



User Manual

PCE-ECT 50 Earth Tester



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: 27 February 2018
v1.0



Contents

1	Safety notes	1
2	Controls and jacks	2
3	Technical specifications	3
4	Operations	3
5	Testing the earth pin	4
6	Testing sockets	5
7	Continuity test	5
8	Warranty	6
9	Disposal	6

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.

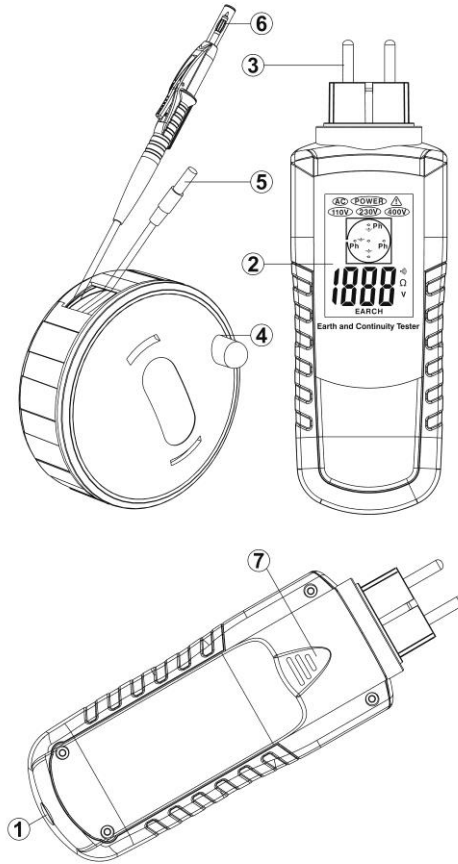
- The device must only be used as described in this instruction manual. If used otherwise, this can cause dangerous situations for the user and damage to the meter.
- The instrument may only be used if the environmental conditions (temperature, relative humidity, ...) are within the ranges stated in 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.
- The tester is not a tester for the Absence of Voltage (TAV). Use a suitable instrument for this purpose.
- Do not immerse the unit or work in the rain.
- Inspect the unit before use. Do not use if damaged.
- If the "400V!" pictogram is displayed, check the installation.
- ASS operations must be carried out by the manufacturer.
- The addition of measurement current (<15 mA) from the tester with fault current from computer or electronic equipment already plug can lead to the drop-out of the 30 mA circuit breakers.

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 Controls and jacks



1. IP2X safety plug for safety probe
2. LCD display (blue/red)
3. Plugs for 2P+T sockets 10/16A
4. Winder, length 7 m
5. IP2X plug
6. Safety probe IP2X
7. Non-slip coating

3 Technical specifications

Measuring principle	Continuity testing / earth resistance measurement
Measurement range	0 ... 2000 Ω
Display	Two-colour backlit LCD
Accuracy	$\pm(3\% + 3 \text{ digits})$ at 0 ... 200 Ω , at 23 °C ± 5 °C
Operating voltage	230 V (Ph/N) -10 / +6 %
Operating frequency	50 / 60 Hz
Standards	IEC 611010-1 EN 61557-4, class II, IP40, IK06
Installation category	III
Operating temperature	-15 ... +45 °C
Storage temperature	-25 ... +70 °C
Dimensions	72 x 210 x 50 mm (W x L x H)
Length of test lead	approx. 7 m
Weight	340 g

4 Operations

The earth tester enables you to perform the following operations:

- check the resistance of the earth socket
- locate the position of the live pin (right or left), check the earth connection.
- check for 230V (or an abnormal voltage)
- check continuity (earth conductor, main and local equipotential connections)

These test points are required by standard NF C 15-100 and assist in delivering a compliant installation.

To facilitate testing, the tester can be used directly on 2P+E 10/16 A sockets.

In addition, the two-colour backlighting will alert you instantaneously to the condition of your installation.

Blue: OK, Red: fault (earth > 100 Ω , incorrect voltage, etc.)

5 Testing the earth pin

Testing the local earth employs the “ fault loop” principle. It applies to TT (EE) type installations.

After connecting the unit to a 2P+E socket the earth resistance value is displayed.

Standard NF C15-100 requires a value of earth resistance of less than 100 Ω .

If this value is obtained, the backlighting is in blue, if the value is above 100 Ω , the screen turns red:



FIG.1



FIG.2

Fig.1; value OK, Fig.2: value not OK

Your instrument measures values up to 1999 Ω . Above that, the display indicates OL (overload = value exceeded).



FIG.3

Fig.3: Earth resistance greater than 1999 Ω .

6 Testing sockets

- Location of the position of the live pin (right or left)
- Earth connection
- Voltage present

A pictogram represents the base of the socket and indicates the position of the live Pin (right or left).

The same pictogram displays the presence of an earth (displayed for any earth < 2000Ω. In addition, a reminder of the voltage is indicated (230V).


If the (400V!) pictogram appears,  check the installation. **400V**



FIG.4

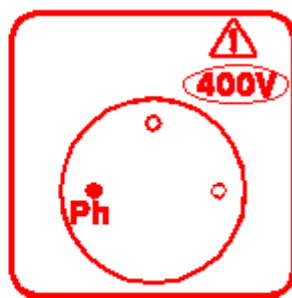


FIG.5

Fig.4: Earth connected, Live on right, 230V.

Fig.5: Earth not connected Live on left, Incorrect voltage.

7 Continuity test

The continuity of the earth protection conductors and the equipotential connections (main and local) must be tested. In accordance with NF C 15-100, the tester enables you to check that the resistance is less than 2Ω. Firstly, connect the cable on the reel to the body of the unit, then connect your unit to a 2P+E socket. Then, with the retractable test probe, make contact with the parts to be checked. Continuity of the connections is indicated by a continuous audible signal.

Notes:

1. When the unit is in the CONTINUITY mode, the back lighting is switched off (to ensure the measurement current of 200mA specified by NFC 15-100).
2. If there is an abnormal voltage on the earth protection conductors, the unit enters the Err mode and sounds intermittently.



8 Warranty

You can read our warranty terms in our General Business Terms which you can find here: <https://www.pce-instruments.com/english/terms>.

9 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

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 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

United States of America

PCE Americas Inc.
711 Commerce Way 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

United Kingdom

PCE Instruments UK Ltd
Units 12/13 Southpoint Business Park
Ensign Way, Southampton
Hampshire
United Kingdom, SO31 4RF
Tel: +44 (0) 2380 98703 0
Fax: +44 (0) 2380 98703 9
info@industrial-needs.com
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

The Netherlands

PCE Brookhuis B.V.
Institutenweg 15
7521 PH Enschede
Nederland
Telefoon: +31 (0)53 737 01 92
Fax: +31 53 430 36 46
info@pcebenelux.nl
www.pce-instruments.com/dutch

Chile

PCE Instruments Chile S.A.
RUT: 76.154.057-2
Santos Dumont 738, local 4
Comuna de Recoleta, Santiago, Chile
Tel. : +56 2 24053238
Fax: +56 2 2873 3777
info@pce-instruments.cl
www.pce-instruments.com/chile

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
jji@pce-instruments.com
www.pce-instruments.cn

China

PCE (Beijing) Technology Co.,Ltd
1519 Room, 6 Building
Men Tou Gou Xin Cheng,
Men Tou Gou District
102300 Beijing
China
Tel: +86 (10) 8893 9660
info@pce-instruments.cn
www.pce-instruments.cn

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