

INSTRUCTIONS – Non-Contact Voltage and GFCI Receptacle Electrical Test Kit

NCVT-1XTKIT



ENGLISH

1. Power On / Off Button
2. Power On / Low Battery Indicator
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)
9. Keep hand and fingers below this line while using tester

NOTE: No user-serviceable parts inside.

- Non-contact detection of 70 to 1000V AC in cables, cords, circuit breakers, lighting fixtures, switches, outlets, and wires
- When voltage is detected, a high intensity, bright red LED illuminates and a beeping sound is generated

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

CE Conformité Européenne:

Conforms with European Economic Area directives.
Cumple con las normas del Área Económica Europea.
Conforme aux directives de l'Espace économique Européen.

UK UKCA:

UK Conformity Assessment
Conformidad evaluada por el Reino Unido
Évaluation de la conformité du Royaume-Uni



This product has been independently tested by Intertek and meets applicable published standards.
Este producto ha sido probado de manera independiente por Intertek y cumple con las normas publicadas vigentes.
Ce produit a été testé de manière indépendante par Intertek et répond aux exigences des normes applicables.



For measurements performed at the source of low-voltage installation and outside lines.
Para mediciones realizadas en la fuente de la instalación de bajo voltaje y líneas externas.
Pour des mesures prises à la source d'une installation à faible tension et des lignes extérieures.



DURABILITY / DURABILIDAD / DURABILITÉ

Ingress Protection
Protección contra el ingreso
Protection contre les infiltrations



Drop Protection
Protección ante caídas
Protection contre les chutes



Safety Rating
Clasificación de seguridad
Cote de sécurité



CAT IV
1000V

RT210

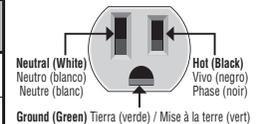
FIG. 1

Indicator Illuminated
Indicador iluminado
Voyant allumé

Indicator Not Illuminated
Indicador no iluminado
Voyant éteint

* Designed to detect the most common wiring problems in standard and GFCI receptacles: Open ground, reverse polarity, open hot, open neutral.

Indicator Indicador Voyant	Fault Falla Anomalie	Explanation Explicación Explication
	Open Ground Conexión a tierra abierta Mise à la terre non connectée	Ground contact is not connected El contacto a tierra no está conectado Le contact de mise à la terre n'est pas connecté
	Open Neutral Neutro abierto Neutre ouvert	Neutral contact is not connected El contacto neutro no está conectado Le contact neutre n'est pas connecté
	Open Hot Vivo abierto Phase ouverte	Hot contact is not connected El contacto vivo no está conectado Le contact de phase n'est pas connecté
	Hot/Ground Reversed Vivo/Tierra invertidos Phase/mise à la terre inversées	Hot and ground connections are reversed Las conexiones viva y de tierra están invertidas Les connexions de phase et de mise à la terre sont inversées
	Hot/Neutral Reversed Vivo/Neutro invertidos Phase/neutre inversés	Hot and neutral connections are reversed Las conexiones viva y neutra están invertidas Les connexions de phase et de neutre sont inversées
	Correct Correcto Correct	Receptacle is wired correctly El receptáculo está cableado correctamente La prise est câblée correctement



CAT II
300V

BASED ON: 1330999 Rev 04/22 B



GENERAL SPECIFICATIONS

The Klein Tools NCVT-1XT is a durable 70 to 1000V AC non-contact voltage tester with IP67 rating and a 3m (9.8') drop protection.

- **Environment:** Indoor
- **Measurement Range:** 70 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:** 5.34" x 1.08" x 0.97" (135.6 x 27.4 x 22.1 mm)
- **Weight:** 1.65 oz (46.7 g) with batteries
- **Pollution degree:** 2
- **Safety Rating:** CAT IV 1000V AC
- **Drop Protection:** 9.8 ft. (3 m)
- **Ingress Protection:** IP67
- **Standards:** EN 61010-1:2010+A1: 2019, EN IEC 61010-2-030:2021+A11:2021.



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.

⚠ 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; tester may not be compatible with some types of standard or tamper resistant (TR) electrical outlets.
- 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" LEDs 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 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.

FUNCTION BUTTONS

NCV POWER ON/OFF BUTTON ①

Press and release the NCV Power button ①. The tester will emit a single beep, the Power On Indicator ② and green LED ③ in the tip will illuminate. To power-OFF the tester, press and release the Power On / Off button ①. The tester will emit a double beep.

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

OPERATING INSTRUCTIONS

CHECKING FOR THE PRESENCE OF AC VOLTAGE

1. Press the Power On / Off button. After performing a self-test, a green LED ③ 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 red LED ③ in the tip will illuminate.

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 will power-on with a blinking red LED ②. When this happens, 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.

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.

FCC AND IC COMPLIANCE

See this product's page at for FCC compliance information.

Canada ICES-003 (B) / NMB-003 (B)



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RT210

GENERAL SPECIFICATIONS

- **Environment:** Indoor
- **Operating and Storage Altitude:** Up to 6562 ft. (2000 m)
- **Operating Temperature:** 32° to 140°F (0° to 40°C)
- **Storage Temperature:** 14° to 122°F (-10° to 50°C)
- **Relative Humidity:** <85% non-condensing
- **Mains supply voltage fluctuations:** ±10%
- **Nominal Voltage:** 110 - 125V AC at 50/60Hz in 3-wire outlet
- **Standards:** Conforms to UL Std 61010-1, 61010-2-030,1436.
- **Weight:** 1.2 oz (33 g)
- **Pollution degree:** 2
- **Safety Rating:** CAT II 300V
- **Drop Protection:** 6.6 ft. (2 m)



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

Specifications subject to change.

⚠ 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. This tester only detects common wiring problems. Always consult a qualified electrician to resolve wiring problems.

WIRING CONFIGURATION TESTING

Conditions indicated: wiring correct, open ground, reverse polarity, open hot, open neutral and hot/ground reversed.

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

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

STANDARD RECEPTACLES

1. Verify tester operation by testing on a known live and correctly wired receptacle.
2. Plug tester into receptacle.
3. Compare the illuminated lights on the tester to the key code printed on the tester.
4. If the tester indicates that the receptacle is not wired correctly, consult a qualified electrician.

GFCI RECEPTACLES

1. Check the GFCI receptacle user manual for information on how the specific receptacle operates prior to using this tester.
2. Insert the tester into the receptacle under test to check for correct wiring (See FIG. 1). Lights on the tester should illuminate.
3. Press the "TEST" button on the GFCI receptacle.

Did the GFCI trip and the lights on the tester go dark?

YES: Reset the GFCI by pressing the reset button. Proceed to step 4.

NO: The GFCI is not operating properly or the receptacle is miswired. Consult a qualified electrician.

4. Press and hold the test button on the tester for 7 seconds.

Did the GFCI trip and the lights on the tester go dark?

YES: Reset the GFCI by pressing the reset button. The GFCI appears to be operating properly.

NO: The GFCI is not operating properly or the receptacle is miswired. Consult a qualified electrician.

CLEANING

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

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 for additional information.