# OEL15&30&60 Series
# Programmable DC Electronic Load
# 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 load, ensuring that the load 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 load's appearance, structure, and button functionality, which will help you make better use of this series of loads.

## 3.1 Product Introduction

The single-channel programmable electronic load, it is primarily designed for applications such as fast chargers, battery discharge, and power supply testing, and other product performance validation tests. The series provides optimal solution for design R&D and production line testing.

## 3.2 Panel and User Interface

### 3.2.1 Front Panel

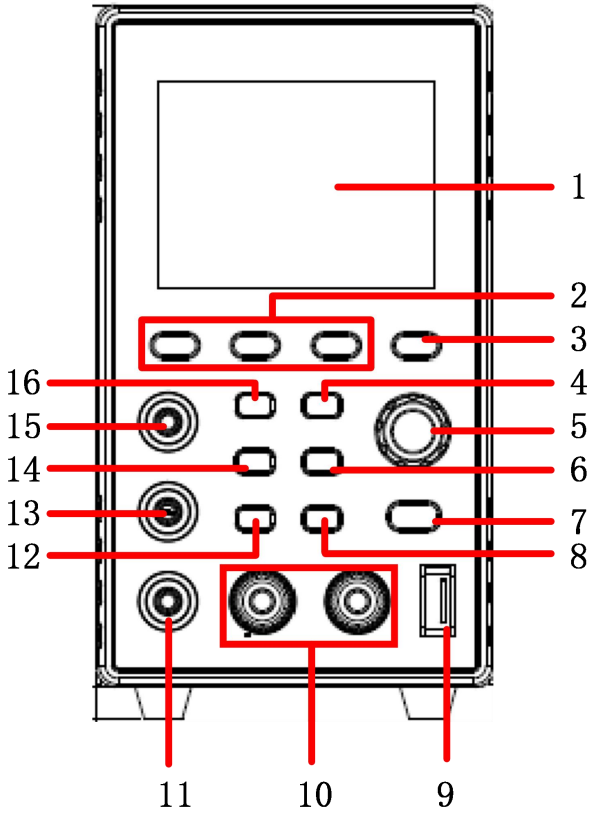



Figure 3- 1 Front Panel

| | | |
|---|---|---|
| 1 | **Display** | Displays the user interface. |
| 2 | **F1-F3** | Submenu option setting keys. |
| 3 | **SHIFT** | Multi-function key. |
| 4 | **CV/CP** | Constant voltage mode shortcut key: The user enters the constant voltage setting mode;<br>SHIFT + this key: Constant power mode shortcut key, allowing the user to enter the constant power setting interface. |

| | | |
|---|---|---|
| 5 | **Knob** | The user can rotate the knob to input programming information or select options. |
| 6 | **SHORT** | Short circuit mode. |
| 7 | **On/Off** | Controls the output state: ON or OFF.<br>SHIFT + this key: Multi-function, LOCK function. |
| 8 | **ENTER** | Confirmation key. |
| 9 | **USB** | Type C USB data interface. |
| 10 | **Channel Output Terminal** | Output connection of the channel. |
| 11 | **PE** | Earth terminal on the machine chassis. |
| 12 | **ESC** | Cancel editing or go back to the previous menu. |
| 13 | **Vsense-** | Remote sensing, negative polarity terminal. |
| 14 | **TRIG/TRAN** | Trigger function key;<br>SHIFT + this key: Multi-function, allows the user to enter dynamic mode. |
| 15 | **Vsense+** | Remote sensing, positive polarity terminal. |
| 16 | **CC/CR** | Constant current mode shortcut key: The user enters the constant current setting mode;<br>SHIFT + this key: Constant resistance mode shortcut key, allowing the user to enter the constant resistance setting interface. |

### 3.2.2 Rear Panel

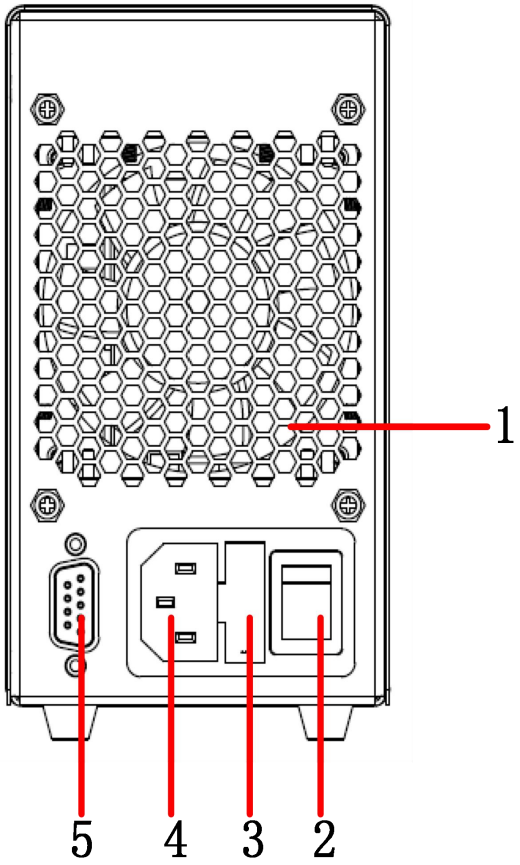
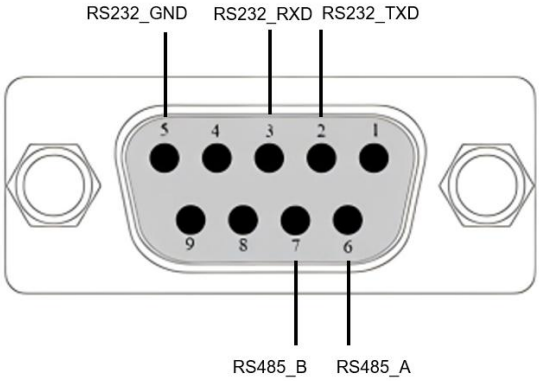



Figure 3-2 Rear Panel

| | | |
|---|---|---|
| **1** | **Air Vent** | Do not block the ventilation outlet, as it will prevent the machine from dissipating heat properly, which could lead to overheating inside the machine. |
| **2** | **Power Button** | Turn On/Off the instrument. |
| **3** | **Fuse** | Power fuse. |
| **4** | **AC Power Input Jack** | The power cable inputs AC power from this connection terminal to the input terminal. |
| **5** | **DB9 Terminal** | Includes: RS232, RS485, and Trig In/Out; communication control can be done via RS232 and RS485. (Note: Different models are equipped with different communication interfaces as options.) |

DB9 terminal description:




| Pin | Function | Functions | Notes |
|---|---|---|---|
| Pin 2 | RS232 | TXD | Protocol supports: SCPI, Modbus RTU Typical 3.3V |
| Pin 3 | | RXD | |
| Pin 5 | | GND | |
| Pin 4 | External trigger for transient command | TRIG IN+ | 3.3V TTL signal |
| Pin 9 | | TRIG IN- | |
| Pin 1 | External trigger out for power on/off signal indicator | TRIGOUT+ | Floating, needed 1k resistor pull up to an external power rail 5V or 3.3V |
| Pin 8 | | TRIGOUT- | |
| Pin 6 | RS485 | RS485_A | Optional; please make sure there is no signal in these pins when using RS232. |
| Pin 7 | | RS485_B | |

### 3.2.3 User Interface




Figure 3-3 User Interface

**Status Icon**

| Icon | Description |
|---|---|
|  | The panel keys are locked |
|  | Enable beeper |
|  | A failure alarm |

## 3.3 General Inspection

When you receive a new DC electronic load, 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:**

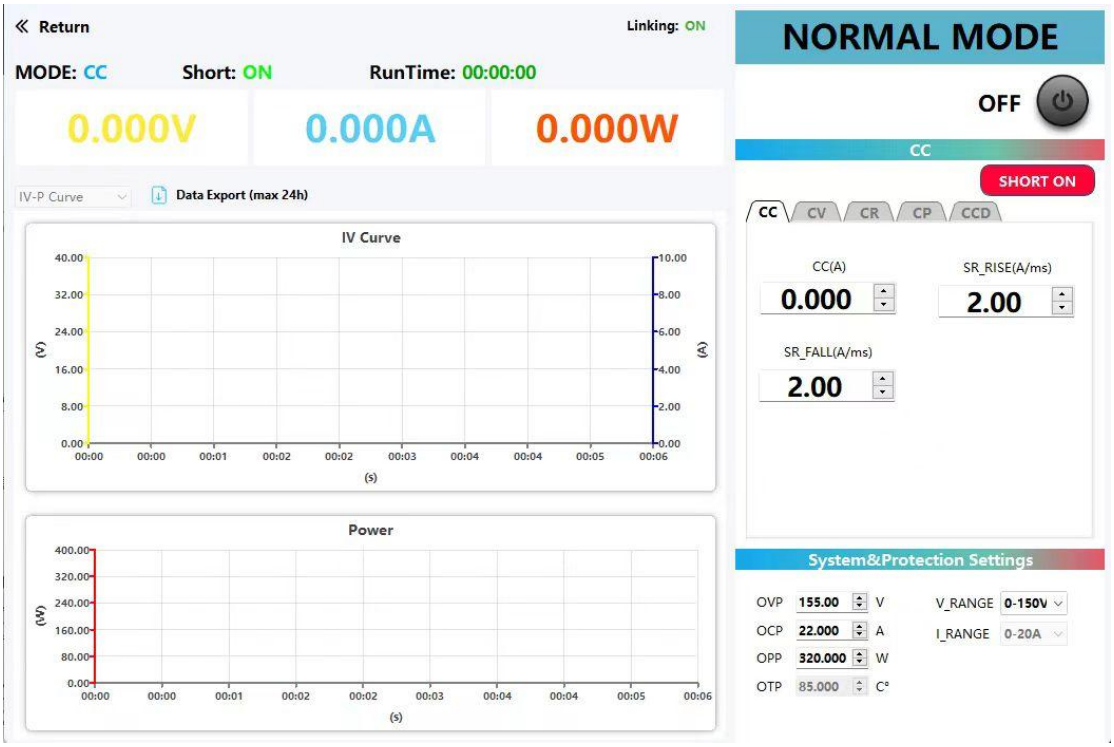
To prevent electric shock, make sure the instrument is properly grounded.

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

# 4. PC Software introduction

1. Please go to the our official website or contact your local dealer or our sales specialist to download or request the PC software.

2. Connect the USB CDC port on the back panel to the host computer. After the instrument is successfully connected, enter the mode setting to remotely operate the instrument.



# 5. 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.

# 6. Appendix

## 6.1 Appendix A: Accessories

(The accessories subject to final delivery.)

**Standard**



**Power Cord**




**User Manual**



**Fuse**

**Optional**



**Remote Compensation Cable (Order No. 7CL3-10)**



**USB Cable (Type A to Type C) (Order No. 7ULC08)**



**RS232 (Order No. 7R232MFS)**

## 6.2 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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