FTP1000 Programmable DC power(600~1800W)

Faith

Programmable DC Source
FTP1000 series

SHENZHEN FAITHTECH CO.,LTD

|General

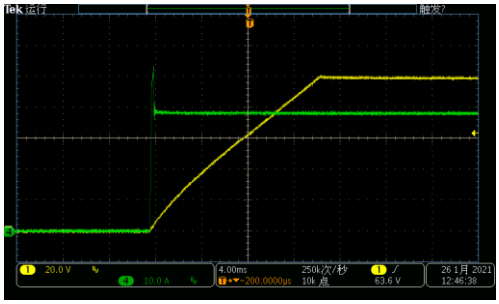
The FTP1000 series is a small volume, high performance and high power density programmable DC source.The 1U/19 "full width \ half width design makes the single device more lightweight and the cabinet integration more convenient.The maximum output power 1800W,it can be applied in different fields such as laboratory testing, system integration, and large-scale production line testing.

|Features

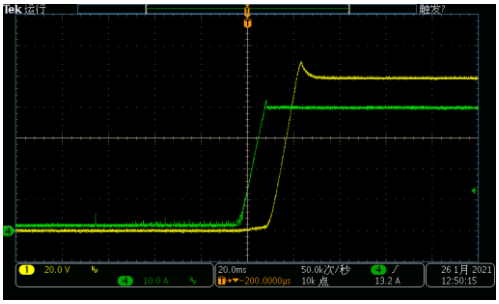
- Output Power：600W/900W/1200W/1500W/1800W；
- Output Voltage：0～3000V；
- Output current：0～120A；
- Small size,1U/half 19 inch or full 19 inch;
- Input high Power factor,low harmonic;
- Sequence and waveform editing function;
- Equipped with battery charging function;
- Comprehensive protection function for over voltage,over current,over power,over temperature;
- Support to set output time,can control and record output time;
- Support Voltage compensation remotely;
- OLED display，wide viewing angle,high brightness;
- Standard RS232 and LAN，optional RS485;
- Support standard SCPI and Modbus-RTU communication protocol.

|CV、CC priority

When the power output is connected to an inductive or capacitive load, it can cause a certain degree of overshoot in the output current or voltage. In mild cases it can trigger the protection of the tested equipment, and in severe cases it can directly cause damage to the tested equipment.The FTP1000 series have CV and CC output priority functions,it can suppress output overshoot effectively and its impact.



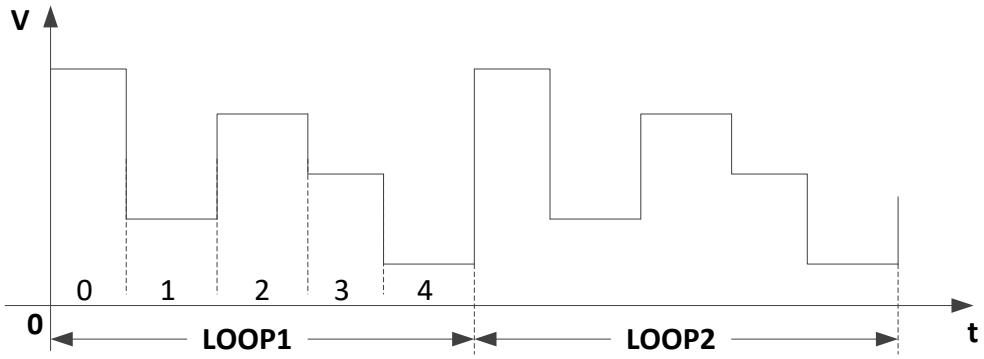
CV priority（high speed built Overshoot of Voltage，Current）



CC priority（high speed built Overshoot of Current,Voltage）

|Sequence function

In the sequence output mode, complex output changes can be simulated based on user edited sequence parameters.Sequence output function, with menu option "SEQ", allow user to edit voltage and current waveform themselves.



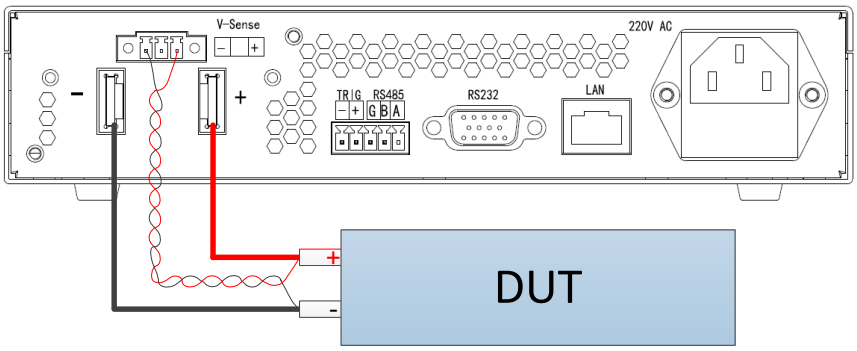
Output waveform for sequence testing

FTP1000 series provide 10 sequence files, each supporting up to 100 running steps.It can be set the voltage setting,current setting and runtime in running step.Support “Cycle numbers”and “Link file”,The cycle numbers can control sequence cycle running numbers,set 0 in infinite loop.The Link files can be used to run links between different files,set 0 to indicate no link.

|Remote sensing function

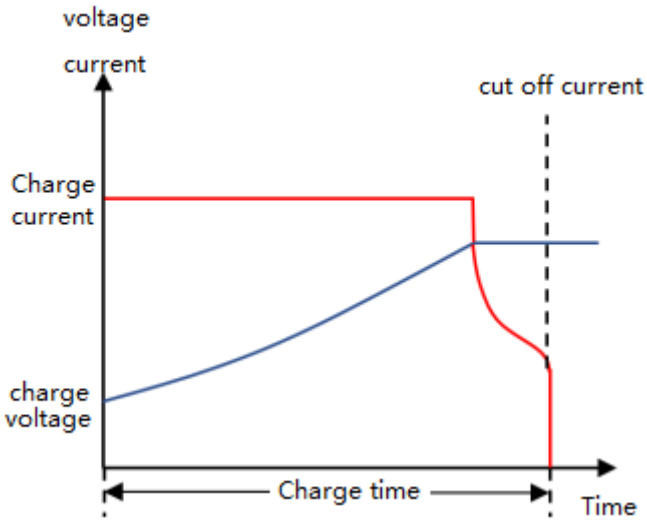
A voltage drop will be occurred on the connection line between the power supply and the load terminal when the load consumes high current, then remote sensing can automatically compensate for the voltage drop on the load line.the wiring diagram as below:

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



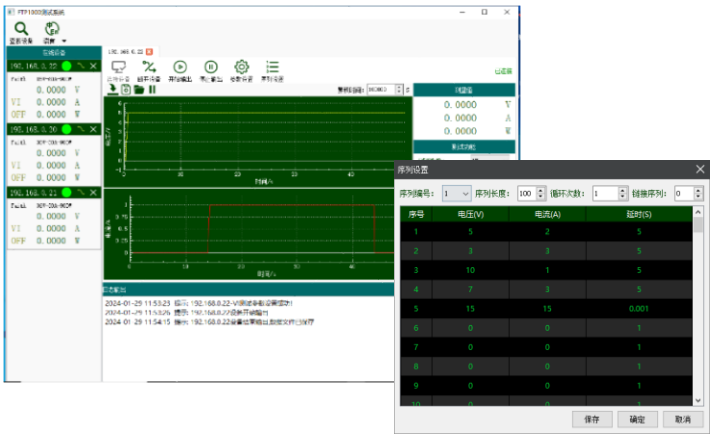
|Battery charge function

FTP1000 series provide battery charge function,can define charge voltage、charge current、charge cut off voltage、charge cut off current、charge cut off capacity、charge cut off time etc，fully simulate the charging process of the battery, which can effectively protect the battery.



|Computer graphical operation software

The FTP1000 series provides an upper computer software platform with virtual instrument function, which can set test data, read test data, generate images, export data, etc. remotely and in real time through the computer. At the same time, it can connect multiple devices to control separately, and the functions are available synchronously for testing.



|Ordering information

Voltage	Model	Current	Power	Remark	Voltage	Model	Current	Power	Remark
15V	FTP1060-15-60	60A	600W	AC input：180Vac～260Vac	36V	FTP1060-36-30	30A	600W	AC input：180Vac～260Vac
	FTP1090-15-60	80A	900W			FTP1090-36-30	30A	900W	
	FTP1150-15-120	120A	1500W			FTP1150-36-60	60A	1500W	
	FTP1180-15-120	120A	1800W			FTP1180-36-60	60A	1800W	
	FTP1060-15-60-WL	60A	600W	AC input：90Vac～260Vac		FTP1060-36-30-WL	30A	600W	AC input：90Vac～260Vac
	FTP1120-15-120-WL	120A	1200W			FTP1120-36-60-WL	60A	1200W	
Voltage	Model	Current	Power	Remark	Voltage	Model	Current	Power	Remark
60V	FTP1060-60-15	15A	600W	AC input：180Vac～260Vac	60V	FTP1060-60-30	30A	600W	AC input：180Vac～260Vac
	FTP1090-60-15	15A	900W			FTP1090-60-30	30A	900W	
	FTP1150-60-30	30A	1500W			FTP1150-60-60	60A	1500W	
	FTP1180-60-30	30A	1800W			FTP1180-60-60	60A	1800W	
	FTP1060-60-15-WL	15A	600W	AC input：90Vac～260Vac		FTP1060-60-30-WL	30A	600W	AC input：90Vac～260Vac
	FTP1120-60-30-WL	30A	1200W			FTP1120-60-60-WL	60A	1200W	
Voltage	Model	Current	Power	Remark	Voltage	Model	Current	Power	
80V	FTP1060-80-12	12A	600W	AC input：180Vac～260Vac	100V	FTP1060-100-10	10A	600W	AC input：180Vac～260Vac
	FTP1090-80-12	12A	900W			FTP1090-100-10	10A	900W	
	FTP1150-80-24	24A	1500W			FTP1150-100-20	20A	1500W	
	FTP1180-80-24	24A	1800W			FTP1180-100-20	20A	1800W	
	FTP1060-80-12-WL	12A	600W	AC input：90Vac～260Vac		FTP1060-100-10-WL	10A	600W	AC input：90Vac～260Vac
	FTP1120-80-24-WL	24A	1200W			FTP1120-100-20-WL	20A	1200W	
Voltage	Model	Current	Power	Remark	Voltage	Model	Current	Power	Remark
120V	FTP1060-120-08	8A	600W	AC input：180Vac～260Vac	150V	FTP1060-150-06	6A	600W	AC input：180Vac～260Vac
	FTP1090-120-08	8A	900W			FTP1090-150-06	6A	900W	
	FTP1150-120-16	16A	1500W			FTP1150-150-12	12A	1500W	
	FTP1180-120-16	16A	1800W			FTP1180-150-12	12A	1800W	
	FTP1060-120-08-WL	8A	600W	AC input：90Vac～260Vac		FTP1060-150-06-WL	6A	600W	AC input：90Vac～260Vac
	FTP1120-120-16-WL	16A	1200W			FTP1120-150-12-WL	12A	1200W	

Voltage	Model	Current	Power	Remark	Voltage	Model	Current	Power	Remark
150V	FTP1060-150-12	12A	600W	AC input：180Vac～260Vac	300V	FTP1060-300-03	3A	600W	AC input：180Vac～260Vac
	FTP1090-150-12	12A	900W			FTP1090-300-03	3A	900W	
	FTP1150-150-24	24A	1500W			FTP1150-300-06	6A	1500W	
	FTP1180-150-24	24A	1800W			FTP1180-300-06	6A	1800W	
	FTP1060-150-12-WL	12A	600W	AC input：90Vac～260Vac		FTP1060-300-03-WL	3A	600W	AC input：90Vac～260Vac
	FTP1120-150-24-WL	24A	1200W			FTP1150-300-06-WL	6A	1200W	
Voltage	Model	Current	Power	Remark	Voltage	Model	Current	Power	Remark
600V	FTP1060-600-015	1.5A	600W	AC input：180Vac～260Vac	1000V	FTP1060-1000-009	0.9A	600W	AC input：180Vac～260Vac
	FTP1090-600-015	1.5A	900W			FTP1090-1000-009	0.9A	900W	
	FTP1150-600-03	3A	1500W			FTP1150-1000-018	1.8A	1500W	
	FTP1180-600-03	3A	1800W			FTP1180-1000-018	1.8A	1800W	
	FTP1060-600-015-WL	1.5A	600W	AC input：90Vac～260Vac		FTP1060-1000-009-WL	0.9A	600W	AC input：90Vac～260Vac
	FTP1120-600-03-WL	3A	1200W			FTP1120-1000-018-WL	1.8A	1200W	
Voltage	Model	Current	Power	Remark	Voltage	Model	Current	Power	Remark
2000V	FTP1060-2000-009	0.9A	600W	AC input：180Vac～260Vac	3000V	FTP1060-3000-003	0.3A	600W	AC input：180Vac～260Vac
	FTP1090-2000-009	0.9A	900W			FTP1090-3000-003	0.3A	900W	
	FTP1150-2000-018	1.8A	1500W			FTP1150-3000-006	0.6A	1500W	
	FTP1180-2000-018	1.8A	1800W			FTP1180-3000-006	0.6A	1800W	
	FTP1060-2000-009-WL	0.9A	600W	AC input：90Vac～260Vac		FTP1060-3000-003-WL	0.3A	600W	AC input：90Vac～260Vac
	FTP1120-2000-018-WL	1.8A	1200W			FTP1120-3000-006-WL	0.6A	1200W	

*Other voltage specifications can be customized through negotiation if there are batch requirements

|Optional accessories

Item	Model or Spec	Description
19inch shelf kit1	FT-H111	Single device shelf kit
19 inch shelf kit2	FT-H112	Two device in parallel shelf kit
Stacking kit	FT-D104	Multi layer stacking kit

|Specification

General Spec.	
Voltage temperature coefficient	50ppm/℃
Current temperature coefficient	100ppm/℃
Input characteristics	
AC input Voltage	180VAC～260VAC，frequency 47Hz～63Hz Or 90VAC～260VAC，frequency 47Hz～63Hz
Power factor	0.99@220Vac，rated output power
Max input current(full load)	600W：3.5A，900W：5A，1500W：8.75A，1800W：10A @220Vac
Environmental condition	
Operation temperature	0℃～40℃（full load）
Storage temperature	-20℃～70℃
Operation humidity	30%～90% RH（non-condensing）
Storage humidity	10%～95% RH（non-condensing）
Operation Altitude	＜2000m
Structural characteristics	
Communication interface	RS232 and LAN，RS485
Cooling method	Forced air flow from front to rear, no ventilation holes on the upper cover and base,variable speed fan
Dimension（W*H*D）	210*44*462 mm(600W，900W model)； 430*44*462 mm(above 900W model)
Weight	4.5kg(600W，900W model)； 9kg(above 900W model)

Electrical Spec-1					
Model	**FTP1060-15-60**	**FTP1060-36-30**	**FTP1060-60-15**	**FTP1060-60-30**	**FTP1060-80-12**
Rated Voltage	0~15V	0~36V	0~60V	0~60V	0~80V
Rated Current	0~60A	0~30A	0~15A	0~30A	0~12A
Rated Power	**600W**				
Model	**FTP1090-15-60**	**FTP1090-36-30**	**FTP1090-60-15**	**FTP1090-60-30**	**FTP1090-80-12**
Voltage	0~15V	0~36V	0~60V	0~60V	0~80V
Current	0~60A	0~30A	0~15A	0~30A	0~12A
Power	**900W**				
Model	**FTP1150-15-120**	**FTP1150-36-60**	**FTP1150-60-30**	**FTP1150-60-60**	**FTP1150-80-24**

Voltage		0~15V	0~36V	0~60V	0~60V	0~80V
Current		0~120A	0~60A	0~30A	0~60A	0~24A
Power		**1500W**				
Model		**FTP1150-15-120**	**FTP1150-36-60**	**FTP1150-60-30**	**FTP1150-60-60**	**FTP1150-80-24**
Voltage		0~15V	0~36V	0~60V	0~60V	0~80V
Current		0~120A	0~60A	0~30A	0~60A	0~24A
Power		**1800W**				
Voltage programming*1						
Resolution		1mV	1mV	1mV	1mV	1mV
Accuracy		0.1%+0.1%F.S.				
Current programming*2						
Resolution		1mA	1mA	1mA	1mA	1mA
Accuracy		0.1%+0.1%F.S.				
Line regulation						
Voltage		≤0.02%F.S.				
Current		≤0.05%F.S.				
Load regulation						
Voltage		≤0.02%F.S.				
Current		≤0.05%F.S.+2mA				
Voltage measurement*1						
Resolution		1mV	1mV	1mV	1mV	1mV
Accuracy		0.1%+0.1%F.S.				
Current measurement*2						
Resolution		1mA	1mA	1mA	1mA	1mA
Accuracy		0.1%+0.1%F.S.				
Output noise and ripple						
Voltage ripple（Vp-p）		≤50mV	≤60mV	≤100mV	≤100mV	≤150mV
Voltage ripple（Vrms）		≤12mV	≤15mV	≤15mV	≤15mV	≤25mV
Current ripple （Arms）*3	≤900W	≤60mA	≤30mA	≤15mA	≤30mA	≤12mA
	>900W	≤120mA	≤60mA	≤30mA	≤60mA	≤24mA
Rise and fall time						
Rise time（no load）*4		50ms				
Rise time（full load）*5		50ms				
Fall time（no load）*6		2s				
Fall time（full load）*7		100ms				
Transient response time		Restore the output voltage deviation to within 0.5% of the rated voltage（50%-100% load） ≤2ms				
Efficiency*8		0.86	0.86	0.88	0.88	0.88

Electrical Spec-2					
Model	**FTP1060-100-10**	**FTP1060-120-08**	**FTP1060-150-06**	**FTP1060-150-12**	**FTP1060-300-03**
Rated Voltage	0~100V	0~120V	0~150V	0~150V	0~300V
Rated Current	0~10A	0~8A	0~6A	0~12A	0~3A

Rated Power		600W				
Model		**FTP1090-100-10**	**FTP1090-120-08**	**FTP1090-150-06**	**FTP1090-150-12**	**FTP1090-300-03**
Rated Voltage		0~100V	0~120V	0~150V	0~150V	0~300V
Rated Current		0~10A	0~8A	0~6A	0~12A	0~3A
Rated Power		900W				
Model		**FTP1150-100-20**	**FTP1150-120-16**	**FTP1150-150-12**	**FTP1150-150-24**	**FTP1150-300-06**
Rated Voltage		0~100V	0~120V	0~150V	0~150V	0~300V
Rated Current		0~20A	0~16A	0~12A	0~24A	0~6A
Rated Power		1500W				
Model		**FTP1180-100-20**	**FTP1180-120-16**	**FTP1180-150-12**	**FTP1180-150-24**	**FTP1180-300-06**
Rated Voltage		0~100V	0~120V	0~150V	0~150V	0~300V
Rated Current		0~20A	0~16A	0~12A	0~24A	0~6A
Rated Power		1800W				
Voltage programming*1						
Resolution		10mV	10mV	10mV	10mV	10mV
Accuracy		0.1%+0.1%F.S.				
Current programming*2						
Resolution		1mA	1mA	1mA	1mA	1mA
Accuracy		0.1%+0.1%F.S.				
Line regulation						
Voltage		≤0.02%F.S.				
Current		≤0.05%F.S.				
Load regulation						
Voltage		≤0.02%F.S.				
Current		≤0.05%F.S.+2mA				
Voltage measurement*1						
Resolution		10mV	10mV	10mV	10mV	10mV
Accuracy		0.1%+0.1%F.S.				
Current measurement*2						
Resolution		1mA	1mA	1mA	1mA	1mA
Accuracy		0.1%+0.1%F.S.				
Output noise and ripple						
Voltage ripple（Vp-p）		≤200mV	≤200mV	≤200mV	≤200mV	≤300mV
Voltage ripple（Vrms）		≤30mV	≤30mV	≤30mV	≤30mV	≤75mV
Current ripple （Arms）*3	≤900W	≤10mA	≤8mA	≤6mA	≤12mA	≤3mA
	>900W	≤20mA	≤16mA	≤12mA	≤24mA	≤6mA
Rise and fall time						
Rise time（no load）*4		100ms	100ms			200ms
Rise time（full load）*5		100ms	100ms			200ms
Fall time（no load）*6		2.5s	2.5s			3s
Fall time（full load）*7		100ms	100ms			120ms
Transient response time		Restore the output voltage deviation to within 0.5% of the rated voltage（50%-100% load） ≤2ms				

Efficiency*8	0.88	0.88	0.88	0.88	0.88

Electrical Spec-3				
Model	**FTP1060-600-015**	**FTP1060-1000-009**	**FTP1060-2000-009**	**FTP1060-3000-003**
Rated Voltage	0~600V	0~1000V	0~2000V	0~3000V
Rated Current	0~1.5A	0~0.9A	0~0.9A	0~300mA
Rated Power	**600W**			
Model	**FTP1090-600-015**	**FTP1090-1000-009**	**FTP1090-2000-009**	**FTP1090-3000-003**
Rated Voltage	0~600V	0~1000V	0~2000V	0~3000V
Rated Current	0~1.5A	0~0.9A	0~0.9A	0~300mA
Rated Power	**900W**			
Model	**FTP1150-600-03**	**FTP1150-1000-018**	**FTP1150-1000-018**	**FTP1150-3000-006**
Rated Voltage	0~600V	0~1000V	0~2000V	0~3000V
Rated Current	0~3A	0~1.8A	0~1.8A	0~600mA
Rated Power	**1500W**			
Model	**FTP1180-600-03**	**FTP1180-1000-018**	**FTP1180-1000-018**	**FTP1180-3000-006**
Rated Voltage	0~600V	0~1000V	0~2000V	0~3000V
Rated Current	0~3A	0~1.8A	0~1.8A	0~600mA
Rated Power	**1800W**			
Voltage programming*1				
Resolution	10mV	100mV	100mV	100mV
Accuracy	0.1%+0.1%F.S.			
Current programming*2				
Resolution	1mA	1mA	1mA	1mA
Accuracy	0.1%+0.2%F.S.			0.1%+1mA
Line regulation				
Voltage	≤0.02%F.S.			
Current	≤0.05%F.S.			
Load regulation				
Voltage	≤0.02%F.S.			
Current	≤0.05%F.S.+2mA			
Voltage measurement*1				
Resolution	10mV	100mV	100mV	100mV
Accuracy	0.1%+0.1%F.S.			
Current measurement*2				
Resolution	1mA	1mA	1mA	1mA
Accuracy	0.1%+0.2%F.S.			0.1%+1mA
Output noise and ripple				
Voltage ripple（Vp-p）	≤600mV	≤1000mV	≤300mV	≤3500mV

Voltage ripple（Vrms）		≤125mV	≤200mV	≤75mV	≤600mV
Current ripple （Arms）*3	≤900W	≤3mA	≤1mA	≤3mA	≤1mA
	>900W	≤6mA	≤2mA	≤6mA	≤1mA
Rise and fall time					
Rise time（no load）*4		250ms	≤250ms	≤400ms	≤400ms
Rise time（full load）*5		250ms	≤250ms	≤400ms	≤400ms
Fall time（no load）*6		3.5s	≤8s	≤12s	≤15s
Fall time（full load）*7		150ms	≤250ms	≤400ms	≤400ms
Transient response time		Restore the output voltage deviation to within 0.5% of the rated voltage（50%-100% load）≤2ms			
Efficiency*8		0.88	0.88	0.88	0.88

Remarks:

* All specifications are subject to change without notice;

*1. The minimum voltage shall be ≥ 0.2% F.S;

*2. The minimum current value must be ≥ 0.2% F.S;

*3. Ripple measurement condition is 10%~100% of rated voltage and rated current;

*4. Change time of rated voltage from 10% to 90% under no-load condition;

*5. Change time of rated voltage from 10% to 90% under full load (resistive load);

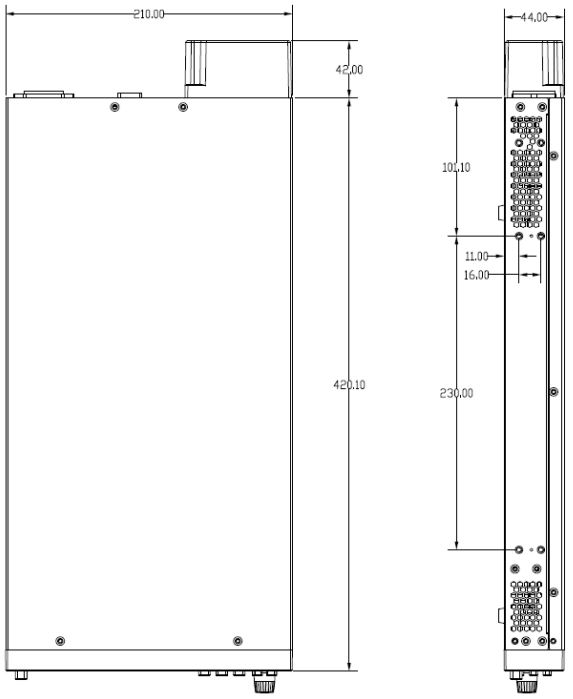
*6. Change time of rated voltage from 90% to 10% under no-load condition;

*7. Change time of rated voltage from 90% to 10% under full load (resistive load);

*8. The value is measured at 220Vac/50Hz input, rated voltage and maximum power output.

|Dimensions

600W, 900W model：



1200，1500W, 1800W model：