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GZLMMY S30

GZLMMY S30 Smart Digital Multimeter User Manual

Model: S30

1. Introduction

The GZLMMY S30 Smart Digital Multimeter is a professional electronic tester designed for a wide range of electrical measurements. It integrates advanced features such as an infrared thermometer, high voltage diode testing, and automatic identification of measurement parameters. This manual provides essential information for safe and effective operation, maintenance, and troubleshooting of your S30 multimeter.

2. Package Contents

Before first use, please verify that all items listed below are present and in good condition:

- 1 x Smart Digital Multimeter (S30)
- 1 x Test Leads (Red and Black)
- 1 x Charging Cable (USB)
- 1 x Carrying Case
- 1 x Rechargeable Battery (built-in)
- 1 x User Manual (this document)



Image: Contents of the S30 Smart Digital Multimeter package, including the multimeter, test leads, charging cable, carrying case, and user manual.

3. Product Features

The S30 Multimeter offers a comprehensive set of features for various electrical testing needs:

- **Dual Mode Power System:** Operates with a built-in rechargeable lithium battery and also supports 2 alkaline batteries for continuous use.
- **Infrared Thermometer:** Integrated infrared temperature gun displays real-time and maximum temperature, with a laser pointer for target location.
- **High Voltage Diodes Test:** Capable of testing both low and high voltage diodes (up to 15V), including rectifier, regulator, and light-emitting diodes.
- **Automatic Identification:** Automatically measures AC/DC voltage, resistance, and continuity, with manual mode selection also available.
- **Color LCD Display:** Enhances readability, providing clear information even in varying light conditions.

- **Comprehensive Measurements:** Measures capacitance, AC/DC current, AC/DC voltage, resistance, frequency, continuity, V-alert, and live wire check.
- **Environmental Temperature Measurement:** Non-contact measurement of environmental temperature.
- **Voltage Tester with Adjustable Sensitivity:** Functions as a professional voltage tester.
- **Convenience Features:** Auto range, auto power off, low battery indication, and built-in flashlight.

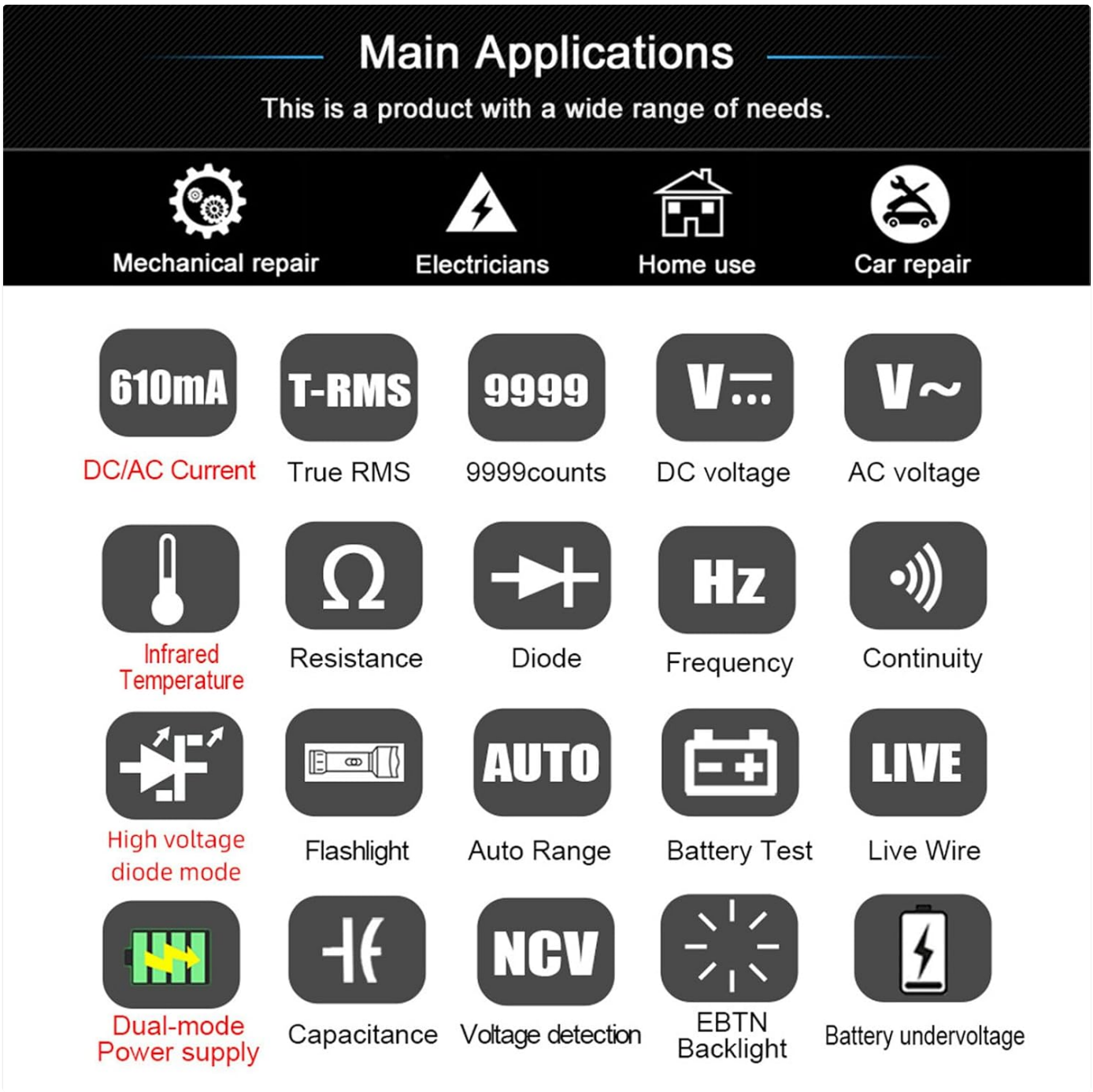


Image: Overview of the main applications and measurement capabilities of the S30 Multimeter.

4. Setup

4.1. Initial Charging

The S30 Multimeter comes with a built-in rechargeable lithium battery. For optimal performance, fully charge the device before first use.

1. Connect the provided USB charging cable to the multimeter's charging port.

2. Connect the other end of the USB cable to a standard USB power adapter (not included) or a computer's USB port.
3. The charging indicator on the display will show the charging status. Once fully charged, the indicator will change or turn off.

4.2. Test Lead Connection

Proper connection of test leads is crucial for accurate and safe measurements.

1. Insert the red test lead into the **"INPUT"** terminal (positive).
2. Insert the black test lead into the **"COM"** terminal (common/negative).
3. For current measurements (mA), insert the red test lead into the **"A"** terminal. Ensure the black lead remains in the "COM" terminal.



Image: The S30 Multimeter with test leads properly connected for general measurements.

5. Operating Instructions

The S30 Multimeter features automatic identification for common measurements, simplifying operation. Manual mode selection is also available.

5.1. Power On/Off

- Press and hold the power button () to turn the multimeter on or off.
- The device will automatically power off after a period of inactivity to conserve battery.

5.2. Automatic Measurement Mode

In auto mode, the multimeter intelligently identifies the type of measurement (AC/DC voltage, resistance, continuity) when test leads are connected to a circuit.

- Ensure the multimeter is powered on.
- Connect the test leads to the circuit or component you wish to measure. The display will automatically show the detected parameter and its value.

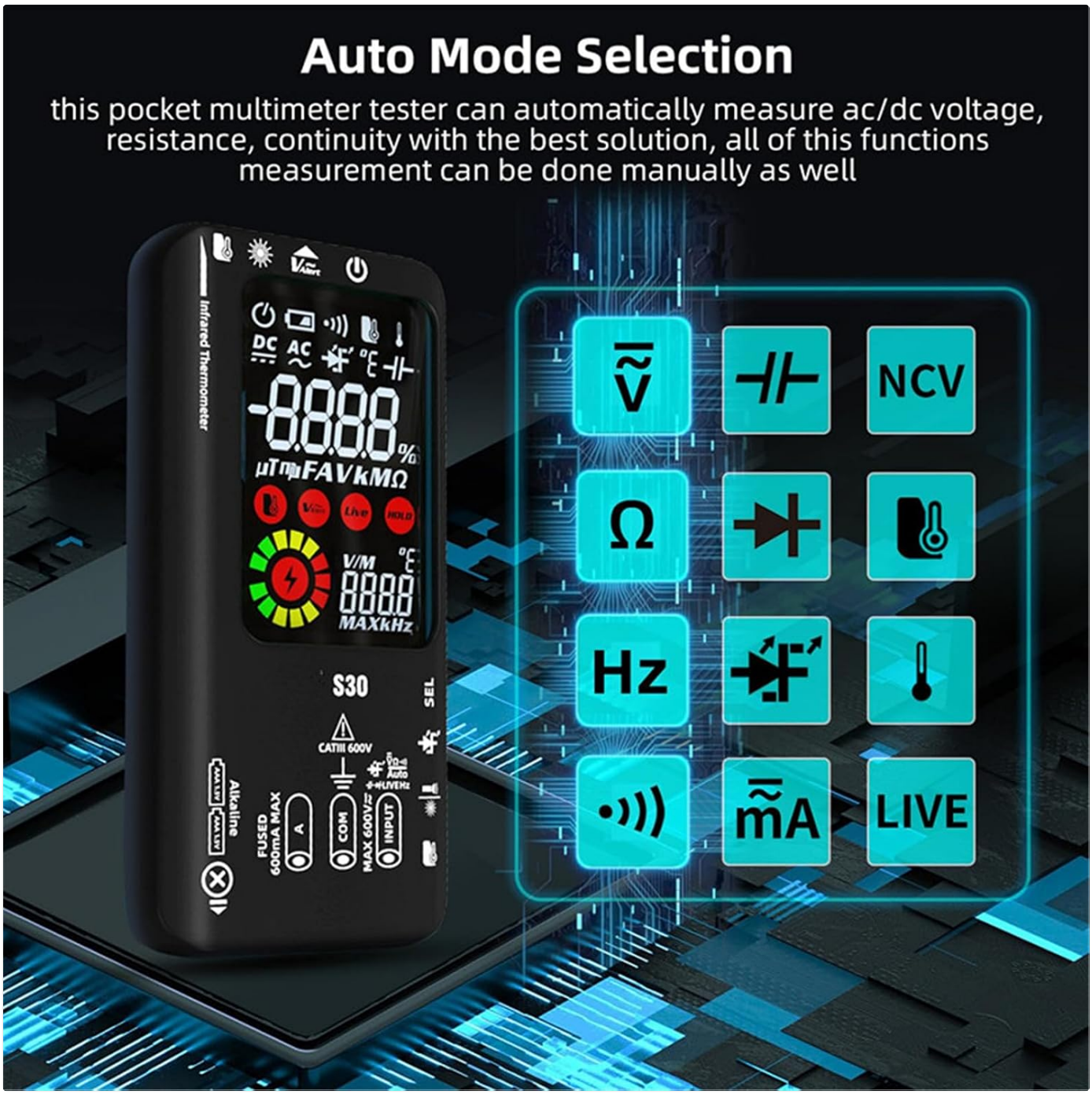


Image: The S30 Multimeter's auto mode selection display, illustrating its ability to automatically identify and measure various electrical

parameters.

5.3. Manual Mode Selection

Press the **"SEL"** button to cycle through different measurement functions if you prefer manual selection or if the auto mode does not select the desired function.

5.4. Specific Measurement Functions

5.4.1. AC/DC Voltage Measurement

- Connect the red test lead to the**"INPUT"** terminal and the black lead to the**"COM"** terminal.
- Touch the test probes to the points where you want to measure voltage. The multimeter will automatically detect AC or DC voltage.



Image: Measuring AC Voltage in an electrical panel using the S30 Multimeter.

5.4.2. AC/DC Current Measurement (mA)

- Turn off power to the circuit before connecting the multimeter.

- Insert the red test lead into the **"A"** terminal and the black lead into the **"COM"** terminal.
- Break the circuit and connect the multimeter in series with the load.
- Restore power to the circuit. The display will show the current reading.



Image: Measuring DC Current using the S30 Multimeter's amp smart identification feature.

5.4.3. Resistance Measurement

- Ensure the circuit or component is de-energized before measuring resistance.
- Connect the test leads across the component. The multimeter will display the resistance value.

5.4.4. Diode Test

- Select the diode test mode (if not automatically detected).
- Connect the red test lead to the anode and the black test lead to the cathode of the diode. The forward voltage drop will be displayed.
- The S30 supports both low voltage (within 2V) and high voltage (up to 15V) diode testing.



Image: Performing a high-voltage diode test with the S30 Multimeter.

5.4.5. Infrared Thermometer

- Point the infrared sensor at the target object.
- The display will show the real-time temperature and the maximum temperature detected. A laser pointer assists in targeting.



Image: Using the S30 Multimeter's integrated infrared thermometer to measure temperature.

5.4.6. Capacitance Measurement

- Ensure the capacitor is fully discharged before testing.
- Connect the test leads across the capacitor terminals. The capacitance value will be displayed.



Image: Measuring capacitance during electronic maintenance with the S30 Multimeter.

5.4.7. Frequency Measurement

- Connect the test leads to the signal source. The frequency in Hz will be displayed.

5.4.8. Continuity Test

- Connect the test leads across the circuit or component.
- If the resistance is less than 30Ω, the beeper will sound, indicating continuity.

5.4.9. V-Alert (Non-Contact Voltage Detection)

- Hold the top of the multimeter near a live AC voltage source without direct contact.
- The device will indicate the presence of AC voltage through visual and/or audible alerts.

5.4.10. Live Wire Check

- Insert the red test lead into the **"INPUT"** terminal.
- Touch the red probe to the suspected live wire. The display will indicate if it's a live wire.

6. Specifications

Parameter	Range / Value	Accuracy
Display	10000 counts	N/A
DC Voltage	0-9.999V, 10-99.99V, 100-620V	±(0.8%+3), ±(0.8%+3), ±(1.0%+5)
AC Voltage	0-9.999V, 10-99.99V, 100-620V	±(1.0%+3), ±(1.0%+3), ±(1.2%+5)
DC Current	1-610mA	±(1.5%+3)
AC Current	1-610mA (40-200Hz)	±(2.0%+3)
Resistance	0-9.999MΩ (multiple ranges)	±(1.2%+3) to ±(1.5%+5)
Infrared Thermometer	-20°C-400°C	±(3%+2°C) to ±(2.5%+3°C)
Capacitance	0.5μF-9999μF (multiple ranges)	±(3.5%+8) to ±(4.5%+10)
Frequency	10-1000Hz	±(1.0%+5)
Continuity	Beeper sounds if < 30Ω	N/A
Diode Test	Low Voltage (<2V), High Voltage (<15V, 1mA)	N/A
Environment Temperature	0-50°C	±2.0°C
Power	3.7V/110mAh (built-in, rechargeable)	N/A
Size	161*78*22mm	N/A
Weight	245g	N/A

7. Maintenance

7.1. Cleaning

- Wipe the multimeter's casing with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- Ensure the device is powered off and disconnected from any circuits before cleaning.

7.2. Storage

- Store the multimeter in its carrying case when not in use to protect it from dust and physical damage.
- Store in a cool, dry place, away from direct sunlight and extreme temperatures.
- If storing for extended periods, ensure the rechargeable battery is partially charged (around 50%) to prolong its lifespan.

7.3. Battery Care

- Recharge the built-in battery when the low battery indicator appears.
- Avoid fully discharging the battery frequently to maintain its health.
- The multimeter also supports 2 alkaline batteries as an alternative power source. Ensure correct polarity if using alkaline batteries.

8. Troubleshooting

Problem	Possible Cause	Solution
Multimeter does not power on.	Low or depleted battery.	Charge the built-in rechargeable battery or replace the alkaline batteries.
Inaccurate readings.	Incorrect measurement mode selected; Poor test lead connection; Environmental interference.	Ensure correct mode (auto or manual); Check test lead connections; Move away from strong electromagnetic fields.
Display shows "OL" (Overload).	Input value exceeds the selected range.	Switch to a higher range if available, or ensure the measured value is within the multimeter's specifications.
Infrared thermometer not working.	Sensor obstructed or dirty.	Clean the infrared sensor lens carefully. Ensure no obstructions.
Continuity beeper not sounding.	Resistance is too high (>30Ω); Not in continuity mode.	Verify the circuit's resistance; Ensure the multimeter is in continuity mode.

9. Warranty and Support

GZLMMY provides quality products and customer support. For any issues not covered in this manual, or for warranty inquiries, please contact GZLMMY customer service through your purchase platform or the official GZLMMY website. Please retain your proof of purchase for warranty validation.

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