

Portable low-pressure controller Model CPC2000



WIKA data sheet CT 27.51

Applications

- Mobile calibration of low-pressure measuring instruments
- Supply of very low positive or negative pressures
- Accurate measurement of small gauge pressures or differential pressures

Special features

- Pressure ranges: 1 ... 1,000 mbar
- Accuracy: to 0.1 % FS
- Integrated, automatic pressure generation
- Portable, also usable without power supply unit due to Li-Ion battery
- Simple operation



Portable low-pressure controller model CPC2000

Description

Application

The main applications for this instrument are in the areas of heating, ventilation, air conditioning, filtration, clean room, and medical technology as a calibrator or as highly-accurate measurement equipment and/or precise pressure transducer.

Functionality

The model CPC2000 low-pressure controller is a mains or battery-operated pressure controller with internal, automatic pressure generation and pressure reference. The pressure generation is achieved using an integrated, electric pump, which makes a positive and/or negative pressure available on both the tube connections. As soon as the instrument is switched on, a zero-point adjustment is automatically carried out, so that a zero-point drift is eliminated.

The subsequent preparation of a calibration requires only a few settings. First, using the MENU button, select one of the stored pressure units and the variable pressure change step in the range of 0 ... 50 %.

Then, once the full scale has been entered in Control Mode, the pressure can be easily increased or decreased by the defined level using the navigation buttons. To check whether the calibration assembly or the test item has a leak, the LEAK button can be used. With this, the pressure is locked into the test assembly and any pressure drop there might be, as well as the time this takes, is measured and displayed.

Interface

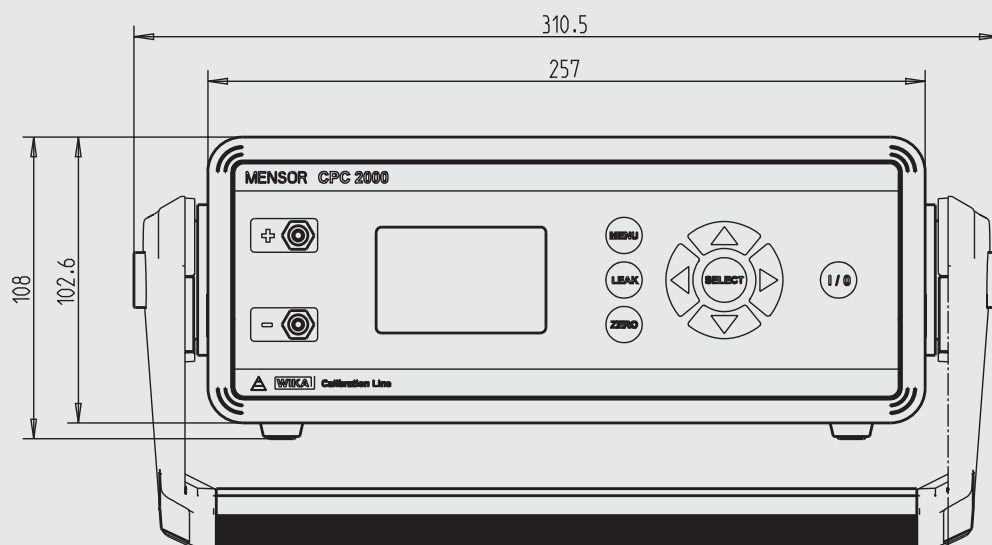
The instrument has an RS-232 and USB interface, enabling communication and data exchange with a PC.

Calibration certificate

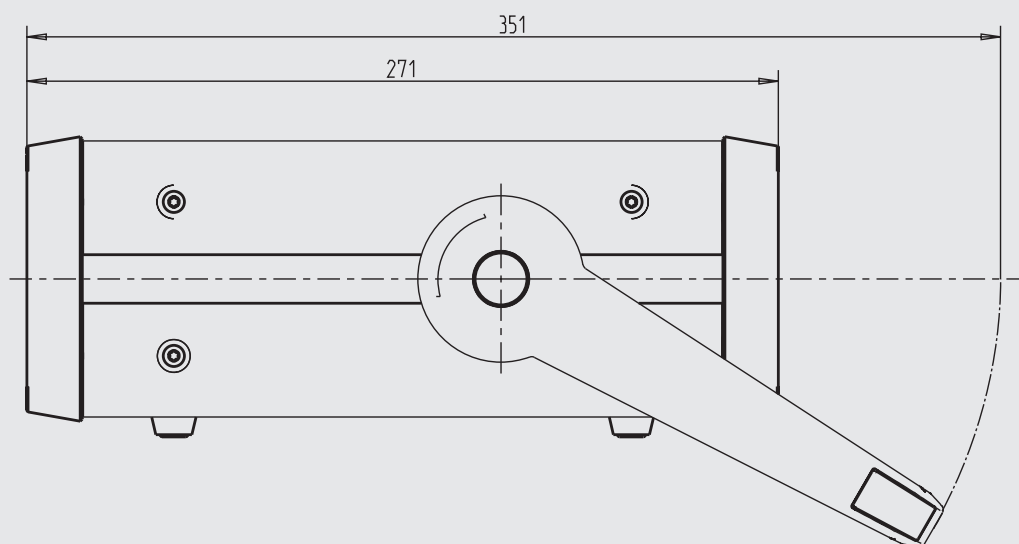
The accuracy of the instrument is certified by a factory calibration certificate. On request, we can provide a DKD/DAkKS calibration certificate for this instrument.

Dimensions in mm

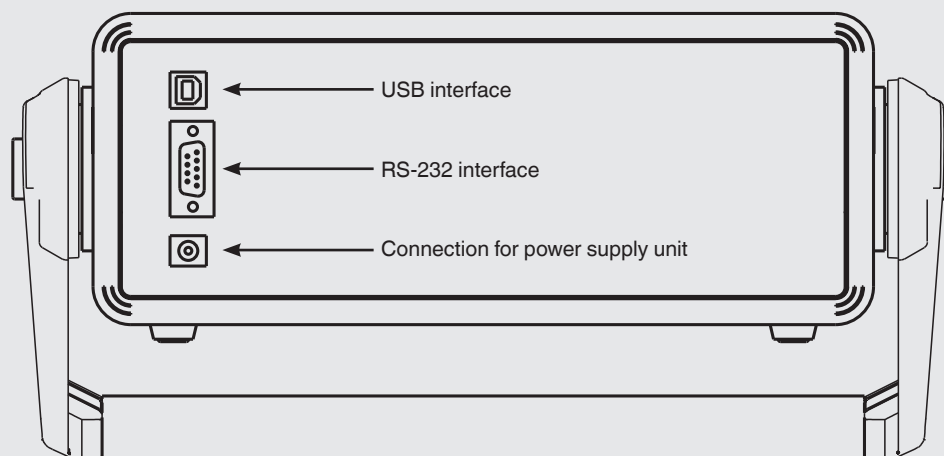
Front view



Side view



Electrical connections on the rear



Specifications

Model CPC2000

Reference pressure sensors

| | | | | | | | |
|-----------------------|--|-----|-----|-----|-----|-----|-------|
| Pressure range | mbar | 1 | 10 | 50 | 100 | 500 | 1,000 |
| Accuracy | % FS | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Type of pressure | Positive or negative gauge pressure or differential pressure | | | | | | |
| Pressure units | Pa, kPa, hPa, bar, mbar, psi, inH ₂ O, inHg, mmHg, Torr | | | | | | |

Base instrument

Instrument

| | |
|---------------------|---|
| Instrument version | Benchtop instrument with carry handle |
| Dimensions | 102.6 x 257 x 271 mm without carry handle |
| Weight | 4.6 kg |
| Ingress protection | IP 20 |
| Pressure generation | internal, electric pump |

Display

| | |
|----------------|--|
| Screen | backlit, multi-line graphic display |
| Resolution | 5 (4 digits for 50/500 mbar measuring range) |
| Keyboard | Membrane keypad |
| Menu languages | German, English, Spanish and French |

Connections

| | |
|----------------------|-----------------------------------|
| Pressure connections | 6.6 x 11 (hose diameter D = 6 mm) |
| Wetted parts | Ni, Al, CuBe, PU |

Voltage supply

| | |
|-------------------|--------------|
| Power supply | DC 24 V, 1 A |
| Power consumption | 24 VA |
| Battery type | Li-Ion |
| Battery life | approx. 8 h |

Permissible ambient conditions

| | |
|-----------------------|-----------------------------------|
| Medium | Ambient air |
| Operating temperature | 10 ... 40 °C |
| Storage temperature | -10 ... +70 °C |
| Relative humidity | 30 ... 80 % r.h. (non-condensing) |

Control parameters

| | |
|---------------|---|
| Control steps | 0 ... 50 % individually adjustable or 100 % |
| Control speed | approx. 5 s (dependent upon test volume) |

Communication

| | |
|-----------------------|---|
| Interface | RS-232 and USB |
| Response time | 1 value/s |
| Zero-point adjustment | automatic (at definable time intervals) manual (ZERO button) |

Approvals and certificates

CE conformity

| | |
|---------------|---|
| EMC directive | 2004/108/EC, EN 61000-6-3, interference emissions for residential, commercial and light-industrial environments and EN 61000-6-2, interference immunity for industrial environments |
|---------------|---|

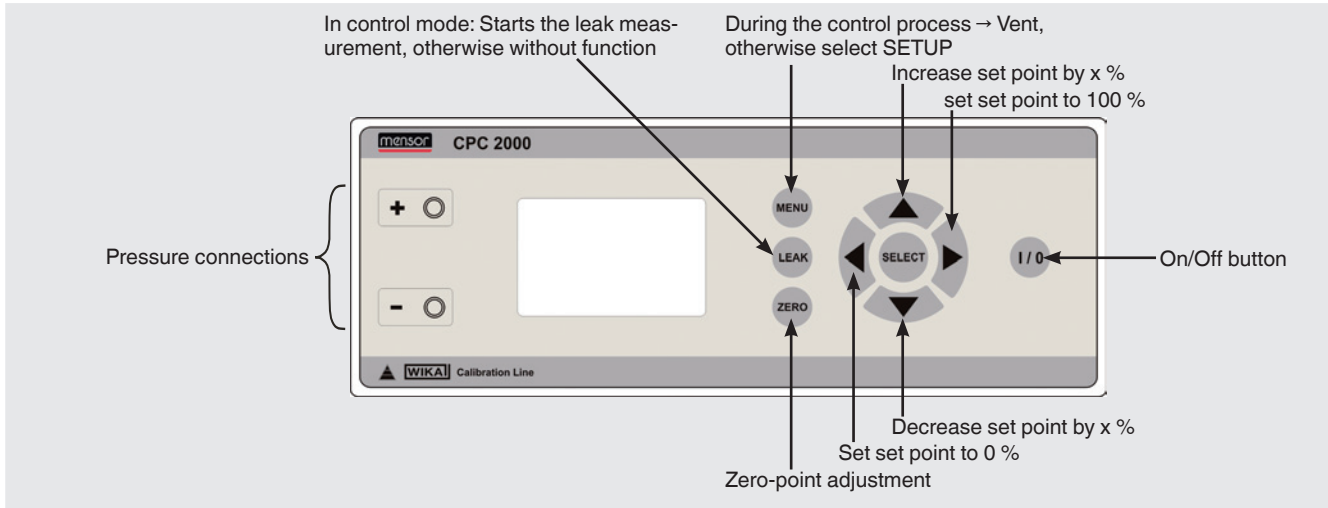
Certificate

| | |
|---------------------------|--|
| Calibration ¹⁾ | incl. 3.1 calibration certificate per EN 10204 |
|---------------------------|--|

1) Calibration in a horizontal position.

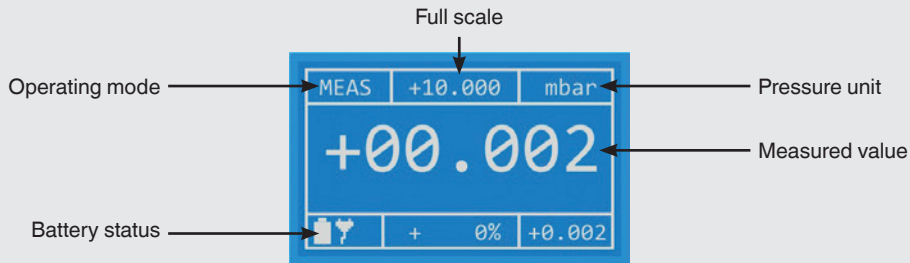
Keyboard and display

1.) Keyboard description



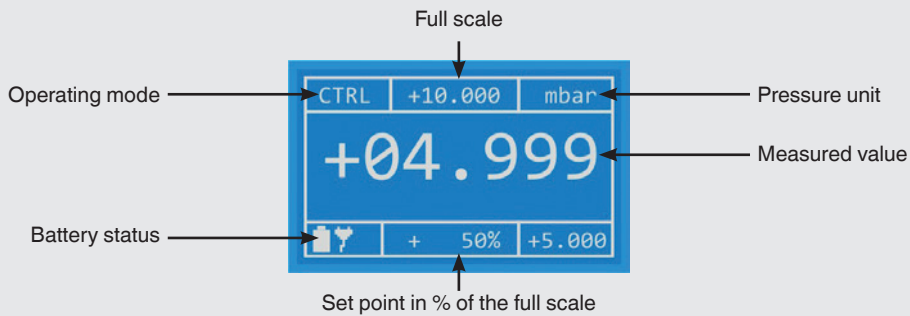
2.) Possible modes and screen displays

Measurement



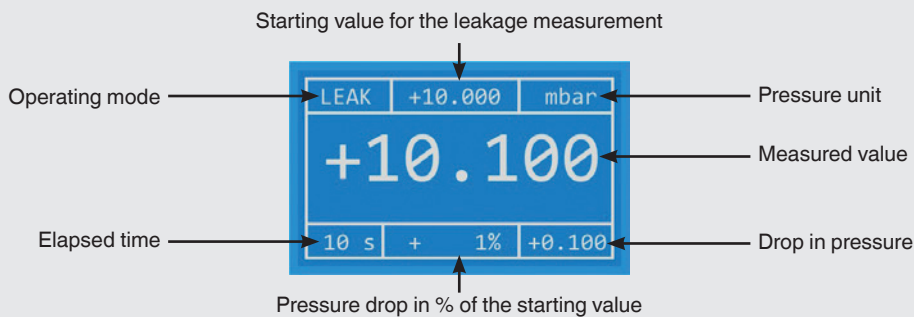
In Measuring mode, the pressure at the pressure ports is measured with great precision.

Control



In Control mode, pressures are supplied to the pressure ports with high precision. A set-point change (in a selectable step size) is made via the / buttons.

Leak test



In test mode, the pressure drop/time in the connected test assembly is determined.

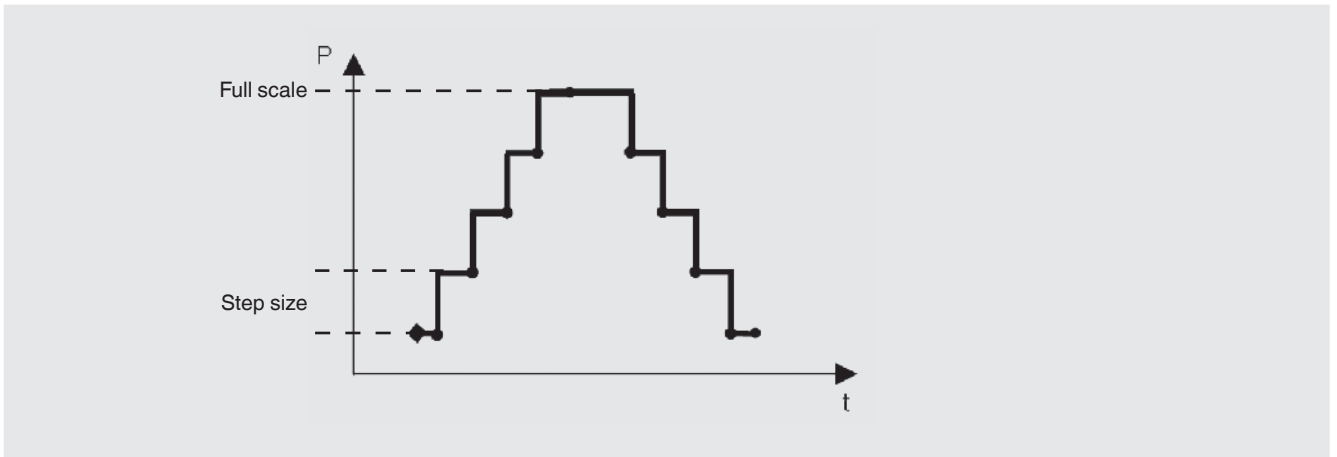
Menu and calibration procedure

I) General configuration via SETUP menu

SETUP menu items

- Select **measuring range**
- Select **pressure unit** (Pa, kPa, hPa, bar, mbar, psi, inH₂O, inHg, mmHg, Torr)
- **Step size, freely selectable** between 0 ... 50 % or 100 %
- Select **the operating mode** (MEAS, CTRL, AUTO)
- Select **Language** (DE, EN)
- Controller **settings** (zero-point adjustment, interface, display, auto mode, info)

II) Calibration sequence example



1. Defining the calibration cycle full scale (span)



To configure the full scale (span):

Select the digit via buttons

Change the digit via / buttons

2. Go back to the main screen and run through the calibration cycle in the defined step size (x %)



Change set point to x %

Pressure change in % via / buttons

Change pressure to 100 % via button

Change pressure back to 0 % via button

The newly-selected pressure step will be controlled immediately after the set-point change.

Scope of delivery

- Portable low-pressure controller model CPC2000
- Power supply unit
- Operating instructions in German and English language
- 3.1 calibration certificate per DIN EN 10204

Options

- DKD/DAkkS calibration certificate

Accessories

- RS-232 or USB interface cable
- Robust transport case

Ordering information

Model / Unit / Pressure range / Accuracy / Type of certificate / Power cord / Additional order information

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