multicomp PRO

AC Current Leakage Tester
Model No. MP780051

IMPORTANT SAFETY INFORMATION

Read all instructions before using the appliance and retain for future reference.

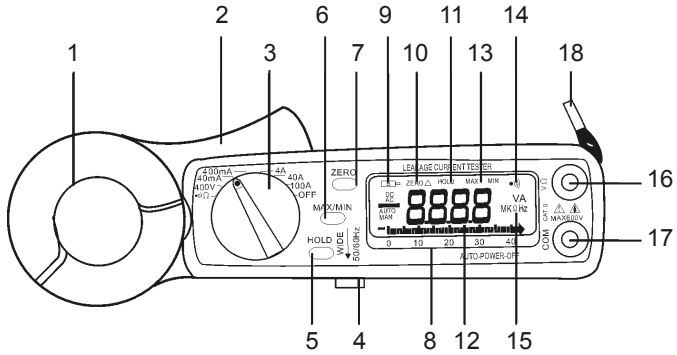
- Please follow all safety operation instructions.
- Check the jaws and case insulation before using. If you find any breakage or abnormality, or you consider the device is broken, stop using the device immediately.
- Never operate the meter with the battery cover open.
- Set the function switch to the correct setting before connecting the meter to the current source to be tested.
- Never apply voltage greater than the specified maximum allowed.
- Use caution with voltages above 25VAC rms as a shock hazard may exist.
- Always disconnect and remove the test leads before making AC current measurements.
- Always remove power from circuits being tested and discharge all capacitors before making resistance or continuity measurements.
- Do not use the product for any purpose other than that for which it is designed.
- Turn the tester off when not in use to save the battery.
- Remove the battery if the meter is not to be used for long periods.
- Replace the battery as soon as the low battery warning appears to avoid possible electric shock or personal injury caused by incorrect readings.

WHAT'S INCLUDED

- AC Leakage Tester
- Batteries
- Test Leads
- Instruction manual.

PRODUCT OVERVIEW

- 10μA high resolution on 40mA range.
- Shield transformer jaws to minimise the effect of external stray magnetic field.
- Five Ranges (40mA, 400mA,4A,40A,100A) for all applications.
- A filter circuit is designed to eliminate the effect of high frequency noise and harmonics by setting the frequency selector switch at the 50/60 Hz position for AC current measurement.
- Fast bar graph display (20 times/sec.) for transient observation.
- Continuity and frequency measurements.
- Max/Min and Data Hold functions.
- Relative Measurement.
- 600V overload protection for ohm measurement.

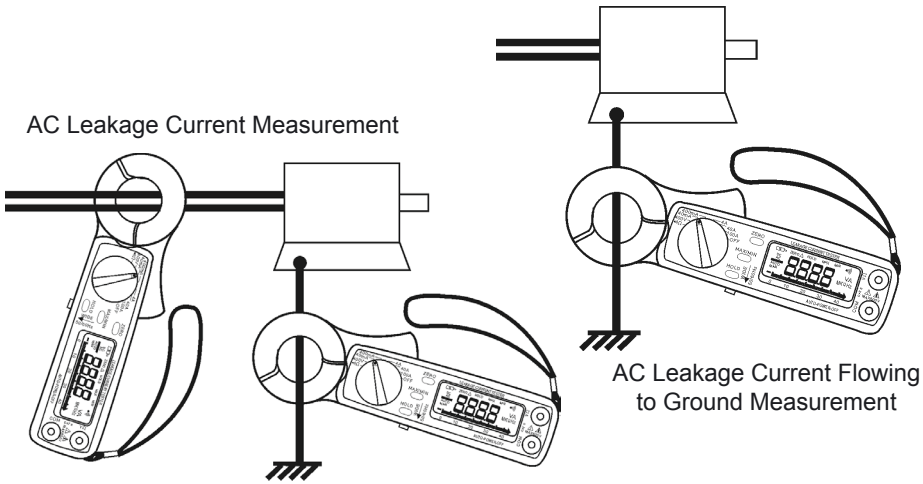


1. Current sense jaws
2. Clamp trigger
3. Function selector control
4. Frequency switch
5. Data HOLD button
6. MAX/MIN button
7. ZER/REL button
8. LCD display
9. Low Battery symbol
10. ZERO/REL symbol
11. Data HOLD symbol
12. Bar Graph display
13. MAX/MIN Hold symbol
14. Continuity symbol
15. Units symbol
16. Test lead input terminal
17. Test lead COM terminal
18. Wrist strap

OPERATION

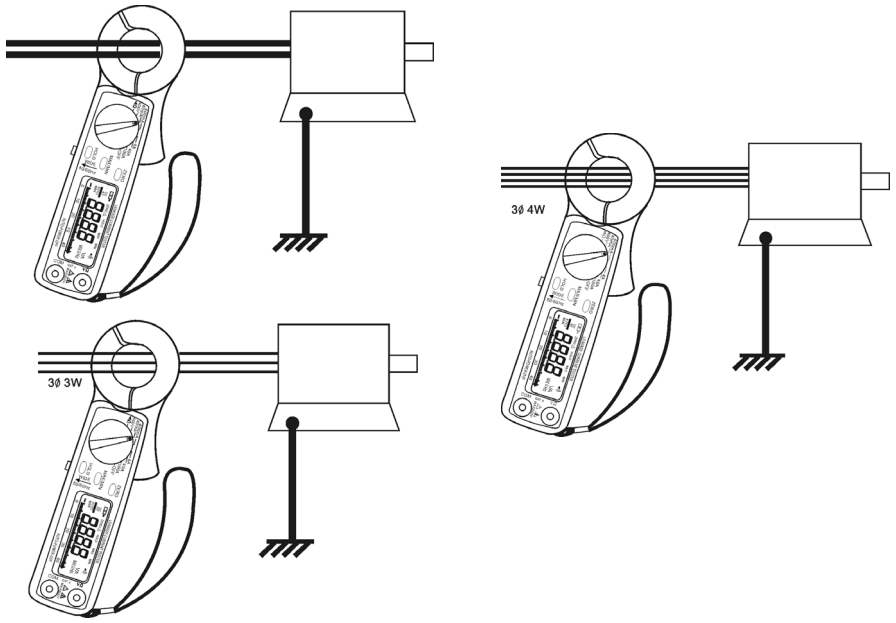
AC Leakage Current Measurement

- Set the Function switch to the desired current range.
- Press the jaw trigger to open the clamp jaws and clamp around the conductor ensuring it is centred within the clamp jaws.
- The measured value is displayed on the LCD screen.



Out of Balance Leakage Current Measurement

- Set the Function switch to the desired current range.
- Press the jaw trigger to open the clamp jaws and clamp around all conductor wires. Two wires (single phase, two wires), three wires (three phases, three wires), or four wires (three phases, four wires) ensuring they are centred within the clamp jaws.
- The measured value is displayed on the LCD screen.



50/60 position

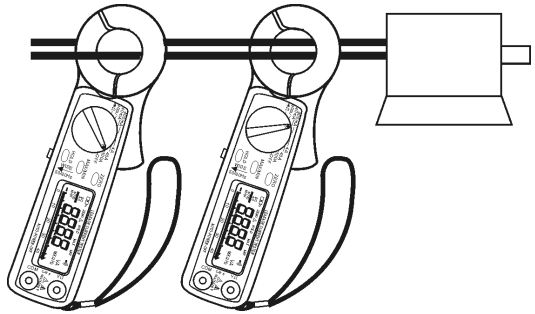
- This clamp meter has very good frequency response due to the electric property of the transformer jaws used. Therefore, the measurement result contains not only the fundamental frequency of 50/60Hz but also the high frequencies and harmonics superimposed on the fundamental frequency.
- To eliminate the effect of high frequency noise, a low pass filter is designed to filter out high frequency signal. To enable the filter, set the switch at the 50/60 position.
- The filter's cut-off frequency is set at 100Hz with an attenuation characteristic of approx. 24dB/octave.

Wide position

- If the circuit under test is originated from a high frequency generating device such as inverter, switching regulators etc., then the switch should be set at wide position to measure the signal which contains the frequency from 40Hz-1kHz.
- To check for the presence of a high frequency signal, set the switch at 50/60 and then change to the wide position setting to see the difference.
- If the reading is very different, it is certain that the high frequency signals or harmonics are present.

AC Load Current Measurement

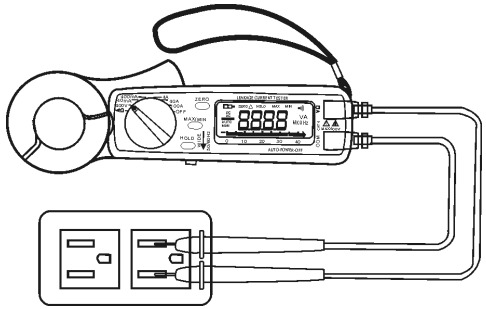
- Set the Function switch to the desired current range.
- Press the jaw trigger to open the clamp jaws and clamp around only one wire.
- Ensure the jaws are fully closed.
- The measured value is displayed on the LCD screen.



AC Voltage Measurements

- Set the rotary switch at 400V.
- Insert the test leads into the input jacks, black lead into the COM socket.
- Connect the probes of the test leads in PARALLEL to the circuit to be measured.
- The measured value is displayed on the LCD screen.

WARNING: Maximum input for DC and for AC are both 600V. Do not attempt to take any voltage measurement that exceeds the limits. Exceeding the limits could cause electrical shock and damage to the clamp meter.



Resistance and Continuity Measurement

- Set the rotary switch to Ω.
- Insert the test leads into the input jacks, black lead into the COM socket.
- Connect the probes of the test leads to the two ends of the resistor or circuit to be measured.
- Read the measured value from the LCD display.
- If the resistance is lower than 40Ω, the internal sounder beeps.

WARNING: Before taking any in-circuit resistance measurement, remove power from the circuit being tested and discharge all the capacitors.

Relative Reading Measurements

- The zero button also can be used to make a relative measurement. Pressing the button sets the current reading as zero and a zero symbol displays on the LCD.
- All the subsequent measurement shall be displayed as a relative value with respect to the value that has been zeroed.
- Press the zero button again for 2 seconds to return to normal mode.

Holding the LCD Reading

- Press the HOLD button and the reading will be held and kept displayed on the LCD.

Finding the MAX/MIN Value

- Press the MAX/MIN button to enable the maximum and minimum values to be recorded and updated during measurement.
- Push the button once, the maximum value shall be displayed and updated.
- Push the button again and the minimum value shall be displayed.
- Push the button a third time to disable MAX/MIN and return to the normal measurement mode.

Auto-Power-Off

- The meter will turn itself off 30 minutes after power-on.
- To power it on again, either press the HOLD button or turn the power off and back on.
- To disable the Auto-power-off function, hold the HOLD button while turning on the power.

MAINTENANCE

- When the low battery symbol appears on the LCD the battery must be replaced.
- Power the tester down and remove the rear battery compartment screw.
- Slide off the battery compartment cover and replace the 9V NEDA 1604 or G6F22 battery taking note of the polarity.
- Replace the compartment cover and secure the screw.

CLEANING

- Clean the tester with a clean, soft cloth.
- Do not use any chemicals, abrasives or solvents that could damage the tester.

SPECIFICATIONS

Specifications at 23˚C ± 5˚C.

AC Current		**Accuracy**	
Range	**Resolution**	**50/60 Hz**	**Wide(400-1KHz)**
40mA	10μA	±1.0%±0. 5mA	±4.5%±0. 5mA
400mA	100μA	±3.0%±5.0mA	±3.0%±5.0mA
4A	1mA	±4.0%±0.1A	±4.0%±0.1A
40A	10mA	±4.0%±1.0A	±4.0%±1.0A
80A	100mA	±2.5%±1.0A	±3.0%±1.5A
80-100A[1]	100mA	±5.0%±1.0A	±5.0%±1.5A

AC Voltage				**Overload protection**
Range	**Resolution**	**50/60Hz**	**40Hz-1KHz**	
400V	0.1V	±1.5%±2dgts	±2.0%±4dgts	AC 600V

Resistance & Continuity				**Overload protection**
Range	**Resolution**	**Accuracy**	**Beep Sounds**	
40-400Ω	0.1Ω	±1.0%±2dgts	<38.0Ω	AC 600V

NOTE[1] : Though the meter can display up to 400A, it is not calibrated beyond 100A.

Display	$3\frac{3}{4}$ Digit LCD display with 40 segment bar graph
Batteries	One 9V NEDA 1604 or G6F22 battery
Jaw Opening	30mm (1.2”)
Auto Power Off	30 minutes approx
Operating Conditions	-10˚C to 50˚C (32˚F to 86˚F) <85% Relative Humidity
Storage Conditions	-20˚C to 60˚C (-14˚F to 140˚F) <75% Relative Humidity
Sampling Time	2 times/sec. (display)
	20 times/sec. (bar graph)
Altitude	<3000 meters
Weight	200g inc battery
Dimensions (H x W x D)	210 x 62 x 36mm
Safety Compliance	CAT II 600V

INFORMATION ON WASTE DISPOSAL FOR CONSUMERS OF ELECTRICAL & ELECTRONIC EQUIPMENT.

These symbols indicate that separate collection of Waste Electrical and Electronic Equipment (WEEE) or waste batteries is required. Do not dispose of these items with general household waste. Separate for the treatment, recovery and recycling of the materials used. Waste batteries can be returned to any waste battery recycling point which are provided by most battery retailers. Contact your local authority for details of the battery and WEEE recycling schemes available in your area.

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