Klein Tools NCVT-6 Non-Contact Volt Tester User Manual

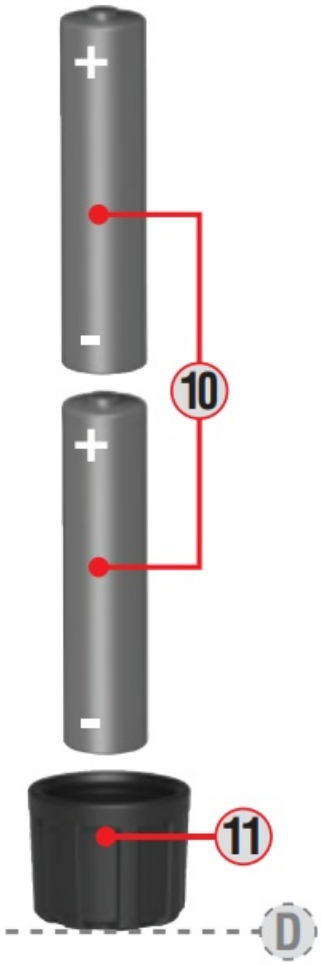
Contents

Klein Tools NCVT-6 Non-Contact Volt Tester

Product Overview

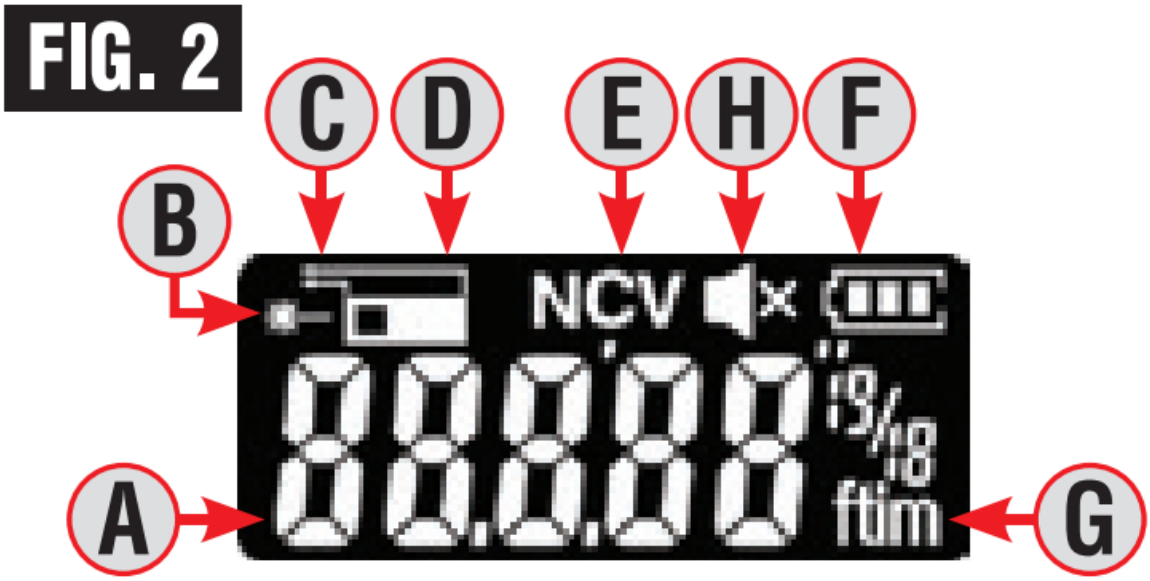
TESTER (FIG. 1)

FIG. 1



1. NCV On/Off Button
2. Laser Distance Meter Control Button
3. Change Units / Reference Point Button
4. LCD Display
5. NCV Indicator
6. Laser Distance Meter
7. NCV Antenna
8. Pocket Clip
9. O-ring Seal
10. 2x AAA Batteries (Included)
11. Battery Cap

LCD (FIG. 2)



1. A. Measurement
2. B. Laser Active
3. C. Ref. Point #1
4. D. Ref. Point #2
5. E. NCV On
6. F. Battery Status
7. G. Units (ft, in, m)
8. H. Silent Mode

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

- Detects AC voltage from 12V to 1000V with visual & audible indicators
- Measures distance from 2 in. to 65.6 ft. (51 mm to 20 m)

Durability

- Ingress Protection 
- Drop Protection  : 6.6 ft. (2 m)
- Safety Rating  : CAT IV 1000V

Symbols on tester

-  **Warning** – Risk of electric shock

-  **Risk of danger. Important information:** Users of this tester must 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
-  Read instructions
-  This product has been independently tested by Intertek and meets applicable published standards.
-  Measurements were performed at the source of low-voltage installation and outside lines.

GENERAL SPECIFICATIONS

The Klein Tools NCVT-6 is a full-range non-contact voltage tester with an integrated laser distance meter. It can detect voltage from 12V to 1000V AC and can measure distance from 2 in. to 65.6 ft. (51 mm to 20 m). Under normal operating conditions, at distances from 51 mm (2 in) – 10 m (32.8 ft) the NCVT-6 has an accuracy of +/- 1.6 mm (1/16 in). At distances >10m (32.8 ft) – 20m (65.6 ft) the NCVT-6 has an accuracy of +/- 3.2 mm (1/8 in). The laser distance meter functions independently from the NCVT.

- **Distance Measurement Range:** 2 in. to 65.6 ft. (51 mm to 20 m)
- **Voltage Detection Range:** 12V to 1000V AC
- **Frequency Range:** 50 to 500 Hz
- **Laser:** Class II, 630 to 670nm, Max. Power <1mW
- **Batteries:** 2x AAA 1.5V Alkaline
- **Operating and Storage Altitude:** Up to 6562 ft. (2000 m)
- **Operating and Storage Temp:** 32° to 122°F (0° to 50°C)
- **Relative Humidity:** <85% non-condensing
- **Dimensions:** 6.45″ x 1.32″ x 1.21″ (164 x 34 x 31 mm)
- **Weight:** 3.4 oz. (96 g) including batteries
- **Pollution degree:** 2
- **Safety Rating:** CAT IV 1000V AC
- **Drop Protection:** 6.6 ft. (2 m)
- **Ingress Protection:** IP40 dust-resistant
- **Standards:** Conforms to UL STD. 61010-1, 61010-2-030 Certified to CSA STD. C22.2 No. 61010-1, 61010-2-030
- **Complies with:** 21 CFR 1040.10 and 1040.11 except for deviations under laser notice No. 50, dated June 24, 2007. Specifications are subject to change.

FUNCTION BUTTONS (FIG. 1)

NON-CONTACT VOLTAGE TESTING (NCV) ON/OFF BUTTON 1
To turn on the NCVT-6 and activate the Non-Contact Voltage Testing (NCV) function, press and release the NCV Power Button 1. The tester will emit a single audible beep and the NCV Indicator 5 will illuminate with a solid blue light. A proximity sensor indicating voltage strength using a dash scale will be shown on the LCD Display 4 . Press and hold the NCV Power Button 1 for two seconds to power off the NCVT-6.
NOTE: When the Laser Distance Meter (LDM) function is active, a short press of the NCV Power Button 1 will deactivate the LDM function and enter the NCV function.

LASER DISTANCE METER (LDM) ON/OFF BUTTON 2
To activate the LDM function, press the LDM Control Button 2.

- A short press of the LDM Control Button 2 will cause the NCVT-6 to emit an audible beep and take a distance measurement. The value of the distance measurement will be shown on the Display 4 . Press and hold the LDM Control Button 2 for two seconds to power off the Laser Distance Meter.
- A long press and hold of the LDM Control Button 2 will activate continuous measurement mode for the LDM function. As each new distance measurement is taken, the NCVT-6 will emit an audible beep and will update the display 4 with the new measurement value.
  WARNING: LASER RADIATION. DO NOT do any of the following, as severe and permanent eye damage could result:
- DO NOT direct laser beam into eyes.
- DO NOT stare into the beam.
- DO NOT view directly with optical instruments.

CHANGE UNITS / REFERENCE POINT BUTTON 3

- A short press of the Change Units / Reference Point Button 3 will switch the measurement reference point between Reference Point 1 (NCV Antenna C) and Reference point 2 (Battery Cap D).
- A long press of the Change Units/Ref. Point Button 3 will change the units of measurement for the LDM function between meters, inches with decimals, inches with fractions, feet with decimals, and feet with fractions.

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.

- LASER RADIATION, Class II laser. DO NOT direct laser beam into eyes, DO NOT stare into the beam, or DO NOT view directly with optical instruments as this can cause severe and permanent eye damage.
- 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 red or a steadily illuminated red NCV Indicator 5 with audible beeps indicates the presence of voltage. A steadily illuminated blue NCV Indicator 5 indicates that no voltage is detected, however 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 the 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 the NCV function is activated, the NCV Indicator 5 will be illuminated either red or blue. DO NOT USE THE NVC FUNCTION UNLESS THE NCV INDICATOR 5 IS ILLUMINATED.
- Do not use if the 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).
- Detection within the range of 12V to 1000V is specified under “normal” conditions as detailed in the GENERAL SPECIFICATIONS section. 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.

OPERATING INSTRUCTIONS

CHECKING FOR THE PRESENCE OF AC VOLTAGE

1. Before use, test on a known live circuit to verify tester functionality.
2. Place NCV Antenna 7 near an AC voltage source. If voltage is present, the unit will emit audible beeps and the NCV Indicator 5 will illuminate.

SILENT MODE
With the NCVT-6 powered off, press and hold the On/Off Button for five seconds (the NCV On/Off 1 for NCV mode, or the LDM Control Button 2 for LDM mode) to power on in Silent mode. While Silent mode is active, the silent mode icon H will be displayed. All visual indicators and display readings will continue to function as normal, but no audible indicators will be given. Silent mode will remain active until the NCVT-6 is powered off.

AUTO-POWER OFF (APO)
While the NCV function is active, display 4 will power following 15 seconds of no voltage detection (the NCV indicator 5 will remain illuminated). After 4 minutes of further inactivity, the NCVT-6 will automatically power off. While the LDM function is active, the NCVT-6 will automatically power off following 15 seconds of inactivity.

MAINTENANCE

BATTERY REPLACEMENT

When the Battery Status Indicator F shows only one bar remaining, the LDM functionality will be disabled, and the NCV functionality has less than 8 hours remaining. At this point, the batteries should be replaced:

1. Unscrew Battery Cap 11 and remove/recycle spent batteries 10.
2. Install two new AAA batteries 10. Note proper polarity.
3. Screw bthe attery cap until fully seated to ensure a tight seal, being careful not to damage the O-ring 9 . NOTE: Damage to the O-ring can affect the IP40 dust-resistant rating, but will not affect functionality.

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. 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 by local regulations. Please see www.epa.gov or www.erecycle.org for additional information.

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FAQs

What is the Klein Tools NCVT-6 Non-Contact Volt Tester used for?

The Klein Tools NCVT-6 Non-Contact Volt Tester is designed to detect AC voltage in cables, circuit breakers, switches, outlets, and more. It also features an integrated laser distance meter for precise measurements.

What voltage range can the Klein Tools NCVT-6 detect?

The Klein Tools NCVT-6 Non-Contact Volt Tester can detect AC voltage in a range from 12 to 1000V, providing visual and audible alerts for safe and reliable voltage testing.

How does the laser distance meter in the Klein Tools NCVT-6 work?

The Klein Tools NCVT-6 Non-Contact Volt Tester incorporates a laser distance meter that measures distances up to 66 feet with high accuracy. It supports various units, including meters, feet, and inches.

What makes the Klein Tools NCVT-6 Non-Contact Volt Tester unique?

The Klein Tools NCVT-6 Non-Contact Volt Tester stands out because of its dual functionality as a voltage detector and a laser distance meter, combined with its durable construction and user-friendly interface.

What kind of display does the Klein Tools NCVT-6 have?

The Klein Tools NCVT-6 Non-Contact Volt Tester features a high-visibility reverse contrast display, ensuring clear readings even in low-light conditions.

What materials are used in the Klein Tools NCVT-6 for durability?

The Klein Tools NCVT-6 Non-Contact Volt Tester is built with a rugged housing that withstands drops from up to 6.6 feet, ensuring long-term reliability.

What are the dimensions and weight of the Klein Tools NCVT-6?

The Klein Tools NCVT-6 Non-Contact Volt Tester measures 6.45 x 1.21 x 1.32 inches and weighs just 2.5 ounces, making it lightweight and portable.

What safety precautions are necessary when using the Klein Tools NCVT-6?

When using the Klein Tools NCVT-6 Non-Contact Volt Tester, avoid staring into the laser beam, follow local safety codes, and always wear personal protective equipment to minimize risks.

How accurate is the laser distance meter in the Klein Tools NCVT-6?

The laser distance meter in the Klein Tools NCVT-6 Non-Contact Volt Tester provides high precision, measuring distances up to 66 feet with an accuracy of 1/16 inch.

Video-Klein Tools NCVT-6 Non-Contact Volt Tester

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References

- User Manual