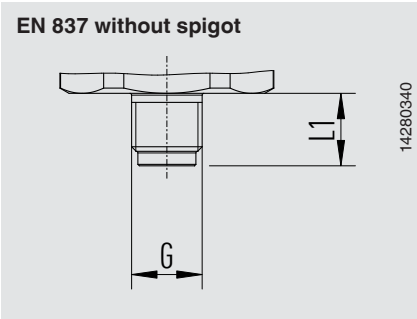
CPG1200 with protective case cap



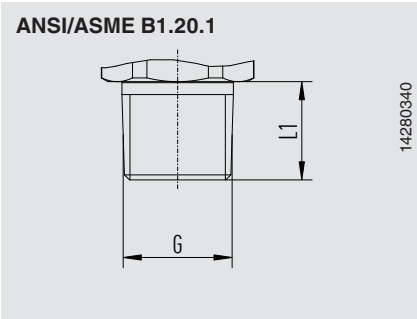
Process connections in mm [in]



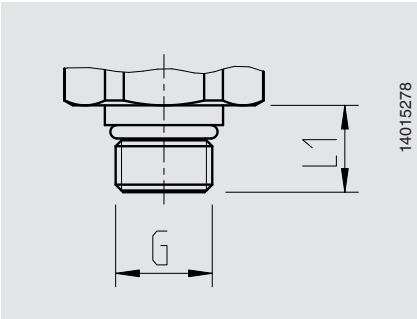
G	L1	L2	D1	D2
G 1/4 B	13 [0.51]	2 [0.08]	5 [0.19]	9.5 [0.374]
G 1/2 B	20 [0.79]	3 [0.12]	6 [0.24]	17.5 [0.689]



G	L1
G 1/8 B	10 [0.39]

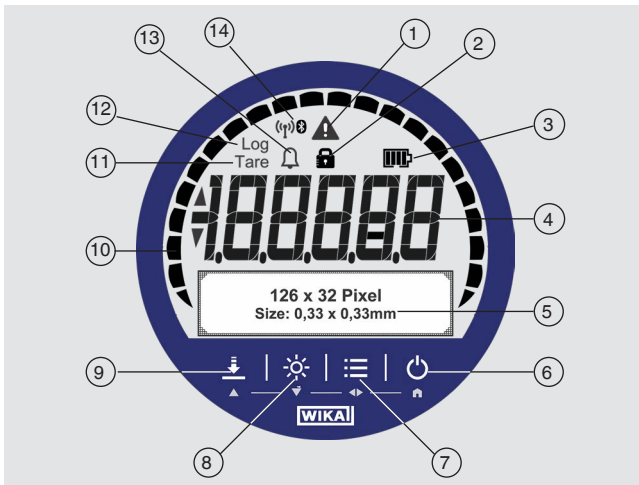


G	L1
1/4 NPT	13 [0.51]



G	L1
7/16-20 UNF-2A	12.06 [0.47]

Front foil



- ① **Warning notice for:**
 - Exceeding or dropping below the pressure range
 - Exceeding or dropping below the temperature range
 - Logger memory over 90 % full
 - Instrument defect 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**
Accessing the menu
- ⑧ **LIGHT button**
Switching 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 limits
- ⑭ **Bluetooth® symbol**
Bluetooth® active/inactive

"myWIKAI device" app

Via the "myWIKAI device" app and the Bluetooth® connection, the CPG1200 can be configured for calibration and logging tasks in a convenient way through a mobile device. During 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 WIKAI website. In addition, the app allows configuration, control and saving of logger processes.

Logs that were stored on the mobile device can be transferred to a PC and be read by WIKAI-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.

To connect to a PC and/or an Android/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 via 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.

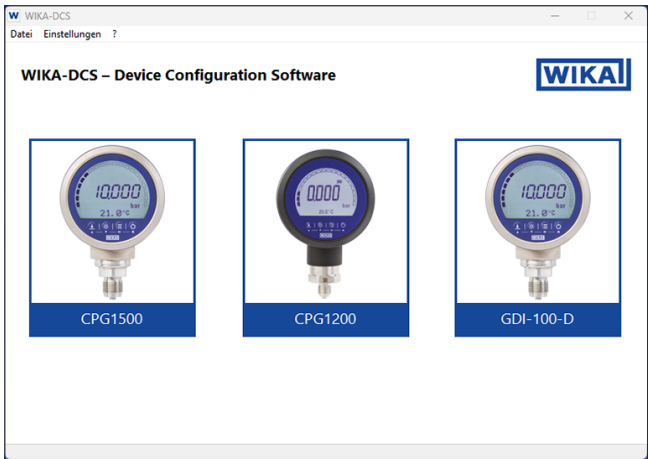
Cal-Template (demo version)	Log-Template (full version)
Fully automatic calibration	■ Live measured value recording for a certain period of time with selectable interval, duration and start time ■ Readout of the integrated data logger of the digital pressure gauge ■ Creation of logger protocols with 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 request 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 models CPG1200, CPG1500 or GDI-100-D 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 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 or GDI-100-D
- Carrying out logger sequences with the CPG1200/CPG1500 or GDI-100-D
- Downloading log files from the CPG1200/CPG1500 or GDI-100-D
- Downloading the logger protocol as a CSV file
- Menu languages: German, English, French and Spanish

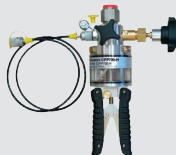


Minimum system requirements	
Processor	Intel® Pentium® 4 or AMD Athlon® 64
Software	■ Microsoft® Windows® XP with Service Pack 3 ■ Windows® 7 with Service Pack 1 ■ Windows® 8 ■ Windows® 10
Storage	1 GB RAM and 1 GB free hard disc space (no installation possible on portable flash storage media)
Display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

Complete measuring and test cases

The available measuring and test cases are individually 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
Seal set	-	x
Recesses for adapter set, optional:		
1620 series	x	-
1215 series	x	-
“BSP” adapter set for test hose; with bar measuring ranges G ¼, male thread to G ⅜, G ⅝ and G ½, female thread	-	x
“NPT” adapter set for test hose; with psi measuring ranges G ¼, male thread to ⅜ NPT, ¼ NPT, ⅝ 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 enquiries	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

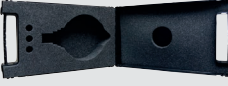


Test case incl. pneumatic hand test pump



Test case incl. hydraulic hand test pump

Accessories

Description ¹⁾	Order number
 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 Ex areas!	48844606
 Bluetooth® USB stick  May not be used in Ex 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 Ex areas!	14683112
 Protective case cap – Ex-approved For CPG1200 case	14577641
 Plastic case For 1 x CPG1200 for storage and transport  This plastic case is not permitted to be used in hazardous areas!	14636757
 Plastic case For 3 x CPG1200 for storage and transport  This 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  This 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  This plastic case is not permitted to be used in hazardous areas!	14676937
 Seal set Consisting of: ■ 4 x G ½ USIT seals ■ 2 x G ¼ USIT seals ■ Plastic box	14641775

Description ¹⁾	Order number
 Adapter set for 1620 series in storage case Consisting of: 1 x G ½ direct connection, female thread; P_{max} 400 bar [5,800 psi] 1 x ¼ NPT direct connection, female thread; P_{max} 630 bar [9,130 psi] 1 x ISO 228-G ¼ test coupling, male thread; P_{max} 630 bar [9,130 psi] 2 x ISO 228-G ⅜ test couplings, male thread; P_{max} 400 bar [5,800 psi] 1 x ¼ NPTF test coupling, 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 DN 2 measuring hose, length 0.5 m [1.6 ft]; P_{max} 630 bar [9,130 psi] → For further specifications, see data sheet AC 87.02	14340203
 Adapter set for 1215 series in storage case Consisting of: 1 x G ½ direct connection, female thread; P_{max} 400 bar [5,800 psi] 1 x ¼ NPT direct connection, female thread; P_{max} 630 bar [9,130 psi] 1 x ISO 228-G ¼ test coupling, male thread; P_{max} 630 bar [9,130 psi] 2 x ISO 228-G ⅜ test couplings, male thread; P_{max} 400 bar [5,800 psi] 1 x ¼ NPTF test coupling, 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 DN 2 measuring hose, 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 batteries
- Operating instructions

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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

Configurator



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