CENTER® 20
CLAMP METER

Instruction Manual

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⚠ Safety Information

- Do not operate the tester if the body of meter or the test lead looks broken.
- Check the main function dial and make sure it is at the correct position before each measurement.
- Do not perform resistance and continuity test on a live power system.
- Do not apply voltage between the test terminals and test terminal to ground that exceed the maximum limit record in this manual.
- Exercise extreme caution when measuring live system with voltage greater than 60V DC or 30V AC.
- Keep the fingers after the protection ring when measuring through the test lead.

Environmental Conditions:

- Altitude up to 2000 meters.
- Operating temperature: 0°C ~ 40°C, <80% RH, non-condensing
- Storage temperature: -10°C ~ 60°C, <70% RH, battery removed
- Pollution Degree: 2
- Installation Categories II

Explanation of Symbols:

⚠ Attention! Refer to operation instructions.

Dangerous voltage may be present at terminals.

This instrument has double insulation.

Approvals: CE EN61010 600V CAT III

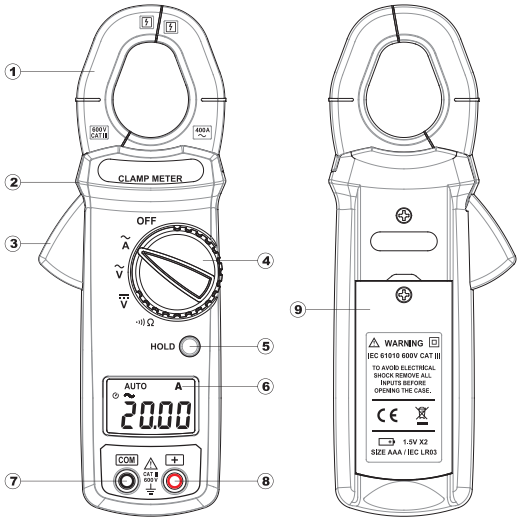
Maintenance

⚠ WARNING & CAUTION!

- Before opening the battery door, disconnect both test leads and never uses the meter before the battery door is closed.
- To avoid contamination or static damage, do not touch the circuit board without proper static protection.

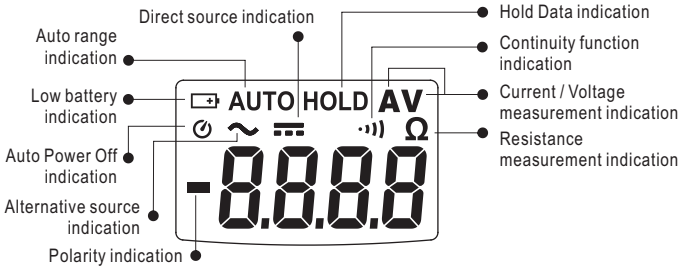
Symbol Definition & Button Location

1. Name of Parts & Position:



① Current Sensing Clamp	④ Function select dial	⑦ COM input terminal
② Safety protection ring	⑤ Data hold button	⑧ Positive input terminal
③ Clamp opening handle	⑥ LCD Display	⑨ Battery compartment cove

2. LCD Display:



REMARK:

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.
When taking current measurement, keep the cable at the center of the clamp to get more accurate test result.
Repairs or servicing not covered in this manual should be performed only by qualified person.

CLEANING:

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

Specifications

GENERAL SPECIFICATION:

Display: 3 3/4 digits LCD display with maximum reading 3999.

Symbol and Scale range:
Adjust automatically according range and input signal.

Polarity: When negative signal is applied to the tester, ▬ will show.

Over Load: When the signal larger than the maximum will be shown 0L .

Sample Rate: 2 times/sec for digital data.

Low Power Indication:
When the battery is under the proper operation range, ▭+ will appear on the LCD display.

Power Source: UM-4 or AAA 1.5V battery x 2

Typical Battery Life: (alkaline battery)
500 hours at ACV / ACA Range ; 800 hours at DCV / OHM Range

Auto Power Off:
If there is no key or dial operation for 10 minutes, the meter will power itself off to save battery consumption.

Re-Auto Power Off:
To disable the function, press the “Hold” button and keep it pressed while powering on the meter. The LCD segments will all light up . Press the “Hold” button again and the ⏲ indicator will not be displayed.

Clamp opening size: 25.4 mm

Dimension / Weight: 203(L)x75(W)x32(H)mm / 262g, 8.11OZ (include battery)

Accessory: Instruction Manual, Test lead, Battery 1.5Vx2

● **ELECTRICAL SPECIFICATION:**

The accuracy specification is defined as ±(…%reading＋…count) at 23±5°C, ≦80 %RH

DCV (Autorange)

Range	Resolution	Accuracy	Input Impedance	Overload Protection
400V	0.1V	±1% + 3dgts	1MΩ	660Vrms
600V	1V			

ACV (Autorange)

Range	Resolution	Accuracy 50Hz~400Hz	Input Impedance	Overload Protection
400V	0.1V	±1.2% + 3dgts	1MΩ	660Vrms
600V	1V			

ACA (Autorange)

Range	Resolution	Accuracy 50Hz~60Hz	Accuracy 60Hz~400Hz	Overload Protection
40A	0.01A	±1.9% + 3dgts	±3.0% + 5dgts	600Vrms
400A	0.1A			

Ohm (Ω)

Range	Resolution	Accuracy	Input Impedance	Overload Protection
400Ω	1Ω	±1% + 2dgts	-1.5V DC	600Vrms

Continuity (·ıı))

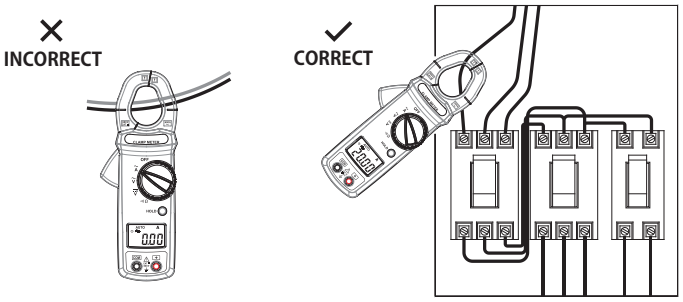
Range	Active Region	Max Test Voltage	Overload Protection
·ıı)	< 25 Ohm	-1.5V DC	600Vrms

Measuring Instructions

(1) ACA measurement:

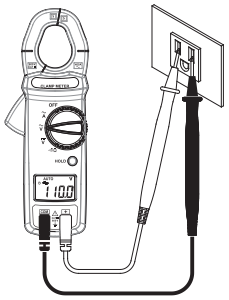
Switch the main function selector to $\widetilde{A}$ range.
Open the clamp by pressing the jaw-opening handle, and then insert the cable to be measured into the jaw.
Close the clamp and get the reading from the LCD panel.

Note:
Before this measurement, disconnect the test lead with the meter for safety.
In some occasion that the reading is hard to read, push the HOLD button and read the result later.



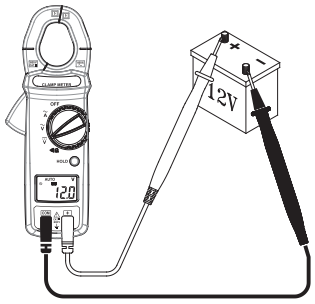
(2) ACV measurement:

Switch the main function selector to $\widetilde{V}$ range.
Connect red test lead to " **+** " terminal and black one to the " COM " terminal.
Measure the voltage by touching the test lead tips to the test circuit where the value of voltage is needed.
Read the result from the LCD panel.



(3) DCV measurement:

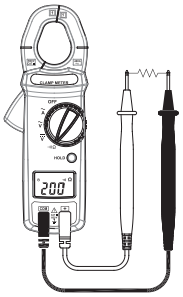
Switch the main function selector to $\overline{\widetilde{V}}$ range. Connect red test lead to " **+** " terminal and black one to the " COM " terminal.
Measure the voltage by touching the test lead tips to the test circuit where the value of voltage is needed.
Read the result from the LCD panel.



(4) Resistance measurement:

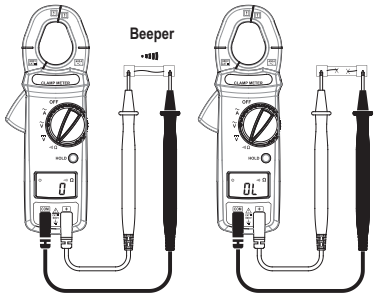
Switch the main function to ·ıı) Ω range.
Connect red test lead to " **+** " terminal and black one to the " COM " terminal.
Connect tip of the test leads to the points where the value of the resistance is needed.
Read the result from the LCD panel.

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



(5) Continuity Test:

Switch the main function to ·ıı) Ω range. Connect red test lead to " **+** " terminal and black one to the " COM " terminal. Connect tip of the test leads to the points where the conduction condition needed. If the resistance is under 25Ω, the beeper will sound continuously.



Battery Changing

1. When the battery voltage drops below proper operation range, the symbol ▭+ will appear on the LCD display and the battery needs to be changed.
2. Before changing the battery, switch the main dial to "OFF " and disconnect test leads.
   Open the cover of the battery cabinet by a screwdriver.
   Replace the old batteries with two UM-4 or AAA size batteries.
3. Close the battery cabinet cover and fasten the screw.