ENGLISH

ET60

INSTRUCTION MANUAL

Electronic AC/DC Voltage Tester

- MODERN SOLID-STATE DESIGN
- LOW IMPEDANCE
- DOES NOT USE A BATTERY
- INTEGRATED TEST LEAD HOLDER

600V ≂

3 m **IP54**

Intertek
5001748

CAT III 600V

KLEIN TOOLS

GENERAL SPECIFICATIONS

Klein Tools ET60 is a solid-state, low impedance, electronic voltage tester. It measures AC/DC voltages up to 600V. The ET60 does ***not*** require batteries; it is powered by the applied voltage.

- **Operating Altitude:** ≤ 6562 ft. (2000 m)
- **Relative Humidity:** <90% non-condensing
- **Operating Temperature:** 5°F to 113°F (-15°C to 45°C)
- **Storage Temperature:** -4°F to 140°F (-20°C to 60°C)
- **Battery Type:** None (powered by applied voltage)
- **Dimensions:** 5.67" x 2.35" x 1.44" (144 x 59.8 x 36.5 mm)
- **Weight:** 3.2 oz (92 g) without test leads
- **Calibration:** Accurate for one year
- **Standards:** Conforms to: EN61326-1:2013, EN61326-2-2:2006, EN61010-1:2010, EN61010-2-030:2010, EN61010-031/A1:2008
- **Pollution degree:** 2
- **Drop Protection:** 9.8 ft. (3m)
- **Ingress Protection:** IP54 (except test lead jacks, see **WARNINGS**)
- **Safety Rating:** CAT IV 600V, Class2, Double insulation

  CAT IV: *Measurement category IV is applicable to test and measuring circuits connected at the source of the building's low-voltage MAINS installation.*
- **Electromagnetic Environment:** IEC EN61326-1:2013. This equipment meets requirements for use in basic and controlled electromagnetic environments like residential properties, business premises, and light-industrial locations.

Specifications subject to change.

ELECTRICAL SPECIFICATIONS

- **Voltage Level Indicators:** 12V, 24V, 48V, 120V, 208V, 240V, 277V, 480V, 600V
- **Voltage Type Indicators:** DC Positive, DC Negative, both DC polarities "on" indicates AC
- **AC Frequency:** 45Hz to 66Hz
- **Maximum Measurable Voltage:** 600V RMS (displayed by LEDs)
- **Minimum Voltage Detectable:** Approx. 10V AC RMS or 10V DC
- **Input Impedance:** 16kΩ at 120V (Inherent Low Impedance Testing)
- **Loop Current:** 6mA to 9mA at 120V
- **Usage Duty Cycle (Above 240V):** 30 seconds continuous use followed by 240 seconds (4 minutes) recovery time
- **Accuracy:** LEDs illuminate fully typically at approx. >90% of indicated voltage, and will illuminate partially when approaching this value

Specifications subject to change.

⚠ WARNINGS

To ensure safe operation and service of the meter, follow these instructions. Failure to observe these warnings can result in severe injury or death.

- Before each use verify tester operation by measuring a known voltage.
- Never use the tester on a circuit with voltages that exceed the category based rating of this tester.
- Do not use the tester during electrical storms or in wet weather.
- Do not use the tester or test leads if they appear to be damaged.
- Use only with CAT IV rated test leads.
- Ensure tester leads are fully seated, and keep fingers behind the finger guards and away from the metal probe contacts when making measurements.
- Use caution when working with voltages above 25V AC RMS or 60V DC. Such voltages pose a shock hazard.
- Always adhere to local and national safety codes. Use personal protective equipment to prevent shock and arc blast injury where hazardous live conductors are exposed.
- This is a Low Impedance (LoZ) tester, it should not be used in circuits or situations where damage or adverse effects may be caused by a ~ 16kΩ load.
- Tester is IP54 dust & water resistant. Following any contact with water, thoroughly dry tester and test lead jacks prior to subsequent use.

ENGLISH

SYMBOLS ON TESTER

AC	Alternating Current	DC	Direct Current
+	Positive DC Polarity or Positive Lead Input	−	Negative DC Polarity
		COM	Common / Negative Lead Input
⧈	Double Insulated Class II	⏚	Ground
⚠	Warning or Caution	⚠	Risk of Electrical Shock
LoZ	Indicates that this is a low-impedence tester		

FEATURE DETAILS

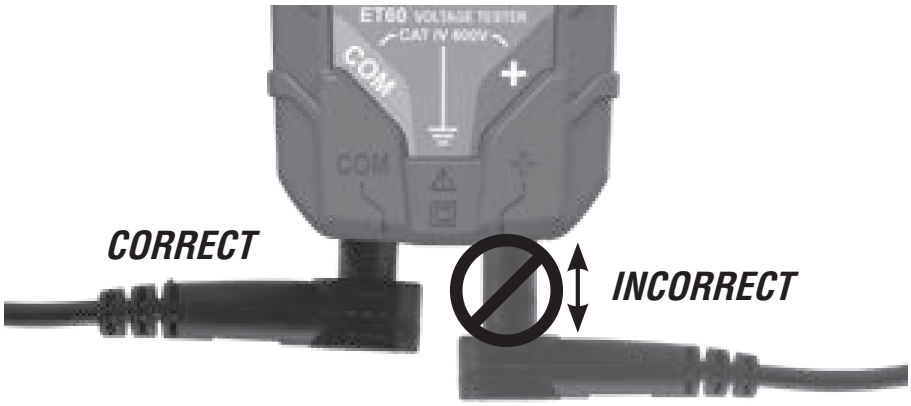
NOTE: There are no user-serviceable parts inside tester.

1. Test Lead Holders
2. Voltage Indicator LEDs
3. DC Polarity Indicators (indicates AC when both are illuminated)
4. Test Lead Jacks (bottom of tester)

OPERATING INSTRUCTIONS

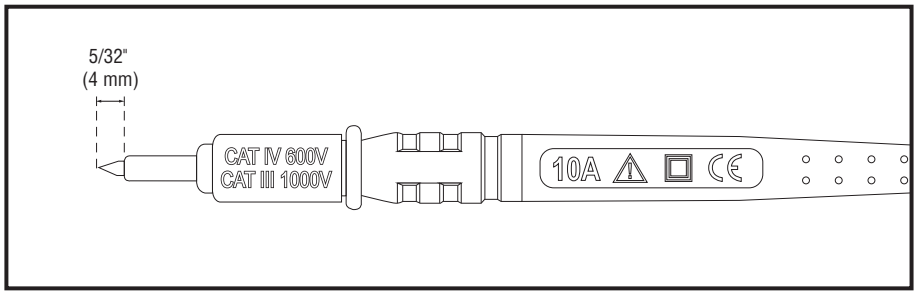
CONNECTING TEST LEADS

Connect test leads by inserting the black lead into the "COM" jack and the red lead into the "+" jack. Do not test if leads are improperly seated. Results could cause intermittent display readings. To ensure proper connection, firmly press leads into the input jack completely.



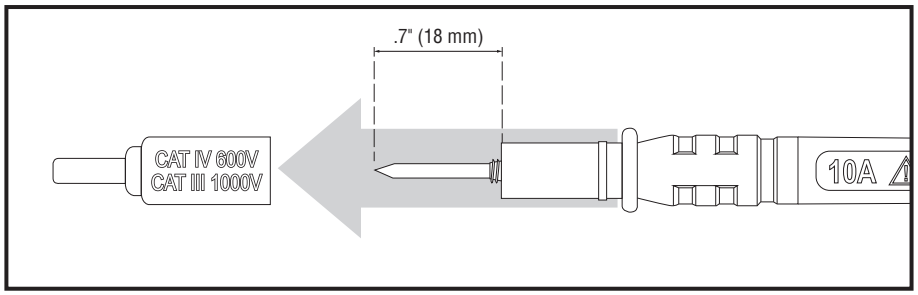
TESTING IN CAT III / CAT IV MEASUREMENT LOCATIONS

Ensure the test lead shield is pressed firmly in place. Failure to use the CATIII / CATIV shield increases arc-flash risk.



TESTING IN CAT II MEASUREMENT LOCATIONS

CAT III / CAT IV shields may be removed for CAT II locations. This will allow testing on recessed conductors such as standard wall outlets. Take care not to lose the shields.



ENGLISH

OPERATING INSTRUCTIONS

MEASURING VOLTAGE

Apply test leads to the system under test to measure voltage; the LED's will light up indicating the voltage present. When DC voltage is detected the + or – polarity indicator will illuminate revealing the polarity. When AC voltage is detected, both + and – polarity indicators will be illuminated at the same time.

NOTE: *Test-leads seated in the lead holders on the back of the ET60 are spaced correctly to test tamper-resistant US-style outlets.*

⚠ ***Measuring above 240V should be limited to 30 seconds continuous, followed by a recommended recovery time of at least 240 seconds (4 minutes).***

GHOST/STRAY VOLTAGES

The low input impedance of ~16kΩ reduces the possibility of falsely reading ghost or stray voltages on non-energized circuits.

GFCI TESTING

⚠ ***Check the GFCI device user manual for more information. Always contact a qualified electrician to resolve wiring problems. Operate the test button on the GFCI device. If the GFCI circuit does not trip, the device is not functioning properly.***

To test the functionality of a GFCI-protected device, apply leads to the hot/live and ground terminals for 7 seconds.

- If the GFCI device is functioning properly, the GFCI will trip and the circuit will become de-energized. The ET60 tester will stop indicating voltage.
- If the GFCI device is not functioning properly, the power to the circuit will remain and the ET60 will continue to indicate voltage

⚠ ***To resolve wiring or GFCI concerns, contact a qualified electrician.***

⚠ ***CAUTION:*** ***The maximum testing voltage is 600V. Voltages in excess of 600V will illuminate the 600V LED indicator. No other warnings will be delivered for voltages above 600V. Testing voltages above 600V should not be attempted under any circumstances.***

CLEANING

Disconnect test leads. Clean the instrument by using a damp cloth. ***Do not use abrasive cleaners or solvents.***

STORAGE

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 instrument to return to normal operating conditions before use.

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.