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YIWENG SG-002

SG-002 Handheld Voltage Current Generator User Manual

MODEL: SG-002

1. Introduction

The YIWENG SG-002 is a compact, handheld voltage and current signal generator designed for a wide range of applications including scientific research, laboratory testing, industrial settings, and electronic maintenance. It provides precise control over voltage output from 0-10V and current output from 0-22mA, making it an essential tool for professionals and hobbyists alike.

This manual provides detailed instructions on the setup, operation, maintenance, and troubleshooting of your SG-002 device. Please read it thoroughly before use to ensure safe and efficient operation.

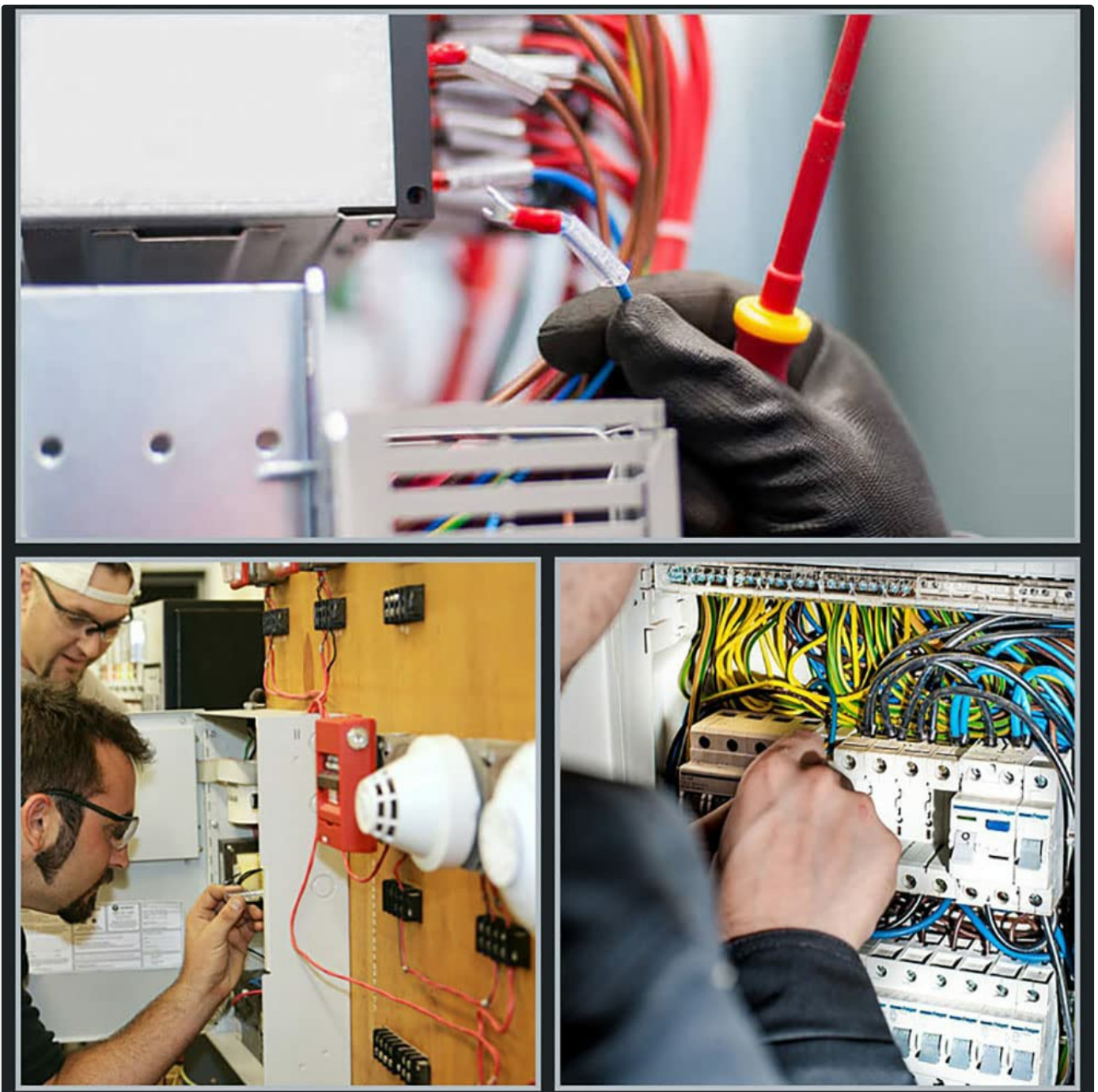


Figure 1.1: The SG-002 is suitable for various electrical and industrial applications.

2. Safety Information

- Always ensure the device is powered off before connecting or disconnecting any wires.
- Do not exceed the specified voltage and current limits of the device or the circuit being tested.
- Avoid exposing the device to moisture, extreme temperatures, or corrosive environments.
- Use appropriate personal protective equipment (PPE) when working with electrical circuits.
- Do not attempt to disassemble or modify the device. Refer all servicing to qualified personnel.
- Keep the device out of reach of children.

3. Product Overview

The SG-002 features a user-friendly interface with a clear digital display and intuitive controls.



Figure 3.1: Front view of the SG-002 device.

Key Components:

- **Digital Display:** A 4-digit high-definition display shows the current output value (voltage or current). The brightness is adjustable (1-8 levels).
- **Rotary Encoder Knob:** Used to adjust output values and navigate settings. Pressing the knob can save parameters.
- **MODE Button:** Toggles between voltage (V) and current (mA) output modes.
- **Pluggable Terminal Blocks:** For secure and convenient wiring of external circuits.
- **USB-5V Port:** Micro USB port for external power supply and charging (Type 1).
- **ON/OFF Switch:** Powers the device on or off.

Pluggable terminal blocks, safe and convenient wiring



4-digit high-definition digital tube, the display brightness is uniform and adjustable (1-8 brightness)

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Figure 3.2: Detail of the display and pluggable terminals.

4. Setup

4.1 Power Supply Options:

The SG-002 offers flexible power options:

- **External Power Supply:** Connect a DC 5V micro USB power adapter to the USB-5V port.
- **Built-in Lithium Battery (Type 1 only):** The Type 1 model includes a 3.7V, 1100mAh lithium battery for portable operation. Charge via the micro USB port.
- **24V Power Input:** The device can also be powered via a 24V input through the terminal block.

Details determine the quality of the product

- Plug and pull terminal
- Aluminum knob cap
- Electroplating button cap

Three power supply methods

- 24V
- micro USB
- Lithium battery



Figure 4.1: Power supply methods for the SG-002.

4.2 Connecting to a Circuit:

Use the pluggable terminal blocks at the top of the device to connect to your target circuit. Ensure correct polarity and secure connections.

- Identify the V (voltage) and mA (current) output terminals.
- Connect the appropriate wires from your circuit to the corresponding terminals on the SG-002.
- Ensure all connections are firm to prevent accidental disconnections during operation.

5. Operating Instructions

5.1 Powering On/Off:

Slide the ON/OFF switch located on the side of the device to the 'ON' position to power on. Slide to 'OFF' to power off.

5.2 Selecting Output Mode:

Press the 'MODE' button to switch between Voltage (V) output mode and Current (mA) output mode. The active mode will be indicated on the display.

5.3 Adjusting Output Value:

Rotate the large rotary encoder knob clockwise to increase the output value and counter-clockwise to decrease it. The digital display will show the real-time output value.

5.4 Saving Parameters:

To save a set voltage or current value, press the rotary encoder knob. The device will store this value, and it will be displayed directly upon restart, eliminating the need for re-adjustment each time.

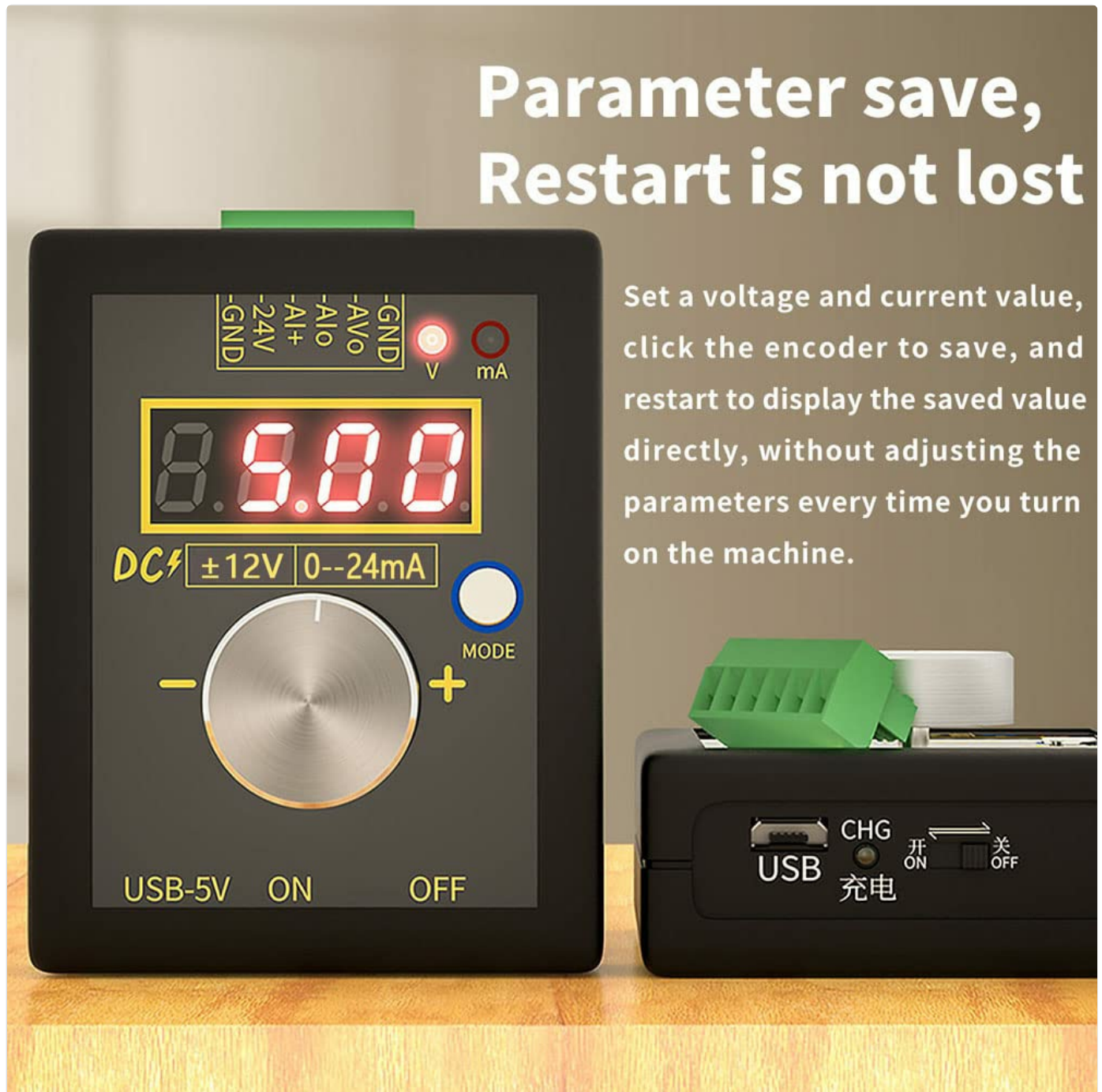


Figure 5.1: Parameter saving feature.

6. Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the device. Do not use abrasive cleaners or solvents.
- **Storage:** Store the device in a cool, dry place away from direct sunlight and extreme temperatures.

- **Battery Care (Type 1):** If the device has a built-in battery, charge it regularly, even if not in use, to maintain battery health. Avoid fully discharging the battery for extended periods.

7. Troubleshooting

Problem	Possible Cause	Solution
Device does not power on	No power supply; Battery depleted (Type 1); Power switch off	Connect USB power; Charge battery; Ensure ON/OFF switch is 'ON'
Incorrect output value	Wrong mode selected; Knob not adjusted correctly; Faulty connection	Press MODE button to switch; Rotate knob to adjust; Check wiring connections
Display is dim or unreadable	Display brightness setting too low	Adjust display brightness (refer to advanced settings if available, or cycle power)

8. Specifications

Parameter	Value
Model	SG-002
Voltage Output Range	0-10V DC
Current Output Range	0-22mA
Material	ABS
Color	Black
Charging Method	DC5V Micro USB, External Power Supply, 24V Terminal
Battery (Type 1 only)	3.7V, 1100mAh Lithium Battery
Item Size	89 x 69 x 28 mm (3.5 x 2.7 x 1.1 inches)
Package Weight (Type 1)	115g (4.1 ounces)
Package Weight (Type 2)	95g (3.4 ounces)

9. Warranty and Support

Your YIWENG SG-002 Handheld Voltage Current Generator is covered by a standard manufacturer's warranty against defects in materials and workmanship. Please retain your proof of purchase for warranty claims.

For technical support, troubleshooting assistance, or warranty inquiries, please contact the seller or manufacturer through the platform where the product was purchased. Provide your model number (SG-002) and a detailed description of the issue for prompt assistance.

