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Manual
Cable tester PCE-180 CBN

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1 Introduction

Thank you for purchasing a PCE-180 CBN cable tester from PCE Instruments.
A frequent problem in cabling within buildings is to know which cable powers a particular connection and where the cable passes within the structure of the building, which is important if you need to put a hole in the wall. As the cable tester emits signals, it is possible to follow cables and to detect interruptions in voltage-free cables without damaging the insulation or opening walls or cable ducts. This device consists of a signal transducer (tone generator) and a highly sensitive transceiver (amplifier probe). The tone generator is connected to a socket or to the cable core and sends a coded signal through the cable. The amplifier probe will make a sound when a cable is detected. The volume and sensitivity of the cable tester can be adjusted. All conventional lines can be identified, including network and co-axial cables. The tone generator is equipped with alligator clips and a mains connector. The amplifier probe can also be used for cable detection with other tone generators.

2 Safety information

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.

-The device may only be used voltage-free
-Remember to turn off the tone generator after testing cables
-The device may only be used in approved temperature range
-The instrument does not have ATEX protection, so it must not be used in potentially explosive atmospheres (powder, flammable gases)
-The case may only be opened by qualified personnel of PCE Instruments
-The instrument should never be placed with the user interface facing an object (e.g. keyboard side on a table)
-You must not make any technical changes to the device
-The device may only be cleaned with a damp cloth / use pH-neutral cleaner only

This user manual is published by PCE Instruments without any guarantee.

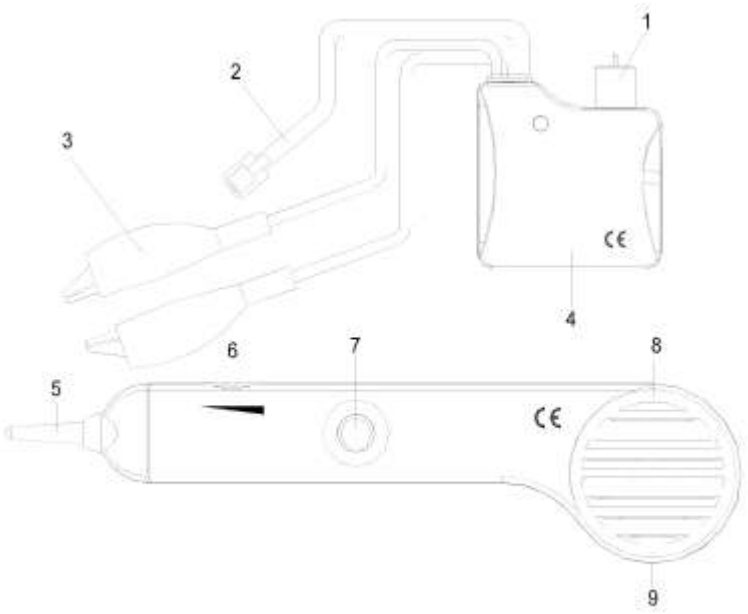
We expressly refer to our general guarantee terms, they can be found in our general terms of business.

If you have any questions please contact PCE Instruments.

3 Specifications

Line detection	by acoustic signal
Voltage range	line must be voltage-free
Acoustic signal	pulsating tone continuous tone
Sensitivity	adjustable
Connections	RJ-11 connector and alligator clips
Operating conditions	0 to 50 °C / 5 to 95 % RH
Power	2 x 9V block batteries
Dimensions	tone generator: 60 x 65 x 30 mm amplifier probe: 245 x 60 x 30 mm
Weight	tone generator: 120 g amplifier probe: 140 g
Norms	CE certified, IEC / EN 61010 – 1:01
Earphone connection	audio jack

4 Device description



1 Power switch
2 Modular connectors
3 Test leads
4 Battery compartment (rear)
5 Probe tip
6 Volume / sensitivity control
7 Power button
8 Battery compartment (rear)
9 Earphone jack

5 Instructions

General

1.Connecting the tone generator.
Cables with termination or ultimate power consumer:
Connect one test lead to a conductor end and the other test lead to earth or equipment ground.
Cables without termination or ultimate power consumer:
Connect both test leads to two conductor ends.
2.Push the round “on/off” button of the amplifier probe. Use the volume control to adjust sensitivity and volume to suit work environment. The volume can be increased to drown noises or decreased to reduce interference. In case of a noisy environment, you can also use the earphones.
3.To make a measurement, switch the tone generator to “TONE.” Move the tip of the amplifier probe along the cable in order to follow the direction of the cable or to detect a broken conductor. Every conductor in question must be measured. Hold the “on/off” button during the measurement. Inside the tone generator there is a switch to change the signal tone (pulsating or continuous signal tone).
4.The signal tone is louder the closer you come to the conductor/cable to be measured.
5.You also have the possibility to test continuity. Switch the tone generator to “CONT.” If the circuit is closed, the LED will glow green. If the circuit is open, the LED does not glow.

Identifying tip and ring (switch to “OFF”)

1.Connect the red test lead to the side of one line and the black test lead to the side of another line.
2.The LED will glow green when you connect the red test lead to the ring side of the line.
3.The LED will glow red when you connect the red test lead to the tip side of the line.

Identifying line condition (switch to “OFF”)

1.Connect the red test lead to the ring side of the line and the black test lead to the tip.
2.Watch the LED:
1.a bright green LED indicates a vacant line.
2.no light indicates a busy line.
3.a brightly flickering yellow light indicates a ringing line.

Verifying lines (switch to “OFF”, then to “CONT”)

1.Dial the line to be verified.
2.While the line is ringing, connect the red lead to the ring side of the line and the black lead to the tip.
3.In the “OFF” position, the indicator light will flicker yellow when the test leads are connected to the subject pair.
4.If you switch the device to “CONT”, it will terminate the call on the subject line.

Sending tone (switch to “TONE”)

⚠CAUTION!
DO NOT CONNECT TO ANY ACTICE AC CIRCUIT EXCEEDING 24V IN THIS MODE.

1.Connect the test leads to the pair, or attach one lead to ground and one lead to either side of the line.
2.A dual pulsating tone or a single continuous tone can be selected from the switch inside the tone generator.
3.Probe the suspected wires with the amplifier probe. The signal tone is louder the closer you come to the wire to be measured. In cases of ready access to bare conductors, a handset or headset may be used to receive the tone.

Testing continuity (switch to “CONT”)

⚠CAUTION!
DO NOT CONNECT TO ANY ACTICE AC OR DC CIRCUIT IN THIS MODE.

1.Connect the test leads to the subject pair.
2.Use “CONT” position.
3.A bright green light indicates continuity. The LED will not glow if the line resistance exceeds 10000Ω.

Testing continuity using “TONE” (switch to “TONE”)

⚠CAUTION!
DO NOT CONNECT TO ANY ACTICE AC OR DC CIRCUIT IN THIS MODE.

1.Connect the test leads to the subject pair.
2.Use a handset or headset and put the clip(s) of the lead(s) on the wire end(s).
3.The tone indicates that there is continuity.

Coax testing

1.To test a coax without termination, connect the red lead to the outer shield and the black lead to the centre conductor or to the ground.
2.To test a coax with termination, connect the red lead to the connector housing and the black lead to the centre pin or to the ground.

6 Maintenance

The amplifier probe is maintenance free except for battery replacement. To replace the battery, switch off the device, remove the screw from the battery compartment, replace the 9V battery and reassemble. Warranty is limited solely to repair or replacement. There is no warranty of marketability, fitness for a particular purpose or consequential damages.

7 Contact

If you have any questions about our range of products or measuring instruments please contact PCE Instruments.

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You can find an overview of our measuring instruments here: http://www.industrial-needs.com/measuring-instruments.htm
You can find an overview of our scales here http://www.industrial-needs.com/balances.htm

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