

Supco MFD10

Supco MFD10 Digital Capacitor Tester Instruction Manual

Model: MFD10

INTRODUCTION

This manual provides detailed instructions for the safe and effective operation of the Supco MFD10 Digital Capacitor Tester. Please read this manual thoroughly before using the device to ensure proper functionality and to prevent damage or injury. The MFD10 is designed for measuring capacitance values and checking the condition of various capacitors.

SAFETY INFORMATION

- Always ensure the capacitor is fully discharged before testing. Failure to do so can result in electric shock or damage to the tester.
- Do not attempt to measure live circuits.
- Use the tester only as described in this manual.
- Keep the device away from moisture and extreme temperatures.
- Do not open the device casing; there are no user-serviceable parts inside.
- Replace batteries promptly when the low battery indicator appears to maintain accurate readings.

PRODUCT OVERVIEW

The Supco MFD10 Digital Capacitor Tester is a compact, handheld device featuring an LED display for clear readings. It comes with test leads for connecting to capacitors.



Figure 1: Supco MFD10 Digital Capacitor Tester. This image shows the blue-colored Supco MFD10 Digital Capacitor Tester. It has a red LED display at the top, showing "8.8.8.8", and a gray circular button below the display. On the left, a black and a red test lead with alligator clips are visible. On the right, a black and a red test lead with banana plugs are visible, indicating interchangeable lead types or different connection points. The device is labeled "Supco MFD10 Capacitor Tester".

Components:

- **LED Display:** Shows capacitance values and error codes.
- **Test Button:** Initiates the capacitance measurement.
- **Test Leads:** Connect the tester to the capacitor terminals.
- **Battery Compartment:** Located on the back for 4 AA batteries (not included).

SETUP

Battery Installation:

1. Locate the battery compartment cover on the back of the MFD10 unit.
2. Slide or unclip the cover to open it.
3. Insert four (4) AA batteries, ensuring correct polarity (+/-) as indicated inside the compartment.
4. Replace the battery compartment cover securely.

Note: Batteries are not included with the device. Always use fresh batteries for optimal performance.

OPERATING INSTRUCTIONS

The Supco MFD10 can measure capacitance from 0.01 to 10,000 microfarads (mF) and check for open or shorted capacitors.

Before Testing:

- **Discharge Capacitor:** Crucially, ensure the capacitor to be tested is fully discharged before connecting the tester. Use a resistor or appropriate discharge tool.
- **Connect Leads:** Plug the test leads into the appropriate jacks on the tester.

Measuring Capacitance:

1. With the capacitor discharged, connect the red test lead to one terminal of the capacitor and the black test lead to the other terminal.
2. Press and hold the test button on the MFD10.
3. The LED display will show the capacitance value in microfarads (mF).
4. Release the button to turn off the display and conserve battery life.

Checking for Open or Shorted Capacitors:

The MFD10 automatically checks for open or shorted conditions during capacitance measurement.

- If the display shows "OPEN", the capacitor is open-circuited and defective.
- If the display shows "SHORT", the capacitor is short-circuited and defective.
- If a capacitance value is displayed, the capacitor is likely functional within its rated range.

This tester is suitable for checking run, start, and DC electrolytic capacitors.

MAINTENANCE

Battery Replacement:

When the display becomes dim or the readings are inconsistent, it is time to replace the batteries. Follow the "Battery Installation" steps in the Setup section.

Cleaning:

Wipe the device with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure no liquids enter the device.

Storage:

Store the MFD10 in a cool, dry place. If storing for extended periods, remove the batteries to prevent leakage.

TROUBLESHOOTING

Problem	Possible Cause	Solution
No display or dim display	Dead or low batteries; incorrect battery installation.	Replace batteries with new AA batteries, ensuring correct polarity.

Problem	Possible Cause	Solution
Inaccurate readings	Capacitor not fully discharged; poor connection; faulty test leads; low batteries.	Ensure capacitor is fully discharged. Check lead connections. Replace test leads if damaged. Replace batteries.
Display shows "OPEN"	Capacitor is open-circuited; poor connection to capacitor.	Capacitor is defective and needs replacement. Ensure test leads are firmly connected.
Display shows "SHORT"	Capacitor is short-circuited.	Capacitor is defective and needs replacement.

SPECIFICATIONS

- **Model:** MFD10
- **Measurement Range:** 0.01 to 10,000 mF (microfarads)
- **Accuracy:** 5% (typical, as per product description)
- **Display:** LED
- **Power Source:** 4 x AA Batteries (not included)
- **Dimensions:** Approximately 4.5" H x 2.625" W x 1.375" D (11.43 cm H x 6.67 cm W x 3.49 cm D)
- **Weight:** Approximately 6.4 ounces (181 grams) without batteries

WARRANTY INFORMATION

Specific warranty details for the Supco MFD10 Digital Capacitor Tester are typically provided with the product packaging or available on the manufacturer's official website. Please refer to those resources for comprehensive warranty terms and conditions. Keep your proof of purchase for warranty claims.

SUPPORT AND CONTACT

For technical assistance, troubleshooting beyond this manual, or inquiries regarding your Supco MFD10 Digital Capacitor Tester, please contact Supco customer support. Contact information can usually be found on the product packaging or the official Supco website.