

Peaktech P2170

Peaktech P2170 LCR Meter Instruction Manual

Model: P2170

1. INTRODUCTION

The Peaktech P2170 is a digital LCR meter with Equivalent Series Resistance (ESR) measurement capabilities. Designed for both component testing in professional environments and for service and maintenance tasks, its compact design and advanced features ensure precise measurements. Key features include an illuminated multifunction display with a bargraph and a high measurement frequency of up to 100 kHz. The device also supports PC connectivity for data storage and analysis using the included software.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent injury or damage to the device:

- Read the entire manual before operating the device.
- Do not operate the meter if it appears damaged or if the insulation is compromised.
- Ensure correct battery installation and replacement.
- Avoid contact with live circuits when connecting or disconnecting test leads.
- Do not exceed the maximum input ratings specified for each function.
- Keep the device dry and clean.

3. PRODUCT OVERVIEW

The Peaktech P2170 LCR Meter is a handheld device designed for measuring inductance (L), capacitance (C), and resistance (R), along with other parameters like ESR, DCR, Dissipation Factor (D), Quality Factor (Q), and Phase Angle (θ).



Figure 1: Front view of the Peaktech P2170 LCR Meter, showing the display, function buttons, and input terminals.

3.1 Components and Accessories

The standard package includes the following items:

- Peaktech P2170 LCR Meter
- USB interface cable
- PC software
- Kelvin clips (test leads)
- Protective carrying case
- AAA batteries (6x 1.5V)
- Instruction manual



Figure 2: Peaktech P2170 LCR Meter shown with its included accessories, including Kelvin clips, USB cable, and software

4. SETUP

4.1 Battery Installation

The device operates on 6 x 1.5V AAA batteries. To install or replace batteries:

1. Ensure the meter is powered off.
2. Locate the battery compartment cover on the rear of the device.
3. Open the cover and insert 6 AAA batteries, observing the correct polarity markings.
4. Close the battery compartment cover securely.

An optional 12V 500mA power adapter can also be used for external power.

4.2 Connecting Test Leads

Use the provided Kelvin clips for accurate measurements. Connect them to the input terminals as follows:

- Connect the red Kelvin clip to the **Hpot** and **Hcur** terminals.
- Connect the black Kelvin clip to the **Lpot** and **Lcur** terminals.
- For 2-wire measurements, connect the test leads to **Hpot** and **Lpot**.
- Ensure a secure connection to minimize measurement errors.

4.3 Software Installation (PC Link)

The included PC software allows for data logging and analysis. Follow these steps to install:

1. Insert the software CD into your computer's optical drive.
2. Follow the on-screen instructions to complete the installation.
3. Connect the meter to your PC using the supplied USB interface cable.
4. Launch the software and establish communication with the device. Refer to the software's help documentation for detailed usage.

5. OPERATING INSTRUCTIONS

5.1 Powering On/Off

Press the **POWER** button to turn the meter on or off.

5.2 Measurement Modes

The P2170 supports various measurement modes. Press the **FUNC** button to cycle through the primary measurement parameters:

- **Ls** (Series Inductance)
- **Cs** (Series Capacitance)
- **Lp** (Parallel Inductance)
- **Cp** (Parallel Capacitance)
- **DCR** (DC Resistance)
- **ESR** (Equivalent Series Resistance)
- **Rp** (Parallel Resistance)

- **D** (Dissipation Factor)
- **Q** (Quality Factor)
- **θ** (Phase Angle)

The illuminated display will show the selected mode and measurement results.

5.3 Measurement Frequency Selection

Press the **FREQ** button to select the desired test frequency. Available frequencies include 100 Hz, 120 Hz, 1 kHz, 10 kHz, and 100 kHz. The chosen frequency will be displayed on the screen.

5.4 Data Hold Function

Press the **HOLD** button to freeze the current measurement reading on the display. Press it again to release the hold function.

5.5 Calibration

To perform a calibration, ensure no component is connected to the input terminals. Press and hold the **CAL** button for approximately 2 seconds. Follow any on-screen prompts.

6. MAINTENANCE

6.1 Cleaning

Wipe the meter's casing with a soft, damp cloth. Do not use abrasive cleaners or solvents. Ensure the device is powered off and disconnected from any power source before cleaning.

6.2 Battery Replacement

When the low battery indicator appears on the display, replace all 6 AAA batteries as described in Section 4.1.

6.3 Storage

If the meter is not used for an extended period, remove the batteries to prevent leakage. Store the device in its protective carrying case in a cool, dry place, away from direct sunlight and extreme temperatures.

7. TROUBLESHOOTING

If you encounter issues with your Peaktech P2170, refer to the following common problems and solutions:

- **Meter does not power on:** Check battery installation and ensure batteries are not depleted. Try replacing with new batteries.
- **Inaccurate readings:**
 - Ensure test leads are properly connected and not damaged.
 - Perform a calibration (Section 5.5).
 - Verify the correct measurement mode and frequency are selected for the component being tested.
 - Ensure the component is properly connected to the Kelvin clips.
- **PC software not connecting:**
 - Check the USB cable connection.
 - Ensure the software drivers are correctly installed.

- Restart both the meter and the PC.

If the problem persists, contact Peaktech customer support.

8. SPECIFICATIONS

Detailed technical specifications for the Peaktech P2170 LCR Meter:

Measurement modes	DCR, Ls, Cs, Lp, Cp, D, Q, Rp, θ , ESR
CAPACITANCE MEASUREMENTS :	
Ranges	200/2000 pF, 20 nF, 20/200 μ F, 2/20 mF
RESISTANCE :	
Ranges	20/200 Ω , 2/20/200 k Ω , 2/20/200 M Ω
INDUCTANCE :	
Ranges	20/200/2000 μ H, 20/200 mH, 20/2000 H, 20 kH
ADDITIONAL FUNCTIONS :	
DCR	200 Ω ~ 200 M Ω
ESR	0.00 Ω ~ 20.0 M Ω
θ phase angle	-180° ~ +180°
D/Q	0.001 ~ 1999
Measurement frequencies	100/120 Hz; 1/10/100 kHz
Operation voltage	6 x 1,5 V AAA batteries; optional power adapter 12 V 500 mA
Dimensions (WxHxD)	100 x 210 x 45 mm
Weight	495 g
EAN-13	4250569402159

Figure 3: Detailed specifications table for the Peaktech P2170 LCR Meter, including measurement modes, ranges, frequencies, and physical characteristics.

Parameter	Value
Measurement Modes	DCR, Ls, Cs, Lp, Cp, D, Q, Rp, θ , ESR
Capacitance Ranges	200/2000 pF, 20 nF, 20/200 μ F, 2/20 mF
Resistance Ranges	20/200 Ω , 2/20/200 k Ω , 2/20/200 M Ω
Inductance Ranges	20/200/2000 μ H, 20/200 mH, 20/2000 H, 20 kH
DCR Range	200 Ω ~ 200 M Ω
ESR Range	0.00 Ω ~ 20.0 M Ω
Phase Angle (θ)	-180° ~ +180°
D/Q Resolution	0.001 ~ 1999
Measurement Frequencies	100/120 Hz; 1/10/100 kHz
Basic Accuracy	0.3 %
Operation Voltage	6 x 1.5 V AAA batteries; optional power adapter 12 V 500 mA
Dimensions (WxHxD)	100 x 210 x 45 mm





Parameter	Value
Weight	495 g
Manufacturer	Peaktech

9. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact Peaktech directly or refer to their official website. Keep your purchase receipt as proof of purchase.

© 2023 Peaktech. All rights reserved.

Related Documents - P2170

 <p>PeakTech® 5307 Bedienungsanleitung / Operation Manual pH & EC Messgerät / Meter</p>	<p>PeakTech 5307 pH/EC/TDS/Temp Meter Operation Manual</p> <p>Comprehensive operation manual for the PeakTech 5307, a 4-in-1 pH, EC, TDS, and temperature meter. Includes safety precautions, operating instructions, calibration procedures, battery replacement, and specifications.</p>
 <p>PeakTech® 5065 Digital Lux-Messgerät / Digital Lux Meter Bedienungsanleitung / Operation Manual</p>	<p>PeakTech 5065 Digital Lux Meter - Operation Manual and Specifications</p> <p>Comprehensive operation manual for the PeakTech 5065 Digital Lux Meter. Includes safety guidelines, features, technical specifications, operating instructions, recommended lux values for various environments, and maintenance procedures.</p>
 <p>PeakTech® 5175 Bedienungsanleitung / Operation Manual Digital Schallpegelmessgerät / Digital Sound Level Meter</p>	<p>PeakTech 5175 Digital Sound Level Meter Operation Manual</p> <p>Comprehensive operation manual for the PeakTech 5175 Digital Sound Level Meter, detailing safety instructions, features, technical specifications, operating procedures, and battery information.</p>
 <p>PeakTech® 5145 Bedienungsanleitung / Operation Manual Professionelles Druckdifferenz- und Luftstrommessgerät / Professional Pressure-Difference & Air Flow Meter</p>	<p>PeakTech 5145 Bedienungsanleitung / Operation Manual</p> <p>The official operation manual for the PeakTech 5145, a professional pressure-difference and air flow meter. This guide covers features, setup, operation, specifications, and safety instructions in German and English.</p>



[PeakTech 8005 Digital Sound Level Meter - Operation Manual](#)

Comprehensive operation manual for the PeakTech 8005 digital sound level meter, covering features, operation, technical specifications, safety precautions, and software installation.



[PeakTech 5310 A Professional pH Meter Operation Manual](#)

Comprehensive operation manual for the PeakTech 5310 A professional digital pH meter. Covers safety precautions, device features, technical specifications, measurement procedures, calibration steps, and battery replacement. Includes contact information for PeakTech Prüf- und Messtechnik GmbH.