

Calibration system for SF₆ gas density measuring instruments Model BCS10

WIKA data sheet SP 60.08

Applications

- Testing the SF₆ gas density measuring instruments by means of comparative measurements
- Simple measurement on-site, in the laboratory or in the workshop

Special features

- Pressure generation through hand pump
- Precision digital pressure gauge with an accuracy of 0.05 %
- Variable connection concept of the test items
- Precise pressure setting by means of the fine-adjustment valve
- Low weight and compact design



Calibration system model BCS10

Description

Simple operation

The robust modular calibration system model BCS10 serves for the inspection of the SF₆ gas density measuring instruments by means of comparative measurements. This calibration system is used to check quickly and easily both pressure-based mechanical measuring instruments and electronic measuring instruments. The CPGLog data-logger evaluation software can be used for an uncomplicated evaluation of the measured data. This software can be ordered optionally.

Precise and flexible calibration

This calibration system consists of the test pump model CPP30 and the directly mounted precision digital pressure gauge model CPG1000. This combination makes

it possible to set the measuring point precisely and to display the measured values in 21 possible standard units. Customer-specific pressure units can be also used with this system.

Practical and robust storage

The calibration system model BCS10 is delivered in a robust service case made of plastic. A foam insert provides additional protection and arranges the contents clearly.

Functionality

The test item is connected to the calibration system by means of a metal flex hose and a suitable adapter, which are included in delivery.

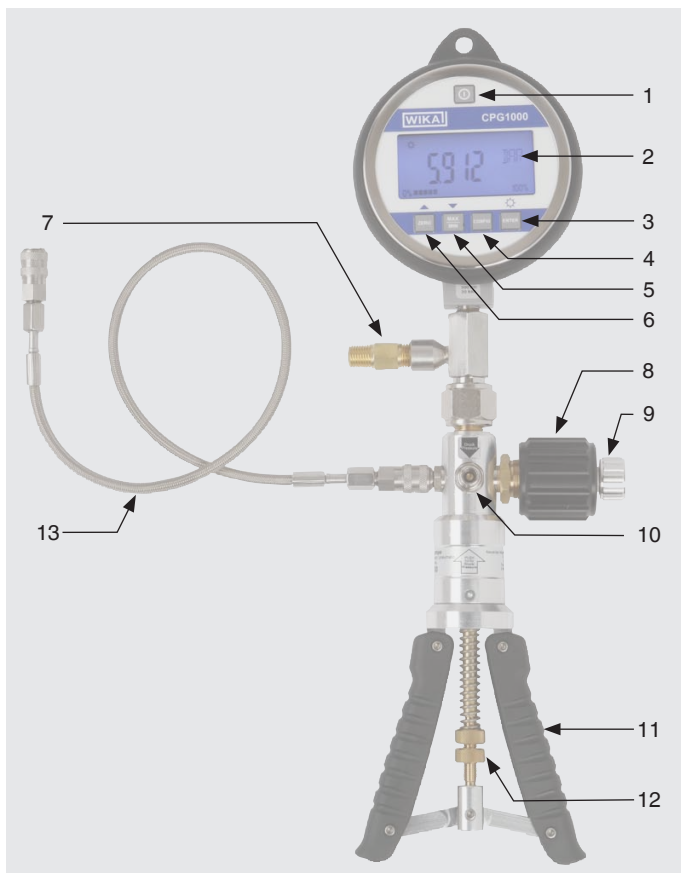
The system is put under pressure when the pump is operated, the fine-adjustment valve makes it possible to move exactly to the measuring points. The same pressure is applied to both the test item and the reference instrument (precision digital pressure gauge model CPG1000).

A comparison of the displayed values of the test item and the reference instrument allows you to check or assess the suitability for use of the gas density measuring instruments on site.

An adjustable overpressure valve releases the pressure when a set pressure value (e.g. 8 bar) is achieved and prevents thus the overload of the test item. Optionally, the valve can be set by the factory to a certain pressure value.

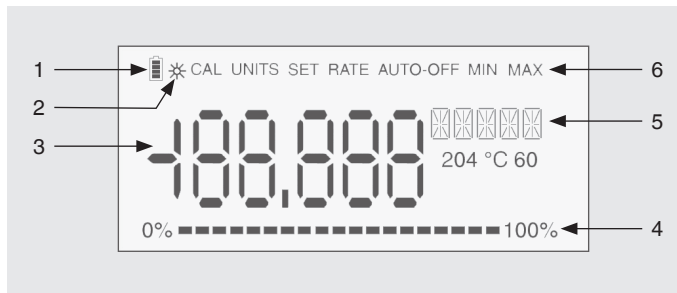


Precision digital pressure gauge model CPG1000 with mounted test pump



- 1) Turn the instrument off/on
- 2) Digital indicator
- 3) Confirming the device configuration
Turning the backlighting on and off
- 4) Open the configuration menu
Scroll through the configuration menu
- 5) Indication of MIN/MAX value
Scroll back in the individual menu items
- 6) Performing a zero-point adjustment
Scroll forward in the individual menu items
- 7) Adjustable overpressure valve
- 8) Fine-adjustment valve
- 9) Pressure relief valve
- 10) Switchable pressure/vacuum generation
- 11) Pump handles
- 12) Adjustable knurled nut for setting the pump performance (overpressure protection)
- 13) Metal flex hose for connecting the test item, with quick coupling on both sides, length 2 m

Description of the digital indicator



- 1) Battery status
- 2) Active backlighting
- 3) Indication of the pressure value
- 4) Bargraph display
- 5) Unit
- 6) Menu items

Specifications calibration system model BCS10

Measuring range

- Measuring range: 0 ... 20 bar relative
- Overpressure limit: 42 bar
- Burst pressure: 140 bar

Accuracy data

- Accuracy: 0.05 % FS
- Compensated temperature range: 0 ... 50 °C
- Temperature error: 0.005 % of the span/K (outside of the compensated temperature range)

Digital indicator

- Type of indication: 7-Segment LCD
- Digits: 5 1/2-digit
- Resolution: 0.001
- Character size: 16.53 mm (0.65")
- Bargraph display: 20 segment bargraph, 0 ... 100 %
- Possible pressure units: bar, psi, kg/cm², kPa, MPa and 15 other units

Operating conditions

- Ingress protection: IP 65
- Ambient temperature: -10 ... +55 °C
- Medium temperature: 0 ... +50 °C
- Storage temperature: -20 ... +70 °C
- Relative humidity: < 95 % r.H. (non-condensing)

Communication

- Digital interface: USB, RS-232

Voltage supply

- Power supply: 3 x 1.5 V AA alkaline batteries
- Battery life: approx. 1,500 ... 2,000 h
- Battery status indication: Icon in display for low battery level

Functions

- Overpressure protection: Adjustable overpressure valve
- Pressure fine-adjustment: by means of the fine-adjustment valve
- Measuring rate: 30/min to 10/s selectable
- Memory: MIN/MAX values
Integrated data logger
- Data logger: Cyclic data logger: automatic recording of up to 8,500 values
Cycle time: selectable from 1 ... 3,600 sec. in the following steps:
1 s, 2 s, 5 s, 10 s, 30 s, 1 min, 2 min, 5 min, 10 min, 30 min and 1 h

CPGLog data-logger evaluation software is needed to use the data logger function.

Process connection

- Test adapter with quick coupling for G 1/2
- Test adapter with quick coupling for G 3/4
- Test adapter with quick coupling for M 30 x 2

Plastic case

- Dimensions in mm: 395 x 295 x 106
- Weight: approx. 4 kg (with contents)

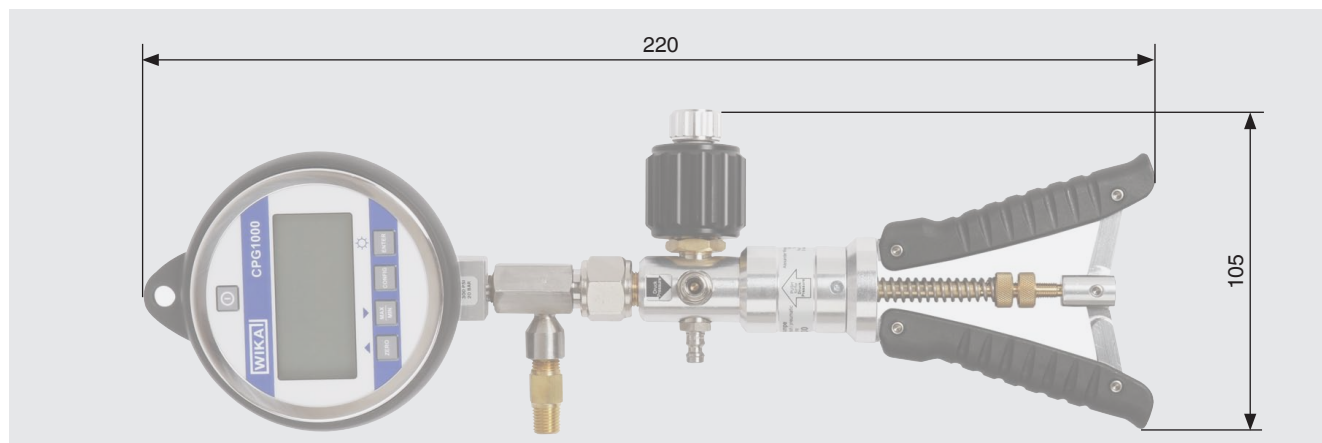
CE conformity

- EMC directive: 2004/108/EC, EN 61 326-1 emission (group 1, class B) and interference immunity (appendix A)

Scope of delivery

- Precision digital pressure gauge model CPG1000 with mounted pneumatic test pump model CPP30
- Test adapter with quick coupling for G 1/2
- Test adapter with quick coupling for G 3/4
- Test adapter with quick coupling for M 30 x 2
- Adjustable overpressure valve
- Metal flex hose for connecting the test item, length 2 m
- Plastic case, incl. foam insert and operating instructions

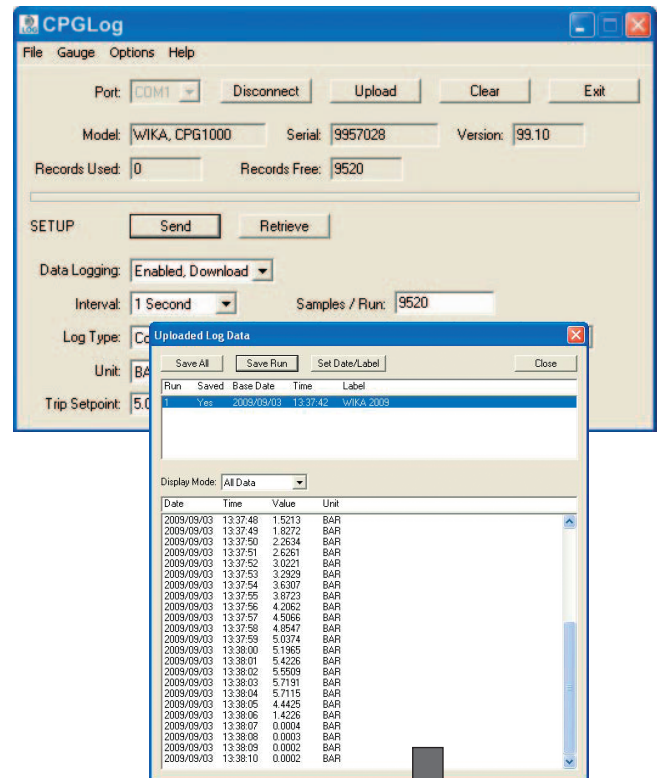
Dimensions in mm



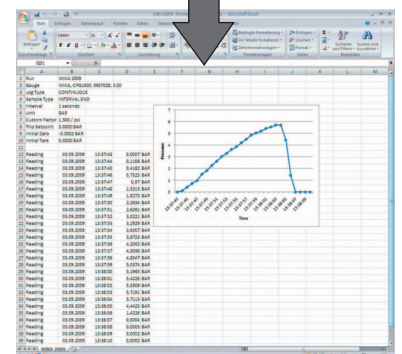
CPGLog data-logger evaluation software (option)

Using the CPGLog data-logger evaluation software, the logger data recorded in the CPG1000 can be transferred via an interface cable to a PC and there stored in an EXCEL® file for further documentation and evaluation.

- Various logger intervals, from one second up to one hour, can be chosen
- Data logging can range from only a few seconds up to several weeks
- Recording of the pressure value and the sensor temperature simultaneously -> ideally suited to leak testing
- Four different data collection modes are possible, all data recorded or only the required points
 - Continuous (records all data within a pre-defined interval)
 - High (records only those points which lie above a previously-defined point)
 - Low (records only those points which lie below a previously-defined point)
 - Delta (records only those points which, during an interval, lie outside a predefined range)
- A maximum of 8,500 points can be recorded
- Various data points can be recorded:
 - Value at end of an interval
 - Average value
 - Minimum value
 - Maximum value
 - Median value
 - Average/minimum/maximum value



Data export



The GSoft data-logger evaluation software consists of:

- CPGLog data-logger evaluation software on a CD
- USB interface cable
- Instruction manual CPGLog in German/English

Accessories and spare parts

Figure	Designation	Order number
	Plastic case, incl. foam insert with suitable free spaces for model BCS10 Dimensions in mm: (W/H/D) 395 x 295 x 106	on request
	Test adapter with quick coupling for G 1/2	14037984
	Test adapter with quick coupling for G 3/4	14037987
	Test adapter with quick coupling for M30 x 2	14037946
	Metal flex hose for connecting the test item, length 2 m	14037413
	The CPGLog data-logger evaluation software for CGP1000, incl. USB interface cable and instruction manual	11501511

Ordering information

Specification of the model is sufficient for ordering. To order desired options and accessories, specify additionally their order number.

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