KLEIN TOOLS
For Professionals... Since 1857™

INSTRUCTIONS – Non-Contact Voltage Tester with Laser Infrared Thermometer
INSTRUCCIONES – Probador de voltaje sin contacto con termómetro infrarrojo láser
INSTRUCTIONS – Testeur de tension sans contact avec thermomètre à infrarouge fonctionnant à laser

NCVT-4IR
CAT IV 5 4 2m

ENGLISH

1. Laser
2. Infrared (IR) Sensor
3. Non-Contact Tip
4. LCD Screen
5. IR Button
6. NCV Button
7. Pocket Clip
8. O-ring Seal
9. Battery Cap
10. 2x AAA Batteries (Included)

A. Measurement
B. °F/°C Icon
C. Battery Strength Indicator
D. Laser Warning Icon

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

ESPAÑOL

1. Láser
2. Sensor infrarrojo (IR)
3. Punta para detección y medición sin contacto
4. Pantalla LCD
5. Botón IR (Infrarrojo)
6. Botón NCV (Voltaje sin contacto)
7. Clip de bolsillo
8. Junta tórica
9. Tapa del compartimento de baterías
10. 2 baterías AAA (incluidas)

A. Medición
B. Icono de °F/°C
C. Indicador de carga de baterías
D. Icono de advertencia referida al láser

NOTA: El probador no contiene en su interior piezas que el usuario pueda reparar.

FRANÇAIS

1. Laser
2. Capteur à infrarouge
3. Pointe sans contact
4. Écran ACL
5. Bouton IR
6. Bouton NCV
7. Agrafe pour poche
8. Joint torique
9. Couvercle de piles
10. 2 piles AAA (comprises)

A. Mesure
B. Icône °F/°C
C. Indicateur de puissance des piles
D. Icône d'avertissement concernant le laser

REMARQUE : Ce testeur ne contient aucune pièce réparable par l'utilisateur.

FIG. 1

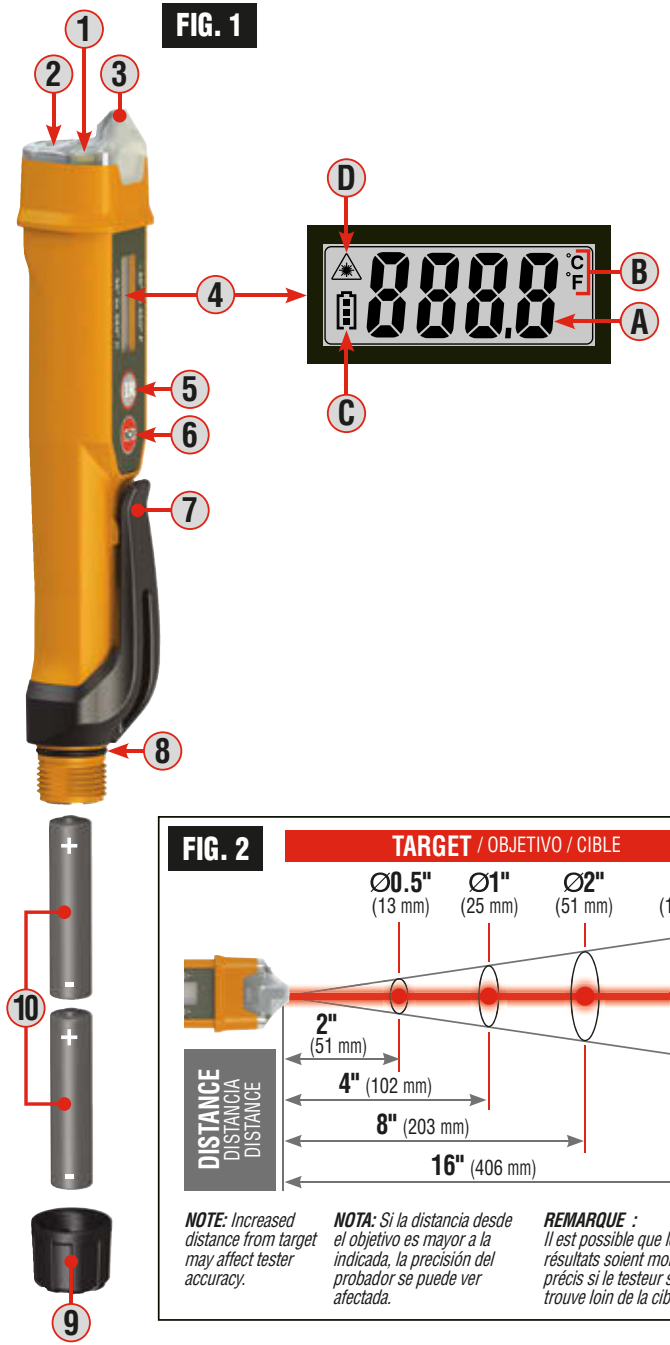
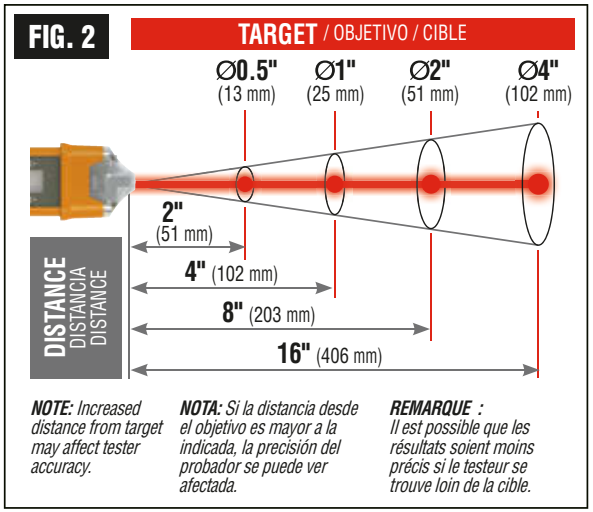


FIG. 2



NOTE: *Increased distance from target may affect tester accuracy.*

NOTA: *Si la distancia desde el objetivo es mayor a la indicada, la precisión del probador se puede ver afectada.*

REMARQUE : *Il est possible que les résultats soient moins précis si le testeur se trouve loin de la cible.*

CAUTION
LASER RADIATION:
DO NOT STARE INTO BEAM
Max. Output <1mW
Wavelength: 630-670nm
CLASS II LASER PRODUCT

Symbols on tester / símbolos del probador / symboles sur le testeur	
⚠	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. Riesgo de peligro. **Información importante:** Es importante que el usuario de este probador lea, comprenda y respete todas las advertencias, precauciones, instrucciones e información de seguridad incluidas en este manual, antes de poner en funcionamiento el probador o de realizarle servicios de mantenimiento. El incumplimiento de estas instrucciones puede dar lugar a lesiones graves o mortales. Risque de danger. **Information importante :** Il est important que les utilisateurs de ce testeur lisent, comprennent et suivent tous les avertissements, mises en garde, information de sécurité et instructions donnés dans le présent guide avant de faire fonctionner ou de réparer ce testeur. Le non-respect pourrait entraîner des blessures graves, voire la mort.
⚠	Targeting lasers active / Indica que los láseres de enfoque del objetivo están activados / Lasers d'acquisition de la cible activés
▣	Double insulated / Doble aislamiento / Double isolation
Intertek	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.
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
CAT IV	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		IP54
Drop Protection / Protección ante caídas / Protection contre les chutes		6.6 ft. (2 m)
Safety Rating / Clasificación de seguridad / Cote de sécurité	⚠	CAT IV 1000V

GENERAL SPECIFICATIONS

Klein Tools NCVT-4IR is a non-contact voltage tester with a built-in laser infrared thermometer, designed specifically with the HVAC professional in mind.

- **Environment:** Indoor and outdoor
- **Measurement Range:** Voltage: 12 to 1000V AC
  Temperature: -22 to 482°F (-30 to 250°C)
- **Laser Type:** Class 2
- **Laser Distance-To-Spot Ratio:** 4:1
- **Frequency Range:** 50 to 500 Hz
- **Temperature Resolution:** 0.1°F/C
- **Temperature Accuracy:**
  -22 to 68°F (-30 to 20°C) – Accurate to: +/-5.4°F (+/- 3°C)
  69 to 482°F (21 to 250°C) – Accurate to: +/-2% or +/-3.6°F (+/- 2°C)
- **Batteries:** 2x AAA
- **Operating Altitude:** 6562 ft. (2000 m)
- **Operating Temp:** 32° to 122°F (0° to 50°C)
- **Storage Temp:** 32° to 122°F (0° to 50°C)
- **Relative Humidity:** Operating: 10% to 90% non-condensing
  Storage: <80% non-condensing
- **Dimensions:** 5.83" x 0.96" x 1.16" (148 x 24 x 29 mm)
- **Weight:** 2.5 oz. (72 g) including batteries
- **Pollution degree:** 2
- **Safety Rating:** CAT IV 1000V AC
- **IP Rating:** IP54
- **Drop Protection:** 6.6 ft. (2 m)
- **Standards:**
  Conforms to UL 61010-1 3rd Edition, UL 61010-2-030 1st Edition.
  Certified to CAN/CSA C22.2 No. 61010-1-12 3rd Edition, ANSI/ISA-61010-1 3rd Edition, EN 61010-1:2010, IEC 61010-1 3rd Edition, CAN/CSA C22.2 No. 61010-2-030-12 1st Edition, ANSI/ISA-61010-2-030 1st Edition,EN 61010-2-30:2010, IEC 61010-2-030 1st Edition.

Specifications subject to change.

FUNCTION BUTTONS (FIG. 1)

IR BUTTON (5)

Press the IR Button to turn on the infrared thermometer; the Laser Warning icon (D) will appear on the LCD (the laser will turn on briefly, **DO NOT** look directly into the beam). Press and hold the IR button to take temperature readings. Releasing the button will hold the last measurement taken. The thermometer will automatically power-off after approx. 10 seconds of inactivity (held reading will be cleared).

The default temperature on power-up is Fahrenheit (°F). To change to Celsius (°C), press and hold the IR and NCV buttons simultaneously. Repeat to return to Fahrenheit (°F).

NCV BUTTON (6)

Press the NCV button to turn on the Non-Contact Voltage Tester; the tip will illuminate blue with a single beep. A second short press turns off the Non-Contact Voltage Testing functionality; there will be a double beep and the tip will stop illuminating. The tester will automatically power-off after approx. 5 minutes of inactivity.

By default, the Non-Contact Voltage Tester powers-on in Audible mode. To activate Silent mode, press and hold the NCV button for two seconds; the tip will flash blue to indicate Silent mode has been activated. To return to Audible mode, press and hold the NCV button for two seconds; the tip will flash blue with audible beeping to indicate that Audible mode has been activated.

⚠ 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 30V AC as a shock hazard may exist.
- A single blinking LED or a steady glowing LED and an audible beep indicate voltage present. 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 operation conditions (listed in Specifications section).
- Operation may be affected by differences in socket design and insulation thickness and type.
- Do not use if "power on" LED is not 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).
- Detection above 12V is specified under "normal" conditions as specified 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" 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.
- **DO NOT** direct laser beam into eyes, as this can cause permanent eye damage.
- Replace the battery as soon as the low battery indicator appears.
- Be cautious of readings of reflective materials as the tester may indicate that the surfaces are cooler than the actual temperature.
- Avoid using the meter around strong electromagnetic fields.
- Always wear approved eye protection.

⚠ 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. Activate the Non-Contact Voltage Tester as described in **FUNCTION BUTTONS**.
2. Test on a known live circuit to verify tester functionality.
3. Place tip of the tester near AC voltage. If voltage is present the unit will emit audible beeps and a red LED will illuminate:
   - For low voltage (12V) detection, the red light flashes slowly and beeps are generated.
   - For high voltage (120V) detection, the red light remains on and continuous beeps are generated.

OPERATING INSTRUCTIONS

MEASURING TEMPERATURE

1. Activate the thermometer and select desired temperature scale as described in **FUNCTION BUTTONS**.
2. While holding down the IR button, aim the laser at the object to be measured. The temperature will display on the LCD. The error code "**OR**" will appear on the LCD if the measurement is outside the thermometer's measurement range.

The targeting laser has a Distance-To-Spot ratio of 4:1, which describes the relationship of the distance between the tester and the object, to the target measurement area. See **FIG. 2** for details.

MAINTENANCE

BATTERY REPLACEMENT (FIG. 1)

When the Low Battery indicator is displayed on the LCD (at 20% remaining battery life), the batteries must be replaced.

1. Unscrew the battery cap (9).
2. Remove and recycle the two spent AAA batteries.
3. Install two new AAA batteries, with the positive (+) side facing into the tester as shown.
4. Screw battery cap into place tightly to ensure a tight seal with the O-Ring (8).

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 the meter 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 thermometer 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.