DL369

TEST iNSTRUMENTS™

Dual Display Clamp Meter

INSTRUCTION MANUAL

ENGLISH

CE

c UL us LISTED

600V CAT III

1000V CAT II

1-800-547-5740

www.ueitest.com • email: info@ueitest.com

Keeping Homes & Workplaces Safe & Comfortable

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Important Safety Warnings

⚠ **WARNING**

Refer to the user guide regarding potential hazard and proper instructions. Before using this meter, read all safety information carefully. In this manual the word "**WARNING**" is used to indicate conditions or actions that may pose physical hazads to the user. The word "**CAUTION**" is used to indicate conditions or actions that may damage this instrument.

- Do not attempt to measure any voltage that exceeds the category based rating of this meter
- Do not attempt to use this meter if either the meter or the test leads have been damaged - Turn instrument in for repair at a qualified repair facility
- Ensure meter leads are fully seated by making a quick continuity check of the leads prior to making voltage measurements
- Keep your fingers away from the test lead's metal probe contacts when making measurements - Always grip the leads behind the finger guards molded into the probes
- Do not open the meter to replace batteries while the probes are connected

⚠ **WARNING**

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 this meter during electrical storms or in wet weather.
- Do not use the meter or test leads if they appear damaged.
- Ensure meter leads are fully seated and keep fingers away from the metal probe contact when making measurements. Always grip the leads behind the finger guards molded into the probe.
- Do not open the meter to replace batteries while the probes are connected.
- Use caution when working with voltages above 60 DC or 25 AC RMS. Such voltages pose shock hazards.
- 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 lockout power before measuring resistance or capacitance.
- Always adhere to national and local safety codes. Use proper personal protective equipment (PPE) to prevent shock and arc blast injury where hazardous live conductors are exposed.
- Always turn off power to a circuit or assembly under test before cutting, unsoldering or breaking the current path. Even small amounts of current can be dangerous.
- Always disconnect the live test lead before disconnecting the common test lead from the circuit.
- In the event of electrical shock, ALWAYS bring the victim to the emergency room for evaluation, regardless of victim's apparent recovery. Electrical shock can cause unstable heart rhythms that may need medical attention.
- If any of the following occur during testing, turn off the power source to the circuit being tested: arcing, flame, smoke, extreme heat, smell of burning materials or discoloration or melting of components.

Important Safety Warnings (Cont.)

⚠ **WARNING**

Higher voltages and currents require greater awareness of physical safety hazards. Before connecting the test leads; turn off power to the circuit under test, set meter to the desired function and range; connect the test leads to the meter first, then connect to the circuit under test. Reapply power. If an erroneous reading is observed, disconnect power immediately and recheck all settings and connections.

⚠ **WARNING**

This meter is designed to provide HVAC/R technicians with the capabilities they need to diagnose and repair HVAC/R system. Observe all recommended safety procedures that include proper lockout utilization and use of personal protective equipment that includes safety glasses, gloves and flame resistant clothing.

Features

- **3-3/4 digit, count 4000 count LCD display**
- **Auto-ranging measurement with manual ranging capability**
- **MIN/MAX (Peak Hold) (all ranges except Frequency & Capacitance)**
- **Frequency/Duty Cycle/Data Hold**
- **Auto power off**
- **Dual display**
- **Built-in test lead storage**

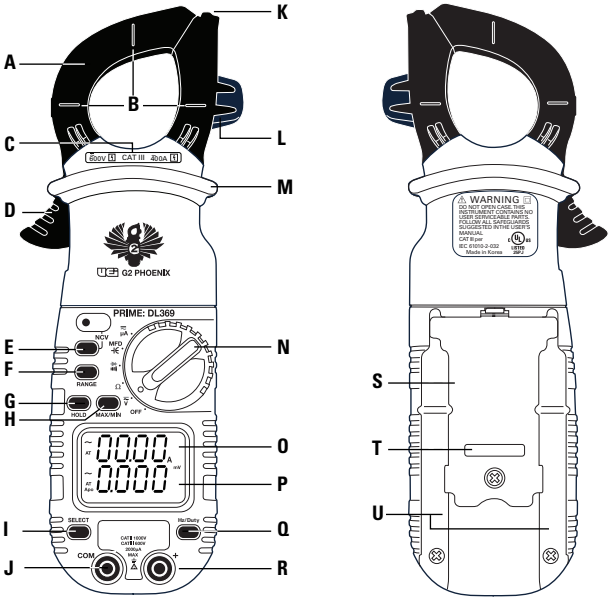
General Specifications

- **Operating Temperature:** 32˚ to 113˚F (0˚ to 45˚C)
- **Storage Temperature:** 32˚ to 140˚F (0˚ to 60˚C)
- **Relative Humiditv (Store and Use):** 0% to 80 % RH
- **Operating Altitude:** 6561 ft. (2,000 M)
- **Weight:** 11.3 Oz (320 Grams)
- **Calibration Frequency:** Annual
- **Battery:** 2 x 1.5V LR03 AAA Size
- **Safety Standard:** UL 61010 2nd Edition
  CAT III 600V / CAT II IOOOV

Category Definitions

Measurement Category	Short-Circuit (typical) kA[a]	Location in the building installation
II	< 10	Circuits connected to mains socket outlets and similar points in the MAINS installation
III	< 50	Mains distributions parts of the building
IV	> 50	Source of the mains installation in the building

Overview



A. Clamp Jaw: Measure inductive AC current. Opens to 1.26" (32.0mm).

B. Conductor Alignment Marks: Use to aid the visual alignment of a conductor when measuring inductive amperage. Greatest accuracy is achieved when the conductor inside the clamp is centered at the intersection of these marks.

C. Category Max Indicator: Maximum CAT Rating for clamp jaw.

⚠ **WARNING**

Do Not exceed 1000 volts DC or AC - RMS at either the common or multifunction input ports as measured from earth ground.

D. Clamp Lever: Opens and closes current clamp jaw.

NOTE: *The clamp uses a high-tension spring to close the jaw. Do not allow fingers or objects to become pinched in the base as the jaws close.*

E. NCV Button: Activates non-contact voltage function

F. Range Button: Used to select range for upper and lower display.

G. HOLD Button: Freezes display or activates display

H. MIN/MAX Button: Activates MIN/MAX capture function, cycles through minimum value, maximum value. Press longer than two seconds to return to current reading.

I. Select Button: Used to choose measurement mode from selections with multiple options such as AC or DC volts, AC or DC µA, Resistance, Diode, Capacitance or Continuity, Temperature in °F or °C.

J. Common Terminal: The black test lead is plugged into this terminal to supply the ground or"low" reference for all measurements.

K. Wire Separation Tab/ NCV sensor: Use to isolate an individual wire from a bundle for testing. Non-Contact Voltage (NCV) detection sensor to check for live voltage.

L. Test Lead Holder: Used for hands- free use of one of the test probes.

M. Hand Guard: Used as a point of reference for the operator's safety. Keep hand behind guard when measuring from the clamp jaw.

N. Rotary Selector Dial: Set Rotary Selector Dial desired function

O. Upper Display: Used to display current when used with UEi clamp or hook adapte. Displays output from othe accessories when connected to the UEi meter.

P. Lower Display: Used to display input to test lead jacks. Includes AC/DC Volts, Frequency, Resistance, Diode, Capacitance and AC/DC microamps (µA).

Overview (Cont.)

Q. Hz/Duty Button: Used to scroll through Frequency or Duty Cycle when in the AC Voltage measurement mode.

R. Multifunction Input Jack: Used for measuring AC/DC Volts, Frequency or Duty Cycle, Resistance, Diode, Continuity and Capacitance.

⚠ **WARNING**

Use Cat III listed test leads or higher.

Do not attempt to measure more than 1000V DC, 750V AC, or 2000uA DC.

S. Battery Cover

T. Serial Number

U. Test lead storage

Symbols

~	**AC (Alternating current)**	⎓	**DC (Direct current)**
≂	**AC/DC Voltage or Current**	▬	**Negative**
MAX	**Maximum measured value displayed**	MIN	**Minimum measured value displayed**
A	**Amperage**	ADP	**Displays value from adapter**
+−	**Low Battery**	HOLD	**Hold function activated**
▶|	**Diode**	🔊	**Continuity**
nF/µF	**Capacitance (nanofarads or microfarads)**	µA	**Microamps (1 µA is 0.000001 Amp)**
Hz	**Hertz/Frequency**	%	**Duty Cycle**
mV	**Millivolts (1 mV is 0.001 Volt)**	Apo	**Auto power off Active**
AT	**Auto range function active**	O.L	**Displayed if the input value exceeds selected range**
Ω	**Ohms/Resistance**	°F	**Degrees Fahrenheit**
°C	**Degrees Celsius**	⚡	**Safe for disconnect from live conductors**
⏚	**Ground**	⚠	**Warning or Caution**
⧈	**Double Insulation (Protection to Class II)**		

Operating Instructions

Auto power off

After powering off, the meter will turn back on if you perform one of the following; Change the range, move the position of the selector or any other button is pressed. **NOTE:** *APO is disabled while in MIN/MAX mode.*

Auto / Manual Range

In auto range the meter will select the best range for the measured value, and "AT" is displayed. Press the "**RANGE**" button to cycle through available ranges. "AT" will not be on the display when locked in a specific range. Press and hold "**RANGE**" button to return to auto range.

MIN/MAX mode

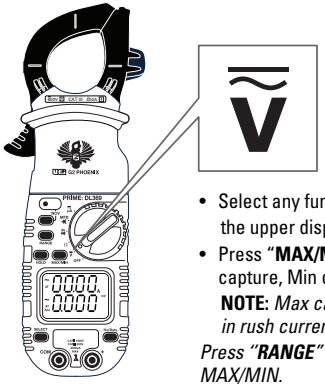
When using the MIN/MAX capture mode for Amps, it is recommended that you first select the range of the expected maximum value. If this is not done it will lock in the lowest range possible for the initial measurement. If the maximum value exceeds this range the meter will capture "0.L" as the maximum value.

Manual ranging will also provide a faster response to the input.

Data Hold

Press the "**HOLD**" button to activate. This will freeze the reading and range in the display for your review.

AC Amps - Jaw input (45Hz to 40GHz)



- Select any function to power the upper display.
- Press "**MAX/MIN**" to activate Max capture, Min capture, or normal display.
  NOTE: *Max capture is useful for motor in rush current.*

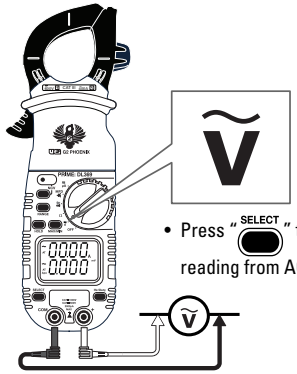
*Press "**RANGE**" to select range prior to MAX/MIN.*

Features:

AC Amps Measurement - Jaw Input (45Hz to 400Hz)

Range	Resolution	Accuracy	Overload Protection
40A	0.01A	±(2.9% +15 dgts)	400A
400A	0.1A	±(1.9%v +8 dgts)	

AC or DC Volts



• Press "SELECT" to change the reading from AC to DC.

Features: SELECT MAX/MIN RANGE HOLD

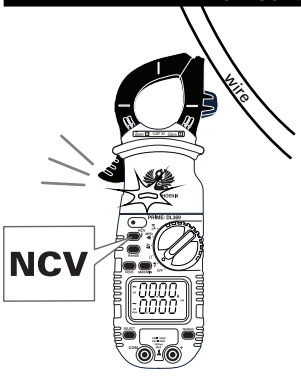
DC Volts Measurement

Range	Resolution	Accuracy	Overload Protection
400mV	0.1mV	±(0.5% +4 dgts)	1000V rms
4V	1mV		
40V	10mV		
400V	100mV		
1000V	1V	±(0.8% +10 dgts)	

AC Volts Measurement (45Hz to 400Hz)

Range	Resolution	Accuracy	Overload Protection
400mV	0.1mV	±(2.0% +5 dgts)	750V rms
4V	1mV		
40V	10mV		
400V	100mV		
750V	1V		

Non-Contact Voltage

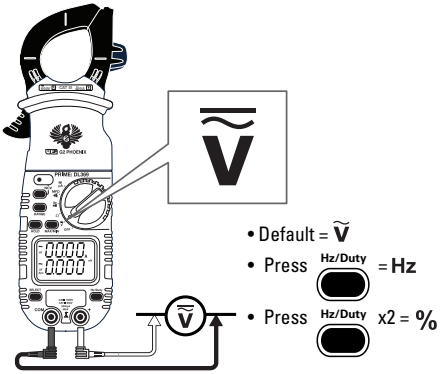


NCV Sensor in the tip.

Press and hold the "**NCV**" button at any range and move the meter near this voltage source.

NOTE: *The worklight will turn off during NCV tests.*

Frequency or Duty Cycle



NOTE: *Frequency greater than 1MHz will display "**o.ooo Hz**"*

Features: Hz/Duty, RANGE, HOLD

Frequency Measurement

Range	Resolution	Accuracy	Overload Protection
99.99Hz	0.01Hz	±(0.1% +4 dgts)	600V rms
999.9Hz	0.1Hz		
9.999kHz	1Hz		
99.99kHz	10Hz		
199.99kHz	100Hz		

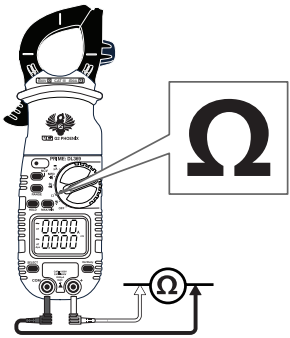
Minimum frequency: 0.5Hz, DC V offset should be zero
Sensitivity: >10% of each AC Volt range except 4V (>20%) range only

Duty (%) Cycle Measurement

Range	Accuracy	Overload Protection
1.0 to 99.90%	±(0.2% per kHz +0.1% +5 count)	600V rms

0.5Hz to 100KHz (pulse width > 2µ sec)

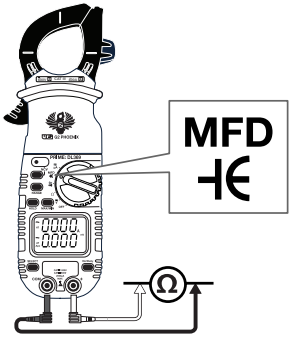
Resistance



Features: HOLD, SELECT, RANGE, MAX/MIN

Range	Resolution	Accuracy	Overload Protection
400Ω	100mΩ	±(1.0% +4 dgts)	600V rms
4kΩ	1Ω		
40kΩ	10Ω		
400kΩ	100Ω		
4MΩ	1kΩ		
40MΩ	10kΩ	±(2.0% +4 dgts)	

Capacitance

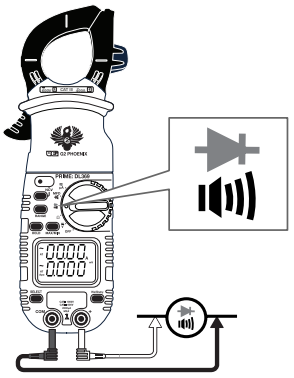


NOTE: *Leave the meter connected to the capacitor for 10 seconds or more for the reading to stabilize.*

Features: HOLD, SELECT, RANGE, MAX/MIN

Range	Resolution	Accuracy	Overload Protection
40nF	0.01nF	±(3.5% +6 dgts)	600V rms
400nF	0.1nF		
4µF	0.001µF		
40µF	0.01µF		
400µF	0.1µF		
4000µF	1µF		

Continuity and Diode



• Press "SELECT" to move from Continuity mode to Diode mode.

Note: ***Diode - "OL"*** *in reverse mode and approximate forward voltage drop when connected in forward mode.*

Continuity - *Sounds the tone at approximately 50 Ω or less.*

Features: SELECT HOLD RANGE MAX/MIN

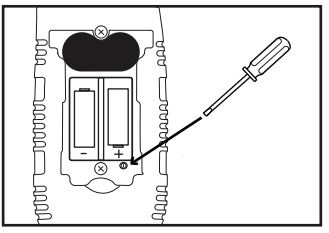
Continuity Measurement

Open Circuit voltage <0.44V	Overload Protection
Threshold Approximately <50Ω	600V rms

Diode Test

Range	Open Circuit Voltage	Test Current (typical)	Overload Protection
2.0V	< 1.6V DC	0.25mA	600V rms

Temperature Adjustment



- Remove battery cover.
- Place temperature probe in a known standard. (Stirred crushed ice in distilled water can be used for 32°F)
- Adjust potentiometer with a fine tip standard screwdriver to match the display to 32°F.

NOTE: *The adjustment for the potentiometer is accessible through the lower right access port under the battery cover.*

Warranty

The DL369 is warranted to be free from defects in materials and workmanship for a period of 3 years from the date of purchase. If within the warranty period your instrument should become inoperative from such defects, the unit will be repaired or replaced at UEi's option. This warranty covers normal use and does not cover damage which occurs in shipment or failure which results from alteration, tampering, accident, misuse, abuse, neglect or improper maintenance. Batteries and consequential damage resulting from failed batteries are not covered by warranty.

Any implied warranties, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited to the express warranty. UEi 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.

Warranty only covers hardware and does not extend to software applications.

A purchase receipt or other proof of original purchase date will be required before warranty repairs will be rendered. Instruments out of warranty will be repaired (when repairable) for a service charge.

For more information on warranty and service, contact:

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1-800-547-5740

This warranty gives you specific legal rights. You may also have other rights, which vary from state to state.

Disposal

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

Cleaning

Periodically clean your meter's case using a damp cloth. DO NOT use abrasive, flammable liquids, cleaning solvents, or strong detergents as they may damage the finish, impair safety, or affect the reliability of the structural components.

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 General Specifications section, allow the instrument to return to normal operating conditions before using it.