

FTP1200 series programmable DC power supply



| Brief Description

The FTP1200 series programmable DC power supply is a small volume, high performance, high power density DC power supply. The 1U/19 "full width/half width design makes the single machine more portable and the cabinet integration more convenient. FTP1200 series product line is rich, including 5 power levels, voltage range from 15V to 3000V, the maximum output power of 1800W, can be used in laboratory testing, system integration, large-scale production line testing and other different fields.

| Features

- Single machine power output range: 600 w / 900 w / 1500 w / 1200 w / 1800 w.
- Maximum voltage output range: 0 ~ 3000V;
- Single maximum current output range: 0 ~ 120A;
- Small size, 1U/½19 "or full 19";
- Input high power factor, low harmonics;
- High precision voltage and current control and measurement;
- Sequence and waveform editing function;
- Slope control: can quickly and accurately control voltage (or current) rise and fall;
- Cascade function: Support master-slave parallel mode, operate the entire cascade as if operating a single power supply (optional);
- Provide a powerful signal monitoring capability of the composite signal port (optional) :
 - Analog programming: control output voltage and output current through analog quantity;
 - External control: open or close the output through an external digital signal, and output a digital control number;
 - Monitoring output: the output waveform of voltage and current is output in the form of analog quantity, easy to monitor;
- Over-voltage protection, over-current protection, over-power protection, over-temperature protection and other all-round protection functions;
- Support voltage remote compensation;
- OLED display, wide viewing Angle, high brightness;
- Standard LAN, RS485;

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- Support standard SCPI and Modbus-RTU communication protocols.

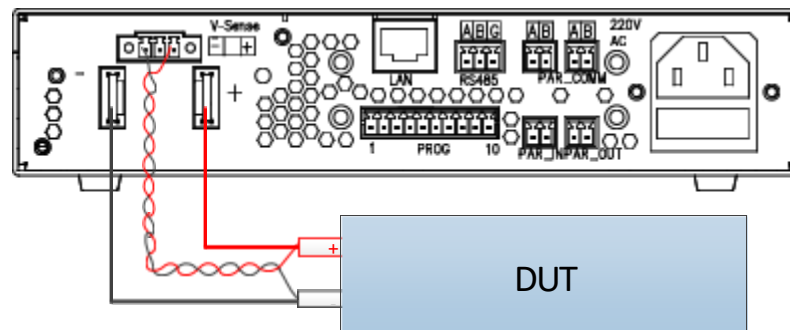
| high precision measurement function

FTP1200 series built-in 16bits high precision A/D converter, voltage 0.05%F.S., current 0.05%+0.1%F.S. The measurement accuracy of FTP1200. The measurement values of voltage, current and power can be displayed on the display screen of the front panel of the power supply at the same time. In addition, FTP1200 provides additional voltage and current monitoring output function, the user can monitor the output waveform of voltage and current through the oscilloscope by monitoring the output terminal.

| remote sensing function

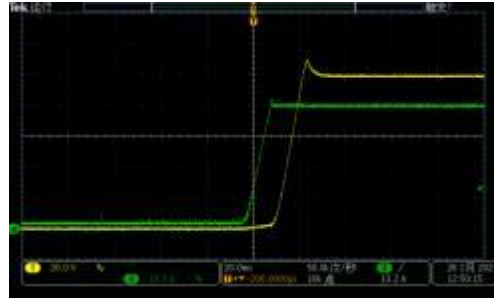
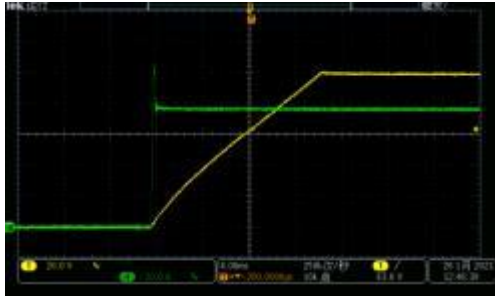
When the load consumes a large current, there will be a voltage drop on the connection line from the power supply to the load terminal. The remote sensing automatically compensates for the voltage drop on the load line. The wiring diagram of the remote sensing function power supply measurement is as follows:

(Note: 1000V and above models, do not have remote induction function)



|CV, CC preferred

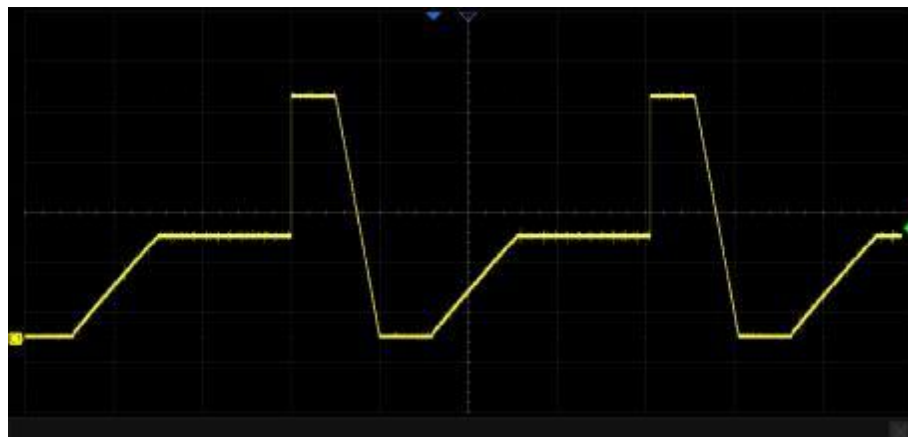
When the power output is connected to the inductive or capacitive load, the output current or voltage will overshoot to a certain extent, which will trigger the protection of the device under test, or even damage the device under test. FTP1200 series with CV, CC output priority function to effectively inhibit the output overshoot and the impact.



CV priority (highspeed build voltage, current overshoot) CC priority (highspeed build current, voltage overshoot)

| Sequence function

In the sequence output function mode, complex output changes can be simulated according to the sequence parameters edited by the user. Sequence output function, the menu option is "SEQ", which allows users to edit the voltage and current waveform by themselves.



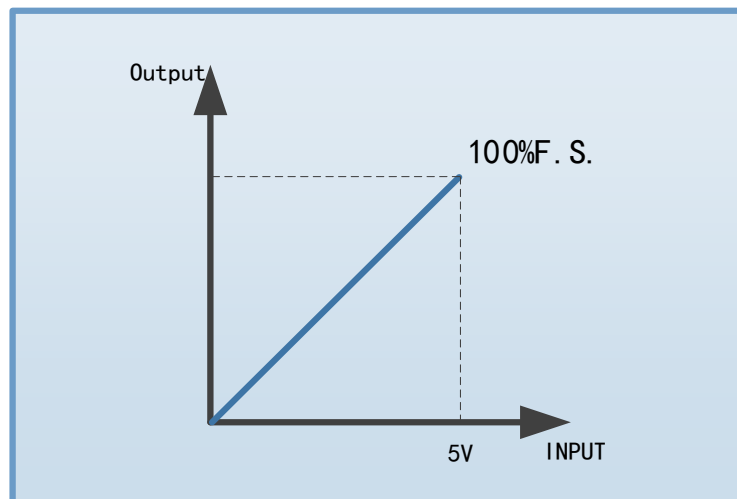
Sequence test output waveform

The FTP1200 series power supply provides 10 sequence files, each supporting up to 100 run steps. In the running steps, you can set the voltage setting, current setting and running time. Support "cycle number" and "link file" properties. "Cycle number" can control the number of times the sequence cycle runs, set to 0 to indicate infinite cycle. "Link File" can be implemented in the link between different files to run. Set it to 0 for no link.

| [simulates programming features](#)

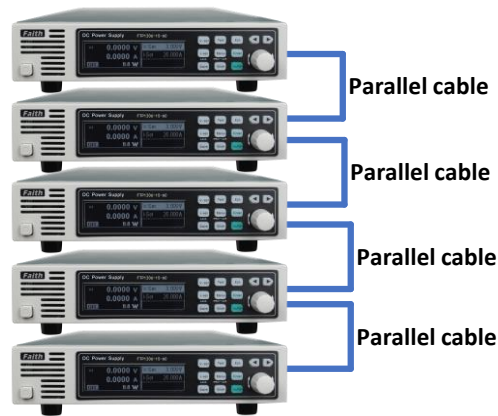
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FTP1200 series has two analog input ports, voltage programming and current programming, which can respectively control the output voltage and output current. The analog programming signal can choose 0 ~ 5V DC voltage signal. The programming signal corresponds to the output voltage and output current of 0 ~ 100%F.S.



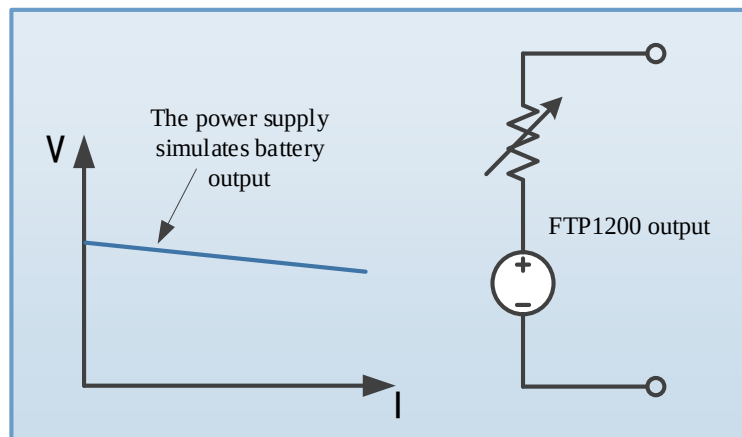
| [multi-machine parallel function](#)

The FTP1200 power supply supports up to 5 power supplies in parallel, which greatly expands the application output range of the power supply. Parallel function in addition to the automatic load between the power supply, to maintain the output value is consistent, but also to ensure the output slope curve or waveform is consistent. In the parallel state of the host, the power supply screen displays the total voltage, current and power values. Each slave automatically equalizes current and sums automatically.



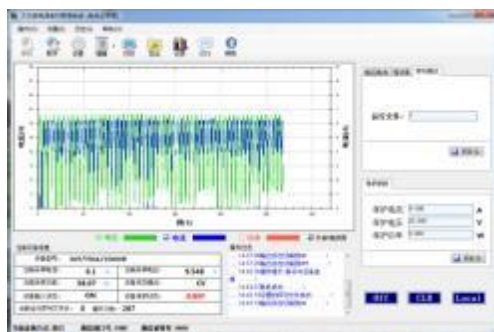
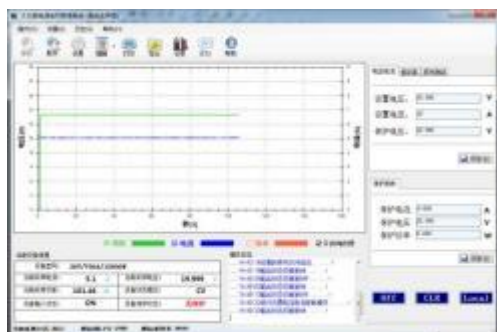
| battery internal resistance simulation function

FTP1200 series power supply has the function of simulating battery internal resistance output. When the output current of power supply increases, the output voltage can be adjusted according to the preset internal resistance value.



| computer graphic operating software

FTP1200 series provides a host computer software platform with the function of virtual instrument, which can remotely and real-time set test data, read test data, generate images, export data, etc. At the same time, multiple machines can be connected for control respectively, and the functions can be synchronously available for convenient test use.



Ordering information

Voltage	Mode	Current	Power	Voltage	Mode	Current	Power
15V	FTP1260-15-60	60A	600W	36V	FTP1260-36-50	50A	600W
	FTP1290-15-60	60A	900W		FTP1290-36-50	50A	900W
	FTP12150-15-120	120A	1500W		FTP12150-36-100	100A	1500W
	FTP12180-15-120	120A	1800W		FTP12180-36-100	100A	1800W
	FTP1260-15-60-WL	60A	600W		FTP1260-36-50-WL	50A	600W
	FTP12120-15-120-WL	120A	1200W		FTP12120-36-100-WL	100A	1200W
Voltage	Mode	Current	Power	Voltage	Mode	Current	Power
60V	FTP1260-60-30	30A	600W	80V	FTP1260-80-20	20A	600W
	FTP1290-60-30	30A	900W		FTP1290-80-20	20A	900W
	FTP12150-60-60	60A	1500W		FTP12150-80-40	40A	1500W
	FTP12180-60-60	60A	1800W		FTP12180-80-40	40A	1800W
	FTP1260-60-30-WL	30A	600W		FTP1260-80-20-WL	20A	600W
	FTP12120-60-60-WL	60A	1200W		FTP12120-80-40-WL	40A	1200W
Voltage	Mode	Current	Power	Voltage	Mode	Current	Power
150V	FTP1260-150-12	12A	600W	300V	FTP1260-300-03	3A	600W
	FTP1290-150-12	12A	900W		FTP1290-300-03	3A	900W
	FTP12150-150-24	24A	1500W		FTP12150-300-06	6A	1500W
	FTP12180-150-24	24A	1800W		FTP12180-300-06	6A	1800W
	FTP1260-150-12-WL	12A	600W		FTP1260-300-03-WL	3A	600W
	FTP12120-150-24-WL	24A	1200W		FTP12120-300-06-WL	6A	1200W
Voltage	Mode	Current	Power	Voltage	Mode	Current	Power
600V	FTP1260-600-015	1.5A	600W	1000V	FTP1260-1000-01	1A	600W
	FTP1290-600-015	1.5A	900W		FTP1290-1000-01	1A	900W
	FTP12150-600-03	3A	1500W		FTP12150-1000-02	2A	1500W
	FTP12180-600-03	3A	1800W		FTP12180-1000-02	2A	1800W
	FTP1260-600-015-WL	1.5A	600W		FTP1260-1000-01-WL	1A	600W
	FTP12120-600-03-WL	3A	1200W		FTP12120-1000-02-WL	2A	1200W
Voltage	Mode	Current	Power	Voltage	Mode	Current	Power
2000V	FTP1260-2000-01	1A	600W	3000V	FTP1260-3000-003	0.3A	600W
	FTP1290-2000-01	1A	900W		FTP1290-3000-003	0.3A	900W
	FTP12150-2000-02	2A	1500W		FTP12150-3000-006	0.6A	1500W
	FTP12180-2000-02	2A	1800W		FTP12180-3000-006	0.6A	1800W
	FTP1260-2000-01-WL	1A	600W		FTP1260-3000-003-WL	0.3A	600W
	FTP12120-2000-02-WL	2A	1200W		FTP12120-3000-006-WL	0.6A	1200W
Remark :	suffix: /, AC input: 180Vac~260Vac; -WL, AC input: 90Vac~260Vac						

* Other voltage specifications can be negotiated and customized if there is batch demand

| [Purchase Information](#)

Name	Model or specification	Instructions
19 "shelf kit	FT-H111	Single (1U/½19 ") shelf kit
19 "shelving kit	FT-H112	Two mounted shelf kits side by side
19 "shelving kit	FT-H113	Single (1U/ full 19 ") shelf kit
Stack kit	FT-D104	Multilayer stack kit
FTP1000 High voltage test wire	FT1001W	Applicable to FTP1000, FT1200 series 1000V and above models

| Specification sheet

General specification sheet:

General Specification Sheet	
Voltage temperature coefficient	50ppm/°C
Temperature coefficient of current	100ppm/°C
External Simulation Programming and Monitoring (Optional)	
Vout voltage programming:	0 ~ 5V corresponds to 0 ~ 100%F.S. Accuracy: 0.3%F.S.
I out voltage programming:	0 ~ 5V corresponds to 0 ~ 100%F.S. Accuracy: 0.5%F.S.
Vmon voltage output monitoring	0 ~ 5V corresponds to 0 ~ 100%F.S. Accuracy: 0.5%F.S.
Imon current output monitoring	0 ~ 5V corresponds to 0 ~ 100%F.S. Accuracy: 0.5%F.S.
Input characteristics	
Ac input voltage	180VAC ~ 260VAC, frequency 47Hz ~ 63Hz (900W, 1500W, 1800W models) Or 90VAC ~ 260VAC, frequency 47Hz ~ 63Hz (600W, 1200W Suffix -WL model)
Power factor	0.99@220Vac, rated output power
Full load maximum input current	600W: 3.5A, 900W: 5A, 1500W: 8.75A, 1800W: 10A@220V ac
Environmental Characteristics	
Operating temperature	0°C ~ 40°C (full load)
Storage temperature	-20°C ~ 70°C
Operating humidity	30% to 90% RH (no condensation)
Storage humidity	10% to 95% RH (no condensation)
Operating altitude	< 2000m
Structural characteristic	
Communication interface	LAN, RS485
Cooling method	Forced air cooling, air out after the forward air, no ventilation holes in the upper cover and base, speed regulating fan
Size (W*H*D)	210*44*462 mm(600W, 900W models); 430*44*462 mm(900W model above)
Weight	4.5kg(600W, 900W model); 9kg(900W model or above)

Electrical specification sheet:

Electrical Specification Sheet -1					
Model number	FTP1260-15-60	FTP1260-36-50	FTP1260-60-30	FTP1260-80-20	FTP1260-150-12
Rated voltage	0~15V	0~36V	0~60V	0~80V	0~150V
Rated current	0~60A	0~50A	0~30A	0~20A	0~12A

Rated power		600W				
Model number	FTP1290-15-60	FTP1290-36-50	FTP1290-60-30	FTP1290-80-20	FTP1290-150-12	
Voltage	0~15V	0~36V	0~60V	0~80V	0~150V	
Current	0~60A	0~50A	0~30A	0~20A	0~12A	
Power	900W					
Model number	FTP12120-15-120	FTP12120-36-100	FTP12120-60-60	FTP12120-80-40	FTP12120-150-24	
Voltage	0~15V	0~36V	0~60V	0~80V	0~150V	
Current	0~120A	0~100A	0~60A	0~40A	0~24A	
Power	1200W					
Model number	FTP12150-15-120	FTP12150-36-100	FTP12150-60-60	FTP12150-80-40	FTP12150-150-24	
Voltage	0~15V	0~36V	0~60V	0~80V	0~150V	
Current	0~120A	0~100A	0~60A	0~40A	0~24A	
Power	1500W					
Model number	FTP12180-15-120	FTP12180-36-100	FTP12180-60-60	FTP12180-80-40	FTP12180-150-24	
Voltage	0~15V	0~36V	0~60V	0~80V	0~150V	
Current	0~120A	0~100A	0~60A	0~40A	0~24A	
Power	1800W					
Voltage Programming *1						
Resolution	1mV	1mV	1mV	1mV	10mV	
Precision	0.05% F.S.					
Current programming *2						
Resolution	1mA	1mA	1mA	1mA	1mA	
Precision	0.05% + 0.1% F.S.					
Linear adjustment rate						
Voltage	0.02% or less F.S.					
Current	0.05% or less F.S.					
Load adjustment rate						
Voltage	0.02% or less F.S.					
Current	0.05% or less f.s. + 2 mA					
Voltage measurement *1						
Resolution	1mV	1mV	1mV	1mV	10mV	
Precision	0.05% F.S.					
Current measurement *2						
Resolution	1mA	1mA	1mA	1mA	1mA	
Precision	0.1% + 0.1% F.S.					
Output noise & Ripple						
Voltage Ripple (Vp-p)		≤50mV	≤60mV	≤100mV	≤150mV	≤200mV
Voltage Ripple (Vrms)		≤12mV	≤15mV	≤15mV	≤25mV	≤30mV
Current Ripple (Arms) *3	≤900W	≤60mA	≤50mA	≤30mA	≤12mA	≤24mA
	>900W	≤120mA	≤100mA	≤60mA	≤24mA	≤48mA
External Simulation Programming and Monitoring (Optional)						
Vout voltage program ming:		0 ~ 5V corresponds to 0 ~ 100%F.S. Accuracy: 0.3%F.S.				
I out voltage program ming:		0 ~ 5V corresponds to 0 ~ 100%F.S. Accuracy: 0.5%F.S.				

Vmon voltage output monitorin g		0 ~ 5V corresponds to 0 ~ 100%F.S. Accuracy: 0.5%F.S.				
Imon current output monitorin g		0 ~ 5V corresponds to 0 ~ 100%F.S. Accuracy: 0.5%F.S.				
Slope						
Volatge slope		1V/ms	2V/ms	3V/ms	3V/ms	4V/ms
Current slope	≤900W	6A/ms	5A/ms	3A/ms	2A/ms	1. 2A/ms
	>900W	12A/ms	10A/ms	6A/ms	4A/ms	2. 4A/ms
Rasing time						
Ascent time (empty load) *4		35ms	35ms	35ms	35ms	50ms
Ascent time (full load) *5		35ms	35ms	35ms	35ms	50ms
Descent time (empty load) *6		600ms	800ms	800ms	800ms	1100ms
Descent time (full load) *7		80ms	80ms	80ms	80ms	100ms
Transient response time		The output voltage deviation recovers to within 0.75% of the rated voltage (50%-100% load) ≤2ms				
Efficiency *8		0. 86	0. 86	0. 88	0. 88	0. 88
Remote compensation voltage		0. 75V	1. 8V	3V	4V	7. 5V

Electrical specification Sheet -2					
Model number	FTP1260-300-03	FTP1260-600-015	FTP1260-1000-01	FTP1260-2000-01	FTP1260-3000-003
Rated voltage	0~300V	0~600V	0~1000V	0~2000V	0~3000V
Rated current	0~3A	0 ~ 1.5 A	0~1A	0~1A	0~300mA
Rated power	600W				
Model number	FTP1290-300-03	FTP1290-600-015	FTP1290-1000-01	FTP1290-2000-01	FTP1290-3000-003
Voltage	0~300V	0~600V	0~1000V	0~2000V	0~3000V
Current	0~3A	0 ~ 1.5 A	0~1A	0~1A	0~300mA
Power	900W				
Model number	FTP12120-300-06	FTP12120-600-03	FTP12120-1000-02	FTP12120-2000-02	FTP12120-3000-006
Voltage	0~300V	0~600V	0~1000V	0~2000V	0~3000V
Current	0~6A	0~3A	0~2A	0~2A	0~600mA
Power	1200W				
Model number	FTP12150-300-06	FTP12150-600-03	FTP12150-1000-02	FTP12150-2000-02	FTP12150-3000-006
Rated voltage	0~300V	0~600V	0~1000V	0~2000V	0~3000V
Rated current	0~6A	0~3A	0~2A	0~2A	0~600mA
Rated power	1500W				
Model number	FTP12180-300-06	FTP12180-600-03	FTP12180-1000-02	FTP12180-2000-02	FTP12180-3000-006
Rated voltage	0~300V	0~600V	0~1000V	0~2000V	0~3000V
Rated current	0~6A	0~3A	0~2A	0~2A	0~600mA
Rated power	1800W				
Voltage Programming *1					
Resolution	10mV	10mV	100mV	100mV	100mV
Precision	0.05% F.S.				
Current programming *2					
Resolution	1mA	1mA	1mA	1mA	1mA
Precision	0.1% + 0.1% F.S.	0.1% + 0.2% F.S.			0.1% + 1.5 mA
Linear adjustment rate					
Voltage	0.02% or less F.S.				
Current	0.05% or less F.S.				
Load adjustment rate					
Voltage	0.02% or less F.S.				
Current	0.05% or less f.s. + 2 ma				
Voltage measurement *1					
Resolution	10mV	10mV	100mV	100mV	100mV
Precision	0.05% F.S.				
Current measurement *2					
Resolution	1mA	1mA	1mA	1mA	1mA

Precision		0.1% + 0.1% F.S.	0.1% + 0.2% F.S.			0.1% + 1.5 mA
Output noise & Ripple						
Voltage Ripple (Vp-p)		≤300mV	≤600mV	≤1000mV	≤3000mV	≤3500mV
Voltage Ripple (Vrms)		≤75mV	≤125mV	≤200mV	≤400mV	≤600mV
Current	≤900W	≤3mA	≤3mA	≤1mA	≤1mA	≤1mA
Ripple (Arms) *3	>900W	≤6mA	≤6mA	≤2mA	≤2mA	≤1mA
External Simulation Programming and Monitoring (Optional)						
Vout voltage programming:		0 ~ 5V corresponds to 0 ~ 100%F.S. Accuracy: 0.3%F.S.				
I out voltage programming:		0 ~ 5V corresponds to 0 ~ 100%F.S. Accuracy: 0.5%F.S.				
Vmon voltage output monitoring		0 ~ 5V corresponds to 0 ~ 100%F.S. Accuracy: 0.5%F.S.				
Imon current output monitoring		0 ~ 5V corresponds to 0 ~ 100%F.S. Accuracy: 0.5%F.S.				
Slope						
Voltage slope		4V/ms	4V/ms	5V/ms	8V/ms	9V/ms
Current slope	≤900W	0. 3A/ms	0. 15A/ms	0. 1A/ms	0. 1A/ms	0. 1A/ms
	>900W	0. 6A/ms	0. 3A/ms	0. 2A/ms	0. 2A/ms	0. 2A/ms
Rasing time						
Ascent time (empty load) *4		150ms	250ms	≤250ms	≤400ms	≤400ms
Ascent time (full load) *5		150ms	250ms	≤250ms	≤400ms	≤400ms
Descent time (empty load) *6		2. 5s	3. 5s	≤8s	≤12s	≤15s
Descent time (full load) *7		120ms	150ms	≤250ms	≤400ms	≤400ms
Transient response time		The output voltage deviation recovers to within 0.75% of the rated voltage (50%~100% load) ≤2ms				
Efficiency *8		0. 88	0. 88	0. 88	0. 88	0. 88
Remote compensation voltage		15V	15V	—	—	—

Note:

* All specifications are subject to change without notice;

*1. Minimum voltage must be ≥0.5%F.S. *2.

Minimum current value ≥0.5%F.S.;

*3. Ripple measurement conditions are 10% ~ 100% rated voltage and rated current; *4. No load state, rated voltage from 10% to 90% change time;

*5. Full load (resistive load) state, rated voltage from 10% to 90% change time; *6. No load state, rated voltage from 90% to 10% change time;

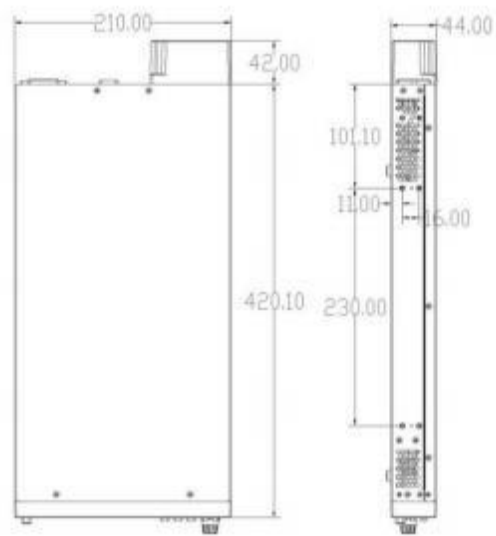
*7. Full load (resistive load) state, rated voltage from 90% to 10% change time; *8.220Vac/50Hz input, rated voltage and maximum power output measured.

8.Input 220Vac/50Hz, output measured at rated voltage and maximum power.

9. 1000V and above, the float voltage at 0V no-load output is approximately no more than 7V.

| Dimensional drawing

600W, 900W model size:



1200W, 1500W, 1800W Model size:

