DIGITAL CAPACITANCE 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. display 1999.
Range :9 range, whole range value (from 0.1pF to 20mF)
Overload protection : Display "1".
Calibrate Adjustment :Have two internal adjustment. One is panel Zero adjustment.
Zero Adjustment :Manual (range:±20pF)
Over-range dispaly :Display"1".
Sampling Time :0~5second
Operating Temp :0℃ to 40℃.
Operating Humidity :80% MAX.R.H.
Battery :9V (6F22 or the equivalent
Battery Life : alkaline battery: approx.200 hours.
Zinc-Carbon battery 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

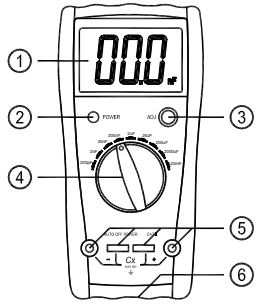
Accuracy is ±(percentage of reading + number of digit) at 23±5℃,<80%RH.

Range	Resolution	Test Frequency	Max indication value
200pF	0.1pF	800Hz	199.9pF
2nF	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	1uF	8Hz	1999uF
20mF	10uF	8Hz	19.99mF

Temperature range for the accuracy guaranteed: 23℃±5℃
Accuracy: range at 200pF～200μF: ±0.5%+1 digit;
range at 2000μF: ±2%+1 digit; range at 20mF: ±2%+2 digit
Excite voltage: 2.8V peak value
Overload protection: Protected by a 0.2A/250V self- fused. The capacitance will destroy the meter if the DCV is higher than 60V.
Zero adjust: limit to 20pF

3.OPERATION

3-1, Pannel description: (see the fig.1)



3-1-1. LCD: display the measuring value, unit and low battery indication,
3-1-2. POWER switch: turn on/off the power.
3-1-3. Zero adjust knob: zero adjust knob before the measuring of lower than 20nF range
3-1-4. Function knob: to select measuring range.
3-1-5. Input COM: Capacity（Cx）COM
3-1-6. Battery case

3-2. Notice before measuring:

3-2-1. Observe polarity when connecting polarized capacitors.
3-2-2. Discharge completely for any capacitance;
3-2-3. Do not connect any COM with voltage source absolutely, otherwise it will cause damage badly.
3-2-4. Do not close (black & red) test leads.
3-2-5. 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.
3-2-6. zero adjust won't work when using the external components alligators if the capacitance is beyond 20nF.

3-3.CAPACITANCE(C) MEASURING PROCEDURE

3-3-1 Press POWER key, turn on the power.
3-3-2 Select the range switch for the maximum expected capacitance.
3-3-3 Check "0" indication: If test range is 200pF, 2nF, 20nF, should check "0" indication before test.
3-3-4 Observe polarity when connecting polarized capacitors.
3-3-5.Full discharge any capacitors.
3-3-6 Connect the alligator clips to the capacitors leads.
3-3-7 Read the display. The value is direct reading in the electrical unit (pF, nF, uF,mF) 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.
(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 is 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.

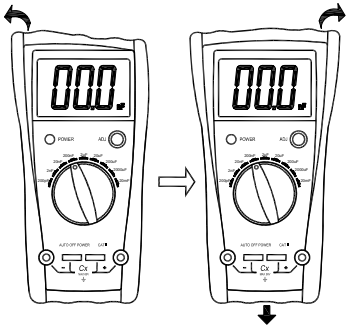
3-4. AUTO POWER OFF

The meter will be into sleeping mode when it stopped work for 20minutes. Please restart the power if you need to continue to measure.

3-5. MAINTENANCE

Do not try to modify the electric circuit.

3-5-1. Keep the meter away from water, dust and shock.
3-5-2 Do not store and operate the meter under the condition of high temperature, high humidity, combustible, explosive and strong magnetic place.
3-5-3. Wipe the case with a damp cloth and detergent, do not use abrasives and alcohol.
3-5-4. If do not operate for a long time, should take out the battery to avoid leakage
3-5-5. When signal displays, should replace the battery following the steps:
3-5-5-1. Take off the holster. (see fig. 2)
3-5-5-2 Unlock the screw and remove the battery case.
3-5-5-3. Take out the old battery and replace the new one. It's better to use alkaline battery for longer life
3-5-5-4. Fit on the battery case and lock the screw.
3-5-5-5. Fit on the holster as the opposite way (see fig.2)



- **The specifications are subject to change without totice.**
- **The content of this manual is regarded as correct, error or omits. Please contact with factory.**
- **We herby 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.**

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