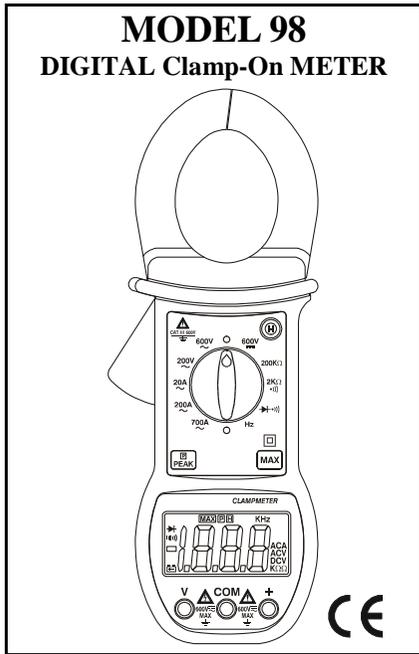


OPERATING INSTRUCTIONS



Measurement rate: 2.5 times per second, nominal.
Operating Environment: 0°C to 40°C at <70% R.H.
Storage Temperature: -20°C to 60°C, 0 to 80% R.H. with battery removed from meter.
Accuracy: Stated accuracy at 23°C ± 5°C, <75% R.H.
Safety: According to EN61010-1 protection class II over-voltage category (CAT III 600V) pollution degree 2.
Clamp jaw: According to EN61010-2-032 CAT IV 600V.
Power: Single standard 9-volt battery, NEDA 1604, JIS 006P, IEC 6F22.
Battery life: 200 hours typical with carbon-zinc.
Dimensions: 250mm (H) x 100mm (W) x 46mm (D).
Weight: Approx. 380g including battery.
Accessories: One pair test leads, 9V battery (installed).

DC VOLTS

Ranges: 600V
Accuracy: ±(0.5% rdg + 1dgt)
Input impedance: 10MΩ
Overload protection: 600VDC or AC rms

AC VOLTS (50Hz-500Hz)

Ranges: 200V, 600V
Accuracy: ±(1.2% rdg + 4dpts)
Input impedance: 10MΩ
Overload protection: 600VDC or AC rms

AC CURRENT (Put conductor at the center of the jaws)

Range	Accuracy	Overload Protection
20A	50/60Hz ±(1.5% rdg + 4dpts) 40-500Hz ±(3.5% rdg + 5dpts)	1000Aac max. for 1 minute
200A/700A	50/60Hz ±(1.5% rdg + 4dpts) 40-500Hz ±(3.5% rdg + 5dpts)	

*700A to 1000A(50Hz/60Hz): ±(2.0% rdg + 4dpts)

RESISTANCE

Ranges: 2KΩ, 200KΩ
Accuracy: ±(1.2% rdg + 1dgt)
Open circuit volts: 0.3Vdc
Overload protection: 600VDC or AC rms

FREQUENCY (Autoranging)

Ranges: 2KHz, 20KHz
Accuracy: ±(0.1% rdg + 3dpts)
Sensitivity: 80V rms min
Overload protection: 600VDC or AC rms

CONTINUITY

Audible indication: less than 30Ω on 2KΩ range
Overload protection: 600VDC or AC rms

DIODE TEST

Test current: 1.0mA ± 0.6mA
Accuracy: ±(6.0% rdg + 3dpts)
Open circuit volts: 3.0Vdc typical

Audible indication: <30mV
Overload protection: 600VDC or AC rms

OPERATION

Before taking any measurements, read the Safety Information Section. Always examine the instrument for damage, contamination (excessive dirt, grease, etc.) and defects. Examine the test leads for cracked or frayed insulation. If any abnormal conditions exist do not attempt to make any measurements.

Ⓜ Button:

Press “Ⓜ” button to toggle in and out of DATA Hold mode. In the DATA Hold mode, the “Ⓜ” annunciator is displayed. (The DATA Hold mode may be exited when changing function.)

MAX HOLD Button:

Press “MAX” button to toggle in and out of MAX Hold mode (holding the highest absolute reading). In the MAX Hold mode, the “MAX” annunciator is displayed. Current and Hz ranges without MAX HOLD function.

PEAK HOLD Button: (only current ranges 40-60Hz)

Press “PEAK” button to toggle in and out of PEAK Hold mode. In the PEAK Hold mode, the “PEAK” annunciator is displayed. {Accuracy: ±[10% (readind - residual offset) + 10dpts], effect reading: 80~2000}

Voltage Measurements

1. Connect the red test lead to the “V” jack and the black test lead to the “COM” jack.
2. Set the Function/Range switch to the desired Voltage type (AC or DC) and range. If magnitude of voltage is not known, set switch to the highest range and reduce until a satisfactory reading is obtained.
3. Connect the test leads to the device or circuit being measured.
4. For dc, a (-) sign is displayed for negative polarity, positive polarity is implied.

Current Measurements

1. Set the Function/Range switch to the highest 700A ac range.
2. Press the trigger to open transformer jaws and clamp onto one conductor only. Read the current directly on the display. It is recommended that the conductor be placed at the center of the closed jaws for maximum accuracy.
3. When the reading is lower than 200 counts, set the range switch to the next lower range position. For maximum accuracy, select the lower range possible without over-ranging the meter.

Resistance Measurements

1. Set the Function/Range switch to the desired resistance range.
2. Remove power from the equipment under test.

3. Connect the red test lead to the “+” jack and the black test lead to the “COM” jack.
4. Touch the probes to the test points. In ohms, the value indicated in the display is the measured value of resistance.

WARNING

The accuracy of the functions might be slightly affected, when exposed to a radiated electromagnetic field environment, eg, radio, telephone or similar.

Frequency Measurements

1. Set the Function/Range switch to the Hz position.
2. Connect the red test lead to the “+” jack and the black test lead to the “COM” jack.
3. Connect the test leads to the point of measurement and read the frequency from the display.

Continuity Measurements

1. Set the Function/Range switch to the “•||/2KΩ” position.
2. Touch the probes to the test points. The beeper sounds continuously, if the resistance is less than 30Ω.

Diode Tests

1. Connect the red test lead to the “+” jack and the black test lead to the “COM” jack.
2. Set the Function/Range switch to the “→|” position.
3. Turn off power to the circuit under test.
4. Touch probes to the diode. A forward-voltage drop is about 0.6V (typical for a silicon diode).
5. Reverse probes. If the diode is good, “OL” is displayed. If the diode is shorted, “.000” or another number is displayed.
6. If the diode is open, “OL” is displayed in both directions.
7. If the junction is measured in a circuit and a low reading is obtained with both lead connections, the junction may be shunted by a resistance of less than 1kΩ. In this case the diode must be disconnected from the circuit for accurate testing.

MAINTENANCE

WARNING

Remove test leads before changing battery or fuse or performing any servicing.

Battery Replacement

Power is supplied by a 9 volt “transistor” battery. (NEDA 1604, IEC 6F22). The “Ⓜ” appears on the LCD display when replacement is needed. To replace the battery, remove the two screws from the back of the meter and lift off the battery cover. Remove the battery from battery contacts.

Cleaning

Periodically wipe the case with a damp cloth and detergent, do not use abrasives or solvents.

SAFETY INFORMATION

The following safety information must be observed to insure maximum personal safety during the operation at this meter:

1. Do not use the meter if the meter or test leads look damaged, or if you suspect that the meter is not operating properly.
2. Use caution when working above 60V dc or 30V ac rms. Such voltages pose a shock hazard.
3. When using the probes, keep your fingers behind the finger guards on the probes.
4. Measuring voltage which exceeds the limits of the clampmeter may damage the meter and expose the operator to a shock hazard. Always recognize the meter voltage limits as stated on the front of the meter.
5. If the equipment is used in a manner not specified by the manufacturer, the protection provided the equipment may be impaired.

SPECIFICATIONS

Display: 3½ digit liquid crystal display (LCD) with a maximum reading of 1999.

Polarity: Automatic, positive implied, negative polarity indication.

Overrange: (OL) or (-OL) is displayed.

Zero: Automatic.

Low battery indication: The “Ⓜ” is displayed when the battery voltage drops below the operating level.