FeelTech ZT-DQ01

FeelTech ZT-DQ01 Handheld Digital LCR Meter Instruction Manual

Model: ZT-DQ01
Brand: FeelTech

1. Introduction

This manual provides detailed instructions for the safe and effective use of the FeelTech ZT-DQ01 Handheld Digital LCR Meter. Please read this manual thoroughly before operation.

The ZT-DQ01 is a high-precision handheld digital bridge LCR meter designed for measuring capacitance, resistance, and inductance. It features a 2.8-inch full-view angle color screen and supports true four-wire measurement.

Image 1: FeelTech ZT-DQ01 LCR Meter and included accessories.

2. Key Features

- Handheld digital high-precision bridge tester for LCR measurement.
- Measures resistance, capacitance, and inductance with true four-wire L/C/R/Z value display.
- Equipped with a 2.8-inch full-view angle color screen.
- Automatic identification of resistors, capacitors, and inductors.
- Features an adjustable auto power-off function for energy saving; compact and portable design.

Image 2: Overview of the ZT-DQ01's main features, including true four-wire measurement and L/C/R/Z value display.

3. Setup and Initial Use

3.1 Unpacking

Carefully unpack the ZT-DQ01 LCR Meter and all accessories. Verify that all components listed in the "What's in the Box" section are present:

- ZT-DQ01 LCR Meter
- Test leads
- USB Type-C charging cable
- Carrying pouch

3.2 Charging the Device

The ZT-DQ01 is powered by a 400mA lithium battery. Before first use, fully charge the device using the provided USB Type-C cable and a compatible USB power adapter (not included).

Image 3: The 2.8-inch color screen and Type-C charging port of the ZT-DQ01.

3.3 Connecting Test Leads

Connect the provided test leads to the appropriate input terminals on the LCR meter. Ensure a secure connection for accurate measurements. The meter supports true four-wire measurement for enhanced precision.

Image 4: The ZT-DQ01 LCR Meter connected to a component for testing, demonstrating automatic identification.

4. Operating Instructions

4.1 Power On/Off

Press and hold the power button () to turn the device on or off.

4.2 Basic Measurement

The ZT-DQ01 features automatic identification of resistors, capacitors, and inductors. Simply connect the component to the test leads, and the meter will automatically detect the component type and display the relevant parameters (L, C, R, Z, X, D, Q, θ, ESR).

4.3 Function Buttons

- **FREQ:** Adjusts the test frequency (100Hz, 120Hz, 1KHz, 10KHz, 100KHz).
- **LEVEL:** Sets the test level (0.1V, 0.3V, 0.6V).

- **SPEED:** Adjusts the measurement speed (Slow, Medium, Fast).
- **X/D/Q/θ/ESR:** Cycles through displayed sub-parameters.
- **AUTO/S/P SETUP:** Automatic series/parallel mode setup.
- **LCRZ:** Selects the main measurement parameter (Inductance, Capacitance, Resistance, Impedance).
- **HOLD/REC:** Holds the current measurement or enters record mode.
- **REL TOL%:** Relative measurement and tolerance percentage.

4.4 Discharging Capacitors

WARNING: Always discharge capacitors before testing to prevent damage to the meter or injury.

Image 5: Detailed view of the ZT-DQ01's control panel and display, illustrating various functions.

5. Maintenance

5.1 Cleaning

Wipe the device with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure the device is powered off before cleaning.

5.2 Storage

Store the LCR meter in a cool, dry place, away from direct sunlight and extreme temperatures. Use the provided carrying pouch for protection.

5.3 Calibration

The ZT-DQ01 supports bridge calibration for short circuit and open circuit. Refer to the on-screen menu for calibration procedures to maintain measurement accuracy.

6. Troubleshooting

- **No Power:** Ensure the battery is charged. Connect the USB Type-C cable to charge.
- **Inaccurate Readings:**
  - Check test lead connections.
  - Perform bridge calibration (short circuit, open circuit).
  - Ensure the component is properly discharged before testing.
  - Verify correct test frequency and level settings.
- **Display Issues:** Adjust backlight brightness if the screen is too dim or bright.

7. Technical Specifications

FeelTech ZT-DQ01 LCR Meter Specifications

Parameter	Value/Range
Model Number	ZT-DQ01
Display	2.8-inch full view angle color screen
Measurement Parameters	L, C, R, Z, X, D, Q, θ, ESR
Resistance Range	0Ω - 20MΩ
Capacitance Range	0pF - 100mF
Inductance Range	0nH - 100H
Test Frequencies	100Hz, 120Hz, 1KHz, 10KHz, 100KHz
Test Levels	0.1V, 0.3V, 0.6V
Accuracy	Up to 0.3%
Battery	400mA Lithium Battery
Charging Interface	USB Type-C
Dimensions	146 x 30 x 18 mm
Weight	1 Kilogram (approx. 2.2 lbs)

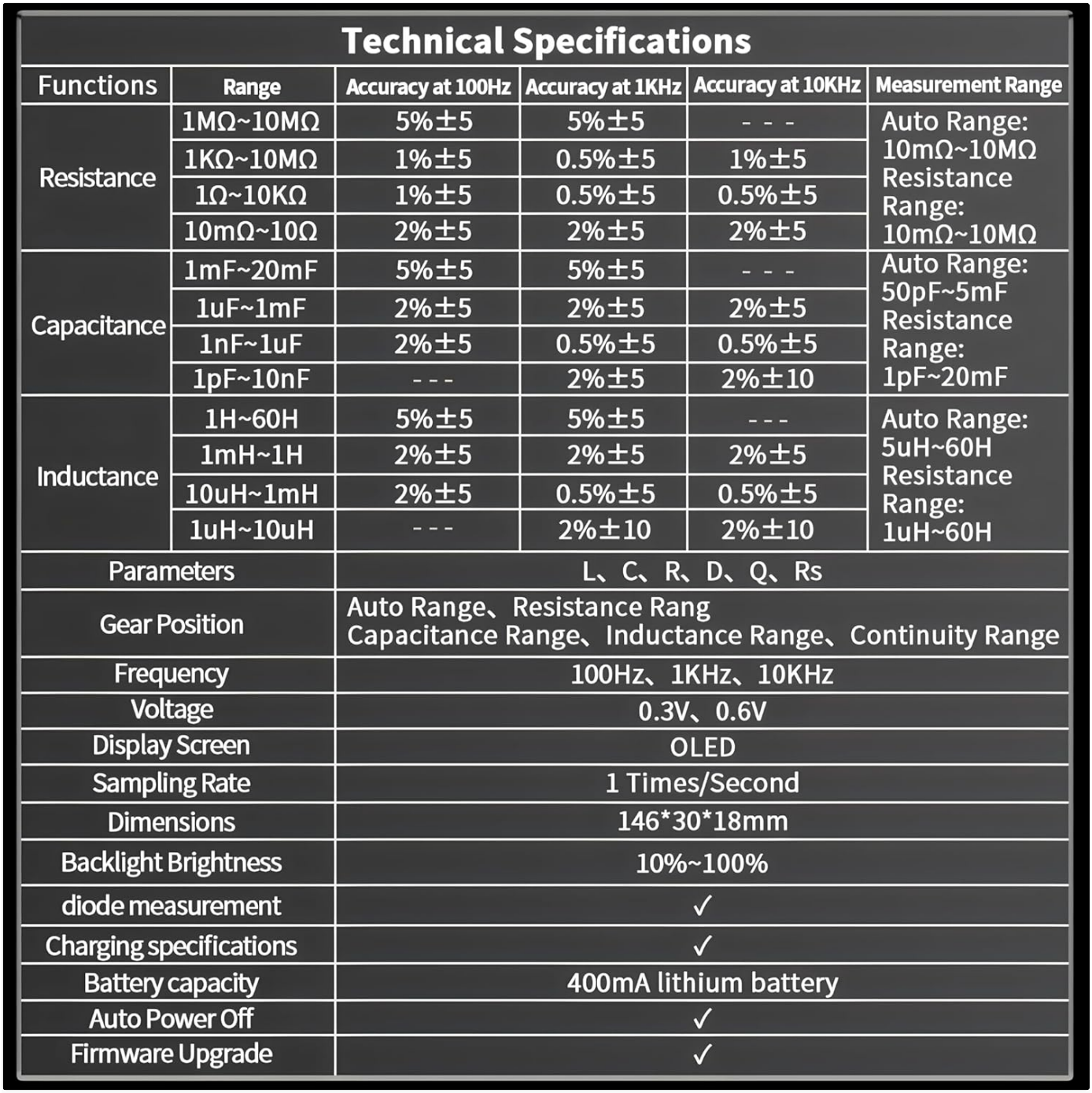
Parameter	Value/Range
Certifications	CE, RoHS

Image 6: Detailed technical specifications table for the ZT-DQ01 LCR Meter.

8. Applications

The FeelTech ZT-DQ01 LCR Meter is suitable for a wide range of applications, including:

- Equipment Maintenance
- Scientific Research and Education
- Production Testing
- Electronic Engineering Development



Technical Specifications					
Functions	Range	Accuracy at 100Hz	Accuracy at 1KHz	Accuracy at 10KHz	Measurement Range
Resistance	1MΩ~10MΩ	5%±5	5%±5	- - -	Auto Range: 10mΩ~10MΩ Resistance Range: 10mΩ~10MΩ
	1KΩ~10MΩ	1%±5	0.5%±5	1%±5	
	1Ω~10KΩ	1%±5	0.5%±5	0.5%±5	
	10mΩ~10Ω	2%±5	2%±5	2%±5	
Capacitance	1mF~20mF	5%±5	5%±5	- - -	Auto Range: 50pF~5mF Resistance Range: 1pF~20mF
	1uF~1mF	2%±5	2%±5	2%±5	
	1nF~1uF	2%±5	0.5%±5	0.5%±5	
	1pF~10nF	- - -	2%±5	2%±10	
Inductance	1H~60H	5%±5	5%±5	- - -	Auto Range: 5uH~60H Resistance Range: 1uH~60H
	1mH~1H	2%±5	2%±5	2%±5	
	10uH~1mH	2%±5	0.5%±5	0.5%±5	
	1uH~10uH	- - -	2%±10	2%±10	
Parameters		L、C、R、D、Q、Rs			
Gear Position		Auto Range、Resistance Rang Capacitance Range、Inductance Range、Continuity Range			
Frequency		100Hz、1KHz、10KHz			
Voltage		0.3V、0.6V			
Display Screen		OLED			
Sampling Rate		1 Times/Second			
Dimensions		146*30*18mm			
Backlight Brightness		10%~100%			
diode measurement		✓			
Charging specifications		✓			
Battery capacity		400mA lithium battery			
Auto Power Off		✓			
Firmware Upgrade		✓			

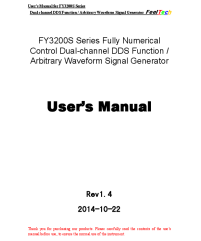
Image 7: Illustrates various applications of the ZT-DQ01 LCR Meter in different fields.

9. Warranty and Support

This product comes with a standard manufacturer's warranty. For warranty claims or technical support, please contact your retailer or the manufacturer directly. Please refer to your purchase documentation for specific warranty terms and contact information.

EU Spare Part Availability Duration: 1 Year.

Related Documents - ZT-DQ01

	FeelTech FY6600 Series Dual Channel Function/Arbitrary Waveform Generator User's Manual User's manual for the FeelTech FY6600 Series Dual Channel Function/Arbitrary Waveform Generator, covering features, operation, technical specifications, and troubleshooting for models like FY6600-15M, FY6600-30M, FY6600-50M, and FY6600-60M.
	Инструкция по эксплуатации усилителя мощности FeelTech FYA20A0S Полное руководство по эксплуатации, мерам предосторожности и техническим характеристикам усилителя мощности FeelTech FYA2000S серии.
	FeelTech FY3200S Series Dual Channel Function/Arbitrary Waveform Generator User's Manual User's manual for the FeelTech FY3200S Series Fully Numerical Control Dual Channel Function/Arbitrary Waveform Generator, detailing its features, specifications, operation, and safety information.
	FeelTech FY3200S Series Dual-channel DDS Function / Arbitrary Waveform Signal Generator User's Manual User's manual for the FeelTech FY3200S Series Dual-channel DDS Function and Arbitrary Waveform Signal Generator. This document provides detailed information on the instrument's features, technical specifications, operating procedures, safety precautions, and accessories.
	FeelTech FY3200S Series Dual Channel Function/Arbitrary Waveform Generator User's Manual Comprehensive user's manual for the FeelTech FY3200S Series Dual Channel Function/Arbitrary Waveform Generator, detailing its features, specifications, and operation.
	FeelTech FYA20A0S Power Amplifier Series User Manual This user manual provides detailed information on the FeelTech FYA20A0S power amplifier series, including its applications, compatible power supplies, external view, and essential safety precautions. Learn how to safely and effectively use the FYA20A0S for electronics development, testing, and more.