SPERRY DM4A

Pocket Digital Multimeter

User Manual

Model: DM4A | Brand: SPERRY

1. Introduction

The SPERRY Pocket Digital Multimeter (Model DM4A) is a compact and efficient tool designed for quick and convenient electrical measurements. It offers multiple testing functions including AC/DC voltage, resistance, frequency, continuity, duty cycle, and diode testing across 21 ranges with auto-ranging capability. This manual provides essential information for the safe and effective use, maintenance, and troubleshooting of your multimeter.
For optimal performance and safety, please read this manual thoroughly before operating the device.

2. Safety Information

Always adhere to the following safety precautions to prevent personal injury or damage to the multimeter.

- **WARNING:** To avoid electrical shock, remove test leads before opening the case. To prevent damage or injury, install the battery shown in this manual.
- Do not attempt to measure voltage or current beyond the specified maximum ratings (CAT II 600V).
- Ensure the test leads are in good condition, free from cracks or damaged insulation.
- Always turn off the device and disconnect test leads from the circuit before changing functions.
- Do not operate the multimeter if it appears damaged or is not functioning properly.
- Use caution when working with live circuits. Always assume circuits are live until proven otherwise.
- This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Figure 2.1: Rear view of the DM4A multimeter, highlighting the safety warning label regarding battery installation and electrical shock prevention.

3. Product Overview

The DM4A Pocket Digital Multimeter features a user-friendly design with clearly labeled controls and a large display.

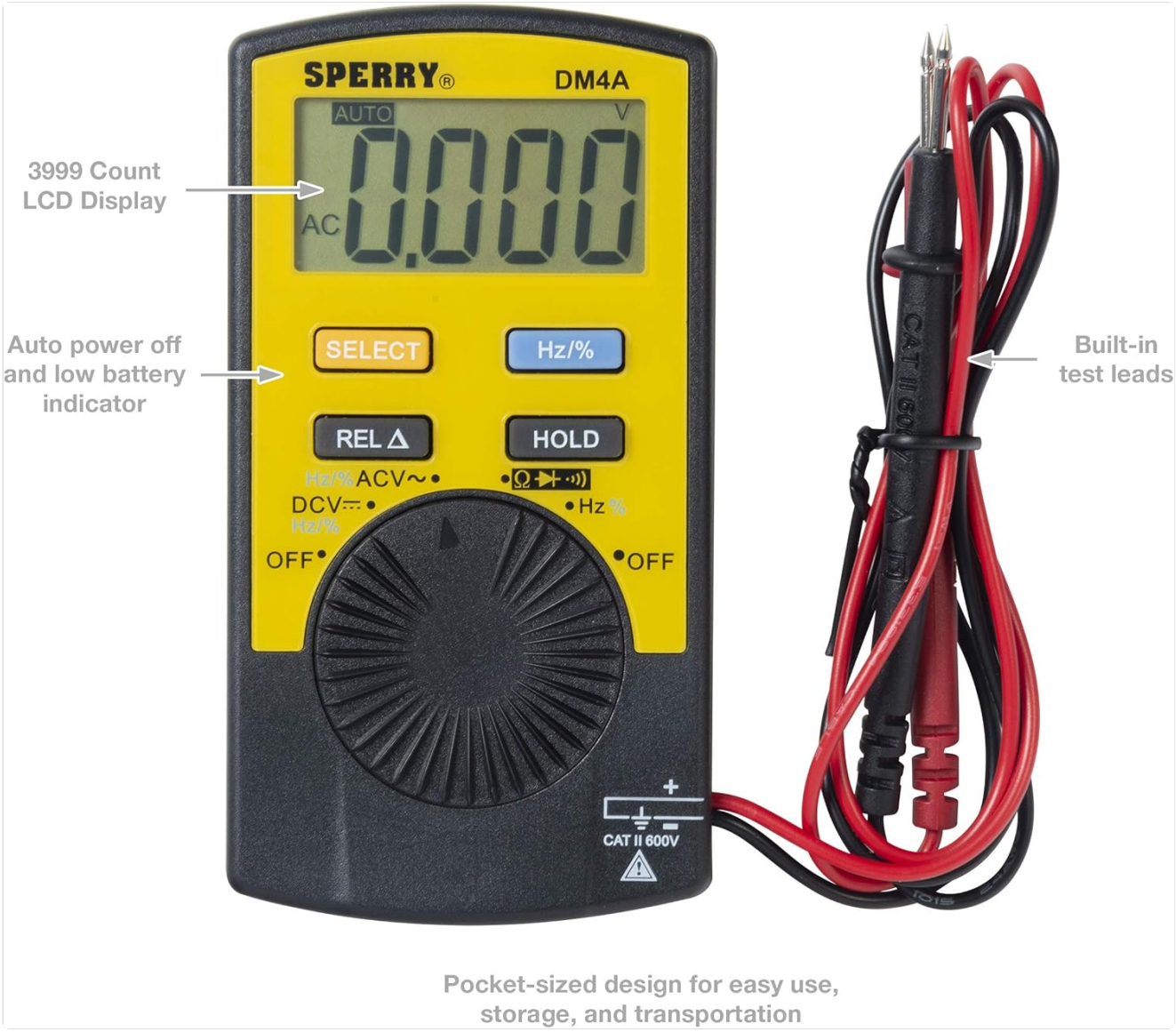

Figure 3.1: Front view of the DM4A multimeter, indicating the 3999 count LCD display, auto power off and low battery indicator, and built-in test leads.

- **LCD Display:** 3999 count display for clear readings.
- **SELECT Button:** Used to switch between AC/DC voltage, resistance, frequency, continuity, and diode test modes.
- **Hz/% Button:** Used for frequency and duty cycle measurements.
- **REL Δ Button:** For relative measurements.
- **HOLD Button:** Freezes the current reading on the display.
- **Rotary Switch:** Selects the primary measurement function (e.g., ACV, DCV, Resistance, OFF).
- **Built-in Test Leads:** Permanently attached red and black test leads for convenience and safety.

4. Setup

4.1 Battery Installation

The DM4A multimeter operates on one (1) 3V CR2032 battery, which is included. To install or replace the battery:

1. Ensure the multimeter is turned OFF and disconnect any test leads from circuits.
2. Locate the battery compartment on the back of the unit (refer to Figure 2.1).
3. Use a small screwdriver to open the battery compartment cover.
4. Insert the CR2032 battery, observing the correct polarity (+/-) as indicated inside the compartment.

5. Replace the battery compartment cover and secure it with the screw.

4.2 Initial Check

Before first use, or after battery replacement, perform a quick check:

- Turn the rotary switch from OFF to any measurement function. The display should illuminate and show "0.000" or similar.
- If the display does not turn on or shows a low battery indicator, check the battery installation or replace the battery.

5. Operating Instructions

The DM4A features auto-ranging, simplifying measurements by automatically selecting the correct range.

Figure 5.1: The DM4A multimeter in use, demonstrating its application for testing an electrical outlet.

5.1 Measuring AC/DC Voltage

1. Turn the rotary switch to the "ACV~" or "DCV..." position.

2. Connect the red test lead to the positive (+) side of the circuit and the black test lead to the negative (-) side or ground.
3. Read the voltage value on the LCD display.

5.2 Measuring Resistance (Ω)

1. Ensure the circuit is de-energized before measuring resistance.
2. Turn the rotary switch to the "Ω" position.
3. Connect the test leads across the component or circuit to be measured.
4. Read the resistance value on the LCD display.

5.3 Continuity Test (•))))

1. Ensure the circuit is de-energized.
2. Turn the rotary switch to the "**•)))**" position.
3. Connect the test leads across the circuit or component.
4. The multimeter will emit an audible tone if continuity is detected (low resistance).

5.4 Diode Test

1. Ensure the circuit is de-energized.
2. Turn the rotary switch to the "**•)))**" position.
3. Connect the red test lead to the anode and the black test lead to the cathode of the diode.
4. Read the forward voltage drop on the display. Reverse the leads to check for open circuit (OL).

5.5 Frequency (Hz) and Duty Cycle (%)

1. Turn the rotary switch to the "Hz/%" position.
2. Press the **Hz/%** button to toggle between Frequency and Duty Cycle measurements.
3. Connect the test leads to the signal source.
4. Read the frequency or duty cycle on the LCD display.

5.6 Data Hold

Press the **HOLD** button to freeze the current reading on the display. Press it again to release the hold function and resume live readings.

5.7 Auto Power Off

To conserve battery life, the multimeter will automatically power off after approximately 15 minutes of inactivity. To reactivate, turn the rotary switch to OFF and then back to the desired function.

6. Maintenance

6.1 Cleaning

Wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents. Keep the test leads clean and free of debris.

6.2 Battery Replacement

When the low battery indicator appears on the display, replace the 3V CR2032 battery as described in Section 4.1. Prompt battery replacement ensures accurate readings.

6.3 Storage

If the multimeter is not used for an extended period, remove the battery to prevent leakage and damage. Store the unit in a cool, dry place, away from direct sunlight and extreme temperatures.

7. Troubleshooting

Problem	Possible Cause	Solution
No display or faint display	Low battery or incorrect battery installation.	Replace battery (CR2032) or check polarity.
"OL" (Overload) displayed	Measurement exceeds the selected range or maximum input.	Ensure the correct function is selected. For voltage, ensure it's within 600V.
Inaccurate readings	Dirty test leads, low battery, or incorrect function selection.	Clean test leads, replace battery, verify function.
Multimeter turns off unexpectedly	Auto Power Off activated due to inactivity.	Turn the rotary switch to OFF and then back to the desired function.

8. Specifications

Figure 8.1: Dimensions of the DM4A multimeter, showing its compact size (approximately 2 3/8" W x 4 3/8" H x 1/2" D).

Figure 8.2: Side profile of the DM4A multimeter, illustrating its slim design compared to a US quarter.

Feature	Detail
Model	DM4A
Measurement Type	Multimeter
Functions	AC/DC Voltage, Resistance, Frequency, Continuity, Duty Cycle, Diode Test
Max Voltage	600V (CAT II)
Display	3999 Count LCD
Power Source	1 x 3V CR2032 Battery (included)
Auto Power Off	Yes

Feature	Detail
Low Battery Indicator	Yes
Unit Dimensions (W x H x D)	2 3/8" x 4 3/8" x 1/2"
Overall Product Dimensions (L x W x H)	6 x 4 x 1 inches
Item Weight	4.8 ounces
Material	Plastic
Color	Yellow

9. Warranty

This SPERRY Pocket Digital Multimeter (DM4A) comes with a manufacturer's warranty. For detailed information regarding warranty coverage, terms, and conditions, please refer to the warranty card included with your product or visit the official SPERRY Instruments website. Keep your purchase receipt as proof of purchase for any warranty claims.

10. Support

For technical assistance, product inquiries, or troubleshooting beyond the scope of this manual, please contact SPERRY Instruments customer support. You can typically find contact information on the product packaging, the official SPERRY website, or through your retailer.
SPERRY Instruments Official Website: www.sperryinstruments.com