ENGLISH

RT310

# INSTRUCTION MANUAL

## AFCI / GFCI Outlet Tester

- INSPECT & CHECK AFCI & GFCI DEVICES
- TEST WIRING CONDITION AT ELECTRICAL OUTLETS
- DETECT & IDENTIFY COMMON WIRING FAULTS

2 m

IP40

GFCI
AFCI
30mA




Intertek 5001748

CAT III 135V

KLEIN TOOLS

## GENERAL SPECIFICATIONS

RT310 is an electrical outlet tester that tests the wiring condition at an electrical outlet, and inspects GFCI and AFCI devices. It is designed for use with North American 120V electrical outlets.

- **Operating Altitude:** 6562 ft. (2000m)
- **Relative Humidity:** <85% non-condensing
- **Operating Temp:** 32° to 122°F (0° to 50°C)
- **Storage Temp:** -4° to 140°F (-20° to 60°C)
- **Dimensions:** 7.4' x 2.3" x 1.3" (188 x 58 x 32 mm)
- **Weight:** 8.5 oz. (241 g) including batteries
- **Battery Type:** 3 x 1.5V AAA Alkaline
- **Standards:** Conforms to UL STD.61010-1, 61010-2-030, 1436

  Certified to CSA STD C22.2 # 61010-1, 61010-2-030, 160

  Intertek 5001748
- **Pollution degree:** 2
- **Drop Protection:** 6.6 ft. (2m)
- **Ingress Protection:** IP40 dust resistant
- **Safety Rating:** CATIII 135V

  ***CAT III:*** *Measurement category III is applicable to test and measuring circuits connected to the distribution part of the building's low-voltage MAINS installation.*

*Specifications subject to change.*

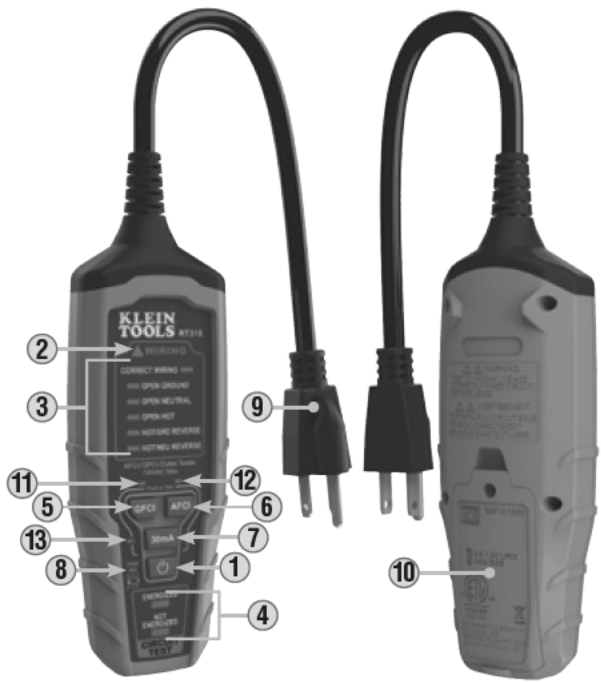
## ⚠ WARNINGS

***To ensure safe operation and service of the tester, follow these instructions. Failure to observe these warnings can result in severe injury or death.***

- RT310 is designed for use with North American 120V electrical outlets. **DO NOT** connect to higher voltage electrical supplies.
- Prior to use, always verify tester operation by testing on a known live and correctly wired electrical outlet.
- **DO NOT** attempt an AFCI testing event on a circuit with powered ON equipment or devices. Remove or power OFF prior to testing.
- **DO NOT** use if the tester appears damaged in any way.
- The tester is intended for indoor use only.
- Other equipment or devices attached to the circuit being tested could interfere with the tester. Clear the circuit before testing.
- This tester only detects common wiring problems. Always consult a qualified electrician to resolve wiring problems.
- **DO NOT** attempt AFCI, GFCI, or 30mA ground fault testing on an incorrectly wired outlet. Consult a qualified electrician to resolve wiring problems.



## FEATURE DETAILS




1. Power button
2. Hazardous Voltage Warning
3. Wiring Condition Indicators
4. Circuit Energized / Not Energized Indicator
5. GFCI Test Button
6. AFCI Test Button
7. 30mA Ground Fault Test Button
8. Power On / Low Battery Indicator
9. Plug
10. Battery Cover
11. GFCI Indicator
12. AFCI Indicator
13. 30mA Indicator

## OPERATING INSTRUCTIONS

⚠ ***RT310 is designed for use with North American 120V electrical outlets. DO NOT connect to higher voltage electrical supplies.***

### POWER ON/OFF

Press the Power button (1) to power ON/OFF the tester. When the tester is powered ON, the Power ON indicator (8) will be illuminated. The tester will automatically power OFF after 2 minutes of inactivity to conserve battery life.

**NOTE:** Always power ON the tester before inserting the plug (9) into an electrical outlet.

### WIRING CONDITION

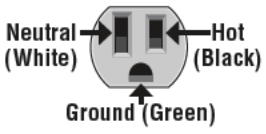
⚠ ***Prior to use, always verify tester operation by testing on a known live and correctly wired electrical outlet.***

With the tester powered ON and inserted into the outlet, the wiring condition will be indicated by the wiring condition indicators (3). If the outlet is energized, the Hazardous Voltage Warning (2) and the Energized Indicator (4) will be illuminated. The wiring condition will be communicated as detailed in the table below.

⚠ ***If the tester indicates that the outlet is not wired correctly, consult a qualified electrician.***

**NOTE:** Conditions NOT indicated include, but are not limited to, quality of ground, multiple hot wires, reversal of neutral and ground conductors, and combinations of defects other than dual open neutral and ground.

**NOTE:** All appliances or equipment on the circuit being tested should be unplugged to help reduce the possibility of erroneous readings.




- Indicator not illuminated
- Indicator illuminated
- ✱ Indicator blinking

| WIRING CONDITION | INDICATOR: CORRECT WIRING | OPEN GROUND | OPEN NEUTRAL | OPEN HOT | HOT/GROUND REVERSED | HOT/NEUTRAL REVERSED | CIRCUIT ENERGIZED | CIRCUIT NOT ENERGIZED | HAZARDOUS VOLTAGE WARNING |
|---|---|---|---|---|---|---|---|---|---|
| WIRED CORRECTLY | ■ | | | | | | ■ | | ■ |
| OPEN GROUND | | ■ | | | | | ■ | | ■ |
| OPEN NEUTRAL | | | ■ | | | | ■ | | ■ |
| OPEN HOT | | | | ■ | | | ■ | | |
| DUAL OPEN (NEUTRAL AND GROUND) | | ■ | ■ | | | | ■ | | ✱ |
| REVERSED HOT/NEUTRAL | | | | | | ■ | ■ | | ■ |
| REVERSED HOT/GROUND | | | | | ■ | | ■ | | ■ |



## OPERATING INSTRUCTIONS

### GFCI, AFCI, AND 30mA GROUND FAULT FUNCTIONS

**NOTE:** Check the GFCI, AFCI, or 30mA Ground Fault devices' user manual for information on how the specific device operates prior to using this tester.

Power ON the tester and insert the plug into the outlet on the circuit under test, noting the wiring condition. The Wiring Condition indicator (3) should indicate Correctly Wired, the Hazardous Voltage Warning indicator (2) should be illuminated, and the circuit status indicator (4) should indicate Energized.

⚠ ***If the tester indicates that the outlet is not wired correctly, DO NOT attempt to initiate an electrical testing event. Consult a qualified electrician.***

Press the GFCI button (5), the AFCI button (6), or the 30mA Ground Fault button (7) to initiate the relevant electrical fault event:

If the Not Energized indicator (4) is illuminated and the Hazardous Voltage Warning indicator (2) is not illuminated, reset the GFCI, AFCI, or 30mA Ground Fault device by pressing its reset button. After reset, the Hazardous Voltage Warning (2) should illuminate, the wiring condition should indicate Correctly Wired, and the circuit status should indicate Energized. The device appears to be functioning correctly.

If the circuit remains Energized, or any other condition is indicated other than Not Energized, the device being tested may be miswired, may not be installed correctly, or may not be functioning appropriately. ***Consult a qualified electrician.***

***NOTE: The AFCI button (6) will be deactivated if the tester detects that the electrical outlet is not wired correctly.***

***NOTE: Allow 20 seconds between successive AFCI testing events.***

***NOTE: If the AFCI indicator (12) is blinking following an AFCI testing event, a successive AFCI test cannot be initiated. Wait for indicator to turn OFF prior to attempting the next AFCI testing event.***

## MAINTENANCE

### BATTERY REPLACEMENT

When the Power On / Low Battery Indicator indicator (8) is is blinking, the batteries must be replaced.

1. Loosen screw from battery door.
2. Replace 3 x AAA batteries (note proper polarity).
3. Replace battery door and fasten securely with screw.

⚠ ***To avoid risk of electric shock, unplug from any voltage source before removing battery door.***

⚠ ***To avoid risk of electric shock, do not operate tester while battery door is removed.***

## CLEANING

Be sure tester is turned off and wipe with a clean, dry lint-free cloth. ***Do not use abrasive cleaners or solvents.***

## STORAGE

Remove the batteries when tester is not in use for a prolonged period of time. Do not expose to high temperatures or humidity. After a period of storage in extreme conditions exceeding the limits mentioned in the General Specifications section, allow the tester to return to normal operating conditions before using.

## DISPOSAL / RECYCLE

Do not place equipment and its accessories in the trash. Items must be properly disposed of in accordance with local regulations. Please see **www.epa.gov** or **www.erecycle.org** for additional information.





CAT III 135V