INSTRUCTION MANUAL

MTD15

400A AC CLAMP METER

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1. SAFETY

1.1. International Safety Symbols

This symbol, adjacent to another symbol or terminal, indicates the user must refer to the manual for further information.

This symbol, adjacent to a terminal, indicates that, under normal use, hazardous voltages may be present.

Double insulation.

1.2. Safety Notes

- Do not exceed the maximum allowable input range of any function.
- Do not apply voltage to meter when resistance function is selected.
- Set the function switch OFF when the meter is not in use.

1.3. WARNINGS

- Set function switch to the appropriate position before measuring.
- When measuring volts do not switch to current/resistance modes.
- Do not measure current on a circuit whose voltage exceeds 240V.
- When changing ranges always disconnect the test leads from the circuit under test.
- Do not exceed the maximum rated input limits.

1.4. CAUTIONS

Improper use of this meter can cause damage, shock, injury or death. Read and understand this user manual before operating the meter.
Always remove the test leads before replacing the battery.
Inspect the condition of the test leads and the meter itself for any damage before operating the meter. Repair or replace any damage before use.
Use great care when making measurements if the voltages are greater than 25VAC rms or 35VDC. These voltages are considered a shock hazard.
Remove the battery if the meter is to be stored for long periods.
Always discharge capacitors and remove power from the device under test before performing Diode, Resistance or Continuity tests.

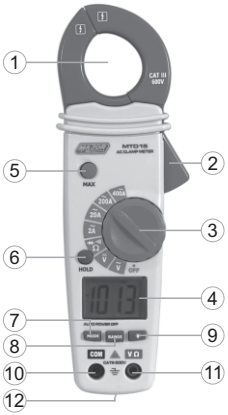
- Voltage checks on electrical outlets can be difficult and misleading because of the uncertainty of connection to the recessed electrical contacts. Other means should be used to ensure that the terminals are not "live".
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Input Limits

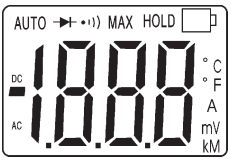
Function	Maximum Input
A AC	400A
V DC, V AC	600V DC/AC
Resistance, Diode, Continuity Test	250V DC/AC

2. METER DESCRIPTION

1 - Current clamp
2 - Clamp trigger
3 - Rotary Function switch
4 - LCD display
5 - MAX Hold button
6 - Data Hold button
7 - Mode select button
8 - Range select button
9 - Backlight button
10 - COM input jack
11 - V Ω jack
12 - Battery Cover



1. **AC DC** AC (alternating current) and DC (direct currrent)
2. ▬ Minus sign
3. **1.8.8.8** 2000 count (0 to 1999) measurement reading
4. **AUTO** AutoRange mode
5. **MAX** MAX Hold mode
6. ⊣◁ Diode test mode
7. •)) Audible Continuity
8. **HOLD** Data Hold mode
9. **BAT** Low Battery icon
10. **°C,°F,m,V, A,K,M,Ω** Units of measure list



3. SPECIFICATIONS

Function	Range & Resolution	Accuracy (% of Reading
AC Current	2.000 AAC	±(2.5%+10digits)
	20.00 AAC	±(2.5%+4 digits)
	200.0 AAC	
	400 AAC	±(3.0%+4 digits)
DC Voltage	200.0 mVDC	± (0.5%+5 digits)
	2.000 VDC	± (1.2% +3 digits)
	20.00 VDC	
	200.0 VDC	
	600 VDC	± (1.5% +3 digits)
AC Voltage	200.0 mVAC	± (1.5% + 30 digits)
	2.000 VAC	± (1.5% + 3 digits)
	20.00 VAC	
	200.0 VAC	
	600 VAC	± (2.0% + 4 digits)
Resistance	200.0 Ω	± (1.0% + 4 digits)
	2.000KΩ	± (1.5% + 2 digits)
	20.00KΩ	
	200.0KΩ	
	2.000MΩ	± (2.0% + 3 digits)
	20.00MΩ	± (3.0% + 5 digits)

NOTE: No Auto Ranging & 200mV AC Voltage Range.

3. SPECIFICATIONS continued....

Function	Range
Clamp size	Opening 23mm (0.9") approx.
Diode Test	Test current of 0.3mA typical; Open circuit voltage 1.5V DC typical.
Continuity Check	Threshold <120Ω; Test current < 1mA
Low Battery Indication	" BAT" is displayed
Overrange Indication	"OL " is displayed
Measurements Rate	2 per second, nominal
Input Impedance	7.8MΩ (VDC and VAC)
Display	3-1/2 digits (2000 counts) LCD
AC Current bandwidth	50/60Hz (AAC)
AC Voltage bandwidth	50/400Hz (VAC)
Operating Temperature	-10 to 50°C (14 to 122°F)
Storage Temperature	-30 to 60°C (-14 to 140°F)
Relative Humidity	90%(0°C to 30°C); 75%(30°C to 40°C); 45%(40°C to 50°C)
Altitude	Operating: 3000m; Storage 10,000m
Over voltage	Category III 600V
Battery	Two 1.5V "AAA" Batteries
Auto OFF	approx. 15 minutes
Dimensions/Weight	200x50x35mm/200g
Safety	For indoor use and in accordance with Overvoltage Category II, Pollution Degree 2. Category II includes local level, appliance, portable equipment, etc., with transient overvoltages less than Overvoltage Cat. III

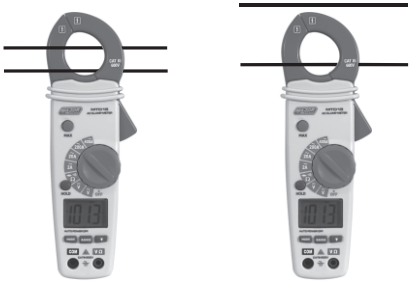
4. OPERATION

NOTE: Read and understand all warning and precaution statements listed in the safety section of this operation manual prior to using this meter. Set the function select switch to the OFF position when the meter is not in use.

4.1. AC Current Measurements

⚠ **WARNING:** Ensure that the test leads are disconnected from the meter before making current clamp measurements.

1. Set the Function switch to the 400A or 200A or 20A or 2A range. If the range of the measured is not known, select the higher range first then move to the lower range if necessary.
2. Press the trigger to open jaw. Fully enclose one conductor to be measured.
3. The clamp meter LCD will display the reading.



INCORRECT CORRECT

4.2. AC/DC Voltage Measurements

1. Insert the black test lead into the negative COM terminal and the red test lead into the positive V terminal.
2. Set the function switch to the V position.
3. Select AC or DC with the MODE button.
4. Connect the test leads in parallel to the circuit under test.
5. Read the voltage measurement on the LCD display.

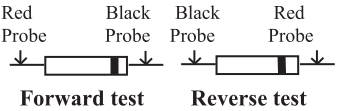
4.3. Resistance and Continuity Measurements

1. Insert the black test lead into the negative COM terminal and the red test lead into the positive terminal.
2. Set the function switch to the ⏭ •))) Ω position.
3. Use the multifunction **MODE** button to select resistance.
4. Touch the test probe tips across the circuit or component under test. It is best to disconnect one side of the device under test so the rest of the circuit will not interfere with the resistance reading.
5. For Resistance tests, read the resistance on the LCD display.
6. For Continuity tests, if the resistance is < 120Ω, a tone will sound.

4.4. Diode Measurements

1. Insert the black test lead banana plug into the negative COM jack and the red test lead banana plug into the positive diode jack.

2. Turn the rotary switch to the position.
3. Press the MODE button until "" appears in the display.
4. Touch the test probes to the diode under test. Forward voltage will indicate 0.4V to 0.7V. Reverse voltage will indicate "OL". Shorted devices will indicate near 0mV and an open device will indicate "OL" in both polarities.



4.5. Data Hold
To freeze the LCD meter reading, press the data hold button. The data hold button is located on the left side of the meter (top button). While data hold is active, the DH display icon appears on the LCD. Press the data hold button again to return to normal operation.

4.6. MAX Hold
To hold the highest reading on the LCD, press the MAX hold button. The MAX hold button is located on the left side of the meter (bottom button). The meter reading will not change as readings change, rather it will only display the highest reading encountered since the MAX hold button was pressed. Press the MAX hold button again to return to normal operation.

4.7. Manual Ranging
The meter turns on in the autoranging mode. Press the **Range** button to go to manual ranging. Each press of the range button will step to the next range as indicated by the units and decimal point location. Press and hold the **Range** button for two seconds to return to autoranging. Manual ranging does not function in the AC Current, Diode and Continuity check functions.

4.8. Backlight
The backlight function illuminates the display and is used when the ambient light to too low to permit viewing of the displayed readings. Press the button for one second to turn the backlight on and press the button a second time to turn the backlight off.

4.9.Battery Replacement
1. Remove the one rear Phillips head screw
2. Open the battery compartment
3. Replace the Requires two "AAA" batteries (UM4 R03)
4. Re-assemble the meter

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