

## Precision digital pressure gauge

## Model CPG1500



### Applications

Oil and gas industry  
Maintenance and service facilities  
Calibration service companies and service industry  
Simple calibrations directly on site  
Pressure test



### Special features

Measuring ranges up to 0 ... 10,000 bar (0 ... 150,000 psi),  
vacuum and absolute pressure ranges also available  
Accuracy: up to 0.05 % (incl. calibration certificate)  
Intrinsically safe version  
Logger function with up to 50 measured values per second  
Communication with WIKA-Cal software over WIKA-Wireless

Precision digital pressure gauge, model CPG1500



## Description

### General information

The model CPG1500 precision digital pressure gauge takes the concept of an analogue gauge, and raises it to a level only matched by digital calibrators. The accuracy of digital measurement technology and the simplicity of an analogue gauge are combined together to create the CPG1500, which in terms of performance, ease-of-use, and instrument features, is unmatched in the pressure measurement market.

### Accuracy

The CPG1500 offers an accuracy of 0.1 % of span (optional 0.05 % of span) and is temperature-compensated in the range of -10 ... +50 °C (14 ... 122 °F). Readings can be displayed in one of 26 pressure and 5 level units or also in customer-specific units, so that intricate conversions are avoided.

### Sampling rate

The measuring rate can be user-defined to match the type of measurement required. Standard applications usually use three measured values per second. If required, this rate can also be set to 50 measured values per second. Via an energy-saving function, the CPG1500 switches automatically into "sleep" mode, in this mode the battery life can be increased up to 2,500 hours.

### Features

Through the new and innovative menu navigation, simple operation is ensured. The clear display, with integral bar graph display and large text area, assists with the effective analysis of the widest variety of measuring points. With the MIN/MAX function, the highest and lowest pressures can be accessed immediately and saved automatically.

# Precision digital pressure gauge

## Model CPG1500

### Software

WIKA-Cal calibration software is available for the CPG1500. WIKA-Cal also offers, over and above PC-supported calibration, the management of the calibration and instrument data in an SQL database. WIKA-Wireless is available for the data transfer.

### Certified accuracy

For each digital pressure gauge, the accuracy is certified by a factory calibration certificate which accompanies the instrument. On request, we can provide a DKD/DakKS calibration certificate for this instrument.

## Specifications

Sensor technology						
Measuring range						
Gauge pressure	bar	0 ... 0,1 <sup>1)</sup> 0 ... 1,6 0 ... 16 0 ... 160 0 ... 700 <sup>3)</sup> 0 ... 6.000 <sup>4)</sup>	0 ... 0,25 <sup>2)</sup> 0 ... 2,5 0 ... 25 0 ... 200 0 ... 1.000 <sup>3)</sup> 0 ... 7.000 <sup>4)</sup>	0 ... 0,4 <sup>2)</sup> 0 ... 4 0 ... 40 0 ... 250 0 ... 1.600 <sup>4)</sup> 0 ... 8.000 <sup>4)</sup>	0 ... 0,6 <sup>2)</sup> 0 ... 6 0 ... 60 0 ... 400 0 ... 2.500 <sup>4)</sup> 0 ... 10.000 <sup>4)</sup>	0 ... 1 0 ... 10 0 ... 100 0 ... 600 0 ... 4.000 <sup>4)</sup>
	psi	0 ... 1,5 <sup>1)</sup> 0 ... 30 0 ... 160 0 ... 1.000 0 ... 6.000 0 ... 30.000 <sup>4)</sup>	0 ... 5 <sup>2)</sup> 0 ... 50 0 ... 200 0 ... 1.500 0 ... 8.000 0 ... 50.000 <sup>4)</sup>	0 ... 10 <sup>2)</sup> 0 ... 60 0 ... 300 0 ... 2.000 0 ... 10.000 <sup>3)</sup> 0 ... 100.000 <sup>4)</sup>	0 ... 15 0 ... 100 0 ... 500 0 ... 3.000 0 ... 15.000 <sup>3)</sup> 0 ... 150.000 <sup>4)</sup>	0 ... 20 0 ... 150 0 ... 700 0 ... 5.000 0 ... 20.000 <sup>4)</sup>
Absolute pressure	bar	0 ... 0,25 <sup>2)</sup> 0 ... 2,5 0 ... 16	0 ... 0,4 <sup>2)</sup> 0 ... 4 0 ... 20	0 ... 0,6 <sup>2)</sup> 0 ... 6 0 ... 25	0 ... 1 0 ... 7 0 ... 40	0 ... 1,6 0 ... 10
	psi	0 ... 3,5 <sup>2)</sup> ... 60 0 ... 200	0 ... 5 <sup>2)</sup> 0 ... 50 0 ... 300	0 ... 10 <sup>2)</sup> 0 ... 30 0 ... 500	0 ... 15 0 ... 100	0 ... 20 0 ... 150
Vacuum and +/- measuring ranges	bar	-0,25 ... +0,25 <sup>2)</sup> -1 ... 1,5 -1 ... 9 -1 ... 39	-0,4 ... +0,4 <sup>2)</sup> -1 ... 2,5 -1 ... 10 -1 ... 40	-0,6 ... +0,6 -1 ... 3 -1 ... 15	-1 ... 0 -1 ... 5 -1 ... 24	-1 ... +0,6 -1 ... 7 -1 ... 25
	psi	-14,5 ... 0 -14,5 ... 130 -3 ... 0 <sup>2)</sup>	-14,5 ... +15 -14,5 ... 300 -5 ... 0 <sup>2)</sup>	-14,5 ... 40 -3 ... +3 <sup>2)</sup> -8 ... 0 <sup>2)</sup>	-14,5 ... 70 -5 ... +5 <sup>2)</sup>	-14,5 ... 100 -8 ... +8
Overpressure limit						
Sensor	3 times; ≤ 25 bar (≤ 300 psi) 2 times; > 25 ... ≤ 600 bar (> 300 ... ≤ 5,000 psi) 1.7 times; > 600 bar (> 5,000 psi)					
Display	> 110 % FS or -10 % FS					
Accuracy <sup>5)</sup>	0,1 % FS 0,05 % FS (optional) <sup>6)</sup>					

1) Expanded accuracy of 0.2 % FS

2) Expanded accuracy of 0.15 % FS

3) Not possible as flush version

4) Expanded accuracy of 0.5 % FS, at reference conditions 23 °C ±3 °C

5) It is defined by the total measurement uncertainty, which is expressed with the coverage factor (k = 2) and includes the following factors: the intrinsic performance of the instrument, the measurement uncertainty of the reference instrument, long-term stability, influence of ambient conditions, drift and temperature effects over the compensated range during a periodic zero point adjustment.

6) At a measuring rate of ≤ 3 measured values per second

# Precision digital pressure gauge

## Model CPG1500

Compensated temperature range	-10 ... +50 °C (14 ... 122 °F)
Type of pressure	Gauge pressure, absolute pressure (up to 20 bar abs. (290 psi abs.)) and vacuum measuring ranges
Process connection	
Standard ≤ 1,000 bar (≤ 15,000 psi)	G ½ B, G ¼ B, ½ NPT, ¼ NPT, G 1 B flush, G ½ B flush
High-pressure version > 1,000 bar (> 15,000 psi)	M16 x 1.5 female with sealing cone M20 x 1.5 female with sealing cone 9/16 - 18 UNF female F 250-C
Pressure medium	All liquids and gases which are compatible with 316 stainless steel

### Base instrument

Display	
Display	5 ½ digit 7-segment display including a large matrix area for auxiliary information Bar graph, 0 ... 100 % Selectable backlighting
Rotatable case	The case is rotatable by 330°.
Resolution	4 ... 5 ½ digit; adjustable; dependent on the selected pressure unit
Pressure units	Standard: psi, bar Selectable to: mbar, kg/cm², Pa, hPa, kPa, Mpa, mmH2O, mH2O, inH2O, inH2O (4 °C), inH2O (20 °C), inH2O (60 °F), ftH2O, mmHg, cmHg, inHg, inHg (0 °C), inHg (60 °F), kp/cm2, lbf/ft2, kN/m2, atm, Torr, micron as well as user-defined units <sup>7)</sup>
Functions	
Measuring rate	max. 50/s
Menu languages	Standard: English Selectable: German, Italian, French, Spanish, Russian and Polish
Memory	Standard: Min./Max. Optional: integrated data logger
Menu functions	Min./Max. alarm (visual), power-off function, measuring rate, mean value filter, pressure rate, mean value (via adjustable interval), level indicator, Tare offset, display damping
Mean value interval	1 ... 300 seconds, adjustable
Data logger <sup>8)</sup>	Cyclic logger: Automatic recording of up to 1,000,000 values; Cycle time: selectable from 1 ... 3,600 s. in steps of 1 second or by measuring rate in the following steps: 1/s, 3/s, 10/s and 50/s
Material	
Wetted parts	≤ 1.000 bar: Stainless steel 316 > 1.000 bar: Stainless steel 1.4534
Case	Aluminium die-casting, nickel-plated
Voltage supply	
Power supply	3 x 1.5 V AA alkaline batteries <sup>9)</sup>
Maximum voltage	DC 4.95 V (spark ignition)
Battery life	typical 2,000 ... 2,500 h (without backlighting and WIKA-Wireless not active)
Battery status indication	Symbol display, with 4 bars displaying the battery status in segments of 25 %

# Precision digital pressure gauge

## Model CPG1500

### Permissible ambient conditions

Operating temperature	-10 ... +50 °C (14 ... 122 °F)
Medium temperature	-10 ... +50 °C (14 ... 122 °F) (lower temperature limit above the freezing point of the medium)
Storage temperature	-20 ... +70 °C (-4 ... +158 °F)
Relative humidity	< 95 % r. h. (non-condensing)

7) The user-defined units can only be set via the WIKA-Cal software. The CPG1500 must feature WIKA-Wireless.

8) To use the logger function, WIKA-Cal software is needed.

The logger data can be downloaded with the WIKA-Cal demo version as a CSV file. The live logger, an accurate data analysis or a direct certificate creation can be used with the logger template WIKA-Cal.

9) For hazardous areas, only the following types are allowed:

Duracell, Simply by Duracell MN1500  
Duracell, Duralock Plus Power MN1500  
Varta, RAYOVAC Maximum Plus 4006

### Base instrument

#### Communication (optional)

Interface	WIKA-Wireless <sup>10)</sup>
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#### Case




Dimensions	approx. 100 x 150 x 59 mm (3.9 x 5.9 x 2.3 in)
Ingress protection	IP65
Weight	Standard: incl. batteries approx. 680 g ( 1.5 lbs) with protective rubber cap: approx. 820 g (1.81 lbs)

### WIKA-Wireless <sup>10)</sup>

Frequency range	2.400 ... 2.500 MHz
HF output power	max. 2 dBm (+ 2 dBi)
Number of channels	40
Channel spacing	1 oder 2 MHz
Bandwidth	1 oder 2 MHz
Output power	4 dBm / 10 mW Maximum output power under fault conditions for Ex ia: 490 mW







10) Requires a PC with Bluetooth® 2.1 interface

### Approvals

Logo	Description	Country
	EU declaration of conformity	European Union
	EMC directive	
	Pressure equipment directive	
	R&TTE directive EN 300 328 harmonised frequency range 2,400 ... 2,500 MHz is used; Bluetooth® Classic, max. transmission power 10 mW. The instrument may be used without limitations in the EU and also CH, NO and LI. RoHS directive	
	ATEX directive Ex i Zone 0 gas II 1G Ex ia IIC T4 Ga Zone 1 connection to zone 0 gas II 1/2G Ex ia IIC T4 Ga/Gb Zone 1 gas II 2G Ex ia IIC T4 Gb T4 at -10 ... +50 °C	

# Precision digital pressure gauge

## Model CPG1500

	<p>IECEX Hazardous areas Ex i Zone 0 gas Ex ia IIC T4 Ga Zone 1 connection to zone 0 gas Ex ia IIC T4 Ga/Gb Zone 1 gas Ex ia IIC T4 Gb Zone 2 gas Ex ia IIC T4 Gc T4 at -10 ... +50 °C</p>	<p>International</p>
	<p>CSA Safety (e.g. electr. safety, overpressure, ...)  Class - 3631 06 - Electrical measurement and test equipment  Class - 3631 86 - Electrical equipment for measurement use Certified to US Standards</p>	<p>USA and Canada</p>
	<p>EAC EMC directive  Hazardous areas Ex i Zone 0 gas Ex ia IIC T4 Ga Zone 1 connection to zone 0 gas Ex ia IIC T4 Ga/Gb Zone 1 gas Ex ia IIC T4 Gb T4 at -10 ... +50 °C</p>	<p>Eurasian Economic Community</p>
	<p>GOST Metrology, measurement technology</p>	<p>Russia</p>
	<p>DNOP (MakNII)  Mining  Hazardous areas</p>	<p>Ukraine</p>
	<p>KazInMetr Metrology, measurement technology</p>	<p>Kazakhstan</p>
<p>-</p>	<p>PESO Hazardous areas Ex i Zone 1 connection to zone 0 gas Ex ia IIC T4 Ga/Gb</p>	<p>India</p>

Precision digital pressure gauge

Model CPG1500

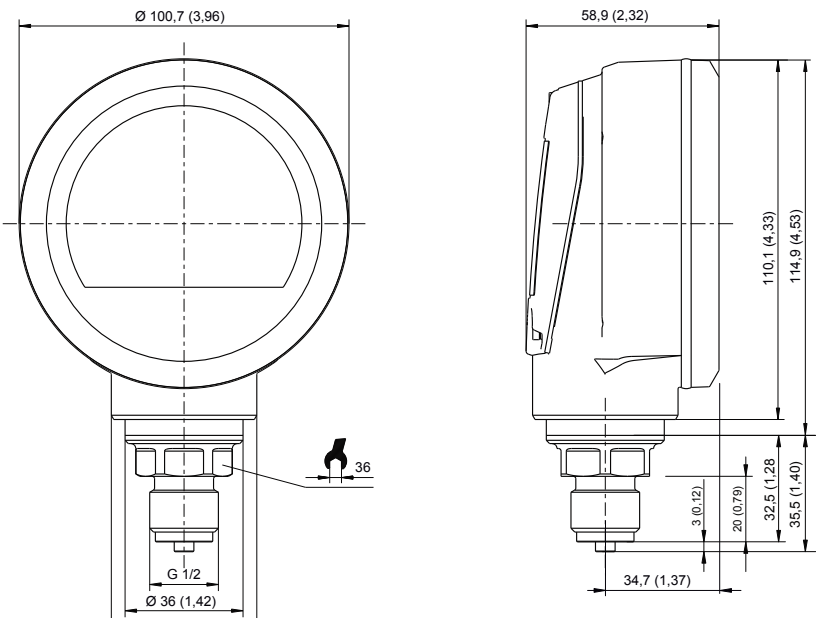
Certificates	
Calibration <sup>1)</sup>	Standard: 3.1 calibration certificate per EN 10204 Option: DKD/DAkkS calibration certificate
Recommended recalibration interval	1 year (dependent on conditions of use)

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

Approvals and certificates, see website

Dimensions in mm (in)

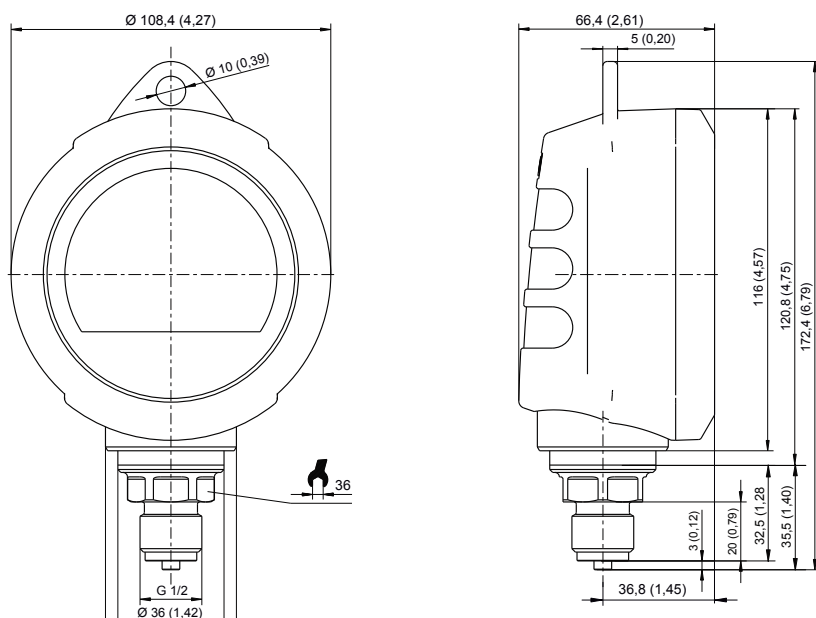
CPG1500 without protective rubber cap



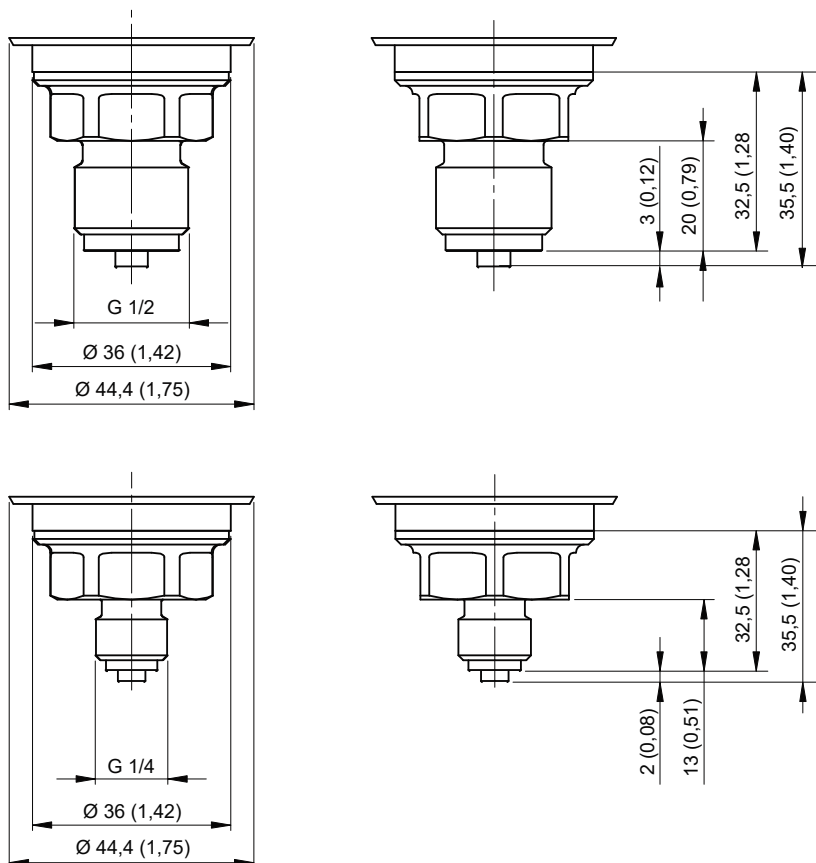
# Precision digital pressure gauge

**Model CPG1500**

## CPG1500 with protective rubber cap



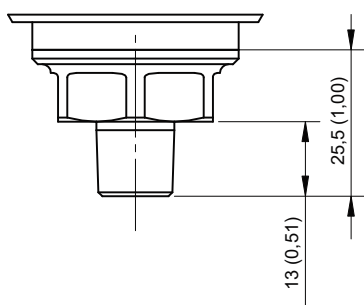
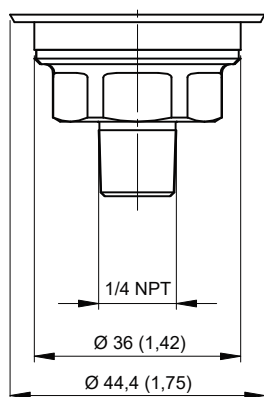
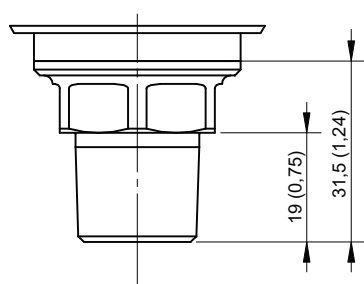
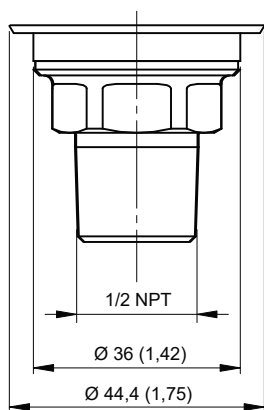
## Threaded connections G 1/2 and G 1/4



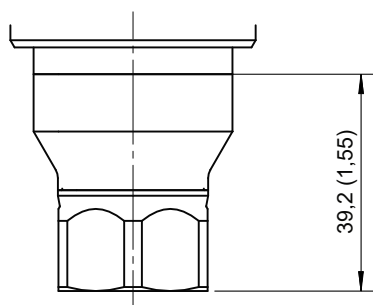
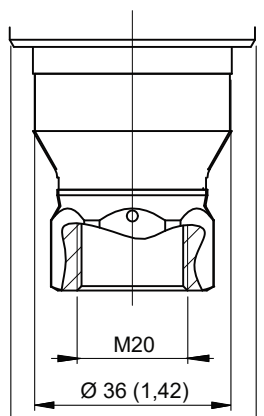
# Precision digital pressure gauge

**Model CPG1500**

## Threaded connections 1/2 NPT and 1/4 NPT



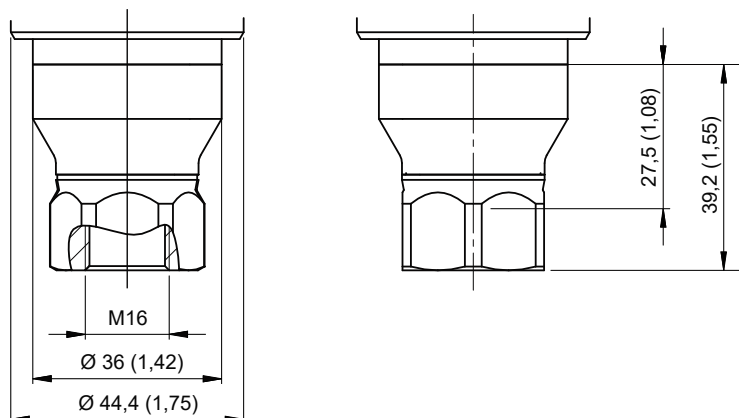
## Threaded connections M16 and M20



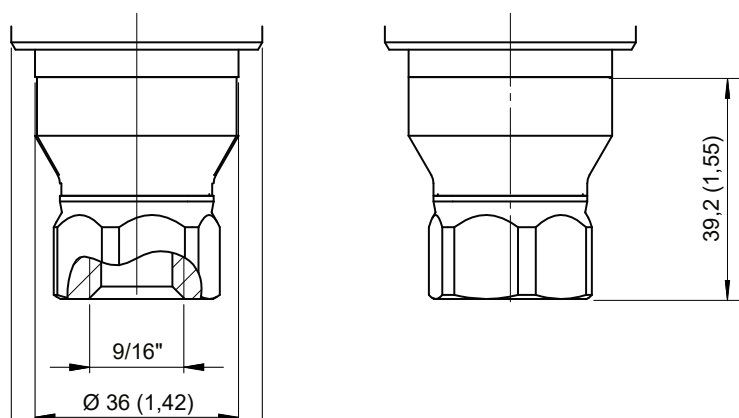


## Precision digital pressure gauge

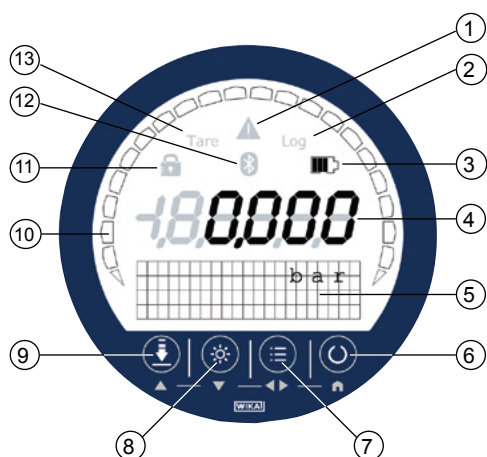
**Model CPG1500**



**Threaded connection 9/16 - 18 UNF**



### Front foil



- ① Warning notice when:  
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 Log: Logger function active/inactive  
③ Battery status  
④ Pressure indication  
⑤ Matrix field serves as menu and secondary display  
⑥ On/Off button  
⑦ MENU button  
Access the menu  
⑧ LIGHT button  
Turning the backlighting on and off  
⑨ ZERO button  
The current pressure value will be set to „0“ (rel.) or reference pressure (abs.)  
⑩ Bar graph indicates the current pressure graphically  
⑪ Lock symbol: Menu button or ZERO button locked/unlocked  
⑫ Wika-Wireless: Wika-Wireless active/inactive  
⑬ Tara: TARE active/inactive

## Precision digital pressure gauge

**Model CPG1500**

### App “myWIKa device” device”



Via the app “myWIKa device” and the WIKa-Wireless connection, the CPG1500 can be configured for calibration and log routines in a comfortable way through a mobile phone. During the pressure measurement, the value is displayed in the required unit directly on the phone. Moreover, further parameters like temperature and pressure change rate can be checked. It is also possible to retrieve more detailed device 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. With that they can be further processed and the app fills the gap to provide a thorough solution of dealing with data on the CPG1500.



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



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



### WIKa-Cal calibration software

#### Easy and fast creation of a high-quality calibration certificate

The WIKa-Cal calibration software is used for generating calibration certificates or logger protocols for pressure measuring instruments and is available as a demo version for a cost-free download. A template helps the user and guides him through the creation process of a document. In order to switch from the demo version to a full version of the respective template, a USB stick with the template has to be purchased. The pre-installed demo version automatically changes to the selected full version when the USB stick is inserted and is available as long as the USB stick is connected to the computer.

Creation of calibration certificates for mechanical and electronic pressure measuring instruments  
A calibration assistant guides you through the calibration  
Automatic generation of the calibration steps  
Generation of 3.1 certificates per DIN EN 10204  
Creation of logger protocols  
User-friendly interface  
Languages: German, English, Italian and more due with software updates  
For further information see data sheet CT 95.10



## Precision digital pressure gauge

## Model CPG1500

Calibration certificates can be created with the Cal-Template and logger protocols can be created with the Log-Template.



### Cal Demo

Generation of calibration certificates limited to 2 measuring points, with automatic initiation of pressures via a pressure controller.



### Cal Light

Generation of calibration certificates with no limitations on measuring points, without automatic initiation of pressures via a pressure controller.



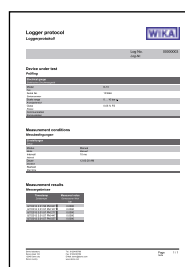
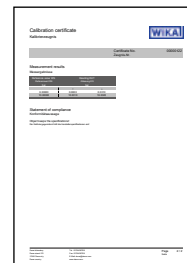
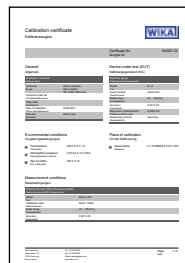
### Log Demo

Creation of data logger test reports, limited to 5 measured values.



### Log

Creation of data logger test reports without limiting the measured values.



## Complete test and service cases



Basic version incl. pneumatic pressure generation

**Calibration case with model CPG1500 precision digital pressure gauge and model CPP30 hand test pump, for pressures -0.95 ... +35 bar (-28 inHg ... +500 psi), consisting of:**

Plastic service case with foam insert  
Precision digital pressure gauge model CPG1500  
Pneumatic hand test pump model CPP30; -0.95 ... +35 bar (-28 inHg ... +500 psi)

Available measuring ranges see specifications

For further specifications see data sheet CT 91.06



Basic version incl. hydraulic pressure generation

**Calibration case with model CPG1500 precision digital pressure gauge and model CPP700-H hand test pump, for pressures 0 ... 700 bar (0 ... 10.000 psi), consisting of:**

Plastic service case with foam insert  
Precision digital pressure gauge model CPG1500  
Model CPP700-H hydraulic hand test pump; 0 ... 700 bar (0 ... 10.000 psi)

Available measuring ranges see specifications

Further specifications see data sheet CT 91.07

## Precision digital pressure gauge

**Model CPG1500**

### Recommended pressure generation

#### Model CPP30 pneumatic hand test pump

**Pressure range:** -0.95 ... +35 bar (-28 inHg ... +500 psi)

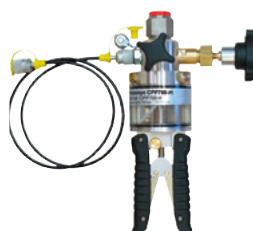
Further specifications see data sheet CT 91.06



#### Hydraulic hand test pump model CPP700-H

**Pressure range:** 0 ... 700 bar (0 ... 10.000 psi)

Further specifications see data sheet CT 91.07



## Precision digital pressure gauge

## Model CPG1500

### Scope of delivery

- Precision digital pressure gauge model CPG1500
- Operating instructions
- 3.1 calibration certificate per DIN EN 10204
- 3 x 1.5 V AA alkaline batteries

### Options

- DKD/DAkkS calibration certificate
- Protective rubber cap for case

### Accessories

#### Connection adapters

- Various process connection adapters

### Pressure generation

- Pneumatic test pumps
- Hydraulic test pumps

### Test case

- Various calibration cases incl. pressure generation

### Software

- WKA-Cal calibration software

### Installation

- Mounting flange



Precision digital pressure gauge with protective rubber cap, model CPG1500

### Ordering information

Model / Version / Explosion protection / Instrument variant / Unit / Type of pressure / Measuring range / Process connection / Wetted parts / Specialities due to medium / Accuracy / Type of certificate / Communication / Data logger / Case protection cover / Carrying case / Certificates / Additional ordering information