

MOMENTUM MS Series



Multi-channel Programmable DC Power Supply

INTEGRATE INNOVATION · WISDOM LEADS THE FUTURE

www.apmtechat.com

MOMENTUM

MS SERIES MULTI-CHANNEL PROGRAMMABLE DC POWER SUPPLY

Reversible full touch screen



Free configuration of modules



Sync function



300 channels



MAX.300



The Momentum MS series provides multiple isolated channels with up to 3400W of power per channel, and single-phase or three-phase input are available. This series has a flexible modular architecture, and channels can be freely configured according to test requirements to meet customized solutions. The wide-range output design expands the output range of current and voltage at full power output, making it more flexible to use. High-end appearance with a new UI touch interface, built-in software unique test function, high precision and high-speed dynamic response, could offer a complete solution for semiconductor power components and aging, automotive parts, solar energy, batteries and industrial automation and other fields.

Product Features

- Touch flip panel design, more convenient to operate and more intuitive to display.
- Universal input voltage, single/three-phase input optional.
- Flexible modular architecture, each channel can be freely configured.
- Wide range output design, full power provides a wider range of voltage and current combinations.
- Support multiple channel timing output, support proportional tracking output.
- Optical fiber parallel communication, synchronous/independent control up to 300 channels(Optional).
- Support channel series/parallel connection(Optional).
- Adjustable voltage/current slew rate.
- Constant voltage (CV), constant current (CC) and constant power (CP) operation mode, CC or CV working priority setting.
- List/ Step mode programming.
- DDS arbitrary function generator.*
- Solar panel I-V curve simulation function.*
- Smart 3-stage charging algorithm simulation.*
- Battery simulator function.*
- Built-in standard automotive power network voltage curves.*
- TTL/Analog control and monitoring(Optional).
- Supports SCPI commands, provides web GUI function.
- Full protection: OVP, OCP, OPP, OTP and SCP.
- Standard USB communication interface, optional GPIB/LAN& RS232/RS485/CAN.

* Only professional version units support these functions.

Quick Models Selection

| Models | Input mode & Voltage*1 | Input Current *1 | Output Voltage | Output Current | Output Power | Height |
|-------------------------|------------------------|-------------------------|-------------------------------------|-------------------------------------|--|--------|
| MSS80VDC3400W | 1P220 187~305Vac | 1P220 L,N-22A | CH1: 80V | CH1: 130A | CH1: 3400W | 2U |
| | 3P208 187~305Vac | 3P208 L3-0, L1,L2-22A | | | | |
| | 3P400 340~480Vac | 3P400 L3-0, L1,L2-12A | | | | |
| MSS250VDC3400W | 1P220 187~305Vac | 1P220 L,N-22A | CH1: 250V | CH1: 55A | CH1: 3400W | 2U |
| | 3P208 187~305Vac | 3P208 L3-0, L1,L2-22A | | | | |
| | 3P400 340~480Vac | 3P400 L3-0, L1,L2-12A | | | | |
| MSS500VDC3400W | 1P220 187~305Vac | 1P220 L,N-22A | CH1: 500V | CH1: 27A | CH1: 3400W | 2U |
| | 3P208 187~305Vac | 3P208 L3-0, L1,L2-22A | | | | |
| | 3P400 340~480Vac | 3P400 L3-0, L1,L2-12A | | | | |
| MSD80/80VDC6800W | 1P220 187~305Vac | 1P220 L-44A,N-44A | CH1: 80V CH2: 80V | CH1: 130A CH2: 130A | CH1: 3400W CH2: 3400W | 2U |
| | 3P208 187~305Vac | 3P208 L1-35A, L2,L3-22A | | | | |
| | 3P400 340~480Vac | 3P400 L1-20A, L2,L3-12A | | | | |
| MSD80/250VDC6800W | 1P220 187~305Vac | 1P220 L-44A,N-44A | CH1: 80V CH2: 250V | CH1: 130A CH2: 55A | CH1: 3400W CH2: 3400W | 2U |
| | 3P208 187~305Vac | 3P208 L1-35A, L2,L3-22A | | | | |
| | 3P400 340~480Vac | 3P400 L1-20A, L2,L3-12A | | | | |
| MSD80/500VDC6800W | 1P220 187~305Vac | 1P220 L-44A,N-44A | CH1: 80V CH2: 500V | CH1: 130A CH2: 27A | CH1: 3400W CH2: 3400W | 2U |
| | 3P208 187~305Vac | 3P208 L1-35A, L2,L3-22A | | | | |
| | 3P400 340~480Vac | 3P400 L1-20A, L2,L3-12A | | | | |
| MSD250/250VDC6800W | 1P220 187~305Vac | 1P220 L-44A,N-44A | CH1: 250V CH2: 250V | CH1: 55A CH2: 55A | CH1: 3400W CH2: 3400W | 2U |
| | 3P208 187~305Vac | 3P208 L1-35A, L2,L3-22A | | | | |
| | 3P400 340~480Vac | 3P400 L1-20A, L2,L3-12A | | | | |
| MSD250/500VDC6800W | 1P220 187~305Vac | 1P220 L-44A,N-44A | CH1: 250V CH2: 500V | CH1: 55A CH2: 27A | CH1: 3400W CH2: 3400W | 2U |
| | 3P208 187~305Vac | 3P208 L1-35A, L2,L3-22A | | | | |
| | 3P400 340~480Vac | 3P400 L1-20A, L2,L3-12A | | | | |
| MSD500/500VDC6800W | 1P220 187~305Vac | 1P220 L-44A,N-44A | CH1: 500V CH2: 500V | CH1: 27A CH2: 27A | CH1: 3400W CH2: 3400W | 2U |
| | 3P208 187~305Vac | 3P208 L1-35A, L2,L3-22A | | | | |
| | 3P400 340~480Vac | 3P400 L1-20A, L2,L3-12A | | | | |
| MST80/80/80VDC10000W | 3P208 187~305Vac | 3P208 L1, L2,L3-37A | CH1: 80V CH2: 80V CH3: 80V | CH1: 130A CH2: 130A CH3: 130A | CH1: 3400W CH2: 3400W CH3: 3400W | 2U |
| | 3P400 340~480Vac | 3P400 L1, L2,L3-21A | | | | |
| MST80/80/250VDC10000W | 3P208 187~305Vac | 3P208 L1, L2,L3-37A | CH1: 80V CH2: 80V CH3: 250V | CH1: 130A CH2: 130A CH3: 55A | CH1: 3400W CH2: 3400W CH3: 3400W | 2U |
| | 3P400 340~480Vac | 3P400 L1, L2,L3-21A | | | | |
| MST80/80/500VDC10000W | 3P208 187~305Vac | 3P208 L1, L2,L3-37A | CH1: 80V CH2: 80V CH3: 500V | CH1: 130A CH2: 130A CH3: 27A | CH1: 3400W CH2: 3400W CH3: 3400W | 2U |
| | 3P400 340~480Vac | 3P400 L1, L2,L3-21A | | | | |
| MST80/250/250VDC10000W | 3P208 187~305Vac | 3P208 L1, L2,L3-37A | CH1: 80V CH2: 250V CH3: 250V | CH1: 130A CH2: 55A CH3: 55A | CH1: 3400W CH2: 3400W CH3: 3400W | 2U |
| | 3P400 340~480Vac | 3P400 L1, L2,L3-21A | | | | |
| MST80/250/500VDC10000W | 3P208 187~305Vac | 3P208 L1, L2,L3-37A | CH1: 80V CH2: 250V CH3: 500V | CH1: 130A CH2: 55A CH3: 27A | CH1: 3400W CH2: 3400W CH3: 3400W | 2U |
| | 3P400 340~480Vac | 3P400 L1, L2,L3-21A | | | | |
| MST80/500/500VDC10000W | 3P208 187~305Vac | 3P208 L1, L2,L3-37A | CH1: 80V CH2: 500V CH3: 500V | CH1: 130A CH2: 27A CH3: 27A | CH1: 3400W CH2: 3400W CH3: 3400W | 2U |
| | 3P400 340~480Vac | 3P400 L1, L2,L3-21A | | | | |
| MST250/250/250VDC10000W | 3P208 187~305Vac | 3P208 L1, L2,L3-37A | CH1: 250V CH2: 250V CH3: 250V | CH1: 55A CH2: 55A CH3: 55A | CH1: 3400W CH2: 3400W CH3: 3400W | 2U |
| | 3P400 340~480Vac | 3P400 L1, L2,L3-21A | | | | |
| MST250/250/500VDC10000W | 3P208 187~305Vac | 3P208 L1, L2,L3-37A | CH1: 250V CH2: 250V CH3: 500V | CH1: 55A CH2: 55A CH3: 27A | CH1: 3400W CH2: 3400W CH3: 3400W | 2U |
| | 3P400 340~480Vac | 3P400 L1, L2,L3-21A | | | | |
| MST250/500/500VDC10000W | 3P208 187~305Vac | 3P208 L1, L2,L3-37A | CH1: 250V CH2: 500V CH3: 500V | CH1: 55A CH2: 27A CH3: 27A | CH1: 3400W CH2: 3400W CH3: 3400W | 2U |
| | 3P400 340~480Vac | 3P400 L1, L2,L3-21A | | | | |
| MST500/500/500VDC10000W | 3P208 187~305Vac | 3P208 L1, L2,L3-37A | CH1: 500V CH2: 500V CH3: 500V | CH1: 27A CH2: 27A CH3: 27A | CH1: 3400W CH2: 3400W CH3: 3400W | 2U |
| | 3P400 340~480Vac | 3P400 L1, L2,L3-21A | | | | |

*1 Input mode must be confirmed when ordering.

Supported Functions For Professional Version Only

| No. | Description | Application |
|-----|---|--|
| 1 | DDS arbitrary function generator | Includes a true function generator, built-in typical functions, supports complex waveforms creation, used for testing purposes in development and production |
| 2 | Solar panel I-V curve simulation function | Users can set the parameters to simulate I-V curve characteristic output |
| 3 | Smart 3-stage charging algorithm simulation | Commonly used charging curve simulation |
| 4 | Battery simulator function | Truly simulate the changes of internal resistance of battery in charging and discharging test. |
| 5 | Built-in standard automotive power network voltage curves | Users can recall the built-in standard curve to do the DUT performance test directly. |

Panel Introduction

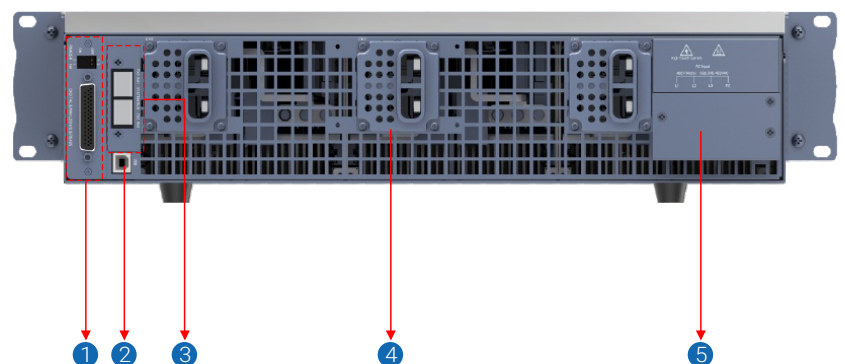
Front Panel Description

- ① Power switch
- ② USB port, for data transfers and firmware
- ③ Color touch screen
- ④ Output switch
- ⑤ Press knob



Rear Panel Description

- ① GPIB communication interface (optional)/ CAN communication interface (optional)/ LAN&RS232 communication interface (optional)/ RS485 communication interface & External TTL/Analog control interface (optional)*
- ② USB communication interface (standard)
- ③ SYSTEM BUS optical fiber interface (optional)
- ④ Output terminal
- ⑤ AC power input terminal



* The interface option occupies the same physical slot.

Features and Advantages

Flexible Input Mode

Supports global AC input specifications, and can select single/three-phase AC input to meet more test application.

| AC Input Voltage Selection | Channel | 2U | | |
|----------------------------|---------|-------------------------|-----------------------|--------------------------|
| | | Single channel 3400W | Dual channel 6800W | Three channels 10000W |
| 1P220(187-305Vac) | | ✓ | ✓ | |
| 3P208(187-305Vac) | | ✓ | ✓ | ✓ |
| 3P400(340-480Vac) | | ✓ | ✓ | ✓ |

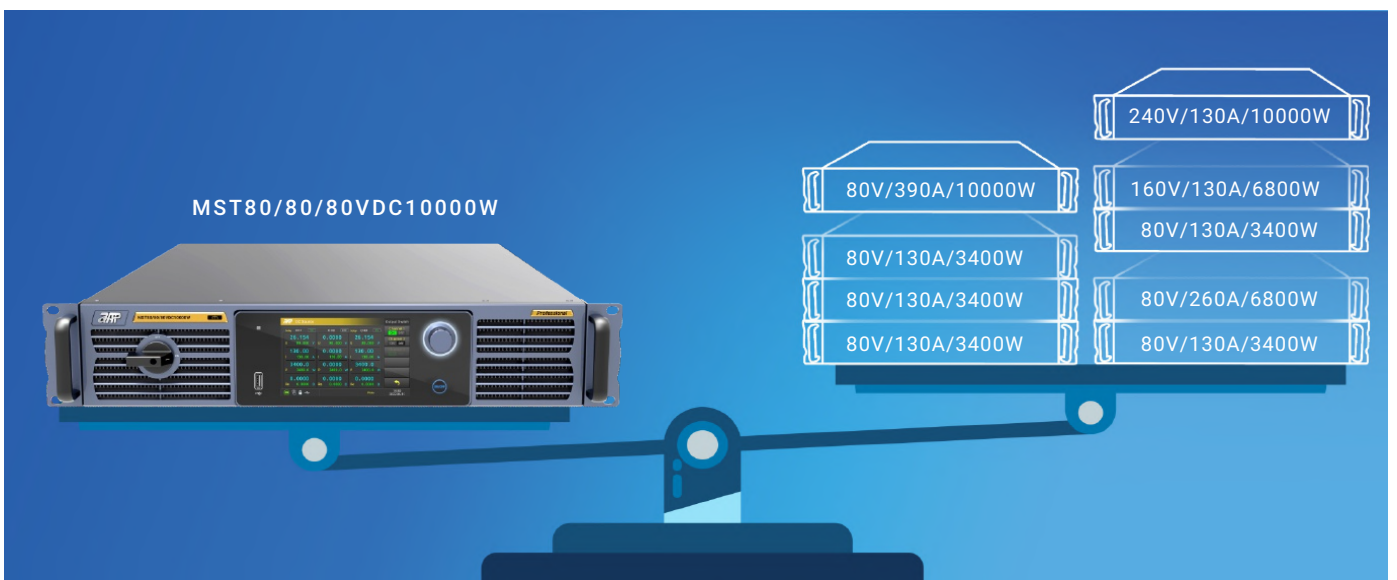
Multi-purpose in One Design, Highly Cost-effective

Users can choose standard series/parallel components and upgrade software to use channels in series or parallel, to obtain higher power capacity to achieve voltage up to 1500V or current up to 390A, to cover more requirements.

If you buy one MST80/80/80VDC10000W, it is equivalent to having the following nine power supplies applications of different specifications, with one for nine, ultra-high cost-effective:

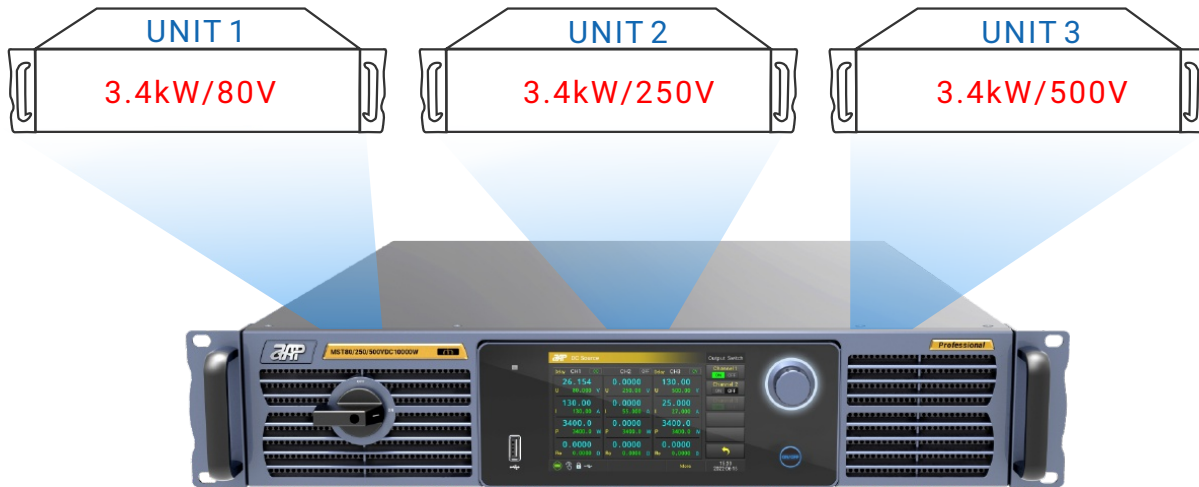
1. One 80V/390A/10000W power supply
2. One 80V/260A/6800W power supply + one 80V/130A/3400W power supply
3. Three 80V/130A/3400W power supplies
4. One 160V/130A/6800W power supply + one 80V/130A/3400W power supply
5. One 240V/130A/10000W power supply

*Only units with the same power module is supported.



Wide Output Range, High Power Density Design

This series of products provide industry-leading high power density, achieve 2U/each channel 3.4kW output, extending the current and voltage output range at full power output to meet a wider range of testing needs without purchasing additional models.



Multi-Channel Test Applications

This series is suitable for simultaneous testing/power supply of multiple DUTs. It adopts high-speed optical fiber synchronous communication to meet the test capability of up to 300 channels. Each channel can be controlled synchronously or operated independently. The work efficiency is greatly improved and the user operation is more convenient. By connecting the communication interface of one of the power supplies to the computer, could control the whole multi-channel power supply system through PC software.

300 Channels Test capability

Each channel can be controlled synchronously or operated independently

The image shows a multi-channel power supply unit with a digital display. The display shows test parameters for four channels: CH1 (25.154V, 0.0000A, 130.00W), CH2 (0.0000V, 228.00A, 500.00W), CH3 (130.00V, 0.0000A, 25.000W), and CH4 (3400.0V, 0.0000A, 3400.0W). The unit is labeled 'MST80/250/500VDC10000W' and 'Professional'. A large graphic overlay shows '300 CHANNEL' with a circuit board pattern and a stack of blue blocks representing channels.

Modular Design, Flexible Combination

Using a flexible modular architecture, each channel is isolated and independent for voltage/current control and measurement. There are up to 49 combinations of 3 groups of voltage and power modules. Users can freely mix and match according to their needs, avoiding repeated purchases and saving costs.



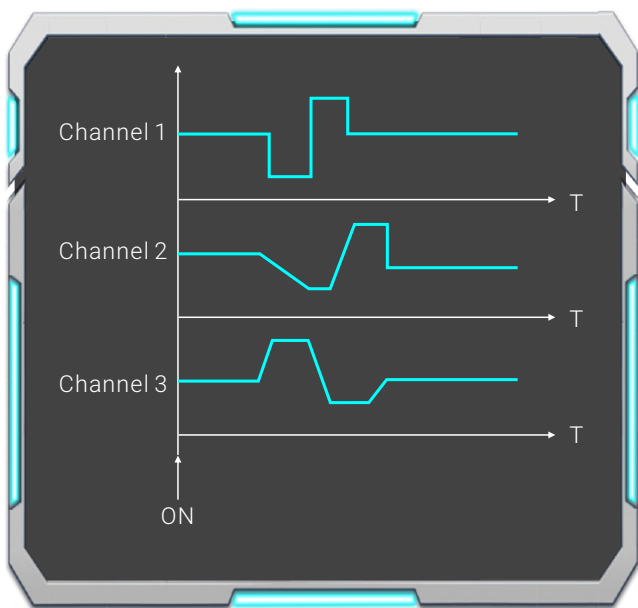
3 Groups

Voltage and power modules

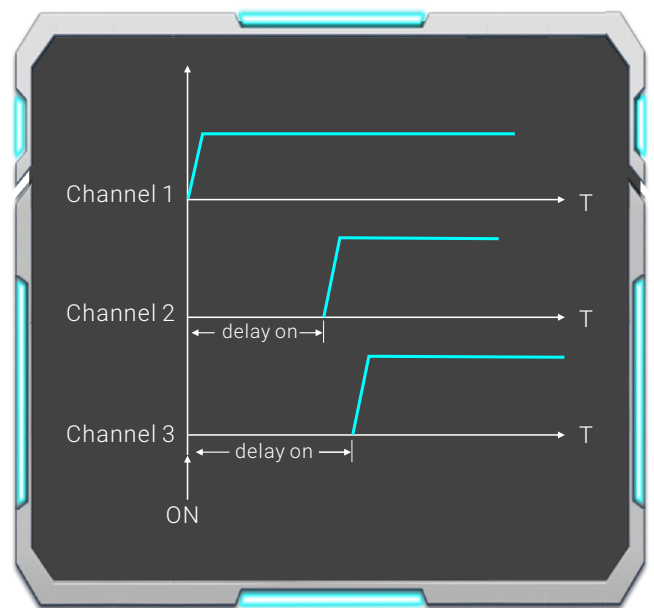
49 Combinations

Synchronous Operation Function

Whether three-channel power supply or multi-channel system, all support synchronization function. Users can set synchronous/delayed output according to their test requirements. It supports output of parameter proportional tracking and synchronous upgrade of multiple power supplies, simplify tedious and repetitive operations and improve test efficiency.



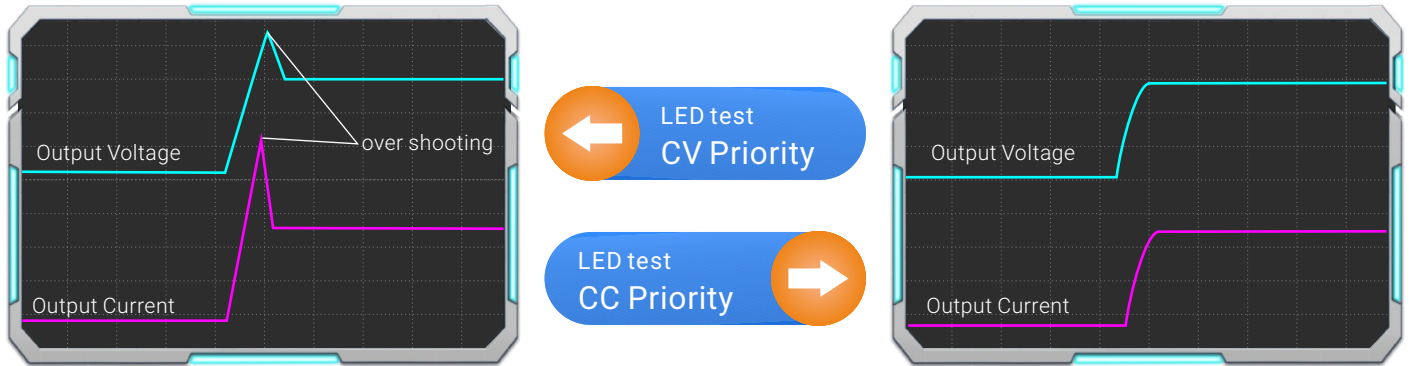
Synchronous Power-on



Delayed Power-on

CC&CV Priority

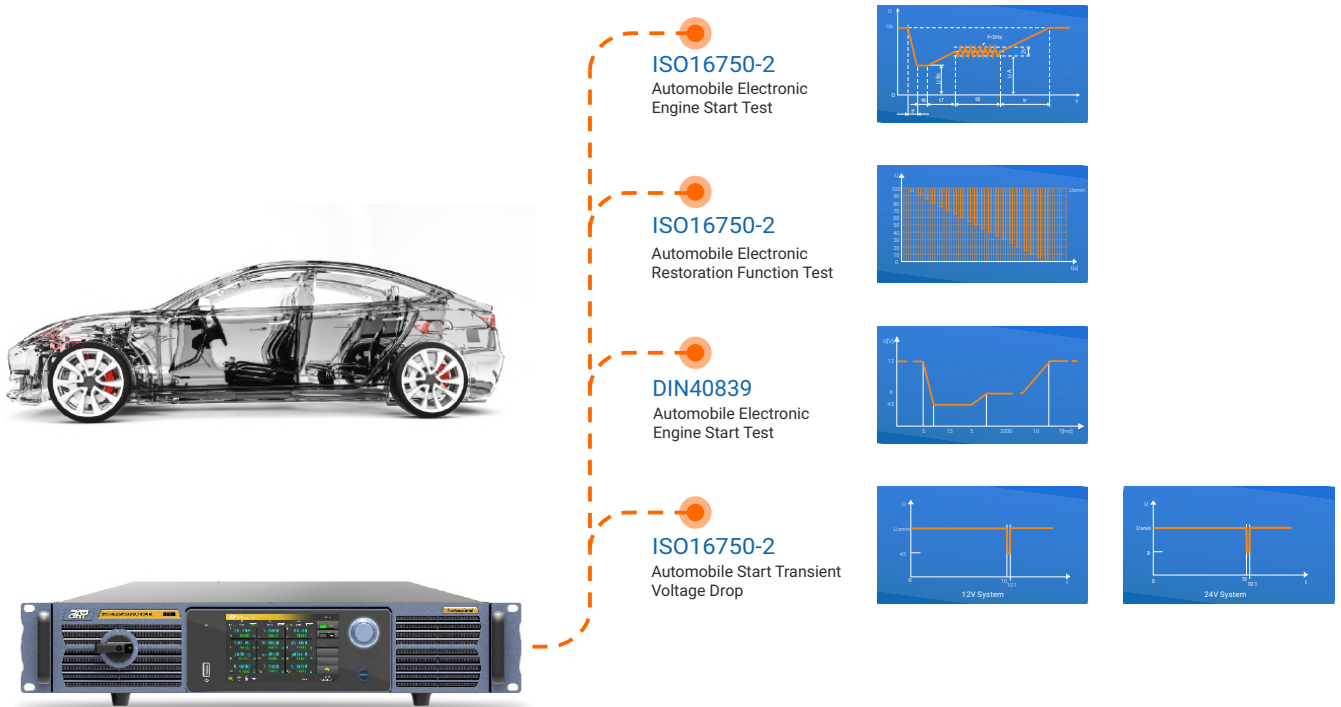
This series power supply provides CC/CV priority function allows the user to select suitable mode correspond to test requirement, let the output be voltage high speed or current no overshoot mode. Below shows an application of CC priority to avoid current overshoot during LED test. Suitable for integrated circuit test, charge and discharge test, automotive electronics power transient simulation.



Professional Version Power Supply Function

Built-in Standard Automotive Power Network Voltage Curves

This series power supply has built-in German DIN40839 standard voltage curve for the automotive power network and the international standard ISO-16750-2 pulse waveform. The fast rise/fall response time together with arbitrary function generate ability make it can truly simulate the influence on the performance of automotive electronic equipment under different test conditions, is the preferred power testing instrument in the automotive electronics industry.



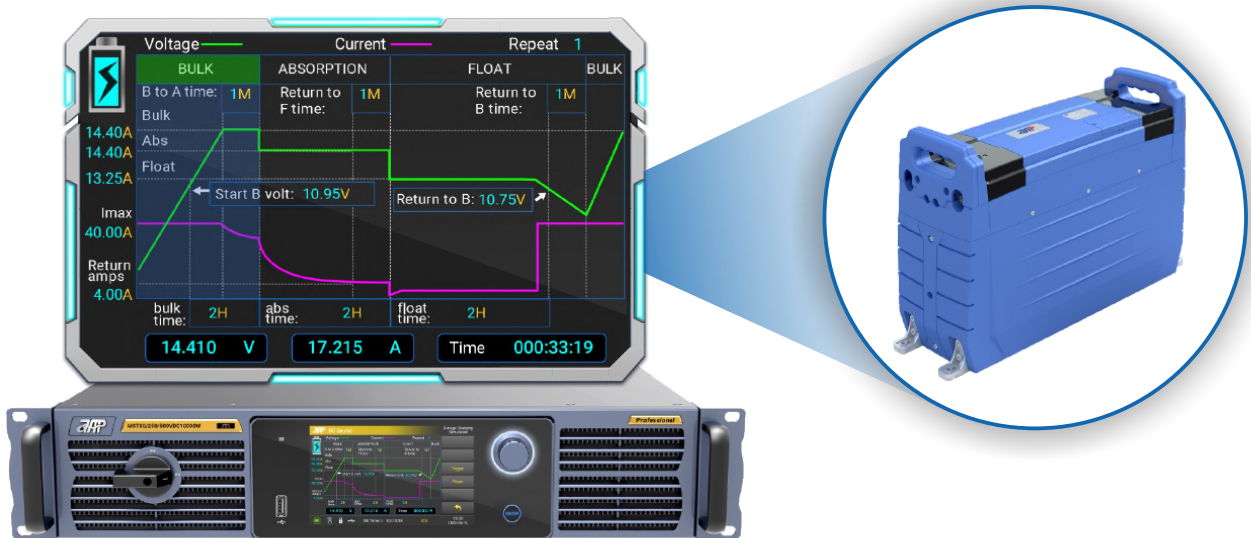
Battery Simulator Function

This series power supply built-in typical battery internal resistance curves and discharging curves can easily simulate battery behavior in real-case. It can be matched with battery simulation software, according to the change of external load current, the output voltage can be changed in real time according to the simulation curve. The software provides real-time data monitoring and data report query functions, providing real experimental data for engineers to study battery power systems.



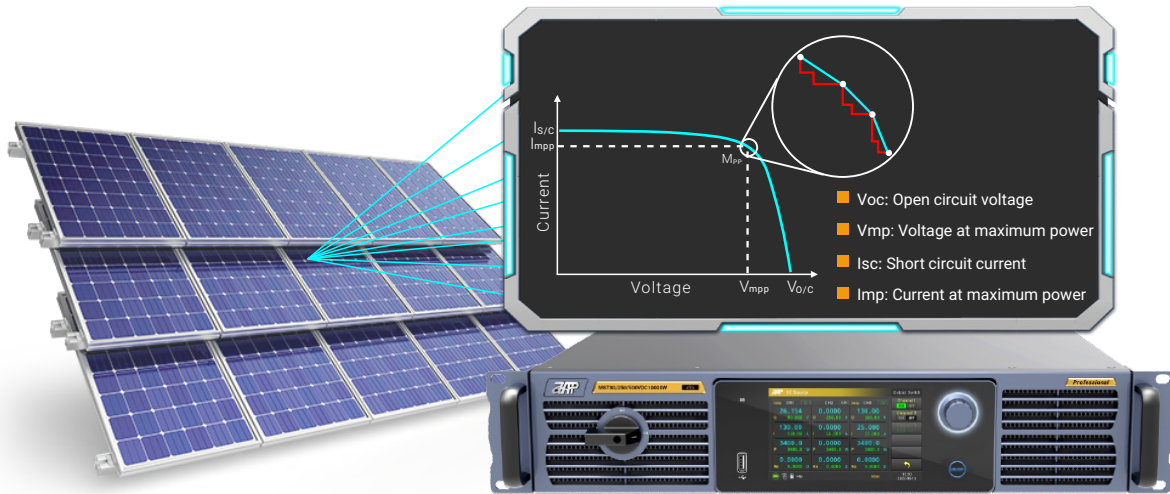
Smart 3-stage Charging Algorithm Simulation

This series power supply adopts 3-stage charging algorithm, built-in charging curves which is suitable for the commonly known types of batteries on the market. Users can directly recall the default curves or change the switching conditions at different charging stage according to the test requirement. Through the internal design, it improved and optimized hardware improvements, the current passing from the battery to power supply will be less than 10mA at any battery voltage when turn off the power supply. Thus avoid battery capacity loss, even when there is no anti-reverse irrigation equipment.



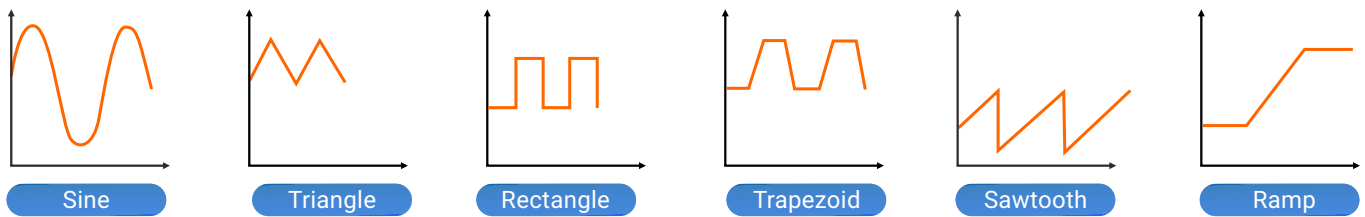
Solar Panel I-V Curve Simulation Function

The power supply provides an unique feature to simulate the output characteristics of a solar array includes Curve Mode, User-defined Mode and SAS Mode. With Curve mode, only need to set four parameters to simulate the solar array I-V curve. With User-defined mode, user can shape an I-V curve by entering up to 4096 points to simulate dynamic cloud cover effect which is useful for MPPT performance evaluation on PV inverter device. With built-in SAS mode, user can set the parameters to simulate I-V curve characteristic output and generate reports.



DDS Arbitrary Function Generator

This series power supply includes a true function generator which can generate typical functions as displayed below, convenient for editing or directly recall. Additional to the standard functions, this arbitrary generator is accessible for the creation and execution of complex sets of functions, which is can be used for testing purposes in development and production.



| Single Channel | | | | |
|--|------------------------------------|--|----------------------------------|----------------------------------|
| Module Model | 80VDC3400W | | 250VDC3400W | 500VDC3400W |
| Input | | | | |
| Voltage ^[1] | 1P220 187~305Vac | | | |
| | 3P208 187~305Vac | | | |
| | 3P400 340~480Vac | | | |
| Current ^[1] | 1P220 L,N-22A | | | |
| | 3P208 L3-0A, L1,L2-22A | | | |
| | 3P400 L3-0A, L1,L2-12A | | | |
| Frequency | 45-65Hz | | | |
| Connection | 1ph+PE/3ph+PE | | | |
| Fuse (Internal) ^[1] | 1P220 T30A*2PCS | | | |
| | 3P208 T30A*2PCS | | | |
| | 3P400 T20A*2PCS | | | |
| Power Factor | >0.99 | | | |
| Input Power | 1P220 4.15KVAmx | | | |
| | 3P208 4.15KVAmx | | | |
| | 3P400 4.1KVAmx | | | |
| Efficiency ^[1] | 1P220 88.5%@80V , 1P220 82.5%@130A | | 1P220 90%@250V , 1P220 86%@55A | 1P220 89.5%@500V , 1P220 86%@27A |
| | 3P208 88.5%@80V , 3P208 82.5%@130A | | 3P208 90%@250V , 3P208 86%@55A | 3P208 89.5%@500V , 3P208 86%@27A |
| | 3P400 89.5%@80V , 3P400 83.5%@130A | | 3P400 91.5%@250V , 3P400 88%@55A | 3P400 91%@500V , 3P400 88%@27A |
| Output | | | | |
| Voltage Range | 0~80V | | 0~250V | 0~500V |
| Current Range ^[2] | 0~130A | | 0~55A | 0~27A |
| Power Range | 0~3400W | | 0~3400W | 0~3400W |
| Max. Setup Range | Voltage | 0~84V(0-105%) | | 0~262.5V(0-105%) |
| | Current | 0~136.5A(0-105%) | | 0~57.75A(0-105%) |
| | Power | 0~3570W(0-105%) | | 0~3570W(0-105%) |
| | Internal Resistance | 0~18Ω | | 0~136Ω |
| Accuracy | Voltage | <0.1%Umax | | |
| | Current | <0.2%Imax | | |
| | Power | <0.5%+17W | | |
| | Internal Resistance | R <2%Rmax, I< 0.3%Imax | | |
| Line Regulation | Voltage | <0.02%Umax | | |
| | Current | <0.05%Imax | | |
| | Power | <0.05% Pmax | | |
| Load Regulation ^[3] | Voltage | <0.05%Umax @Rated Voltage, <0.1%Umax @Rated Current | | |
| | Current | <0.15%Imax | | |
| | Power | <0.75% Pmax | | |
| Rise Time | Voltage | <15ms(No Load) <50ms(Full Load) | | <15ms(No Load) <60ms(Full Load) |
| Drop Time | Voltage | <850ms(No Load) <15ms(Full Load) | | <600ms(No Load) <15ms(Full Load) |
| Transient Response Time ^[4] | Voltage | <3ms (Voltage will recover to ±0.5% when the load changes from 10% to 90%) | | |
| Set Resolution | Voltage | 0.006V | | 0.02V |
| | Current | 0.01A | | 0.004A |
| | Power | 0.26W | | 0.26W |
| | Internal Resistance | 0.0015Ω | | 0.01Ω |
| Display Resolution | Voltage | 0.001V | | 0.01V |
| | Current | 0.001A | | |
| | Power | 0.1W | | |
| | Internal Resistance | 0.0001Ω | | 0.001Ω |
| Measurement Accuracy | Voltage | <0.1%Umax | | |
| | Current | <0.2%Imax | | |
| | Power | <0.5%Pmax | | |
| | Internal Resistance | <0.4% Rmax | | |

| Single Channel | | | | |
|--|---------|--|---------------------|---------------------|
| Module Model | | 80VDC3400W | 250VDC3400W | 500VDC3400W |
| Ripple ^[5] | Voltage | 180mVpp/20mVrms | 250mVpp/60mVrms | 500mVpp/150mVrms |
| | Current | 65mArms | 27mArms | 13mArms |
| Remote Compensation | | 5%Umax(4V) | 5%Umax(12.5V) | 5%Umax(25V) |
| General | | | | |
| Graphic Display | | 5" Color touch LCD | | |
| Operation Key Feature | | Flippable touch screen, Rotary knob, USB port for transfer and upgrading firmware | | |
| Rack Mount Handles | | Yes | | |
| FAN | | Temperature control | | |
| Protection | | OVP, UVP, OCP, UCP, OPP, RMP protection parameters and other hardware protection such as OTP can be set. | | |
| Interface | | USB(Standard), RS232&LAN(Optional), GPIB(Optional), CAN(Optional), RS485(Optional) | | |
| Command Response Time | | <3ms | | |
| Analog Interface / Industrial communication control (Optional) | | | | |
| Set Value Inputs | | Analog input 0~5V/0~10V or 0~5kΩ/0~10kΩ to set 0~105% voltage, current and power | | |
| Actual Value Output | | Analog output 0~5V/0~10V to monitor the voltage and current. | | |
| Accuracy U/I/P/R | | U/I/R: <0.2% F.S ; P: <0.5% F.S | | |
| Actual Output U/I | | <0.2% | | |
| Control Signals | | DC ON/OFF, External control Enable/Disable | | |
| Status Signals | | CV, OVP, OTP, OCP | | |
| Sampling Rate of Input & Output | | 45Hz | | |
| Galvanic Isolation to the Device | | 4242VDC | | |
| Master/Slave Control | | | | |
| Multi-machine Parallel | | MAX 100 units | | |
| Environmental | | | | |
| Operating Temperature ^[2] | | 0~40°C | | |
| Storage Temperature | | -20~70°C | | |
| Temperature coefficient of readback value | | 100ppm/°C (Voltage) | 100ppm/°C (Voltage) | 100ppm/°C (Voltage) |
| | | 50ppm/°C (Current) | 50ppm/°C (Current) | 50ppm/°C (Current) |
| Temperature coefficient of setting value | | 100ppm/°C (Voltage) | 100ppm/°C (Voltage) | 100ppm/°C (Voltage) |
| | | 100ppm/°C (Current) | 100ppm/°C (Current) | 100ppm/°C (Current) |
| Relative Humidity | | <95%RH(non-condensing)@35°C, <80%RH(non-condensing)@40°C | | |
| Altitude | | <2000m@40°C | | |
| Fan Noise | | 71dB Idle; 73dB Max; | | |
| Mechanical | | | | |
| Dimensions(WxHxD) | | 423x88x635mm | | |
| Package Dimensions(WxHxD) | | 635x280x905mm | | |
| Unit Weight | | 18kg | | |
| Shipping Weight | | 25kg | | |
| Miscellaneous | | | | |
| Over Voltage Category | | II | | |
| Protection Class | | I | | |
| Pollution Degree | | 2 | | |
| Insulation | | AC input <->DC output, 4242VDC, AC input <-> PE, 2818VDC | | |

[1] For different input voltage standard option must be specified at the time of order as they are installed at the factory prior to shipment.

[2] It is recommended that the output current is derated by 10% when the operation environment is higher than 30°C.

[3] Load transient from 0% to 100% of rated output.

[4] Test value at 100% voltage and 100% power.

[5] Vrms @ 300kHz, Vpp @ 20MHz, Arms @ 300kHz.

| Dual Channel | | | | |
|--|------------------------------------|--|----------------------------------|-----------------------------------|
| Module Model | 80VDC3400W | | 250VDC3400W | 500VDC3400W |
| Input | | | | |
| Voltage ^[1] | 1P220 187~305Vac | | | |
| | 3P208 187~305Vac | | | |
| | 3P400 340~480Vac | | | |
| Current ^[1] | 1P220 L-44A,N-44A | | | |
| | 3P208 L1-35A, L2,L3-22A | | | |
| | 3P400 L1-20A, L2,L3-12A | | | |
| Frequency | 45-65Hz | | | |
| Connection | 1ph+PE/3ph+PE | | | |
| Fuse (Internal) ^[1] | 1P220 T30A*2PCS | | | |
| | 3P208 T30A*2PCS | | | |
| | 3P400 T20A*2PCS | | | |
| Power Factor | >0.99 | | | |
| Input Power | 1P220 8.3KVAmx | | | |
| | 3P208 8.3KVAmx | | | |
| | 3P400 8.2KVAmx | | | |
| Efficiency ^[1] | 1P220 88.5%@80V , 1P220 82.5%@130A | | 1P220 90%@250V , 1P220 86%@55A | 1P220 89.5%@500V , 1P220 86%@27A |
| | 3P208 88.5%@80V , 3P208 82.5%@130A | | 3P208 90%@250V , 3P208 86%@55A | 3P208 89.5%@500V , 3P208 86%@27A |
| | 3P400 89.5%@80V , 3P400 83.5%@130A | | 3P400 91.5%@250V , 3P400 88%@55A | 3P400 91%@500V , 3P400 88%@27A |
| Output | | | | |
| Voltage Range | 0~80V | | 0~250V | 0~500V |
| Current Range ^[2] | 0~130A | | 0~55A | 0~27A |
| Power Range | 0~3400W | | 0~3400W | 0~3400W |
| Max. Setup Range | Voltage | 0~84V(0-105%) | 0~262.5V(0-105%) | 0~525V(0-105%) |
| | Current | 0~136.5A(0-105%) | 0~57.75A(0-105%) | 0~28.35A(0-105%) |
| | Power | 0~3570W(0-105%) | 0~3570W(0-105%) | 0~3570W(0-105%) |
| | Internal Resistance | 0~18Ω | 0~136Ω | 0~556Ω |
| Accuracy | Voltage | <0.1%Umax | | |
| | Current | <0.2%Imax | | |
| | Power | <0.5%+17W | | |
| | Internal Resistance | R <2%Rmax, I< 0.3%Imax | | |
| Line Regulation | Voltage | <0.02%Umax | | |
| | Current | <0.05%Imax | | |
| | Power | <0.05% Pmax | | |
| Load Regulation ^[3] | Voltage | <0.05%Umax @Rated Voltage, <0.1%Umax @Rated Current | | |
| | Current | <0.15%Imax | | |
| | Power | <0.75% Pmax | | |
| Rise Time | Voltage | <15ms(No Load) <50ms(Full Load) | <15ms(No Load) <60ms(Full Load) | <15ms(No Load) <80ms(Full Load) |
| Drop Time | Voltage | <850ms(No Load) <15ms(Full Load) | <600ms(No Load) <15ms(Full Load) | <1500ms(No Load) <15ms(Full Load) |
| Transient Response Time ^[4] | Voltage | <3ms (Voltage will recover to ±0.5% when the load changes from 10% to 90%) | | |
| Set Resolution | Voltage | 0.006V | 0.02V | 0.04V |
| | Current | 0.01A | 0.004A | 0.002A |
| | Power | 0.26W | 0.26W | 0.26W |
| | Internal Resistance | 0.0015Ω | 0.01Ω | 0.04Ω |
| Display Resolution | Voltage | 0.001V | 0.01V | 0.01V |
| | Current | 0.001A | | |
| | Power | 0.1W | | |
| | Internal Resistance | 0.0001Ω | 0.001Ω | 0.001Ω |
| Measurement Accuracy | Voltage | <0.1%Umax | | |
| | Current | <0.2%Imax | | |
| | Power | <0.5%Pmax | | |
| | Internal Resistance | <0.4% Rmax | | |

| Dual Channel | | | | |
|--|---------|--|---------------------|---------------------|
| Module Model | | 80VDC3400W | 250VDC3400W | 500VDC3400W |
| Ripple ^[5] | Voltage | 180mVpp/20mVrms | 250mVpp/60mVrms | 500mVpp/150mVrms |
| | Current | 65mArms | 27mArms | 13mArms |
| Remote Compensation | | 5%Umax(4V) | 5%Umax(12.5V) | 5%Umax(25V) |
| General | | | | |
| Graphic Display | | 5" Color touch LCD | | |
| Operation Key Feature | | Flippable touch screen, Rotary knob, USB port for transfer and upgrading firmware | | |
| Rack Mount Handles | | Yes | | |
| FAN | | Temperature control | | |
| Protection | | OVP, UVP, OCP, UCP, OPP, RMP protection parameters and other hardware protection such as OTP can be set. | | |
| Interface | | USB(Standard), RS232&LAN(Optional), GPIB(Optional), CAN(Optional), RS485(Optional) | | |
| Command Response Time | | <3ms | | |
| Analog Interface / Industrial communication control (Optional) | | | | |
| Set Value Inputs | | Analog input 0~5V/0~10V or 0~5kΩ/0~10kΩ to set 0~105% voltage, current and power | | |
| Actual Value Output | | Analog output 0~5V/0~10V to monitor the voltage and current. | | |
| Accuracy U/I/P/R | | U/I/R: <0.2% F.S ; P: <0.5% F.S | | |
| Actual Output U/I | | <0.2% | | |
| Control Signals | | DC ON/OFF, External control Enable/Disable | | |
| Status Signals | | CV, OVP, OTP, OCP | | |
| Sampling Rate of Input & Output | | 45Hz | | |
| Galvanic Isolation to the Device | | 4242VDC | | |
| Master/Slave Control | | | | |
| Multi-machine Parallel | | MAX 100 units | | |
| Environmental | | | | |
| Operating Temperature ^[2] | | 0~40°C | | |
| Storage Temperature | | -20~70°C | | |
| Temperature coefficient of readback value | | 100ppm/°C (Voltage) | 100ppm/°C (Voltage) | 100ppm/°C (Voltage) |
| | | 50ppm/°C (Current) | 50ppm/°C (Current) | 50ppm/°C (Current) |
| Temperature coefficient of setting value | | 100ppm/°C (Voltage) | 100ppm/°C (Voltage) | 100ppm/°C (Voltage) |
| | | 100ppm/°C (Current) | 100ppm/°C (Current) | 100ppm/°C (Current) |
| Relative Humidity | | <95%RH(non-condensing)@35°C, <80%RH(non-condensing)@40°C | | |
| Altitude | | <2000m@40°C | | |
| Fan Noise | | 71dB Idle; 74dB Max; | | |
| Mechanical | | | | |
| Dimensions(WxHxD) | | 423x88x635mm | | |
| Package Dimensions(WxHxD) | | 635x280x905mm | | |
| Unit Weight | | 24kg | | |
| Shipping Weight | | 31kg | | |
| Miscellaneous | | | | |
| Over Voltage Category | | II | | |
| Protection Class | | I | | |
| Pollution Degree | | 2 | | |
| Insulation | | AC input <->DC output, 4242VDC, AC input <-> PE, 2818VDC | | |

[1] For different input voltage standard option must be specified at the time of order as they are installed at the factory prior to shipment.

[2] It is recommended that the output current is derated by 10% when the operation environment is higher than 30°C.

[3] Load transient from 0% to 100% of rated output.

[4] Test value at 100% voltage and 100% power.

[5] Vrms @ 300kHz, Vpp @ 20MHz, Arms @ 300kHz.

| Three Channels | | | | |
|--|--|--|----------------------------------|-----------------------------------|
| Module Model | 80VDC3400W | | 250VDC3400W | 500VDC3400W |
| Input | | | | |
| Voltage ^[1] | 3P208 187~305Vac 3P400 340~480Vac | | | |
| Current ^[1] | 3P208 L1, L2,L3-37A 3P400 L1, L2,L3-21A | | | |
| Frequency | 45-65Hz | | | |
| Connection | 3ph+PE | | | |
| Fuse (Internal) ^[1] | 3P208 T30A*2PCS 3P400 T20A*2PCS | | | |
| Power Factor | >0.99 | | | |
| Input Power | 3P208 12.4KVAmx 3P400 12.1KVAmx | | | |
| Efficiency ^[1] | 3P208 88.5%@80V , 3P208 82.5%@130A | | 3P208 90%@250V ,3P208 86%@55A | 3P208 89.5%@500V ,3P208 86%@27A |
| | 3P400 89.5%@80V , 3P400 83.5%@130A | | 3P400 91.5%@250V ,3P400 88%@55A | 3P400 91%@500V ,3P400 88%@27A |
| Output | | | | |
| Voltage Range | 0~80V | 0~250V | 0~500V | |
| Current Range ^[2] | 0~130A | 0~55A | 0~27A | |
| Power Range | 0~3400W | 0~3400W | 0~3400W | |
| Max. Setup Range | Voltage | 0~84V(0-105%) | 0~262.5V(0-105%) | 0~525V(0-105%) |
| | Current | 0~136.5A(0-105%) | 0~57.75A(0-105%) | 0~28.35A(0-105%) |
| | Power | 0~3570W(0-105%) | 0~3570W(0-105%) | 0~3570W(0-105%) |
| | Internal Resistance | 0~18Ω | 0~136Ω | 0~556Ω |
| Accuracy | Voltage | <0.1%Umax | | |
| | Current | <0.2%Imax | | |
| | Power | <0.5%+17W | | |
| | Internal Resistance | R <2%Rmax, I< 0.3%Imax | | |
| Line Regulation | Voltage | <0.02%Umax | | |
| | Current | <0.05%Imax | | |
| | Power | <0.05% Pmax | | |
| Load Regulation ^[3] | Voltage | <0.05%Umax @Rated Voltage, <0.1%Umax @Rated Current | | |
| | Current | <0.15%Imax | | |
| | Power | <0.75% Pmax | | |
| Rise Time | Voltage | <15ms(No Load) <50ms(Full Load) | <15ms(No Load) <60ms(Full Load) | <15ms(No Load) <80ms(Full Load) |
| Drop Time | Voltage | <850ms(No Load) <15ms(Full Load) | <600ms(No Load) <15ms(Full Load) | <1500ms(No Load) <15ms(Full Load) |
| Transient Response Time ^[4] | Voltage | <3ms (Voltage will recover to ±0.5% when the load changes from 10% to 90%) | | |
| Set Resolution | Voltage | 0.006V | 0.02V | 0.04V |
| | Current | 0.01A | 0.004A | 0.002A |
| | Power | 0.26W | 0.26W | 0.26W |
| | Internal Resistance | 0.0015Ω | 0.01Ω | 0.04Ω |
| Display Resolution | Voltage | 0.001V | 0.01V | 0.01V |
| | Current | 0.001A | | |
| | Power | 0.1W | | |
| | Internal Resistance | 0.0001Ω | 0.001Ω | 0.001Ω |
| Measurement Accuracy | Voltage | <0.1%Umax | | |
| | Current | <0.2%Imax | | |
| | Power | <0.5%Pmax | | |
| | Internal Resistance | <0.4% Rmax | | |
| Ripple ^[5] | Voltage | 180mVpp/20mVrms | 250mVpp/60mVrms | 500mVpp/150mVrms |
| | Current | 65mArms | 27mArms | 13mArms |
| Remote Compensation | 5%Umax(4V) | | 5%Umax(12.5V) | 5%Umax(25V) |

| Three Channels | | | |
|---|--|---------------------|---------------------|
| Module Model | 80VDC3400W | 250VDC3400W | 500VDC3400W |
| General | | | |
| Graphic Display | 5" Color touch LCD | | |
| Operation Key Feature | Flippable touch screen, Rotary knob, USB port for transfer and upgrading firmware | | |
| Rack Mount Handles | Yes | | |
| FAN | Temperature control | | |
| Protection | OVP, UVP, OCP, UCP, OPP, RMP protection parameters and other hardware protection such as OTP can be set. | | |
| Interface | USB(Standard), RS232&LAN(Optional), GPIB(Optional), CAN(Optional), RS485(Optional) | | |
| Command Response Time | <3ms | | |
| Analog Interface / Industrial communication control (Optional) | | | |
| Set Value Inputs | Analog input 0~5V/0~10V or 0~5kΩ/0~10kΩ to set 0~105% voltage, current and power | | |
| Actual Value Output | Analog output 0~5V/0~10V to monitor the voltage and current. | | |
| Accuracy U/I/P/R | U/I/R: <0.2% F.S ; P: <0.5% F.S | | |
| Actual Output U/I | <0.2% | | |
| Control Signals | DC ON/OFF, External control Enable/Disable | | |
| Status Signals | CV, OVP, OTP, OCP | | |
| Sampling Rate of Input & Output | 45Hz | | |
| Galvanic Isolation to the Device | 4242VDC | | |
| Master/Slave Control | | | |
| Multi-machine Parallel | MAX 100 units | | |
| Environmental | | | |
| Operating Temperature [1] | 0~40°C | | |
| Storage Temperature | -20~70°C | | |
| Temperature coefficient of readback value | 100ppm/°C (Voltage) | 100ppm/°C (Voltage) | 100ppm/°C (Voltage) |
| | 50ppm/°C (Current) | 50ppm/°C (Current) | 50ppm/°C (Current) |
| Temperature coefficient of setting value | 100ppm/°C (Voltage) | 100ppm/°C (Voltage) | 100ppm/°C (Voltage) |
| | 100ppm/°C (Current) | 100ppm/°C (Current) | 100ppm/°C (Current) |
| Relative Humidity | <95%RH(non-condensing)@35°C, <80%RH(non-condensing)@40°C | | |
| Altitude | <2000m@40°C | | |
| Fan Noise | 71dB Idle; 75dB Max; | | |
| Mechanical | | | |
| Dimensions(WxHxD) | 423x88x635mm | | |
| Package Dimensions(WxHxD) | 635x280x905mm | | |
| Unit Weight | 31kg | | |
| Shipping Weight | 38kg | | |
| Miscellaneous | | | |
| Over Voltage Category | II | | |
| Protection Class | I | | |
| Pollution Degree | 2 | | |
| Insulation | AC input <->DC output, 4242VDC, AC input <-> PE, 2818VDC | | |

[1] For different input voltage standard option must be specified at the time of order as they are installed at the factory prior to shipment.

[2] It is recommended that the output current is derated by 10% when the operation environment is higher than 30°C.

[3] Load transient from 0% to 100% of rated output.

[4] Test value at 100% voltage and 100% power.

[5] Vrms @ 300kHz, Vpp @ 20MHz, Arms @ 300kHz.

APM Technologies Ltd

Add: #7, Link Industry Park, Kechuang Road, Nancheng,
Dongguan, Guangdong, China
Tel: +86 769-8698 9800 ext:8901
E-mail: overseas@apmtech.cn
Web: www.apmtechate.com



Scan the QR code for more information