IA-0053

VP ELECTRONIQUE

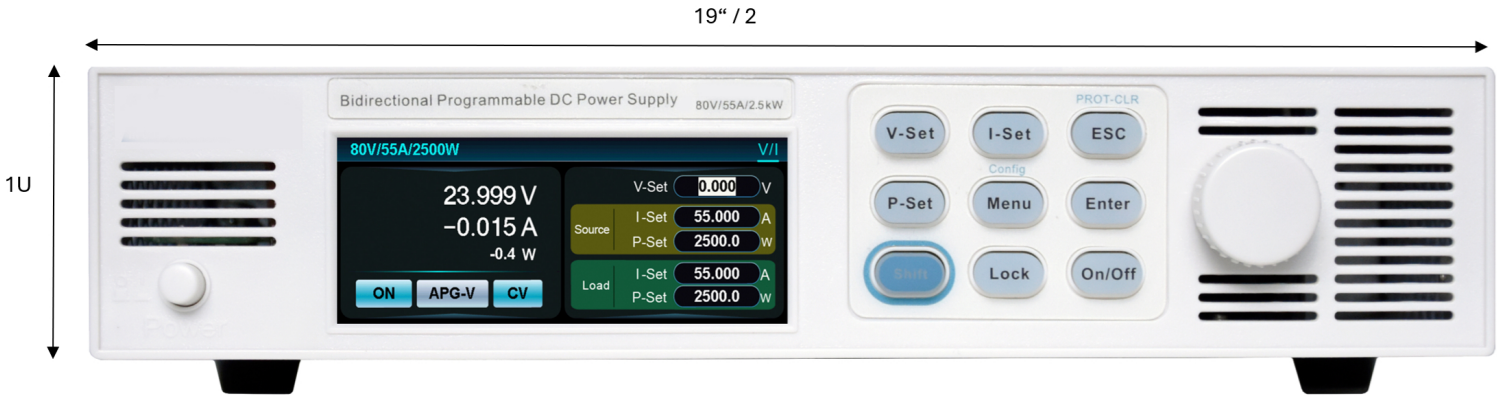
***Bidirectional DC source***

**2.5kW | 80V | 55A**

**1U x 19"/2 x 500mm**

# VP35100

## Data sheet



## Short Introduction

The VP35100 series is a bidirectional programmable DC power supply with a two-quadrant design. It can both supply and absorb current and feed it cleanly back into the grid to save energy and reduce heat dissipation, significantly lowering test costs. The VP35100 series offers high-precision measurements and multiple test functions, making it ideal for applications in new energy, automotive, energy storage, electric drives, battery simulation and other industries.

## Main Features

- Voltage 80V, current ±55A, power ±2.5kW
- Compact design: 1U x 19"/2 X 500mm
- CC/CV priority
- Adjustable voltage and current slew rate
- CC, CV, CR and CP mode
- SEQ test, charge/discharge test supported
- Various protection functions, OVP, UVP, OCP, OPP, OTP
- 3.2-inch HD colour screen for displaying information
- Standard interfaces: LAN/RS232/RS485/CANSupported: Modbus-RTU/CAN open/SCPI standard protocol

## Application Fields

- Energy storage applications, such as outdoor storage and UPS.
- Drive test applications, such as inverters, drives and motor controls.
- Battery-powered devices, such as power tools, electric vehicles and drones.
- New energy vehicle applications such as vehicle inverters, circulators and automotive electronics.

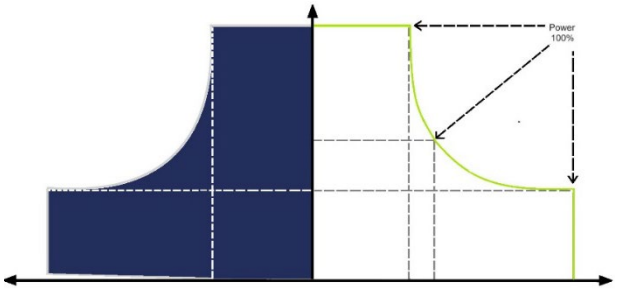
## Bidirectional – feedback to grid

The devices in the VP35100 series are designed to be bidirectional and can serve as both an energy source and a sink. This dual function allows the device not only to generate electricity, but also to absorb it and feed it back into the grid, enabling highly efficient utilisation. In the sink mode, the energy absorbed is not dissipated in the form of heat, which contributes to significant cost savings and reduces the need for additional cooling.

The power supply enables a continuous and seamless change between the output and consumption of current, which prevents overshooting of voltage and current. This is beneficial for testing batteries, uninterruptible power supplies (UPSs) and battery protection boards.

## Wide range of output design

The bidirectional DC power supply of the VP35100 series can be used flexibly over a wide range. A single device covers a wide range of voltage and current ranges within its rated power. This allows users to realise different test requirements with varying voltage and current values, making efficient use of resources such as costs and space in laboratories or automated test systems.

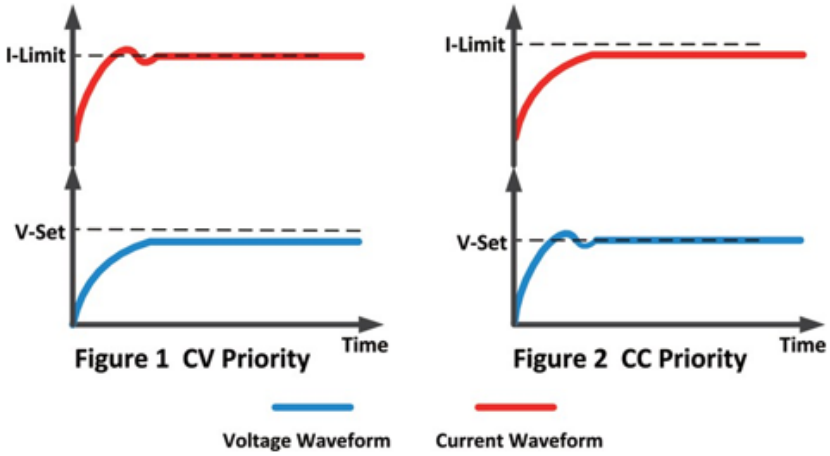


## CC&CV priority function

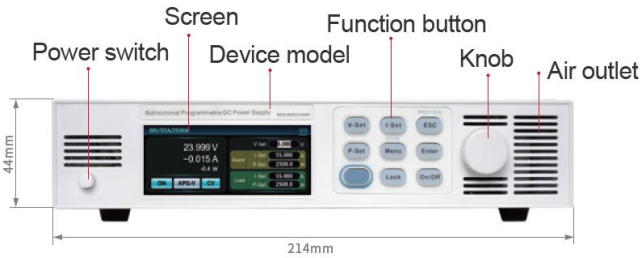
VP35100 series has the function of setting voltage-control priority or current-control loop priority, it can adopt the optimal working mode for testing according to the characteristics of DUT, to better protect DUT.

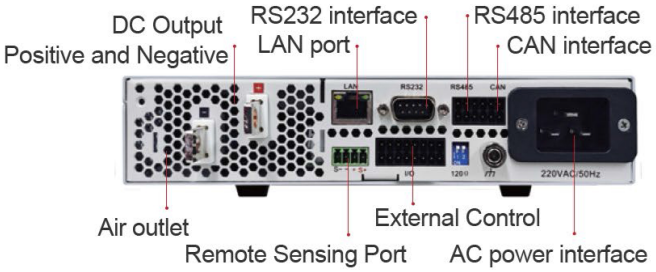
As shown in Figure 1, when it needs to reduce voltage overshoot during testing, the voltage priority mode should be used to obtain a fast and smooth rising voltage.

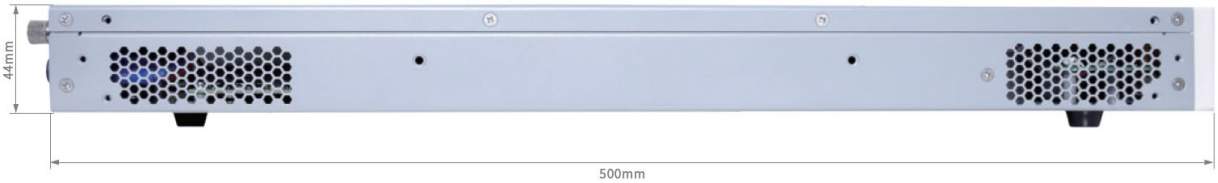
As shown in Figure 2, when it needs to reduce current overshoot during testing, the current priority mode should be used to obtain a fast and smooth rising current.




## Product dimensions



## Technical documents

| Model | VP35125-80-55 | | |
|---|---|---|---|
| Voltage | 80V | | |
| Current | ±55A | | |
| Power | ±2.5kW | | |
| Minimum Operating Voltage | 1V@55A | | |
| CV Mode | | | |
| Range | 0~80V | | |
| Setting Resolution | 1mV | | |
| Setting Accuracy (23±5℃) | 0.03%+0.03%F.S. | | |
| Readback Resolution | 1mV | | |
| Readback Accuracy(23±5℃) | 0.03%+0.03%F.S. | | |
| CC Mode | | | |
| Range | -55A~+55A | | |
| Setting Resolution | 1mA | | |
| Setting Accuracy (23±5℃) | 0.1%+0.1%F.S. | | |
| Readback Resolution | 1mA | | |
| Readback Accuracy (23±5℃) | 0.1%+0.1%F.S. | | |
| CP Mode | | | |
| Range | -2.5kW~+2.5kW | | |
| Setting Resolution | 0.1W | | |
| Setting Accuracy (23±5℃) | 0.5%+0.5%F.S. | | |
| Readback Resolution | 0.1W | | |
| Readback Accuracy (23±5℃) | 0.5%+0.5%F.S. | | |
| CR Mode | | | |
| Range | 0.01-800Ω | | |
| Setting Resolution | 1mΩ | | |
| Setting Accuracy (23±5℃) | (Vin/Rset)*0.1%+0.1%IF.S. | | |
| Line Regulation | | | |
| Voltage | ≤0.01%+0.01%F.S. | Current | ≤0.03%+0.03%F.S. |
| Load Regulation | | | |
| Voltage | ≤0.01%+0.01%F.S. | Current | ≤0.05%+0.05%F.S. |
| Dynamic Characteristics | | | |
| Voltage Rise Time (no load) | ≤15ms | Voltage Fall Time (no load) | ≤30ms |
| Voltage Rise Time (full load) | ≤30ms | Voltage Fall Time (full load) | ≤15ms |
| Transient Recovery Time | The recovery time of load varying 10%~90% and voltage recovering within 0.75% accuracy range of rated value is within 1ms. | | |
| Others | | | |
| Maximum Efficiency | 93% | | |
| Communication Interface | LAN/RS232/RS485/CAN | | |
| Communication Protocol | Modbus-RTU standard protocol， SCPI standard protocol,CAN Open standard protocol | | |
| Response Time | ≤5ms | | |
| AC Input | Voltage 220V AC±10%, Frequency 47Hz～63Hz, ≤16A | | |
| Temperature | Operating temperature: 0℃~40℃, storage temperature: -20℃~60℃ | | |
| Operating Environment | Altitude <2000m, relative humidity: 5%~90%RH(non-condensing), atmospheric pressure: 80~110kPa | | |
| Net Weight | Approx. 5kg | | |
| Dimension | 44.0(H)*214.0(W)*500.0(D)mm | | |

Note 1: For other specifications, please contact us.
Note 2: All specifications are subject to change without notice.