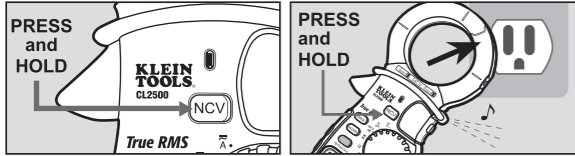


8. Non Contact Voltage (NCV): > 25V AC



SYMBOLS USED ON LCD

- ~ AC Measurement
- Negative DC Value
- O.L. Overload: Range Exceeded
- +/- Low Battery
- MIN Minimum Reading
- % Duty Cycle Mode
- V Voltage Measurement
- Ω Resistance in Ohms
- F Capacitance in Farads
- ▲ Relative / Zero Mode
- μ Micro 10<sup>-6</sup>
- k Kilo 10<sup>3</sup>
- DC Measurement
- AT Auto Range Active
- Apo Auto Power-Off Active
- HOLD Hold Active
- MAX Maximum Reading
- Hz Frequency Mode
- A Current in Amps
- Diode Test
- Continuity Test
- n Nano 10<sup>-9</sup>
- m Milli 10<sup>-3</sup>
- M Mega 10<sup>6</sup>

ELECTRICAL SPECIFICATIONS

DC Voltage Measurement

Range	Resolution	Accuracy
600mV - 600V	0.1mV - 0.1V	± (0.5% + 4 digits)
1000V	1V	± (0.8% + 10 digits)

Overload Protection: 1000V

AC Voltage Measurement

Range	Resolution	Accuracy
600mV - 750V	0.1mV - 1V	± (2.0% + 5 digits)

Overload Protection: 750V RMS

Frequency Response: 45 to 400 Hz

Minimum Voltage for Frequency Measurement: 200mV

Response: True RMS

DC Current Measurement

Range	Resolution	Accuracy
600μA	0.1μA	± (1.2% + 3 digits)
2000μA	1μA	
60A	0.01A	± (2.5% + 15 digits)
600A ~ 1000A	0.1A ~ 1A	± (1.5% + 8 digits)

Overload Protection:

- Voltage: 600V RMS
- Current: 2000μA (leads), 1000A (clamp)

AC Current Measurement

Range	Resolution	Accuracy
600μA	0.1μA	± (2.0% + 5 digits)
2000μA	1μA	± (1.5% + 5 digits)
60A	0.01A	± (2.9% + 15 digits)
600A ~ 1000A	0.1A ~ 1A	± (1.9% + 8 digits)

Overload Protection:

- Voltage: 600V RMS
- Current: 2000μA (leads), 1000A (clamp)

Frequency: 45 to 400Hz

Minimum Current for Frequency Measurement: 400μA (leads) or 20A (clamp)

Response: True RMS

Resistance Measurement

Range	Resolution	Accuracy
600Ω - 6MΩ	0.1Ω - 0.001MΩ	± (1.0% + 4 digits)
60MΩ	0.01MΩ	± (2.0% + 4 digits)

Overload Protection: 600V RMS

Capacitance Measurement

Range	Resolution	Accuracy
60nF - 6000μF	0.01nF - 1μF	± (3.5% + 6 digits)

Overload Protection: 600V RMS

Frequency Measurement

Range	Resolution	Accuracy
99.99Hz - 499.9kHz	0.01Hz - 100Hz	± (0.1% + 4 digits)

Overload Protection: 600V RMS

Duty Cycle Measurement

Range	Resolution	Accuracy
0.1 - 99.9%	0.1%	± (0.2% per kHz + 0.1% + 5 digits)

Overload Protection: 600V RMS

Diode Test

Overload Protection	Range	Test Current	Open Circuit Voltage
600V RMS	6.0V	Appx. 0.25mA	< 1.8V DC

Continuity Test

Overload Protection	Open Circuit Voltage	Threshold (Appx.)
600V RMS	< 0.44V	~40Ω

Non Contact Voltage Detector

On Voltage
Appx. 25V AC and above

WARRANTY

www.kleintools.com/warranty

CLEANING

Turn instrument off and disconnect test leads. 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  
www.kleintools.com

CL2500

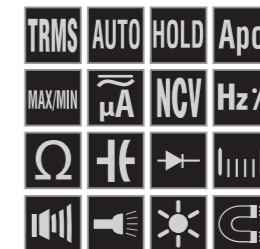
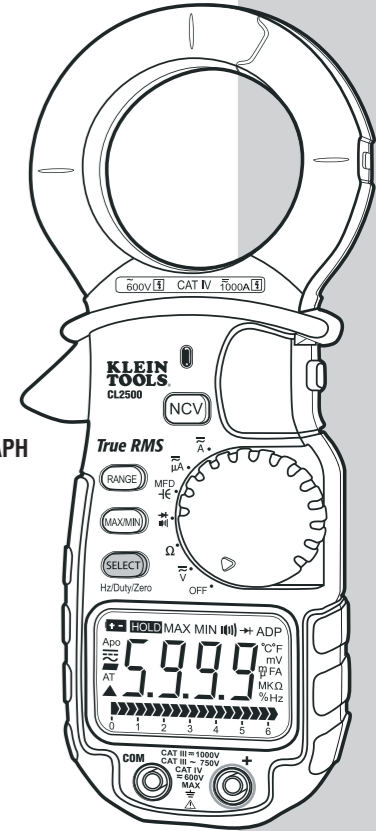


Instruction Manual

ENGLISH

- 1000A AC/DC
- TRUE RMS
- AUTO/MANUAL RANGE
- NON CONTACT VOLTAGE TESTER
- MAX/MIN/HOLD
- ANALOG BAR GRAPH
- 3-5/6 DIGIT 5999 COUNT LCD
- BACKLIGHT
- WORKLIGHT

750V ~  
1000V ==  
1000A ~



For Professionals... Since 1857<sup>®</sup> USA

CAT III 1000V

CAT IV 600V

UL LISTED 452K

# CL2500 Instruction Manual

## GENERAL SPECIFICATIONS

The Klein Tools CL2500 is a True RMS, auto-ranging clamp meter. It measures AC/DC voltage, AC/DC current, resistance, capacitance, frequency, and duty cycle. It can also test non-contact voltage, diodes, and continuity.

- **Operating Altitude:** 2000 meters
- **Storage Altitude:** 10000 meters
- **Humidity:** 0% to 80% at 32°F to 95°F (0°C to 35°C)  
0% to 70% at 32°F to 131°F (0°C to 55°C)
- **Operating Temperature:** 0°C / 32°F to 40°C / 104°F < 75% R.H.
- **Storage Temperature:** -20°C / -4°F to 60°C / 140°F
- **Accuracy Temperature:** 18°C / 64°F to 28°C / 82°F
- **Temperature Coefficient:** 0.1\* (specified accuracy) / °C
- **Dimensions:** 8.09" x 2.56" x 1.38" (205 mm x 65 mm x 35 mm)
- **Weight:** 14 oz. (400 g)
- **Calibration:** Accurate for one year
- **Certifications:** UL & cUL standard UL3111-1 Listed
- **Pollution Degree:** 2
- **Accuracy:** ± (% of reading + # of least significant digits)
- **Ingress Protection:** IP42
- **Drop Protection:** 1 m (3 ft.)
- **Safety Rating:** CATIII 1000V, CAT IV 600V

## ⚠ WARNINGS

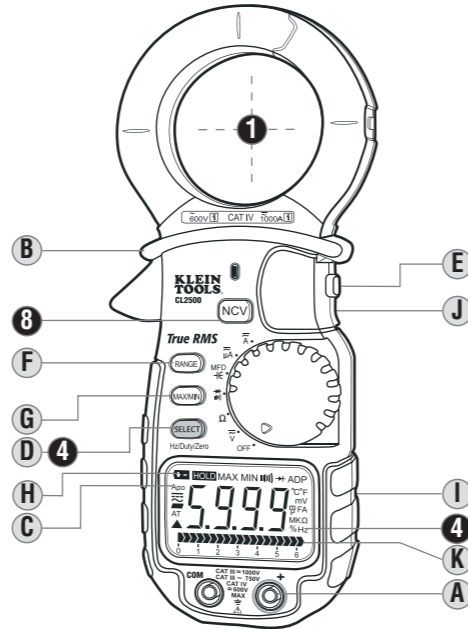
To ensure safe operation and service of the tester, follow these instructions. Failure to observe these warnings can result in severe injury or death.

- 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 meter to replace batteries while probes are connected.
- Use caution when working with voltages above 60V DC, or 25V AC RMS. Such voltages pose a shock hazard.
- To avoid false readings that can lead to electrical shock, replace batteries if a low battery indicator appears.
- Unless measuring voltage or current, shut off and lock out power before measuring resistance or capacitance.
- 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

- |                          |  |
|--------------------------|--|
| AC Alternating Current   | Warning or Caution                       |
| DC Direct Current        | Dangerous levels                         |
| DC/AC Voltage or Current | Double Insulated Class II                |
| Ground                   | Safe for disconnect from live conductors |
| AC Source                |  |

## FEATURE DETAILS



- Use CAT IV 600 rated leads or higher.**  
Do not attempt to measure more than 1000V DC or 750V AC or 2000µA.
- Keep hands below line when measuring high current levels.**
- Auto Power-Off (Apo)**
  - Device will power off after 30 minutes non-use.
  - Turn the dial or press a button to wake.
  - Disabled during Max / Min function.
  - Holding Select button while turning on disables Auto Power-Off.
- Select Functionality Button**
  - Quick press (<0.5 sec):
    - » Switch between AC and DC.
    - » Switch between  $\rightarrow$  and  $\leftarrow$ .
  - Long press (>1 sec):
    - » Switch between AC, Frequency, and Duty Cycle modes.
    - » Zero the DC current clamp reading.
- Hold / Backlight / Worklight**
  - Press to hold the current input on the display.
  - Press again to return to live reading.
  - Press for 2 seconds to enable / disable lights.
  - Using lights decreases battery life.
- Auto / Manual Range**
  - Press repeatedly to cycle through manual ranges.
  - Press for 2 seconds to return to auto ranging mode.
  - **AT** is displayed on LCD only during auto ranging mode.
- Max / Min Hold**
  - Press to enter Max / Min mode; the largest and smallest values will be saved while in this mode.
  - Press repeatedly to alternate between the maximum and minimum readings.
  - Press for 2 seconds to return to live reading and clear the stored maximum and minimum values.

## H. I. Battery Replacement

- When  $\pm$  indicator is displayed on the LCD, batteries must be replaced.
- Remove the back screw and replace 2 x AAA batteries.

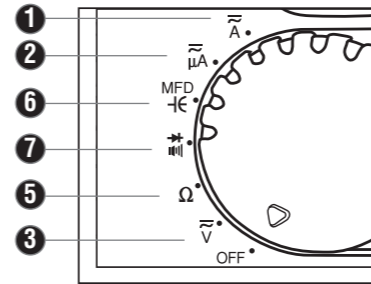
## J. Magnetic Back

- Attach instrument to metal for hands-free use.

## K. Bar Graph

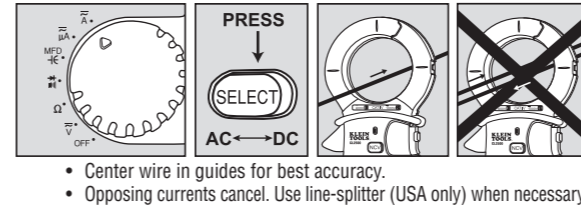
- The bar graph shows an approximate analog representation of a measurement.
- The bar graph responds much faster than the digital display.
- The scale of the bar graph is zero to the maximum reading of the selected range.

## FUNCTION INSTRUCTIONS



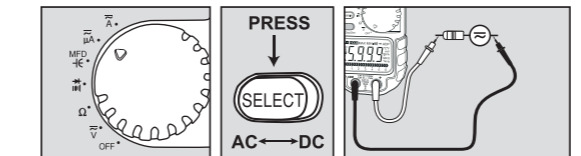
### 1. AC/DC Current (large): < 1000A

Features: **HOLD** **RANGE** **MAX/MIN** **ZERO (DC)**



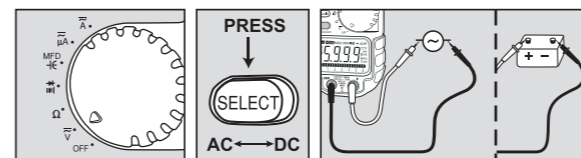
### 2. AC/DC Current (small): < 2000µA

Features: **HOLD** **RANGE** **MAX/MIN**



### 3. AC/DC Voltage: < 750V AC or 1000V DC

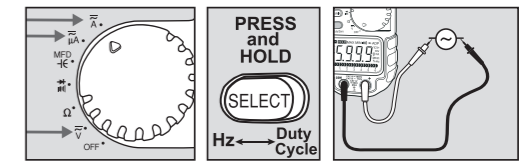
Features: **HOLD** **RANGE** **MAX/MIN**



- Select AC or DC voltage source.

## 4. Frequency (Hz) / Duty Cycle (See FEATURE DETAILS)

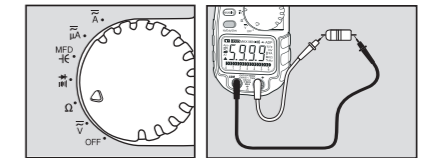
Features: **HOLD**



- Select  $\bar{V}$ ,  $\bar{\mu}A$ , or  $\bar{A}$  setting.

## 5. Resistance: < 60MΩ

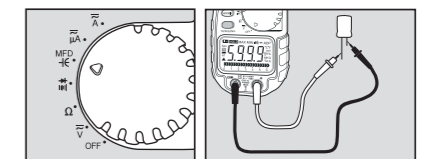
Features: **HOLD** **RANGE** **MAX/MIN**



- ⚠ Do not measure resistance on a live circuit.

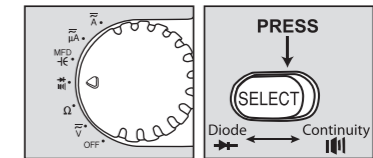
## 6. Capacitance: < 6000µF

Features: **HOLD**



- ⚠ Safely discharge capacitor before measurement.
- Reading may take up to 60 seconds for large capacitors.

## 7. Diode / Continuity



**Diode Features:**

**HOLD** **MAX/MIN**

Display shows:

- Forward voltage drop if forward biased.
- "O.L." if reverse biased.

**Continuity Features:**

**HOLD** **MAX/MIN**

- Display shows resistance.
- Buzzer sounds if less than 40Ω.