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› Klein Tools RT310 Outlet Tester, AFCI and GFCI Receptacle Tester for North American AC Electrical Outlets

## Klein Tools RT310

# Klein Tools RT310 Outlet Tester Instruction Manual

Comprehensive guide for safe and effective use of your RT310 Outlet Tester.

## 1. IMPORTANT SAFETY INFORMATION

### WARNING:

- Read, understand, and follow all warnings and instructions before operating testers.
- Before each use, verify tester operation by testing on a known live and correctly wired receptacle and circuit.
- DO NOT use if the tester appears damaged in any way.
- The tester is intended for indoor use only.
- Tester is designed for use with 120V AC electrical systems. DO NOT connect to higher voltage electrical supplies.
- This tester only detects common wiring problems. DO NOT attempt electrical testing on an incorrectly wired outlet.
- Always consult a qualified electrician to resolve wiring problems.

## 2. PRODUCT OVERVIEW

The Klein Tools RT310 Outlet Tester is a professional-grade electrical tester designed to assess the wiring condition of North American 120V AC electrical outlets. It is capable of inspecting and checking AFCI (Arc Fault Circuit Interrupter) and GFCI (Ground Fault Circuit Interrupter) devices, and detecting common wiring faults.

### Key Features:

- Comprehensive wiring fault detection in standard, AFCI, and GFCI electrical outlets.
- Tests AFCI devices by simulating arc fault conditions.
- Tests GFCI devices by simulating ground fault conditions.

- Detects dual-open wiring faults (simultaneous open neutral and open ground wires) with patent-pending technology.
- Provides clear visual indication of wiring conditions.
- Designed for North American-style grounded electrical outlets (120V AC circuits).
- Features a 10-inch (25.4 cm) flexible electrical cord for access to hard-to-reach outlets.



Figure 2.1: The Klein Tools RT310 Outlet Tester, showing its flexible cord and main body.

### 3. SETUP AND BATTERY INSTALLATION

The RT310 comes with 3 x 1.5V AAA alkaline batteries included. Before first use, ensure batteries are correctly installed.

#### Battery Installation:

1. Locate the battery compartment on the back of the tester.
2. Use a screwdriver to open the battery compartment cover.
3. Insert 3 AAA batteries, ensuring correct polarity (+/-) as indicated inside the compartment.
4. Replace the battery compartment cover and secure it with the screw.



Figure 3.1: Labeled components of the RT310, including the power on/low battery indicator.

## 4. OPERATING INSTRUCTIONS

The RT310 is designed for ease of use, providing clear indications of wiring status and device functionality.

### 4.1 Basic Wiring Test:

1. Plug the RT310 into the 120V AC North American-style grounded electrical outlet you wish to test.
2. Observe the LED indicators on the tester. The combination of lit LEDs will indicate the wiring condition (e.g.,

Correct Wiring, Open Ground, Open Neutral, Open Hot, Hot/Ground Reverse, Hot/Neutral Reverse).

3. A red "ENERGIZED" indicator will light up if the circuit is live.



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Since 1857

**10" flexible electrical cord** for difficult to reach outlets

**120V AC** in 3-Wire Grounded Electrical Outlet

**Detects the most common wiring faults** in standard, AFCl, and GFCI electrical outlets

**Patent pending AFCl test method** unique to Klein Tools

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2m  
CE CAT III 135V

Figure 4.1: The RT310 plugged into an electrical outlet, displaying wiring status.

#### 4.2 GFCI Device Test:

1. Plug the RT310 into the GFCI outlet.
2. Press the **GFCI** button on the tester.
3. The GFCI device should trip (power off). If it trips, the GFCI is functioning correctly.
4. Reset the GFCI device after testing.

#### 4.3 AFCl Device Test:

1. Plug the RT310 into the AFCl outlet.
2. Press the **AFCl** button on the tester.
3. The AFCl device should trip (power off). If it trips, the AFCl is functioning correctly.

4. Reset the AFCI device after testing.



Figure 4.2: User interacting with the RT310, demonstrating the button press for testing.

#### 4.4 Understanding Wiring Indications:

Table 4.1: Wiring Condition Indicators

Indicator Pattern	Wiring Condition
Two amber lights (left and right)	Correct Wiring
No lights	Open Hot
Right amber light only	Open Ground
Left amber light only	Open Neutral
Center red light only	Hot/Ground Reverse

Indicator Pattern	Wiring Condition
Left and right red lights	Hot/Neutral Reverse

Refer to the labels on the RT310 for visual representation of these patterns.

Your browser does not support the video tag.

Video 4.1: Official Klein Tools video demonstrating the Receptacle Tester in action. This video shows how to plug in the tester and interpret the LED indicators for various wiring conditions.

## 5. MAINTENANCE

The Klein Tools RT310 is designed for durability and requires minimal maintenance. Regular care will ensure its longevity and accurate performance.

### 5.1 Cleaning:

- Wipe the tester with a clean, dry, lint-free cloth.
- Do not use abrasive cleaners or solvents.

### 5.2 Battery Replacement:

When the low battery indicator illuminates, replace the batteries promptly to ensure accurate readings. Follow the steps outlined in Section 3.1 for battery installation.

### 5.3 Storage:

- Store the tester in a cool, dry place away from direct sunlight and extreme temperatures.
- If storing for extended periods, remove the batteries to prevent leakage.

## 6. TROUBLESHOOTING

If you encounter issues with your RT310, refer to the following common troubleshooting tips:

### Common Issues and Solutions:

- **Tester does not power on or indicators are dim:**
  - Check battery installation and ensure correct polarity.
  - Replace batteries with fresh 1.5V AAA alkaline batteries.
- **GFCI/AFCI test does not trip the circuit:**
  - Ensure the outlet is indeed a GFCI or AFCI protected outlet.
  - Verify the tester is functioning correctly by testing on a known good GFCI/AFCI outlet.
  - If the device still does not trip, the GFCI/AFCI device may be faulty and require replacement by a qualified electrician.

- **Inconsistent or unexpected wiring indications:**

- Ensure the tester is fully inserted into the outlet.
- Test on a known correctly wired outlet to confirm tester functionality.
- If issues persist, there may be complex wiring problems that require inspection by a qualified electrician.

For issues not covered here, or if you are unsure about electrical wiring, always consult a qualified electrician.

## 7. SPECIFICATIONS

Feature	Detail
Model Number	RT310
Product Dimensions	18.53 x 2.37 x 1.28 inches
Item Weight	8.5 ounces
Power Source	Battery Powered (3 x 1.5V AAA included)
Color	Black
Country of Origin	China
First Available Date	March 14, 2019

## 8. WARRANTY AND SUPPORT

Klein Tools products are known for their quality and durability. For specific warranty information and customer support, please refer to the official Klein Tools website or contact their customer service department.

You can also find additional resources and FAQs on the [Klein Tools Store on Amazon](#).

For a digital copy of the user manual, please visit: [User Manual \(PDF\)](#)