User Manual

PCE-RDM 10 | Geiger Counter

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: 3 May 2024
v1.0

Contents

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.
- Always keep the sensor clean.
- Do not touch the sensor with your hands.

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.

2   Specifications

Specifications	Explanations
Measurement range	0 ... 99.99 µSv/h
Resolution	0.01 µSv/h
Accuracy	0.25 cps / µSv/h
Sensor	Geiger-Müller tube
Types of radiation	beta / gamma / X-ray radiation
Unit	µSv/h
Power supply	3.7 V / 2000 mAh rechargeable LiPo battery
Automatic power off	OFF / 10 min / 20 min / 30 min / 60 min
Interface	USB-C
Display	2.8" 16-bit TFT colour display
Alarm	OFF / 0.30 µsv/h / 0.50 µsv/h / 1.00 µsv/h / 2.00 µsv/h
Memory	167 857 values
Environmental conditions	-20 ... +50 ºC / 20 ... 85 % RH
Dimensions	165 x 90 x 32 mm
Weight	220 g

3   Delivery scope

1 x PCE-RDM 10 geiger counter
1 x micro-USB cable
1 x device bag
1 x user manual

4 Description of the device

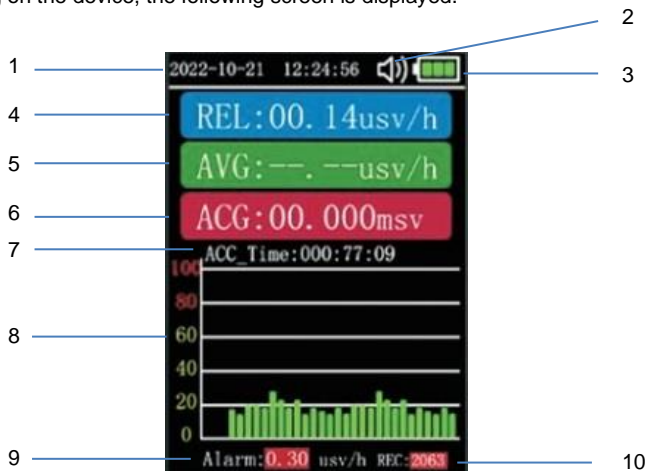| No.	Description
1	Display
2	ON/OFF / Menu / Enter
3	Arrow up
4	Memory / Back
5	Arrow down
6	Next
7	USB interface

5 Menu

5.1 On/Off

Switch the device on using the ON/OFF key. To switch it off, press and hold the ON/OFF key for several seconds.

5.2 Main screen

After switching on the device, the following screen is displayed.

1. **Date and time**
   You can display the current date and time here. To set the date and time, see chapter 5.4.1.

2. **Alarm**
   As soon as the alarm threshold is exceeded, the device emits an acoustic alarm. Pressing the arrow up key deactivates the audible alarm and the loudspeaker icon is displayed with an "X". To activate it, press the arrow up key again.

3. **Battery**
   You can display the current battery status here. To charge the battery, use the included USB cable. Connect the device to a PC using this cable.

4. **REL | Real-time dose**
   Displays the current value in the unit µsv/h. It is updated every second to display the current radiation value.

5. **AVG | average dose**
   Indicates the average value in the unit µsv/h. It records the total amount of energy over a certain period of time and converts it into a measured value for analysis. To set the measuring rate, see chapter 5.4.3.

   The average value is displayed after 5 minutes of measurement. If you switch the device off and on again, the average value is reset to zero. You must wait another 5 minutes before you can see the value on the display.

6. **ACC | Accumulated dose**
   Displays the accumulated dose. If the device is switched off, the accumulated dose is not lost. The timer is just stopped. When the device is switched on again, the count continues. To reset the accumulated dose to zero, see chapter 5.4.6.

7. **ACC_Time**
   Indicates how long the cumulative dose has already been calculated.

8. **Graph**
   You can have the development of the last 30 values displayed graphically. This graph is constantly updated.

9. **Alarm**
   Displays the set alarm threshold. To set the alarm threshold, see chapter 5.4.2.

10. **REC | Storage**
    Displays the total number of values saved in the memory. Storage of the values begins 5 minutes after the device is switched on (at this time, the average value can be displayed on the screen).

Note
If you are on the main screen, you can switch off the screen (not the device) by pressing the arrow down key. To switch it back on, press the arrow down key again. This function is only active on the main screen.

5.3 Memory

Press the left key to access the memory. The "History List" screen is the index of the measurement history. The values are sorted by date. The number of saved values is displayed on the right-hand side.

Hint
A new file is created each time the device is switched on (after 5 minutes of measurement).

History List

Item	Date	Quant
1	2024-01-08	128
2	2024-01-10	87
3	2024-01-1	234
4	2024-01-1	577
5	2024-01-1	812

Select the desired file using the up and down arrow keys. The selected file appears in red. To enter the selected file, press the ON/OFF key. The following screen is displayed:
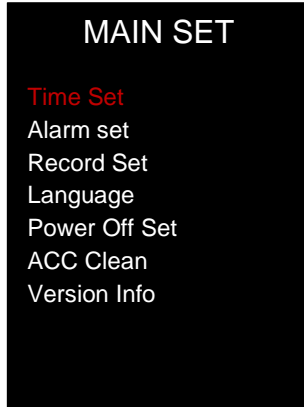
Data List

Item	Time	REAL	AVG
1	11:16:59	3	7
2	11:17:19	3	7
3	11:17:40	11	7
4	11:18:00	13	8
5	11:18:20	8	8
6	11:18:40	11	8
7	11:19:00	3	8
8	11:19:20	5	7
9	11:19:41	11	7
10	11:20:05	5	7
11	11:20:25	8	7
12	11:20:45	6	7

Use the arrow up and down keys to move within the file.

To clear the memory, press and hold the next key (right) in the memory overview until "Clearing" is displayed. When "Clear Finish" appears in the display, the memory has been deleted. The device automatically switches back to measuring mode.
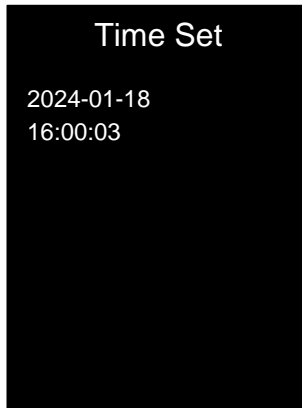
5.4 Settings

To call up the settings menu (MAIN SET), briefly press the ON/OFF key when you are on the main screen. The following screen appears:

```
MAIN SET

Time Set
Alarm set
Record Set
Language
Power Off Set
ACC Clean
Version Info
```
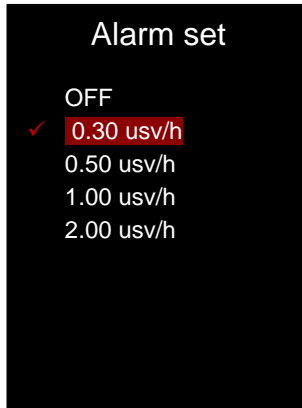
Select the setting using the arrow up and down keys. The selected setting appears in red. To accept the setting, press the ON/OFF key.

5.4.1 Time Set | Date and time
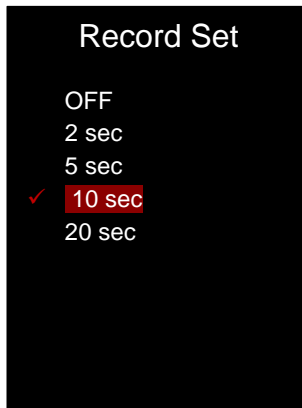
```
Time Set

2024-01-18
16:00:03
```

Use the arrow up and down keys to change the value. Use the right key to change the position (year - month - day - hour - minute - second). Once you have set the date and time, press the left key (history) to return to the main menu.

5.4.2 Alarm Set | Setting alarm limit values

```
        Alarm set

     OFF
  ✓  0.30 usv/h
     0.50 usv/h
     1.00 usv/h
     2.00 usv/h
```
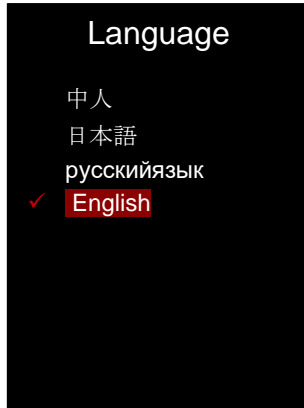
Use the arrow up and down keys to select the threshold value. Confirm with the ON/OFF key. Once you have set the alarm threshold, press the left key (history) to return to the main menu.

5.4.3 Record Set | Storage rate

```
        Record Set

     OFF
     2 sec
     5 sec
  ✓  10 sec
     20 sec
```
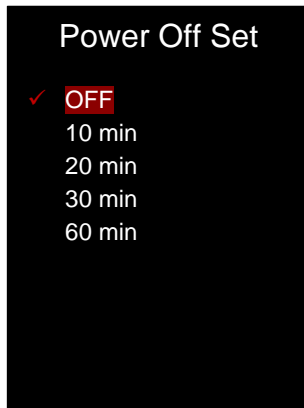
Use the up and down arrow keys to select the storage rate. Confirm with the ON/OFF key. Once you have set the storage rate, press the left key (history) to return to the main menu.
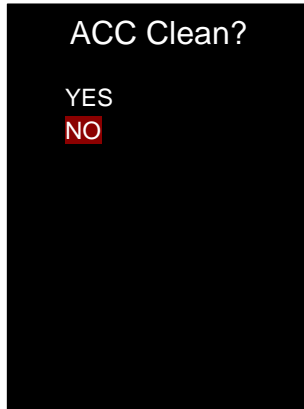
5.4.4 Language

Use the arrow up and down keys to select the menu language. You can select the following languages: Chinese, Japanese, Russian and English. Confirm with the ON/OFF key. Once you have set the language, press the left key (history) to return to the main menu.

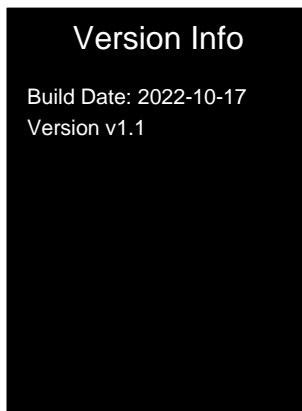### 5.4.5 Power Off Set | Automatic power off

Use the arrow up and down keys to select the desired time at which the meter should switch off automatically. Confirm with the ON/OFF key. Once you have set the automatic power off, press the left key (history) to return to the main menu.

5.4.6 ACC Clean? | Zero setting of the accumulated dose

ACC Clean?

YES
NO

Use the arrow up and down keys to select whether you want to reset the accumulated dose to zero. Confirm with the ON/OFF key. Then press the left key (history) to return to the main menu.

5.4.7 Version Info | Firmware information

Version Info

Build Date: 2022-10-17
Version v1.1

You can view the firmware data in this screen. When you have finished, press the left key (history) to return to the main menu.

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 26
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

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

Spain
PCE Ibérica S.L.
Calle Mula, 8
02500 Tobarra (Albacete)
España
Tel. : +34 967 543 548
Fax: +34 967 543 542
info@pce-iberica.es
www.pce-instruments.com/espanol

United Kingdom
PCE Instruments UK Ltd
Trafford House
Chester Rd, Old Trafford
Manchester M32 0RS
United Kingdom
Tel: +44 (0) 161 464902 0
Fax: +44 (0) 161 464902 9
info@pce-instruments.co.uk
www.pce-instruments.com/english

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

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

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

Denmark
PCE Instruments Denmark ApS
Birk Centerpark 40
7400 Herning
Denmark
Tel.: +45 70 30 53 08
kontakt@pce-instruments.com
www.pce-instruments.com/dansk