**Jesverty SPS-3010C**

# Jesverty SPS-3010C DC Power Supply Instruction Manual

Model: SPS-3010C

## 1. Introduction

This manual provides detailed instructions for the safe and efficient operation of your Jesverty SPS-3010C DC Power Supply. Please read this manual thoroughly before using the device to ensure proper functionality and to prevent damage or injury. This power supply is designed for various applications including laboratories, educational sites, factory manufacturing tests, maintenance repairs, battery charging, and electronic DIY projects.

## 2. Safety Instructions

- Always connect the power supply to a grounded electrical outlet.
- Do not operate the device in wet or damp conditions.
- Ensure proper ventilation around the unit to prevent overheating. Do not block the cooling fan vents.
- Before connecting or disconnecting any load, ensure the output is turned OFF.
- Do not attempt to open or modify the power supply. Refer all servicing to qualified personnel.
- Verify the AC input voltage selection (115V/230V) matches your local power supply before connecting.
- Use appropriate test leads and ensure they are in good condition.

## 3. Product Overview

The Jesverty SPS-3010C is a compact and versatile DC power supply featuring a 4-digit LED display, encoder knobs for precise adjustments, and multiple output options.


Figure 3.1: Front and Rear Panel Components of the SPS-3010C

## Front Panel Components:

1. **Voltage Display:** Shows the set or actual output voltage.
2. **C.C. Mode Indicator:** Illuminates when the unit is operating in Constant Current mode.
3. **CHG Mode Indicator:** Illuminates when the Intelligent Battery Charging function is active.
4. **C.V. Mode Indicator:** Illuminates when the unit is operating in Constant Voltage mode.
5. **Current Display:** Shows the set or actual output current.
6. **OCP Status LED:** Illuminates when Over-Current Protection is active.
7. **OPN Status LED:** Indicates the state of the Output Power ON function.
8. **Power Display:** Shows the calculated output power in Watts.
9. **USB-C Quick-Charge Port:** 20W fast charging output.
10. **USB-A Quick-Charge Port:** 20W fast charging output.
11. **CHG Setting Button:** Activates the Intelligent Battery Charging function.
12. **OCP Setting Button:** Toggles Over-Current Protection.
13. **Output Control Button:** Toggles the main DC output ON/OFF.
14. **Voltage Knob (Coarse):** Adjusts the voltage value before the decimal point.

15. **Voltage Knob (Fine):** Adjusts the voltage value after the decimal point.
16. **Current Knob (Coarse):** Adjusts the current value before the decimal point.
17. **Current Knob (Fine):** Adjusts the current value after the decimal point.
18. **Power Switch:** Main power ON/OFF for the unit.
19. **Output Terminal - (Black):** Negative output terminal.
20. **Grounding Terminal (Green):** Chassis ground connection.
21. **Output Terminal + (Red):** Positive output terminal.

### Rear Panel Components:

22. **Cooling Fan:** Activates automatically to regulate internal temperature.
23. **Input Selectable Switch:** For selecting AC115V or AC230V input voltage.
24. **AC Power Inlet:** Connects to the main power cord.
25. **Fuse Box (Spare Fuse Inside):** Contains the main fuse for protection.

## 4. Setup

1. **Unpacking:** Carefully remove the power supply from its packaging. Verify all accessories (power cord, test leads, instruction manual) are present.
2. **Voltage Selection:** Locate the Input Selectable Switch on the rear panel. Ensure it is set to match your local AC mains voltage (115V or 230V). Incorrect selection can damage the unit.
3. **Power Connection:** Connect the provided AC power cord to the AC Power Inlet on the rear panel and then to a grounded electrical outlet.
4. **Initial Power On:** Press the Power Switch on the front panel. The LED display should illuminate.

## 5. Operating Instructions

### 5.1. Setting Voltage and Current

The SPS-3010C uses encoder knobs for precise digital adjustment of voltage and current.


Figure 5.1: Encoder Knob Adjustment for Voltage and Current

- **Voltage Adjustment:**
  - Press the **Voltage Knob (Coarse)** to select the digit before the decimal point. Rotate the knob to change the value.

- Press the **Voltage Knob (Fine)** to select the digit after the decimal point. Rotate the knob to change the value.
- The resolution for voltage setting is 0.01V.

- **Current Adjustment:**
  - Press the **Current Knob (Coarse)** to select the digit before the decimal point. Rotate the knob to change the value.
  - Press the **Current Knob (Fine)** to select the digit after the decimal point. Rotate the knob to change the value.
  - The resolution for current setting is 0.001A.

### 5.2. Output ON/OFF Control

After setting the desired voltage and current, press the**Output Control Button** to enable or disable the main DC output. The display will show the actual output values when enabled.

### 5.3. Intelligent Battery Charging Mode

This function allows for safe and efficient charging of various battery types.

Figure 5.2: Intelligent Battery Charging Function

1. Connect the battery to the output terminals, ensuring correct polarity (+ to + and - to -). The unit has built-in reverse connection protection.
2. Set the desired charging voltage and current limit using the encoder knobs.
3. Press the **CHG Setting Button** to activate the Intelligent Battery Charging function. The CHG indicator will illuminate.
4. The display will show real-time charging power (Ah). The power supply will automatically stop charging when the battery reaches the set voltage.

## 5.4. USB-A & USB-C Quick-Charge Ports

The unit includes dedicated USB-A and USB-C ports for quick charging external devices.

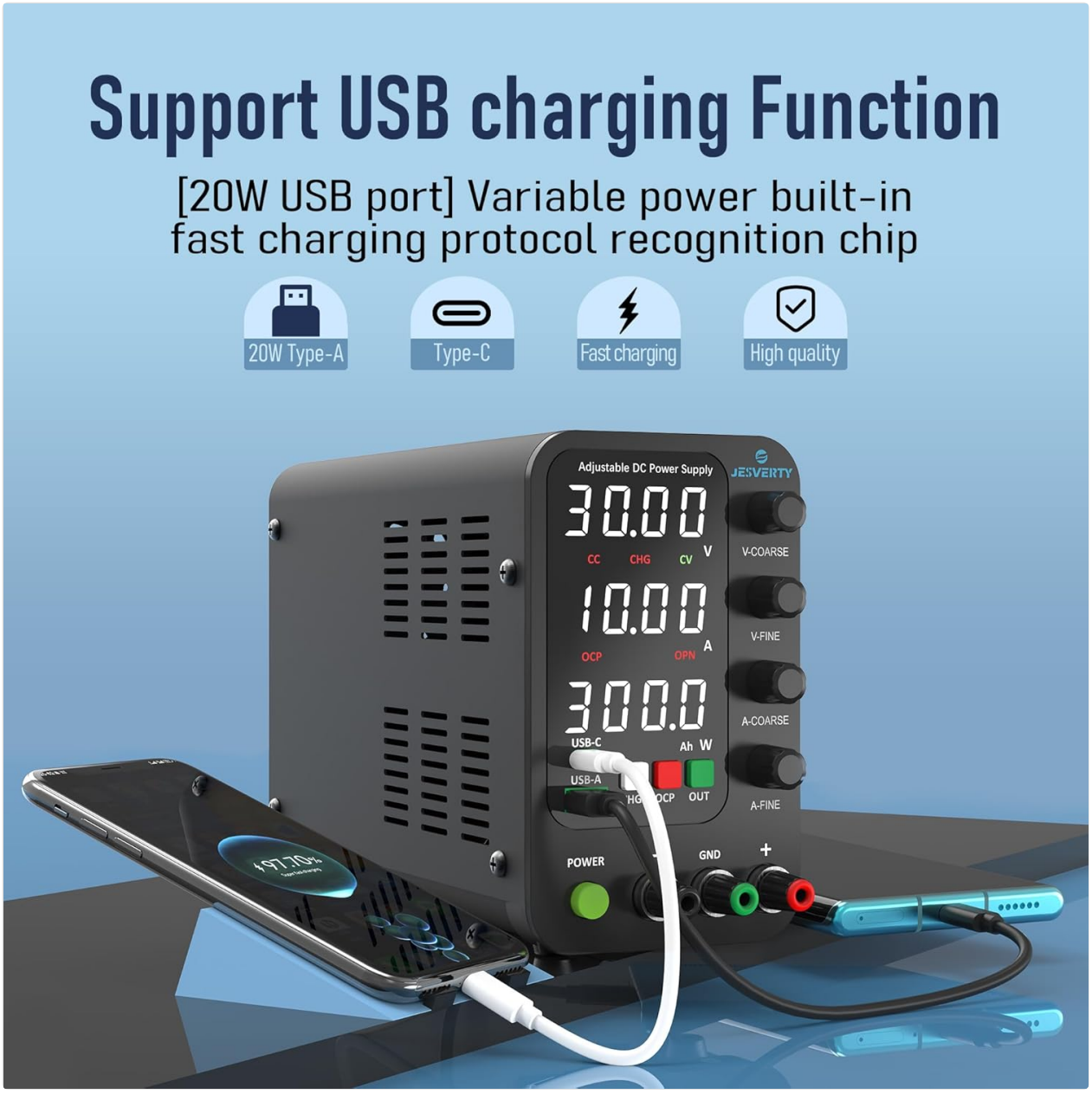


Figure 5.3: USB Charging Functionality

- Both USB-A and USB-C ports support 20W fast charging.
- These ports provide fixed voltage and current output and are independent of the main DC output settings.
- Simply connect your compatible device to the appropriate USB port for charging.

### 5.5. OPN (Output Power ON) Function

The OPN function determines the state of the main DC output when the unit is powered on.

- When OPN is enabled, the main DC output will automatically turn ON with the previously set voltage and current parameters as soon as the power switch is engaged.
- When OPN is disabled, the main DC output will remain OFF upon power-up, requiring a manual press of the **Output Control Button** to activate.
- Consult the full instruction manual for details on how to enable or disable the OPN function.

## 6. Protection Features

- **OCP (Over-Current Protection):** This feature protects the connected load from excessive current. When activated, if the output current exceeds the set OCP threshold, the output will be shut off, and the OCP Status LED will illuminate.


Figure 6.1: Over-Current Protection in action

- **Temperature-Regulated Cooling Fan:** An internal fan automatically adjusts its speed based on the unit's temperature to prevent overheating during operation.
- **Reverse Connection Protection:** For battery charging, this feature prevents damage to the power supply and battery if the polarity is accidentally reversed.

## 7. Maintenance

- **Cleaning:** Disconnect the power supply from the mains before cleaning. Use a soft, dry cloth to wipe the exterior. Do not use abrasive cleaners or solvents.
- **Ventilation:** Regularly check that the cooling fan vents are clear of dust and debris to ensure proper airflow.
- **Storage:** Store the unit in a cool, dry place away from direct sunlight and extreme temperatures when not in use.

## 8. Troubleshooting

- **No Power:**
  - Check if the power cord is securely connected to both the unit and the electrical outlet.
  - Ensure the Power Switch is in the ON position.
  - Verify the AC Input Selectable Switch on the rear panel is set correctly (115V/230V).
  - Check the fuse in the Fuse Box on the rear panel. Replace if blown with a fuse of the same rating.
- **No Output Voltage/Current:**
  - Ensure the **Output Control Button** is pressed and the output is enabled.

- Check if OCP is active (OCP Status LED illuminated). If so, clear the fault condition and reset OCP.
- Verify that the voltage and current settings are not set to zero.

- **Inaccurate Current Display at Low Loads:** At very low current settings (e.g., below 15mA), the displayed current may show a slight deviation (e.g., 2mA less than actual). This is a characteristic of some switching power supplies and typically does not affect performance for most applications.
- **Voltage Transients During Load Changes:** When connecting loads with large capacitance, especially if the power supply is already enabled at a high voltage, a brief current surge may occur as the output capacitance discharges into the load. It is recommended to connect the load with the output disabled, then enable the output.

## 9. Specifications

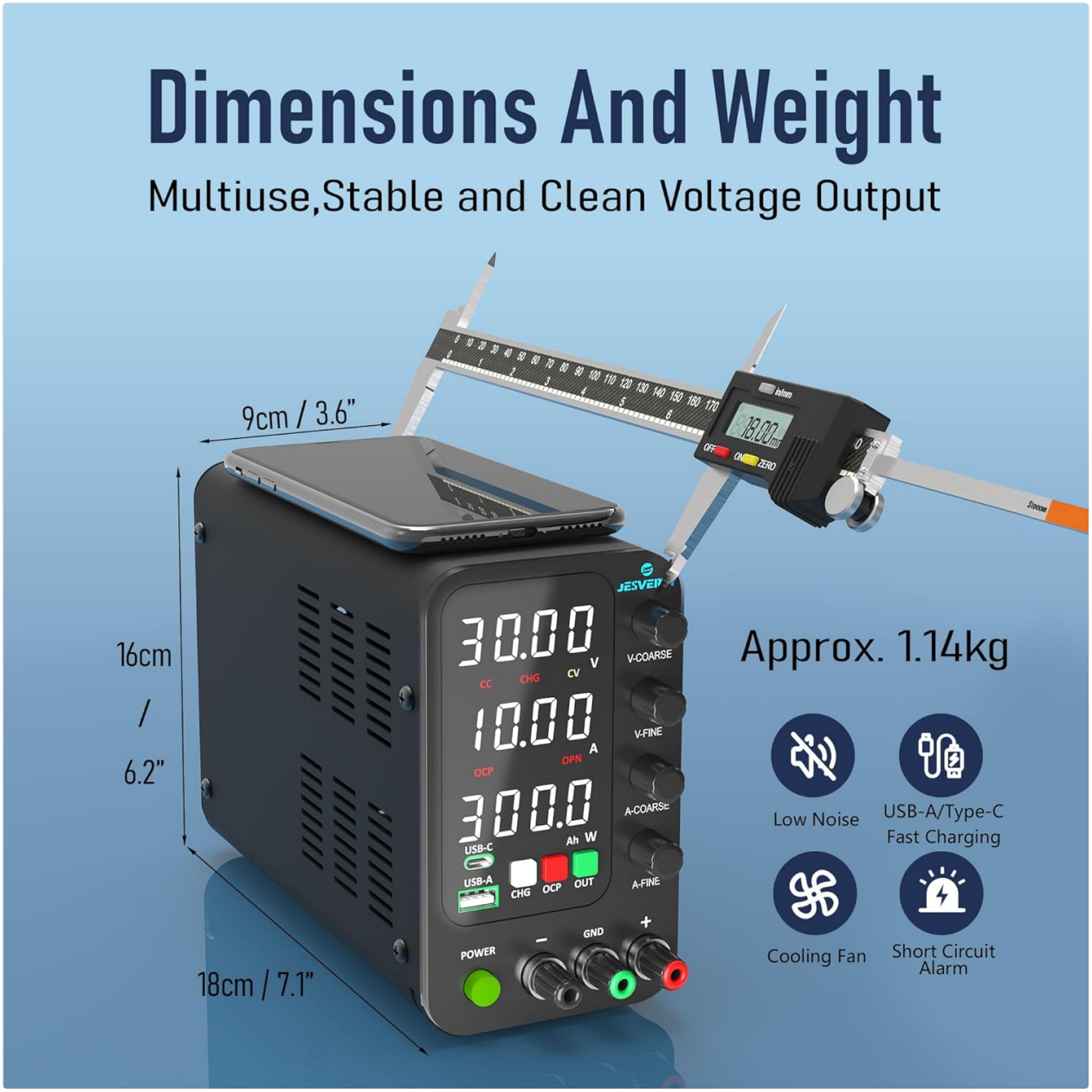


Figure 9.1: Dimensions and Weight of the SPS-3010C

| Feature | Specification |
| --- | --- |
| Model Number | SPS-3010C |

| Feature | Specification |
|---|---|
| Brand | Jesverty |
| Output Voltage Range | 0-32V |
| Output Current Range | 0-10A |
| Output Wattage (USB/Type-C) | 20 Watts |
| Voltage Setting Resolution | 0.01V |
| Current Setting Resolution | 0.001A |
| Display | 4-Digit LED |
| Input Voltage | AC115V/230V (Selectable) |
| Dimensions (Approx.) | 7.1(D) x 3.6(W) x 6.2(H) inches (18 x 9 x 16 cm) |
| Weight (Approx.) | 2.5 lbs (1.14 kg) |
| UPC | 680306176946 |

## 10. Warranty and Customer Support

Jesverty provides professional technical support for its products. For any problems or questions regarding your Jesverty SPS-3010C DC Power Supply, please contact Jesverty Customer Service. Contact information can typically be found on the back of the instruction manual included with your product or through the Amazon message system.

### Related Documents - SPS-3010C

| | |
|---|---|
|  | JESVERTY SPS-3010X DC Power Supply User Manual<br>User manual for the JESVERTY SPS-3010X 300W DC Power Supply, detailing its specifications, panel instructions, safety precautions, and operational functions including constant voltage/current characteristics and fuse replacement. |
|  | KUAIQU SPS-C Series DC Power Supply: Panel Instructions and Specifications<br>Detailed panel instructions and specifications for the KUAIQU SPS-C series DC power supplies, including model details, output ranges, and adjustment examples for SPS-C305, SPS-C3010, SPS-C605, SPS-C1203, and SPS-C3206. |
|  | JESVERTY SPS-3010X DC Power Supply User Manual<br>User manual for the JESVERTY SPS-3010X 300W DC Power Supply, detailing its specifications, panel instructions, safety precautions, and operational functions including constant voltage/current characteristics and fuse replacement. |

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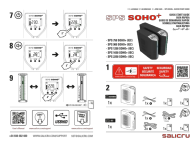
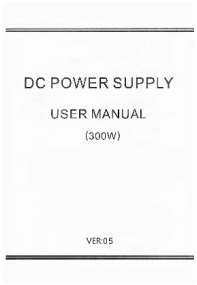
|---|---|
|  | [SPS3010H Programmable DC Power Supply User Manual \| 0-30V, 0-10A]<br>This manual provides instructions for operating and maintaining the SPS3010H programmable DC power supply, covering safety information, product overview, specifications, panel description, functions, operation, load connection, characteristics, fuse replacement, maintenance, warranty, and packaging. |
|  | [Salicru SPS SOHO+ UPS Quick Start Guide: Installation and Setup]<br>Concise guide to installing and setting up the Salicru SPS SOHO+ series of Uninterruptible Power Supplies (UPS). Covers safety, package contents, placement, and connection instructions for models SPS 750, 900, 1250, 1650, and 2250 SOHO+. |
|  | [Nice-Power 300W DC Power Supply User Manual]<br>User manual for the Nice-Power 300W DC Power Supply, covering specifications, panel instructions, operation, safety precautions, fuse replacement, maintenance, and warranty. |