



User Manual

PCE-CMM 10 CO₂ analyser



User manuals in various languages (français, italiano, español, português, nederlands, türk, polski, русский, 中文) can be found by using our product search on: www.pce-instruments.com

Last change: 21 December 2020
v1.0



Contents

| | | |
|----------|---------------------------------------|----------|
| 1 | Safety notes | 1 |
| 2 | System description | 2 |
| 2.1 | Device | 2 |
| 2.2 | Display | 3 |
| 2.3 | Function keys | 3 |
| 2.4 | Terms / icons | 3 |
| 3 | Technical specifications | 4 |
| 4 | Operation | 5 |
| 4.1 | On / off | 5 |
| 4.2 | Temperature | 5 |
| 4.3 | Alarm | 5 |
| 4.4 | Measurement mode | 5 |
| 4.5 | Backlight | 5 |
| 4.6 | Automatic power-off | 5 |
| 4.7 | Charging the battery | 5 |
| 4.8 | Date / time | 6 |
| 5 | Calibration | 6 |
| 5.1 | Automatic calibration | 6 |
| 5.2 | Manual calibration | 6 |
| 6 | Contact | 7 |
| 7 | Disposal | 7 |

1 Safety notes

Please read this manual carefully and completely before you use the device for the first time. The device may only be used by qualified personnel and repaired by PCE Instruments personnel. Damage or injuries caused by non-observance of the manual are excluded from our liability and not covered by our warranty.

- The device must only be used as described in this instruction manual. If used otherwise, this can cause dangerous situations for the user and damage to the meter.
- The instrument may only be used if the environmental conditions (temperature, relative humidity, ...) are within the ranges stated in the technical specifications. Do not expose the device to extreme temperatures, direct sunlight, extreme humidity or moisture.
- Do not expose the device to shocks or strong vibrations.
- The case should only be opened by qualified PCE Instruments personnel.
- Never use the instrument when your hands are wet.
- You must not make any technical changes to the device.
- The appliance should only be cleaned with a damp cloth. Use only pH-neutral cleaner, no abrasives or solvents.
- The device must only be used with accessories from PCE Instruments or equivalent.
- Before each use, inspect the case for visible damage. If any damage is visible, do not use the device.
- Do not use the instrument in explosive atmospheres.
- The measurement range as stated in the specifications must not be exceeded under any circumstances.
- Non-observance of the safety notes can cause damage to the device and injuries to the user.

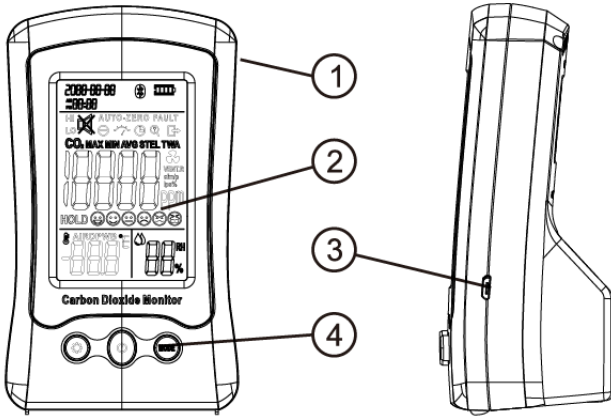
We do not assume liability for printing errors or any other mistakes in this manual.

We expressly point to our general guarantee terms which can be found in our general terms of business.

If you have any questions please contact PCE Instruments. The contact details can be found at the end of this manual.

2 System description

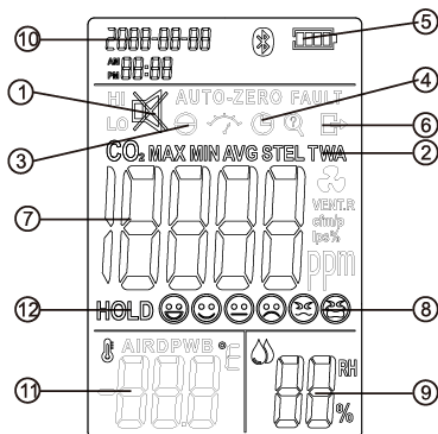
2.1 Device



- ① Case
- ② Display

- ③ USB socket
- ③ Function keys

2.2 Display



- | | |
|----------------------------------|-----------------------------------|
| ① Audio alarm indicator | ② Mode indicator |
| ③ Calibration indicator | ④ Automatic power-off |
| ⑤ Battery status | ⑥ Cancel calibration |
| ⑦ Measured CO ₂ value | ⑧ Emoticon CO ₂ value |
| ⑨ Air humidity | ⑩ Date / time |
| ⑪ Temperature | ⑫ Freeze displayed measured value |







2.3 Function keys



2.4 Terms / icons

| Symbol | Measurement modality |
|--------|---|
| HOLD | Freeze measured values |
| MAX | Maximum measured value |
| MIN | Minimum measured value |
| AVG | Average measured value |
| TWA | Time weighted average (8 hours) |
| STEL | Short-term exposure limit (15 minutes weighted average) |

Emoticons

| Emoticon | CO ₂ reading range |
|---|-------------------------------|
|  | 400ppm ~ 450ppm |
|  | 450ppm ~ 700ppm |
|  | 700ppm ~ 1000ppm |
|  | 1000ppm ~ 2000ppm |
|  | 2000ppm ~ 5000ppm |
|  | >5000ppm |


3 Technical specifications

| Specification | Description |
|-----------------------------------|--|
| Measurement range CO ₂ | 400 ... 5000 ppm |
| Resolution | 1 ppm |
| Accuracy | ±(5 % + 50 ppm) between 400 ... 2000 ppm and at an atmospheric pressure of 1013 mbar |
| Measurement range temperature | -10.0 ... 50.0 °C |
| Resolution | 0.1 °C |
| Accuracy | ±1 °C (may be influenced by meter's waste heat) |
| Measurement range air humidity | 0 ... 99 % RH |
| Resolution | 1 % RH |
| Accuracy | ±(5 % at 25 °C) between 10 ... 90 % RH |
| Sensor | NDIR principle |
| ABC | Automatic baseline correction |
| Audio alarm | Buzzer |
| Visual alarm | Red backlight |
| Display | 3-inch LC display |
| Battery status | Four-level display |
| Display frequency | 3 seconds |
| Automatic power-off | switches itself off after 2 hours |
| Backlight | white backlight |
| Operating conditions | 0 ... 50 °C, 0 ... 85 % RH |
| Storage conditions | -20 ... 60 °C, 0 ... 95 % RH |
| Power supply | integrated rechargeable 3.7 VDC battery |
| Weight | 195 g |
| Dimensions | 75 x 55 x 130 mm |


4 Operation

4.1 On / off

On

To switch on the meter when it is switched off, press and hold the centre key  for about 3 seconds. The meter starts with a 120-second warm-up phase.

Off

To switch off the meter when it is switched on, press and hold the centre key  for approx. 3 seconds.

4.2 Temperature

Press and release the  key to switch between the temperature units °C and °F.


4.3 Alarm

When 1000 ppm of CO₂ is reached, the unit switches to alarm mode. This is indicated by means of an acoustic and a visual alarm.

Visual alarm:

The display background flashes red every second.

Audible alarm:

The beep sounds every second. To switch the acoustic warning off or on, press and hold the  key for about 3 seconds.

4.4 Measurement mode

Press the **MODE** key to switch between the different measurement modes. (see 2.4)
Press and hold the **MODE** key to delete the minimum, maximum and average values.

4.5 Backlight

When the meter is switched on, press the central key  to switch the backlight on or off.

4.6 Automatic power-off

The unit switches off after 2 hours of inactivity (no operation by pressing a key) in battery mode. This function is not active during mains operation. The unit then remains permanently switched on.



4.7 Charging the battery

Fully charge the device using the USB cable supplied before using it for the first time.

Recharge the device when the battery status indicator shows the flat battery icon .


For example, use a USB plug-in mains adaptor (not included) with at least 1 A output power or use a USB port on a PC that provides this power.

4.8 Date / time


To set the date and time, press and hold the + keys simultaneously when the meter is turned off until the display switches on.

Press the  key twice. The year flashes.

Use the keys  and **MODE** to set the current year.

Press the  key.


Use the keys  and **MODE** to set the current month.

Press the  key.


Use the  and **MODE** keys to set the current day.

Press the  key to switch to the hour setting.


Use the  and **MODE** keys to set the current hour.


Press the  key.



Use the  and **MODE** keys to set the current minute.

Press the  key.

Use the  and **MODE** keys to set the current second.

Press the  key to go to 12-hour or 24-hour setting mode.

Use the  and **MODE** keys to select the mode.

To save your entries, press and hold the  key until the icon  appears on the display as a confirmation.

Press and hold the + keys to exit setting mode.

5 Calibration

The unit was calibrated at the factory. If there are noticeable deviations in the measured values, you can recalibrate the unit.

Two options are available for calibration.

5.1 Automatic calibration

The PCE-CMM 10 has an integrated self-correcting ABC (Automatic Baseline Correction) algorithm for automatic adjustment of the base value.

To calibrate the meter, place it in an environment with fresh air for 3 days when it is switched on. (The best result is achieved outside buildings)

Connect the instrument to an external power source for calibration.

The measured value is automatically adjusted.



The ABC function is permanently switched on and adjusts the base value at regular intervals in case of low CO₂ pollution.

Do not use this meter in a closed environment where the CO₂ concentration remains relatively high. This would negatively affect the self-correction of the device.

5.2 Manual calibration

Place the switched-on unit in an environment with fresh air for 20 minutes.

(The best results are achieved outside buildings)

When the meter is switched on, press and hold the  and **MODE** keys and until the icon  appears on the display. The calibration takes about 10 minutes. Afterwards, the instrument returns to measurement mode.

6 Contact

If you have any questions, suggestions or technical problems, please do not hesitate to contact us. You will find the relevant contact information at the end of this user manual.

7 Disposal

For the disposal of batteries in the EU, the 2006/66/EC directive of the European Parliament applies. Due to the contained pollutants, batteries must not be disposed of as household waste. They must be given to collection points designed for that purpose.

In order to comply with the EU directive 2012/19/EU we take our devices back. We either re-use them or give them to a recycling company which disposes of the devices in line with law.

For countries outside the EU, batteries and devices should be disposed of in accordance with your local waste regulations.

If you have any questions, please contact PCE Instruments.





PCE Instruments contact information

Germany

PCE Deutschland GmbH
Im Langel 4
D-59872 Meschede
Deutschland
Tel.: +49 (0) 2903 976 99 0
Fax: +49 (0) 2903 976 99 29
info@pce-instruments.com
www.pce-instruments.com/deutsch

United Kingdom

PCE Instruments UK Ltd
Unit 11 Southpoint Business Park
Ensign Way, Southampton
Hampshire
United Kingdom, SO31 4RF
Tel: +44 (0) 2380 98703 0
Fax: +44 (0) 2380 98703 9
info@pce-instruments.co.uk
www.pce-instruments.com/english

The Netherlands

PCE Brookhuis B.V.
Institutenweg 15
7521 PH Enschede
Nederland
Telefoon: +31 (0)53 737 01 92
info@pcebenelux.nl
www.pce-instruments.com/dutch

United States of America

PCE Americas Inc.
1201 Jupiter Park Drive, Suite 8
Jupiter / Palm Beach
33458 FL
USA
Tel: +1 (561) 320-9162
Fax: +1 (561) 320-9176
info@pce-americas.com
www.pce-instruments.com/us

France

PCE Instruments France EURL
23, rue de Strasbourg
67250 Soultz-Sous-Forets
France
Téléphone: +33 (0) 972 3537 17
Numéro de fax: +33 (0) 972 3537 18
info@pce-france.fr
www.pce-instruments.com/french

Italy

PCE Italia s.r.l.
Via Pesciatina 878 / B-Interno 6
55010 Loc. Gragnano
Capannori (Lucca)
Italia
Telefono: +39 0583 975 114
Fax: +39 0583 974 824
info@pce-italia.it
www.pce-instruments.com/italiano

China

PCE (Beijing) Technology Co., Limited
1519 Room, 6 Building
Zhong Ang Times Plaza
No. 9 Mentougou Road, Tou Gou District
102300 Beijing, China
Tel: +86 (10) 8893 9660
info@pce-instruments.cn
www.pce-instruments.cn

Spain

PCE Ibérica S.L.
Calle Mayor, 53
02500 Tobarra (Albacete)
España
Tel. : +34 967 543 548
Fax: +34 967 543 542
info@pce-iberica.es
www.pce-instruments.com/espanol

Turkey

PCE Teknik Cihazları Ltd.Şti.
Halkalı Merkez Mah.
Pehlivan Sok. No.6/C
34303 Küçükçekmece - İstanbul
Türkiye
Tel: 0212 471 11 47
Faks: 0212 705 53 93
info@pce- cihazlari.com.tr
www.pce-instruments.com/turkish

Hong Kong

PCE Instruments HK Ltd.
Unit J, 21/F., COS Centre
56 Tsun Yip Street
Kwun Tong
Kowloon, Hong Kong
Tel: +852-301-84912
jyi@pce-instruments.com
www.pce-instruments.cn