



MCA 206

Clamp Meter

Instruction Manual



Disclaimer

The manufacturer assumes no responsibility for any consequences resulting from the use or misuse of this product. Product specifications and manual content are subject to change without prior notice.

Part Number: 7603281

GTIN: 6298043998024



Part Number: 7603281







GTIN: 6298043998024

A. Introduction

Marmonix MCA 206 is a battery-powered, True-RMS, auto-ranging digital clamp multimeter, featuring a 6000-count LCD with backlight for clear, precise readings.

B. Safety Information

- To prevent electrical shock, fire, or personal injury, review all safety instructions before operation.
- Do not exceed the specified maximum ratings.
- Verify test lead connections and product insulation before measuring voltages above 36V DC or 25V AC.
- Disconnect test leads from the circuit before switching modes.
- Incorrect mode or range selection may cause hazards; "OL" will appear when input exceeds range.
- Safety symbols:

	Hazardous Voltage		Earth
	Double Insulated		Low Battery
	Risk of Danger. Check the User Manual.		N/ L Wire Judgement

C. Specifications

Electrical Specifications					
Function	Range	Resolution	Accuracy	MAX.Value	Frequency Response
DC Voltage (V)	6.000V	0.001V	± (0.5%+3)	600V	
	60.00V	0.01V			
	600.0V	0.1V			
AC Voltage (V)	6.000V	0.001V	± (1.0%+3)	600V	40Hz-1kHz
	60.00V	0.01V			
	600.0V	0.1V			
DC Current (C)	60.00A	0.01A	± (2.0%+30)	600A	40Hz-400Hz
	600.0A	0.1A			
AC Current (C)	60.0A	0.01A			
	600.0A	0.1A			

Function	Range	Resolution	Accuracy	MAX.Value	Frequency Response
Resistance	600.0Ω	0.1Ω	± (1.5%+3)	60MΩ	
	6.000kΩ	0.001kΩ			
	60.00kΩ	0.01kΩ			
	600.0kΩ	0.1kΩ	± (0.5%+3)		
	6.000MΩ	0.001MΩ			
Capacitance	60.00nF	0.001nF	± (5.0%+20)	60.00mF	
	600.0nF	0.01nF			
	600.0μF	0.1nF			
	6.000μF	0.001μF	± (2.0%+5)		
	60.00μF	0.01μF			
	600.0μF	0.1μF	± (5.0%+5)		
	6.000mF	0.001mF			
	60.00mF	0.01mF			
Frequency	60.00Hz	0.01Hz	± (0.1%+2)	300.0kHz	
	600.0Hz	0.1Hz			
	6.000kHz	0.001kHz			
	60.00kHz	0.01kHz			
	300.0kHz	0.1kHz			
Diode	√				
Continuity	√				
Inrush current	√				
Flashlight	√				
Temperature	(-30~1000)°C	1°C	± (2.5%+5)	1000°C	
	(-22~1832)°F	1°F		1832°F	

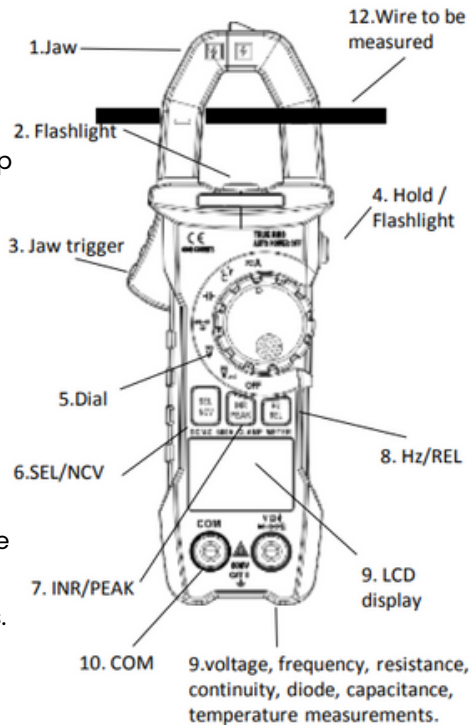
General Specifications	
Display (LCD)	6000 counts
Ranging	Auto
Material	ABS
Update Rate	3 times/second
Ture RMS	√
Data Hold	√
Low Battery Alert	√
Auto Power Off	√

Mechanical Specifications		
Dimension	185*65*30mm	
Weight	165g	
Battery Type	1.5V AAA Battery * 2	
Environmental Specifications		
Operating	Temperature	0~40°C
	Humidity	<75%
Storage	Temperature	-20~60°C
	Humidity	<80%

D. Instruction

(1) Front Panel (Refer to the figure on page 3)

- Jaw:** Captures conductors for current measurement.
- Flashlight:** Provides illumination for low-light environments.
- Jaw Trigger:** Opens and closes the clamp jaw.
- HOLD / Flashlight:** Press **once** to activate HOLD (display freezes with "HOLD" indicator). **Long** press to switch flashlight on/off.
- Dial:** Selects the desired measurement function; switch to OFF to power down.
- SEL / NCV:** Long press (>2s) to activate NCV (non-contact voltage) detection. After connecting test leads, press to cycle between continuity/diode, capacitance, temperature, AC/DC, and other functions.
- INR / PEAK:** In current mode, enables INRUSH measurement. In voltage mode, activates PEAK HOLD to capture transient peaks.
- HZ / REL:** In AC mode, initiates frequency measurement. In capacitance and current modes, long press to enable relative measurement (REL).
- LCD Display:** High-contrast digital readout with status indicators.
- COM:** Common terminal for all measurement functions.
- "VΩ" Input Jack:** Red lead input terminal for signal measurements.
- Conductor Under Test:** Wire positioned within the clamp jaw for current measurement.



(2) Measure AC/DC Voltage

- This instrument provides dual-impedance voltage detection:
 - " \overline{V} " (10 M Ω high impedance) gear for general AC and DC voltage measurement.
 - " \overline{V} " (600 k Ω low impedance) gear to eliminate stray or false voltages, ensuring accurate verification of live circuits.
- Connect the black test lead to the COM Terminal and the red test lead to the " \overline{V} " Terminal.
- Press the SEL button to switch between AC and DC voltage measurement.
- Apply the probes to the correct test points of the circuit.
- Read the measured voltage on the display.

(3) Measure AC/DC Current

- Open the clamp jaws and position the conductor at the marked center point for accuracy.
- Press the SEL button to toggle between AC and DC current modes.
- Read the measured current on the display.

Caution:

- Do not measure current beyond the specified maximum rating in the Specifications.
- Clamp only one conductor at a time; opposing currents in multiple wires will cancel each other and produce inaccurate readings.



(4) Measure Resistance

- Connect the black test lead to the COM Terminal and the red test lead to the " \overline{V} " Terminal.
- Turn the dial to resistance / diode / continuity gears.
- Touch the probes to the desired circuit test points.
- Read the resistance value on the display.

Caution:

- Disconnect circuit power and fully discharge capacitors before testing resistance.
- Do not apply voltage in Resistance Mode.


(5) Measure Continuity / Diode

1. Connect the black test lead to the COM Terminal and the red test lead to the "  " Terminal.
 2. Turn the dial to "  ", press SEL once to enter diode measurement mode, and press SEL again to enter continuity measurement mode.
 3. Touch the probes to the desired circuit test points.
- **For continuity:** if resistance is $<50 \Omega$, the beeper sounds and the indicator light turns on.
 - **For diode test:** connect the red probe to the anode and the black probe to the cathode.
 - Read the forward-biased voltage value on the display.
 - If test lead polarity is reversed or the diode is open, the display shows "OL".


Caution:

Do not apply voltage in Continuity / Diode Mode.

(6) Measure Capacitance

1. Ensure all capacitors are discharged before testing.
2. Connect the black test lead to the COM Terminal and the red lead to the "  " Terminal.
3. Press the Power button twice to enter Capacitance Mode.
4. Connect the probes across the capacitor terminals (observe polarity for polarized capacitors).
5. Read the capacitance value on the display.


(7) Measure Frequency

1. Connect the black test lead to the COM Terminal and the red test lead to the "  " Terminal.
2. For AC current frequency: press the "HZ/REL" button to read the value directly without inserting test leads.
3. For AC voltage frequency: insert the test leads, then press "HZ/REL" once to enter frequency measurement mode.
4. Touch the probes to the target circuit points.
5. Read the frequency value on the display.


(8) Measure REL

1. In capacitance or current mode, long press the "HZ/REL" button for 2 seconds to enter relative measurement. The "REL" icon will appear in the upper-left of the display.
2. Press the button again to exit relative measurement mode.

(9) Measure NCV

1. Press "SEL/NCV" for more than 2 seconds to enter NCV mode.
2. Move the meter near a conductor. The beeper sounds when AC voltage is detected; beep rate increases with signal strength.
3. Insert the red probe into the "  Terminal, then use the black probe to touch the live (L) and neutral (N) lines. A strong beep indicates the L-line; a weak or no beep indicates the N-line.

(10) Measure Temperature

1. Connect the black thermocouple probe to COM Terminal and the red thermocouple probe to the "  Terminal.
2. Turn the dial to the temperature test gear. The display shows ambient temperature by default.
3. Apply the probe tips to the measurement point.
4. Read the temperature on the display.

Caution:

Do not apply voltage in Temperature Mode.

(11) Measure Inrush Current

1. Turn the dial to current and press the "INR/PEAK" button to enter inrush measurement mode. The display will show "INRUSH".
2. Open the clamp jaws and center the conductor in the marked position for accuracy.
3. Start the motor or load. The instrument captures the maximum inrush current within 100 ms.
4. Read the inrush current value on the display.

(12) Peak Hold

1. Turn the dial to the voltage measuring gear, insert the test leads, and press the "INR/PEAK" button once to enable the peak hold function. The display will show "PEAK HOLD".
2. Apply the test leads to the correct circuit test point.
3. Read the captured peak value on the display.

(13) Auto Power Off

- The instrument powers off automatically after 15 minutes of inactivity.
- One minute before shutdown, the built-in beeper sounds 5 times.
- To turn the screen back on, press any button.
- To **disable Auto Power Off**: hold the "SEL/NCV" button while powering on. The buzzer will sound four times, and the "🔋" symbol in the upper-left corner of the display will disappear, confirming that automatic shutdown is canceled.

E. General Maintenance

Beyond battery and fuse replacement, do not attempt repairs or servicing unless qualified and equipped with the appropriate calibration and performance instructions.

- Do not operate the instrument in hot, wet, flammable, explosive, or strongly magnetic environments.
- Clean using a damp cloth and mild detergent; avoid abrasives or solvents.
- Disconnect all input signals before cleaning.
- Remove batteries if the product will remain unused for an extended period to prevent leakage.
- When "🔋" appears on the display, replace the batteries as follows:
 1. Loosen the screw and remove the battery cover.
 2. Replace with new batteries of the same type.
 3. Reattach the battery cover and secure the screw.

Warning:

1. Do NOT exceed the "maximum value" indicated in the Specification;
2. Do NOT input voltage at the Current Mode, the Resistance Mode, the Diode Mode, the Continuity Mode, or the Temperature Mode;
3. Do NOT use the product when the batteries or the battery cover is not placed properly;
4. Turn off the product and remove the test leads from the test points before changing batteries or fuses.

F. Troubleshooting

If the instrument does not operate normally, refer to the table below for corrective action. If the issue persists, contact your authorized dealer for service.

Problem	Possible Reason
Display Malfunction	Low battery; replace batteries
🔋 Symbol	Replace batteries