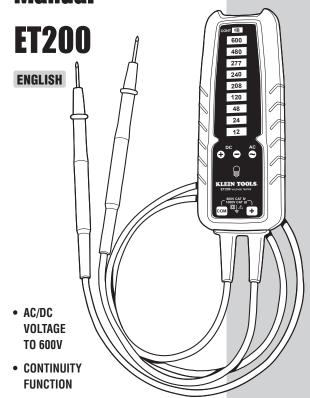
# Instruction Manual



- WORKLIGHT
- LIGHT, VIBRATION, SOUND INDICATORS
- CAT IV 600V SAFETY RATING
- MODERN SOLID-STATE DESIGN







For Professionals...Sin

(E)

S

മ

63

**ENGLISH** 

## ET200 Instruction Manual

#### **GENERAL SPECIFICATIONS**

The Klein Tools ET200 is a solid-state electrical tester. It measures AC/DC voltage, tests continuity, and features a bright LED worklight.

- Voltage Level Indicators: 12, 24, 48, 120, 208, 240, 277, 480, 600
- Voltage Type Indicators: AC, DC Positive, DC Negative
- AC Frequency: 45Hz to 66Hz
- Maximum Voltage To Earth Ground: 600V RMS
- Maximum Measurable Voltage: 600V RMS (displayed by LEDs)
- Input Impedance:  $15k\Omega$  on connection, up to  $150k\Omega$  steady-state.
- Continuity: < 270kΩ
- . Usage Duty Cycle (Above 277V): 1 minute on, 5 minutes off
- Accuracy: 70% to 100% of indicated voltage
- Battery Type: 3 x AAAOperating Altitude: 2000m
- Relative Humidity: 0°C to 30°C (32°F to 86°F) 90% 30°C to 40°C (86°F to 104°F) 75% 40°C to 55°C (104°F to 131°F) 45%
- Operating Temperature: 0°C to 55°C (32°F to 131°F)
- Storage Temperature: 0°C to 55°C (32°F to 131°F)
- Dimensions: 7.375 x 2.375 x 1.25"
- Weight: 8.1oz.
- Safety: CSA C22.2-1010.1, IEC 61010-1, Pollution Degree II
- . CAT Rating: CAT IV 600V, CAT III 1000V

#### **A 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.

- Before each use, verify meter operation by measuring a known voltage or current.
- Never use the meter on a circuit with voltages that exceed the category based rating of this meter.
- · Do not use the meter during electrical storms, or in wet weather.
- Do not use the meter or test leads if they appear to be damaged.
- Ensure meter leads are fully seated, and keep fingers away from the metal probe contacts when making measurements.
- Do not open the meter to replace batteries while the probes are connected to a voltage source.
- Use caution when working with voltages above 60V DC, or 25V AC RMS. Such voltages pose a shock hazard.
- · Shut off and lock out power before testing continuity.
- Always adhere to local and national safety codes. Use individual
  protective equipment to prevent shock and arc blast injury where
  hazardous live conductors are exposed.

#### **SYMBOLS**

Positive DC Voltage

**Negative DC Voltage** AC Voltage

Earth Ground

Warning or Caution

Dangerous levels

**Double Insulated Class II** 

**ETL Certification** 

#### CAT III CAT IV

Designed for transient protection on indoor measurements at installations connected directly to the primary source. Examples include distribution panels and lighting systems in large buildings.

Designed for transient protection on outdoor measurements taken at the primary supply voltage source. Examples include outdoor overhead or underground utility service and electricity meter.

#### **FEATURE DETAILS**

#### Indicators

## Lights

- · LEDs light up numerical voltage level indicators, as well as AC and DC + or DC - indicators.
- · Continuity LED will light up on detection.
- · Voltage detection will function without batteries installed.

#### Vibration

- · Instrument will vibrate in the presence of voltage measurements greater than 48V.
- · Vibration will function only with batteries installed.

## Sound

- Instrument will emit a tone in the presence of voltage measurements greater than 48V.
- Instrument will emit a tone on detection of continuity.
- · Sound will function only with batteries installed.

#### Accuracy

Accuracy of indicator lights is 70% to 100% of the voltage displayed to account for normal variations in supply voltage.

#### Worklight

Press the light bulb button above the Klein Tools logo to toggle the worklight on and off.

#### **Ghost Voltages**

The approximate input resistance of  $15k\Omega$  will reduce the possibility of false readings due to ghost voltages on de-energized lines.

#### Lead Spacing

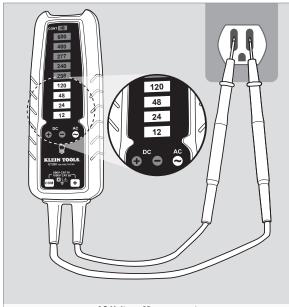
Molded lead holders on the back of the ET200 are spaced correctly to test tamper-resistant outlets.

#### OPERATING INSTRUCTIONS

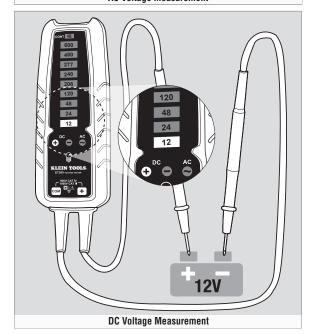
#### Measuring Voltages

A Time spent operational at voltages above 277V must be less than 60 seconds, with a cool-off time of at least 5 minutes.

Tester will turn on automatically when voltage is applied.

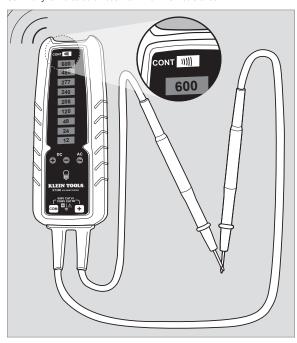


**AC Voltage Measurement** 



#### **Continuity Testing**

Continuity is indicated at less than  $270k\Omega$  of resistance.



#### **GFCI Testing**

- A Check the GFCI Receptacle user manual for more information.
- Always contact a qualified electrician to resolve wiring problems.
- Operate the Push Button on the GFCI Receptacle. If the GFCI circuit does not trip, the receptacle is not operating properly.

To test the functionality of a Ground Fault Circuit Interrupter receptacle, apply leads to the hot and ground terminals for 7 seconds.

- If the GFCI receptacle is wired properly, power to the circuit will go out and the ET200 will stop indicating voltage.
- If the GFCI receptacle is wired improperly, power to the circuit will remain and the ET200 will continue to indicate voltage.
   To resolve an issue, contact a qualified electrician.

#### **Battery Replacement**

Batteries are not required for visual voltage indication.

- 1. Remove test leads from voltage source.
- 2. Unscrew battery cover and replace 3xAAA batteries.

#### WARRANTY

This product is warranted to be free from defects in materials and workmanship for a period of two years from the date of purchase. During this warranty period, Klein Tools has the option to repair or replace or refund the purchase price of any unit which fails to conform to this warranty under normal use and service. This warranty does not cover damage which occurs in shipment or failure which results from alteration, tampering, accident, misuse, abuse, neglect, or improper maintenance. Batteries and damage resulting from failed batteries are not covered by warranty. A purchase receipt or other proof of original purchase date will be required before warranty repairs will be rendered.

Any implied warranties, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited to the express warranty. Klein Tools shall not be liable for loss of use of the instrument or other incidental or consequential damages, expenses, or economic loss, or for any claim or claims for such damage, expenses or economic loss.

Some states or countries laws vary, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. If your Klein product requires repair or for information on how to exercise your rights under the terms of this warranty, please contact Klein Tools at 1-800-553-4676.

#### **CLEANING**

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

#### **STORAGE**

Remove the batteries when instrument 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 Specifications section, allow the instrument to return to normal operating conditions before using it.

#### DISPOSAL/RECYCLE



**Caution:** This symbol indicates that equipment and its accessories shall be subject to a separate collection and correct disposal.

#### **CUSTOMER SERVICE**

KLEIN TOOLS, INC.

450 Bond Street Lincolnshire, IL 60069

1-800-283-6608

www.kleintools.com