

FIG. 1

INSTRUCTIONS – Electrical Test Kit (English: page 3)



NCVT-2PKIT

NCVT-2P Dual-range Non-Contact Voltage Tester

ENGLISH

1. NCV Power On/Off Button
2. Power On/Mode LEDs
3. Voltage Detection LEDs (Inside Tip)
4. Non-Contact Tip
5. Pocket Clip
6. O-ring Seal
7. Battery Cap
8. 2x AAA Batteries (Included)

NOTE: There are no user-serviceable parts inside tester.

- Detects AC voltage from 12 to 1000V with visual & audible indicators
- Two detection ranges: 70 to 1000V and 12 to 1000V
- Auto power-off feature conserves and extends battery life

DURABILITY

Drop Protection



6.6 ft.
(2 m)



CAT IV
1000V

Safety Rating



CAT IV
1000V



SYMBOLS ON TESTER /

Warning – Risk of electric shock / Advertencia: riesgo de choque eléctrico / Avertissement – Risque d'électrocution

Risk of danger. **Important information:** It is important that users of this tester read, understand, and follow all warnings, cautions, safety information, and instructions in this manual before operating or servicing this tester. Failure to follow instructions could result in death or serious injury.

Double insulated / Doble aislamiento / Double isolation

Read instructions / Lea las instrucciones / Lire les instructions

Conformité Européenne

Conforms with European Economic Area directives.

This product has been independently tested by Intertek and meets applicable published standards.



For measurements performed at the source of low-voltage installation and outside lines.



RT105 Receptacle Tester



- Designed to detect the most common wiring problems in standard receptacles:
Open ground, reverse polarity, open hot, open neutral, hot/ground reversed

DURABILITY

Drop Protection



3.3ft.
(1 m)

Safety Rating

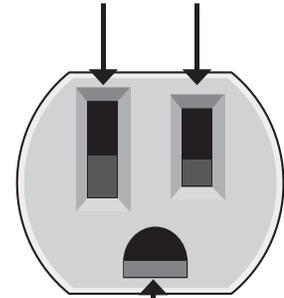


CAT II
125V



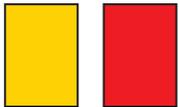
CAT II
125V

Neutral (White) Hot (Black)



Ground (Green)

KEY :



Indicator Illuminated



Indicator Not Illuminated

DIAGNOSTICS CHART /

Indicator	Fault	Explanation
	Open Ground	Ground contact is not connected
	Open Neutral	Neutral contact is not connected
	Open Hot	Hot contact is not connected
	Hot/Ground Reversed	Hot and ground connections are reversed
	Hot/Neutral Reversed	Hot and neutral connections are reversed
	Correct	Receptacle is wired correctly



NCVT-2P

GENERAL SPECIFICATIONS

The Klein Tools NCVT-2P is a dual-range non-contact voltage tester (NCVT). It can be set to detect voltage from 70 to 1000V AC (Mode 1), or from 12 to 1000V AC (Mode 2) for low voltage and higher sensitivity.

- **Environment:**
Indoor or outdoor
- **Measurement Range:**
Mode 1: 70 to 1000V AC
Mode 2: 12 to 1000V AC
- **Frequency Range:**
50 to 500 Hz
- **Batteries:**
2x AAA 1.5V Alkaline
- **Operating and Storage Altitude:**
Up to 6562 ft. (2000 m)
- **Operating and Storage Temp:**
14° to 122°F (-10° to 50°C)
- **Relative Humidity:**
<95% non-condensing
- **Dimensions:**
5.82" x 0.87" x 1.08" (147 x 22 x 27.4 mm)
- **Weight:** 2.5 oz. (72 g) including batteries
- **Pollution degree:** 2
- **Safety Rating:**
CAT IV 1000V AC
- **Drop Protection:**
6.6 ft. (2 m)
- **Standards:**
 EN61010-1:2010, EN61010-2-030:2010,
EN61326-1:2013, EN61326-2-2:2013.
Intertek
5000573
Conforms to UL STD. 61010-1,
61010-2-030
Certified to
CSA STD. C22.2 No. 61010-1,
61010-2-030.

Specifications subject to change.

FUNCTION BUTTONS

NCV POWER ON/OFF BUTTON ①

To activate the Non-Contact Voltage Testing feature, press and release the NCV Power-ON button. After performing a self-test the tester will emit a single beep, one of the Power ON LED's ② will illuminate indicating which NCVT mode is active (see OPERATING INSTRUCTIONS), and a green light will illuminate in the tip ③. To power-OFF the tester, press and hold the NCV button.

NOTE: The tester will automatically power-OFF following 4 minutes of inactivity to conserve battery life.

⚠ 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.

- Risk of electric shock and burn. Contact with live circuits could result in death or serious injury.
- Use caution with voltages above 25V AC as a shock hazard may exist.
- A blinking LED or a steadily illuminated LED in the tip and audible beeps indicate presence of voltage. If no indication, voltage could still be present.
- Before and after each use, verify operation by testing a known working circuit that is within the rating of this unit.
- Never assume neutral or ground wires are de-energized. Neutrals in multi-wire branch circuits may be energized when disconnected and must be retested before handling.
- The tester **WILL NOT** detect voltage if:
 - The wire is shielded.
 - The operator is not grounded or is otherwise isolated from an effective earth ground.
 - The voltage is DC.
- The tester **MAY NOT** detect voltage if:
 - The user is not holding the tester.
 - The user is insulated from the tester with a glove or other materials.
 - The wire is partially buried or in a grounded metal conduit.
 - The tester is at a distance from the voltage source.
 - The field created by the voltage source is being blocked, dampened, or otherwise interfered with.
 - The frequency of the voltage is not a perfect sine wave between 50 and 500Hz.
 - The tester is outside of operating conditions (listed in Specifications section).
- Operation may be affected by differences in socket design and insulation thickness and type.
- In bright light conditions, the LED visual indicators will be less visible.
- When powered-ON, one of the "power-ON" LED's will be illuminated, and a green light will illuminate the tip. **DO NOT USE TESTER UNLESS ONE OF THE "POWER-ON" LED'S IS ILLUMINATED.**
- Do not use if tester appears damaged or is not operating properly. If in doubt, replace the tester.
- Do not apply more than the rated voltage as marked on the tester (1000V).
- Do not apply to uninsulated hazardous live conductors.
- Detection above 70V AC in Mode 1, or above 12V AC in Mode 2 is specified under "normal" conditions as detailed below. The tester may detect at a different threshold at different conditions, or may not detect at all unless:
 - The tip of the tester is within 0.25" (6 mm) of an AC voltage source radiating unimpeded.
 - The user is holding the body of the tester with his or her bare hand.
 - The user is standing on or connected to earth ground.
 - The air humidity is nominal (50% relative humidity – non-condensing).
 - The tester is held still.
- Always wear approved eye protection.
- Comply with local and national safety requirements.
- If this product is used in a manner not specified by the manufacturer, protection provided by the product may be affected.

⚠ CAUTION

- **DO NOT** attempt to repair this tester. It contains no serviceable parts.
- **DO NOT** expose tester to extremes in temperature or high humidity.

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 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.

OPERATING INSTRUCTIONS

SELECTING VOLTAGE TESTING MODE

NCVT-2P can detect voltage in two distinct modes, defined by the voltage ranges to which the tester is sensitive. Mode 1 detects 70 to 1000V AC, Mode 2 detects 12 to 1000V AC. With the tester powered-ON, successive presses of the NCV Power-ON button ① will switch the tester between modes 1 and 2. The Power-ON indicator LED's ② will indicate the currently active mode. The tester will power-ON in the mode that was most recently used.

OPERATING INSTRUCTIONS

CHECKING FOR THE PRESENCE OF AC VOLTAGE

1. Press NCV Power On/Off button. After performing a self-test, a green light will illuminate the tip when no voltage is detected.
2. Prior to use, test on a known live circuit to verify tester functionality.
3. Place tip of the tester ④ near AC voltage. If voltage is present, the unit will emit audible beeps and the LEDs in the tip ③ will illuminate:

Mode	Power-On LED Color	12 to 70V AC	>70 to 1000V AC
Mode 1 70 – 1000V Range	Red	No illumination, no sound	Red LED in tip ③ illuminated, continuous audible beep
Mode 2 12 – 1000V Range	Blue	Blue LED in tip ③ blinking, pulsing audible beep	Red LED in tip ③ illuminated, continuous audible beep

NOTE: In Mode 2, the tester is more sensitive to high voltage sources and electrically noisy environments. It is recommended to set the tester to operate in Mode 1 when expected voltages are above 70V AC.

SILENT OPERATION

To activate silent operation, power-ON by pressing and holding the NCV Power-ON button ① for more than 2 seconds. Power-ON in this manner each time silent operation is desired.

MAINTENANCE

BATTERY REPLACEMENT

When the battery is low, the unit powers on with a blinking red or blue LED ②, depending on mode most recently used, and the batteries must be replaced.

1. Unscrew the battery cap ⑦ and remove/recycle spent batteries.
2. Install two new AAA batteries. Note proper polarity.
3. Screw battery cap tightly to ensure a tight seal with the O-Ring ⑥.

RT105

GENERAL SPECIFICATIONS

The Klein Tools RT105 is a receptacle tester designed to detect the most common wiring problems in standard receptacles.

Operating Temperature:
32° to 104°F (0°C to 40°C) < 80% R.H.

Storage Temperature:
14° to 122°F (-10°C to 50°C) < 70% R.H.

Weight: 1.5 oz. (43 g)

Nominal Voltage:
110-125V AC at 50/60Hz in 3-wire outlet

Nominal Power: 0.3W

Certification: Conforms to: UL61010-1,
Certified to: CSA-C22.2 #61010-1

Safety: CAT II 125V, Class 2, Double Insulation

Drop Protection: 3.3 ft. (1 m)

⚠ WARNINGS

Read, understand, and follow all warnings and instructions before operating testers. Failure to follow instructions could result in death or serious injury. Before each use, verify tester operation by testing on a known live and correctly wired receptacle. 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. Always consult a qualified electrician to resolve wiring problems.

WIRING CONFIGURATION TESTING

Conditions indicated: The wiring conditions that may be identified are correct wiring, open ground, hot-ground reversed polarity, open hot, open neutral, hot-neutral reversed polarity.

Conditions NOT indicated: Quality of ground, multiple hot wires, combinations of defects, and reversal of grounded and grounding conductors.

1. Verify tester operation by testing on a known live and correctly wired receptacle.
2. Insert the tester into the receptacle under test to check for correct wiring (Fig. 1). Lights on the tester should illuminate.
3. Compare lit bulbs on tester to the key code printed on the tester.
4. If tester does not show the receptacle to be wired correctly, consult a qualified electrician.