

REED

Model R5015

True RMS Mini Clamp Meter



Instruction Manual

REED Instruments

1-877-849-2127 | info@reedinstruments.com | www.reedinstruments.com

Table of Contents

Safety	2
Features.....	3
Specifications.....	3-5
Electrical Symbols.....	6
Product Description	6
LCD Description	7
Operating Instructions	8-11
Battery Replacement.....	11

Safety

The unit complies with CE/ETL certification (EN61010-1, EN61010-2-30, and EN61010-2-32), CAT II 600V & CAT III 300V overload protection.

Please read the manual carefully before use.

- Wear protective equipment to avoid damage caused by arc discharge when the live conductor is exposed.
- Before each use check the product carefully to ensure no damage.
- Hold the instrument by the handle when in use.
- Before changing the battery ensure unit is not connected to live wires.
- Do not use clamp meter in environments above 600V or 400Hz.
- Pay close attention to 60V DC, 30V AC or 42V AC (peak value) or above voltage as they may cause electric shock.
- Clean the instrument with a damp cloth and avoiding abrasive compounds or solvents.
- In case of any abnormality, stop using this instrument immediately.

Features

- Measures AC/DC current/voltage, resistance and capacitance
- High resolution 0.1mA (AC) and 1mA (DC)
- True RMS for AC current/voltage
- 6000-count backlit LCD display
- Built-in non-contact voltage detector with LED indicator
- V.F.C (variable frequency control) mode for air-conditioner maintenance and diagnostics
- Low battery and over range indicators
- Diode test and continuity check functions
- Durable double molded plastic housing
- CAT. II 600V, CAT. III 300V safety rating
- Auto shut-off
- Includes test leads, batteries and carrying case

Specifications

AC/DC Current

Range:	AC: 600mA, 6000mA, 60A/V.F.C 600mA-60A DC: 6000mA, 60A
Accuracy:	AC (@ 50/60Hz): 600mA $\pm(1.5\% \text{ rdg. } +10 \text{ dgt.})$ 6000mA $\pm(2.5\% \text{ rdg. } +5 \text{ dgt.})$ 60A $\pm(2\% \text{ rdg. } +5 \text{ dgt.})$ V.F.C $\pm(4\% \text{ rdg. } +10 \text{ dgt.})$ DC: 6000mA $\pm(2\% \text{ rdg. } +5 \text{ dgt.})$ 60A $\pm(2\% \text{ rdg. } +3 \text{ dgt.})$
Resolution:	AC: 0.1mA, 1mA, 0.01A / 0.1mA, 0.01A DC: 1mA, 0.01A

AC/DC Voltage

Range:	AC: 6, 60, 600V / V.F.C 200-600V DC: 600mV, 6, 60, 600V
Accuracy:	AC: $\pm(0.8\% \text{ rdg. } +3 \text{ dgt.})/\pm(4.0\% \text{ rdg. } +3 \text{ dgt.})$ DC: 600mV $\pm(0.7\% \text{ rdg. } +5 \text{ dgt.})$ $\pm(0.7\% \text{ rdg. } +3 \text{ dgt.})$
Resolution:	AC: 1mV, 10mV, 0.1V, 1V / 0.1V DC: 10 μ V, 1mV, 10mV, 0.1V

Resistance

Range:	600 Ω , 6k Ω , 60k Ω , 600k Ω , 6M Ω , 60M Ω
Accuracy:	600 Ω : $\pm(1\% \text{ rdg. } +2 \text{ dgt.})$ 6/60/600k Ω : $\pm(0.8\% \text{ rdg. } +2 \text{ dgt.})$ 6M Ω : $\pm(1.2\% \text{ rdg. } +3 \text{ dgt.})$ 60M Ω : $\pm(1.5\% \text{ rdg. } +5 \text{ dgt.})$
Resolution:	1pF, 10pF, 100pF, 1nF, 10nF, 100nF, 1 μ F, 10 μ F

Capacitance

Range:	6.2nF, 62nF, 620nF, 6.2 μ F, 62 μ F, 620 μ F, 6.2mF, 62mF
Accuracy:	6.200nF $\pm(4\%+10)$ 62.00nF~ 620.0 μ F $\pm(4\%+5)$ 6.200mF~ 62.00mF $\pm 10\%$
Resolution:	1pF, 10pF, 0.1 μ F, 1 μ F, 10 μ F

Frequency

Range:	10Hz ~ 60kHz
Accuracy:	$\pm(0.1\%+4)$
Resolution:	0.001Hz ~ 0.01kHz

General Specifications

Range Selection:	Autoranging
True RMS:	Yes
Display:	6,000 count LCD display
Display Hold:	Yes
Zero Push Button Adjustment:	Yes

Diode Test:	Yes
Backlit Display:	Yes
Overrange Indicator:	Yes
Continuity Check	Audible signal if resistance <10Ω
Non-Contact Voltage Detector:	Yes
Autoshut off:	Yes (after 15 minutes)
Power Supply:	2 AAA Batteries
Low Battery Indicator:	Yes
Jaw Opening:	0.67" (17mm)
Overvoltage Category:	CAT. II 600V, CAT. III 300V
Product Certifications:	CE, ETL, RoHS
Operating Temperature:	32 to 104°F (0 to 40°C)
Storage Temperature:	14 to 122°F (-10 to 50°C)
Dimensions:	6.9 x 2.4 x 1.3" (175 x 60 x 33.5mm)
Weight:	6oz (170g)
Optional accessories:	Line Splitter (R5400) Safety Test Lead Set (R1000) Fused Test Lead Set (R1020) Hard Shell Carrying Case (R9940) Small Soft Carrying Case (CA-52A)

Overload protection: 100A

- Accuracy guarantee scale: 5~100% of measuring range, <20 digit residual reading is allowed for 600mA open circuit.
- AC crest factor may reach 3.0 at 4,000 counts; for non-sinusoidal waveform, the error of crest factor increases with the following formula:
 - a. Add 3% when the crest factor is 1~2
 - b. Add 5% when the crest factor is 2~2.5
 - c. Add 7% when the crest factor is 2.5~3

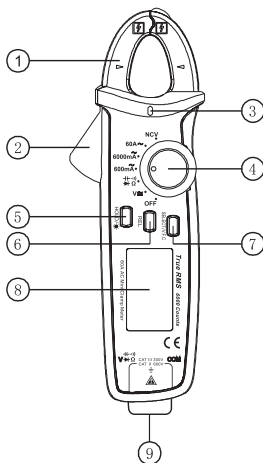
Overload protection: 600V-PTC

Electrical Symbols

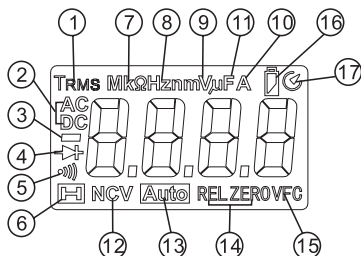
	Low battery		Warning
	AC (alternating current) / DC (direct current)		Double insulation
	Buzzer on/off		Diode
	Danger-high voltage		Earthing
	Conform to European Union directive		

Product Description

1. Clamp Jaws
2. Clamp Trigger (Press the trigger to open the clamp)
3. Non Contact Voltage Indicator
4. Function Button (Change from ACV/DCV/Hz, Resistance Ω /Diode/Capacity, Current ACA/DCA, NCV, Off)
5. HOLD/Backlight Button (To keep the current measurement on the screen / Hold button for 2 seconds for backlight to turn on)
6. ZERO Button (Return DCA to zero, measure the relative value of capacity & voltage)
7. SELECT Button
8. LCD Display
9. Input Jack / COM Input Jack



LCD Description



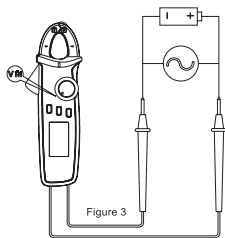
NO.	Symbol	Description
1	TRMS	Prompt for true RMS measurement
2	AC/DC	Prompt for AC/DC voltage measurement
3	—	Negative reading
4	▶ 	Diode measurement prompt
5	•••	Circuit on/off detection prompt
6	H	Data hold prompt
7	Ω kΩ MΩ	Unit of resistance: ohm, kilo-ohm, megaohm
8	Hz kHz MHz	Unit of frequency: Hz ,kHz, MHz
9	mV、 V	Unit of voltage: millivolt, volt
10	mA、 A	Unit of current: microampere, milliampere, ampere
11	nF μF mF	Unit of capacity: nanofarad, microfarad, millifarad
12	(EF)NCV	Sensor prompt for non-contact AC voltage
13	Auto	Prompt for auto range
14	ZERO/REL	Base number zero/relative measurement prompt
15	VFC	Conversion voltage/current measurement prompt
16	🔋	Built-in battery under-voltage prompt
17	🔄	Auto-off prompt

Operating Instructions

Measuring AC/DC voltage/HZ

1. Select AC voltage and Hz or DC voltage.
2. Insert the red probe in the red jack (positive terminal) and black probe in the black jack (COM terminal).
3. Touch the red and black probe to item under test.
4. The value will appear on the LCD.

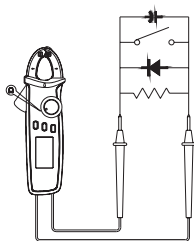
Note: Do not exceed 600V (AC/DC) as there is a risk of electric shock and potential damage to the instrument that may occur.



Measure Resistance/Diode/Circuit On/Off/Capacity

- Insert the red probe in the red jack (positive terminal) and black probe in the black jack (COM terminal).
- Connect the probe in parallel with the tested component to measure.
- The value will appear on the LCD.

Note: When measuring the voltage/capacity/diode range, do not exceed DC 60 V or AC 30V to avoid personal injury.



Measuring AC/DC Current

AC current

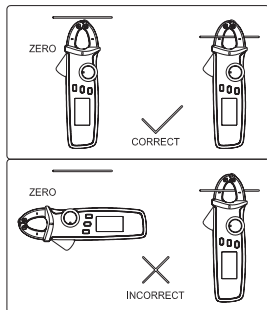
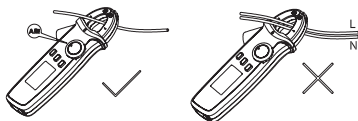
- Select your desired range for AC current (600mA~, 6,000mA~, 60A~).
Open the clamp head and attach the wire on the hook. Ensure that the hooks are firmly closed. Value will display on the LCD.

DC current

- Press the SELECT button and enter in the DC current range (6,000mA, 60A). Press the ZERO button to bring the reading back to zero. Press it multiple times if pressing it once doesn't work. Open the clamp head and attach the wire on the hook. Ensure that the hooks are firmly closed. Value will display on the LCD.

NOTE: Pull out the testing probe to avoid electric shock.

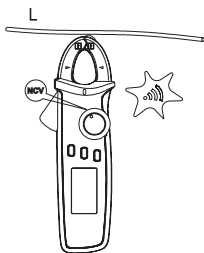
The clamp should be in the same direction as the measured object in process of zeroing obtain accurate reading because of the product's high sensitivity.



Measuring Non-Contact Field Measurement

To measure the detected AV voltage or magnetic field close the clamp around the object to detect the motion. The analog quantity is “EF” when it is $\leq$ critical voltage and will display as “— — —”, different variations of buzzing will distinguish the intensity of detected field.

Note: When the unit is in NVC measurement mode, pull out the testing probe to avoid electric shock.



Backlight

Press the HOLD button for 2 seconds to turn on the LCD backlight.

Automatically Turns Off

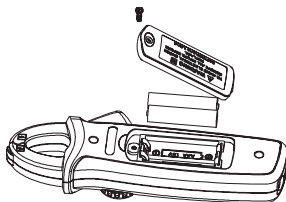
If the unit is left unused for 15 minutes it will automatically turn off to save power. Press the SELECT button in shutdown mode to power it on. The buzzer will make 5 sounds prompting the cancellation of the auto off function. Turn it off and then restart, the auto off function will be recovered. The buzzer will send 5 continuous alarming sounds, and then 1 long alarming sound before the product automatically shuts down. When the auto off function is canceled, it will send 5 alarming sounds every 15 minutes.

Functions

When pressing any function button or turning any switch the buzzer will make a “beep” noise. When the measuring voltage or current the buzzer will also send a continuous “beep” intermittent sound to warn the outrange. The functions are: AC/DC voltage >about 600V, mA AC/DC current >620mA (or 6200mA), A AC/DC large current >62A.

Battery Replacement

1. Ensure the power switch is set to “OFF” and pull the probe out of input jack.
2. Remove the battery cover with a screwdriver.
3. Install two new AAA batteries.
4. Replace the cover and screw in the battery cover.



For service on this or any other REED product or information on other REED products, contact REED Instruments at info@reedinstruments.com.

REED Instruments

1-877-849-2127 | info@reedinstruments.com | www.reedinstruments.com