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Aideepen LCR-TC1 (Model: 2_051055)

Aideepen LCR TC1 Multi-Function Component Tester User Manual

Model: LCR-TC1 (2_051055)

Introduction

The Aideepen LCR TC1 Multi-Function Component Tester is a versatile electronic testing device designed for automatic detection and measurement of various electronic components. It features a 1.8-inch full-color display and is capable of identifying and characterizing NPN and PNP transistors, n-channel and p-channel MOSFETs, diodes (including double diodes), thyristors, resistors, and capacitors. This manual provides detailed instructions for the proper use, setup, and maintenance of your LCR TC1 tester.

Key Features

- **1.8" Full Color Display:** Provides clear and comprehensive measurement results.
- **Automatic Component Detection:** Automatically identifies NPN/PNP transistors, MOSFETs, diodes, thyristors, resistors, and capacitors.
- **Built-in Lithium Battery:** Offers convenient and effective portable operation with an indicator light for charging status.
- **IR Decoder Function:** Decodes infrared remote control signals, displaying user code, data code, and corresponding infrared waveform.
- **Auto Shut-down Function:** Conserves battery life by automatically powering off after a period of inactivity.
- **ESR Measurement:** Measures Equivalent Series Resistance for capacitors.

Package Contents

Upon opening your package, please verify that all the following items are included:

- Aideepen LCR TC1 Multi-Function Component Tester Unit
- Three Color-Coded Test Clips (Green, Yellow, Red)
- Micro USB Charging Cable

- Set of Small Components for Initial Testing (e.g., resistor, capacitor, diode)

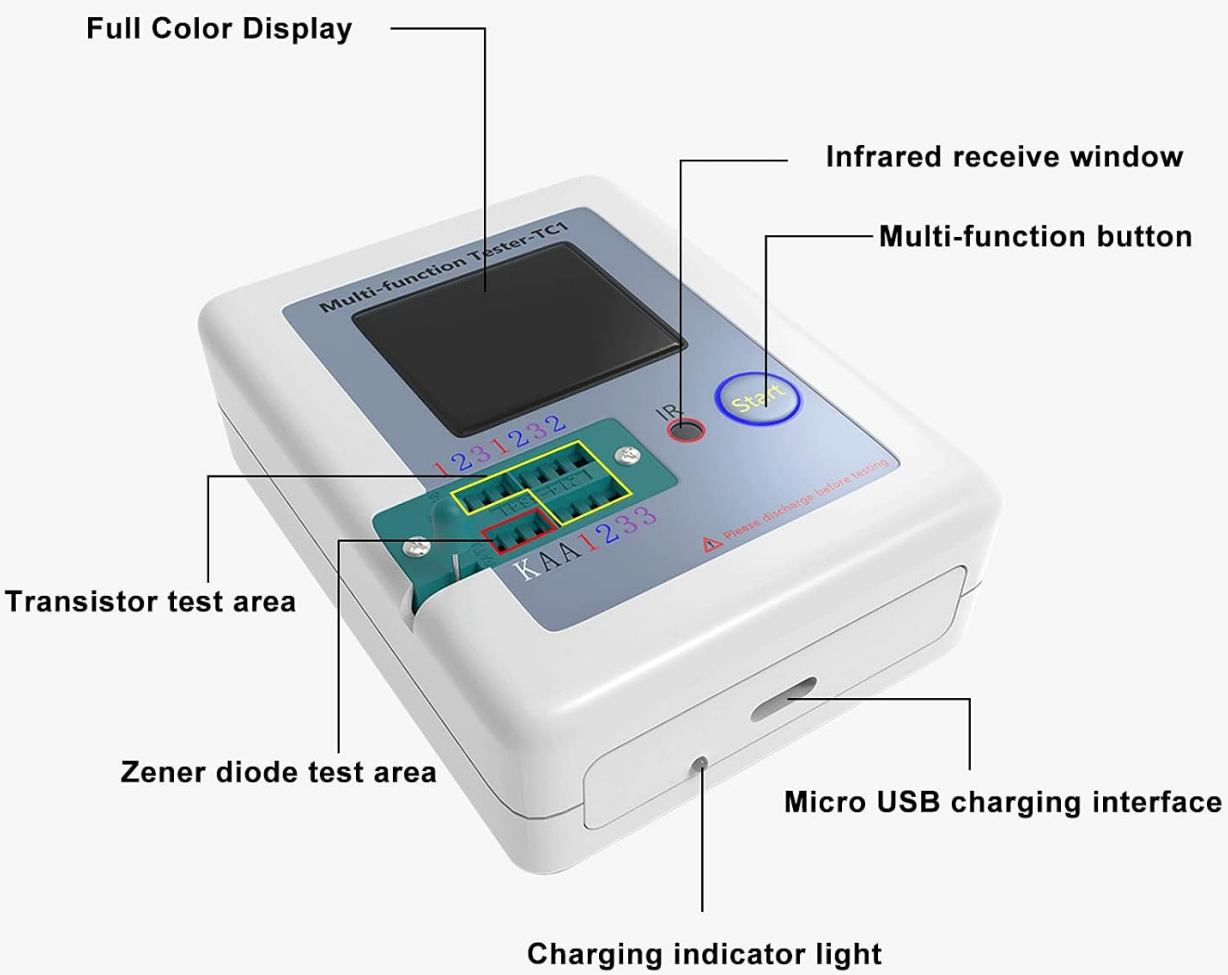


This image displays the Aideepen LCR TC1 Multi-Function Component Tester along with its standard accessories, including three color-coded test clips (green, yellow, red), a white USB charging cable, and various small components for testing.

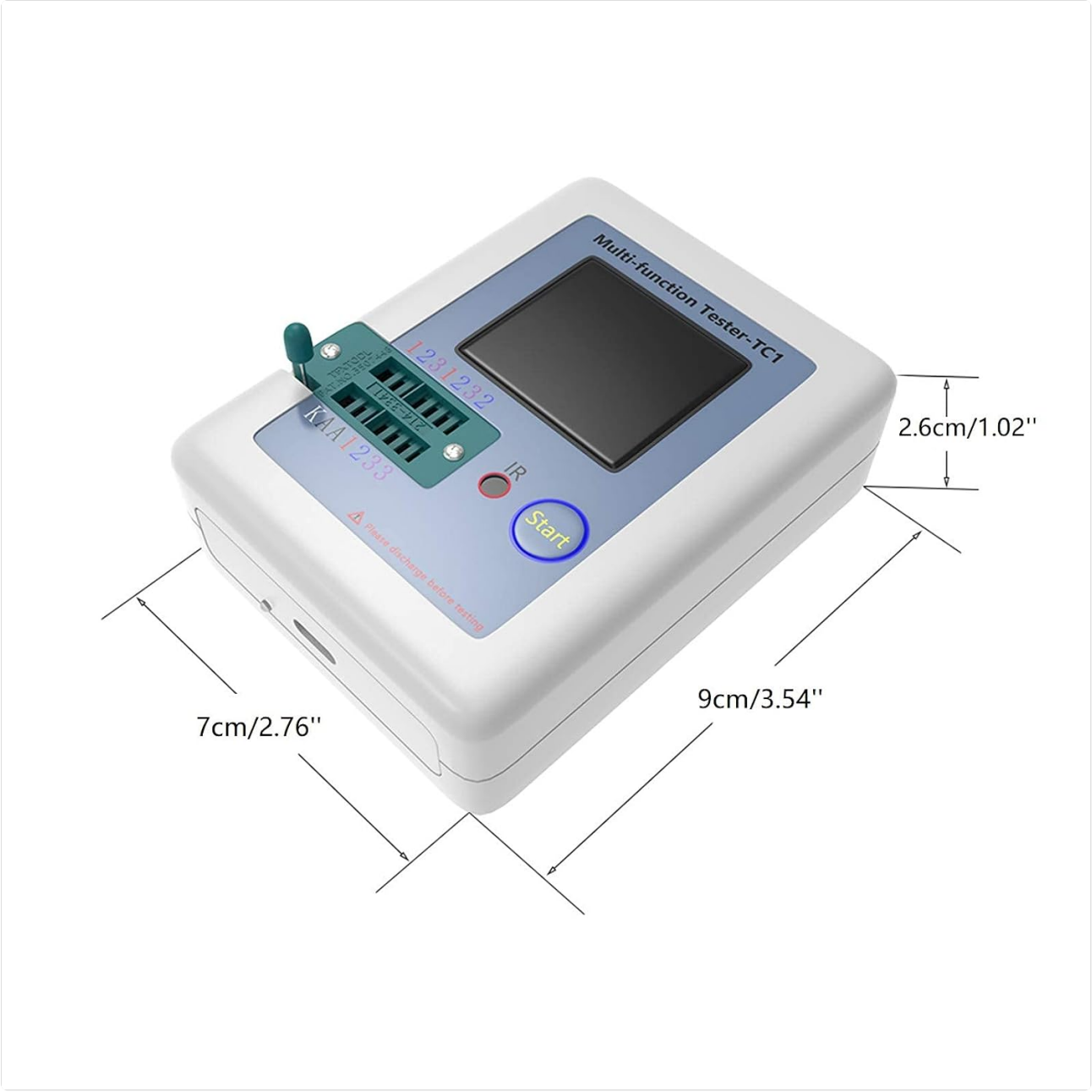
Product Overview

Familiarize yourself with the various parts of your LCR TC1 tester:

- **Full Color Display:** The main screen for displaying measurement results.
- **Transistor Test Area (ZIF Socket):** A Zero Insertion Force (ZIF) socket with numbered pins (1, 2, 3) for inserting components like transistors, diodes, and capacitors.
- **Zener Diode Test Area:** Dedicated area for testing Zener diodes.
- **IR Receive Window:** Sensor for receiving infrared signals from remote controls.
- **Multi-function Button ('Start'):** Initiates testing and navigates menus.
- **Micro USB Charging Interface:** Port for connecting the USB charging cable.
- **Charging Indicator Light:** Illuminates during charging and indicates full charge.



An annotated diagram highlighting the key physical features of the LCR TC1 tester, such as the 1.8-inch full-color display, the IR sensor, the 'Start' button, the ZIF socket for transistor testing, and the Micro USB charging port.



This image provides the physical dimensions of the LCR TC1 tester, indicating its compact size for portability and ease of use.

Setup

Before first use, or when the battery is low, charge the device:

1. Connect the Micro USB charging cable to the Micro USB charging interface on the side of the tester.
2. Connect the other end of the USB cable to a compatible 4.5V USB power source (e.g., computer USB port, USB wall adapter).
3. The charging indicator light will illuminate during charging. It will turn green when the battery is fully charged.
4. **Important:** Do not use a power source exceeding 4.5V, as this may damage the tester.

Operation

Basic Component Testing

The LCR TC1 automatically identifies and measures most common electronic components. Always ensure

capacitors are fully discharged before testing to prevent damage to the tester.

1. **Prepare Component:** Ensure the component leads are clean and straight.
2. **Insert Component:** Open the lever of the ZIF socket. Insert the component leads into any three of the numbered pins (1, 2, 3) in the transistor test area. For two-lead components like resistors or capacitors, use any two pins. For larger components or those with non-standard leads, use the provided test clips connected to the corresponding pins.
3. **Secure Component:** Close the ZIF socket lever to secure the component.
4. **Start Test:** Press the 'Start' multi-function button.
5. **Read Results:** The tester will automatically detect the component type and display its parameters (e.g., resistance, capacitance, inductance, transistor type, pinout, gain, voltage drop) on the full-color screen within a few seconds.



A detailed view of the Zero Insertion Force (ZIF) socket on the LCR TC1, illustrating how components are securely placed for accurate testing.



What's the difference between 3 versions?

Point 1: LCR-T7 / LCR-TC1:color screen / M644 chip, two functions are the same! T7 is slightly faster!

Point 2:The LCR-TC1 screen is slightly larger and they are all powered by lithium batteries. In addition to measuring resistance, capacitance, inductance, diodes, thyristors,MOS transistors, it can also measure additional voltage regulators, infrared decoding (limited to for Hitachi format).

Point 3:TC-T7-H is an upgraded version of LCR-T7, Add infrared coding function.

The LCR TC1 tester is shown held in a hand, demonstrating its portable design and the clear display of measurement results for a capacitor.

IR Decoder Function

The LCR TC1 can also decode infrared remote control signals:

1. After a component detection is completed, point an infrared remote control towards the tester's "IR" test hole (infrared receive window).
2. Press a button on the remote control.
3. The tester will display the user code, data code, and the corresponding infrared waveform on the screen after successful decoding.

Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the device. Do not use abrasive cleaners or solvents.
- **Storage:** Store the tester in a cool, dry place away from direct sunlight and extreme temperatures.
- **Battery Care:** For optimal battery life, avoid fully discharging the battery frequently. Recharge when the low

battery indicator appears. If storing for extended periods, charge the battery to approximately 50% every few months.

- **Discharge Capacitors:** Always ensure capacitors are fully discharged before connecting them to the tester to prevent damage.

Troubleshooting

- **Tester does not turn on:** Ensure the battery is charged. Connect the USB cable and allow it to charge for at least 30 minutes before attempting to power on again.
- **Inaccurate readings for small capacitors (e.g., <100pF):** The tester may show significant inaccuracies or report 'no component' for very small capacitance values. This is a known limitation for some component testers.
- **Incorrect readings for Darlington transistors:** The tester might report an hFE of zero for Darlington transistors even if they are functional. Consider alternative testing methods for these specific components.
- **"Please discharge before testing" message:** This warning indicates that a connected capacitor still holds a charge. Disconnect the capacitor and safely discharge it before re-attempting the test.
- **Screen appears broken or distorted:** If the device arrived with a broken screen or develops screen issues, contact customer support for assistance.
- **Tester reads everything as a battery:** This can indicate an internal fault or a severely discharged battery. Ensure the battery is fully charged. If the issue persists, contact customer support.

Specifications

Parameter	Value
Display	1.8" Full Color TFT Display
Power Source	Built-in Lithium Polymer Battery
Charging Input Voltage	4.5V (via Micro USB)
Dimensions (L x W x H)	9 cm x 7 cm x 2.6 cm (3.54 x 2.76 x 1.02 inches)
Weight	3.84 ounces
Measurement Type	LCR Meter, Transistor Tester

Warranty and Support

For warranty information and technical support, please refer to the product packaging or contact Aideepen customer service through their official channels. Keep your purchase receipt as proof of purchase.

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