

# BLITZPower

DCS series

0V to 2000V, 15kW to 3MW



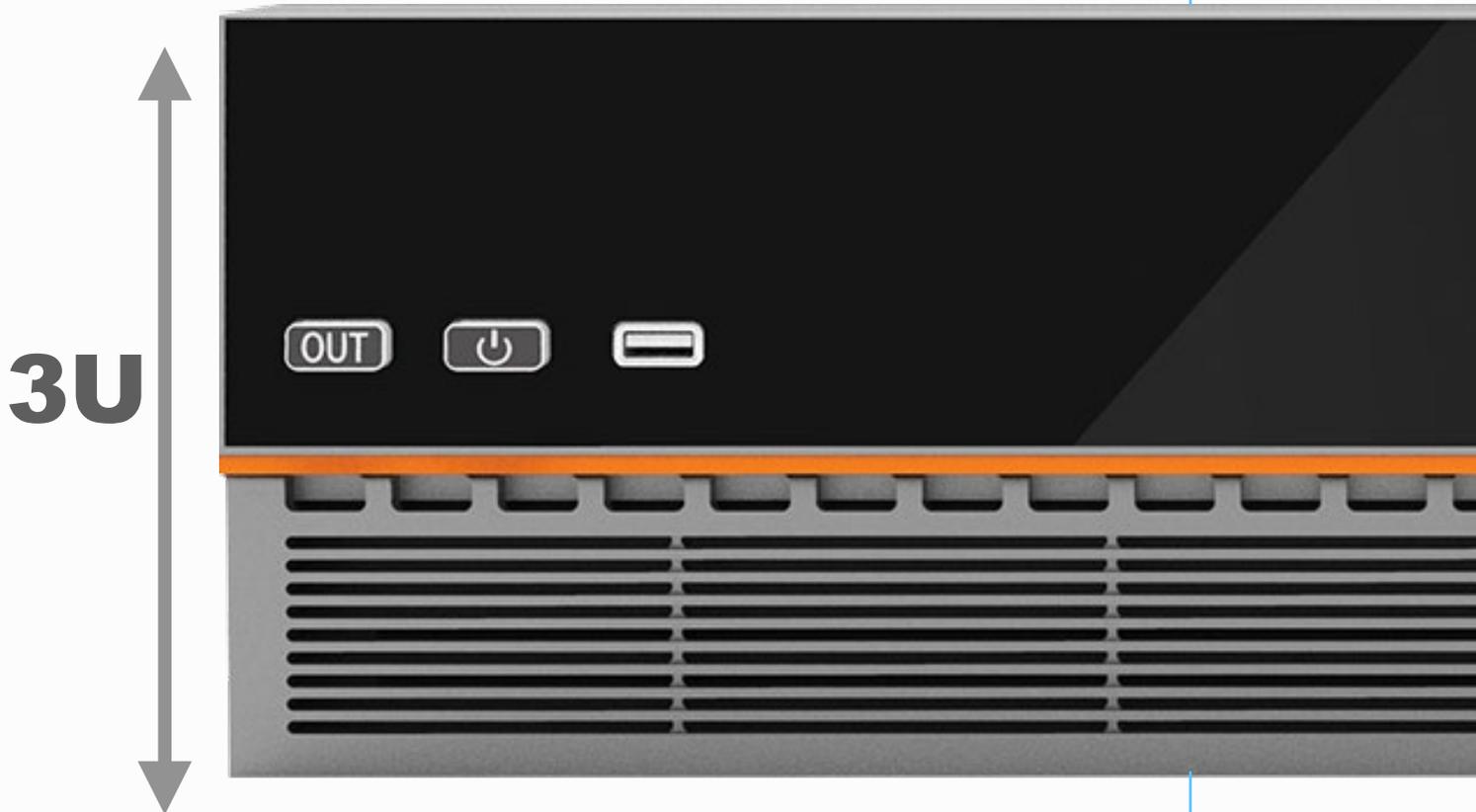
Programmable Bidirectional DC Power Supply

[blitz-power.com](http://blitz-power.com)

## FAST SLEW RATE WITH EXCEPTIONAL RISE/FALL TIME FOR SPEED-CRITICAL APPLICATION

The bi-directional power supply with the best performance, which provides 0.02% of voltage and current accuracy and 500us of response time based on the unique topology

**500us**  
**ULTRA FAST**  
**RESPONSE**  
**TIME**



**3U**

## HIGH ACCURACY VOLTAGE & CURRENT

It performs fast dynamic characteristics by stable and precise control using equipped high accuracy voltage and current measurement device and microprocessor for digital signal.

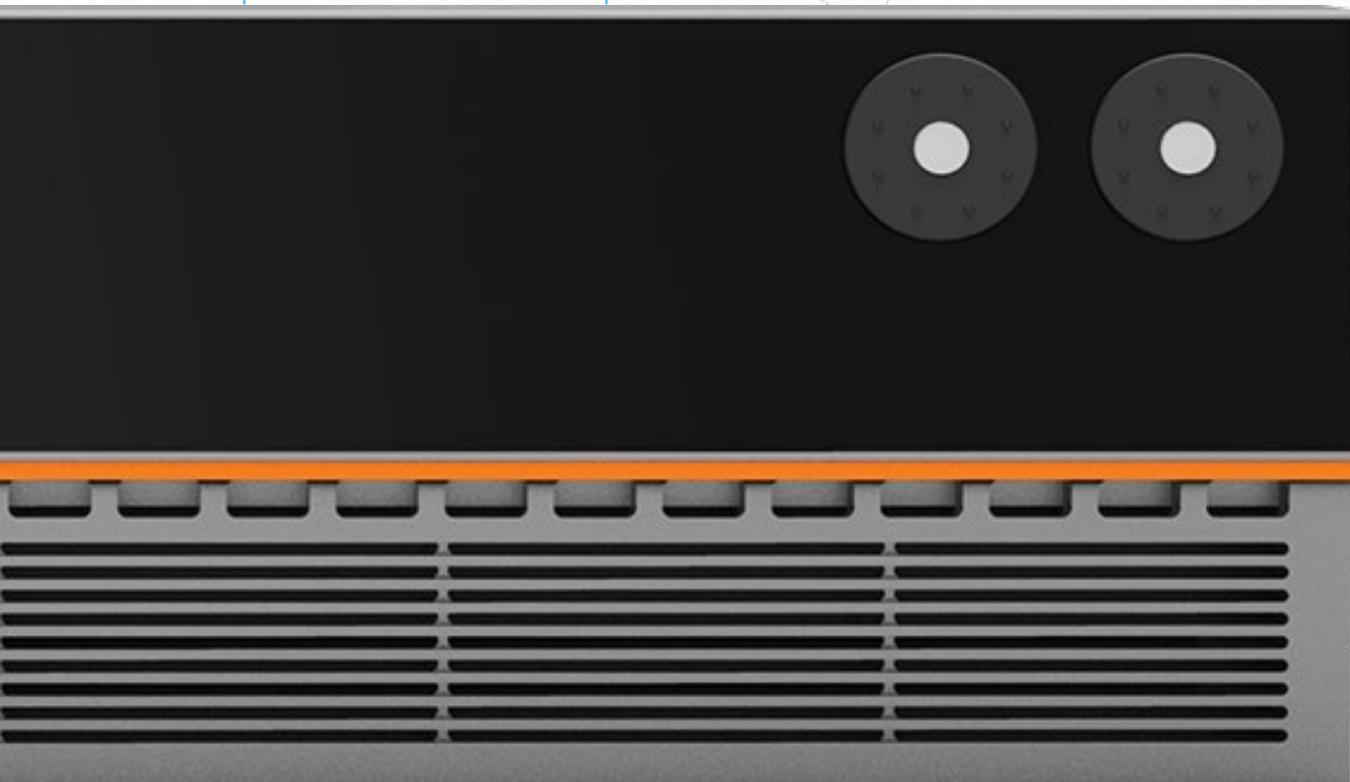
**0.02%**  
**HIGH**  
**ACCURACY**

**0V**  
**SUPPORT**  
**ZERO VOLT**  
**INPUT**

**2000V**  
**MAXIMUM**  
**DC VOLTAGE**  
**OUTPUT**

## HIGH VOLTAGE DC POWER SUPPLY

DCS series provides the safety feature that it stably maintains 0V in standby mode, and the maximum voltage range is up to 2000Vdc



**3MW**  
**MAXIMUM**  
**DC OUTPUT**  
**POWER**

**30kW/3U**  
**HIGH**  
**DENSITY**  
**POWER**

## HIGH POWER DENSITY WITH AUTO RANGING

Power density of DCS series is up to 30kW/3U, and it can perform numerous application test using auto-ranging function, which adjusts the voltage and current range, flexibly.

# Ratings, types and voltages

| Power       | Model      | Voltage | Current |
|-------------|------------|---------|---------|
| <b>15kW</b> | DCS040667A | 40      | ±667    |
|             | DCS060667A | 60      | ±667    |
|             | DCS080667A | 80      | ±667    |
|             | DCS200160A | 200     | ±160    |
|             | DCS360160A | 360     | ±160    |
|             | DCS500120A | 500     | ±120    |
|             | DCS600120A | 600     | ±120    |
|             | DCS800054A | 800     | ±54     |
|             | DCS01K054A | 1000    | ±54     |
|             | DCS1K5045A | 1500    | ±45     |
|             | DCS02K045A | 2000    | ±45     |

| Power       | Model      | Voltage | Current |
|-------------|------------|---------|---------|
| <b>20kW</b> | DCS040667B | 40      | ±667    |
|             | DCS060667B | 60      | ±667    |
|             | DCS080667B | 80      | ±667    |
|             | DCS200240B | 200     | ±240    |
|             | DCS360240B | 360     | ±240    |
|             | DCS500180B | 500     | ±180    |
|             | DCS600180B | 600     | ±180    |
|             | DCS800080B | 800     | ±80     |
|             | DCS01K080B | 1000    | ±80     |
|             | DCS1K5060B | 1500    | ±60     |
|             | DCS2K060B  | 2000    | ±60     |

| Power       | Model      | Voltage | Current |
|-------------|------------|---------|---------|
| <b>30kW</b> | DCS200240C | 200     | ±240    |
|             | DCS360240C | 360     | ±240    |
|             | DCS500180C | 500     | ±180    |
|             | DCS600180C | 600     | ±180    |
|             | DCS800080C | 800     | ±80     |
|             | DCS01K080C | 1000    | ±80     |
|             | DCS1K5060C | 1500    | ±60     |
|             | DCS02K060C | 2000    | ±60     |

## FEATURES

- Fast Response Time : <500us
- High Voltage Accuracy : <0.02%
- High Current Accuracy : <0.02%
- Parallel Connection: up to 3MW
- Electric Load Function
- High Power Density: 30kW/3U
- Battery Simulation Function
- PV Simulation Function

# Technical data

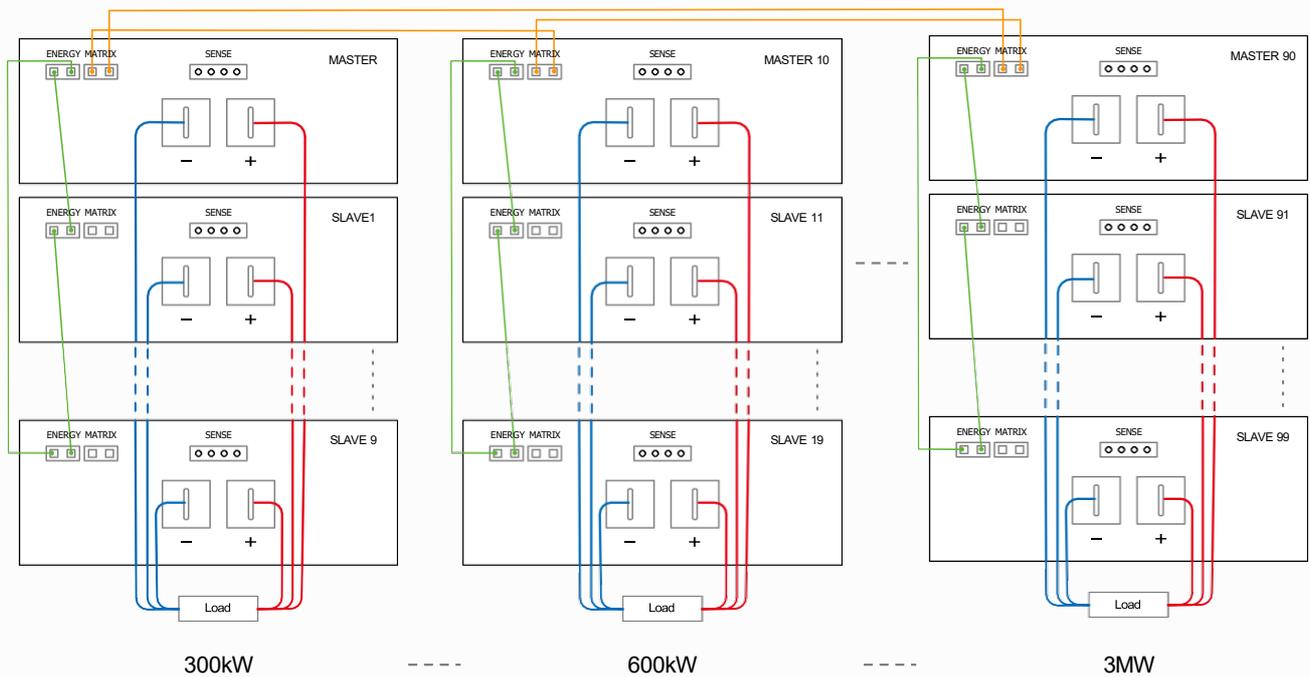
| Model                    | 40V/60V/80V   | 200V/360V                                       | 500V/600V | 800V/1000V | 1500V/2000V |
|--------------------------|---|---|-----------|------------|-------------|
| <b>AC input</b>          |   |   |           |            |             |
| Voltage, Phases          | 304Vac to 480Vac / 380V±20%, 3ph+PE   |   |           |            |             |
| Frequency                | 47Hz to 63Hz  |   |           |            |             |
| Inrush current           | <50A  |   |           |            |             |
| Power Factor             | 0.99  |   |           |            |             |
| Efficiency up to         | 93.5%   | 94%   | 95%       | 94%        | 95%         |
| <b>DC output voltage</b> |   |   |           |            |             |
| Accuracy                 | ±0.02% F.S.   |   |           |            |             |
| Resolution               | ±1mV  | ±10mV   |           |            |             |
| Display accuracy         | ±0.02% F.S.   |   |           |            |             |
| Line regulation CV       | ±0.01% F.S. (208-408V AC±10% input voltage, constant load and constant temperature) |   |           |            |             |
| Load regulation CV       | ±0.01% F.S. (0-100% load, constant load and constant temperature)                   |   |           |            |             |
| Ripple (rms) CV          | <25mV   | <60mV   | <200mV    | <200mV     | <400mV      |
| Ripple and noise p-p CV  | <300mVpp  | <480mVpp  | <1000mVpp | <1200mVpp  | <2400mVpp   |
| Remote compensation      | Max.voltage±1 V   | Max.voltage and 2%F.S.±1V                       |           |            |             |
| Rise time 10%90% CV      | 1ms   | 500us   |           |            |             |
| Fall time 90%-10% CV     | 1ms   | 500us   |           |            |             |
| Voltage slew rate        | 150V/ms   | 200V/ms   | 1500V/ms  | 600V/ms    | 5000V/ms    |
| Recovery time            | 2.5ms±0.75%F.S  | 500µs ±0.75% F.S. (50% -100% or 100% -50% load) |           |            |             |
| Discharge time           | ≤20s  | ≤20s  | ≤30s      | ≤20s       | ≤30s        |
| <b>DC output current</b> |   |   |           |            |             |
| Accuracy                 | ±0.015% F.S.  | ±0.02% F.S.                                     |           |            |             |
| Resolution               | ±100mA  | ±10mA   |           |            |             |
| Display accuracy         | ±0.15% F.S.   | ±0.02% F.S.                                     |           |            |             |
| Display Resolution       | ±10mA   | ±1mA  |           |            |             |
| Line regulation CC       | ±0.01% F.S. (208-408V AC±10% input voltage, constant load and constant temperature) |   |           |            |             |
| Load regulation CC       | ±0.05% F.S. (0-100% load, constant load and constant temperature)                   |   |           |            |             |
| Rise time 10%-90% CC     | 1ms   | 500us   |           |            |             |
| Fall time 90%-10% CC     | 1ms   | 500us   |           |            |             |

# Technical data

| Model   | 40V/60V/80V   | 200V/360V  | 500V/600V   | 800V/1000V | 1500V/2000V |
|---|---|------------|-------------|------------|-------------|
| <b>DC output power</b>                              |   |            |             |            |             |
| Accuracy  | ±30W  | ±3W        | ±0.01% F.S. | ±3W        | ±0.01% F.S. |
| Resolution  | ±10W  | ±1W        |             |            |             |
| Display accuracy                                    | ±30W  | ±3W        |             |            |             |
| Display Resolution                                  | ±10W  | ±1W        |             |            |             |
| <b>Resistance</b>                                   |   |            |             |            |             |
| Range   | 0.003-100Ω  | 0.05-1000Ω | 0.5-3000Ω   | 0.05-100Ω  | 0.5-3000Ω   |
| Programming accuracy                                | 1mΩ   | 0.01Ω      | 0.1Ω        | 0.01Ω      | 0.1Ω        |
| Programming resolution                              | 1mΩ   | 0.01Ω      | 0.1Ω        | 0.01Ω      | 0.1Ω        |
| <b>Protective functions</b>                         |   |            |             |            |             |
| OVP   | Over-voltage protection, adjustable 0 - 110% U <sub>nom</sub> (±1% F.S.)  |            |             |            |             |
| OCP   | Over-current protection, Adjustable 0V- ±110% I <sub>nom</sub> (±1% F.S.) |            |             |            |             |
| OPP   | Over-power protection, range 0V ~ ±110% P <sub>nom</sub> (±1% F.S.)       |            |             |            |             |
| OT  | Overt-temperature protection  |            |             |            |             |
| <b>Interface</b>                                    |   |            |             |            |             |
| Type-B USB, Ethernet, CAN, RS232, RS485, ModBus TCP |   |            |             |            |             |
| <b>Device configuration</b>                         |   |            |             |            |             |
| Parallel operation                                  | Up to 100 units with energy-matrix bus (3MW)                              |            |             |            |             |
| <b>Environmental conditions</b>                     |   |            |             |            |             |
| Operating temperature                               | 0 to 50 (°C) (power derating over 35°C)                                   |            |             |            |             |
| Storage temperature                                 | -20 to 70(°C)   |            |             |            |             |
| Humidity  | ≤ 80%. Not condensing   |            |             |            |             |
| Altitude  | Output current derating 2%/100m above 2000m or derating 1°C/100m          |            |             |            |             |
| <b>Mechanical spec.</b>                             |   |            |             |            |             |
| Cooling   | Air forced  |            |             |            |             |
| Dimensions (WxHxD)                                  | 435mm x 132mm x 781mm   |            |             |            |             |
| Weight  | 40kg  | 35kg       |             |            |             |

# Modular and Scalable Design

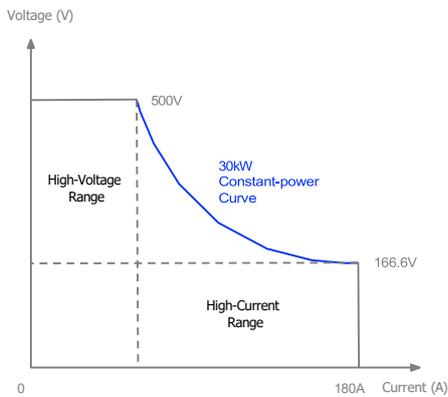
The DCS series applies the DMPS (Digital Matrix Parallel System) method for high performance and stable power supply, which enables capacity expansion up to 3MW by connecting up to 100 units of 30kW power modules in parallel using high-speed fiber optic communication. In particular, redundancy function ensures stable operation of the test system even in the event of fault at specific modules. That is in case of fault in any slave module, the system bypass the abnormal module and operate continuously so that secures the reliability and stability of the system by minimizing downtime.



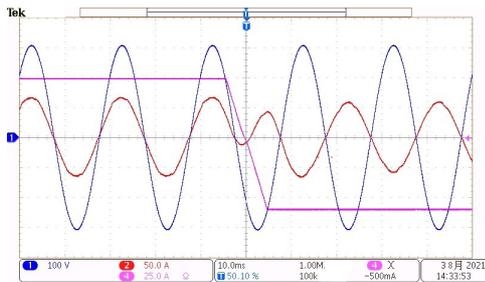
## Features

- For 380V, 400V, 480V AC
- Modular rack system
- Module redundancy function
- Cabinet system with 42U & 19 inch rack
- Minimal footprint : 3U / 30kW
- Up to 100 units parallel connection (3MW)
- Extensive protective function (OVP, OCP, OT, ...)
- Air cooling

# Auto ranging



The auto ranging function automatically controls voltage and current through the programmable DC power supply to maintain the rated output over a wide operating range. That is the higher voltage is available at lower current, and vice versa, allowing the DUT to be tested under different voltage/current conditions with a single DC power supply.



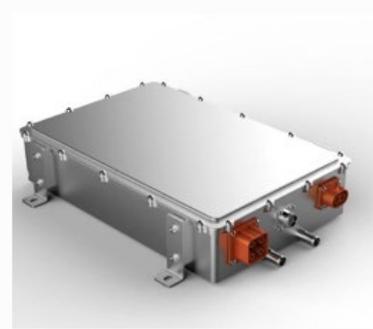
# Application

The modular DCS series is an innovative product used in a variety of applications based on the unique technology and optimal performance. It can act as regenerative electronic load while supplying bidirectional DC power, which is applicable to long-term reliability test applications involving a variety of power sources, including electric vehicle DC charging stations, on-board chargers, automotive battery charge and discharge tests, fuel cell discharge tests, ESS charge and discharge tests, and other power sources. They are particularly well suited for applications requiring very fast response times, such as simulating electric vehicle driving patterns.

## BLITZPower



DC EVSE Stability Testing



Onboard Charger Stability Testing



EV Battery Testing



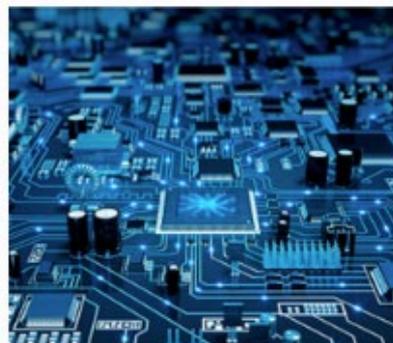
Solar Array Load Testing



Fuel Cell Discharge Testing



ESS Testing (Battery Simulator)



Power Electronic Components Testing



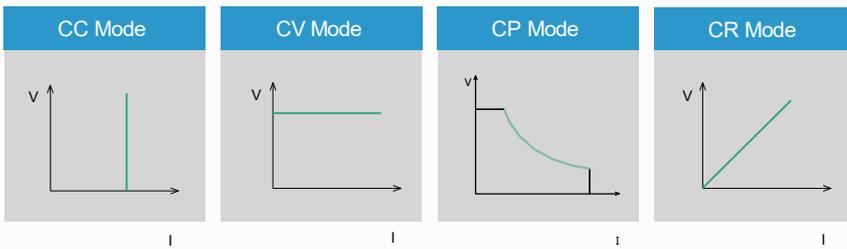
Server Power Supply Reliability Testing

# Powerful Software

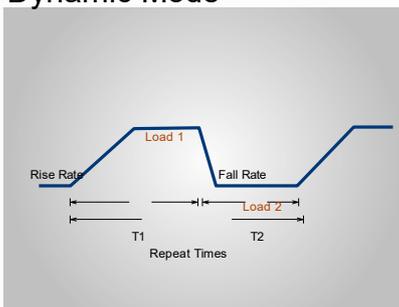


## Provides Diverse Simulation Mode

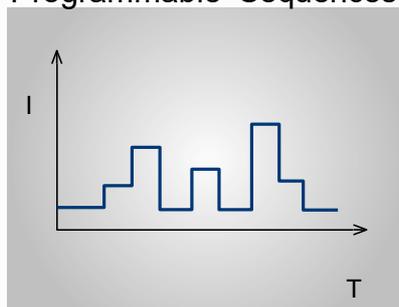
### Basic Mode



### Dynamic Mode



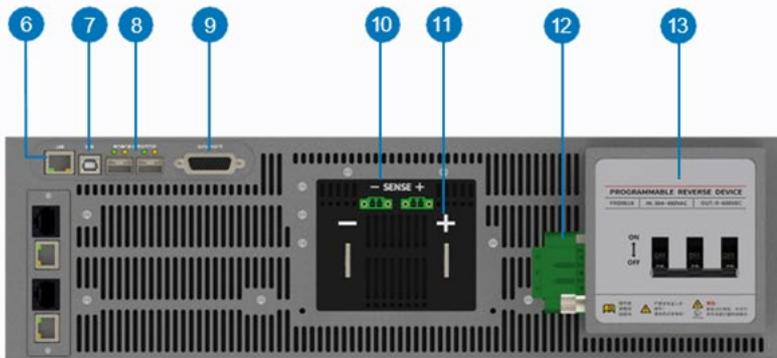
### Programmable Sequences



## FEATURES

- Battery Simulation  
LiMn2O4, LiCoO2, LiFePO4, NiMH, Ternary LI, LiTiO2 and PbO2 batteries
- PV Simulation  
Static curves, Curve programming, Static MPPT, Dynamic MPPT, Weather Simulation, Shading of photovoltaic panels
- Programming waveform
- Curve import and export

# Panel Description



- 1. Power Output Button
- 2. Power On / Reset Button  
Device on/off switch
- 3. USB port  
External Storage Interface
- 4. 18" FHD Touch Screen  
Display setting and measurement data
- 5. Pushable Knob  
To edit the settings on-screen
- 6. LAN Interface
- 7. USB Interface
- 8. Energy Matrix Interface  
Parallel connection
- 9. Anyport Interface
- 10. Voltage Sensing
- 11. Output Positive/Negative Terminals
- 12. AC input & PE Terminal
- 13. AC Circuit Breaker  
AC power on/off

# Dimension

