

IT6000B Series Regenerative
Power System
From the perspective



Applications

Solar charger, Inverte, Power battery, Automotive motors, LED, Avionics, UPS, Electric generator

Feature

- Bi-directional device power supply and electronic load in one
- · One button switch between source and sink on panel
- Stand-alone power up to 144kW, expandable in parallel up to 1.152MW
- Voltage output ratings: 0-2250V
- Current output ratings: 0-2040A
- High power density design provides 18kW in 3U space
- Bi-directional energy transmission, seamless switching across two quadrants
- · Support CC/CV loop speed and priority setting
- Built-in voltage curves complying with automotive standards such as DIN40839, ISO-16750-2, ISO21848, SAEJ1113-11, LV124
- High efficient energy recovery
- Support solar panel I-V curves simulation
- Built-in waveform generator, support generating arbitrary waveforms
- Adjustable output impedance
- Complete protection, support OVP, ±OCP, ±OPP, OTP, voltage transient drop protection and anti-islanding protection
- Built-in USB/CAN/LAN/digital IO interface, Optional GPIB/Analog&RS232
- Support data saving and the shortest interval of sampling is 10µs
- Battery simulation function

From the perspective of improving customer experience, ITECH launches a new incorporated product--IT6000B series. IT6000B integrates bidirectional power supply and regenerative electronic load into one 3U unit. It is also a very powerful one. Only a button is needed to switch between the bidirectional power supply and the regenerative electronic load. It can be used not only as a stand-alone powerful bidirectional power supply, as a source to provide power; but also as an independent regenerative electronic load, to absorb the consumed energy and feedback cleanly to the grid. IT6000B offers standard two-quadrants functionality.

IT6000B provides 7 voltage ranges, up to 2250V, supports master-slave parallel with current distribution up to 1152kW. Built-in waveform generator supports generating arbitrary waveforms, and imports LIST files for waveforms via USB interface. IT6000B is the combination of reliability, high efficient setting, safe and multiple measurement functions. IT6000B is a family of bi-directional, regenerative power system with excellent performance, extensively used in aspects of high power battery, automotive electronics, green energy, high speed testing etc.

One button switch between source and load

IT6000B innovatively incorporates two devices in one: a bidirectional power supply and a regenerative electronic load. The devices offer the functional button on panel for easy two-quadrants operation, either as a bidirectional programmable DC power supply or as a DC electronic load with recovery function. It reduces the space, cost and efforts on DUT for separate units.



Application



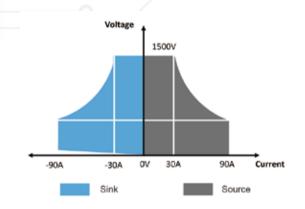
phec	ilication										
	Model	Current	Power		Model	Current	Power		Model	Current	Power
	IT6005B-80-120	120A	5kW	500V	IT6006B-500-30	30A	6kW		IT6006B-500-40	40A	6kW
	IT6010B-80-240	240A	10kW		IT6012B-500-60	60A	12kW		IT6012B-500-80	80A	12kW
	IT6015B-80-360	360A	15kKW		IT6018B-500-90	90A	18kW		IT6018B-500-120	120A	18kW
	IT6030B-80-720	720A	30kW		IT6036B-500-180	180A	36kW		IT6036B-500-240	240A	36kW
80V	IT6045B-80-1080	1080A	45kW		IT6054B-500-270	270A	54kW		IT6054B-500-360	360A	54kW
	IT6060B-80-1440	1440A	60kW		IT6072B-500-360	360A	72kW		IT6072B-500-480	480A	72kW
	IT6075B-80-1800	1800A	75kW		IT6090B-500-450	450A	90kW		IT6090B-500-600	600A	90kW
	IT6090B-80-2040	2040A	90kW		IT6108B-500-540	540A	108kW		IT6108B-500-720	720A	108kW
	IT6105B-80-2040	2040A	105kW		IT6126B-500-630	630A	126kW		IT6126B-500-840	840A	126kW
	IT6120B-80-2040	2040A	120kW		IT6144B-500-720	720A	144kW		IT6144B-500-960	960A	144kW
	Model	Current	Power		Model	Current	Power		Model	Current	Power
	IT6006B-800-20	20A	6kW	1500V	IT6018B-1500-30	30A	18kW	1500V	IT6018B-1500-40	40A	18KW
	IT6012B-800-40	40A	12kW		IT6036B-1500-60	60A	36kW		IT6036B-1500-80	80A	36kW
	IT6018B-800-60	60A	18kW		IT6054B-1500-90	90A	54kW		IT6054B-1500-120	120A	54kW
800V	IT6036B-800-120	120A	36kW								
	IT6054B-800-180	180A	54kW		IT6072B-1500-120	120A	72kW		IT6072B-1500-160	160A	72kW
	IT6072B-800-240	240A	72kW		IT6090B-1500-150	150A	90kW		IT6090B-1500-200	200A	90kW
	IT6090B-800-300	300A	90kW		IT6108B-1500-180	180A	108kW		IT6108B-1500-240	240A	108kW
	IT6108B-800-360	360A	108kW		IT6126B-1500-210	210A	126kW		IT6126B-1500-280	280A	126kW
	IT6126B-800-420	420A	126kW			240A	144kW				
	IT6144B-800-480	480A	144kW		IT6144B-1500-240				IT6144B-1500-320	320A	144kW
	Model	Current	Power	2250V	Model	Current	Power		Model	Current	Power
	IT6018B-2250-20	20A	18kW		IT6072B-2250-80	80A	72kW		IT6126B-2250-140	140A	126W
2250V	IT6036B-2250-40	40A	36kW		IT6090B-2250-100	100A	90kW	2250V			
	IT6054B-2250-60	60A	54kW		IT6108B-2250-120	120A	108kW		IT6144B-2250-160	160A	144W
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^{*} Some voltage levels are coming soon* This information is subject to change without notice



Bi-directional energy, seamless switching

The IT6000B Series combines bi-directional power supply and regenerative load function in one. Unlike traditional power supplies and E-loads, for which there will be short transitions and incontinuity in the middle of positive and negative current switching, IT6000B is a standard high-speed bidirectional power supply. It can switch seamlessly between source and sink mode fast and continuously, which avoids voltage or current overshoot effectively. It can be applied to battery test, cell packaging equipment test, battery protection board test, etc.



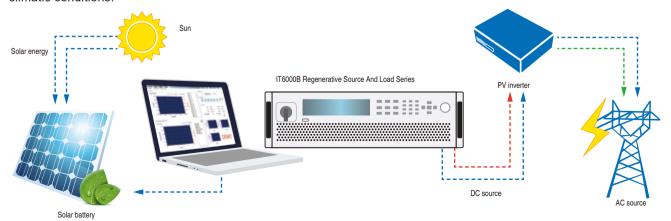
High energy regenerative efficiency

The IT6000B series has a unique function of energy regenerative that can regenerate electrical energy and then directly use it in the plant instead of consuming it in the form of heat. Its regeneration efficiency can reach up to 95%, which not only greatly reduces the user's electricity cost, but also avoids the use of air conditioning or expensive cooling systems. Most of the conventional electronic loads are energy-consuming loads. In addition to the high cost of electricity, large amounts of carbon dioxide, sulfur dioxide, nitrogen oxides and other greenhouse gases or harmful gases are generated during power generation, which is harmful to the environment. IT6000B can avoid any of these by its regenerative function.



The application for solar array simulation

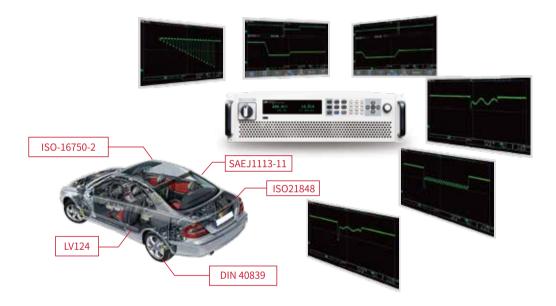
IT6000B optional SAS1000 solar array simulation software, users can easily use the software to output, measure, display the maximum power and track status of photovoltaic inverter in real time and record value. With the built-in EN50530, Sandia, NB/T32004, CGC/GF004, CGC/GF035 regulatory testing procedures, it is simple for users to simulate I-V curves, test the static and dynamic MPPT performance of PV inverters and generate reports. Solar simulation power supply also provides the shadow and table mode, users can enter up to 4096 points array to edit any shielded IV curve and achieve dynamic shadow effect. Or users can store 100 I-V curves under different irradiation and temperature, set operating time and order to test the long-term MPPT of photovoltaic inverters under different climatic conditions.





Built-in voltage curves for a variety of standard automotive voltage curves

Automotive electronics may often experience power transients during vehicle start-up and operation. To ensure that the device under test can withstand these actual transients, the tester must simulate worst-case power transient conditions during the test. According to the relevant standards of the industry, the IT6000B has built-in voltage curves for DIN40839, ISO-16750-2, SAEJ1113-11, LV124 and ISO21848 standard automotive voltage curves. Users can easily recall various waveforms directly, such as voltage drop waveform during vehicle starting up, pulse waveform and other related automotive electronics waveforms for performance tests. Available voltage grades in 12V, 24V and 48V.



CC&CV Priority

IT6000B has CC/CV priority function which is the newest concept in the industry. It can meet different application requests such as fast speed or no overshoot and make the test more flexible. Users can choose CC/CV loop response time and loop working mode to decide the output to be voltage high speed mode or current no overshoot mode. This unique function makes it suitable for the application of high power integrated circuit test, charging and discharging test, military and transient simulation test of automotive electronics etc.



CV priority
Starting up: surge current over range,
high speed voltage



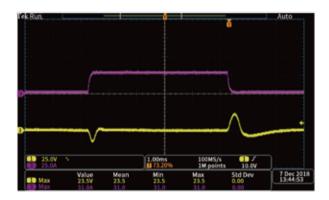
CC priority
Battery charging and discharging:
seamless switching, no overshoot

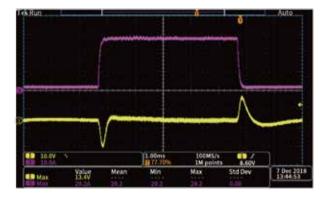


Patented parallel technology

- IT6000B has adopted ITECH patented parallel technology
- All the function and performance will be the same as standalone unit
- No need to calibrate after paralleling

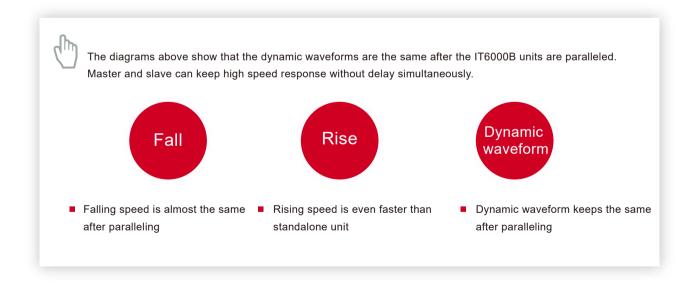
- Fiber transmission, good for anti-interference
- Digital paralleling, fully insulated, good for protecting DUT





Standalone unit IT6006B-500-30 500V 30A 6000W Setting: voltage 100V current 28A Load current: 30A 2 units IT6006B-500-30 Setting: voltage 100V current 56A Load current: 60A

* Yellow- output voltage Purple- output current

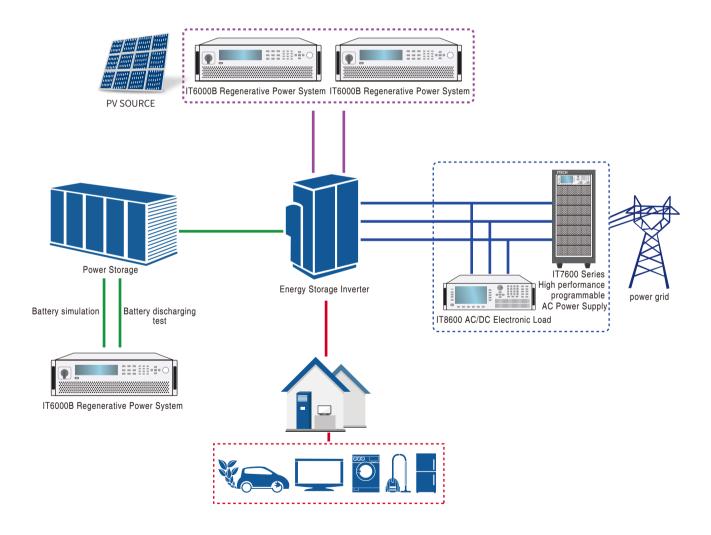




Application-Photovoltaic energy storage integrated machine

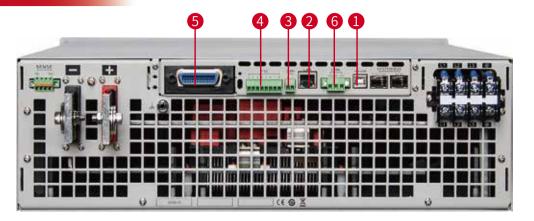
Photovoltaic energy storage integrated machine is a device of DC-AC converter used in combined power generating of photovoltaic and energy storage system. It can coordinate the output of photovoltaic and energy storage batteries, stabilize the power fluctuation of the batteries and output qualified AC power by the technology of energy storage converting.

- IT6000B can precisely simulate I-V curve of solar panel.
- IT6000B can simulate batteries by its battery simulation function.
- IT7600+IT8600 can simulate the input of power grid.
- Three testing ways can be done by simulation of various power units: Battery input, AC input, PV input to converter.
- The independent load mode of IT6000B can proceed discharging test of batteries.





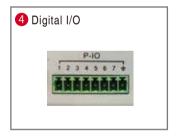
Various interfaces



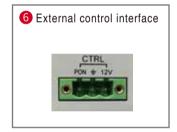






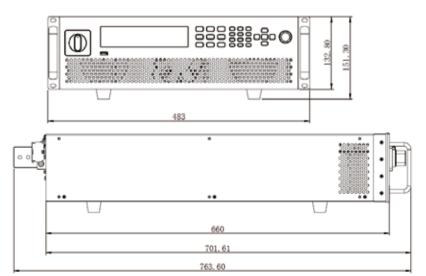






* Optional GPIB or Optional RS232 & Analog

3U/18kW Standalone unit dimension(mm)



IT6000B Series Regenerative Power System



		IT6006B-500-30	IT6006B-800-20
		Power Supply Parameters	Power Supply Parameters
	Output Voltage	0∼500V	0~800V
Rated Value Range	Output Current	-30∼30A	-20~20A
(0 °C -40 °C)	Output Power	-6000~6000W	-6000~6000W
(0000)	Output Resistance	0∼1Ω	0~1Ω
Line Regulation	Voltage	≤0.01%FS	≤0.01%FS
±(% of Output+Offset)	Current	≤0.05%FS	≤0.05%FS
Load Regulation	Voltage	≤0.02%FS	≤0.02%FS
±(% of Output+Offset)	Current	≤0.05%FS	≤0.05%FS
	Voltage	0.01V	0.01V
	Current	0.001A	0.001A
Readback Resolution	Power	0.001kW	0.001kW
	Resistance	$0.~0.01$ m Ω	0.1mΩ
	Voltage	≤0.02% + 0.02%FS	≤0.02% + 0.02%FS
Readback Accuracy	Current	≤0.1% + 0.1%FS	≤0.1% + 0.1%FS
(Within 12 months、25 ℃±5 ℃)	Power	≤0.5% + 0.5%FS	≤0.5% + 0.5%FS
±(% of Output+Offset)	Resistance	≤1% + 1%FS	≤1% + 1%FS
Ripple	Voltage	≤200mVpp(MAX:≤500mVpp)	≤320mVpp(MAX: ≤800mVpp)
(20Hz -20MHz)	Current	≤0.1%FS RMS	≤0.1%FS RMS
Rise time (no load)	Voltage	≤15ms	≤15ms
Rise time(full load)	Voltage	≤30ms	≤30ms
Fall time (no load)	Voltage	≤30ms	≤30ms
Fall time (full load)	Voltage	≤15ms	≤15ms
Dynamic Response Time	Voltage	≤2ms	≤2ms
Efficiency	voilage	~92%	~92%
		Load Parameters	Load Parameters
	Input Voltage	0∼500V	0~800V
	Input Current	0∼30A	0~20A
Rated Value Range	Input Power	0~6000W	0∼6000W
(0°C-40°C)	Input Resistance	0~16667Ω	0~4000Ω
	Min operating voltage	0.99V at 30A	0.66V at 20A
	Voltage	0.01V	0.01V
	Current	0.001A	0.001A
Readback Resolution	Power	0.1W	0.1W
	Resistance	0.1Ω	0.1Ω
		≤0.1% + 500mV	≤0.1% + 800mV
Readback Accuracy	Voltage Current	≤0.1% + 30mA	≤0.1% + 20mA
(Within 12 months 25 C±5 C ±(% of Output+Offset)		≤1%FS	≤1%FS
	Resistance		
Discrib		≤2%Rmax,0~10%Rmax;≤5%Rmax,10%~Rmax ≤500mVpp	≤ 800mVpp
Ripple	Voltage Current	≤30mArms	≤20mArms
(20Hz -20MHz)		30A/ms	20A/ms
	Rise Speed Rate		20A/ms
Dynamic Response Time	Fall Speed Rate	30A/ms	500Hz
	Dynamic Frequency	500Hz	≤1ms
	Minimum Rise Time	≤1ms	
	Output Voltage Range Output Frequency	198V~264V (Decrease 50%) 342V~528V (3P4W)	
	Range	47Hz ∼ 63Hz	47Hz∼63Hz
Output Parameter	Max. Output Current		14A
•	Power Factor	≥0.99	≥0.99
	THDI	<3%	<3%
	Island Protection	Active Anti-islanding Protection	Active Anti-islanding Protection
Efficiency		~92%	~92%
Isolation (Output to ground)	1000V	1500V
Dimension (mm)		483W*801.61D*151.3H	483W*801.61D*151.3H
Net weight		28KG	28KG

^{*} Some voltage levels are coming soon

^{*} This information is subject to change without notice



Specification			
		IT6012B-500-60	IT6012B-800-40
		Power Supply Parameters	Power Supply Parameters
	Output Voltage	0∼500V	0~800V
Rated Value Range	Output Current	-60∼60A	-40∼40A
(0°C-40°C)	Output Power	-12000~12000W	-12000~12000W
(0 0-40 0)	Output Resistance	0∼1Ω	0~1Ω
Line Regulation	Voltage	≤0.01%FS	≤0.01%FS
±(% of Output+Offset)	Current	≤0.05%FS	≤0.05%FS
Load Regulation	Voltage	≤0.02%FS	≤0.02%S
±(%of Output+Offset)	Current	≤0.05%FS	≤0.05%FS
	Voltage	0.01V	0.01V
	Current	0.001A	0.001A
Readback Resolution	Power	0.001kW	0.001kW
	Resistance	0.01mΩ	0.01mΩ
	Voltage	≤0.02% + 0.02%FS	≤0.02% + 0.02%FS
Readback Accuracy	Current	≤0.1% + 0.1%FS	≤0.1% + 0.1%FS
(Within 12 months 25 C±5 C)	Power	≤0.5% + 0.5%FS	≤0.5% + 0.5%FS
±(% of Output+Offset)	Resistance	≤1% + 1%FS	≤1% + 1%FS
Ripple	Voltage	≤200mVpp(MAX: ≤500mVpp)	≤200mVpp(MAX:≤500mVpp)
(20Hz -20MHz)	Current	≤0.1%FS RMS	≤0.1%FS RMS
Rise time (no load)	Voltage	≤15ms	≤15ms
Rise time(full load)	Voltage	≤30ms	≤30ms
Fall time (no load)	Voltage	≤30ms	≤30ms
Fall time (full load)	Voltage	≤15ms	≤15ms
Dynamic Response Time	Voltage	≤2ms	≤2ms
Efficiency	voltage	~92%	~92%
		Load Parameters	Load Parameters
	Input Voltage	0∼500V	0~800V
	Input Current	0∼60A	0∼40A
Rated Value Range	Input Power	0∼12000W	0∼12000W
(0 °C -40 °C)	Input Resistance	0~8333Ω	0~20000Ω
	Min operating voltage		1.32V at 40A
	Voltage	0.01V	0.01V
	Current	0.001A	0.001A
Readback Resolution	Power	0.1W	0.1W
	Resistance	0.1Ω	0.1Ω
		≤0.1% + 500mV	≤0.1% + 800mV
Readback Accuracy	Voltage	≤0.1% + 60mA	≤0.1% + 40mA
(Within 12 months、25 C±5 C)	Current	≤1%FS	≤1%FS
±(% of Output+Offset)	Power	≤2%Rmax,0~10%Rmax;≤5%Rmax,10%~Rmax;	≤ 2%Rmax,0~10%Rmax; ≤ 5%Rmax,10%~Rmax;
D: 1	Resistance	≤200mVpp	$\leq 2.601110A_0 - 10.601110A_1 \leq 3.601110A_1 = 10.60 - 11110A_1$
Ripple	Voltage	≤ 60mArms	≤40mArms
(20Hz -20MHz)	Current		40A/ms
	Rise Speed Rate	60A/ms	
Dynamic Response Time	Fall Speed Rate	60A/ms	40A/ms
	Dynamic Frequency		500Hz
	Minimum Rise Time		≤1ms
	Output Voltage Range Output Frequency	198V~264V (Decrease 50%) 342V~528V (3P4W)	
	Range	47Hz~63Hz	47Hz∼63Hz
Output Parameter	Max. Output Current		19A
	Power Factor	≥ 0.99	≥0.99
	THDI	<3%	<3%
	Island Protection	Active Anti-islanding Protection	Active Anti-islanding Protection
Efficiency		~92%	~92%
Isolation (Output to ground))	1000V	1500V
		400W#004 04D#4E4 0U	400/4/204 04/0/4/54 011
Dimension (mm)		483W*801.61D*151.3H	483W*801.61D*151.3H

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IT6000B Series Regenerative Power System



Specification			0 0				
		IT6018B-500-90	IT6018B-800-60				
		Power Supply Parameters	Power Supply Parameters				
	Output Voltage	0~500V	0~800V				
Rated Value Range	Output Current	-90∼90A	-60∼60A				
(0°C-40°C)	Output Power	-18000~18000W	-18000∼18000W				
(00400)	Output Resistance	0~1Ω	0~1Ω				
Line Regulation	Voltage	≤0.01%FS	≤0.01%FS				
$\pm (\% \text{ of Output+Offset})$	Current	≤0.05%FS	≤0.05%FS				
Load Regulation	Voltage	≤0.02%FS	≤0.02%F\$				
±(% of Output+Offset)	Current	≤0.05%FS	≤0.05%FS				
	Voltage	0.01V	0.01V				
	Current	0.001A	0.001A				
Readback Resolution	Power	0.001kW	0.001kW				
	Resistance	$0.01 m\Omega$	0.01mΩ				
	Voltage	≤0.02% + 0.02%FS	≤0.02% + 0.02%FS				
Readback Accuracy	Current	≤0.1% + 0.1%FS	≤0.1% + 0.1%FS				
(Within 12 months 25 C±5 C)	Power	≤0.5% + 0.5%FS	≤0.5% + 0.5%FS				
±(%of Output+Offset)	Resistance	≤1% + 1%FS	≤1% + 1%FS				
Ripple	Voltage	≤200mVpp(MAX:500mVpp)	\leq 320mVpp(MAX: \leq 800mVpp)				
(20Hz -20MHz)	Current	≤ 0.1%FS RMS	≤0.1%FS RMS				
Rise time (no load)	Voltage	≤15ms	≤15ms				
Rise time(full load)	Voltage	≤30ms	≤30ms				
Fall time (no load)	Voltage	≤30ms	≤30ms				
Fall time (full load)	Voltage	≤15ms	≤15ms				
Dynamic Response Time	Voltage	≤2ms	≤2ms				
Efficiency	Vollage	~92%	~92%				
		Load Parameters	Load Parameters				
	Input Voltage	0~500V	0~800V				
	Input Current	0∼90A	0~60A				
Rated Value Range	Input Power	0∼18000W	0∼13333W				
(0 ℃-40 ℃)	Input Resistance	0~5556Ω	0~12500Ω				
	Min operating voltage		1.98V at 60A				
	Voltage	0.01V	0.01V				
	Current	0.001A	0.001A				
Readback Resolution	Power	0.1W	0.1W				
	Resistance	0.1Ω	0.1Ω				
	Voltage	≤0.1% + 500mV	≤0.1% + 800mV				
Readback Accuracy	Current	≤0.1% + 90mA	≤0.1% + 60mA				
(Within 12 months 25 C±5 C)	Power	≤1%FS	≤1%FS				
$\pm (\% \text{ of Output+Offset})$		≤ 2%Rmax,0~10%Rmax; ≤ 5%Rmax,10%~Rmax;	≤2%Rmax,0~10%Rmax;≤5%Rmax,10%~Rmax;				
Disale	Resistance	≤ 500mVpp	≤800mVpp				
Ripple	Voltage Current	≤90mArms	≤60mArms				
(20Hz -20MHz)		90A/ms	60A/ms				
	Rise Speed Rate	90A/ms	60A/ms				
Dynamic Response Time	Fall Speed Rate		500Hz				
	Dynamic Frequency		≤1ms				
	Minimum Rise Time						
	Output Voltage Range Output Frequency		198V~264V (Decrease 50%) 342V~528V (3P4W)				
	Range	47Hz~63Hz	47Hz∼63Hz				
Output Parameter	Max. Output Current		29A				
	Power Factor	≥ 0.99 <3%	≥0.99 <3%				
	THDI	< 3% Active Anti-islanding Protection	< 3% Active Anti-islanding Protection				
	Island Protection	•	~92%				
Efficiency		~92%					
Isolation (Output to ground))	1000V	1500V				
Dimension (mm)		483W*801.61D*151.3H	483W*801.61D*151.3H				
Net weight		40KG	40KG				

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Specification						
		IT6018B-1500-30	IT6018B-2250-20			
		Power Supply Parameters	Power Supply Parameters			
	Output Voltage	0∼1500V	0~2250V			
Patad Valua Panga	Output Current	-30∼30A	-20~20A			
Rated Value Range	Output Power	-18000∼18000W	-18000∼18000W			
(0°C-40°C)	Output Resistance	0∼1Ω	0∼1Ω			
Line Regulation	Voltage	≤0.01%FS	≤0.01%FS			
±(% of Output+Offset)	Current	≤0.05%FS	≤0.05%FS			
Load Regulation	Voltage	≤0.02%F\$	≤0.02%FS			
±(% of Output+Offset)	Current	≤0.05%F\$	≤0.05%FS			
±(///or output/onset/	Voltage	0.1V	0.1V			
	Current	0.001A	0.01A			
Readback Resolution	Power	0.001kW	0.001kW			
	Resistance	0.1mΩ	0.1mΩ			
	Voltage	≤0.02% + 0.02%FS	≤0.02% + 0.02%FS			
Readback Accuracy	Current	≤0.1% + 0.1%FS	≤0.02% + 0.02%FS ≤0.1% + 0.1%FS			
(Within 12 months 25 ℃ ±5 ℃)	Power	≤0.5% + 0.5%FS	≤0.5% + 0.5%FS			
±(% of Output+Offset)	Resistance	≤1% + 1%FS	≤1% + 1%FS			
B: 1		≤600mVpp(MAX: ≤1500mVpp)	≤1% + 1%FS ≤900mVpp(MAX:≤2250mVpp)			
Ripple	Voltage	≤0.1%FS RMS	≤0.1%FS RMS			
(20Hz -20MHz)	Current	≤ 15ms	≤0.17613 FINIS			
Rise time (no load)	Voltage	≤ 1011s ≤ 30ms	≤ 13118 ≤ 30ms			
Rise time(full load)	Voltage		≤30ms			
Fall time (no load)	Voltage	≤30ms	≤30ms ≤15ms			
Fall time (full load)	Voltage	≤15ms				
Dynamic Response Time	Voltage	≤2ms	≤2ms			
Efficiency		~92%	~92%			
	1 13/ 11	Load Parameters	Load Parameters			
	Input Voltage	0~1500V	0~2250V			
Rated Value Range	Input Current	0~30A	0~20A			
(0°C-40°C)	Input Power	0~18000W	0~18000W			
(/	Input Resistance	0~50000Ω	0~112500Ω			
	Min operating voltage	9V at 30A	6V at 20A			
	Voltage	0.1V	0.1V			
Readback Resolution	Current	0.001A	0.001A			
	Power	0.1W	0.1W			
	Resistance	0.1Ω	0.1Ω			
Readback Accuracy	Voltage	≤0.1% + 1500mV	≤0.1% + 2250mV			
•	Current	≤0.1% + 30mA	≤0.1% + 20mA			
(Within 12 months \ 25 °C ±5 °C) ±(% of Output+Offset)	Power	≤1%FS	≤1%FS			
±(/our output+onset)	Resistance	\leq 2%Rmax,0 \sim 10%Rmax; \leq 5%Rmax,10% \sim Rmax;	\leq 2%Rmax,0 \sim 10%Rmax; \leq 5%Rmax,10% \sim Rmax;			
Ripple	Voltage	≤1500mVpp	≤2250mVpp			
(20Hz -20MHz)	Current	≤30mArms	≤20mArms			
	Rise Speed Rate	30A/ms	20A/ms			
Dynamic Response Time	Fall Speed Rate	30A/ms	20A/ms			
Dynamic Response Time	Dynamic Frequency	500Hz	500Hz			
	Minimum Rise Time	≤1ms	≤1ms			
	Output Voltage Range	198V ~ 264V (Decrease 50%) 342V ~ 528V (3P4W)	198V~264V (Decrease 50%) 342V~528V (3P4W)			
	Output Frequency	47Hz∼63Hz	47Hz∼63Hz			
	Output Frequency Range		47Hz~63Hz 24A			
Output Parameter	Output Frequency Range Max. Output Current	24A	24A			
Output Parameter	Output Frequency Range Max. Output Current Power Factor	24A ≥0.99	24A ≥0.99			
Output Parameter	Output Frequency Range Max. Output Current Power Factor THDI	24A ≥0.99 <3%	24A ≥0.99 <3%			
	Output Frequency Range Max. Output Current Power Factor	24A ≥0.99 <3% Active Anti-islanding Protection	24A ≥0.99 <3% Active Anti-islanding Protection			
Efficiency	Output Frequency Range Max. Output Current Power Factor THDI Island Protection	24A ≥0.99 < 3% Active Anti-islanding Protection ~92%	24A ≥0.99 <3% Active Anti-islanding Protection ~92%			
	Output Frequency Range Max. Output Current Power Factor THDI Island Protection	24A ≥0.99 <3% Active Anti-islanding Protection	24A ≥0.99 <3% Active Anti-islanding Protection			