measured voltage value will appear on Digital Display along with the voltage polarity.

DC CURRENT MEASUREMENT

1. Red lead to "VΩmA". Black lead to "COM" (for measurements between 200mA and 10A connect red lead to "10A" jack with fully depressed.)
2. Set RANGE switch to desired DCA range.
3. Open the circuit to be measured, and connect test leads INSERIES with the load in with current is to measure.
4. Read current value on Digital Display.
5. Additionally, "10A" function is designed for intermittent use only. Maximum contact time of the test leads with the circuit is 15 seconds, with a minimum intermission time of seconds between tests.

RESISTANCE MEASUREMENT

1. Red lead to "VΩmA". Black lead to "COM".
2. Set RANGE switch to desired Ω range.
3. If the resistance being measured is connected to a circuit, turn off power and discharge all capacitors before measurement.
4. Connect test leads to circuit being measured.
5. Read resistance value on Digital Display.

DIODE MEASUREMENT

1. Red lead to "VΩmA", Black lead to "COM".

2. Set RANGE switch to "⊣▶⊢" range.
3. Connect the red test lead to the anode of the diode to be measured and black test lead to cathode.
4. The forward voltage drop in mV will be displayed. If the diode is reversed, figure "1" will be shown.

TRANSISTOR hFE MEASUREMENT

1. Set RANGE switch to the hFE range.
2. Determine whether the transistor is PNP of NPN type and locate the Emitter, Base and Collector leads. Insert the leads into the proper holes of the hFE Socket on the front panel.
3. The meter will display the approximate hFE value at the condition of base current 10μA and V_{CE}2.8V.

TEMPERATURE MEASUREMENT

1. RANGE switch to TEMP position, it will display room temperature in ˚C value.
2. Connect the K-type thermoelectric couple to "VΩmA" and "COM" jacks.
3. The display will read Temperature value ˚C.

NOTE: The TP-01 K-type thermocouple Max. Operating temperature of Probe: 250˚C (300˚C short-term). The sensor supplied with the instrument is an ultra fast response naked bead thermocouple suitable for many general purpose applications.

AUDIBLE CONTINUITY TEST

1. Red lead to "VΩmA", Black lead to "COM".
2. Set RANGE switch to "•))" range.
3. Connect test leads to two points of circuit to be tested. If the resistance is lower then 30Ω±20Ω, the buzzer will sound.

TEST SIGNAL USE

1. Set RANGE switch to "⎍" range.
2. A test signal (50Hz) appears between "VΩmA" and "COM" jack, the output voltage is approx 5V p-p with 50KΩ impedance.

NOTE: OVERLOAD PROTECTION: 15 seconds maximum 220Vrms.

BATTERY AND FUSE REPLACEMENT

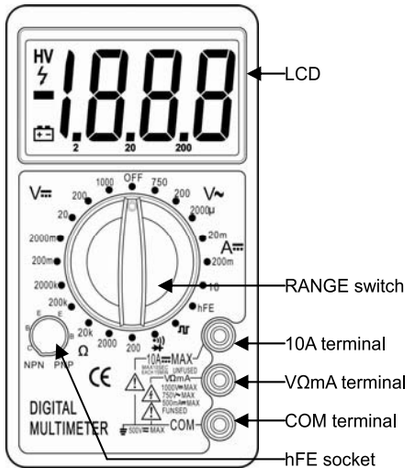
Fuse rarely need replacement and blow almost always as a result of operator error.

If "▭" appears in display, it indicates that the battery should be replaced.

To replace battery & Fuse (F500mA/250V) removes the 2 screws in the bottom of the case, simply remove the old, and replace with a new one. Be careful to observe polarity.

ACCESSORIES

- Operator's instruction manual
- Set of test leads
- Gift box
- TP01 K-type thermoelectric couple (700C only)
- 9-volt battery, NEDA 1604 6F22 type.



PN: 31.11.7006

OPERATOR'S INSTRUCTION MANUAL

700 SERIES

DIGITAL MULTIMETER

⚠WARNING

READ AND UNDERSTAND THIS MANUAL BEFORE USING THE INSTRUMENT.

Failure to understand and comply with the WARNINGS and operating instructions can result in serious or fatal injuries and/or property damage.

⚠Warning

To avoid possible electric shock or personal injury, and to avoid possible damage to the Meter or to the equipment under test, adhere to the following rules:

- **Before using the Meter inspect the case. Do not use the Meter if it is damaged or the case (or part of the case) is removed. Look for cracks or missing plastic. Pay attention to the insulation around the connectors.**
- **Inspect the test leads for damaged insulation or exposed metal. Check the test leads for continuity.**
- **Do not apply more than the rated voltage, as marked on the Meter, between the terminals or between any terminal and grounding.**
- **The rotary switch should be placed in the right position and no any changeover of range shall be made during measurement is conducted to prevent damage of the Meter.**
- **When the Meter working at an effective voltage over 60V in DC or 30V rms in AC, special care should be taken for there is danger of electric shock.**
- **Use the proper terminals, function, and range for your measurements.**
- **Do not use or store the Meter in an environment of high temperature, humidity, explosive, inflammable and strong magnetic field. The performance of the Meter may deteriorate after dampened.**
- **When using the test leads, keep your fingers behind the finger guards.**
- **Disconnect circuit power and discharge all high-voltage capacitors before testing resistance, continuity, diodes or hFE.**
- **Replace the battery as soon as the battery indicator ▭ appears. With a low battery, the Meter might produce false readings that can lead to electric shock and personal injury.**
- **Remove the connection between the testing leads and the circuit being tested, and turn the Meter power off before opening the Meter case.**
- **When servicing the Meter, use only the same model number or identical electrical specifications replacement parts.**
- **The internal circuit of the Meter shall not be altered at will to avoid damage of the Meter and any accident.**
- **Soft cloth and mild detergent should be used to clean the surface of the Meter when servicing. No abrasive and solvent should be used to prevent the surface of the Meter from corrosion, damage and accident.**
- **The Meter is suitable for indoor use.**
- **Turn the Meter power off when it is not in use and take out the battery when not using for a long time. Constantly check the battery as it may leak when it has been using for some time, replace the battery as soon as leaking appears. A leaking battery will damage the Meter.**

700 Series Multimeters Function Table

Model	DCV	ACV	DCA	OHM	⊣▶⊢	•))	hFE	⎍	°C
700B	√	√	√	√	√		√		
700C	√	√	√	√	√	√	√		√
700D	√	√	√	√	√	√	√	√	

General Specifications

Max display: LCD 3 ⅚ digits (2000 counts)
LCD size: 27 x 60mm
Polarity: Automatic, indicated minus, assumed plus.
Measure method: double integral A/D switch implement
Sampling speed: 2 times per second
Over-load indication: "1" is displayed
Operating Environment: 0˚C ~40˚C, at <80%RH
Storage Environment: -10˚C ~50˚C, at <85%RH
Power: 9V NEDA 1604 or 6F22
Low battery indication: "▭"
Static electricity: about 4mA
Product Size: 129 x 70 x 29mm
Product net weight: 129g (including battery)

Technical Specifications

Accuracies are guaranteed for 1 year, 23˚C±5˚C, less than 80%RH

DC VOLTAGE

RANGE	RESOLUTION	ACCURACY
200mV	100uV	±(0.5% of rdg + 3D)
2000mV	1mV	
20V	10mV	±(0.8% of rdg + 5D)
200V	100mV	
1000V	1V	±(1.0% of rdg + 5D)

OVERLOAD PROTECTION: 220V rms AC for 200mV range and 1000V DC or 750V rms for all ranges.

AC VOLTAGE

RANGE	RESOLUTION	ACCURACY
750V	1V	±(2.0% of rdg +10D)

RESPONSE: Average responding, calibrated in rms of a sine wave.
FREQUENCY RANGE: 45HZ ~ 450HZ
OVERLOAD PROTECTION: 1000V DC or 750V rms for all ranges.

AUDIBLE CONTINUITY

RANGE	DESCRIPTION
•))	Built-in buzzer sounds if resistance is less then 30±20Ω

OVERLOAD PROTECTION: 15 second maximum 220 V rms.

DC CURRENT

RANGE	RESOLUTION	ACCURACY
200uA	100nA	±(1.8% of rdg +2D)
2000uA	1uA	
20mA	10uA	
200mA	100uA	±(2.0% of rdg +2D)
10A	10mA	±(2.0% of rdg +10D)

OVERLOAD PROTECTION: 500mA/250V fuse (10A range unfused).
MEASURING VOLTAGE DROP: 200mV

RESISTANCE

RANGE	RESOLUTION	ACCURACY
200Ω	0.1Ω	±(1.0% of rdg +10D)
2000Ω	1Ω	±(1.0% of rdg +4D)
20KΩ	10Ω	
200KΩ	100Ω	
2000KΩ	1KΩ	

MAXIMUM OPEN CIRCUIT VOLTAGE: 3V.
OVERLOAD PROTECTION: 15 seconds maximum 220Vrms.

AUDIBLE CONTINUITY

RANGE	DESCRIPTION
•))	Built-in buzzer sounds if resistance is less then 30±20Ω

TEMPERATURE (with K-TYPE PROBE)

RANGE	RESOLUTION	ACCURACY
-40℃ to 150 ℃	1℃	±(1.0% + 4)
150℃ to 1370 ℃		±(1.5% + 15)

OPERATING INSTRUCTIONS

DC & AC VOLTAGE MEASUREMENT

1. Connect red test lead to "VΩmA" jack, Black lead to "COM" jack.
2. Set RANGE switch to desired VOLTAGE range, if the voltage to be measured is not known beforehand, set switch to the highest range and reduce it until satisfactory reading is obtained.
3. Connect test leads to device or circuit being measured.
4. Turn on power of the device or circuit being