ITECH

YOUR POWER TESTING SOLUTION

## Product

IT6000B Regenerative Power System

# IT6000B Regenerative Power System

## APPLICATIONS

- High power battery
- High speed testing
- Automotive electronics
- Aerospace
- Green energy
- Industrial manufacturing

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*Your Power Testing Solution*

# IT6000 Series



## Regenerative Power System

From the perspective of improving customer experience, ITECH launches a new incorporated product--IT6000B series. Adopting advanced SiC technology , 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 2MW. 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.

## Features

- 2 in 1 device integrating bidirectional DC power supply and electronic load
- Adopts third-generation SiC technology
- One button switch between source and sink on panel
- High power density up to 18kW in compact 3U rack space, expandable up to 2 MW by paralleling
- Voltage output range: 0 to 2250V
- Current output range: 0 to 2040A (single cabinet), 0 to 8000A (parallel between cabinets)
- 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
- Partial pre-compliant with LV123, LV148, DIN40839, ISO-16750-2, SAEJ1113-11,LV124 and ISO21848 automotive testing standards
- High efficient energy recovery
- Battey cycle test - support CC/CV/CP
- Built-in waveform generator, support generating arbitrary waveforms
- PV simulator(with SAS1000) - solar array I-V curves simulation
- 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
- Supports external data logging functionality, enabling real-time data storage via USB drive insertion
- Battery simulator(with BSS2000) -Characteristic simulation of various batteries
- Strong dynamic driving profile simulation function, up to 10,000,000 points

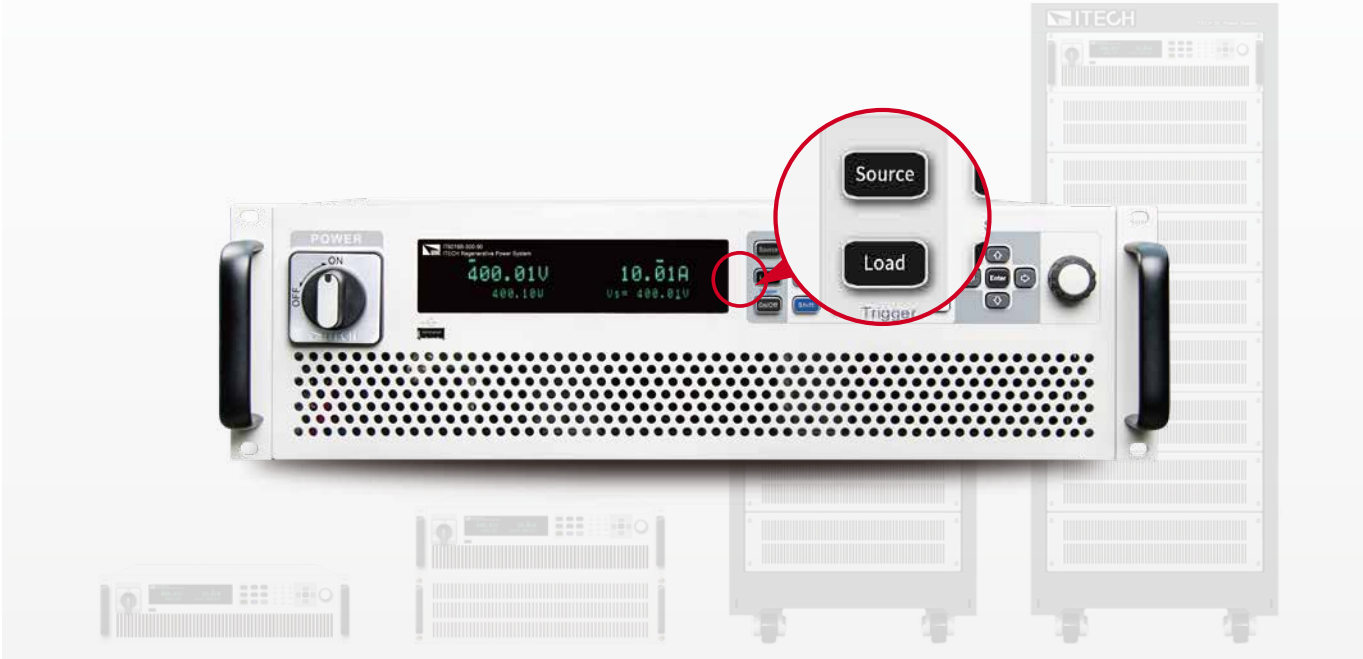
## 01 IT6000B Regenerative Power System

## Application

| | | | | | | |
|---|---|---|---|---|---|---|
| **01** Renewable Energy | | Solar Charger | | Micro Inverter | Battery Pack | PV Inverter |
| **02** Automotive | Automotive Motors | | Car Charger | Automotive Electronics | | Bidirectional DC/DC Converter |
| **03** High-speed testing | Telecom | Power semiconductor components | High speed electronic test | | LED products | Civil aviation |
| **04** High-power testing | | UPS | Electric motor/ generator | Consumer products | Electro plating/welding | ATE systems |

## 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.

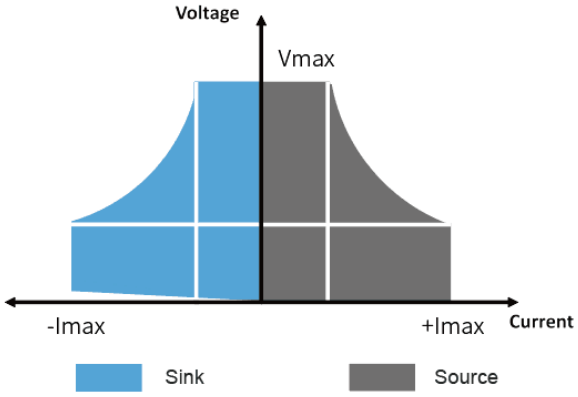


# Your Power Testing Solution

IT6000B Regenerative Power System

## 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.




## Power regenerative and eco-friendly

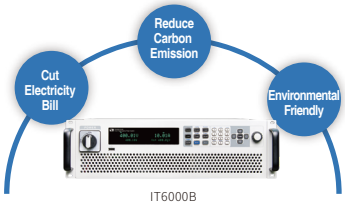
With the power regeneration function, IT6000B can feed back up to 95% power instead of consuming it as heat. It not only save your cost of electricity, HVAC and cooling infrastructure, but also help to reduce carbon emission and impact on the environment.

**Production facility :** 24Hr/day x 7 work days x 52 weeks

| Power | electricity cost saved (appr. USD/year) | $CO_2$ emission reduced (appr. ton/year) |
|---|---|---|
| 18kW | 20,914 | 149 |
| 36kW | 41,828 | 298 |
| 90kW | 104,570 | 745 |
| 108kW | 125,484 | 894 |
| 144kW | 167,312 | 1,191 |

**R&D lab :** 8Hr/day x 5 work days x 52 weeks

| Power | electricity cost saved (appr. USD/year) | $CO_2$ emission reduced (appr. ton/year) |
|---|---|---|
| 18kW | 4,980 | 35 |
| 36kW | 9,959 | 71 |
| 90kW | 24,898 | 177 |
| 108kW | 29,877 | 213 |
| 144kW | 39,836 | 284 |



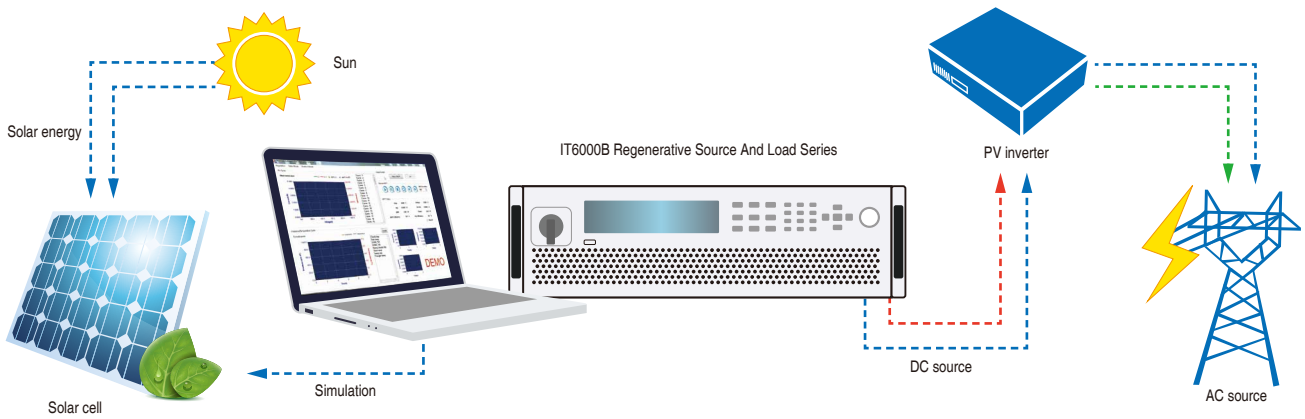

Highly regenerative 95%

* The data is based on :
1. approximate electricity price 0.14USD/kWh for industry facility in California
2. 1kWh power consumption ≈ 0.997 $CO_2$ emission

* The extra cost of air conditioning is not included.

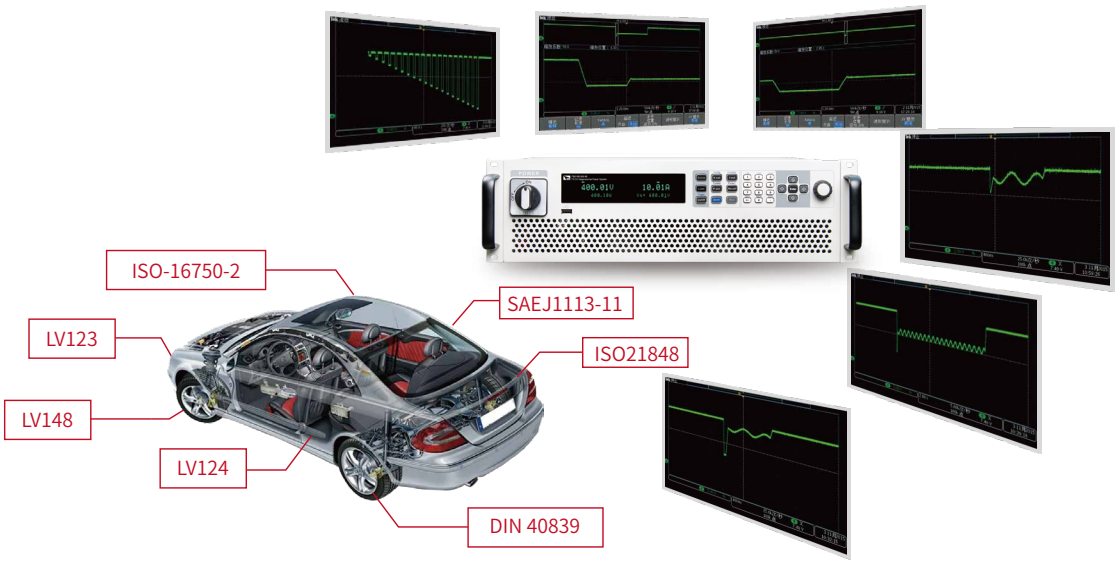
## The application for solar array simulation

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 partial voltage curves LV123, LV148, DIN40839, ISO-16750-2, SAEJ1113-11,LV124 and ISO21848. 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.

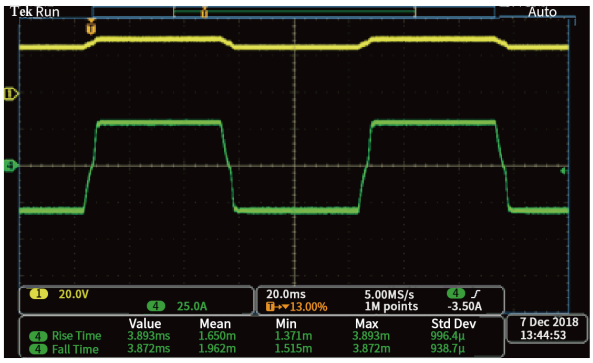



## CC&CV Priority

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, transient simulation test of automotive electronics etc.

CV priority

Starting up: surge current over range, high speed voltage




CC priority

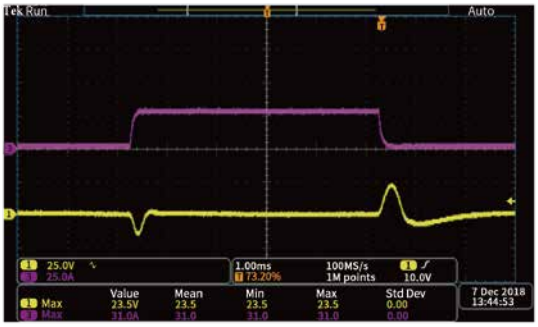
Battery charging and discharging: seamless switching, no overshoot

# Your Power Testing Solution

IT6000B Regenerative Power System

## 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

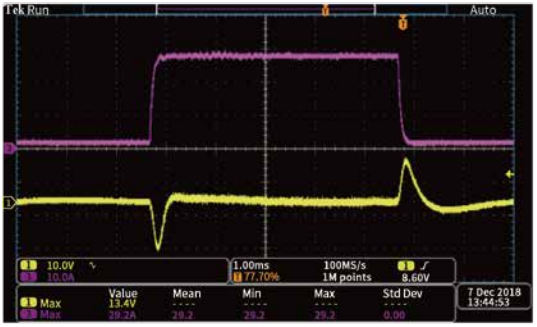



Standalone unit

IT6006B-500-40 500V 40A 6000W

Setting: voltage 100V current 28A

Load current: 30A




2 units IT6006B-500-40

Setting: voltage 100V current 56A

Load current: 60A

* Yellow- output voltage

Purple- output current

## Specification

| | Model | Current | Power | | Model | Current | Power | | Model | Current | Power |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 80V | IT6005B-80-150 | 150A | 5kW | 300V | IT6006B-300-75 | 75A | 6kW | 500V | IT6006B-500-40 | 40A | 6kW |
| | IT6010B-80-300 | 300A | 10kW | | IT6012B-300-150 | 150A | 12kW | | IT6012B-500-80 | 80A | 12kW |
| | IT6015B-80-450 | 450A | 15kW | | IT6018B-300-225 | 225A | 18kW | | IT6018B-500-120 | 120A | 18kW |
| | IT6030B-80-900 | 900A | 30kW | | IT6036B-300-450 | 450A | 36kW | | IT6036B-500-240 | 240A | 36kW |
| | IT6045B-80-1350 | 1350A | 45kW | | IT6054B-300-675 | 675A | 54kW | | IT6054B-500-360 | 360A | 54kW |
| | IT6060B-80-1800 | 1800A | 60kW | | IT6072B-300-900 | 900A | 72kW | | IT6072B-500-480 | 480A | 72kW |
| | IT6075B-80-2040 | 2040A | 75kW | | IT6090B-300-1125 | 1125A | 90kW | | IT6090B-500-600 | 600A | 90kW |
| | IT6090B-80-2040 | 2040A | 90kW | | IT6108B-300-1350 | 1350A | 108kW | | IT6108B-500-720 | 720A | 108kW |
| | IT6105B-80-2040 | 2040A | 105kW | | IT6126B-300-1575 | 1575A | 126kW | | IT6126B-500-840 | 840A | 126kW |
| | IT6120B-80-2040 | 2040A | 120kW | | IT6144B-300-1800 | 1800A | 144kW | | IT6144B-500-960 | 960A | 144kW |

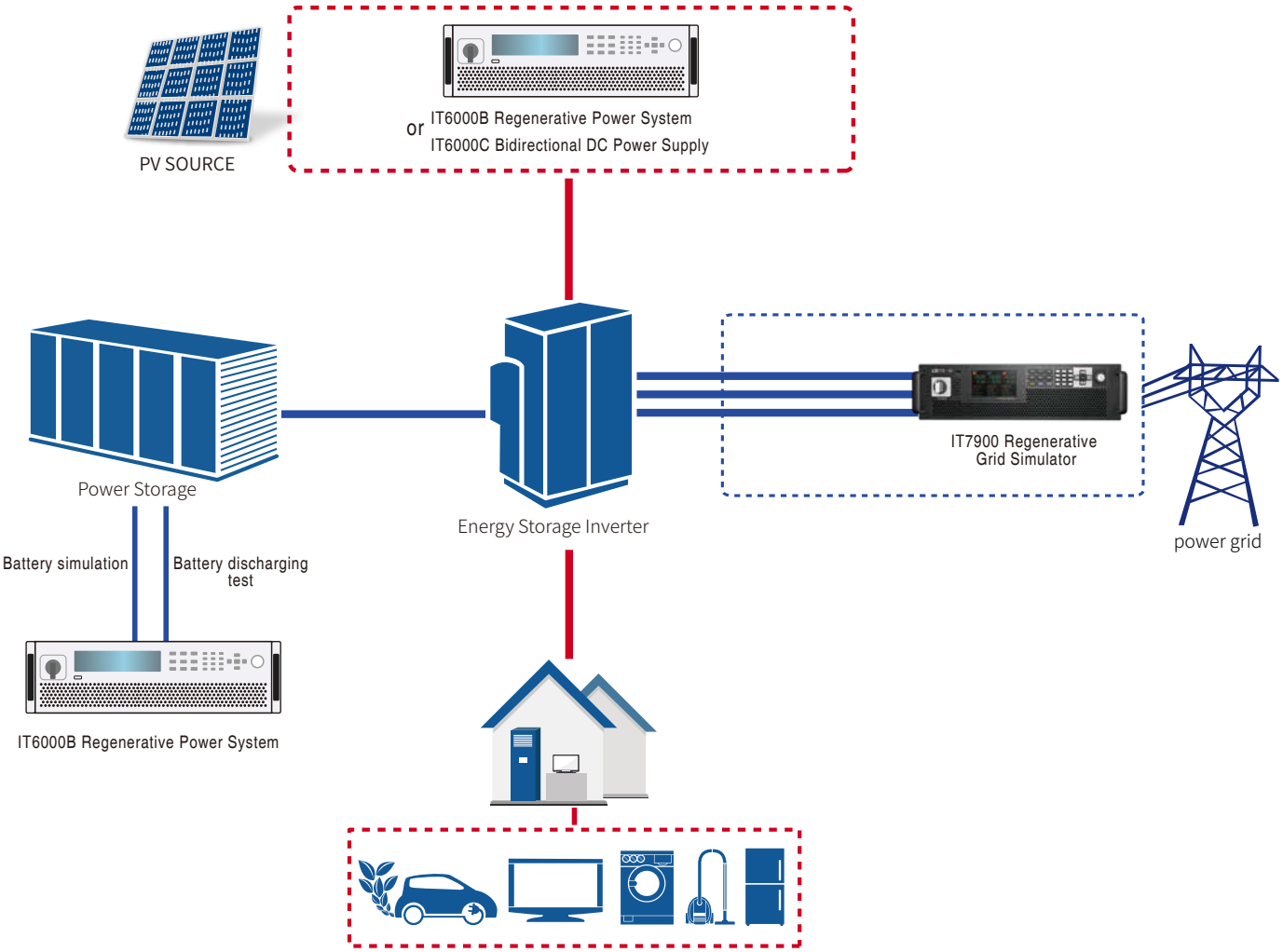
| | Model | Current | Power | | Model | Current | Power | | Model | Current | Power |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 800V | IT6006B-800-25 | 25A | 6kW | 1500V | IT6018B-1500-40 | 40A | 18kW | 2250V | IT6018B-2250-25 | 25A | 18kW |
| | IT6012B-800-50 | 50A | 12kW | | IT6036B-1500-80 | 80A | 36kW | | IT6036B-2250-50 | 50A | 36kW |
| | IT6018B-800-75 | 75A | 18kW | | IT6054B-1500-120 | 120A | 54kW | | IT6054B-2250-75 | 75A | 54kW |
| | IT6036B-800-150 | 150A | 36kW | | IT6072B-1500-160 | 160A | 72kW | | IT6072B-2250-100 | 100A | 72kW |
| | IT6054B-800-225 | 225A | 54kW | | IT6090B-1500-200 | 200A | 90kW | | IT6090B-2250-125 | 125A | 90kW |
| | IT6072B-800-300 | 300A | 72kW | | IT6108B-1500-240 | 240A | 108kW | | IT6108B-2250-150 | 150A | 108kW |
| | IT6090B-800-375 | 375A | 90kW | | IT6126B-1500-280 | 280A | 126kW | | IT6126B-2250-175 | 175A | 126kW |
| | IT6108B-800-450 | 450A | 108kW | | IT6144B-1500-320 | 320A | 144kW | | IT6144B-2250-200 | 200A | 144kW |
| | IT6126B-800-525 | 525A | 126kW | | | | | | | | |
| | IT6144B-800-600 | 600A | 144kW | | | | | | | | |

* This information is subject to change without notice

## 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.

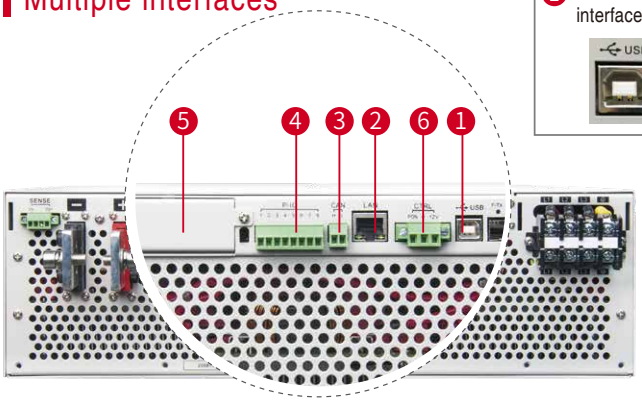
- IT6000B can precisely simulate I-V curve of solar panel.
- IT6000B can simulate batteries by its battery simulation function.
- IT7900P can simulate the input of power grid.
- Three testing ways can be done by simulation of various power units: Battery input, AC input, PV input to converter.
- The independent load mode of IT6000B can proceed discharging test of batteries.



# Your Power Testing Solution

## IT6000B Regenerative Power System

### Multiple interfaces




1 Standard USB interface

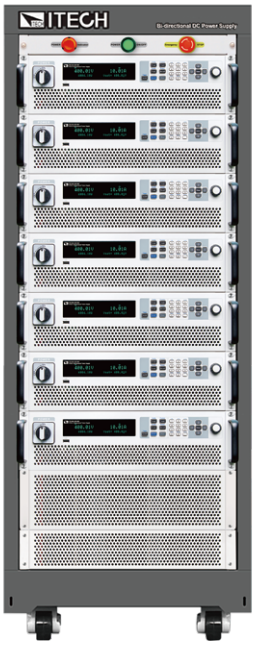
2 Standard LAN interface

3 Standard CAN interface

4 Standard I/O interface

5 Optional RS232 &Analog or GPIB

6 External control interface




| Category | Model | Specification | Description |
|---|---|---|---|
| Accessories for parallel connection | IT-E510-15U * | 15U unit，grey | 800mm X 550mm X907.64mm |
| | IT-E511-15U * | 15U unit，black | 800mm X 550mm X907.64mm |
| | IT-E510-27U * | 27U unit，grey | 800mm X 600mmX 1441.41mm |
| | IT-E511-27U * | 27U unit，black | 800mm X 600mmX 1441.41mm |
| | IT-E510-37U * | 37U unit，grey | 800mm X 600mm X 1885.91mm |
| | IT-E511-37U * | 37U unit，black | 800mm X 600mm X 1885.91mm |
| | IT-E168 | optical fiber kit for parallel connection | for parallel communication between single units |
| | IT-E169 | Optical fiber kit for parallel connection | for parallel communication between cabinets |
| Anti-reverse protection unit | IT-E165A-250 | 750V/250A | Reverse polarity protection |
| | IT-E165A-400 | 750V/400A | Reverse polarity protection |
| | IT-E165A-500 | 900V/400A | Reverse polarity protection |
| | IT-E165B | Anti electromotive force protection unit | Avoid current back flow |
| Other accessories | IT-E258-15U<br>IT-E258E-15U<br>IT-E258U-15U | 5m power cord for 15U unit | Applied for Europe（-E）or United States（-U） or other area |
| | IT-E258-27U<br>IT-E258E-27U<br>IT-E258U-27U | 5m power cord for 27U unit | Applied for Europe（-E）or United States（-U） or other area |
| | IT-E258-37U<br>IT-E258E-37U<br>IT-E258U-37U | 5m power cord for 37U unit | Applied for Europe（-E）or United States（-U） or other area |
| | IT-E166/IT-E176-grey | GPIB communication card | |
| | IT-E167/IT-E177-grey | RS232 & analog interface card | |
| Test software | BSS2000 | Battery simulation software | Basic BSS2000/ Advanced BSS2000 Pro/Multi-channel BSS2000M |
| | SAS1000 | Solar array simulation software | SAS1000L (<15kW) / SAS1000 / Multi-channel SAS1000M |
| | FCS3000 | Fuel cell simulation software | FCS3000 |

* Contact us for details

## Specification

| | | IT6005B-80-150 | IT6010B-80-300 |
|---|---|---|---|
| | | Power Supply Parameters | Power Supply Parameters |
| Rated Value Range ( 0 ℃-50 ℃) | Output Voltage | 0～80V | 0～80V |
| | Output Current | -150～150A | -300～300A |
| | Output Power | -5000～5000W | -10000～10000W |
| | Output Resistance | 0～0.533Ω | 0～0.267Ω |
| Line Regulation ±(%of Offset) | Voltage | ≤0.01%FS | ≤0.01%FS |
| | Current | ≤0.05%FS | ≤0.05%FS |
| Load Regulation ±(%of Offset) | Voltage | ≤0.02%FS | ≤0.02%FS |
| | Current | ≤0.05%FS | ≤0.05%FS |
| Readback Resolution | Voltage | 0.001V | 0.001V |
| | Current | 0.01A | 0.01A |
| | Power | 0.001kW | 0.001kW |
| | Resistance | 0.001Ω | 0.001Ω |
| Readback Accuracy (Within 12 months、25℃±5℃) ±(%of Output+Offset) | Voltage | ≤0.02%+0.02%FS | ≤0.02% +0.02%FS |
| | Current | ≤0.1%+0.1%FS | ≤0.1% + 0.1%FS |
| | Power | ≤0.5%+0.5%FS | ≤0.5% + 0.5%FS |
| | Resistance | ≤1% + 1%FS | ≤1% + 1%FS |
| Ripple (20Hz -20MHz) | Voltage | ≤120mVpp(MAX: ≤200mVpp) | ≤120mVpp(MAX: ≤200mVpp) |
| | 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 |
| Transient Response Time | Voltage | ≤2ms | ≤2ms |
| Efficiency | | ～90% | ～90% |
| | | Load Parameters | Load Parameters |
| Rated Value Range ( 0 ℃-50 ℃) | Input Voltage | 0～80V | 0～80V |
| | Input Current | 0～150A | 0～300A |
| | Input Power | 0～5000W | 0～10000W |
| | Input Resistance | 0.001～1067Ω | 0.01～333Ω |
| | Min operating voltage | 0.45V at 150A | 0.45V at 300A |
| Readback Resolution | Voltage | 0.001V | 0.001V |
| | Current | 0.01A | 0.01A |
| | Power | 0.001kW | 0.001kW |
| | Resistance | 0.001Ω | 0.001Ω |
| Readback Accuracy (Within 12 months、25℃±5℃) ±(%of Output+Offset) | Voltage | ≤0.02% + 0.02%FS | ≤0.02% + 0.02%FS |
| | Current | ≤0.1% + 0.1%FS | ≤0.1% + 0.1%FS |
| | Power | ≤0.5% + 0.5%FS | ≤0.5% + 0.5%FS |
| | Resistance | ≤2%Rmax,0～10%Rmax; ≤5%Rmax,10%～Rmax; | ≤1% + 1%FS |
| Transient Response Time | Rise Speed Rate | 150A/ms | 300A/ms |
| | Fall Speed Rate | 150A/ms | 300A/ms |
| | Dynamic Frequency | 500Hz | 500Hz |
| | Minimum Rise Time | ≤1ms | ≤1ms |
| Output Parameter | Output Voltage Range | 198V～264V（Decrease 50%） 342V～528V {3PH + PE (no neutral)} | 198V～264V（Decrease 50%） 342V～528V {3PH + PE (no neutral)} |
| | Output Frequency Range | 47Hz～63Hz | 47Hz～63Hz |
| | Max. Output Current | L1,L2/17A;L3/0A | L1,L2/17A;L3/29A |
| | Power Factor | ≥0.99 | ≥0.99 |
| | Island Protection | Active Anti-islanding Protection | Active Anti-islanding Protection |
| Efficiency | | ～90% | ～90% |
| Dimension（mm） | | 483W*801.61D*151.3H | 483W*801.61D*151.3H |
| Net weight | | 20KG | 30KG |

* This information is subject to change without notice

# Your Power Testing Solution

## IT6000B Regenerative Power System

### Specification

| | | IT6015B-80-450 | IT6006B-300-75 |
|---|---|---|---|
| | | Power Supply Parameters | Power Supply Parameters |
| Rated Value Range ( 0 ℃-50 ℃) | Output Voltage | 0～80V | 0～300V |
| | Output Current | -450～450A | -75～75A |
| | Output Power | -15000～15000W | -6000～6000W |
| | Output Resistance | 0～0.178Ω | 0～1Ω |
| Line Regulation ±(%of Offset) | Voltage | ≤0.01%FS | ≤0.01%FS |
| | Current | ≤0.05%FS | ≤0.05%FS |
| Load Regulation ±(%of Offset) | Voltage | ≤0.02%FS | ≤0.02%FS |
| | Current | ≤0.05%FS | ≤0.05%FS |
| Readback Resolution | Voltage | 0.001V | 0.01V |
| | Current | 0.01A | 0.01A |
| | Power | 0.001kW | 0.001kW |
| | Resistance | 0.001Ω | 0. 01Ω |
| Readback Accuracy (Within 12 months、25℃±5℃) ±(%of Output+Offset) | Voltage | ≤0.02% + 0.02%FS | ≤0.02% + 0.02%FS |
| | Current | ≤0.1% + 0.1%FS | ≤0.1% + 0.1%FS |
| | Power | ≤0.5% + 0.5%FS | ≤0.5% + 0.5%FS |
| | Resistance | ≤1% + 1%FS | ≤1% + 1%FS |
| Ripple (20Hz -20MHz) | Voltage | ≤120mVpp(MAX: ≤200mVpp) | ≤120mVpp(MAX:≤600mVpp) |
| | 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 |
| Transient Response Time | Voltage | ≤2ms | ≤2ms |
| Efficiency | | ～90% | ～92% |
| | | Load Parameters | Load Parameters |
| Rated Value Range ( 0 ℃-50 ℃) | Input Voltage | 0～80V | 0～300V |
| | Input Current | 0～450A | 0～75A |
| | Input Power | 0～15000W | 0～6000W |
| | Input Resistance | 0.001～356Ω | 0.001～7500Ω |
| | Min operating voltage | 0.45V at 450A | 1.6V at 75A |
| Readback Resolution | Voltage | 0.001V | 0.01V |
| | Current | 0.01A | 0.01A |
| | Power | 0.001kW | 0.001kW |
| | Resistance | 0.0001Ω | 0.01Ω |
| Readback Accuracy (Within 12 months、25℃±5℃) ±(%of Output+Offset) | Voltage | ≤0.02% + 0.02%FS | ≤0.02% + 0.02%FS |
| | Current | ≤0.1% + 0.1%FS | ≤0.1% + 0.1%FS |
| | Power | ≤0.5% + 0.5%FS | ≤0.5% + 0.5%FS |
| | Resistance | ≤1% + 1%FS | ≤2%Rmax,0～10%Rmax;≤5%Rmax,10%～Rmax; |
| Transient Response Time | Rise Speed Rate | 450A/ms | 75A/ms |
| | Fall Speed Rate | 450A/ms | 75A/ms |
| | Dynamic Frequency | 500Hz | 500Hz |
| | Minimum Rise Time | ≤1ms | ≤1ms |
| Output Parameter | Output Voltage Range | 198V～264V（Decrease 50%） 342V～528V {3PH + PE (no neutral)} | 198V～264V（Decrease 50%） 342V～528V {3PH + PE (no neutral)} |
| | Output Frequency Range | 47Hz～63Hz | 47Hz～63Hz |
| | Max. Output Current | L1,L2/17A;L3/29A | L1,L2/20A;L3/0A |
| | Power Factor | ≥0.99 | ≥0.99 |
| | Island Protection | Active Anti-islanding Protection | Active Anti-islanding Protection |
| Efficiency | | ～90% | ～92% |
| Dimension（mm） | | 483W*801.61D*151.3H | 483W*801.61D*151.3H |
| Net weight | | 40KG | 20KG |

* This information is subject to change without notice

## Specification

| | | IT6012B-300-150 | IT6018B-300-225 |
|---|---|---|---|
| | | Power Supply Parameters | Power Supply Parameters |
| Rated Value Range (0 ℃-50 ℃) | Output Voltage | 0～300V | 0～300V |
| | Output Current | -150～150A | -225～225A |
| | Output Power | -12000～12000W | -18000～18000W |
| | Output Resistance | 0～1Ω | 0～1Ω |
| Line Regulation ±(%of Offset) | Voltage | ≤0.01%FS | ≤0.01%FS |
| | Current | ≤0.05%FS | ≤0.05%FS |
| Load Regulation ±(%of Offset) | Voltage | ≤0.02%FS | ≤0.02%FS |
| | Current | ≤0.05%FS | ≤0.05%FS |
| Readback Resolution | Voltage | 0.01V | 0.01V |
| | Current | 0.01A | 0.01A |
| | Power | 0.001kW | 0.001kW |
| | Resistance | 0. 001Ω | 0.001Ω |
| Readback Accuracy (Within 12 months、25℃±5℃) ±(%of Output+Offset) | Voltage | ≤0.02% + 0.02%FS | ≤0.02% + 0.02%FS |
| | Current | ≤0.1% + 0.1%FS | ≤0.1% + 0.1%FS |
| | Power | ≤0.5% + 0.5%FS | ≤0.5% + 0.5%FS |
| | Resistance | ≤1% + 1%FS | ≤1% + 1%FS |
| Ripple (20Hz -20MHz) | Voltage | ≤120mVpp(MAX:≤600mVpp) | ≤120mVpp(MAX:≤300mVpp) |
| | 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 |
| Transient Response Time | Voltage | ≤2ms | ≤2ms |
| Efficiency | | ～92% | ～92% |
| | | Load Parameters | Load Parameters |
| Rated Value Range (0 ℃-50 ℃) | Input Voltage | 0～300V | 0～300V |
| | Input Current | 0～150A | 0～225A |
| | Input Power | 0～12000W | 0～18000W |
| | Input Resistance | 0.001～4000Ω | 0.001～2667Ω |
| | Min operating voltage | 1.6V at 150A | 1.6V at 225A |
| Readback Resolution | Voltage | 0.01V | 0.01V |
| | Current | 0.01A | 0.01A |
| | Power | 0.001kW | 0.001kW |
| | Resistance | 0.001Ω | 0.001Ω |
| Readback Accuracy (Within 12 months、25℃±5℃) ±(%of Output+Offset) | Voltage | ≤0.02% + 0.02%FS | ≤0.02% + 0.02%FS |
| | Current | ≤0.1% + 0.1%FS | ≤0.1% + 0.1%FS |
| | Power | ≤0.5% + 0.5%FS | ≤0.5% + 0.5%FS |
| | Resistance | ≤2%Rmax,0～10%Rmax;≤5%Rmax,10%～Rmax; | ≤2%Rmax,0～10%Rmax;≤5%Rmax,10%～Rmax; |
| Transient Response Time | Rise Speed Rate | 150A/ms | 225A/ms |
| | Fall Speed Rate | 150A/ms | 225A/ms |
| | Dynamic Frequency | 500Hz | 500Hz |
| | Minimum Rise Time | ≤1ms | ≤1ms |
| Output Parameter | Output Voltage Range | 198V～264V（Decrease 50%） 342V～528V {3PH + PE (no neutral)} | 198V～264V（Decrease 50%） 342V～528V {3PH + PE (no neutral)} |
| | Output Frequency Range | 47Hz～63Hz | 47Hz～63Hz |
| | Max. Output Current | L1,L2/20A;L3/34A | 28A |
| | Power Factor | ≥0.99 | ≥0.99 |
| | Island Protection | Active Anti-islanding Protection | Active Anti-islanding Protection |
| Efficiency | | ～92% | ～92% |
| Dimension（mm） | | 483W*801.61D*151.3H | 483W*801.61D*151.3H |
| Net weight | | 30KG | 40KG |

* This information is subject to change without notice

# Your Power Testing Solution

## IT6000B Regenerative Power System

### Specification

| | | IT6006B-500-40 | IT6012B-500-80 |
|---|---|---|---|
| | | Power Supply Parameters | Power Supply Parameters |
| Rated Value Range ( 0 ℃-50 ℃) | Output Voltage | 0～500V | 0～500V |
| | Output Current | -40～40A | -80～80A |
| | Output Power | -6000～6000W | -12000～12000W |
| | Output Resistance | 0～1Ω | 0～1Ω |
| Line Regulation ±(%of Offset) | Voltage | ≤0.01%FS | ≤0.01%FS |
| | Current | ≤0.05%FS | ≤0.05%FS |
| Load Regulation ±(%of Offset) | Voltage | ≤0.02%FS | ≤0.02%FS |
| | Current | ≤0.05%FS | ≤0.05%FS |
| Readback Resolution | Voltage | 0.01V | 0.01V |
| | Current | 0.001A | 0.01A |
| | Power | 0.001kW | 0.001kW |
| | Resistance | 0.01Ω | 0.01Ω |
| Readback Accuracy (Within 12 months、25℃±5℃) ±(%of Output+Offset) | Voltage | ≤0.02% + 0.02%FS | ≤0.02% + 0.02%FS |
| | Current | ≤0.1% + 0.1%FS | ≤0.1% + 0.1%FS |
| | Power | ≤0.5% + 0.5%FS | ≤0.5% + 0.5%FS |
| | Resistance | ≤1% + 1%FS | ≤1% + 1%FS |
| Ripple (20Hz -20MHz) | Voltage | ≤200mVpp(MAX:≤500mVpp) | ≤200mVpp(MAX: ≤500mVpp) |
| | 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 |
| Transient Response Time | Voltage | ≤2ms | ≤2ms |
| Efficiency | | ～92% | ～92% |
| | | Load Parameters | Load Parameters |
| Rated Value Range ( 0 ℃-50 ℃) | Input Voltage | 0～500V | 0～500V |
| | Input Current | 0～40A | 0～80A |
| | Input Power | 0～6000W | 0～12000W |
| | Input Resistance | 0.001～7500Ω | 0.001～7500Ω |
| | Min operating voltage | 2.4V at 40A | 2.4V at 80A |
| Readback Resolution | Voltage | 0.01V | 0.01V |
| | Current | 0.001A | 0.01A |
| | Power | 0.001kW | 0.001kW |
| | Resistance | 0.01Ω | 0.01Ω |
| Readback Accuracy (Within 12 months、25℃±5℃) ±(%of Output+Offset) | Voltage | ≤0.02% + 0.02%FS | ≤0.02% + 0.02%FS |
| | Current | ≤0.1% + 0.1%FS | ≤0.1% + 0.1%FS |
| | Power | ≤0.5% + 0.5%FS | ≤0.5% + 0.5%FS |
| | Resistance | ≤2%Rmax,0～10%Rmax;≤5%Rmax,10%～Rmax; | ≤2%Rmax,0～10%Rmax;≤5%Rmax,10%～Rmax; |
| Transient Response Time | Rise Speed Rate | 40A/ms | 80A/ms |
| | Fall Speed Rate | 40A/ms | 80A/ms |
| | Dynamic Frequency | 500Hz | 500Hz |
| | Minimum Rise Time | ≤1ms | ≤1ms |
| Output Parameter | Output Voltage Range | 198V～264V（Decrease 50%） 342V～528V {3PH + PE (no neutral)} | 198V～264V（Decrease 50%） 342V～528V {3PH + PE (no neutral)} |
| | Output Frequency Range | 47Hz～63Hz | 47Hz～63Hz |
| | Max. Output Current | L1,L2/20A;L3/0A | L1,L2/20A;L3/34A |
| | Power Factor | ≥0.99 | ≥0.99 |
| | Island Protection | Active Anti-islanding Protection | Active Anti-islanding Protection |
| Efficiency | | ～92% | ～92% |
| Dimension（mm） | | 483W*801.61D*151.3H | 483W*801.61D*151.3H |
| Net weight | | 20KG | 30KG |

* This information is subject to change without notice

## Specification

| | | IT6018B-500-120 | IT6006B-800-25 |
|---|---|---|---|
| | | Power Supply Parameters | Power Supply Parameters |
| Rated Value Range (0 ℃-50 ℃) | Output Voltage | 0～500V | 0～800V |
| | Output Current | -120～120A | -25～25A |
| | Output Power | -18000～18000W | -6000～6000W |
| | Output Resistance | 0～1Ω | 0～1Ω |
| Line Regulation ±(%of Offset) | Voltage | ≤0.01%FS | ≤0.01%FS |
| | Current | ≤0.05%FS | ≤0.05%FS |
| Load Regulation ±(%of Offset) | Voltage | ≤0.02%FS | ≤0.02%FS |
| | Current | ≤0.05%FS | ≤0.05%FS |
| Readback Resolution | Voltage | 0.01V | 0.01V |
| | Current | 0.01A | 0.001A |
| | Power | 0.001kW | 0.001kW |
| | Resistance | 0.01Ω | 0.1Ω |
| Readback Accuracy (Within 12 months、25℃±5℃) ±(%of Output+Offset) | Voltage | ≤0.02% + 0.02%FS | ≤0.02% + 0.02%FS |
| | Current | ≤0.1% + 0.1%FS | ≤0.1% + 0.1%FS |
| | Power | ≤0.5% + 0.5%FS | ≤0.5% + 0.5%FS |
| | Resistance | ≤1% + 1%FS | ≤1% + 1%FS |
| Ripple (20Hz -20MHz) | Voltage | ≤200mVpp(MAX: ≤500mVpp) | ≤800mVpp(MAX:≤1.2Vpp) |
| | 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 |
| Transient Response Time | Voltage | ≤2ms | ≤2ms |
| Efficiency | | ～92% | ～92% |
| | | Load Parameters | Load Parameters |
| Rated Value Range (0 ℃-50 ℃) | Input Voltage | 0～500V | 0～800V |
| | Input Current | 0～120A | 0～25A |
| | Input Power | 0～18000W | 0～6000W |
| | Input Resistance | 0.001～7500Ω | 0.001～7500Ω |
| | Min operating voltage | 2.4V at 120A | 2.1V at 25A |
| Readback Resolution | Voltage | 0.01V | 0.01V |
| | Current | 0.01A | 0.001A |
| | Power | 0.001kW | 0.001kW |
| | Resistance | 0.01Ω | 0.1Ω |
| Readback Accuracy (Within 12 months、25℃±5℃) ±(%of Output+Offset) | Voltage | ≤0.02% + 0.02%FS | ≤0.02% + 0.02%FS |
| | Current | ≤0.1% + 0.1%FS | ≤0.1% + 0.1%FS |
| | Power | ≤0.5% + 0.5%FS | ≤0.5% + 0.5%FS |
| | Resistance | ≤2%Rmax,0～10%Rmax;≤5%Rmax,10%～Rmax; | ≤2%Rmax,0～10%Rmax;≤5%Rmax,10%～Rmax; |
| Transient Response Time | Rise Speed Rate | 120A/ms | 25A/ms |
| | Fall Speed Rate | 120A/ms | 25A/ms |
| | Dynamic Frequency | 500Hz | 500Hz |
| | Minimum Rise Time | ≤1ms | ≤1ms |
| Output Parameter | Output Voltage Range | 198V～264V（Decrease 50%） 342V～528V {3PH + PE (no neutral)} | 198V～264V（Decrease 50%） 342V～528V {3PH + PE (no neutral)} |
| | Output Frequency Range | 47Hz～63Hz | 47Hz～63Hz |
| | Max. Output Current | 28A | L1,L2/20A;L3/0A |
| | Power Factor | ≥0.99 | ≥0.99 |
| | Island Protection | Active Anti-islanding Protection | Active Anti-islanding Protection |
| Efficiency | | ～92% | ～92% |
| Dimension（mm） | | 483W*801.61D*151.3H | 483W*801.61D*151.3H |
| Net weight | | 40KG | 20KG |

* This information is subject to change without notice

# Your Power Testing Solution

## IT6000B Regenerative Power System

### Specification

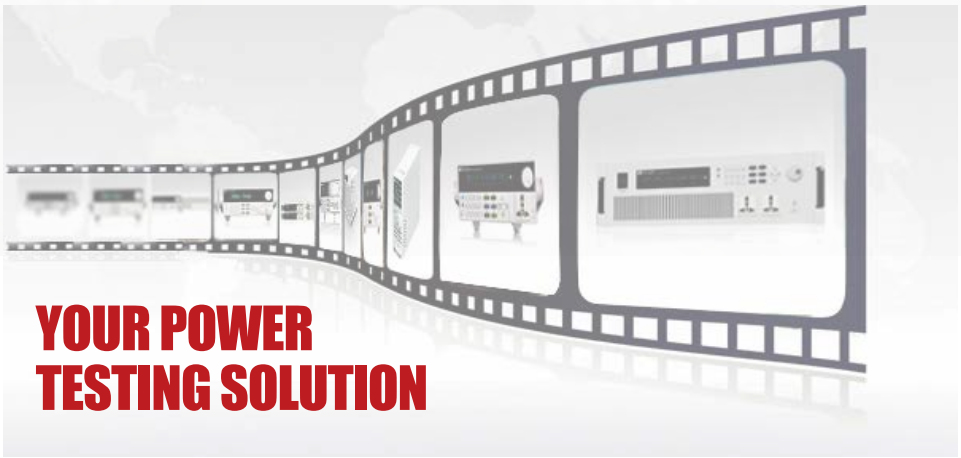
| | | IT6012B-800-50 | IT6018B-800-75 |
|---|---|---|---|
| | | Power Supply Parameters | Power Supply Parameters |
| Rated Value Range ( 0 ℃-50 ℃) | Output Voltage | 0～800V | 0～800V |
| | Output Current | -50～50A | -75～75A |
| | Output Power | -12000～12000W | -18000～18000W |
| | Output Resistance | 0～1Ω | 0～1Ω |
| Line Regulation ±(%of Offset) | Voltage | ≤0.01%FS | ≤0.01%FS |
| | Current | ≤0.05%FS | ≤0.05%FS |
| Load Regulation ±(%of Offset) | Voltage | ≤0.02%S | ≤0.02%FS |
| | Current | ≤0.05%FS | ≤0.05%FS |
| Readback Resolution | Voltage | 0.01V | 0.01V |
| | Current | 0.01A | 0.01A |
| | Power | 0.001kW | 0.001kW |
| | Resistance | 0.01Ω | 0.01Ω |
| Readback Accuracy (Within 12 months、25℃±5℃) ±(%of Output+Offset) | Voltage | ≤0.02% + 0.02%FS | ≤0.02% + 0.02%FS |
| | Current | ≤0.1% + 0.1%FS | ≤0.1% + 0.1%FS |
| | Power | ≤0.5% + 0.5%FS | ≤0.5% + 0.5%FS |
| | Resistance | ≤1% + 1%FS | ≤1% + 1%FS |
| Ripple (20Hz -20MHz) | Voltage | ≤800mVpp(MAX:≤1.2Vpp) | ≤320mVpp(MAX: ≤800mVpp) |
| | 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 |
| Transient Response Time | Voltage | ≤2ms | ≤2ms |
| Efficiency | | ～92% | ～92% |
| | | Load Parameters | Load Parameters |
| Rated Value Range ( 0 ℃-50 ℃) | Input Voltage | 0～800V | 0～800V |
| | Input Current | 0～50A | 0～75A |
| | Input Power | 0～12000W | 0～18000W |
| | Input Resistance | 0.001～7500Ω | 0.001～7500Ω |
| | Min operating voltage | 2.1V at 50A | 2.1V at 75A |
| Readback Resolution | Voltage | 0.01V | 0.01V |
| | Current | 0.01A | 0.01A |
| | Power | 0.001kW | 0.001kW |
| | Resistance | 0.01Ω | 0.01Ω |
| Readback Accuracy (Within 12 months、25℃±5℃) ±(%of Output+Offset) | Voltage | ≤0.02% + 0.02%FS | ≤0.02% + 0.02%FS |
| | Current | ≤0.1% + 0.1%FS | ≤0.1% + 0.1%FS |
| | Power | ≤0.5% + 0.5%FS | ≤0.5% + 0.5%FS |
| | Resistance | ≤2%Rmax,0～10%Rmax;≤5%Rmax,10%～Rmax; | ≤2%Rmax,0～10%Rmax;≤5%Rmax,10%～Rmax; |
| Transient Response Time | Rise Speed Rate | 50A/ms | 75A/ms |
| | Fall Speed Rate | 50A/ms | 75A/ms |
| | Dynamic Frequency | 500Hz | 500Hz |
| | Minimum Rise Time | ≤1ms | ≤1ms |
| Output Parameter | Output Voltage Range | 198V～264V（Decrease 50%） 342V～528V {3PH + PE (no neutral)} | 198V～264V（Decrease 50%） 342V～528V {3PH + PE (no neutral)} |
| | Output Frequency Range | 47Hz～63Hz | 47Hz～63Hz |
| | Max. Output Current | L1,L2/20A;L3/34A | 28A |
| | Power Factor | ≥0.99 | ≥0.99 |
| | Island Protection | Active Anti-islanding Protection | Active Anti-islanding Protection |
| Efficiency | | ～92% | ～92% |
| Dimension（mm） | | 483W*801.61D*151.3H | 483W*801.61D*151.3H |
| Net weight | | 30KG | 40KG |

* This information is subject to change without notice

## Specification

| | | IT6018B-1500-40 | IT6018B-2250-25 |
|---|---|---|---|
| | | Power Supply Parameters | Power Supply Parameters |
| Rated Value Range (0 ℃-50 ℃) | Output Voltage | 0～1500V | 0～2250V |
| | Output Current | -40～40A | -25～25A |
| | Output Power | -18000～18000W | -18000～18000W |
| | Output Resistance | 0～1Ω | 0～1Ω |
| Line Regulation ±(%of Offset) | Voltage | ≤0.01%FS | ≤0.01%FS |
| | Current | ≤0.05%FS | ≤0.05%FS |
| Load Regulation ±(%of Offset) | Voltage | ≤0.02%FS | ≤0.02%FS |
| | Current | ≤0.05%FS | ≤0.05%FS |
| Readback Resolution | Voltage | 0.1V | 0.1V |
| | Current | 0.001A | 0.001A |
| | Power | 0.001kW | 0.001kW |
| | Resistance | 0.1Ω | 0.1Ω |
| Readback Accuracy (Within 12 months、25℃±5℃) ±(%of Output+Offset) | Voltage | ≤0.02% + 0.02%FS | ≤0.02% + 0.02%FS |
| | Current | ≤0.1% + 0.1%FS | ≤0.1% + 0.1%FS |
| | Power | ≤0.5% + 0.5%FS | ≤0.5% + 0.5%FS |
| | Resistance | ≤1% + 1%FS | ≤1% + 1%FS |
| Ripple (20Hz -20MHz) | Voltage | ≤600mVpp(MAX: ≤1500mVpp) | ≤900mVpp(MAX:≤2250mVpp) |
| | 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 |
| Transient Response Time | Voltage | ≤2ms | ≤2ms |
| Efficiency | | ～92% | ～92% |
| | | Load Parameters | Load Parameters |
| Rated Value Range (0 ℃-50 ℃) | Input Voltage | 0～1500V | 0～2250V |
| | Input Current | 0～40A | 0～25A |
| | Input Power | 0～18000W | 0～18000W |
| | Input Resistance | 0.001～7500Ω | 0.001～7500Ω |
| | Min operating voltage | 7.2V at 40A | 6.25V at 25A |
| Readback Resolution | Voltage | 0.1V | 0.1V |
| | Current | 0.001A | 0.001A |
| | Power | 0.001kW | 0.001kW |
| | Resistance | 0.1Ω | 0.1Ω |
| Readback Accuracy (Within 12 months、25℃±5℃) ±(%of Output+Offset) | Voltage | ≤0.02% + 0.02%FS | ≤0.02% + 0.02%FS |
| | Current | ≤0.1% + 0.1%FS | ≤0.1% + 0.1%FS |
| | Power | ≤0.5% + 0.5%FS | ≤0.5% + 0.5%FS |
| | Resistance | ≤2%Rmax,0～10%Rmax;≤5%Rmax,10%～Rmax; | ≤2%Rmax,0～10%Rmax;≤5%Rmax,10%～Rmax; |
| Transient Response Time | Rise Speed Rate | 40A/ms | 25A/ms |
| | Fall Speed Rate | 40A/ms | 25A/ms |
| | Dynamic Frequency | 500Hz | 500Hz |
| | Minimum Rise Time | ≤1ms | ≤1ms |
| Output Parameter | Output Voltage Range | 198V～264V（Decrease 50%） 342V～528V {3PH + PE (no neutral)} | 198V～264V（Decrease 50%） 342V～528V {3PH + PE (no neutral)} |
| | Output Frequency Range | 47Hz～63Hz | 47Hz～63Hz |
| | Max. Output Current | 28A | 28A |
| | Power Factor | ≥0.99 | ≥0.99 |
| | Island Protection | Active Anti-islanding Protection | Active Anti-islanding Protection |
| Efficiency | | ～92% | ～92% |
| Dimension（mm） | | 483W*801.61D*151.3H | 483W*801.61D*151.3H |
| Net weight | | 40KG | 40KG |

* This information is subject to change without notice



# YOUR POWER TESTING SOLUTION

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