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Data sheet for calibration, test and service equipment



Calibration, test and service equipment

Article No.

136731

Type No.

KTS-40-1

Complete calibration, test and measuring cases with digital pressure gauge Model CPG1200 and hand test pump CPP40

Applications

- Calibration service companies and service industry
- Measurement and control laboratories
- Quality assurance
- Simple calibrations directly on-site
- Hydrostatic pressure test
- Burst tests
- Leakage measurement
- Setting of switch points on pressure switches
- Analysis of process pressures

Special features

- Accuracy: 0.25 % (incl. calibration certificate)
- Robust case with protective rubber cap
- Simple operation using four buttons
- For mobile use and stationary continuous operation
- Optional: Simple data transmission – via USB and Bluetooth®

Description

General information

The battery-operated and very sturdily built digital pressure gauge model CPG1200 has been designed specifically for use in mobile applications. It enables the measurement and display of pressure values in one device. The accuracy of digital measuring technology and the simplicity of an analogue measuring device are combined in this device.

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 optional 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



Digital pressure gauge, model CPG1200



Hand test pump CPP40

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 optional 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.

Certified accuracy

For each digital pressure gauge, the accuracy is certified by a factory calibration certificate which accompanies the instrument. On request, a DAkkS calibration certificate will be provided for this instrument.

Scope of delivery

- plastic case incl. with foam insert
 - Digital pressure gauge model CPG1200, process connection G 1/4, Measuring range -1 to 40 bar (other measuring ranges and process connections on request available) incl. protective rubber cap for case
 - Pneumatic hand test pump CPP40
 - 3.1 calibration certificate per DIN EN 10204
 - Operating instructions
 - 3 x 1.5 V AA alkaline batteries
 - Interface cable: Micro USB-B to USB cable (Length: approx. two metres)
 - Power supply unit 5V with micro-USB type B connector, 1000 mA, black, incl. adapter for US, EU, AU, UK
 - "BSP" adapter set for test item hose; with bar measuring ranges G 1/4, male thread to G 1/8, G 3/8 and G 1/2, female thread
- The calibration, test and measuring cases can alternatively be equipped individually according to your needs.

Option

- DKD/DAkkS-certified accuracy

Specifications

Basic information		
Accuracy ¹⁾	■ 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	<ul style="list-style-type: none"> ■ Min./Max. alarm (visual) ■ Power-off function ■ Measuring rate 	<ul style="list-style-type: none"> ■ Level indication ■ Tare offset ■ Indication damping
Memory	<ul style="list-style-type: none"> ■ Min./Max. memory ■ Integrated data logger (optional) 	
Data logger (optional)	<ul style="list-style-type: none"> ■ 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 6	
Ingress protection	IP65	
Weight ³⁾	Incl. batteries	<ul style="list-style-type: none"> ■ Standard: 350 g ■ ATEX: 363 g
	With protective case cap	<ul style="list-style-type: none"> ■ 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 1/2. With other process connections the weight can be deviate from the values quoted 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	
<ul style="list-style-type: none"> ■ English ■ French ■ Polish ■ German ■ Italian ■ Spanish ■ Russian 	
Units (adjustable via menu)	
<ul style="list-style-type: none"> ■ bar ■ psi ■ kg/cm² ■ mbar ■ MPa ■ 1 x user-defined unit 	
Additional units only in conjunction with increased accuracy, 0.25 % FS ¹⁾	
<ul style="list-style-type: none"> ■ mmH₂O ■ mmHg ■ cm ■ mH₂O ■ inHg ■ mm ■ inH₂O ■ Pa ■ feet ■ ftH₂O ■ kPa ■ inch ■ kN/m² ■ m ■ 1 x user-defined unit 	

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

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 (optional)	
	■ G ¾ B (optional)	≤ 400 bar [≤ 6,000 psi]
ANSI/ASME B1.20.1	■ ¼ NPT (optional)	≤ 1,000 bar [≤ 15,000 psi]

Further details on: Process connection	
Pressure port diameter / restrictor	3.5 mm [0.138 in]
Other versions	<ul style="list-style-type: none"> ■ Oil- and grease-free ¹⁾ ■ For oxygen, oil- and grease-free ²⁾
Material	
Wetted parts ¹⁾	Stainless steel 316L
Internal pressure transmission medium	<ul style="list-style-type: none"> ■ 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 7

Output signal	
Micro-USB 2.0 type B	
Max. input voltage	DC 5 V
Max. input current	100 mA
Max. power	500 mW

Radio standard	
Bluetooth® (optional)	
Version	5.2 Low Energy
Frequency range	2.4 ... 2.5 GHz
Range in free field	5 m [16.4 ft]

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]
Medium temperature range	-20 ... +50 °C [-4 ... +122 °F]
Operating temperature	-10 ... +50 °C [14 ... 122 °F]
Storage temperature range	-20 ... +70 °C [-4 ... +158 °F] -18 ... +55 °C [0 ... 122 °F] for ATEX due to batteries
Relative humidity, condensation	< 84 % r. h. (non-condensing)
Permissible media	All liquids and gases 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	
	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	
UK CA	UKCA	United Kingdom
	Electromagnetic compatibility regulations	
	Pressure equipment (safety) regulations	
	Radio equipment regulations	
	Restriction of hazardous substances (RoHS) regulations	

Optional approvals (expected to be available from Q4/2023)

Logo	Description	Region
	EU declaration of conformity 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	European Union
	IECEX 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	International
	UKCA 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 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 at <https://portal.wika.com/serial/?lang=gb>.

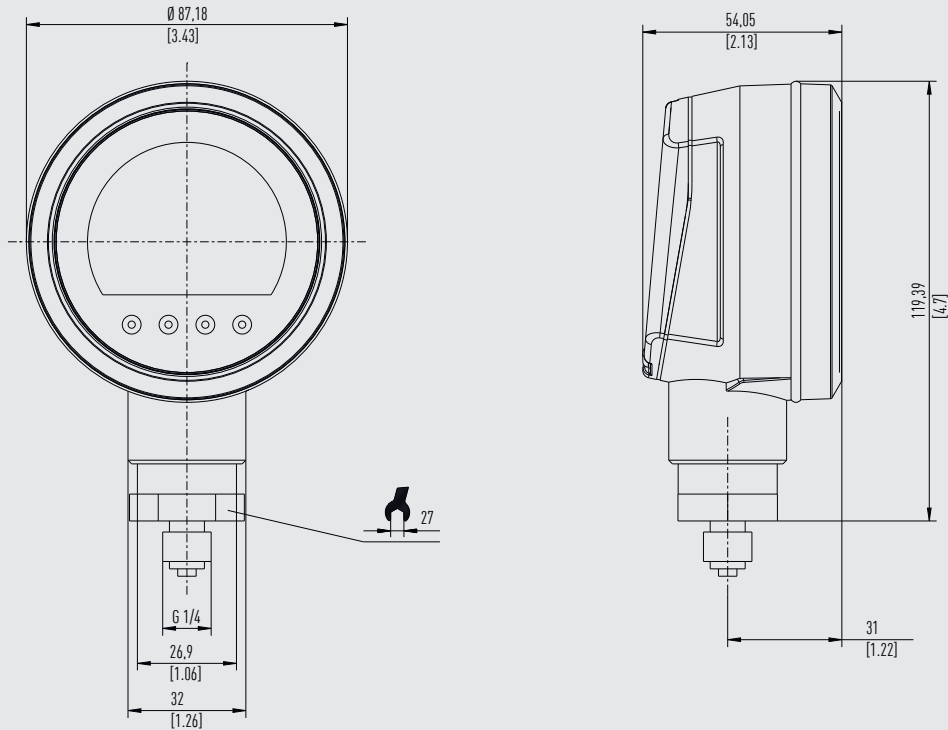
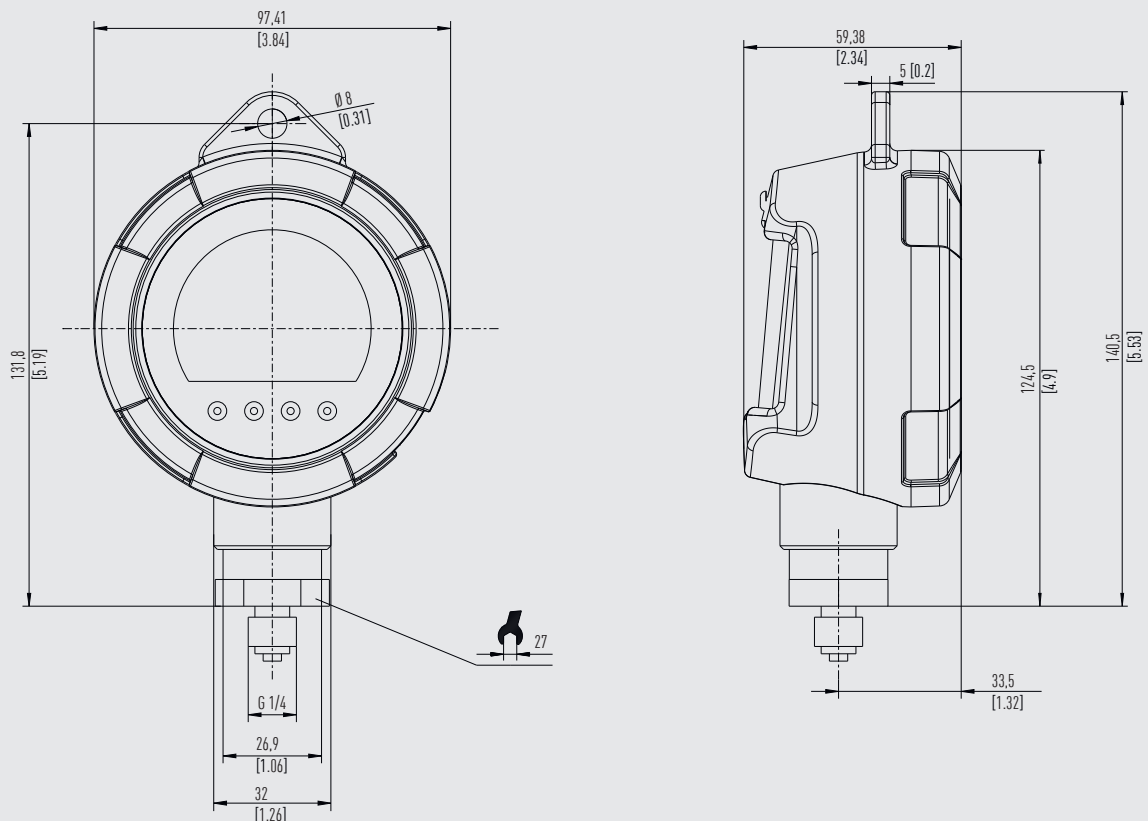
Certificates

Certificates	
Calibration ¹⁾	<ul style="list-style-type: none"> ■ 3.1 inspection certificate per DIN EN 10204 (factory calibration) ■ Optional: DAkkS calibration certificate (traceable and accredited in accordance with ISO/IEC 17025)
Recommended calibration interval	1 year (dependent on conditions of use)

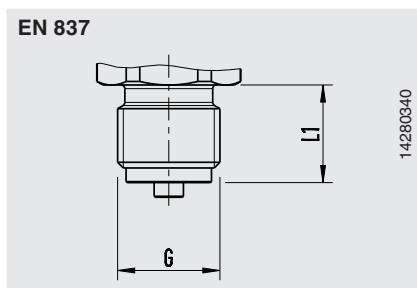
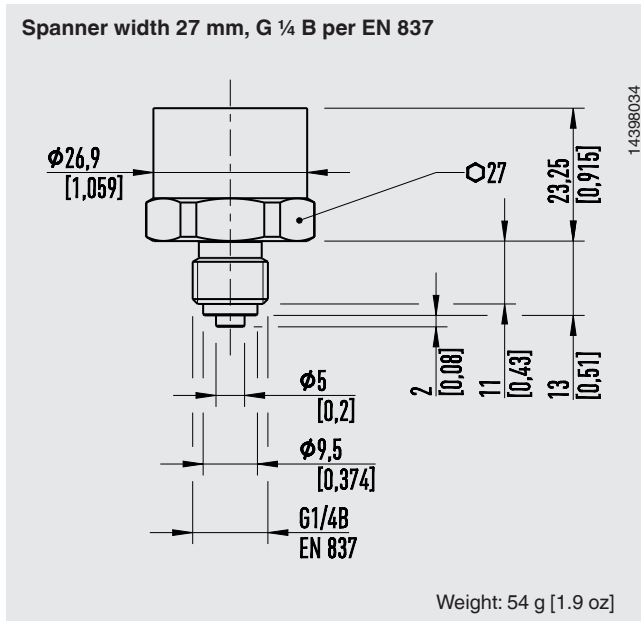
1) Calibrated in vertical mounting position with process connection facing downwards

→ For approvals and certificates, see website or on request

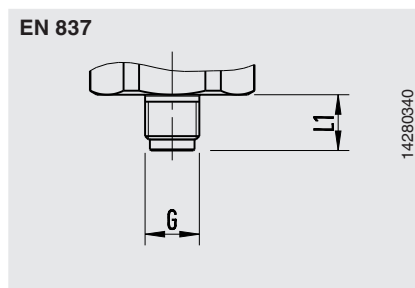
Dimensions in mm [in]

CPG1200 without protective case cap

CPG1200 with protective case cap


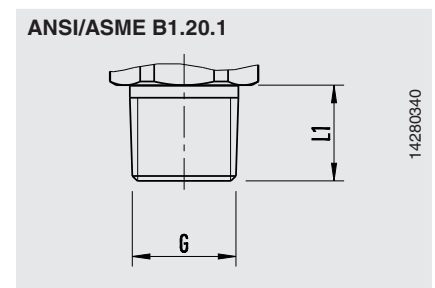
Process connections



G	L1
G ¼ B	13 [0.51]
G ½ B	20 [0.79]

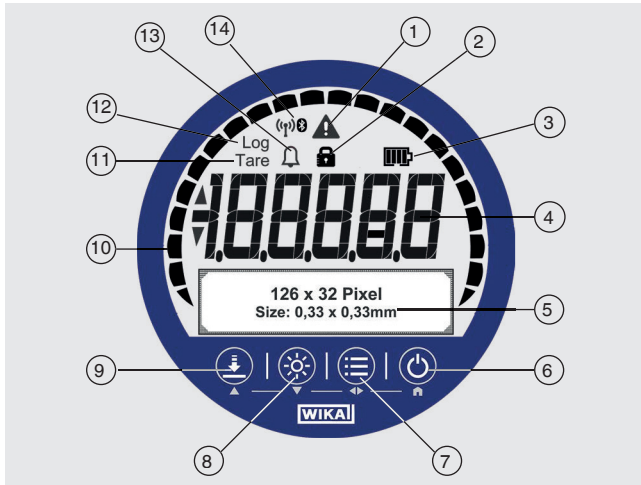


G	L1
G ⅛ B	15 [0.59]



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

Measuring case

Service kit hydraulic „measuring case“ incl. digital pressure gauge type CPG1200 and **hydraulic** hand test pump available on request.



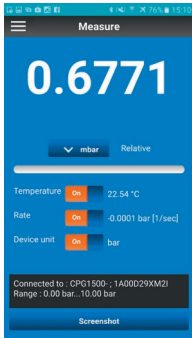
Basic version incl. hydraulic pressure generation

Calibration case with model CPG1200 digital pressure gauge and model CPP700-H or CPP1000-H hand test pumps, for pressures 0 ... 700 bar [0 ... 10,000 psi] or 0 ... 1,000 bar [0 14,500 psi], consisting of:

- Plastic service case with foam insert
- Digital pressure gauge model CPG1200
- Hydraulic hand test pump model CPP700-H or CPP1000-H, 0 ... 700 bar [0 ... 10,000 psi] or 0 ... 1,000 bar [0 14,500 psi]

■ Further available measuring ranges on request

“myWIKA device” app (*Prerequisite: data logger integrated in the unit*)



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

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 phone 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 phones, the app is available in the Apple Store under the link below.



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



WIKA-Cal calibration software *(Prerequisite: data logger integrated in the unit)*

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	<ul style="list-style-type: none"> ■ 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	
<ul style="list-style-type: none"> ■ 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 	
Single licence:	
Is available for a cost-free download	

WIKA-DCS configuration software *(Prerequisite: data logger integrated in the unit)*

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	<ul style="list-style-type: none"> ■ 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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