

CEM DT-9516

CEM DT-9516 Digital Multimeter User Manual

Model: DT-9516

1. INTRODUCTION

The CEM DT-9516 is a professional True RMS Digital Multimeter designed for safe, reliable, and accurate electrical measurements. This compact and easy-to-use instrument is ideal for identifying and resolving issues in various electrical and electronic systems. It features auto-ranging capabilities and a 6000-count display, making it suitable for both professional and hobbyist applications.

2. SAFETY INFORMATION

Read all safety information and operating instructions before using this meter.

This device complies with the following safety standards:

- EN61010-1 CAT IV 600V, CAT III 1000V
- 1000V input protection on all ranges
- 10A/1000V and 0.8A/1000V fuses protection on current ranges

General Safety Precautions:

- Always ensure the test leads are in good condition and properly connected.
- Do not attempt to measure voltages or currents exceeding the specified maximum limits.
- Use caution when working with live circuits.
- Replace batteries and fuses only with the specified types and ratings.
- Do not operate the meter if it appears damaged or if the case is open.

3. SETUP AND INITIAL OPERATION

3.1 Battery Installation

The CEM DT-9516 requires three (3) AAA batteries for operation. These are typically included with the

device.

1. Locate the battery compartment cover on the rear of the multimeter.
2. Use a screwdriver to open the battery compartment.
3. Insert three AAA batteries, observing the correct polarity (+ and -) as indicated inside the compartment.
4. Replace the battery compartment cover and secure it with the screw.



Figure 1: CEM DT-9516 Multimeter with test leads, AAA batteries, and a protective carrying case.

3.2 Connecting Test Leads

Before taking any measurements, ensure the test leads are correctly connected to the multimeter.

- Connect the **red** test lead to the **V Ω Hz%CAP** input jack (positive input).
- Connect the **black** test lead to the **COM** input jack (common/negative input).
- For current measurements (mA, μ A), connect the red lead to the **mA μ A** input jack.
- For high current measurements (up to 10A), connect the red lead to the **10A** input jack.

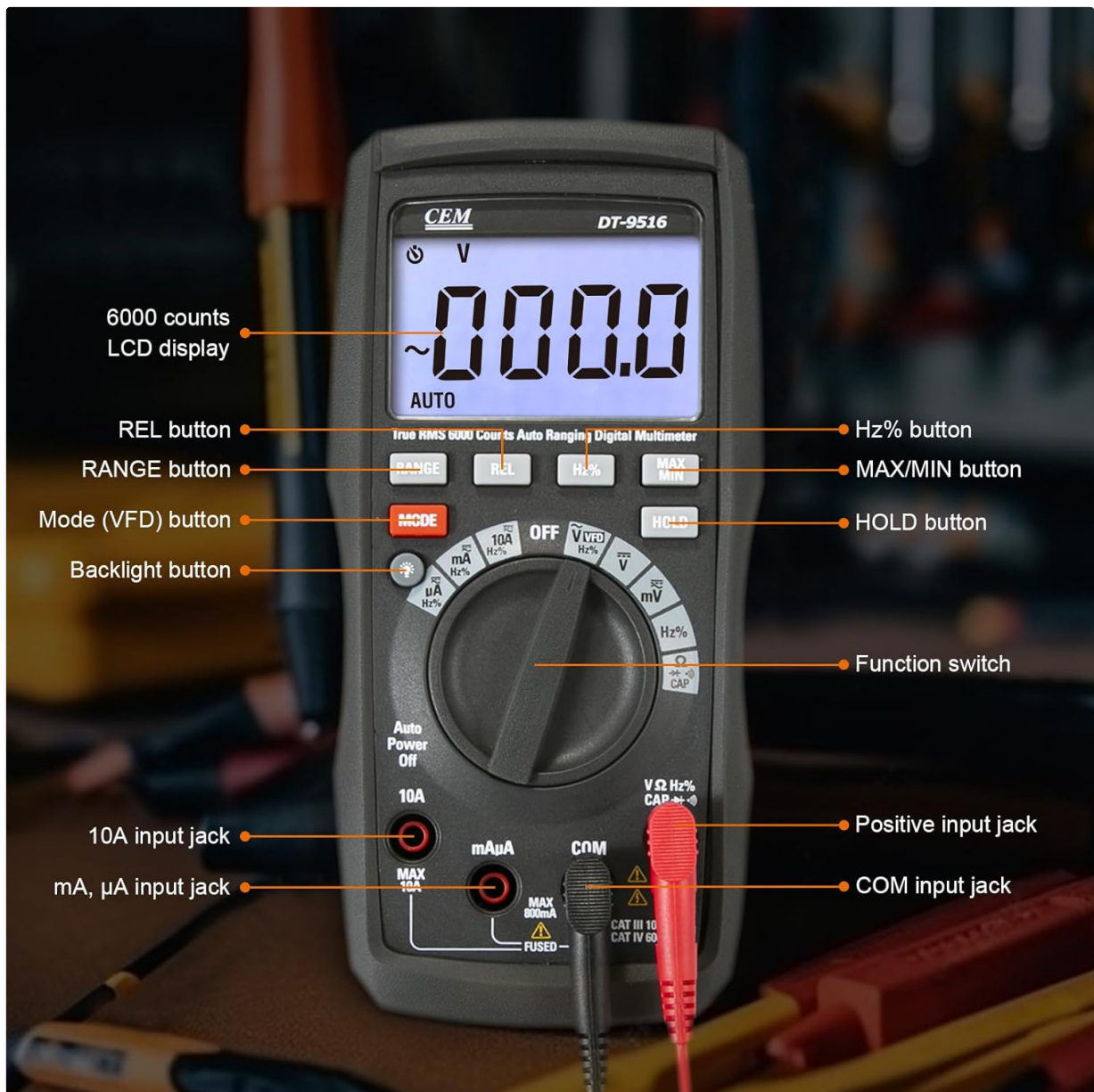


Figure 2: Detailed view of the multimeter's input jacks and function switch, indicating where to connect test leads for various measurements.

4. OPERATING INSTRUCTIONS

The DT-9516 features an intuitive interface with a large LCD display and a rotary function switch for selecting measurement modes.

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MULTIFUNCTIONAL 6000 COUNTS MULTIMETER

Provides more accurate readings &
higher resolution display



Figure 3: Overview of the CEM DT-9516 Multimeter's controls and display elements.

4.1 Function Switch and Auto Ranging

Turn the rotary switch to the desired measurement function. The DT-9516 is an auto-ranging multimeter, meaning it automatically selects the appropriate measurement range for the input signal, simplifying operation.

AUTO RANGING DIGITAL MULTIMETERS

Intuitive Operation without Complex Settings



Figure 4: The multimeter's auto-ranging feature allows for intuitive operation without manual range selection.

4.2 Measurement Functions

The DT-9516 offers a wide range of measurement capabilities:

- **Voltage (AC/DC):** Select the 'V' position on the rotary switch. The meter will automatically detect AC or DC voltage.
- **Current (AC/DC):** Select the 'mA μ A' or '10A' position. Ensure test leads are connected to the correct current input jacks.
- **Resistance (Ω):** Select the ' Ω ' position.
- **Capacitance (CAP):** Select the 'CAP' position.
- **Frequency (Hz%):** Select the 'Hz%' position.
- **Diode Test:** Select the diode symbol position.
- **Continuity:** Select the continuity symbol position. An audible tone indicates continuity.
- **Temperature:** Select the temperature symbol position. This function typically requires a K-type thermocouple (sold separately).

PROFESSIONAL TRUE RMS DIGITAL MULTIMETER

Multi-functional testing with one machine



Figure 5: The multimeter's multi-functional testing capabilities are clearly illustrated.

VFD FUNCTION

Low pass filter for accurate measurement of variable frequency drive (VFD) signals



Figure 6: The 6000-count display provides higher resolution and more accurate readings.

4.3 Special Functions

- **VFD Function:** The Variable Frequency Drive (VFD) function utilizes a low-pass filter for accurate measurement of VFD signals. Select the 'VFD' position on the rotary switch.

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ACCURATE MULTI-FUNCTIONAL MULTIMETERS



Figure 7: The VFD function enables precise measurement of variable frequency drive signals.

- **Data Hold (HOLD):** Press the **HOLD** button to freeze the current measurement on the display. Press again to release. This is useful for recording readings in difficult-to-view locations.

DATA HOLD FUNCTION

Help you record the measurement value by one-key locked the reading



Figure 8: The Data Hold function allows users to lock and record measurement values with a single button press.

- **MAX/MIN:** Press the **MAX/MIN** button to record the maximum and minimum values during a measurement session.
- **REL (Relative Measurement):** Press the **REL** button to store the current reading as a reference value. Subsequent measurements will be displayed as a deviation from this reference.
- **Backlight:** Press the backlight button (often integrated with another function or a dedicated button) to illuminate the display for better visibility in low-light conditions.

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HIGH DEFINITION LCD DISPLAY

Clear digital display and readings at a glance



Figure 9: The high-definition LCD display ensures clear digital readings at a glance, even with multiple indicators.

5. MAINTENANCE

5.1 Cleaning

Wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents. Keep the input terminals free of dirt and moisture.

5.2 Battery Replacement

When the battery indicator appears on the display, replace the batteries as described in Section 3.1. Always use three new AAA batteries.

5.3 Fuse Replacement

If the current measurement functions cease to operate, the internal fuses may need replacement. Refer to the safety section for fuse specifications (10A/1000V and 0.8A/1000V). Fuse replacement should only be performed by qualified personnel.

Warning: Disconnect all test leads from the meter and any circuit before opening the case for battery or fuse replacement.

6. TROUBLESHOOTING

- **No Display:** Check battery installation and charge. Replace batteries if necessary.
- **Incorrect Readings:**
 - Ensure test leads are properly connected to the correct input jacks for the selected function.
 - Verify the function switch is set to the appropriate measurement type.
 - Check for damaged test leads.
 - For current measurements, check the internal fuses.
- **"OL" or "OVERLOAD" on Display:** The measured value exceeds the selected range. The auto-ranging feature should typically prevent this, but if it occurs, ensure the meter is capable of measuring the expected value.

7. SPECIFICATIONS


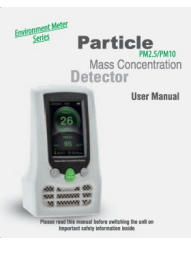
Feature	Detail
Model Number	DT-9516
Display	6000 Counts LCD
Safety Category	CAT IV 600V, CAT III 1000V
Voltage Measurement	AC/DC up to 1000V
Current Measurement	AC/DC up to 10A
Resistance Measurement	Up to 60 MΩ
Capacitance Measurement	Up to 6000μF
Frequency Measurement	Up to 10MHz
Diode Test	Yes
Continuity Test	Yes (with audible indicator)
Special Features	True RMS, Auto Ranging, VFD Function, Data Hold, MAX/MIN, Relative Measurement, Backlight
Batteries	3 x AAA (included)
Package Dimensions	20.6 x 13 x 7.9 cm
Weight	654 g
Manufacturer	Shenzhen Everbest Machinery Industry Co.,Ltd.
UPC	887327951600

8. WARRANTY AND SUPPORT

CEM products are manufactured to high-quality standards. For specific warranty terms and conditions, please refer to the warranty card included with your product or contact CEM customer support. For technical assistance, troubleshooting, or service inquiries, please contact your local CEM distributor or visit the official CEM website for support resources.

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Related Documents - DT-9516

	<p>CEM DT-6650 Multifunction Installation Tester - Technical Specifications and Features</p> <p>Detailed information on the CEM DT-6650 multifunction installation tester, including its features, technical specifications, safety information, and accessories. This tester is designed for electrical installation safety testing in domestic, commercial, and industrial applications.</p>
	<p>CEM Coating Thickness Gauge Pro DT-156H User Manual</p> <p>Comprehensive user manual for the CEM Coating Thickness Gauge Pro (DT-156H). Covers general information, features, specifications, operation, calibration, settings, troubleshooting, and more.</p>
	<p>CEM DT-612 Digital Thermometer - Technical Specifications and Features</p> <p>Detailed information on the CEM DT-612 digital thermometer, including its electrical and environmental specifications, features, and accessories. This portable device uses K-type thermocouples for accurate temperature measurements.</p>
	<p>CEM DT-9680 Particle Mass Concentration Detector User Manual</p> <p>User manual for the CEM DT-9680 Air Quality Detector. Learn about its features, specifications, operation, settings, and air quality standards for detecting PM2.5, PM10, CO2, HCHO, and TVOC.</p>

