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## OnRetul CT03

# CT03 Power Circuit Tester User Manual

Model: CT03 | Brand: OnRetul

## 1. INTRODUCTION

This user manual provides comprehensive instructions for the safe and effective operation of the OnRetul CT03 Power Circuit Tester. This versatile tool is designed for automotive electrical diagnostics and maintenance, operating within a 6-24V DC range. It efficiently identifies electrical polarity, tests for short circuits, and verifies continuity in various automotive components. The built-in overload protection feature safeguards both the tool and the circuits being tested, making it suitable for professional mechanics and DIY enthusiasts.

## 2. SAFETY INFORMATION

Always observe the following safety precautions when using the CT03 Power Circuit Tester:

- Ensure the vehicle's ignition is off before connecting or disconnecting the tester, unless specific testing procedures require it to be on.
- Do not use the tester on AC power circuits or voltages exceeding 36V DC. The tester is designed for 3.5V to 36V DC systems.
- Wear appropriate personal protective equipment, including safety glasses, to prevent eye injury from electrical arcs or debris.
- Avoid contact with live electrical components. Use insulated tools and maintain a safe distance.
- Do not operate the tester if it appears damaged or if the cables are frayed.
- Keep the tester away from water, oil, and other liquids.
- The overload protection will trip if the current exceeds 8A. A buzzer alarm will sound, and the unit will auto-reset.

## 3. PRODUCT OVERVIEW

### 3.1 Components

The CT03 Power Circuit Tester consists of the following main components:

- **Probe:** The pointed tip used to contact electrical points.

- **LED Lights:** Integrated lights for illuminating the work area.
- **LED Polarity Detection:** Indicators (red/green) to show positive or negative polarity.
- **LCD Display:** Digital screen showing real-time DC voltage values.
- **Output Power Switch:** Button to activate power output from the probe.
- **Buzzer:** Provides audible cues for certain functions, such as continuity.
- **Power Cables:** Red and black alligator clips for connecting to the vehicle's battery.



Figure 1: CT03 Power Circuit Tester Components

### 3.2 Key Features

The CT03 Power Circuit Tester offers a range of functionalities for comprehensive electrical system testing:

- **Component Flexibility:** Versatile for testing various automotive components.
- **Voltage Detection:** Measures DC voltage from 3.5V to 36V.
- **Diode Detection:** Capable of testing diodes.
- **Continuity Test:** Verifies electrical continuity in circuits.
- **Ground Detection:** Identifies ground connections.
- **Tracking Short-Circuit:** Assists in locating short circuits.
- **Polarity Detection:** Clearly indicates positive or negative poles.

- **Overload Protection:** Automatic circuit breaker trips at 8A to protect the device.
- **Floodlight:** Built-in light for improved visibility in dark areas.
- **Sound Cue:** Audible alerts for certain test results.



Figure 2: CT03 Power Circuit Tester Features

## 4. SETUP

To prepare the CT03 Power Circuit Tester for use:

1. Connect the **red alligator clip** to the positive terminal of the vehicle's battery.
2. Connect the **black alligator clip** to the negative terminal of the vehicle's battery.
3. Once connected, the blue digital screen on the tester will display the current battery voltage in real-time, indicating it is powered on and ready for use.



Figure 3: Proper Connection to Vehicle Battery

## 5. OPERATING INSTRUCTIONS

The CT03 Power Circuit Tester can perform various diagnostic functions:

### 5.1 Voltage and Polarity Testing

To test voltage and identify polarity:

1. With the tester connected to the battery, touch the probe tip to the circuit or component you wish to test.
2. The LCD display will show the detected DC voltage.
3. The LED polarity indicators will light up: green for negative electrode/reverse activation, and red for positive pole/forward activation.

# LCD HIGH-DEFINITION DISPLAY



Figure 4: LCD High-Definition Display and Polarity Indication

## 5.2 Continuity Testing

To check for continuity in a circuit:

- Connect the tester to the vehicle's battery.
- Touch the probe tip to one end of the circuit or component.
- If continuity is present, the buzzer will sound, indicating a complete circuit.

## 5.3 Activating Components (Power Output)

The tester can supply power to components for testing:

- Connect the tester to the vehicle's battery.
- Touch the probe tip to the component's power input.
- Press the "Positive" or "Negative" output power switch to supply the corresponding voltage.
- Observe the component's reaction (e.g., a light bulb illuminating, a motor spinning).
- **Caution:** Do not exceed the component's voltage or current rating. The tester has an 8A overload protection.

## 5.4 Short Circuit Tracking

The CT03 can assist in locating short circuits:

- Connect the tester to the battery.
- Follow the circuit path with the probe. The tester's indicators and sound cues can help pinpoint the location of a short.

### 5.5 Night Use (Floodlight Feature)

The integrated floodlight allows for testing in low-light conditions:

- The LED lights on the tester provide illumination for easier night maintenance.



Figure 5: Tester's Floodlight in Use

### 5.6 Applicable Vehicle Types

The CT03 Power Circuit Tester is compatible with a wide range of 12V and 24V vehicle battery systems, including:

- Buggy
- Vans
- Off-road vehicles
- SUVs

- Commercial vehicles
- Two-wheeled electric vehicles
- Two-wheeled motorcycles
- Three-wheeled vehicles

# SUITABLE MODEL

Support Buggy, vans, off-road vehicles, SUVs, commercial vehicles, two-wheeled electric vehicles, two-wheeled motorcycles, three-wheeled vehicles



Figure 6: Suitable Vehicle Models

## 5.7 Operational Demonstration Video

Your browser does not support the video tag.

Video 1: Demonstration of the CT03 Power Circuit Tester's basic operation, including connecting to a battery and testing voltage and polarity.

## 6. MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your CT03 Power Circuit Tester:

- After each use, wipe the tester and cables with a clean, dry cloth to remove any dirt, grease, or moisture.
- Store the tester in a dry, cool place, away from direct sunlight and extreme temperatures.
- Inspect the probe tip and alligator clips regularly for any signs of wear or damage. Replace if necessary.

- Do not attempt to disassemble the tester. Refer to professional service if repairs are needed.

## 7. TROUBLESHOOTING

Common issues and their solutions:

Problem	Possible Cause	Solution
No display or power when connected to battery.	Incorrect battery connection (reversed polarity or loose clips).	Ensure red clip is on positive (+) and black clip is on negative (-). Securely attach clips.
Screen doesn't display voltage, but indicator light is on.	Reverse connection of battery clips.	Correctly connect the red clip to the positive terminal and the black clip to the negative terminal.
Buzzer sounds continuously or unexpectedly.	Short circuit detected or continuity in an unintended path.	Re-evaluate the circuit being tested. Check for unintended connections or shorts.
Tester shuts off during power output.	Overload protection tripped (current exceeded 8A).	Reduce the load or check for a short in the component being powered. The tester will auto-reset.

## 8. SPECIFICATIONS

Feature	Specification
Model Number	CT03
Brand	OnRetul
Operating Voltage Range	3.5V - 36V DC (Not suitable for AC power)
Overload Protection	8A (Automatic reset)
Product Dimensions (L x W x H)	9 x 1.5 x 1.3 inches
Weight	11.36 ounces
Power Source	Corded Electric (via vehicle battery)
Color	Blue

## 9. WARRANTY AND SUPPORT

OnRetul is committed to providing high-quality products and excellent customer service. For any technical assistance, product inquiries, or support needs, please contact our dedicated support team.

We offer 24/7 online technical support to ensure worry-free assistance from purchase consultation to post-purchase usage. Our goal is to make professional-grade circuit testing accessible and supported for all users.

For further information or to contact support, please visit the official OnRetul website or refer to the contact details provided with your product packaging.

