



PCE Instruments PCE-ECT 50 Earth Tester User Manual

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PCE Instruments PCE-ECT 50 Earth Tester



Specifications

- **Product Name:** PCE-ECT 50 Earth Tester
- **Last change:** 27 February 2018 v1.0

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.

• 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. If this value is obtained, the backlighting is in blue, if the value is above 100, the screen turns red.
- Your instrument measures values up to 1999. Above that, the display indicates OL (overload = value exceeded).

• 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 < 2000. In addition, a reminder of the voltage is indicated (230V).
- If the (400V!) pictogram appears, check the installation.

• 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 2. 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.

• 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.

• Disposal

- PCE Instruments contact information:
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FAQ

1. Q: Can the PCE-ECT 50 Earth Tester be used by non-qualified personnel?

A: No, the device may only be used by qualified personnel

2. Q: What happens if there is an abnormal voltage on the earth protection conductors?

A: The unit enters the Err mode and sounds intermittently.

3. Q: What is the maximum value that the instrument can measure for earth resistance?

A: The instrument can measure values up to 1999. Above that, the display indicates OL (overload = value exceeded).

User manuals in various languages can be found by using our product search on: www.pce-instruments.com



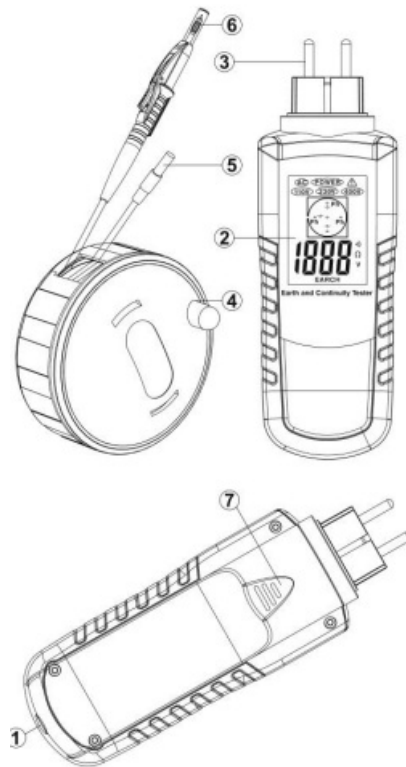
Safety notes

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.

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

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

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-color backlighting will alert you instantaneously to the condition of your installation. Blue: OK, Red: fault (earth > 100 Ω , incorrect voltage, etc.)

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 1999Ω. Above that, the display indicates OL (overload = value exceeded).



FIG.3

Fig.3: Earth resistance greater than 1999Ω.

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

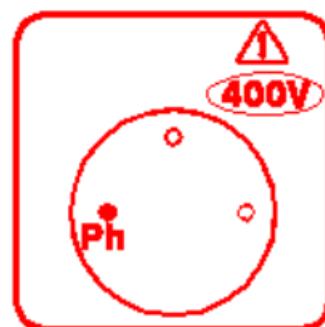


FIG.5

- **Fig.4:** Earth connected, Live on right, 230V.
- **Fig.5:** Earth not connected Live on left, Incorrect voltage.

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.

• 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.

• 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

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