Digital Capacitance Meter

Operator's Instruction Manual

WARNING

READ AND UNDERSTAND THIS MANUAL BEFORE USING THE INSTRUMENT

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

General Description

6013 digital capacitance meter is an 3 1/2 digit(2000counts) meter with dual slope integrating converter and steady operations, fashionable design and highly reliable hand-held measuring instrument. The meter ranges from 200pF to 20mF and equipped with data hold and backlight function. It can be used in measuring the circuit designed capacitance of cable, switch and PCB layout.

Unpacking Inspection

English Operating Manual *1 piece
Test Clip *1 pair
Capacitance Meter*1 piece

Open the package case and take out the Meter, check the items above carefully to see any missing or damaged part. In the event you find any missing or damaged, please contact the ELIKE immediately.

General Characteristics

Display: LED 2000counts
Low Battery Indication: displayed.
Polarity Indication: "-" displayed automatically
Operation Temperature: 0℃---40℃
Storage Temperature: -10℃---50℃
Battery Type: 9V 0r 6F22 X 1PC
Fuse: 0.1A
Dimension(HXWXD): 147X70X35mm
Weight: Approx. 150g
Accessories: Operator's Manual, Test Clip
Backlight: keeping 5 sec each push
Data Hold: "DH" displayed

Safety Information

This Meter complies with the standard EMC EN61326.Use the Meter only as specified in this operating manual, otherwise the protection provided by the Meter may be impaired.
In this Manual, a Warning identifies conditions and actions that pose hazards to the user, or may damage the Meter or the equipment under test.
A Note identifies the information that user should pay attention to.

⚠Warning

To avoid possible shock or personal injury, and to avoid 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 the 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 with identical model number or electrical specifications before using the Meter.
- When measurement has been completed, disconnect the connection between the test leads and the circuit under test, remove the testing leads away from the input terminals of the Meter and turn the Meter power off.
- The rotary switch should be placed in the right position and no any change over of range shall be made when measurement is conducted to prevent damage to the Meter.
- Do not carry out the measurement when the Meter's back case and battery compartment are not closed to avoid electric shock and damaged to the Meter.
- Use the proper terminals, function, and range for your measurements.
- Do not use or store the Meter in an environment of high temperature, humidity, explosives, inflammable and strong magnetic files. The performance of the Meter may deteriorate after dampened.
- 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.

- 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. Mo abrasive and solvent should be used to prevent the surface of the Meter from corrosion, damage and accident.
- Turn the Meter 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 foe only some time, replace the battery as soon as leaking appears. A leaking battery will damage the Meter.

Technical Specifications

Range	Resolution	Accuracy	Testing Frequency
200pF	0.1pF	± (0.6%+2)	800HZ
2nF	1pF	± (0.6%+2)	800HZ
20nF	10pF	± (0.6%+2)	800HZ
200nF	100pF	± (0.6%+2)	800HZ
2uF	1nF	± (0.6%+2)	800HZ
20uF	10nF	± (0.6%+2)	80HZ
200uF	100nF	± (0.6%+2)	8HZ
2mF	1uF	± (1.2%+2)	8HZ
20mF	10uF	± (2.5%+3)	8HZ

Operating Steps

The Meter's capacitance ranges are:
200pF, 2nF, 20nF, 200nF, 2uF, 20uF, 200uF, 2mF and 20mF.

To measure capacitance, connect the Meter as follows:

1.If the value of capacitor to be measured is unknown use the minimum measurement position 200pF and increase the range step by step until a satisfactory reading is obtained and the overloading icon "1" is disappeared.

2. Insert the red test clip into the middle socket of the meter and the black test clip to the random socket besides.

3. Use the red test clip to clip the capacitor's positive and the black test clip to clip the capacitor's negative when the capacitor has polarity.

4. When measuring small value capacitor, that is 200pF, 2nF and 20nF, first open circuit the test clips , then turn the Capacitance Zero Adjustment Switch to adjust zero.

5. The measured value shows on the display.

Note
• Do not short the test clip to avoid the consumption of battery.

• To minimize the effect of capacitance store in the test clips, the test clips should
be as short as possible and usr the Small Value Capacitance Jack on the left when
measuring small value of capacitance.
• Voltage is not allowed on the testing ends to avoid damaging the meter.
• Make sure the capacitor is completely discharged before measurement to avoid
electric shock.
• While shifting the range, the testing leads should disconnect with the capacitor.
• When capacitance measurement has been completed, disconnect the connection
between the testing clips and the circuit under test and remove the testing clips
away from the input terminals of the Meter.

Maintenance

⚠Warning
Do not attempt to repair or service your Meter unless you are qualified to do so and have the relevant calibration, performance test, and service information. To avoid electrical shock or damage to the Meter, do not get water inside the case.

A.General Service

- Periodically wipe the case with damp cloth and mild detergent. Do not use chemical solvent.
- To clean the terminals with cotton bar with detergent, as dirt or moisture in the terminals can affect readings.
- Turn the Meter OFF when it is not in use and take out the battery when not using for a long time
- Do not store the Meter in place of humidity, high temperature, explosive, inflammable and strong magnetic field.

B. Replacing the Battery
To avoid false readings, which could lead to possible electric shock or personal injury, replace the battery as soon as the battery indicator "⊏" appears.
To replace battery:
1.Disconnect the connection between the testing leads and the circuit under test, and remove the testing leads away from the input terminals of the Meter.
2.Turn the Meter off.
3.Remove the screws from the battery compartment, and separate the battery compartment from the case bottom.
4.Remove the battery from the battery compartment.
5.Replace the battery with new 6F22 battery
6.Rejoin the battery compartment and the case bottom, and install the screw.