



# IT8500 Electronic load



**0.1V  
Start working**

**The highest accuracy for current and voltage**

IT8500 programmable electronic load (150W—100KW) have 1mV, 0.1mA high resolution and accuracy; ensure your measurements more accurately. CV/CP/CC/CR mode, remote sensing, short circuit testing, battery testing, and transient operation, satisfy your diversified requirements.



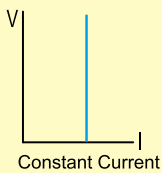
Model	Power	Voltage	Current
IT8511	150W	120V	30A
IT8512	300W	120V	30A
IT8512B	300W	500V	15A
IT8512C	300W	120V	60A
IT8513B	600W	500V	30A
IT8513C	600W	120V	120A
IT8514B	1200W	500V	60A
IT8514C	1200W	120V	240A
IT8515B	1800W	500V	60A
IT8515C	1800W	120V	240A
IT8516B	2400W	500V	120A
IT8516C	2400W	120V	240A
IT8518B	5000W	500V	120A
IT8518C	5000W	60V	240A
IT8518E	6000W	60V	240A
IT8518F	5000W	60V	480A

Customize for higher power or special specifications.

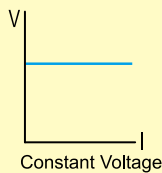
## Feature

- Working range:0—500V
- Highlight VFD display
- 4 mode: CV/CR/CC/CP
- Automatic test function, improve efficiency
- Battery testing function
- Remote sense function(4 wires), can avoid error caused by the internal resistance of the test wire due to high current
- High-accuracy voltage and current measurement
- Can complete production test rapidly via the help of keyboard IT-E253
- GPIB/USB/RS232 interfaces
- Standard 19 inch rack mount
- Free PV8500 software
- Programmable List mode

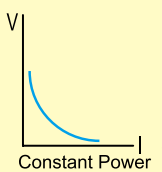
## IT8500 working mode



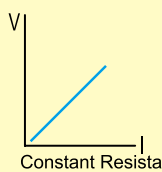
In CC mode, the electronic load will sink current according to the programmed value regardless of the input voltage.



In this mode, the electronic load will attempt to sink enough current to control the source voltage to the programmed value.

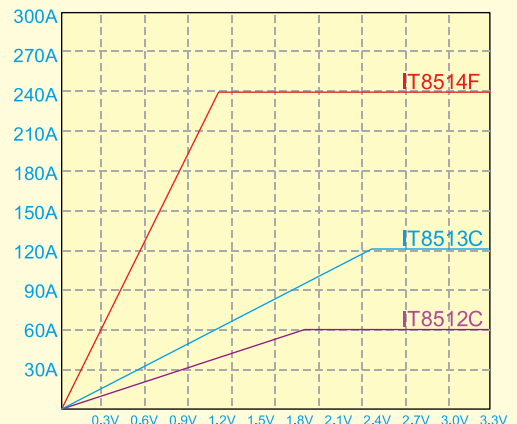


In CP mode, the electronic loads will dissipate power in accordance with the programmed value regardless of the input voltage.



In CR mode, the module will sink a current linearly proportional to the input voltage in accordance with the programmed resistance.

## IT8500 Characteristics with load in low range



IT8500 electronic load, the highest voltage is up to 500V, the highest current is up to 2000A, the highest power is up to 100KW. Customize for other Higher or Special specifications.



IT8513/14 Electronic load (600/1200W)

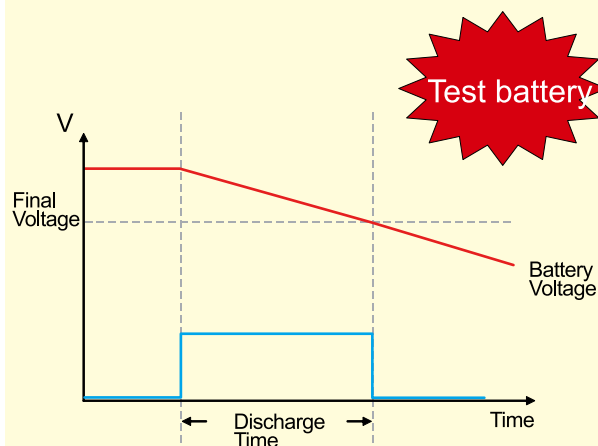


IT8515/16 Electronic load (1800/2400W)



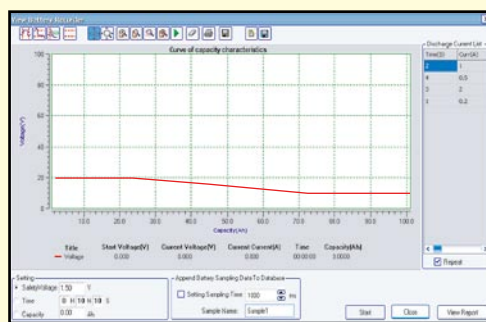
IT8517/18 Electronic load (3600/5000W)

Battery testing function

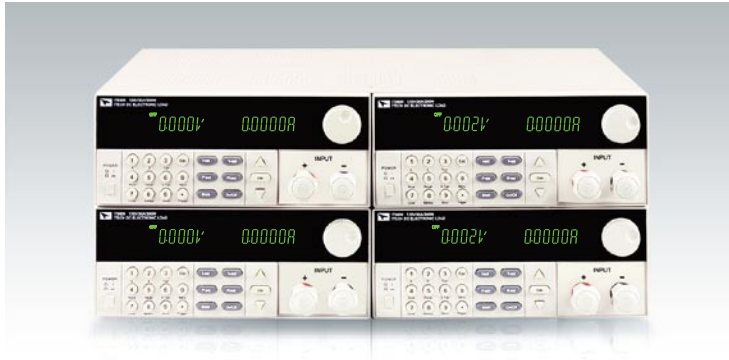


When testing, you can set the lowest discharge voltage. It will stop discharge and calculate the capacity of the battery when voltage falls to the default value.

IT8500 electronic loads have battery capacity testing function, you can test capacity of the battery, and get discharge curves with PV8500 program.



PV8500 Battery discharge curve



IT8600

IT8500 electronic loads can be combined arbitrarily to achieve 150W—5000W multi-channel or parallel operation schemes.

### IT8600 multiple output

The most convenient multi-channel electronic load make you set parameters of every channel easily without complex switch window. Large VFD display, help you view the working condition of every channel.

IT8600 load — up to 64 channels, without the help of computer.



IT8530 electronic load with module design is easy for system maintenance and power or current expansion. Perfect protecting circuits ensure the load to work in hard environments for a long time.

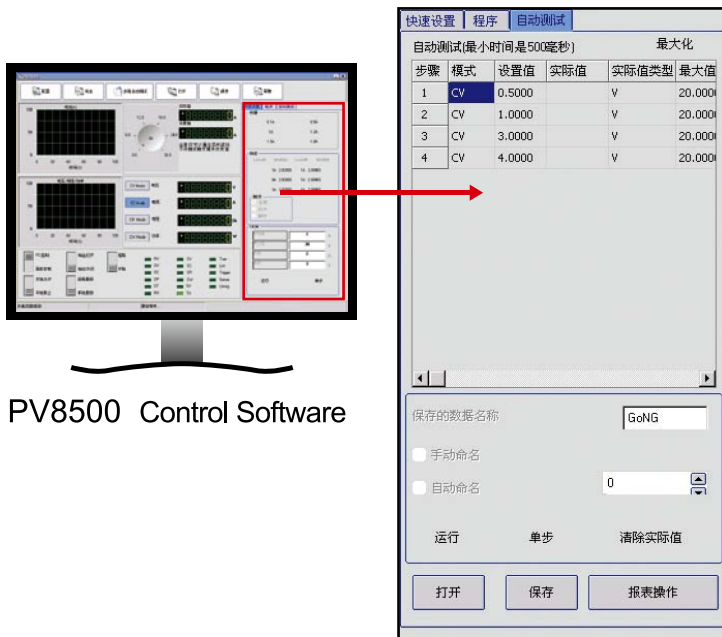
### The highest accuracy of current and voltage

The max power of IT8530 programmable high power electronic load is up to 100KW, current up to 3000A, voltage up to 500V, module design, easy to maintain and expand. When working in high current and high power input, it can maintain high accuracy and resolution.

IT8530	10KW
IT8531	15KW
IT8532	20KW
IT8533	25KW
IT8534	30KW
IT8535	35KW
IT8536	40KW
IT8537	45KW
IT8538	50KW

\*1: Detailed specifications, please contact us or the nearest agents.

\*2: Customize for higher power or Special specifications.



PV8500 Control Software

## Automatic test function

IT8500 series programmable electronic load can work with IT-E253 remote Keyboard, and complete automatic test function with only one key, so it reduces human resource cost and testing time.

PV8500 automatic test function can export measurements results in EXCEL format for further analysis.

## IT8511/12 Specification

		IT8511		IT8512		IT8512B		IT8512C	
Input Rating	Power	150W		300W		300W		300W	
	Current	0-30A		0-30A		0-15A		0-60A	
	Voltage	0-120V		0-120V		0-500V		0-120V	
CC Mode	Range	0-3A	0-30A	0-3A	0-30A	0-3A	0-15A	0-6A	0-60A
	Resolution	0.1mA	1mA	0.1mA	1mA	0.1mA	1mA	0.1mA	1mA
	Accuracy*1	0.05%+0.1%FS	0.1%+0.1%FS	0.05%+0.1%FS	0.1%+0.1%FS	0.05%+0.1%FS	0.1%+0.1%FS	0.1%+0.1%FS	0.15%+0.25%FS
CV Mode	Range	0-18V	0-120V	0-18V	0-120V	0-18V	0-500V	0-18V	0-120V
	Resolution	1mV	10mV	1mV	10mV	1mV	10mV	1mV	10mV
	Accuracy	0.05%+0.02%FS	0.05%+0.025%FS	0.05%+0.02%FS	0.05%+0.025%FS	0.05%+0.02%FS	0.05%+0.025%FS	0.05%+0.02%FS	0.05%+0.025%FS
CW Mode	Range	0-100W	100-150W	0-100W	100-300W	0-100W	100-300W	0-100W	100-300W
	Resolution	1mW	10mW	1mW	10mW	1mW	10mW	1mW	10mW
	Accuracy	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%
CR Mode	Range	< 100Ω	< 4KΩ	< 100Ω	< 4KΩ	< 100Ω	< 4KΩ	< 100Ω	< 4KΩ
	Resolution	0.01Ω	1Ω	0.01Ω	1Ω	0.01Ω	1Ω	0.01Ω	1Ω
	Accuracy	1%+0.3%FS	1%+0.8%FS	1%+0.3%FS	1%+0.8%FS	1%+0.3%FS	1%+0.8%FS	1%+0.3%FS	1%+0.8%FS
V Measurement	Voltage	0-18V	0-120V	0-18V	0-120V	0-18V	0-500V	0-18V	0-120V
	Resolution	1mV	10mV	1mV	10mV	1mV	10mV	1mV	10mV
	Accuracy	0.02%+0.02%FS	0.02%+0.025%FS	0.02%+0.02%FS	0.02%+0.025%FS	0.02%+0.02%FS	0.02%+0.025%FS	0.02%+0.02%FS	0.02%+0.025%FS
I Measurement	Current	0-3A	0-30A	0-3A	0-30A	0-3A	0-15A	0-6A	0-60A
	Resolution	0.1mA	1mA	0.1mA	1mA	0.1mA	1mA	0.2mA	2mA
	Accuracy	0.1%+0.1%FS	0.2%+0.15%FS	0.1%+0.1%FS	0.2%+0.15%FS	0.1%+0.1%FS	0.2%+0.3%FS	0.1%+0.02%FS	0.2%+0.5%FS
W Measurement	Watt	0-100W	100-150W	0-100W	100-300W	0-100W	100-300W	0-100W	100-300W
	Resolution	1mW	10mW	1mW	10mW	1mW	10mW	1mW	10mW
	Accuracy	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%
Short Circuit	Current(CC)	≒ 30A		≒ 30A		≒ 15A		≒ 60A	
	Voltage(CV)	0V		0V		0V		0V	
	Resistance(CR)	≒ 40mΩ		≒ 40mΩ		≒ 250mΩ		≒ 30mΩ	
Temperature	Operating	0~40℃		0~40℃		0~40℃		0~40℃	
	Nonoperating	-10℃~60℃		-10℃~60℃		-10℃~60℃		-10℃~60℃	
Battery Test	Capacity	Max 999AH							
Transition	Frequency	0.1Hz-1KHz							
Dimension	W * H * D	214.5mm * 88.2mm * 354.6mm							
Weight	Kg	5.5							

\*1: accuracy indicates %+n%FS(Full Scale) of the read value or outputs.

\*2: while input voltage or current >=10%FS



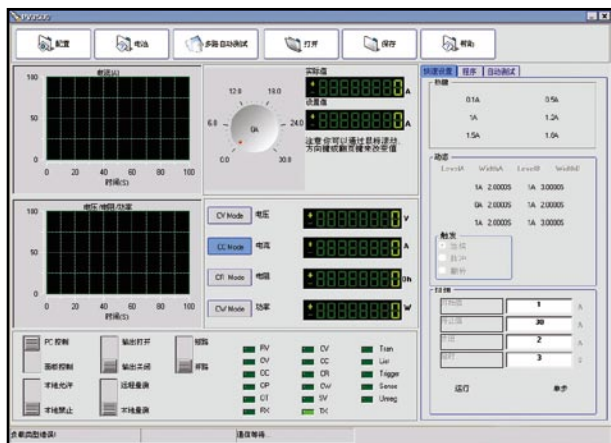
**IT8513/14 Specification**

		IT8513B		IT8513C		IT8514B		IT8514C	
Input Rating	Power	600W		600W		1200W		1200W	
	Current	0-30A		0-120A		0-60A		0-240A	
	Voltage	0-500V		0-120V		0-500V		0-120V	
CC Mode	Range	0-3A	0-30A	0-12A	0-120A	0-6A	0-60A	0-24A	0-240A
	Resolution	1mA	10mA	1mA	10mA	1mA	10mA	1mA	10mA
	Accuracy*1	0.1%+0.1%FS	0.2%+0.15%FS	0.1%+0.1%FS	0.2%+0.15%FS	0.1%+0.1%FS	0.2%+0.15%FS	0.1%+0.1%FS	0.2%+0.15%FS
CV Mode	Range	0-18V	0-500V	0-18V	0-120V	0-18V	0-500V	0-18V	0-120V
	Resolution	1mV	10mV	1mV	10mV	1mV	10mV	1mV	10mV
	Accuracy	0.05%+0.02%FS	0.05%+0.025%FS	0.05%+0.02%FS	0.05%+0.025%FS	0.05%+0.02%FS	0.05%+0.025%FS	0.05%+0.02%FS	0.05%+0.025%FS
CW Mode	Range	0-100W	100-600W	0-100W	100-600W	0-100W	100-1200W	0-100W	100-1200W
	Resolution	1mW	100mW	1mW	100mW	1mW	100mW	1mW	100mW
	Accuracy	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%
CR Mode	Range	< 100Ω	< 4KΩ	< 100Ω	< 4KΩ	< 100Ω	< 4KΩ	< 100Ω	< 4KΩ
	Resolution	0.01Ω	1Ω	0.01Ω	1Ω	0.01Ω	1Ω	0.01Ω	1Ω
	Accuracy	1%+0.3%FS	1%+0.8%FS	1%+0.3%FS	1%+0.8%FS	1%+0.3%FS	1%+0.8%FS	1%+0.3%FS	1%+0.8%FS
V Measurement	Voltage	0-18V	0-500V	0-18V	0-120V	0-18V	0-500V	0-18V	0-120V
	Resolution	1mV	10mV	1mV	10mV	1mV	10mV	1mV	10mV
	Accuracy	0.02%+0.025%FS	0.02%+0.025%FS	0.02%+0.025%FS	0.02%+0.025%FS	0.02%+0.025%FS	0.02%+0.025%FS	0.02%+0.025%FS	0.02%+0.025%FS
I Measurement	Current	0-3A	0-30A	0-12A	0-120A	0-6A	0-60A	0-6A	0-60A
	Resolution	1mA	10mA	1mA	10mA	1mA	10mA	1mA	10mA
	Accuracy	0.1%+0.1%FS	0.2%+0.15%FS	0.1%+0.1%FS	0.2%+0.15%FS	0.1%+0.1%FS	0.2%+0.15%FS	0.1%+0.1%FS	0.2%+0.15%FS
W Measurement	Watt	0-100W	100-600W	0-100W	100-600W	0-100W	100-1200W	0-100W	100-1200W
	Resolution	1mW	100mW	1mW	100mW	1mW	100mW	1mW	100mW
	Accuracy	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%
Short Circuit	Current(CC)	≈ 30A		≈ 120A		≈ 60A		≈ 240A	
	Voltage(CV)	0V		0V		0V		0V	
	Resistance(CR)	≈ 150mΩ		≈ 15mΩ		≈ 75mΩ		≈ 8mΩ	
Temperature	Operating	0~40℃		0~40℃		0~40℃		0~40℃	
	Nonoperating	-10℃~60℃		-10℃~60℃		-10℃~60℃		-10℃~60℃	
Battery Test	Capacity	Max 999AH							
Transition	Frequency	0.1Hz-1KHz							
Dimension	W * H * D	429mm * 88.2mm * 458.9mm							
Weight	Kg	13							

\*1: accuracy indicates %+n%FS(Full Scale) of the read value or outputs  
\*2: while input voltage or current >=10%FS

PV8500 software can be used to control and record.

When working with IT-E253 keyboard, it can complete complex test without help of computer.





## Fuel cell test load

IT8514F programmable electronic load (1200W—100,000W), the lowest internal resistance=5ohm, offer fuel cell test function to meet low voltage and high current demands. High resolution and high accuracy for more accurate measurements. CV/CP/CC/CR mode, remote sensing, short-circuit, battery testing, and automatic testing functions help you to complete every test easily.

## IT8514F



### IT8514F/15/16 Specification

		IT8514F		IT8515C		IT8516B		IT8516C	
Input Rating	Power	1200W		1800W		2400W		2400W	
	Current	0-240A		0-240A		0-120A		0-240A	
	Voltage	0-60V		0-120V		0-500V		0-120V	
CC Mode	Range	0-24A	0-240A	0-24A	0-240A	0-12A	0-120A	0-24A	0-240A
	Resolution	1mA	10mA	1mA	10mA	1mA	10mA	1mA	10mA
	Accuracy*1	0.1%+0.1%FS	0.2%+0.25%FS	0.1%+0.1%FS	0.2%+0.25%FS	0.1%+0.1%FS	0.2%+0.15%FS	0.1%+0.1%FS	0.2%+0.25%FS
CV Mode	Range	0-18V	0-60V	0-18V	0-120V	0-18V	0-500V	0-18V	0-120V
	Resolution	1mV	10mV	1mV	10mV	1mV	10mV	1mV	10mV
	Accuracy	0.05%+0.02%FS	0.05%+0.025%FS	0.05%+0.02%FS	0.05%+0.025%FS	0.05%+0.02%FS	0.05%+0.025%FS	0.05%+0.02%FS	0.05%+0.02%FS
CW Mode	Range	0-100W	100-1200W	0-100W	100-1800W	0-100W	100-2400W	0-100W	100-2400W
	Resolution	1mW	100mW	1mW	100mW	1mW	100mW	1mW	100mW
	Accuracy	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%
CR Mode	Range	< 100Ω	< 4KΩ	< 100Ω	< 4KΩ	< 100Ω	< 4KΩ	< 100Ω	< 4KΩ
	Resolution	0.01Ω	1Ω	0.01Ω	1Ω	0.01Ω	1Ω	0.01Ω	1Ω
	Accuracy	1%+0.3%FS	1%+0.8%FS	1%+0.3%FS	1%+0.8%FS	1%+0.3%FS	1%+0.8%FS	1%+0.3%FS	1%+0.8%FS
V Measurement	Voltage	0-18V	0-60V	0-18V	0-120V	0-18V	0-500V	0-18V	0-120V
	Resolution	1mV	10mV	1mV	10mV	1mV	10mV	1mV	10mV
	Accuracy	0.02%+0.025%FS	0.02%+0.025%FS	0.02%+0.025%FS	0.02%+0.025%FS	0.02%+0.025%FS	0.02%+0.025%FS	0.02%+0.025%FS	0.02%+0.025%FS
I Measurement	Current	0-24A	0-240A	0-24A	0-240A	0-24A	0-240A	0-24A	0-240A
	Resolution	1mA	10mA	1mA	10mA	1mA	10mA	1mA	10mA
	Accuracy	0.1%+0.1%FS	0.2%+0.25%FS	0.1%+0.1%FS	0.2%+0.25%FS	0.1%+0.1%FS	0.2%+0.25%FS	0.1%+0.1%FS	0.2%+0.25%FS
W Measurement	Watt	0-100W	100-1200W	0-100W	100-1800W	0-100W	100-2400W	0-100W	100-2400W
	Resolution	1mW	100mW	1mW	100mW	1mW	100mW	1mW	100mW
	Accuracy	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%	1%+0.1%
Short Circuit	Current(CC)	≈ 240A		≈ 240A		≈ 120A		≈ 240A	
	Voltage(CV)	0V		0V		0V		0V	
	Resistance(CR)	≈ 5.5mΩ		≈ 5mΩ		≈ 5.5mΩ		≈ 4.5mΩ	
Temperature	Operating	0~40℃		0~40℃		0~40℃		0~40℃	
	Nonoperating	-10℃~60℃		-10℃~60℃		-10℃~60℃		-10℃~60℃	
Battery Test	Capacity	Max 999AH		Max 999AH		Max 999AH		Max 999AH	
Transition	Frequency	0.1Hz-1KHz		0.1Hz-1KHz		0.1Hz-1KHz		0.1Hz-1KHz	
Dimension	W * H * D	440mm * 88.2mm * 458.9mm		444mm * 180mm * 539mm		444mm * 180mm * 539mm		444mm * 180mm * 539mm	
Weight	Kg	13		30		30		30	

\*1: accuracy indicates %+n%FS(Full Scale) of the read value or outputs.

\*2: while input voltage or current >=10%FS.

### Optional Accessory

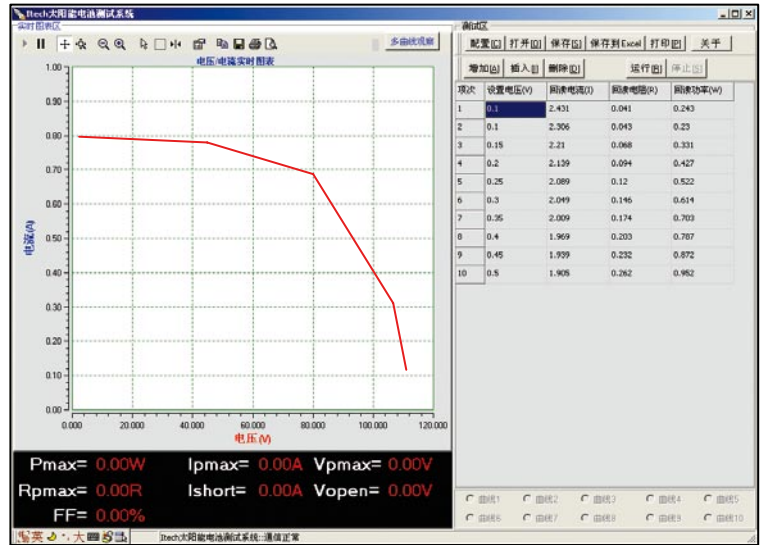
IT-E131 RS232 communication cable	IT-E142 USB communication cable(support SCPI)
IT-E132 USB communication cable	IT-E 253 remote keyboard
IT-E134 GPIB communication cable	IT-E151 rack mount kit
IT-E141 RS232 communication cable(support SCPI)	

Refer to page 69 for accessory specifications.



## Solar cell test

IT8500 programmable electronic load, when working with solar cell test software, can complete many solar cell parameters' testing, and print the test report.



You can get these measurements automatically:

Max output power Pmax

At Pmax: current value Ipmx

At Pmax: voltage value Vpmax

At Pmax: resistance value Rpmx

Short-circuit current value I short

Open-circuit voltage value Vopen

## IT8518 Specification

		IT8518B		IT8518C		IT8518E		IT8518F	
Input Rating	Power	5000W		5000W		6000W		5000W	
	Current	0-120A		0-240A		0-240A		0-480A	
	Voltage	0-500V		0-60V		0-60V		0-60V	
CC Mode	Range	0-12A	0-120A	0-24A	0-240A	0-24A	0-240A	0-48A	0-480A
	Resolution	1mA	10mA	1mA	10mA	1mA	10mA	1mA	10mA
	Accuracy*1	0.1%+0.1%FS	0.2%+0.15%FS	0.1%+0.1%FS	0.2%+0.25%FS	0.1%+0.1%FS	0.2%+0.25%FS	0.1%+0.1%FS	0.2%+0.25%FS
CV Mode	Range	0-18V	0-500V	0-18V	0-60V	0-18V	0-60V	0-18V	0-60V
	Resolution	1mV	10mV	1mV	10mV	1mV	10mV	1mV	10mV
	Accuracy	0.05%+0.02%FS	0.05%+0.025%FS	0.05%+0.02%FS	0.05%+0.025%FS	0.05%+0.02%FS	0.05%+0.025%FS	0.05%+0.02%FS	0.05%+0.025%FS
CW Mode	Range	0-100W	100-5000W	0-100W	100-5000W	0-100W	100-6000W	0-100W	100-5000W
	Resolution	1mW	100mW	1mW	100mW	1mW	100mW	1mW	100mW
	Accuracy	1%+0.1%FS	1%+0.1%FS	1%+0.1%FS	1%+0.1%FS	1%+0.1%FS	1%+0.1%FS	1%+0.1%FS	1%+0.1%FS
CR Mode	Range	< 100Ω	< 4KΩ	< 100Ω	< 4KΩ	< 100Ω	< 4KΩ	< 100Ω	< 4KΩ
	Resolution	0.01Ω	1Ω	0.01Ω	1Ω	0.01Ω	1Ω	0.01Ω	1Ω
	Accuracy	1%+0.3%FS	1%+0.8%FS	1%+0.3%FS	1%+0.8%FS	1%+0.3%FS	1%+0.8%FS	1%+0.3%FS	1%+0.8%FS
V Measurement	Voltage	0-18V	0-500V	0-18V	0-60V	0-18V	0-60V	0-18V	0-60V
	Resolution	1mV	10mV	1mV	10mV	1mV	10mV	1mV	10mV
	Accuracy	0.02%+0.02%FS	0.02%+0.025%FS	0.02%+0.02%FS	0.02%+0.025%FS	0.02%+0.02%FS	0.02%+0.025%FS	0.02%+0.02%FS	0.02%+0.025%FS
I Measurement	Current	0-12A	0-120A	0-24A	0-240A	0-24A	0-240A	0-48A	0-480A
	Resolution	1mA	10mA	1mA	10mA	1mA	10mA	1mA	10mA
	Accuracy	0.1%+0.1%FS	0.2%+0.15%FS	0.1%+0.1%FS	0.2%+0.25%FS	0.1%+0.1%FS	0.2%+0.25%FS	0.1%+0.1%FS	0.2%+0.25%FS
W Measurement	Watt	0-100W	100-5000W	0-100W	100-5000W	0-100W	100-6000W	0-100W	100-5000W
	Resolution	1mW	100mW	1mW	100mW	1mW	100mW	1mW	100mW
	Accuracy	1%+0.1%FS	1%+0.1%FS	1%+0.1%FS	1%+0.1%FS	1%+0.1%FS	1%+0.1%FS	1%+0.1%FS	1%+0.1%FS
Short Circuit	Current(CC)	≅ 120A		≅ 240A		≅ 240A		≅ 480A	
	Voltage(CV)	0V		0V		0V		0V	
	Resistance(CR)	≅ 30mΩ		≅ 7mΩ		≅ 7mΩ		≅ 5mΩ	
Temperature	Operating	0~40℃		0~40℃		0~40℃		5~40℃	
	Nonoperating	-10℃~60℃		-10℃~60℃		-10℃~60℃		-10℃~60℃	
Battery Test	Capacity	Max 999AH		Max 999AH		Max 999AH		Max 999AH	
Transition	Frequency	0.1Hz-1KHz		0.1Hz-1KHz		0.1Hz-1KHz		0.1Hz-1KHz	
Dimension	W * H * D	489.5mm * 357mm * 538.5mm		489.5mm * 357mm * 538.5mm		489.5mm * 357mm * 538.5mm		440mm * 88.2mm * 458.9mm	
Weight	Kg	67		67		67		67	

\*1: accuracy indicates %+n%FS(Full Scale) of the read value or outputs.

\*2: while input voltage or current >=10%FS.