



User Manual

PCE-EMF 30 Electromagnetic Field Meter



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

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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.
- Never use any pointed objects to press the keys.
- Store the meter in a cool, dry place. No vibration should occur at the place of storage.
- 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.

2 Delivery contents

1 x electromagnetic field meter PCE-EMF 30

1 x user manual

3 Technical data

	RF	EF	MF
Unit	mW/m ²	V/m	mG/μT
Resolution	0.01 mW/m ²	1 V/m	0.1 mG / 0.01 μT
Measurement range	0.01 ... 1800 mW/m ²	1 ... 1999 V/ m	0.1 ... 999.9 mG 0.01 ... 99.99 μT
Bandwidth	1 MHz ... 10 GHz	5 Hz ... 3500 MHz	
Measuring distance	The best measuring distance is within 0 ... 60 cm from the measured object. You can also measure beyond this range but deviations may occur.		
Measuring duration	0.7 s		
Operating temperature	0 ... 50 °C		
Operating humidity	<80% RH		
Operating voltage	3.7 V		
Dimensions (L x W x H)	147 x 69 x 31		
Weight	147 g		

4 Description

The PCE-EMF 30 measures electric fields (EF), magnetic fields (MF), and radio frequency fields (RF). The default mode is the EF mode when the instrument turns on and the readings are shown on the LCD.

The instrument is equipped with a built-in electromagnetic radiation sensor and displays the radiation value on an LCD screen.

You can take effective prevention measures toward test result.

4.1 Device description

A = EF / MF detection area

B = LC display

C = UNIT key

D = Average / peak key

E = On/off / HOLD key

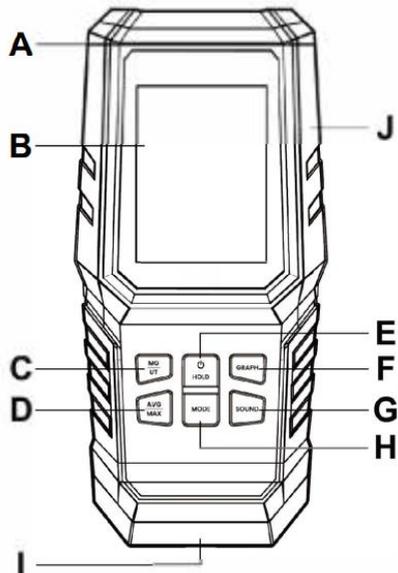
F = GRAPH key

G = SOUND key

H = MODE key (EF / MF / RF)

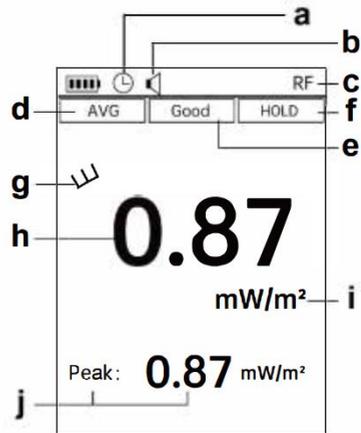
I = Charging socket

J = RF detection area



4.2 Display description

- a = Auto off display
- b = Audio display
- c = Parameter display
- d = Average / maximum value indication
- e = Evaluation
- f = Data hold
- g = Signal direction
- h = Reading
- i = Unit
- j = Maximum value



5 Operation

5.1 Turning the meter on/off

Short press the HOLD key to turn on the meter. Press and hold the key to turn off the meter.

After power on, auto power off will be on by default and the  icon will be displayed. Without any operation in about 15 minutes, the meter will automatically shut down. Press and hold the MODE key to deactivate the function.

Note:

Due to possible electromagnetic field interference in the environment, the meter may show a small value after powering on. This does not mean that the instrument is defective.

5.2 Backlight and colour setting

Press and hold the MG/UT key (UNIT) to switch the backlight brightness between constant light and high light (default: constant light).

Press and hold the GRAPH key to switch between white and black display.

5.3 Measurement mode

For a standard EF measurement after power on, hold the instrument with the front sensing area slowly approaching the electromagnetic radiation source to be tested. The measured value is displayed if the radiation value is within the specified range.

Short press the MODE key to switch between the measurement modes EF/MF/RF.

Notes:

Do not cover the sensors at the top of the meter with your hand or other objects.

Measure from a safe distance when high-pressure facilities are involved!

5.4 Average / maximum / peak value mode

Short press the average / peak key to switch between average and maximum value. The peak value is displayed at the bottom.

AVG: the average of 40 measurement at a sampling frequency of about 1000 Hz

MAX: the maximum value measured after power-on

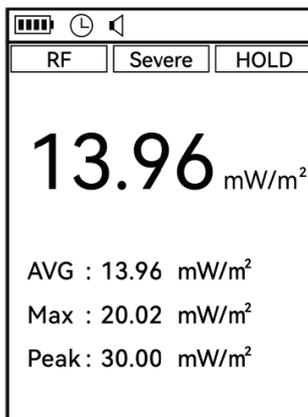
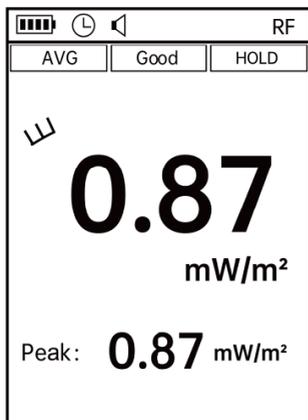
Peak: the measured peak value within 3 seconds

5.5 Changing the unit

Short press the MG/UT key (UNIT) to switch the magnetic field unit between μT and mG.

5.6 Graphical view

Short press the GRAPH key to switch between measurement and graphical view. The measurement view displays the measured value and peak value and the graphical view displays the current measured value and the 30 values measured in the past in a bar graph which is updated in real time.



5.7 Hold data

Short press the HOLD key to hold/freeze the data. The HOLD icon will be displayed on the screen. Press the key again to exit HOLD mode.

5.8 Zero setting (EF-and MF measurements only)

Press and hold the SOUND key. The "Zero Cal" icon will be displayed. At the same time, short press the HOLD key to finish the zero setting. „Zero Done" will now be displayed.

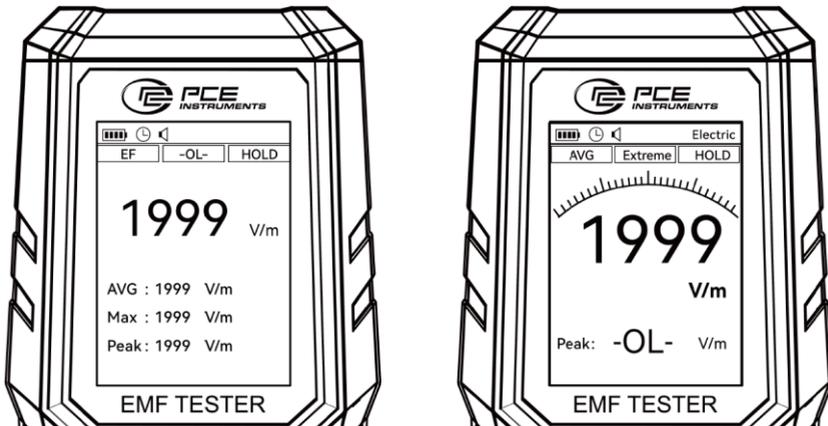
Notes:

The electric field zero setting is limited to measurement values below 10 V/m.

The magnetic field zero setting is limited to measurement values of 0.1 μT or below.

6 Overload information

When the measured value exceeds the maximum range, "OL" will be displayed, see below.



7 Alarm display

Radiation value evaluation	Good	Slight	Severe	Extreme
RF (mW/m ²)	0 ... 1	1 ... 5	5 ... 20	20 ... 1800
EF (V/m)	0 ... 40	40 ... 75	75 ... 100	100 ... 1999
MF (mG)	0 ... 4	4 ... 10	10 ... 50	50 ... 999.9
Colour of reading	Black/white	Black/white	Red	Red
Colour in the bar graph	Green	Blue	Orange	Red

7.1 Alarm sound

The sound is turned off by default when the meter is powered on. Short press the SOUND key to turn the sound on/off. When turning on the sound, the  icon will be displayed.

When the measured value reaches the "slight" level, the meter will give an alarm. The intensity of sound changes according to the measured value.

8 Battery

When the rechargeable battery is going flat, charge it in time. The charging indicator displays 100 % when the battery is fully charged.

9 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.

10 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

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

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

France

PCE Instruments France EURL
23, rue de Strasbourg
67250 Soultz-Sous-Forêts
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

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

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

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

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