SPL Series Source-Load Integrated Quick Guide

For product support, visit www.owon.com.hk/download

※. The illustrations, interface, icons and characters in the user manual may be slightly different from the actual product. Please refer to the actual product.

General Warranty

We warrant that the product will be free from defects in materials and workmanship for a period of 2 years from the date of purchase of the product by the original purchaser from our company. The warranty period for accessories are 12 months. This warranty only applies to the original purchaser and is not transferable to a third party.

If the product proves defective during the warranty period, we will either repair the defective product without charge for parts and labour, or will provide a replacement in exchange for the defective product. Parts, modules and replacement products used by our company for warranty work may be new or reconditioned like new. All replaced parts, modules and products become the property of our company.

To obtain service under this warranty, the customer must notify our company of the defect before the expiration of the warranty period. Customer shall be responsible for packaging and shipping the defective product to our designated service centre, a copy of the customer's proof of purchase is also required.

This warranty shall not apply to any defect, failure or damage caused by improper use or improper or inadequate maintenance and care. We shall not be obligated to furnish service under this warranty a) to repair damage resulting from attempts by personnel other than our company representatives to install, repair or service the product; b) to repair damage resulting from improper use or connection to incompatible equipment; c) to repair any damage or malfunction caused by the use of not our supplies; or d) to service a product that has been modified or integrated with other products when the effect of such modification or integration increases the time or difficulty of servicing the product.

Please contact the nearest sales and service offices for services.

Excepting the after-sales services provided in this summary or the applicable warranty statements, we will not offer any guarantee for maintenance definitely declared or hinted, including but not limited to the implied guarantee for marketability and special-purpose acceptability. We should not take any responsibilities for any indirect, special or consequent damages.

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1. General Safety Requirements

Before use, please read the following safety precautions to avoid any possible bodily injury and to prevent this product or any other connected products from damage. In order to avoid any contingent danger, ensure this product is only used within the range specified.

Only the qualified technicians can implement the maintenance.

To avoid Fire or Personal Injury:

- **Use Proper Power Cord.** Use only the power cord supplied with the product and certified to use in your country.
- **Connect the probe correctly. The grounding end of the probe corresponds to the grounding phase. Please don't connect the grounding end to the positive phase.**
- **Check all Terminal Ratings.** To avoid fire or shock hazard, check all ratings and markers of this product. Refer to the user's manual for more information about ratings before connecting to the instrument.
- **Do not operate without covers**. Do not operate the instrument with covers or panels removed.
- **Use Proper Fuse.** Use only the specified type and rating fuse for this instrument.
- **Avoid exposed circuit**. Do not touch exposed junctions and components when the instrument is powered.
- **Do not operate if in any doubt.** If you suspect damage occurs to the instrument, have it inspected by qualified service personnel before further operations.
- **Use your instrument in a well-ventilated area.** Make sure the instrument installed with proper ventilation, refer to the user manual for more details.
- **Do not operate in wet conditions.T**o avoid the risk of internal circuit short circuits or electric shock, do not operate the instrument in a humid environment.
- **Do not operate in an explosive atmosphere.**To avoid damage to the instrument or personal injury, do not operate the instrument in flammable or explosive environments.
- **Keep product surfaces clean and dry.**To prevent dust or moisture in the air from affecting the instrument's performance, please keep the product's surface clean and dry.

2. Safety Terms And Symbols

Safety Terms

Terms in this manual. The following terms may appear in this manual:



Warning: Warning indicates the conditions or practices that could result in injury or loss of life.



Caution: Caution indicates the conditions or practices that could result in damage to this product or other property.

Terms on the product. The following terms may appear on this product:

Danger: It indicates an injury or hazard may immediately happen.

Warning: It indicates an injury or hazard may be accessible potentially.

Caution: It indicates a potential damage to the instrument or other property might occur.

Safety Symbols

Symbols on the product. The following symbol may appear on the product:

	Hazardous Voltage		Caution, risk of danger (refer to this manual for specific Warning or Caution information)
	Protective Earth Terminal		Chassis Ground
	Test Ground		

3. Quick Start

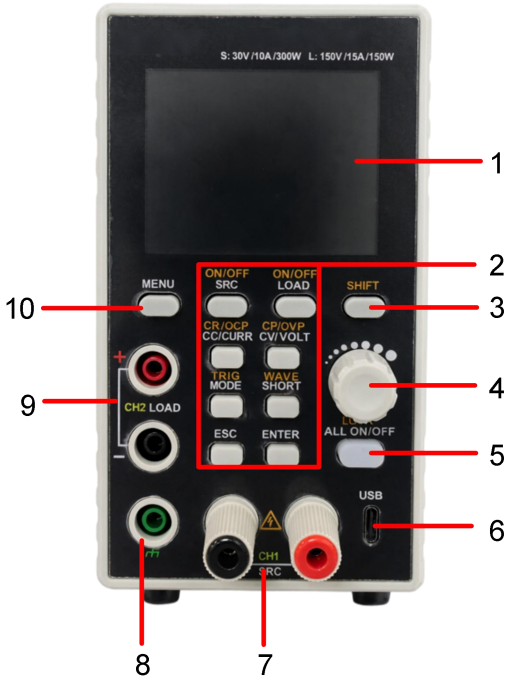
This chapter will introduce the power-on inspection steps for the instrument, ensuring that the instrument can be properly turned on and used in its initialized state. It will also cover the front panel, rear panel, button functions, and display functions of the load, ensuring that before operating the load, users can quickly understand the instrument appearance, structure, and button functionality, which will help you make better use of this series of instrument.

3.1 Product Introduction

The instrument integrates high-precision DC power supply and high-performance DC electronic load dual functions. It can work independently as a programmable DC power supply for output, or separately as a DC electronic load for load testing. It also supports combined dual-function operation to simulate the full charge and discharge process of batteries. It is mainly used for performance verification and life test of quick chargers, battery packs, energy storage devices, power modules and other products, providing an optimal one-stop solution for R&D design and production line testing.

3.2 Panel and User Interface

3.2.1 Front Panel

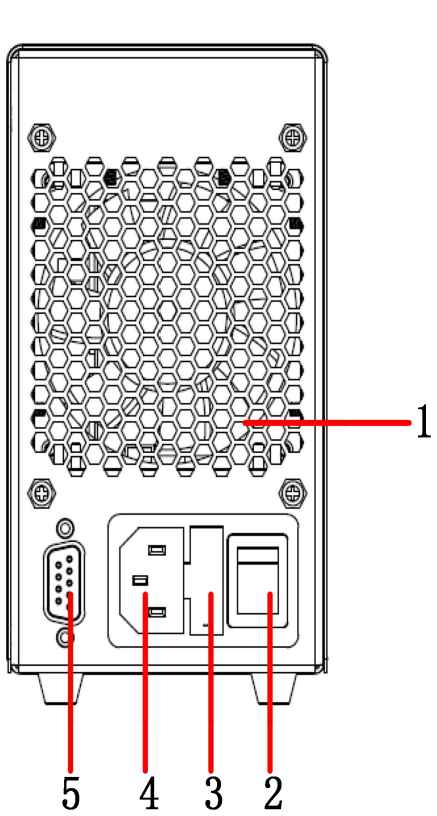


Num	Description		
1	**Display area**		Display interface.
2	**Function key**	**ON/OFF SRC**	SHIFT+: Control source output on/off independently. Select the power area; quickly return to SRC channel context on any page.
		ON/OFF LOAD	SHIFT+: Control source output on/off independently. Select the load area; quickly return to LOAD channel context on any page.

		CR/OCP **CC/CURR**	**Load mode:** ● CC/CURR: Press to enter constant current setting mode. ● SHIFT + this key serves as the shortcut for Constant Resistance mode to enter constant resistance setting interface. **Power supply mode:** ● Output current setting. ● SHIFT + this key is for OCP protection value setting.
		CP/OVP **CV/VOLT**	**Load mode:** ● CV/VOLT: Press to enter constant voltage setting mode. ● SHIFT + this key serves as the shortcut for Constant Power mode to enter constant power setting interface. **Power supply mode:** ● Output voltage setting. ● SHIFT + this key is for OVP protection value setting.
		TRIG **MODE**	Switch Load Mode: General Mode / OCP Test Mode / OPP Test Mode / Battery Test Mode / Dynamic Mode SHIFT+: Single trigger for electronic load.
		WAVE **SHORT**	**Load mode:** short circuit mode. **SHIFT+:** enter waveform interface.
		ESC	Edit Cancel or Menu Back function.
		ENTER	Confirm key.
3	**SHIFT**		Reuse function keys.
4	**Knob**		Users can turn the knob to enter programming information or options.

5	**ALL ON/OFF**	Control output status of both channels simultaneously: ON or OFF. SHIFT + this key has secondary function for LOCK.
6	**USB**	Type C USB data interface.
7	**Load +/- terminal**	DC electronic load input positive and negative terminals.
8	**PE**	Ground terminal.
9	**Power supply +/- terminal**	DC power supply output positive and negative terminals.
10	**MENU**	Enter system menu page.

3.2.2 Rear Panel



1	**Fan**	Do not block the outlet of the fan, otherwise the internal heat dissipation of the machine will lead to excessive internal temperature.

2	**Power Button**	Turn on/off the instrument.
3	**Fuse**	Power fuse.
4	**AC Power terminal**	The power supply line inputs AC power, from this connection terminal to the input terminal.
5	**DB9 terminal**	Including: RS232, RS485 and Trig In/Out; communication control can be implemented via RS232 and RS485. (Note: Different models are equipped with different optional communication interfaces.)

3.2.3 User Interface



Status Icon

Icon	Description
SHIFT	Shortcut icon
SHORT	Load short-circuit icon
	Key beep status: On (white), Off (black)
	Alarm icon: Warning active (red), Off (black)
	Key lock: On (yellow), Off (black)

3.3 General Inspection

When you receive a new instrument, it is recommended that you follow the

steps below to inspect the instrument.

1. **Check whether there is any damage caused by transportation.**
   If it is found that the packaging carton or the foamed plastic protection cushion has suffered serious damage, do not throw it away first till the complete device and its accessories succeed in the electrical and mechanical property tests.
2. **Check the Accessories.**
   The supplied accessories have been already described in Appendix A: Accessories of this manual. You can check whether there is any loss of accessories with reference to this description. If it is found that there is any accessory lost or damaged, please get in touch with our distributor responsible for this service or our local offices.
3. **Check the Complete Instrument.**
   If it is found that there is damage on the first appearance of the instrument, or the instrument cannot work normally, or fails in the performance test, please get in touch with our distributor responsible for this business or our local offices. If there is damage to the instrument caused by the transportation, please keep the package. With the transportation department or our distributor responsible for this business informed about it, a repairing or replacement of the instrument will be arranged by us.

3.4 Power-on Inspection

(1) Connect the instrument to an AC power source using the power cord supplied with the accessory.



Warning:

To prevent electric shock, make sure the instrument is properly grounded.

(2) Press the **power button** on the rear panel and the screen will be displayed .

4. Troubleshooting

1. **The instrument is powered on but no display. Please following the steps:**

   - Check if the power is connected properly.
   - Check if the fuse which is below the AC Power socket is used appropriately and in good condition (the cover can be pried open with a straight screwdriver).
   - Restart the instrument after the steps above.
   - If the problem still exists, please contact our customer service.

5. Appendix

5.1 Appendix A: Accessories

Standard Accessories:

- Power Cord
- Quick Guide
- Fuse
- Banana plug to alligator clip cable

Optional Accessories:

- USB Cable（Type A to Type C）
- RS232

5.2 Appendix B: General Care and Cleaning

General Care

Do not store or leave the instrument where the liquid crystal display could be exposed to direct sunlight for long periods of time.

Caution: To avoid any damage to the instrument, do not exposed it to any sprays, liquids, or solvents.

Cleaning

Inspect the instrument as often as operating conditions require. To clean the instrument exterior, perform the following steps:

1. Wipe the dust from the instrument surface with a soft cloth. Take care not to scratch the transparent LCD protection screen when cleaning.

2. Disconnect power before cleaning your instrument. Clean the instrument with a damp soft cloth (not dripping with water). It is recommended to clean with soft detergent or fresh water. To avoid damage to the instrument, do not use any corrosive chemical cleaning agents.



Warning:

Before re-applying power, ensure that the instrument is completely

dry, avoiding any electric shock or electrical short circuit resulting from moisture.

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Fujian LILLIPUT Optoelectronics Technology Co., Ltd.

No. 19, Heming Road

Lantian Industrial Zone, Zhangzhou 363005 P.R. China

Tel: +86-596-2130430 **Fax:** +86-596-2109272

Web: www.owon.com.cn **E-mail:** info@owon.com.cn

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