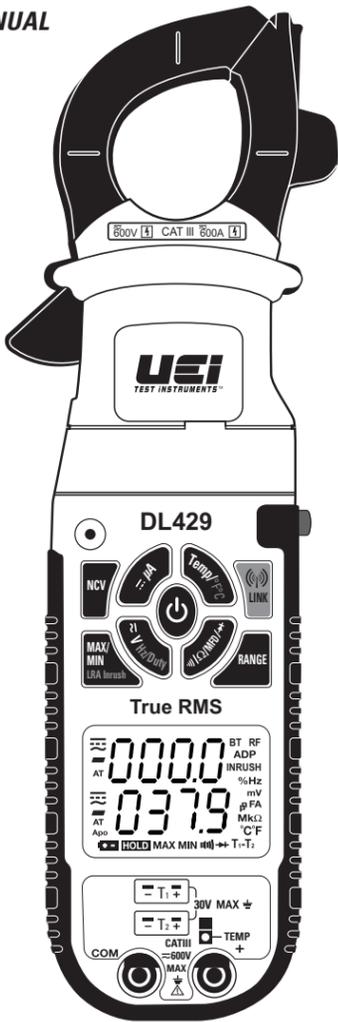


True RMS Digital Clamp-On Wireless with Dual Temperature

INSTRUCTION MANUAL

ENGLISH



1-800-547-5740 • Fax: (503) 643-6322
www.ueitest.com • email: info@ueitest.com

WARRANTY

The DL429 is warranted to be free from defects in materials and workmanship for a period of two years from the date of purchase.

For more information on warranty and service:
www.ueitest.com/warranty

www.ueitest.com • Email: info@ueitest.com
1-800-547-5740 • FAX: (503) 643-6322

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

FCC INFORMATION

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION ⚠: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

BATTERY REPLACEMENT

- When indicator is displayed on the LCD, batteries must be replaced.
- Remove the back screw and replace 6 x AAA batteries.

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.

FEATURES

- True RMS
- Direct function access with push-button operation
- Dual Display
- Dual Temperature with Differential
- Locked Rotor Inrush Measurement
- Non-contact voltage
- Min / Max / Hold
- Backlit display with Clamp Work-light
- Magnetic mount for hands free use
- RF or Bluetooth® Wireless: BT app available for Android and iOS
- Accepts CH3: The Hook, or Fieldpiece accessory heads
- Input Jack Safety Lockout
- Auto-ranging measurement with manual ranging capability
- Auto Power Off: After 30 minutes of non-use.
- Low battery lockout: Displays "BATT" in display blocking potentially inaccurate readings.
- Visible High-Voltage alert

MEASURES

- Amps AC to 600A
- μ A DC 0.1 μ A~2000 μ A
- Volts DC 0.1mV ~ 1,000V
- Volts AC 0.1mV ~ 750V
- Resistance 0.1 Ω ~ 60M Ω
- Capacitance 0.01nF ~ 2,000 μ F
- Temperature -22° ~ 752°F (-30° ~ 400°C) with Differential
- Frequency 0.01Hz ~ 99.99kHz
- Duty Cycle

GENERAL SPECIFICATIONS

- **Altitude:** Operating - up to 2000m (6,561 ft.)
Storage - 10,000m (32,808 ft.)
- **Humidity:** 80% max
- **Operating Temperature:** 32°F to 122°F (0°C to 50°C) at < 75% R.H
- **Storage Temperature:** -4°F to 140°F (-20°C to 60°C) at < 80% R.H
- **Relative 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)
- **Temperature Coefficient:** Nominal 0.1 x (Specified accuracy) / °C
(<18°C or >28°C ; <64°F or >82°F)
- **Pollution degree:** 2
- **Display:** 3-5/6 digits 6000 counts dual LCD display(s)
- **Refresh Rate:** 3 times/sec
- **Overrange:** "OL" is displayed
- **Polarity:** Automatic(no indication for positive polarity); Minus(-) sign for negative polarity
- **Dimensions:** 10.2" x 2.5" x 1.5"
- **Weight:** 15.2oz.
- **Calibration:** Accurate for one year
- **CAT Rating:** CAT III 600V
- **Certifications:** ETL & cETL IEC61010-2-032
- **Battery type:** 6 x 1.5V AAA or LR03
- **Silicon Test Lead:** IEC61010-2-031
- **Accuracy:** \pm (% of reading + # of least significant digits)

⚠ 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.
- 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 Personal Protective Equipment (PPE) to prevent shock and arc blast injury.

SYMBOLS USED ON LCD

	AC Measurement		DC Measurement
	Negative DC		Auto Ranging
	Overload: Range Exceeded		Auto Power-Off Active
	Low Battery		Display not updating
	Minimum measured value displayed		Maximum measured value displayed
	Units for duty cycle		Units for frequency
	Voltage measurement mode		Amperage measurement mode
	Resistance measurement mode		Diode test mode
	Capacitance measurement mode in nano farads or microfarads		

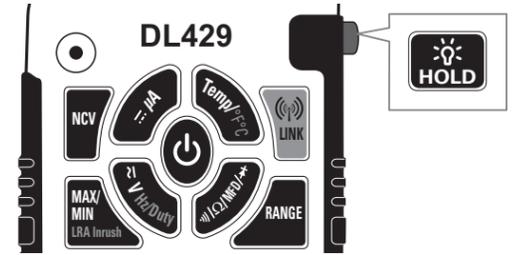
VALUE MULTIPLIER

M	mega (x 10 ⁶ or 1,000,000)	k	Kilo prefix (x 10 ³ or 1,000)
m	milli (x 10 ⁻³ or 0.001)	n	nano (x 10 ⁻⁹ or 0.000000001)
μ	micro (x 10 ⁻⁶ or 0.000001)		

INTERNATIONAL SYMBOLS

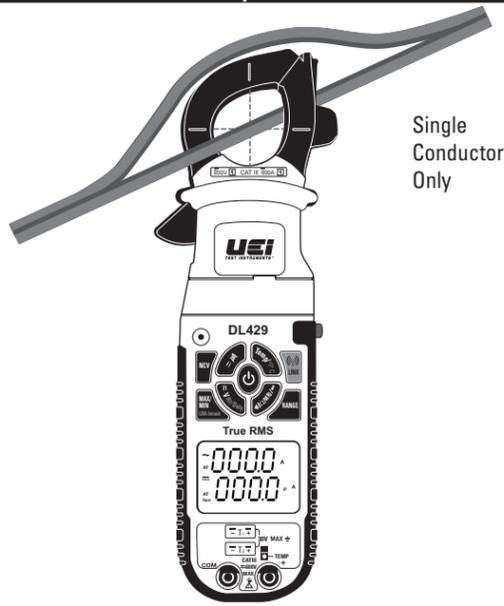
	AC Alternating Current		Warning or Caution
	DC Direct Current		Dangerous levels
	DC/AC Voltage or Current		Double Insulated Class II
	Ground		Safe for disconnect from live conductors

NAVIGATION



	<ul style="list-style-type: none"> • Press briefly to turn the meter on • Press and hold "HOLD" while turning on to disable auto power off. • Press and hold to turn the meter off 	
	<ul style="list-style-type: none"> • The new user interface allows direct access from any mode. • Press and hold to access functions in yellow text. • Wireless app and meter display update simultaneously. • Modes and functions can be selected from either the app or the meter. 	
	<ul style="list-style-type: none"> • From wireless app press 'Mode...' first 	
	<ul style="list-style-type: none"> • Press to select DC μA measurement mode. 	
	<ul style="list-style-type: none"> • Press to select T1. • Press a second time for T2. • Press a third time for T1 - T2. • Press and hold to change from °F to °C. 	
	<ul style="list-style-type: none"> • Press to select continuity. • Press a second time for resistance. • Press a third time for capacitance and a fourth time for diode. 	
	<ul style="list-style-type: none"> • Press to select VAC or VDC In VAC mode • Press and hold for Hz • Press and hold again for Duty Cycle. 	
	<ul style="list-style-type: none"> • Non-Contact Voltage Detection key is used to detect power with a sensor located at the tip of the clamp head and indicates positive response with an audible alarm and visual LED indicator light just above the "NCV" button. • Do not use non-contact voltage detector to determine if there is current in the wire. Detection operation could be affected by socket design, insulation thickness, type and other factors. • Voltage indicator light may also light when voltage is present on the meter's input jack or from external interference sources such as motors, flashlights etc. 	
	<ul style="list-style-type: none"> • From wireless app press 'Func...' first 	
	<ul style="list-style-type: none"> • 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. <p>Note: Select range prior to selecting Min/Max to capture large values</p>	
	<p>The UEI LRA Inrush is programmed to properly capture the starting current for compressor motors.</p> <ul style="list-style-type: none"> • Select AC Amps • Select the range capable of capturing the maximum value • Press and hold LRA Inrush for two seconds – INRUSH will now be shown on the screen • Activate compressor and read value on the display • Press and hold LRA Inrush for two seconds to exit 	
	<ul style="list-style-type: none"> • 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. <p>Note: Select range prior to Min/Max for best results.</p>	
	<ul style="list-style-type: none"> • Press to activate Bluetooth® • Press again to activate RF wireless • Press and hold to turn radio off <ul style="list-style-type: none"> • The RF will work with specific transmitter, while the BT will work with a tablet or smartphone with app installed 	
	<ul style="list-style-type: none"> • Press to hold the reading on the display. Press again to return to live reading. • Press and hold "work light" key for 2 seconds to turn on. Press and hold again to turn off. 	

AC Amps: < 600A



Single Conductor Only

When the meter is powered on, the upper display will always show amperage, or adapter (ADP) output

- Center wire in guides for best accuracy.
- Oposing currents cancel (use line-splitter when necessary).
- Keep hands below line when measuring high current levels.



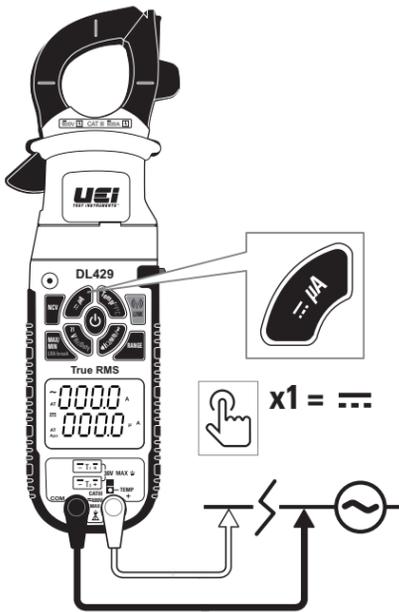
AC Amps Measurement - Jaw input

Range	Resolution	Accuracy	Overload Protection
60A	0.01A	± (2.9% + 15 digits)	600V RMS
600A	0.1A	± (1.9% + 8 digits)	

True RMS: 45Hz to 400Hz

* Minimum Current for Clamp Measurement: 0.2A

DC Low Amps: < 2000uA



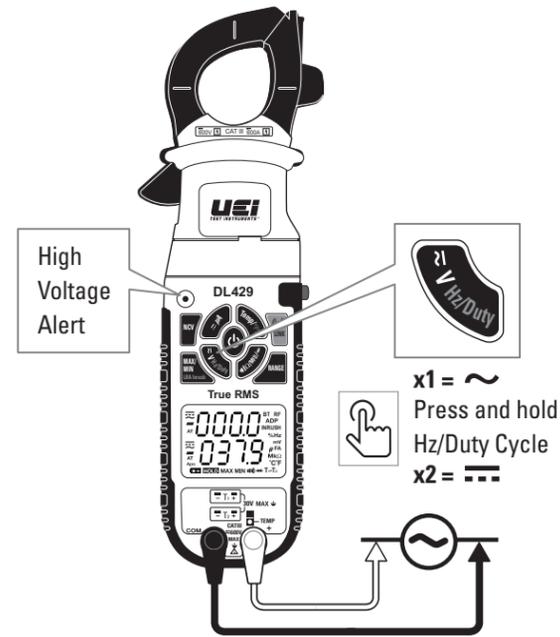
- Press for DC micro amps



DC Low Amps Measurement - Test lead input

Range	Resolution	Accuracy	Overload Protection
600µA	0.1µA	± (1.2% + 3 digits)	2000µA / 600V RMS
2000µA	1µA		

≈ V Hz/Duty



High Voltage Alert

- Use CAT III rated leads or higher. Do not attempt to measure more than 1000V DC or 750V AC.

- Press for AC Volts
 - Note: This is the default setting when first powered on.
 - Press and hold in AC volts for Hz/Duty Cycle

- Press again for DC volts
 - High Volt Visible Alert - Any input exceeding 30V (AC or DC) will light the NVC LED to alert users to potentially dangerous voltage levels



DC Voltage Measurement

Range	Resolution	Accuracy	Overload Protection
600mV	0.1mV	± (0.5% + 4 digits)	1000V
6V	1mV		
60V	10mV		
600V	100mV	± (0.8% + 10 digits)	
1000V	1V		

AC Voltage Measurement

Range	Resolution	Accuracy	Overload Protection
600mV	0.1mV	± (2.0% + 5 digits)	750V RMS
6V	1mV		
60V	10mV		
600V	100mV	± (0.8% + 10 digits)	
750V	1V		

True RMS: 45Hz to 400Hz

Frequency Measurement

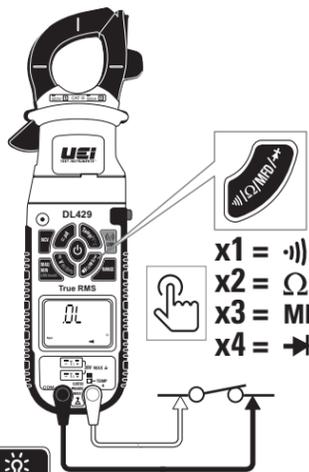
Range	Resolution	Accuracy	Overload Protection
99.99Hz	0.01Hz	± (0.1% + 4 digits)	600V RMS
999.9Hz	0.1Hz		
9.999kHz	1Hz		
99.99kHz	10Hz		

Sensitivity: 1.8V RMS

Duty Cycle Measurement

Range	Accuracy	Overload Protection
1.0 - 99.0%	±(0.2% per kHz + 0.1% + 5 digits)	600V RMS

Ω / Ω / MFD / →



Audible Continuity

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



Overload Protection	Open Circuit Voltage
600V RMS	< 0.44V

Threshold Approx : < 40Ω

Resistance

- Press again for resistance
- Do not measure resistance on a live circuit.



Range	Resolution	Accuracy	Overload Protection
600Ω	0.1Ω	± (1.0% + 4 digits)	600V RMS
6kΩ	1Ω		
60kΩ	10Ω		
600kΩ	100Ω	± (2.0% + 4 digits)	
6MΩ	1kΩ		
60MΩ	10kΩ		

Capacitance

- Press again for capacitance

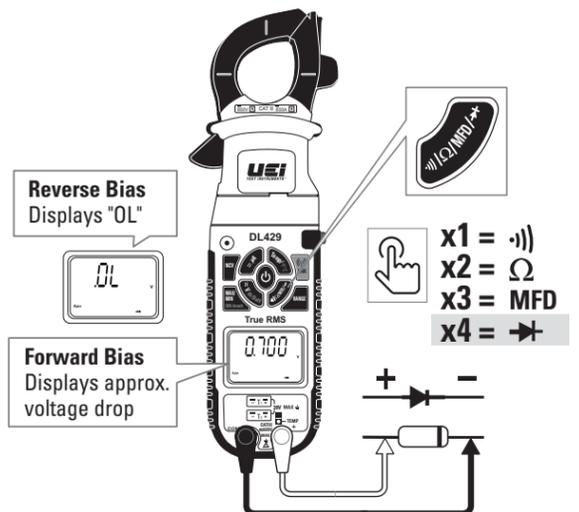


Range	Resolution	Accuracy	Overload Protection
60.00nF	0.01nF	± (3.5% + 6 digits)	600V RMS
600.0nF	0.1nF		
6.000µF	0.001µF		
60.00µF	0.01µF		
600.0µF	0.1µF		
2000µF	1µF		

Diode

- Press again for diode test

GOOD DIODE



Reverse Bias Displays "OL"

Forward Bias Displays approx. voltage drop

BAD DIODE



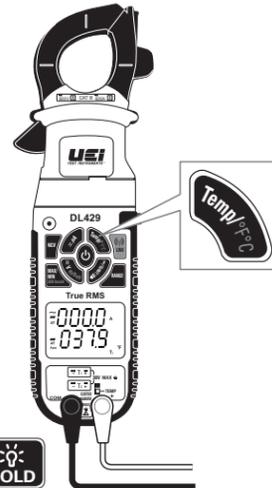
- Forward voltage drop if forward biased.
- "O.L." if reverse biased.



Diode Test

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

TEMP/ °F °C



- Press for T1
- Press again for T2
- Press again for T1-T2
- Press and hold to change scale



Range	Resolution	Accuracy	Overload Protection
-22°F ~ 14°F (-30°C ~ -10°C)	0.1°F (0.1°C)	± (1.0% + 5.4°F) ± (1.0% + 3.0°C)	30V RMS
15°F ~ 752°F (-9°C ~ 400°C)	0.1°F (0.1°C)	± (1.0% + 3.6°F) ± (1.0% + 2.0°C)	

Sensor: K-Type Thermocouple, sensor accuracy not included

Connecting and Using the App

- Search for App as, "UEI Wireless"
- Compatible with iPhone® 4X and up running iOS® 7 or higher, Galaxy S4®, Nexus 5™, HTC One® running Android™ 4.4 or higher.
- To install or search on iPad® use "iPhone® only" to find App.
- Press "Link" button on meter to activate wireless "BT"
- Open app. Meter will connect automatically.

Menu

- Press "Menu" to connect, disconnect, and access settings.



Settings

- General settings adjust button sound, vibrate and refresh rate.
- Recording settings
 - Continuous reading
 - Number of samples
 - Sampling interval



Record

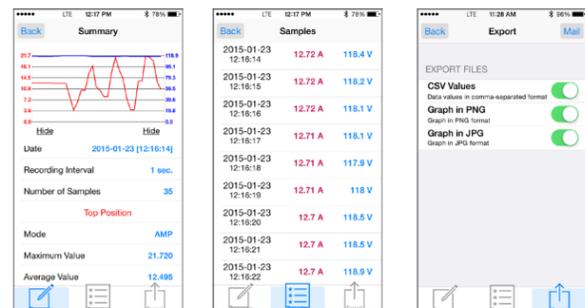
- Press Record to start, stop.
- The number of samples will show in real time



Logs

- Press Logs to view recorded data.
- Press the entry you wish to view (yyyy-mm-dd hh:mm:ss)
- Functions are noted underneath respectively AMP-AMP (TOP-BOTTOM) Display

- Press "Summary" button for summary
- Press "Samples" button for sample data
- Press "Export" button to export data via email in (.CSV .PNG or .JPG) formats



Graph

- Press "Graph" to view trending data in real time during measurement.

