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Owon SPM6103

OWON SPM6103 DC Power Supply and Multimeter User Manual

Model: SPM6103



1. INTRODUCTION

The OWON SPM6103 is a versatile 2-in-1 instrument combining a high-resolution DC power supply and a 4 1/2 digit multimeter. It offers an output power of 300W with a voltage range of 0-60V and a current range of 0-10A. Key features include a 2.8-inch LCD, 10mV/1mA power resolution, output voltage and current curve monitoring, and multiple protection mechanisms. The integrated multimeter supports measurements for voltage, current, capacitance, resistance, continuity, and diode testing.

2. SAFETY INFORMATION

Before operating the OWON SPM6103, please read and understand all safety instructions. Failure to follow these instructions may result in electric shock, fire, or damage to the device.

- Ensure the device is connected to a properly grounded AC power outlet.
- Do not operate the device in wet or damp conditions.
- Do not open the device casing; there are no user-serviceable parts inside except for the fuse. Refer servicing to qualified personnel.
- Verify correct voltage and current settings before connecting to a circuit to prevent damage to the device under test.
- Use only the specified fuse type and rating for replacement.
- Avoid touching live terminals during operation.

3. PRODUCT OVERVIEW

3.1 Front Panel

The front panel features the 2.8-inch LCD display, control buttons, an adjustment knob, output terminals, multimeter input jacks, and a 5V/1A USB host port.

Upgrade DC Power Supply + Multimeter



Figure 1: OWON SPM6103 Front Panel Overview. This image displays the main screen, control buttons (F1-F4, Memory, List, Auto ON, V, I, Ω/OVP/OCP, DISP, Mode, On/Off), the adjustment knob, output terminals (red and black), multimeter input jacks (VΩ-Hz, A, COM), and the 5V/1A USB host port.



Voltage setting
Switch AC or DC Voltage



Current setting
Switch AC or DC Current



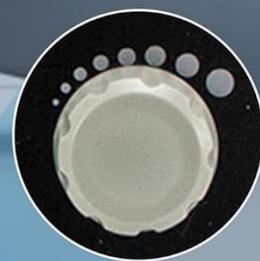
Over voltage protection,
Over current protection /
Switch resistance,
capacitance diode
and continuity
measurement types



Switch different
display modes



Switch between DC power
supply or Multimeter modes



Adjustment Knob

Figure 2: Detailed Front Panel Controls. This image highlights the functions of various controls: Voltage setting, Current setting, Over voltage/current protection, resistance, capacitance, diode, and continuity measurement types, Switch different display modes, Mode button for switching between DC power supply or Multimeter modes, and the Adjustment Knob.

3.2 Rear Panel

The rear panel includes the AC power input jack, power button, fuse holder, and a device USB port for PC connectivity.



Figure 3: OWON SPM6103 Rear Panel Connections. This image shows the Intelligent Temperature Cooling Fan, AC Power Input Jack (100-120V AC), Power Button, Fuse, and Device USB Port.

4. SETUP

4.1 Unpacking and Inspection

Carefully remove the SPM6103 from its packaging. Inspect the device for any signs of physical damage. Retain the packaging for future transport or storage.

4.2 Power Connection

1. Ensure the power switch on the rear panel is in the OFF position.
2. Connect the provided AC power cord to the AC power input jack on the rear panel (refer to Figure 3).
3. Plug the other end of the power cord into a grounded AC power outlet (100-120V AC).

4.3 Connecting Test Leads

For power supply output, connect test leads to the red (+) and black (-) output terminals on the front panel. For

multimeter measurements, connect probes to the VΩ-Hz, A, and COM input jacks as appropriate for the measurement type.

4.4 Initial Power-On

Press the power button on the rear panel to turn on the device. The 2.8-inch LCD will illuminate, displaying the startup sequence and then the default operating screen.

5. OPERATING INSTRUCTIONS

5.1 Power Supply Mode

- Setting Voltage and Current:** Use the 'V' and 'I' buttons to select the voltage or current parameter. Rotate the adjustment knob to change the value. Press the knob to confirm or switch between coarse/fine adjustment.
- Output Control:** Press the 'On/Off' button to enable or disable the power output. The display will indicate the output status.
- Curve Monitoring:** The device can display output voltage and current curves. Use the 'DISP' button to cycle through display modes until the curve monitoring screen is shown.
- List Waveform Editing:** The SPM6103 supports editing and outputting 10 groups of timing outputs. Press the 'List' button to access this function.
- Memory Shortcuts:** Four groups of memory shortcut parameters are available for quick output settings. Use the 'Memory' button to save or recall these settings.



Figure 4: List Waveform Editing and Charging Function. This image illustrates the device's capability to perform timed output sequences and charge external devices via the 5V USB port.

5.2 Multimeter Mode

The SPM6103 integrates a 4 1/2 digit multimeter with auto-ranging capabilities.

- Switching Modes:** Press the 'Mode' button to switch between DC power supply and Multimeter modes.
- Measurements:** Connect the multimeter probes to the appropriate input jacks (VΩ-Hz, A, COM). The device supports measuring voltage, current, capacitance, resistance, continuity, and diode (0-2V).

4 1/2 High Resolution Multimeter

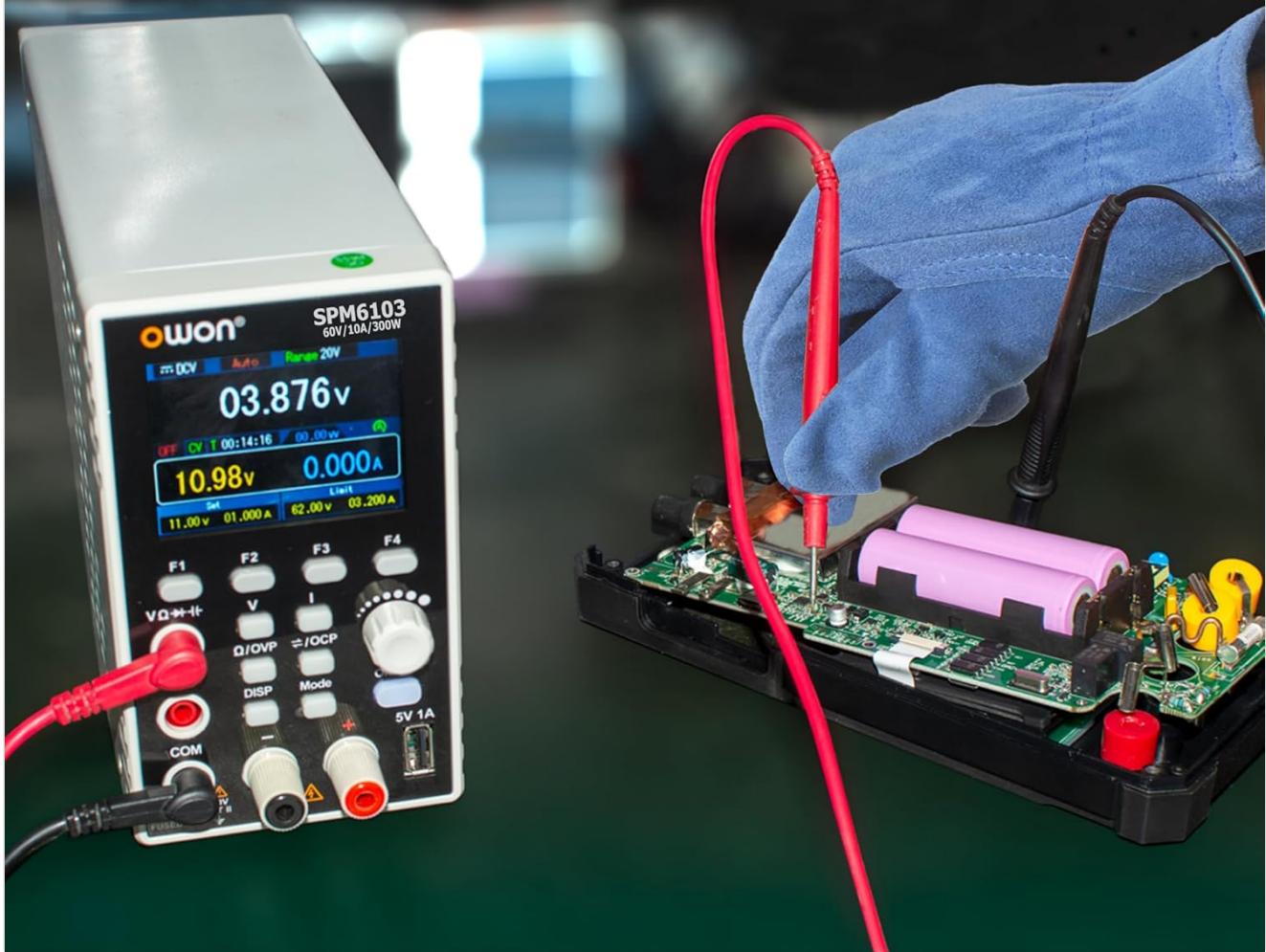


Figure 5: Multimeter Function in Use. This image shows the SPM6103 measuring voltage with test probes connected to a circuit board.

5.3 USB Host Port (5V/1A)

The front panel features a 5V/1A USB host port for charging small electronic devices or powering USB-compatible accessories.

6. MAINTENANCE

6.1 Cleaning

To clean the device, disconnect it from all power sources and use a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure no liquids enter the device.

6.2 Fuse Replacement

The device is equipped with a user-replaceable fuse located on the rear panel (refer to Figure 3). If the device fails to power on, check the fuse. To replace:

1. Disconnect the power cord from the AC outlet.
2. Use a flat-head screwdriver to open the fuse holder.
3. Remove the old fuse and replace it with a new fuse of the same type and rating (e.g., 10A, 250V).
4. Close the fuse holder securely.

6.3 Cooling Fan

The SPM6103 includes an intelligent temperature-controlled fan for heat dissipation. The fan will activate automatically when the internal temperature rises. Ensure the rear panel's fan vents are not obstructed to allow for proper airflow.



Figure 6: Internal View with Cooling Fan. This image provides a view of the internal components, highlighting the cooling fan for efficient heat dissipation.

7. TROUBLESHOOTING

- **Device does not power on:** Check the AC power cord connection and verify the fuse on the rear panel. Replace the fuse if blown.

- **No output from power supply:** Ensure the 'On/Off' button has been pressed to enable output. Check that voltage and current limits are set appropriately.
- **Multimeter readings are inaccurate:** Verify probe connections are secure and correctly inserted for the desired measurement type. Ensure the 'Mode' is set to Multimeter.
- **5V USB host port not charging:** Some users have reported issues with the 5V USB connection. Ensure the connected device is compatible and try a different USB cable. If the issue persists, contact support.
- **PC software display in incorrect language:** If using the PC software, locate the language settings within the application. For initial setup, a button in the lower-left corner of the software interface may switch the display to English.
- **Fan noise:** The intelligent temperature-controlled fan will operate when the device reaches a certain temperature. This is normal. If the fan runs excessively or makes unusual noises, ensure vents are clear.

8. SPECIFICATIONS

Feature	Specification
Model	SPM6103
Output Power	300W
Output Voltage	0-60V
Output Current	0-10A
Power Resolution	10mV / 1mA
Multimeter Digits	4 1/2 Digits
Multimeter Functions	Voltage, Current, Capacitance, Resistance, Continuity, Diode (0-2V)
USB Host Port	5V / 1A
Display	2.8 inch LCD
Protections	Over Voltage Protection (OVP), Over Current Protection (OCP), Over Heating Protection, Over Circuit Protection, Over Load Protection
Timing Output Groups	10 groups editable
Memory Parameters	4 groups shortcut parameters
Dimensions	22.58 x 8.2 x 14.2 cm
Weight	1.5 kg

9. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact OWON customer service or refer to

the official OWON website. Keep your purchase receipt for warranty claims.



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