870A
3 1/2 DIGITAL DUAL DISPLAY AC CLAMP MULTIMETER OPERATION MANUAL

1. SAFETY INFORMATION

The following safety information must be observed to insure maximum personal safety during the operation at this meter.

1.1 Do not operate the meter if the body of meter or the test lead look broken.

1.2 Check the main function dial and make sure it is at the correct position before each measurement.

1.3 Do not perform resistance, diode and continuity test on a live power system.

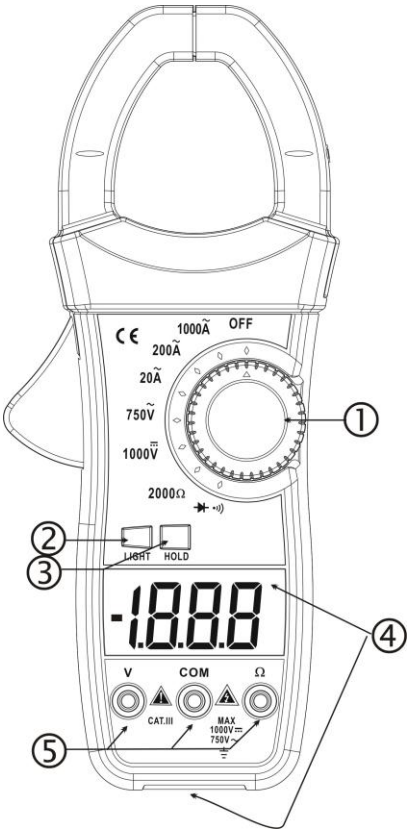
1.4 Do not apply voltage between the test terminals and test terminal to ground that exceed the maximum limit record in this manual.

1.5 Exercise extreme caution when measuring live system with voltage greater than 60V DC or 30V AC.

1.6 Keep the fingers after the protection ring when measuring through the test lead.

1.7 Change the battery when the symbol "🔋" appears to avoid incorrect data.

2. Panel Layout



1) Rotary Switch: use this switch to select functions and ranges.

2) Back Light key

3) D.HOLD key：In any range, push the key, the present display value will be locked and the " DH " symbol will appear, push it again to exit HOL and the "D H" symbol disappear.

4）LCD Display：LCD Dual Display, facilitates reads the data.

5）V Input Jack 、Ω Input Jack 、COM Input Jack

2. SPECIFICATIONS

2.1 GENERAL SPECIFICATIONS

Display: 3 1/2 digit LCD with a max. reading of 1999.

Polarity: Automatic negative polarity indication.

Zero adjustment: Automatic.

Overrange indication: Only the "1" or "-1" display.

Sample rate: 2 times/sec

Low battery indication: "🔋"

Safety Standards: The meter is up to the standards of IEC1010 Double Insulation, Pollution Degree 2, Over voltage CategoryⅢ.

Data hold: Push the HOLD button and the "**DH"** sign will appear on the display.

Back light: Push the LIGHT button to light the backlight then it will auto light off after approx. 5 seconds.

Clamp opening size: 45mm.

Operating Environment: Temperature 32 ～ 104 ° F(0 ～ 40 ℃), humidity＜75%RH.

Storage Environment: Temperature -4～140° F(-20～60℃), humidity＜90%RH.

Power supply: 9V Zinc-carbon battery.

Dimension: 225(L)×77(W)×44(H) mm

Weight: Approx. 450g (including battery).

2.2 ELECTRICAL SPECIFICATIONS

Accuracies are ±(% of reading + number in last digit) at 23±5℃, ≤75%RH.

2.2.1 DC Voltage

Range	Accuracy	Resolution
1000V	1.0% of rdg+10digits	1V

Overload protection: 1000V DC/750Vrms AC
Impedance: 10MΩ

2.2.2 AC Voltage

Range	Accuracy	Resolution	Frequency
750V	2.5% of rdg+15 digits	1V	50~100Hz

Average sensing, calibrated to rms of sine wave
Overload protection: 1000V DC/750Vrms AC
Impedance: 10MΩ

2.2.3 AC Current

Range		Accuracy	Resolution	Frequency
20A		2.0% of rdg+20 digits	10mA	50~60Hz
200A		2.0% of rdg+25 digits	100mA	
1000A	0～800	3.0% of rdg+25 digits	1A	
	800～1000	5.5% of rdg+25 digits		

Average sensing, calibrated to rms of sine wave
Overload protection: 1000A rms within 60 seconds

2.2.4 Resistance

Range	Accuracy	Resolution
2000Ω	1.2% of rdg+10 digits	1 Ω

Overload protection: 250V DC/250Vrms AC

2.2.5 Diode test

Range	Description	Test condition
⏩	Display read approximately forward Voltage of diode.	Forward DC current approx 1.5mA .Reversed DC voltage approximately 3V

Overload protection: 250V DC/250Vrms AC

2.2.6 Audible continuity Test

Range	Description	Test condition
🔊	Built-in buzzer sounds if resistance is less than 80Ω.	Open circuit voltage approx 3V

Overload protection: 250V DC/250Vrms AC.

3. OPERATION

3.1 DC Voltage Measurement

1) Connect the black test lead to "COM" socket and red test lead to the "V" socket.

2) Set the selector switch to "1000V⎓" position.

3) Measure the voltage by touch the test lead tips to the test circuit where the value of voltage is needed.

4) Read the result from the LCD panel.

5) Push the HOLD button to lock display value, push it again to exit.

6) Push the LIGHT button to light the back light.

3.2 AC Voltage Measurement

1) Connect the black test lead to "COM" socket and red test lead to the "V" socket.

2) Set the selector switch to "750V～" position.

3) Measure the voltage by touch the test lead tips to the test circuit where the value of voltage is needed.

4) Read the result from the LCD panel.

5) Push the HOLD button to lock display value, push it again to exit.

6) Push the LIGHT button to light the back light.

3.3 AC Current Measurement

1) Set the selector switch to desired "20A～" 、"200A～" or "1000A～" position.

2) Open the clamp by pressing the jaw-opening handle and insert the cable to be measured into the jaw.

3) Close the clamp and get the reading from the LCD panel.

4) Push the HOLD button to lock display value, push it again to exit.

5) Push the LIGHT button to light the back light.

Note:

Before this measurement, disconnect the test lead with the meter for safety.

3.4 Resistance Measurement

1) Connect the black test lead to "COM" socket and red test lead to the "Ω" socket.

2) Set the selector switch to "2000Ω" position.

3) Connect tip of the test leads to the points where the value of the resistance is needed.

4) Read the result from the LCD panel.

5) Push the HOLD button to lock display value, push it again to exit.

6) Push the LIGHT button to light the back light.

Note:

When take resistance value from a circuit system, make sure the power is cut off and all capacitors need to be discharged.

3.5 Diode Measurement

1) Connect the black test lead to "COM" socket and red test lead to the "Ω⏚" socket.

2) Set the selector switch to "⏚" position.

3) Connect the test leads across the diode under measurement, display shows the approx. forward voltage of this diode.

4) Push the HOLD button to lock display value, push it again to exit.

5) Push the LIGHT button to light the back light.

Note:

Make sure the power is cut off and all capacitors need to be discharged under this measurement.

3.6 Audible Continuity Test

1) Connect the black test lead to "COM" socket and red test lead to the "Ω" socket.

2) Set the selector switch to "🔊" position.

3) Connect the test leads to two point of circuit, if the resistance is lower than approx. 80Ω, the buzzer sounds.

4) Push the HOLD button to lock display value, push it again to exit.

5) Push the LIGHT button to light the back light.

Note:

Make sure the power is cut off and all capacitors need to be discharged under this measurement.

4. Battery replacement

1) When the battery voltage drop below proper operation range the "🪫" symbol will appear on the LCD display and the battery need to changed.

2) Before changing the battery, set the selector switch to "OFF". Open the cover of the battery cabinet by a screwdriver.

3) Replace the old battery with the same type battery.

4) Close the battery cabinet cover and fasten the screw.

5. MAINTENANCE

1) Before open the battery door, disconnect both test lead and never uses the meter before the battery door is closed.

2) To avoid contamination or static damage, do not touch the circuit board without proper static protection.

3) If the meter is not going to be used for a long time, take out the battery and do not store the meter in high temperature or high humidity environment.

4) When take current measurement, keep the cable at the center of the clamp will get more accurate test result.

5) Repairs or servicing not covered in this manual should only by qualified personal.

6) Periodically wipe the case with a dry cloth and detergent. Do not use abrasives or solvents on this instruments.

7) Please take out the battery when not using for a long time.

Above picture and content just for your reference. Please be subject to the actual products if anything different or updated. Please pardon for not informing in advance.