

SNAKOL SK-505A

SNAKOL SK-505A 2-in-1 Insulation Resistance Meter & Digital Multimeter User Manual

Model: SK-505A

1. INTRODUCTION

The SNAKOL SK-505A is a versatile 2-in-1 electrical measurement tool, combining the functionalities of an insulation resistance tester and a digital multimeter. Designed for professional and DIY use, it offers a wide range of measurement capabilities including insulation resistance up to 20GΩ, voltage up to 1000V, resistance, capacitance, frequency, and diode testing. Its auto-ranging feature and backlit screen enhance usability in various environments.

This manual provides essential information for the safe and effective operation of your SK-505A meter. Please read it thoroughly before use and retain it for future reference.

2. SAFETY INFORMATION

WARNING: To avoid possible electric shock, fire, or personal injury, please read all safety information before using the product. Adhere to all local and national safety codes.

- Always ensure the meter is in the correct function and range for the measurement being performed.
- Do not use the meter if it appears damaged or if the test leads are damaged.
- Do not apply more than the rated voltage, which is CAT III 600V for general multimeter functions and up to 1000V for insulation resistance testing.
- Use caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC. These voltages pose a shock hazard.
- Always disconnect power to the circuit under test before measuring resistance or capacitance.
- Ensure the battery compartment is securely closed before operation.
- Do not operate the meter in explosive gas, vapor, or dust environments.

3. PRODUCT OVERVIEW



Figure 3.1: SNAKOL SK-505A Multimeter and included accessories. This image displays the main unit, test leads, alligator clips, carrying bag, and battery charger with rechargeable batteries.

3.1 Key Features

- **2-in-1 Functionality:** Combines Insulation Resistance Tester and Digital Multimeter.
- **Wide Measurement Range:** Measures insulation resistance up to 20GΩ and rated voltage up to 1000V. Also measures AC/DC voltage (up to 1500V), resistance, frequency, capacitance (up to 100mF), and performs diode tests.
- **Auto-Ranging:** Simplifies operation by automatically selecting the appropriate measurement range.
- **True RMS:** Provides accurate readings for non-sinusoidal waveforms.
- **Backlit LCD Screen:** Ensures clear visibility in low-light conditions.
- **Data Hold Function:** Freezes the displayed reading for easy recording.
- **Rechargeable Batteries:** Includes two 3.7V lithium batteries and a dedicated charger for extended use.
- **Durable Design:** Features a soft silicone protective case for enhanced durability and grip.
- **Safety Standard:** CAT III 600V rating for safe operation.

3.2 Package Contents

- 1x SNAKOL SK-505A Multimeter
- 1x Carrying Bag
- 3x Test Leads with Caps
- 1x User Manual (this document)
- 2x 3.7V Rechargeable Lithium Batteries
- 1x Battery Charger
- 3x Alligator Clips

4. SETUP

4.1 Battery Installation and Charging

1. Locate the battery compartment on the back of the meter.
2. Unscrew the battery compartment cover and remove it.
3. Insert the two 3.7V rechargeable lithium batteries, observing the correct polarity (+/-).
4. Replace the battery compartment cover and secure it with the screw.
5. To charge the batteries, remove them from the meter and place them into the provided battery charger. Connect the charger to a suitable power source.



Figure 4.1: The SK-505A uses rechargeable lithium batteries, which can be charged using the included external charger.

4.2 Connecting Test Leads

The SK-505A uses standard test leads. Ensure they are securely plugged into the correct input jacks for the desired measurement function.

- **COM Jack (Black):** Always connect the black test lead to the COM (Common) jack.
- **VΩHz Jack (Red):** Connect the red test lead to this jack for voltage, resistance, frequency, capacitance, and diode measurements.
- **LINE Jack (Red):** For insulation resistance testing, connect the red test lead to the LINE jack.
- **EARTH GUARD Jack (Black):** For insulation resistance testing, connect the black test lead to the EARTH GUARD jack.

5. OPERATING INSTRUCTIONS

5.1 General Operation

1. Turn the rotary dial to the desired measurement function.
2. Connect the test leads to the circuit or component under test.
3. Read the measurement value on the LCD screen.

5.2 Insulation Resistance Measurement

The SK-505A can measure insulation resistance with rated voltages of 50V, 100V, 250V, 500V, and 1000V.

1. Ensure the circuit is de-energized and safely discharged before connecting the meter.
2. Connect the red test lead to the LINE jack and the black test lead to the EARTH GUARD jack.
3. Turn the rotary dial to the "Insulation Test V.Sel" section. Select the desired test voltage (e.g., 1000V).
4. Press the **TEST** button to initiate the insulation test. The voltage will be applied, and the resistance value will be displayed.
5. To perform PI/DAR (Polarization Index/Dielectric Absorption Ratio) tests, press the **PI/DAR** button. The meter will automatically perform the test over a set time and display the ratio.



Figure 5.1: The meter set to measure insulation resistance, showing the rotary dial for voltage selection.

5.3 Digital Multimeter Functions

For general multimeter functions, connect the black test lead to the COM jack and the red test lead to the V Ω Hz jack.

- **Voltage Measurement (AC/DC):** Turn the dial to \sim V for AC voltage or $=$ V for DC voltage. The meter supports up to 1500V.



Figure 5.2: Measuring AC or DC voltage with the SK-505A.

- **Resistance Measurement:** Turn the dial to Ω . The meter will auto-range.
- **Capacitance Measurement:** Turn the dial to **mF**. The meter supports up to 100mF.

[100mF Large Capacitance Measurement]



Figure 5.3: Measuring capacitance with the SK-505A.

- **Diode Test:** Turn the dial to the diode symbol.
- **Continuity Test:** Turn the dial to the continuity symbol. An audible beep indicates continuity.
- **Frequency Measurement:** Turn the dial to ~VHz.

5.4 Special Functions

- **Backlight:** Long press the **HOLD** button for 2 seconds to toggle the backlight on/off.



(Large backlit screen Data retention)

Short press to lock the data result, then press again to resume normal measurement; long press for 2 seconds to switch the backlight on/off;

Figure 5.4: The large backlit screen of the SK-505A for improved readability.

- **Data Hold:** Short press the **HOLD** button to freeze the current reading on the display. Press again to release.
- **Automatic Shutdown:** The meter will automatically shut down after a period of inactivity to conserve battery life.

6. MAINTENANCE

6.1 Cleaning

Wipe the meter casing with a damp cloth and mild detergent. Do not use abrasives or solvents. Ensure the meter is completely dry before storage or use.

6.2 Battery Replacement

When the low battery indicator appears on the display, recharge the batteries promptly using the provided charger. If the meter will not be used for an extended period, remove the batteries to prevent leakage.

6.3 Storage

Store the meter and its accessories in the provided carrying bag in a cool, dry place, away from direct sunlight and extreme temperatures.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Meter does not power on.	Low or dead batteries; incorrectly installed batteries.	Recharge or replace batteries; check battery polarity.
No reading or "OL" displayed.	Incorrect function/range selected; open circuit; measurement exceeds range.	Select correct function/range; check circuit connections; ensure measurement is within meter's limits.
Inaccurate readings.	Damaged test leads; environmental interference; meter malfunction.	Inspect and replace test leads if damaged; move away from strong electromagnetic fields; contact support if issue persists.
Backlight not working.	Backlight function is off.	Long press the HOLD button for 2 seconds to activate backlight.

8. SPECIFICATIONS

Feature	Specification
Model Number	SK-505A
Insulation Resistance Test Voltage	50V, 100V, 250V, 500V, 1000V
Max. Insulation Resistance	20GΩ
Max. Voltage Measurement (AC/DC)	1500V
Max. Capacitance Measurement	100mF
Safety Rating	CAT III 600V
Power Source	2 x 3.7V Rechargeable Lithium Batteries (included)
Product Dimensions (L x W x H)	7.5 x 3.5 x 2.2 inches
Weight	1.7 Pounds
Color	Blue and Black

9. WARRANTY AND SUPPORT

The SNAKOL SK-505A comes with a one-year warranty from the date of purchase. This warranty covers defects in materials and workmanship under normal use. It does not cover damage resulting from misuse, accident, alteration, neglect, or unauthorized repair.

For technical support, warranty claims, or any inquiries regarding your SNAKOL SK-505A, please contact SNAKOL customer service through the retailer where the product was purchased or visit the official SNAKOL website for contact information.

Enjoy quality Amazon after-sales service. You can refund if you are not satisfied.