



KLEIN TOOLS RT390 Circuit Analyzer Instruction Manual

[Home](#) » [KLEIN TOOLS](#) » KLEIN TOOLS RT390 Circuit Analyzer Instruction Manual 

KLEIN TOOLS RT390 Circuit Analyzer |



Contents

- 1 GENERAL SPECIFICATIONS
- 2 ELECTRICAL SPECIFICATIONS
 - 2.1 POWER ON/OFF
 - 2.2 WIRING CONDITION
- 3 OPERATING INSTRUCTIONS
 - 3.1 TEST LOAD FUNCTION
- 4 BATTERY REPLACEMENT
- 5 CLEANING
- 6 STORAGE
- 7 WARRANTY
- 8 DISPOSAL / RECYCLE
- 9 CUSTOMER SERVICE
- 10 Documents / Resources
 - 10.1 References
- 11 Related Posts

GENERAL SPECIFICATIONS

Klein Tools RT390 is a circuit analyzer that tests the wiring condition at an electrical outlet, displays AC line voltage, inspects GFCI and AFCI devices with time to trip device, and performs voltage drop tests at 12A, 15A and 20A current loads. The tester is designed for use with North American 120V AC 3-wire electrical outlets.

- **Environment: Indoor.** Do NOT expose to moisture rain or snow.
- **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:** 7.1" x 2.7" x 1.5" (3.86 x 6.93 x 17.93 cm)
- **Cord:** 14AWG, 15A, 12" (30.5cm) NEMA 5-15P to IEC 320 C13
- **Weight:** 10.92 oz. (311.1 g) including batteries
- **Battery Type:** 3 x 1.5V AAA Alkaline
- **Standards:** Conforms to UL STD.61010-1, 61010-2-030, 1436



Intertek
5001748

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

- **Pollution degree:** 2
- **Drop Protection:** 6.6 ft. (2m)
- **Ingress Protection:** IP40 dust resistant
- **Safety Rating:** CAT III 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.

ELECTRICAL SPECIFICATIONS

RT390 is designed for use with North American 3-wire grounded 120V electrical outlets. DO NOT connect to higher voltage electrical supplies.

POWER ON/OFF

Press and hold the Power/Reset button ① for two seconds to power ON/ OFF the tester. When the tester is powered ON and not connected to a circuit, the LCD ② will display “OOO”, “Open Hot” condition.

NOTE: The tester will automatically power OFF after 5 minutes of inactivity to conserve battery life.

NOTE: Auto-Power Off is disabled if tester is plugged into an energized circuit

WIRING CONDITION

With the tester powered ON and inserted in the outlet, the “ENERGIZED” Indicator will illuminate, and the Circuit Energized Indicator B will appear at the top of the LCD if voltage is detected. The tester will display the wiring condition and the line voltage on the LCD. If removed from the outlet, the tester holds the information on the LCD for 10 seconds and the Hold Indicator will be displayed. During this time, the Wiring Condition Indicator will blink. The LCD will reset once it is plugged into another circuit, or, if no voltage is detected, the Wiring Condition Indicator E will blink during the time-out period.

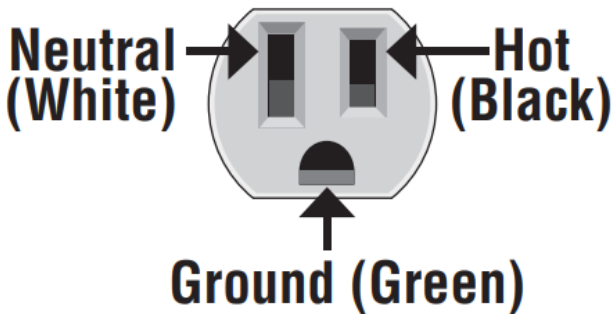


If the tester indicates that the outlet is not wired correctly, consult a qualified electrician.

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.

		LCD WILL DISPLAY							VOLTAGE*		
		"CORRECT WIRING"	"OPEN GROUND"	"OPEN NEUTRAL"	"OPEN HOT"	"HOT & GRD REVERSED"	"HOT & NEU REVERSED"	"OPEN GROUND OPEN NEUTRAL"	LINE VOLTAGE	NO VOLTAGE	>30V VOLTAGE
WIRING CONDITION	WIRED CORRECTLY										
	OPEN GROUND										
	OPEN NEUTRAL										
	OPEN HOT										
	DUAL OPEN (NEUTRAL & GROUND)										
	REVERSED HOT/GROUND										
	REVERSED HOT/NEUTRAL										



*Expected voltage reading on LCD based on the indicated wiring condition.


NOTE: If the detected voltage is either low (30–85V AC) or high (135–150V AC), the voltage displayed on the LCD will change from white to red. It is possible to have the voltage displaying in red (indicating low or high voltage) and the green “CORRECT WIRING” message simultaneously

OPERATING INSTRUCTIONS

GFCI, AFCI, AND 30mA GROUND FAULT FUNCTIONS

NOTE: Refer to the GFCI, AFCI, or 30mA Ground Fault devices’ user manual for information on installation and operation prior to using this tester

Power ON the tester and plug into the outlet to be tested, noting the wiring conditions. The wiring conditions should indicate “CORRECT WIRING”, the “ENERGIZED” Indicator ③ should be illuminated, and the Circuit Energized Indicator should appear at the top of the LCD.

 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 following buttons to initiate an electrical fault:

- The GFCI button ④ will create 6mA to 9mA ground fault to trip the GFCI device.

- The AFCI button ⑤ will simulate a parallel arc condition to trip the AFCI device.
- 30mA Ground Fault Test button ⑥ will create a 30mA ground fault to trip a 30mA GFCI device.

NOTE: 30mA ground fault protection is not inherent in all models of GFCI circuit breakers.

If the Circuit Not Energized Indicator is displayed on LCD, and the “ENERGIZED” Indicator ③ is not illuminated, reset the AFCI, GFCI, or 30mA Ground Fault device by pressing its reset button. After reset, the wiring conditions should indicate “CORRECT WIRING”, the “ENERGIZED” Indicator ③ should be illuminated, and the Circuit Energized Indicator should appear at the top of the LCD.

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 GFCI ④, AFCI ⑤, and 30mA ⑥ buttons will be deactivated if the wiring is not correct. An error message N will appear on the LCD.

NOTE: Allow 20 seconds between successive AFCI testing events.

NOTE: In AFCI testing, an error message that the tester needs to cool down may appear on the LCD. A successive AFCI test cannot be initiated until the unit cools down and the message is off the LCD.

NOTE: Some models of AFCI devices may not trip if the cable run from test location to breaker is longer than 100 ft. (30.48 m).

NOTE: If the test is successful, the AFCI test fails to trip, the RT390 will perform a Load Test in the background to determine if high line impedance may be the reason for the failed trip. An error message will appear on the LCD.

TEST LOAD FUNCTION

Power On the tester and plug into the outlet to be tested, noting the wiring conditions. The wiring condition should indicate “CORRECT WIRING”, the “ENERGIZED” Indicator ③ should be illuminated, and the Circuit Energized Indicator should be displayed.

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 Load Test button ⑦, and the 12A, 15A, and 20A test load voltage and percentage voltage drop will appear on the screen. NOTE: If the voltage drop is greater than 5%, the background color will change to red to indicate a large voltage drop.

NOTE: During a Load test, a message may display that the tester needs to cool down. A successive Load test cannot be initiated until the unit cools down and the message is no longer displayed.

BATTERY REPLACEMENT

When the Battery Life Indicator turns red, the batteries must be replaced.

1. Loosen screw from battery cover 8.
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.

WARRANTY

www.kleintools.com/warranty

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/recycle for additional information.

CUSTOMER SERVICE





KLEIN TOOLS, INC.
450 Bond Street Lincolnshire, IL 60069 1-800-553-4676
customerservice@kleintools.com www.kleintools.com



Documents / Resources

	<p>KLEIN TOOLS RT390 Circuit Analyzer [pdf] Instruction Manual RT390, Circuit Analyzer, RT390 Circuit Analyzer, Analyzer</p>
	<p>KLEIN TOOLS RT390 Circuit Analyzer [pdf] Instruction Manual RT390 Circuit Analyzer, RT390, Circuit Analyzer, Analyzer</p>

References

-  [Calcert](#)
-  [Reduce, Reuse, Recycle | US EPA](#)
-  [Klein Tools - For Professionals since 1857 | Klein Tools](#)
-  [Warranty | Klein Tools](#)