DIGITAL C METER OPERATION MANUAL

1.FEATURES

◇ Easy and correct readout.
◇ High measuring accuracy.
◇ Measurements are possible even under a strong magnetic field.
◇ LSI-circuit provides high reliability and durability.
◇ Input overload protection is provided.
◇ LCD display for low power consumption and clear readout even in bright ambient light conditions.
◇ In-line pushbuttons allow one hand operation.
◇ Light-weight and compact construction for easy operation.
◇ Low battery condition is indicated on the LCD display.

2.SPECIFICATIONS

2-1.GENERAL SPECIFICATIONS

Display	:LCD (Liquid Crystal Display) Max. Indication 1999.
Measurement	:C (Capacitance)
Range	:single 9 position, whole range value (from 0.1pF to 20000uF)
Zero Adjustment	:Manual (range:±20pF)
Calibrate Adjustment	:Have two internal adjustment. One is panel Zero adjustment.
Over-input	:Display shows “1”.
Backlight Function:	it went out by itself within 8 seconds.
Sampling Time	:0~5second
Operating Temp	:0℃ to 40℃.
Operating Humidity	:80% MAX.R.H.
Power Supply	:Single, standard 9 volt battery. NEDA 1604IEC6F22
Battery Life	:Basicity type approx.: 200 hours. Zinc-Carbon type approx.: 100 hours

Typical consumption current :3~4mA (RANGE:200pF-200uF)

Standard Accessories: Test alligator clips (red & black)…1 pair.
Instruction manual……..1 pc.

2-2. ELECTRICAL SPECIFICATION

Accuracy is ±(percentage of reading + number of digit) at 23±5℃,<80%RH.

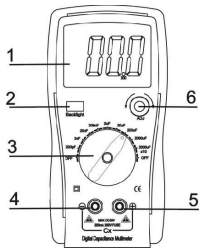
Range	Accuracy	Resolution	Test Frequency	Max indication value
200pF	±(0.5%+7)	0.1pF	800Hz	199.9pF
2nF	±(0.5%+5)	1pF	800Hz	1.999nF
20nF		10pF	800Hz	19.99nF
200nF		100pF	800Hz	199.9nF
2uF		1000pF	800Hz	1.999uF
20uF		0.01uF	80Hz	19.99uF
200uF		0.1uF	8Hz	199.9uF
2000uF	±(2%+5)	1uF	8Hz	1999uF
20000uF	±(3%+10)	10uF	8Hz	1999(×10)uF

pF= Pico Farad(10^{-12}F)， nF= nan Farad(10^{-9}F). uF= micro Farad(10^{-6}F)

Excitative voltage: Max.2.8Vrms

Overload Rating: Protection by a 0.1A/36V fuse.

3.OPERATION PANEL



1.LCD display: display the test value and unit.
2.Backlight key: press the button lightly, it was turn off by itself about 8 seconds.
3. Function Key: It is used for change the range of function.
4. Capacitance〞－〞input terminal.
5. Capacitance〞+〞input terminal.
6. Zero knob: Knob to zero when test low capacitance.

4.CONSIDERATION OF MEASUREMENT

(1) This C METER is intended for measuring the capacitance value of a capacitor. It is not intended for determining the “Q” factor for above reactive components. Misleading readings may be obtained if the measurement of capacitance of a resistor is attempted.

(2) When measuring components within circuit that circuit must be switched off and de-energized before connecting the test leads.

(3) Do not close (black & red) test leads.

(4) Instruments used in dusty environments should be stripped and cleaned periodically.

(5) Do not leave the instrument exposed to direct heat from the sun for long periods.

(6) Before removing the battery and fuse compartment cover, ensure that the instrument is disconnected with any circuit and the power switch is in the off position.

(7) For all measurements, should connect BLACK test lead into “-” terminal and RED test lead into “+” terminal.

5.CAPACITANCE(C) MEASURING PROCEDURE

(1) Press POWER key, turn on the power.

(2) Select the range switch for the maximum expected capacitance.

(3) Check "0" indication: If test range is 200pF, 2nF, 20nF, should check "0" indication before test.

(4) Observe polarity when connecting polarized capacitors.

(5) Full discharge any capacitors.

(6) Connect the alligator clips to the capacitors leads.

(7) Read the display. The value is direct reading in the electrical unit (pF, nF, uF) indicated at the selected range switch. If display show “1”, It indicate on Out-of-Range measurement. If the display indicates one or more leading zeros, shift to the next lower range scale to improve the resolution of the measurement.

NOTE:

(a) If the capacitance value is unmarked, start with the 200pF range and keep increasing until the over-range indication goes off and a reading is obtained.

(b) A shorted capacitor will read over-range on all ranges. A capacitance with low voltage leakage will read over range, or a much higher value than normal.

An open capacitor will read zero on all ranges (possibly a few pF on 200pF range, due to stray capacitance of the instrument).

(c) Measure of very low capacitance should be performed using extremely short leads in order to avoid introducing any stray inductance.

(d) When using the optioned test leads, remember that the leads introduce a measurable capacitance to the measurement. As a first approximation, the test lead capacitance may be measured by opening the leads at the trips, recording the open circuit value and subtracting that value.

(e) Capacitors, especially electrolytic, often have notoriously wide tolerances. Do not be surprised if the measured value is greater than the value marked on the capacitor, unless it is a close tolerance type.However,value are seldom drastically below the rated value.

(f) If changing range, measured value will be changed, leakage-voltage capacitors will be checked also. Leakage-resistance will be decreased in lower range.

6. MAINTENANCE

1) 9-Volt battery replacement

a. Ensure the instrument is not connected to any external circuit. Set the selector switch to OFF position and remove the test leads from terminals.

b. Remove the screw on the bottom case and lift the bottom case.

c. Remove the spent battery and replace it with a battery of the same type.

2) Fuse replacement

a. Ensure the instrument is not connected to any external circuit. Set the selector switch to OFF position and remove the test leads from terminals.

b. Remove the screw on the bottom case and lift the bottom case.

c. Replace the fuse with the same type and rating: 5×20mm, 200mA/250V, fast-blow fuse or as the replacements.

●The specifications are subject to change without notice.
●The content of this manual is regarded as correct, error or omits Pls. contact with factory.
●We hereby will not be responsible for the accident and damage caused by improper operation.
●The function stated for this User Manual cannot be the reason of special usage.