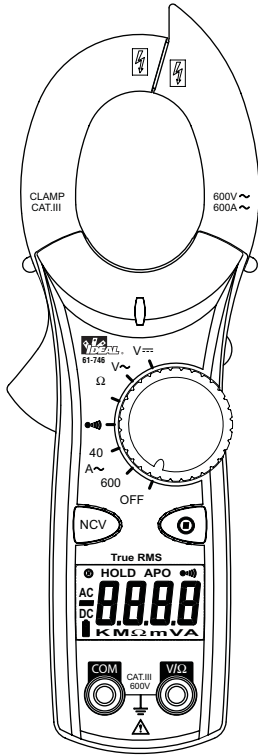




600 AAC Clamp Meter

Instruction Manual



#61-744
#61-746


WARNING

! Read First: Safety Information

Understand and follow operating instructions carefully. Use the meter only as specified in this manual; otherwise, the protection provided by the meter may be impaired.

! WARNING

To avoid possible electric shock, personal injury or death, follow these guidelines:

- Do not use if meter appears damaged. Visually inspect the meter to ensure case is not cracked and back case is securely in place.
- Inspect and replace leads if insulation is damaged, metal is exposed, or probes are cracked. Pay particular attention to the insulation surrounding the connectors.
- Do not use meter if it operates abnormally as protection maybe impaired.
- Do not use during electrical storms or in wet weather.
- Do not use around explosive gas, dust, or vapor.
- Do not apply more than the rated voltage to the meter.
- Do not use without the battery and the back case properly installed.
- Remove the test leads from the circuit prior to removing battery cap.
- Do not attempt to repair this unit as it has no user-serviceable parts.
- Replace batteries as soon as low battery indicator  appears to avoid false readings.
- Comply with local and national safety requirements, including the use of appropriate personal protective equipment.

CAUTION

To protect yourself, think "Safety First":

- Voltages exceeding 30VAC or 60VDC pose a shock hazard so use caution.
- Use appropriate personal protective equipment such as safety glasses, face shields, insulating gloves, insulating boots, and/or insulating mats.
- Before each use:
 - Perform a continuity test by touching the test leads together to verify the functionality of the battery and test leads.
 - Use the 3 Point Safety Method. (1) Verify meter operation by measuring a known voltage. (2) Apply meter to circuit under test. (3) Return to the known live voltage again to ensure proper operation.
- Never ground yourself when taking electrical measurements.
- Connect the black common lead to ground or neutral before applying the red test lead to potential voltage. Disconnect the red test lead from the voltage first.
- Always work with a partner.
- When using the probes, keep fingers as far behind the probe tips as possible.

Features:

- Auto/manual ranging clamp meter
 - Non-Contact Voltage (70-600VAC)
 - Measures 600 AAC Current
 - Measures AC/DC Voltage and Resistance
 - Audible continuity
 - Data hold
 - Auto Power Off
 - Low Battery Indicator
 - Compact jaws for reaching into tight spaces
 - Electronic overload protection on all ranges
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- 61-744 model is averaging sensing, rms calibrated
 - 61-746 model is true rms sensing.

Features

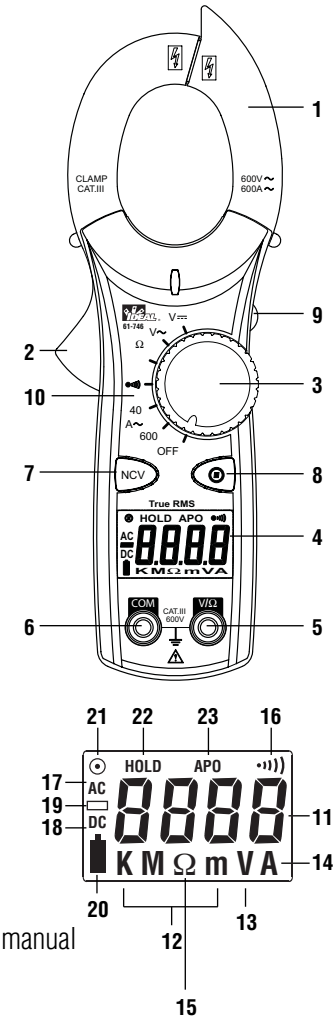
1. Jaw Clamp
2. Lever
3. Function Dial
4. Display (LCD)
5. Volts and resistance (V- Ω) input terminal
6. Common (COM) input terminal
7. Non-Contact Voltage (NCV)
8. Range (\odot)
9. Data Hold
10. Measuring Functions

Display Icons

11. 4000 count display
12. Units of measure
13. Voltage
14. Amperes
15. Ohms
16. Continuity
17. AC measurement is selected
18. DC measurement is selected
19. Polarity indicator for DC
20. Low battery indicator
21. Range (\odot)
22. Data hold
23. APO - Auto Power Off

Symbols on the Unit

- \triangle Warning - read the instruction manual
- NCV - Non-Contact Voltage
- Cat III - 600V Safety category



OPERATION:

Non-contact voltage (NCV)

With the NCV tab on the tip of the clamp close to an AC voltage, press the NCV button. The NCV LED will light and the beeper will sound. The closer the NCV tab is to AC voltage, the louder the beep. To differentiate between hot and neutral in an outlet, insert the NCV tab into each slot in the outlet. The beeper will be much louder on the hot side of the outlet than the neutral. The test lead can also be used to differentiate between the hot and neutral. Plug the red test lead into the V/ Ω input jack on the meter. Press the NCV button and insert the probe tip into each slot of the outlet. The beeper will only beep on the hot side of the outlet.

Auto/Manual Ranging Mode ()

The meter defaults to autoranging mode when powered on. In this mode, the meter automatically selects the best range to display the measurement. By pressing the Range () button on the meter, the manual range mode will override the autoranging feature of the meter. A () appears in the upper left side of the display. Continue pressing the Range button until the desired range is obtained. Use this mode to lock in a specific range for repeated measurements. To return to the autoranging mode, either depress the Range button for greater than 1 second or turn the meter off and then back on again.

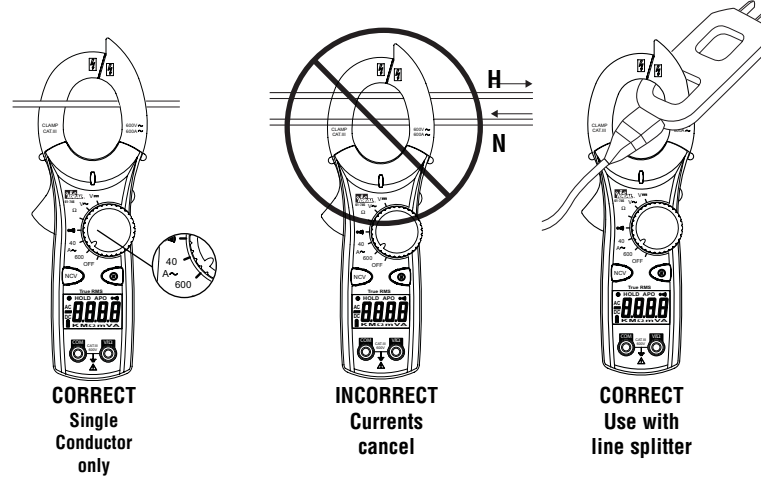
Data Hold Feature

Press the Hold button on the side of the meter to toggle in and out of the data hold mode. "HOLD" appears in the upper left of the meter display when data hold is active. Use the data hold feature to lock a measurement reading on the display. Press the Hold button again to unlock the display and obtain a real-time reading.

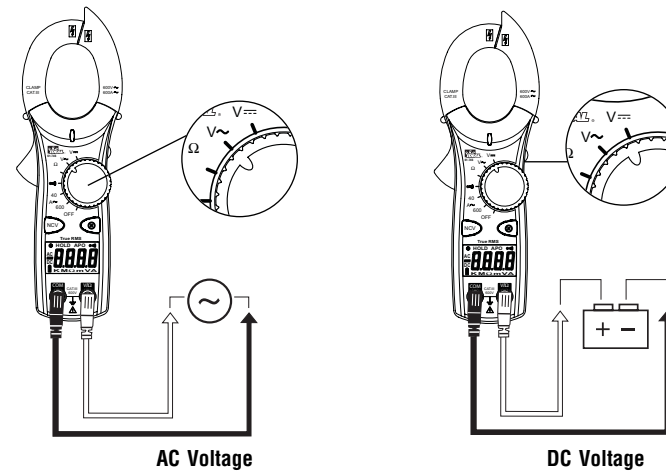
Auto Power Off (APO) Feature

The meter automatically powers itself down after about 10 minutes of no use. Press any button, and the meter will wake up and display the last reading taken before power down. This feature can be overridden by holding the Range () button while turning the function switch from Off to any other position. When APO is defeated, the "APO" will be removed from the display. Turning the meter off will restore the APO default.

Measuring AC Current (Amps):

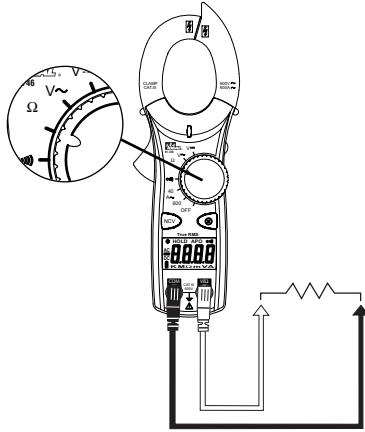


Measuring Voltage:



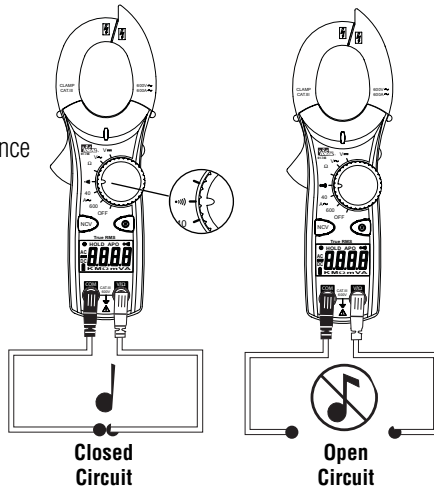
Measuring Resistance (Ohms):

- Verify the circuit is de-energized to obtain accurate measurements.



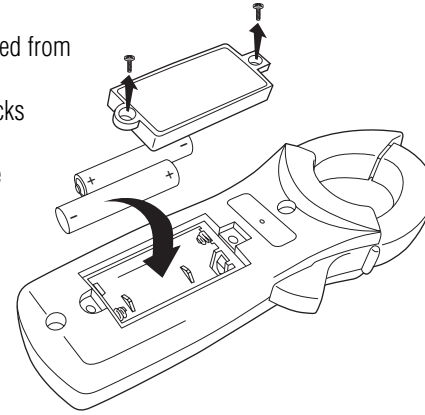
Verifying Continuity (•••••):

- Verify the circuit is de-energized.
- The meter will sense the level of resistance and beep if the resistance is less than 25Ω to confirm that continuity is present.



Battery Replacement:

- Ensure test leads are disconnected from circuit or components.
- Remove test leads from input jacks on meter.
- Remove the two screws from the battery cap.
- Remove the battery cap.
- Replace batteries with two "AAA" batteries.
- Assemble the battery cap to the meter and re-tighten the screws.




Maintenance:

- Clean the case with a damp cloth and mild detergent. Do not use abrasives or solvents.

Service and Replacement Parts:

This unit has no user-serviceable parts.

Specifications:

Display: 3-3/4 digit LCD with 4000 counts
Polarity: Automatic, positive implied, negative (-) polarity indication.
Overrange: "OL" indication is displayed.
Measure Rate: Samples 2 times per second, nominal.
Auto Power Off: Approximately after 10 minutes of non-use.
Battery Life: 400 hours continuous with Alkaline (61-744)
250 hours continuous with Alkaline (61-746)
Low Battery Indication: The "  " is displayed when battery voltage drops below operating level.
Power Supply: (2) 1.5V "AAA" batteries (NEDA R03).
Includes an isolated battery compartment.
Accuracy: Stated accuracy at 23°C ±5°C, <75% R.H.
Temperature: 0.1 x (specified accuracy) per °C,
Coefficient: (0°C to 18°C, 28°C to 50°C).
Altitude: 6561.7 ft. (2000m)
Operating Environment: 32°F to 122°F (0°C to 50°C) at < 70% R.H.
Storage Environment: -4°F to 140°F (-20°C to 60°C) at < 80% R.H.
Jaw Opening: Accepts a 1.50" (38mm) conductor
Dimensions: 8.0"H x 2.6"W x 1.5"D (203mm H x65mm W x37mm D)
Weight: 7.1 oz (200g) including batteries
Accessories included: Carrying Case, Test Leads, (2) 1.5V "AAA" batteries,
operating instructions.
Safety: Complies with UL/IEC/EN: 61010-1, 61010-2-032,
61010-031 specifications, Cat III-600V.



Double Insulation
Instrument has been evaluated and complies with insulation category III (overvoltage category III). Pollution degree 2 in accordance with IEC-644. Indoor use.

Ranges & Accuracies:**AC Converter:**

61-744 model is averaging sensing, rms calibrated

61-746 model is true rms sensing.

Accuracy:

Accuracy is specified as +/- (a percentage of the reading + a fixed amount) at 23°C±5°C (73.4°F ± 9°F), less than 75% relative humidity.

Temperature Coefficient: 0.1 times the applicable accuracy specification per degree C from 0°C to 18°C and 28°C to 50°C (32°F to 64°F and 82°F to 122°F)

Function	Range and Resolution	Accuracy		Overload Protection
		61-744	61-746	
AC Current*	40.00A/400.0A/600.0A (50Hz - 60Hz)	1.7% + 6 digits	1.7% + 10 digits	600AAC
	40.00A/400.0A/600.0A (60Hz - 400Hz)	3.0% + 6 digits	3.0% + 10 digits	
AC Voltage	400.0V (50Hz - 500Hz)	1.2% + 5 digits	1.2% + 8 digits	600 VDC or AC rms
	600V (50Hz - 500Hz)	1.5% + 5 digits	1.5% + 8 digits	
DC Voltage	400.0V/600V	0.5% + 2 digits		600 VDC or AC rms
Resistance	400.0Ω/4.000kΩ/40.00kΩ/ 400.0k Ω	1.0% + 4 digits		600 VDC or AC rms
	4.000MΩ	1.5% + 4 digits		
	40.00MΩ	3.0% + 5 digits		
Continuity	Audible indication < 25Ω	N/A		600 VDC or AC rms
	Response time: 500ms			

* Accuracy stated for crest factor ≤ 3
Input Impedance is 10MΩ.