

SEEIRIR KKM198

SEEIRIR KKM198 Digital Multimeter User Manual

1. INTRODUCTION

This manual provides detailed instructions for the safe and effective use of the SEEIRIR KKM198 Digital Multimeter. This device is a versatile tool designed for measuring various electrical parameters, including DC/AC voltage, DC/AC current, resistance, capacitance, and temperature. It features a 4.4-inch touch screen for intuitive operation and includes a VFC (Variable Frequency Control) function for accurate measurements in variable frequency environments.

2. SAFETY INFORMATION

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

- Do not exceed the maximum input values specified for each measurement range.
- Ensure test leads are in good condition and properly connected before making any measurements.
- Do not use the multimeter if it appears damaged or if the battery cover is not securely closed.
- Exercise extreme 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 and discharge all high-voltage capacitors before measuring resistance, capacitance, or continuity.
- Replace batteries promptly when the low battery indicator appears to ensure accurate readings.

3. PRODUCT OVERVIEW

The SEEIRIR KKM198 Digital Multimeter is equipped with a large touch screen display and intuitive controls for ease of use. Below is an image illustrating the device.



Figure 3.1: Front view of the SEEIRIR KKM198 Digital Multimeter, showing its 4.4-inch touch screen interface and connected test leads.

4. SETUP

4.1. Battery Installation

The KKM198 Multimeter requires batteries for operation. To install or replace batteries:

1. Ensure the multimeter is powered off and disconnect all test leads.
2. Locate the battery compartment on the rear of the device.
3. Open the battery compartment cover.
4. Insert new batteries, observing correct polarity (+ and -).
5. Securely close the battery compartment cover.

4.2. Connecting Test Leads

Connect the test leads to the appropriate input jacks on the multimeter:

- Insert the **black** test lead into the **COM** (common) jack.

- For most voltage, resistance, capacitance, and temperature measurements, insert the **red** test lead into the **VΩCAPHzTemp** jack.
- For current measurements (mA), insert the **red** test lead into the **mA** jack.

5. OPERATING INSTRUCTIONS

The KKM198 features a touch screen interface for mode selection and function control.

5.1. Power On/Off

Press and hold the power button on the device to turn it on or off. The 4.4-inch touch screen will illuminate upon power-on.

5.2. DC/AC Voltage Measurement

To measure voltage:

1. Connect the red test lead to the **VΩCAPHzTemp** jack and the black lead to the **COM** jack.
2. Select the DC Voltage (VDC) or AC Voltage (VAC) mode on the touch screen.
3. Connect the test probes in parallel to the circuit or component being measured.
4. Read the voltage value displayed on the screen.

5.3. DC/AC Current Measurement

To measure current:

1. **Important:** Disconnect power to the circuit before connecting the multimeter.
2. Connect the red test lead to the **mA** jack and the black lead to the **COM** jack.
3. Select the DC Current (ADC) or AC Current (AAC) mode on the touch screen.
4. Connect the multimeter in *series* with the circuit where current is to be measured.
5. Apply power to the circuit and read the current value.

5.4. Resistance Measurement

To measure resistance:

1. Ensure the circuit is de-energized and all capacitors are discharged.
2. Connect the red test lead to the **VΩCAPHzTemp** jack and the black lead to the **COM** jack.
3. Select the Resistance (Ω) mode on the touch screen.
4. Connect the test probes across the component to be measured.
5. Read the resistance value.

5.5. Capacitance Measurement

To measure capacitance:

1. Ensure the capacitor is fully discharged before measurement.
2. Connect the red test lead to the **VΩCAPHzTemp** jack and the black lead to the **COM** jack.
3. Select the Capacitance (CAP) mode on the touch screen.
4. Connect the test probes across the capacitor terminals.

5. Read the capacitance value.

5.6. Temperature Measurement

To measure temperature:

1. Connect the red test lead to the **VΩCAPHzTemp** jack and the black lead to the **COM** jack.
2. Select the Temperature (Temp) mode on the touch screen.
3. Place the temperature probe (if included and connected) at the desired measurement point.
4. Read the temperature value.

5.7. VFC Function

The VFC (Variable Frequency Control) function is designed for accurate voltage and frequency measurements in circuits with variable frequency drives or other non-sinusoidal waveforms. Activate this mode via the touch screen when measuring such signals.

6. MAINTENANCE

6.1. Cleaning

To clean the multimeter, wipe the case with a damp cloth and a mild detergent. Do not use abrasives or solvents. Ensure the device is powered off and disconnected from all circuits before cleaning.

6.2. Storage

When not in use for extended periods, remove the batteries to prevent leakage. Store the multimeter in a cool, dry place, away from direct sunlight and extreme temperatures.

6.3. Battery Replacement

Replace the batteries as described in Section 4.1 when the low battery indicator appears on the display. Using a multimeter with low batteries can lead to inaccurate readings.

7. TROUBLESHOOTING

If you encounter issues with your KKM198 Digital Multimeter, refer to the following common problems and solutions:

- **No Display:** Check battery installation and ensure batteries are not depleted.
- **Inaccurate Readings:** Verify correct mode selection, proper test lead connection, and ensure batteries are not low. Calibrate if necessary (refer to service information).
- **No Response from Touch Screen:** Power cycle the device. If the issue persists, contact support.
- **"OL" or Overload Indication:** The measured value exceeds the selected range. Switch to a higher range or verify the circuit conditions.

8. SPECIFICATIONS

Parameter	Value
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Parameter	Value
Model Number	KKM198
Display Type	Digital display
Screen Size	4.4 inch
Button Type	Touch button
Sampling Rate	Approximately 3 times per second
DC Voltage Range	6V / 60V / 600V / 1000V
AC Voltage Range	2V / 20V / 200V / 750mV
DC Current Range	600mA \pm (1.2%+10)
AC Current Range	600mA \pm (1.2%+10)
Resistance Range	600 Ω / 6k Ω / 60k Ω / 600k Ω / 6M Ω / 60M Ω
Capacitance Range	10nF / 100nF / 1uF / 10uF / 100uF / 1mF / 10mF / 60mF
Operating Temperature	0 - 40 °C
Dimensions	14 x 7 x 2.2 cm
Item Weight	Approximately 10.6 ounces (300 grams)
Inductance Measurement	Not supported

9. WARRANTY AND SUPPORT

The SEEIRIR KKM198 Digital Multimeter is designed for reliability and performance. For warranty information, please refer to the product packaging or the retailer's terms of sale. If you require technical assistance or have questions not covered in this manual, please contact your point of purchase or the manufacturer's customer support for further guidance.