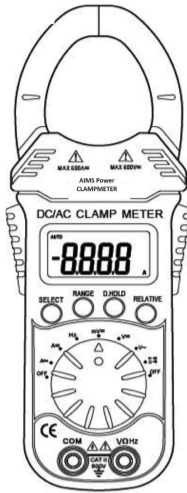


# 31.11.2051 展280X210mm 折70X105mm



## AUTO RANGE T-RMS DIGITAL CLAMP METER

PART #: CLAMPMETER



### WARNING

READ AND UNDERSTAND THE INSTRUCTIONS BEFORE USING THE METER.

### 1. SUMMARY

This manual provides all safety information, operation instruction, specifications and maintenance for the meter. The meter is easy to use, compact and battery operated (AAA).

The meter measures AC/DC voltage, AC/DC Current, Resistance, Audible Continuity, Diode, Frequency and Capacitance measurements.

The CLAMPMETER has been designed according to safety testing guidelines EN61010-1 electronic measuring instruments with an over voltage category (CAT II 600V) and Pollution Degree 2.

#### Warning

To avoid possible electric shock or personal injury and to avoid possible damage to the CLAMPMETER or to the equipment under test, follow the recommendations below.

- Before using the Meter inspect the casing. Do not use the Meter if it is damaged or the case (or part of the case) is removed. Look for cracks or missing plastic.
- Check the insulation around the connectors. Inspect the test leads for damaged insulation or exposed metal.
- Check the test leads for continuity. Do not apply more than the rated voltage, as marked on the Meter, between the terminals or between any terminal and grounding.
- To prevent damage to the Meter, once you start measuring, do not move the rotary switch. To change settings, remove clamp/leads first.

- When the Meter is working at an effective voltage over 60V in DC or 30V rms in AC, special care should be taken for there is danger of electric shock.
- Use the proper terminals, function, and range for your measurements.
- Do not use or store the Meter in an environment of high temperature, humidity, explosive, inflammable and/or strong magnetic field. The performance of the Meter may deteriorate if dampened. Indoor use preferred.
- When using the test leads, keep your fingers behind the finger guards.
- Disconnect circuit power and discharge all high-voltage capacitors before testing resistance, continuity or diodes.
- Replace the battery as soon as the battery indicator appears. With a low battery, the Meter might produce false readings that can lead to electric shock and personal injury. Remove the connection between the testing leads and the circuit being tested, and turn the Meter power off before opening the Meter case.
- When servicing the Meter, use only the same model number or identical electrical specifications replacement parts. Do not alter the internal circuit of the Meter. Damage and/or harm may occur.
- Soft cloth and mild detergent should be used to clean the surface of the Meter when servicing. No abrasive or solvent should be used.

- Turn the Meter power off when it is not in use and take out the battery when not using for a long time. Constantly check the battery as it may leak when it has been using for some time, replace the battery as soon as leaking appears. A leaking battery will damage the Meter.

### 2. GENERAL CHARACTERISTICS

Display

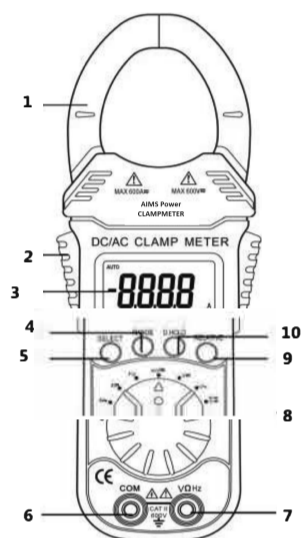
LCD size	30*49 mm
Polarity Indication	"-" displayed automatically
Over-range Indication	"OL" displayed
Low Battery Indication	displayed
Range select	auto range or manual
True-RMS	ACV & ACA measure
Operation Temperature	0°C to 40°C, less than 80%RH
Storage Temperature	-10°C to 50°C, less than 85%RH

Battery type: AAA Qty 2  
Clamp open jaw dims: 40mm max  
Weight: 8 oz  
Dims: 7.5 x 2.5 x 1 inch

### 3. ELECTRICAL SYMBOLS

- DC (Direct Current)
- ~ AC (Alternating Current)
- ⎓ DC or AC
- ⚠ Important safety information. Refer to the manual
- ⚡ Dangerous voltage maybe present
- ⊕ Earth ground
- 🔋 Low battery
- ➡ Diode
- 🔊 Continuity test
- AUTO Auto range
- CE Conforms to European Union directive
- Ⓜ Double insulated

### 4. METER DESCRIPTION



1. JAWS  
Measures current flowing through the cable/wire.
2. TRIGGER  
Press the side triggers to open the jaws. When the triggers are released the jaws will close.

### 3. DISPLAY

Digital LCD with a max reading of 5999.

#### 4. RANGE BUTTON

AC/DC voltage, and Resistance measuring ranges can be selected manually or automatically by pushing the range control button. Push this button to choose range control mode and needed ranges.

#### 5. SELECT BUTTON

Push this button to select O, •••, ~, or ⊕E- measuring function when the function switch is set at O-N-11HE-range, or to select Hz.Duty cycle(%)

#### 6. COM INPUT JACK

Low input for all except current measurement will accept banana plugs.

#### 7. "VΩHz" INPUT CONNECT

High input for all except current measurement will accept banana plugs.

#### 8. FUNCTION & RANGE DIAL

This switch can be used to turn meter on/off. The switch select needed function and range.

#### 9. RELATIVE BUTTON

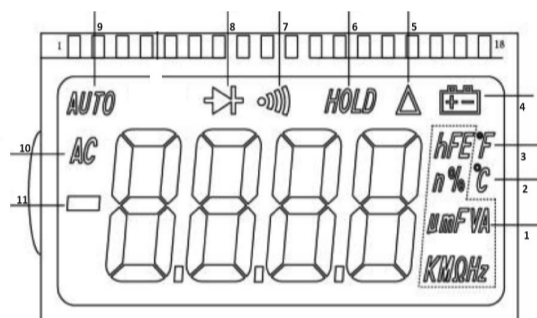
Push this button to measure relative value, can make meter display "0" value. DC and AC current measure, capacitance measure, you can clear the error readings to interference of meter.

#### 10. D.HOLD BUTTON

When this button is pushed, LCD will lock current measured readings, and "HOLD" symbol will appear until pushed again.

Back-light function, push this button for more than 2 seconds, blue back-light will light, after 15 seconds or press and hold this button more than 2 seconds, back-light will turn off automatically.

### DISPLAY



- 1) Electrical symbol
- 2) Celsius degree measure is selected
- 3) Fahrenheit degree measure is selected
- 4) Low battery and replace immediately
- 5) Relative value test symbol
- 6) Data hold symbol
- 7) Continuity test is selected
- 8) Diode test is selected
- 9) Auto range mode is selected
- 10) AC test is selected
- 11) Negative indication

### 5. SPECIFICATIONS

Accuracy is guaranteed for 1 year 23°C±5°C less than 80%RH.

#### 5-1 DC VOLTAGE (Auto ranging)

Range	Resolution	Accuracy
600mV	0.1mV	±(0.8% of rdg + 5dgt)
6V	1mV	±(0.8% of rdg + 3dgt)
60V	10mV	±(0.8% of rdg + 3dgt)
600V	1V	±(1.0% of rdg + 5dgt)

Input Impedance: 10MΩ  
Overload Protection: 600V  
Max. Input voltage: 600V

#### 5-2 AC VOLTAGE (Auto ranging)

Range	Resolution	Accuracy
600mV	0.1mV	±(0.8% of rdg + 5dgt)
6V	1mV	±(0.8% of rdg + 3dgt)
60V	10mV	±(0.8% of rdg + 3dgt)
600V	1V	±(1.0% of rdg + 5dgt)

Show True-RMS value  
Input Impedance: 10MΩ  
Overload Protection: 600V

#### 5-3. AC and DC CURRENT Auto ranging

Range	Resolution	Accuracy
0-600A	100mA	±(2% of rd + 10d ts)

Measuring voltage drop: 600mV  
AC current show True-RMS value

#### 5-4 RESISTANCE (Auto Ranging)

Range	Resolution	Accuracy
600Ω	0.1Ω	±(1.2% of rdg + 5dgt)
6KΩ	1Ω	
60KΩ	10Ω	
600KΩ	100Ω	
6MΩ	1KΩ	
60MΩ	10KΩ	

Open Voltage: about 0.55V  
Overload Protection: 250V DC/AC RMS

#### 5-5 Diode and Continuity

Range	Introduction	Remark
➡	The approximate forward voltage drop will be displayed	Open circuit voltage: about 3.3V
🔊	The built-in buzzer will sound if the resistance is less than about 30Ω.	Open circuit voltage: about 1.1V

Overload Protection: 250V DC/AC RMS  
For continuity test: When the resistance is between 30Ω and 100Ω, the buzzer may sound or may not sound. When the resistance is more than 100Ω, the buzzer won't sound.

#### 5-6. FREQUENCY Auto Ranging)

Range	Accuracy
0 ~ 10MHz	±(1.0% of rdg + 5d ts)

#### 5-7. CAPACITANCE Auto Ranging

Range	Accuracy
60nF/600nF/6uF	±(8.0% of rdg + 5dgt)
60uF/600uF/20m (30sec)	

Overload Protection: 250V DC/AC RMS  
Capacitance must be discharge before test.

### 6. OPERATION INSTRUCTION

#### 6-1. Measuring Voltage

- 1) Connect the black test lead to the "COM" jack and the red test lead to the "VΩHz" jack.
- 2) Set the function switch to V~ or V⊕ or mV⊕ range.
- 3) Connect the test leads across the source or load to be measured.
- 4) Read LCD display. The polarity of the red lead connection will be indicated when making a DC measurement.

#### Note:

- a. In small range example mV range, the meter may display an unstable reading when the test leads have not been connected to the load to be measured. It is normal and will not affect the measurements.
- b. To avoid damage to the meter, don't measure a voltage which exceeds 600V.

#### 6-2. Measuring Current

- 1) Set Function/Range Switch to the A~ or A⊕ range.
- 2) Press the trigger to open the transformer jaws, and clamp one conductor only, it is impossible to make measurements when two or three conductors are clamped at the same time.

#### 6-5. Diode Test

- 1) Connect the black test lead to the "COM" jack and the red test lead to the "VΩHz" jack. (Note: The polarity of the red test lead is positive "+").
- 2) Set the function switch to ⊕E- range.
- 3) Press the "SELECT" button to select diode test measurement mode, and the symbol "➡" will appear as an indicator.
- 4) Connect the red test lead to the anode of the diode to be tested and the black test lead to the cathode.
- 5) The meter will show the approximate forward voltage of the diode. If the connections are reversed, "OL" will be shown on the display.

#### 6-7. Capacitance Measuring

- 1) Connect the black test lead to the "COM" jack and the red test lead to the "VΩHz" jack.
- 2) Set the function switch at ⊕E- range.
- 3) Press the "SELECT" button to select capacitor test measurement mode, and the symbol "nF" will appear as an indicator.
- 4) Connect test leads across the capacitor to be measured and be sure the polarity of connection is observed.

Note: When the capacitance to be measured is above 100uF, it needs at least 15 seconds to make readings stable.

#### 6-8. Frequency Measuring

- 1) Set the function range switch to the "Hz" range.
- 2) Connect the black test lead to the "COM" jack and the red test lead to the "VΩHz" jack.
- 3) Connect the test leads across the load to be measured

- 4) Note the reading on the display.

#### 7. Auto Power Off

If you don't operate the meter for about 15 minutes, it will turn off automatically. To turn it on again, press "SELECT" or "D.HOLD" button to wake up the meter. If you want to disable APO function, press & hold "SELECT" button, rotate the function switch turn on meter same-time.

#### 8. Battery Replacement

If the sign appears on the display, it indicates battery should be replaced. Remove screws and open the back case, replace the exhausted battery with new batteries (1.5V AAA equivalent).

#### 9. Included Components

Instruction Sheet

Test leads: 1 pair

Battery (1.5V AAA): 2



### WARRANTY

The CLAMPMETER is warranted to be free from defects in material and workmanship for a period of one year. Any CLAMPMETER found to have a manufacturer defect within one year from the invoice date and returned to the factory with transportation charges prepaid, will be repaired, adjusted, or replaced at no charge to the original purchaser. This warranty does not cover expandable items such as batteries. If the defect has been caused by misuse or abnormal operating conditions, the warranty is void.

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