



High Performance Product Catalog

ITECH - YOUR POWER TESTING SOLUTION



 YOUR POWER TESTING
SOLUTION

www.itechate.com

As a professional manufacturer of power testing instruments and solutions, ITECH always focus on 'customer needs' and is committed to the research of cutting edged power testing technologies. With the wide range of products including AC/DC programmable power supply, AC/DC programmable electronic load, regenerative power system, bidirectional DC power supply, battery tester/simulator, PV simulator,grid simulator, power meter, power system, etc., ITECH has created well matched testing solutions for various industry fields, such as EV, solar, energy storage, automotive electronics, semiconductor, academic research, 5G, IoT and so on.

We keep moving with the development of industries and continuous innovations. The long term cooperation with top research institutes and universities enable us to continuously improve technology and bring engineers with reliable, precise, easy operated and cost saving test instruments.

Meanwhile, we care about environment protection and sustainable development. We create power regenerative products to help reducing power consumption and carbon emission.

Until now, ITECH products has appeared in more than 50 countries and areas in the world. On the way to safer and more efficient testing, we never stop.

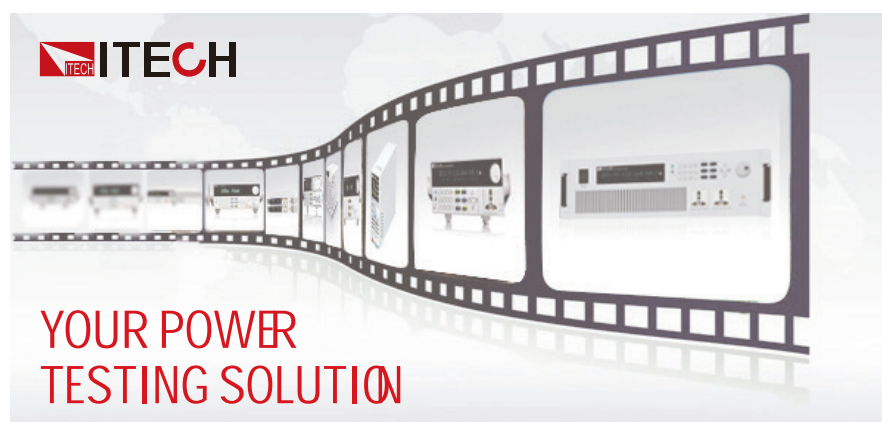
ITECH, your power testing solution.

■ Support and Service

ITECH has established professional technical team and complete service system to support you on the maintenance and repair, calibration, product upgrading worldwide.

■ Technical Training

ITECH provides you with professional technical training. You can start operation easily and conveniently.



This information is subject to change without notice. For more information, please contact ITECH.



ITECH

YOUR POWER TESTING SOLUTION



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IT8200 Regenerative AC/DC Electronic Load

Applications

parallel RLC Circuit, V2G, EVSE, PCS, UPS.



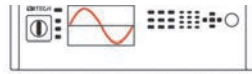
Feature

- Adopt advanced SiC technology
 - High power density, 15kVA in 3U unit
 - Measure up to 16 parameters including Vrms/Arms/Freq/CF/PF/UTHD/ITHD/±Vpeak.
 - Master/Slave parallel, power up to 960kVA
 - High efficient energy regeneration
 - Voltage - 350 VL-N
 - Comprehensive working modes selectable: single-phase, three-phase, reversed phase(split phase).
 - Rated voltage can be extended to 200% under reversed phase(split phase)
 - Frequency: 16-500Hz
 - Support NORMAL/LIST/SWEEP/Surge&Sag modes
 - Built-in various waveforms
 - Touch screen, simple UI for easy operation
 - Built-in MsB/CAN/LAN/Digital IO interface, optional GPIB / Analog&RS232
 - DC mode supports nine working modes, including CC, CR,CP, and CV
 - Support CANopen*3, Modbus, LXI, SCPI communication
 - AC mode supports CC/CP/CR/CS/CC+CR/CE multiple working modes, CE mode can simulate various circuit topologies such as single-phase rectifier RLC and parallel RLC
- Adopting advanced SiC technology, IT8200 Series is a regenerative programmable AC/DC electronic load. It is power regenerative, which not only saves electricity and cooling costs for you, but also good for energy saving and environmental protection. AC load mode supports both rectification and non-rectification, providing CC/CR/CP/CS/CC+CR/CE operating modes. It can simulate multiple circuit topologies under CE mode such as single-phase rectification RLC Circuit and parallel RLC Circuit. IT8200 can be applied to the test of V2G, EVSE, PCS, UPS, inverter, etc.
- IT8200 Series adopt a high power density design, and the power can reach 6kVA in a 2U unit and 15kVA in a 3U unit. After parallel connection, the power can be extended to 960kVA at most. Its LCD touch screen with graphical UI interface can directly define different waveforms. Combined with arbitrary waveform editing function and perfect protection function, it is an ideal choice for R&D testing and system construction.
- AC mode supports both rectification and non-rectification modes
 - Adjustable crest factor: 1.414 ~ 5.0
 - Supports phase shift, ranging from -90° to 90.0° *1
 - The unit power factor1 function allows the current waveform to vary with the voltage waveform and the power factor is as close to 1 as possible
 - In three-phase AC mode, two access modes are supported: Y and Δ
 - Comprehensive harmonics measurement and analysis, up to 50th.
 - Built-in IEC61000-3-2/3-12 pre-compliance test standard *2
 - Support the loading and unloading angle control, the full range of $0-359^\circ$ can be set
 - Various protection functions such as Protect auto clear (UV&FE auto Clear), POVP, POCP, UVP, Software watchdog

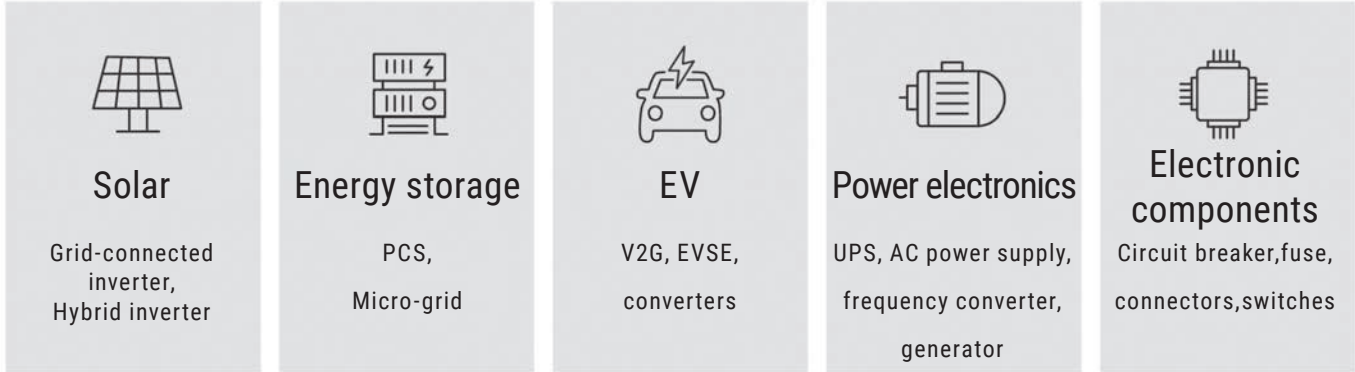
*1 After the rectification function is enabled, the setting range of phase shift is restricted by the peak factor

*2 Voltage/current harmonic analysis, current harmonic simulation, fundamental wave $\leq 60\text{Hz}$

*3 coming soon



APPLICATION












Model	Input Vac		Input Amps/Phs		Input Pac	Phase	Height	Front panel
	V L-N	V L-L	Arms(1Φ)	Arms(3Φ)				
IT8202-350-10U-ATE	350V	—	10A	—	2kVA	—	1U	—
IT8202-350-10U	350V	—	10A	—	2kVA	—	2U	Touch Screen
IT8203-350-30U	350V	—	30A	—	3kVA	—	3U	Touch Screen
IT8204-350-20U-ATE	350V	—	20A	—	4kVA	—	1U	—
IT8204-350-20U	350V	—	20A	—	4kVA	—	2U	Touch Screen
IT8205-350-30U	350V	—	30A	—	5kVA	—	3U	Touch Screen
IT8206-350-30-ATE	350V	606V	30A	10A	6kVA	1Φ or 3Φ	1U	—
IT8206-350-30	350V	606V	30A	10A	6kVA	1Φ or 3Φ	2U	Touch Screen
IT8206-350-90	350V	606V	90A	30A	6kVA	1Φ or 3Φ	3U	Touch Screen
IT8209-350-90	350V	606V	90A	30A	9kVA	1Φ or 3Φ	3U	Touch Screen
IT8212-350-90	350V	606V	90A	30A	12kVA	1Φ or 3Φ	3U	Touch Screen
IT8215-350-90	350V	606V	90A	30A	15kVA	1Φ or 3Φ	3U	Touch Screen
IT8230-350-180	350V	606V	180A	60A	30kVA	1Φ or 3Φ	6U	Touch Screen
IT8245-350-270	350V	606V	270A	90A	45kVA	1Φ or 3Φ	15U	Touch Screen
IT8260-350-360	350V	606V	360A	120A	60kVA	1Φ or 3Φ	27U	Touch Screen
IT8275-350-450	350V	606V	450A	150A	75kVA	1Φ or 3Φ	27U	Touch Screen
IT8290-350-540	350V	606V	540A	180A	90kVA	1Φ or 3Φ	27U	Touch Screen
IT82105-350-630	350V	606V	630A	210A	105kVA	1Φ or 3Φ	27U	Touch Screen
IT82120-350-720	350V	606V	720A	240A	120kVA	1Φ or 3Φ	37U	Touch Screen
IT82135-350-810	350V	606V	810A	270A	135kVA	1Φ or 3Φ	37U	Touch Screen
IT82150-350-900	350V	606V	900A	300A	150kVA	1Φ or 3Φ	37U	Touch Screen
IT82165-350-990	350V	606V	990A	330A	165kVA	1Φ or 3Φ	37U	Touch Screen

* Please contact ITECH for high power needs.







* The above specifications are subject to update without notice.

AC/DC load conditions emulation

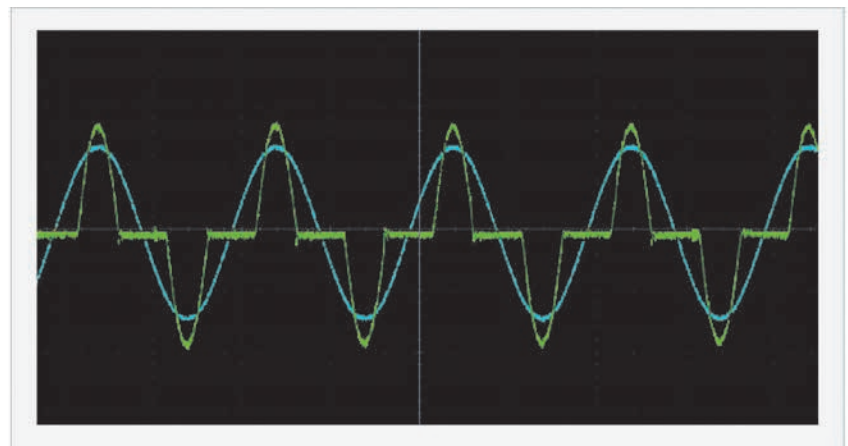
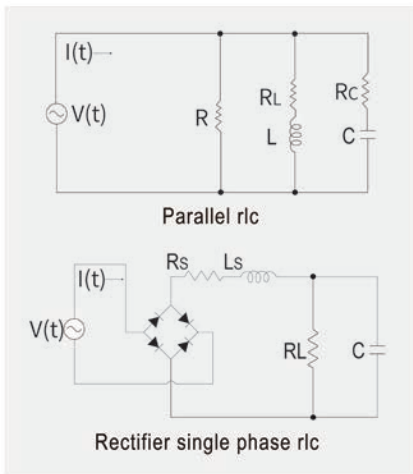
DC load mode

-  Constant Voltage (CV)
-  Constant Current (CC)
-  Constant Resistance (CR)
-  Constant Power (CP)
-  CC+CV
-  CR+CV
-  CP+CV
-  CC+CR
-  CP+CV+CR+CC

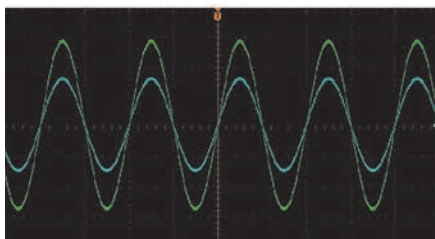
AC load mode

-  Constant Current (CC)
-  Constant Resistance (CR)
-  Constant Power (CP)
-  Constant apparent power (CS)
-  CC+CR
-  CE RLC

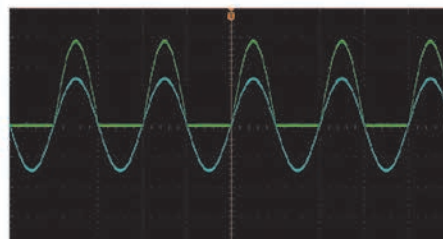
14
circuit
topologies



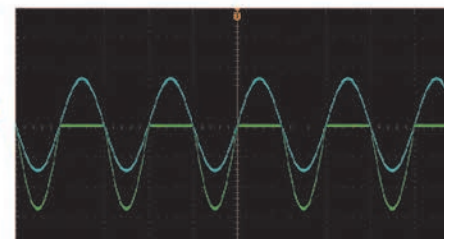
IT8200 AC electronic load can enable the 'Rectified' function in AC mode, so that the load works in the first and third quadrants to ensure that the voltage and current flow always in the same direction. At this time, full wave, positive half wave, or negative half wave can be freely selected.



full wave



positive half wave



negative half wave



IT8200E Regenerative AC/DC Electronic Load



Applications

parallel RLC Circuit, V2G, EVSE, PCS, UPS.



IT8200E series regenerative AC/DC electronic load can efficiently feed power back to the grid. In a 3U rack, it can input up to 21kVA at most. Through master-slave paralleling connection, its power can be easily expanded to more than 1MVA.

Its touch screen and GUI allow the editing of various waveforms. Combined with arbitrary waveform editing functions and full protection, IT8200E is a good choice for R&D, testing and system integration.

In AC mode, you can turn on the 'Rectified' function to make the IT8200E electronic load work in the first and third quadrant, with the voltage and current maintaining the same direction. It also provides a variety of working modes, such as CE mode, which can simulate 14 circuit topologies. IT8200E series can be used for a wide range of applications, including V2G, EVSE, Inverter, PCS, UPS, etc.

FEATURE

- AC mode supports CC/CP/CR/CS/CC+CR/CE multiple working modes, CE mode can simulate 14 circuit topologies such as single-phase rectifier RLC and parallel RLC
- AC mode supports both rectification and non-rectification modes
- DC mode supports 9 working modes such as CC/CR/CP/CV
- Adjustable crest factor: 1.414 ~ 5.0
- Supports phase shift, ranging from -90° to 90° *1
- The unit power factor1 function allows the current waveform to vary with the voltage waveform and the power factor is as close to 1 as possible
- In three-phase AC mode, two access modes are supported: Y and Δ
- Comprehensive harmonics measurement and analysis, up to 50th. Built-in IEC61000-3-2/3-12 pre-compliance test standard *2
- Support the loading and unloading angle control, the full range of $0-359^\circ$ can be set
- Various protection functions such as Protect auto clear (UV&FE auto Clear), POVP, POCP, UVP, Software watchdog
- Adopt advanced SiC technology
- High power density, 21kVA in 3U unit
- Master/Slave parallel, power up to 1MVA+
- High efficient energy regeneration
- Comprehensive working modes selectable: single-phase, three-phase, reverse phase(split phase). Rated voltage can be extended to 200% under reverse phase(split phase)
- Frequency: 16-500Hz
- Support NORMAL/LIST/SWEEP/Surge&Sag modes
- Built-in various waveforms
- Touch screen, simple UI for easy operation
- Built-in USB/CAN/LAN/Digital IO interface, optional GPIB /Analog&RS232
- Support CANopen*3, Modbus, LXI, SCPI communication

* 1 After the rectification function is enabled, the setting range of phase shift is restricted by the peak factor

* 2 Voltage/current harmonic analysis, current harmonic simulation, fundamental wave $\leq 60\text{Hz}$

* 3 coming soon

IT8200E Regenerative AC/DC Electronic Load



Regenerative AC/DC electronic load

The IT8200E series are new regenerative AC Electronic Load with 88% energy recovery capability. Whether in AC mode or DC mode, the power generated by the DUT can be fed back to the grid, rather than being dissipated as heat, which protects the environment and save the cost of electricity, HVAC and cooling infrastructure.

High power density

From 3U single unit to 27U/37U cabinet, various models of IT8200E series can meet the testing needs from 21k to 231kVA. Its voltage can reach 350V. The size of a 3U/21kVA is only 1/12 of the traditional AC load, which greatly saves the testing space and brings you a high-power testing instrument that can be placed directly on the bench.

*350V 3U models with the same power can be connected in parallel,
350V 1U/2U models with the same power can be connected in parallel

Master/slave parallel, large capacity free combination

The 3U model of IT8200E can be master-slave paralleled to reach 1MVA+ output at most. It can improve the output current and power capacity to meet the requirements of higher power testing. IT8200E comes with synchronous On/Off input and output signals, which ensure the synchronization of paralleling and ensures synchronous current sharing of multiple modules. After paralleling, all functions are retained and there's no loss of accuracy, making the construction of the power system faster, more flexible, and more economical, either it is a stand-alone test or ATE system.

Model	Input Vac		Input Amps/Phs		Input Pac	Phase	Height
	V L-N	V L-L	Arms(1Φ)	Arms(3Φ)			
IT8221E-350-105	350V	606V	105A	35A	21kVA	1Φ or 3Φ	3U
IT8242E-350-210	350V	606V	210A	70A	42kVA	1Φ or 3Φ	6U
IT8263E-350-315	350V	606V	315A	105A	63kVA	1Φ or 3Φ	15U
IT8284E-350-420	350V	606V	420A	140A	84kVA	1Φ or 3Φ	27U
IT82105E-350-525	350V	606V	525A	175A	105kVA	1Φ or 3Φ	27U
IT82126E-350-630	350V	606V	630A	210A	126kVA	1Φ or 3Φ	27U
IT82147E-350-735	350V	606V	735A	245A	147kVA	1Φ or 3Φ	27U
IT82168E-350-840	350V	606V	840A	280A	168kVA	1Φ or 3Φ	37U
IT82189E-350-945	350V	606V	945A	315A	189kVA	1Φ or 3Φ	37U
IT82210E-350-1050	350V	606V	1050A	350A	210kVA	1Φ or 3Φ	37U
IT82231E-350-1155	350V	606V	1155A	385A	231kVA	1Φ or 3Φ	37U

* Please contact ITECH for high power needs.

* The above specifications are subject to update without notice.

Item	Model	Specification	Description
Parallel kit	IT-E510-15U *1	15U unit, grey	800mm X 550mm X 907.64mm
	IT-E511-15U *1	15U unit, black	800mm X 550mm X 907.64mm
	IT-E510-27U *1	27U unit, grey	800mm X 600mm X 1441.41mm
	IT-E511-27U *1	27U unit, black	800mm X 600mm X 1441.41mm
	IT-E510-37U *1	37U unit, grey	800mm X 600mm X 1885.91mm
	IT-E511-37U IT- *1	37U unit, black	800mm X 600mm X 1885.91mm
	E168	fiber kit for parallel	for single unit
IT-E169	fiber kit for parallel	for cabinet	
Other accessories	IT-E258 *2	power cord for 3U unit, 5m, US standard	AC input power cord
	IT-E258-15U *2	power cord for 15U cabinet, 5m, US standard	AC input power cord
	IT-E258-27U *2	power cord for 27U cabinet, 5m, US standard	AC input power cord
	IT-E258-37U	power cord for 37U cabinet, 5m, US standard	AC input power cord
	IT-E176	GPIOB	
IT-E177	RS232 & analog		

*1 There is standard cabinet for models >30kVA



IT-E511-27U



IT8600 AC/DC Electronic Load



Applications

UPS, Inverter, Frequency converter, Generator, AC power supply, Electronic component

Feature

- Frequency range: 45 Hz~450 Hz
- Power range: 0~14.4 kVA
- Voltage range: 50~420 Vrms, 15~260 Vrms
- Current range: 0~160 Arms
- Parallel connection/ 3-phase control , power can be expanded to 43.2kVA
- 7"LCD screen
- Oscilloscope function supporting display of voltage and current waveform
- High-speed AD sampling, real-time capture waveform
- Measure Vrms, Vpk, Vdc, Irms, Ipk, Idc, W, VA, VAR, CF, PF and FREQ
- Measures THD (V) up to 50th harmonic
- AC electronic load: CC/CR/CP mode
- DC electronic load: CC/CR/CP/CV mode *1
- External 0~10 V analog control input, voltage and current analog monitoring function*2
- OTP, OCP, OVP, UVP and OPP protection function
- LAN and MsB communication interfaces and MsB (Host) interface provides data logging functionality

*1. Only IT8615 and IT8615L have CV mode

*2. Only IT8615 and IT8615L have External analog function

*For any GPIB interface option request , check with ITECH for availability.

T8600 is ITECH latest series of AC/DC electronic loads with power range 0~14.4kVA, power can be expanded to 43.2kVA after paralleling, and adjustable frequency 45 Hz ~ 450 Hz. The unique oscilloscope waveform display function of IT8600's can display input voltage & current as waveform. It is equipped with measurement modes for different parameters such as inrush current, peak value, effective value, PF (power factor),etc. Voltage harmonic measurement capacity is up to 50th. The built-in LAN and MsB communication interfaces are for reliable and fast control. IT8600 is the perfect solution for testing UPS, inverters, AC power supplies and relevant AC electronic components etc.

Application

- UPS
- Inverter
- Frequency converter
- Generator
- AC power supply
- Electronic component



Model	Voltage	Current	Power	Output
IT8615	50~420Vrms	20Arms	1800VA	1φ
IT8615L	15~260Vrms	20Arms	1800VA	1φ
IT8616	50~420Vrms	40Arms	3600VA	1φ
IT8617	50~420Vrms	60Arms	5400VA	1φ or 3φ
IT8624	50~420Vrms	80Arms	7200VA	1φ
IT8625	50~420Vrms	100Arms	9000VA	1φ
IT8626	50~420Vrms	120Arms	10.8kVA	1φ
IT8627	50~420Vrms	140Arms	12.6kVA	1φ
IT8628	50~420Vrms	160Arms	14.4kVA	1φ

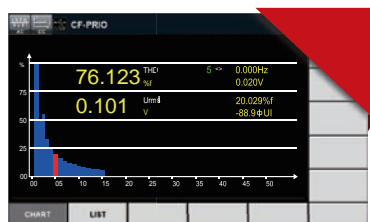
Display Multiple Parameters Simultaneously

IT8600 provides 7 inch user-friendly graphical display interface. Given full consideration to engineers' requirements in different tests, IT8600 not only can display multiple parameters simultaneously, but can set as different display modes, such as waveform, histogram and list etc.



Harmonic Measuring And Analysis Function

IT8600 provides powerful data measurement function, which can not only support measurement of conventional parameters such as Vrms, Vpk, Vdc, Irms, Ipk, Idc, W, VA, VAR, CF, PF and Freq, but also provides unique voltage harmonic analysis function to verify DUT (UPS, generators, etc.). The harmonic measurement function supports analysis up to the 50th of voltage harmonic and it can display the percentage of each harmonic analysis results in different forms.



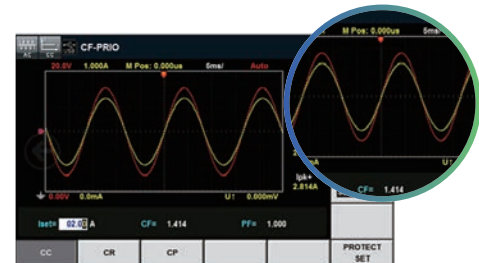
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LIST

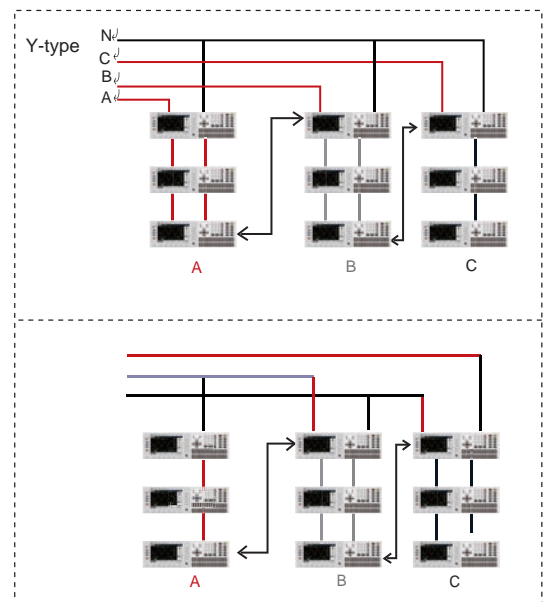
Oscilloscope Function

The most unique highlight of IT8600 lies in the oscilloscope display function, which can display the input voltage and current waveform of the DUT measured. Through the screenshot function key to save the current screen picture to MsB host, easy for the second analysis.



Parallel/3-Phase Control

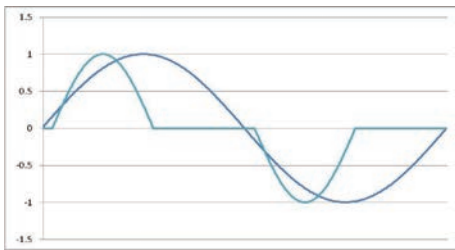
IT8600 provides parallel and 3-phase functions for three-phase and high-power applications, power can extend up to 43.2kVA after paralleling. In 3-phase applications, users can make in star or in delta connection according to their specific requirements. IT8600 is available for AC 380V input to meet diverse test requirements.



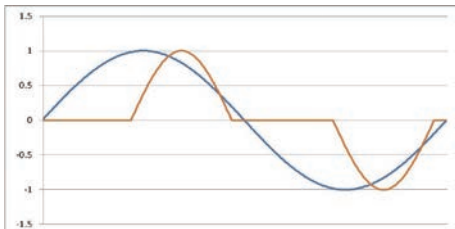


Adjustable CF/PF Value

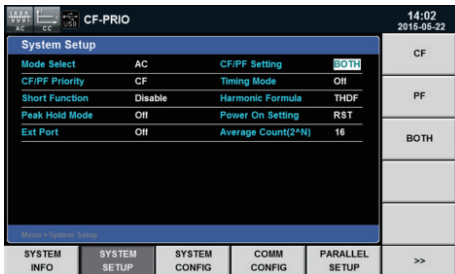
IT8600 has CC, CR and CP operation modes. In CC and CP operation modes, PF or CF or both are available for programming. Power factor range is -1~1 lead or lag, CF setting range is 1.414~5, besides CF and PF, IT8600 also has various settings modes to realize current simulation.



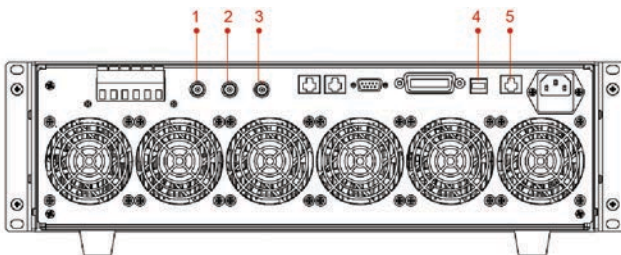
CF=2
PF=0.68



CF=2
PF=-0.68



Abundant Communication Interface



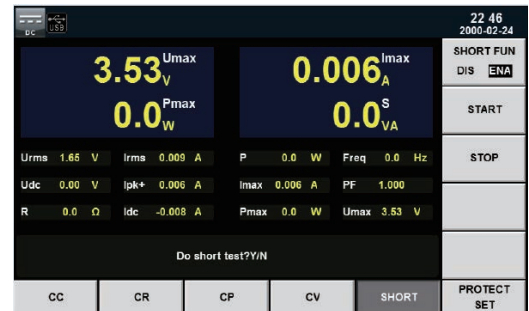
- 1. Analog input terminal
- 2. Current monitor terminal
- 3. Voltage monitor terminal
- 4. MsB interface
- 5. LAN interface

Short circuit simulation function

IT8600 AC/DC electronic load can simulate short circuit under DC load mode.

The actual current value consumed under the short circuit state depends on the operating mode and current range of the load. Users can press [Short] soft key to switch short circuit state. The max short circuit current is 120% of current range value under CC, CP and CR mode.

In the CV mode, the short circuit means set the voltage value as 0V.*1



*1 Only IT8615 and IT8615L are with CV mode

Data Logging Function

IT8600 series AC/DC electronic load can record all the data in the measurement process, users can press [Log] key to set the time interval for recording, and press the [Start] key to start recording data, the current measured data is recorded from time to time, the data is saved to the MsB host. e.g. IT8615.csv

I/V Monitor

IT8600 AC/DC electronic load has I/V monitor and allows users to observe current and DUT output voltage through connecting to oscilloscope by BNC. The function is very useful for users to monitor the change of voltage and current by waveforms. Not only simplify the wiring, improve the measurement accuracy, but also save test cost without oscilloscope current probe.

IT-M3800 Regenerative DC electronic load

5G Communications & Data Centre

Industrial component

Photovoltaic Energy Storage

Aging



The IT-M3900 product family includes four series : DC power supply, bidirectional power supply, regenerative power system and regenerative DC electronic load. It keeps the consistent high power density design of the M series.

In a 1U unit, the power can reach up to 6kW, the current can reach 510A, and the voltage is up to 1500V, which greatly saves your room. Rich models and powerful functions allow you to complete various complex tests with confidence.

IT-M3800 series regenerative DC electronic load can not only perform as a DC load, but also feed back power to the grid, which saves electricity and cooling costs for you. It can complete high-precision output and measurement, and supports multiple protection functions. It is well applied to the test of 5G communication and data center, industrial components test, aging test, PV and energy storage test, power optimizer and other fields.

Feature

- Compact design, 1U@6kW, 2U@12kW
- Voltage range: 10~1500V
- Current range: 8A~720A
- Power range: 12kW
- Master/slave parallel connection keep good performance while power extension*1
- Efficient power regeneration - reduce cost of electricity and cooling
- Slope of voltage, current and power is settable
- Battery discharge test
- Short-circuit simulation
- List function, max.200 steps
- 8 operation modes under Source mode CC/CV/CW/CR/CC+CV/CV+CR/CR+CC/CC+CV+CW+CR
- Von function - On/Off control
- Multiple protection: OVP / \pm OCP / \pm OPP / OTP /voltage transient drop protection/anti-islanding
- Power grid automatic detection
- Built-in MsB/CAN/LAN/digital IO interfaces, Optional GPIB/ Analog&RS232

*1 If 1U models>16, 2U models>8, pls. contact ITECH

	Model	Current	Power	Size
10V	IT-M3801-10-120	3~120A	12~1200W	1U
	IT-M3802-10-240	4~240A	40~2400W	1U
	IT-M3803-10-360	6~360A	60~3600W	1U
	IT-M3807-10-720	12~720A	120~7200W	2U

	Model	Current	Power	Size
32V	IT-M3802-32-80	80A	2kW	1U
	IT-M3804-32-160	160A	4kW	1U
	IT-M3806-32-240	240A	6kW	1U
	IT-M3812-32-480	480A	12kW	2U

	Model	Current	Power	Size
80V	IT-M3802-80-40	40A	2kW	1U
	IT-M3804-80-80	80A	4kW	1U
	IT-M3806-80-120	120A	6kW	1U
	IT-M3812-80-240	240A	12kW	2U

	Model	Current	Power	Size
300V	IT-M3802-300-20	20A	2kW	1U
	IT-M3804-300-40	40A	4kW	1U
	IT-M3806-300-60	60A	6kW	1U
	IT-M3812-300-120	120A	12kW	2U

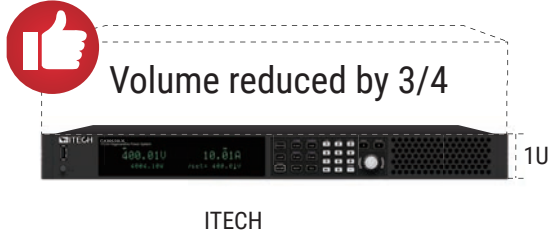
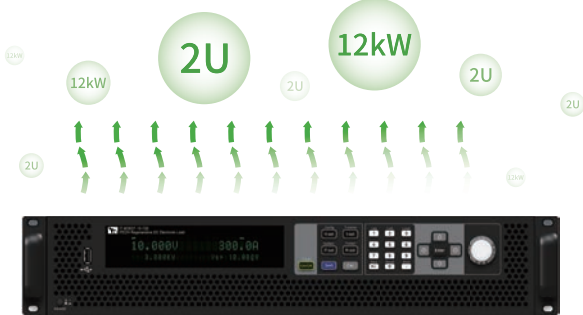
	Model	Current	Power	Size
500V	IT-M3802-500-12	12A	2kW	1U
	IT-M3804-500-24	24A	4kW	1U
	IT-M3806-500-36	36A	6kW	1U
	IT-M3812-500-72	72A	12kW	2U

	Model	Current	Power	Size
800V	IT-M3802-800-8	8A	2kW	1U
	IT-M3804-800-16	16A	4kW	1U
	IT-M3806-800-24	24A	6kW	1U
	IT-M3812-800-48	48A	12kW	2U

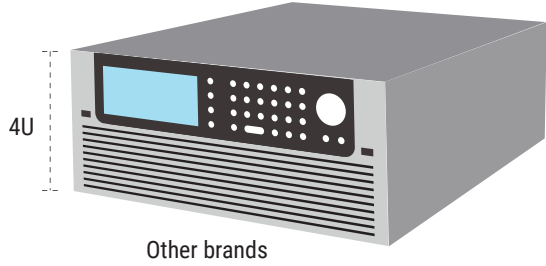
	Model	Current	Power	Size
1500V	IT-M3806-1500-12	12A	6kW	1U
	IT-M3812-1500-24	24A	12kW	2U

High power density, compact size design

ITECH has been adhering to the high power density design to help customers optimize test solutions. IT-M3800 series provide up to 6kW power in 1U chassis, and up to 12kW power in 2U chassis. ITECH entire high power density product line is more complete and comprehensive.

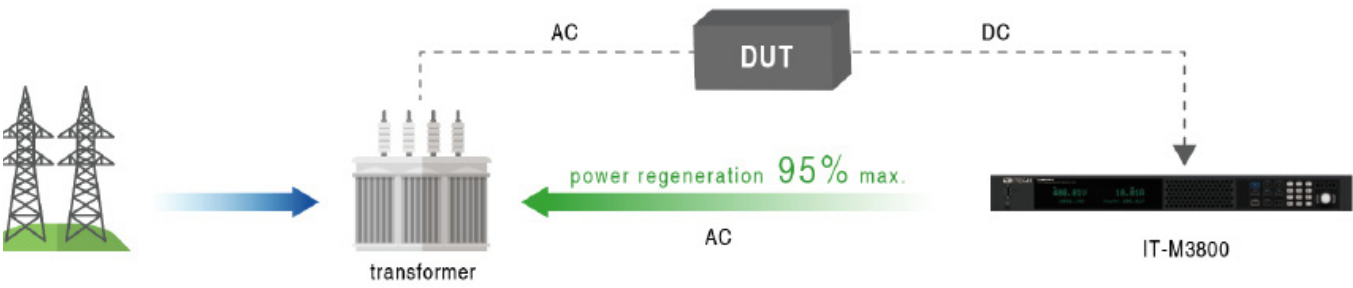


VS
6kW solution



Power regenerative and eco-friendly

With the power regeneration function, IT-M3800 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. In addition, IT-M3800 has the function of automatic grid detection, which can detect phase voltage and frequency in real time and synchronizes with the grid to make energy regeneration automatic and safe.



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

Power	Electricity cost saved (appr. MsD/year)	CO2 emission reduced (appr. ton/year)
6 kW	6,971	6,971
12 kW	13,943	13,943
36 kW	41,828	41,828
96 kW	111,541	111,541

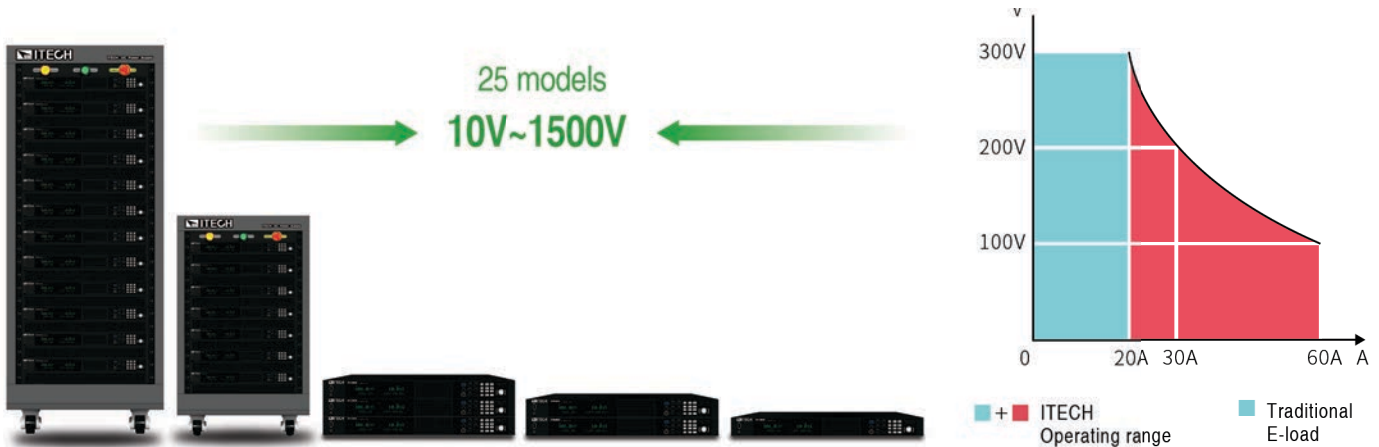
R&D lab : 8Hr/day x 5 work days x 52 weeks

Power	Electricity cost saved (appr. MsD/year)	CO2 emission reduced (appr. ton/year)
6 kW	1,747	12
12 kW	3,494	24
36 kW	10,483	71
96 kW	27,955	189

* The data is based on :
 1. approximate electricity price 0.14MsD/kWh for industry facility in California
 2. 1kWh power consumption ≈ 0.997 CO emission
 * The extra cost of air conditioning is not included.

Wide range design, save your purchasing cost

The IT-M3800 series has 25 models, with voltage from 10V~1500V and current up to 720 A. The wide range design provides users with more voltage and current combinations than the traditional fixed range DC loads, making it more flexible. A single unit can cover a wide range of applications, significantly reducing the complexity of system building and saving room.



Electricity accumulation, high energy saving effect

IT-M3800 uses power electronic conversion technology to recycle the output energy of the power supply under test under the premise of completing the test power experiment. Through the internal high-speed voltage and current sampling, the user can directly view the current total amount of feedback on the instrument panel, including voltage/frequency/power of each phase. The total power, real time and historical total recovered electricity. The IT-M3800 series can continue to accumulate electricity on the basis of the value before the last shutdown.

Battery discharge test

The IT-M3800 series have discharge test function, which is suitable for discharging tests on various portable batteries. Three test cut-off conditions of the battery can be set by yourself: cut-off voltage, cut-off capacity and discharge time. When any one of the three conditions is met, the test will be automatically interrupted. During the test, the battery voltage, discharge time and discharged capacity can be observed.

Parallel function

To be convenient and flexible, IT-M3800 uses the master/slave control mode to connect multiple e-loads in parallel to realize high-power testing requirements. Meanwhile, it adopts ITECH's optical fiber parallel technology to solve the problems of slow speed and poor accuracy in the traditional parallel mode, suitable for calibration measurement, research and development lab, production line and ATE test setup.



* Parallel connection for over 16 units, please contact ITECH.



IT-M3300 Regenerative DC Electronic Load

High efficient power regeneration

Battery discharge test

8 operation modes

Independent control of multiple channels



IT-M3300 regenerative DC electronic load can not only simulate various load characteristics, but also can feed back electrical energy to the local grid instead of heat. With high power density design, it can provide up to 800W power absorption with tiny body of only 1U half-rack. Its lexible modular architecture design can meet the test requirement of customers with different current and power. At the same time, it has high-precision setting and measurement, and has made a number of safety designs for the test. It is suitable for test applications such as various types of battery discharge, multi-channel power supply, and semiconductor aging.

Feature

- 1U half rack, high power density
- Battery discharge test
- High efficient power regeneration
- 8 operating modes:CC/CV/CP/CR/CV+CC/CC+CR/ CV+CR/CV+CC+CP+CR
- Independent control of multi-channels, implement synchronization or proportional tracking
- Parallel connection, up to 16 units
- High-speed measurement, keep 10 times /s update rate even connecting 16 stand-alone units
- Adjustable current rise/fall time
- List programming
- Various protection such as OCP/UCP/OVP/UVP/OPP, over heat protection, grid fault protection and fault storage, foldback,Power-off protection, sense abnormal protection
- Temperature measurement function, over temperature protection
- Automatic detection of power grid state to realize reliable grid connection
- Precharge function to prevent overshoot of DC loading current
- Anti-reverse protection function by optional ITE118
- Five optional interfaces, supporting RS232, CAN, LAN, GPIB, MsB_TMC, MsB_VCP, RS485, analog and IO communication

Model	Voltage	Current	Power	Model	Voltage	Current	Power
IT-M3312	60V	30A	200W	IT-M3314	300V	6A	200W
IT-M3322	60V	30A	400W	IT-M3324	300V	6A	400W
IT-M3332	60V	30A	800W	IT-M3334	300V	6A	800W
IT-M3313	150V	12A	200W	IT-M3315	600V	3A	200W
IT-M3323	150V	12A	400W	IT-M3325	600V	3A	400W
IT-M3333	150V	12A	800W	IT-M3335	600V	3A	800W

Applications

Burn-in testing solution for multi-channel power supply module

Burning test of LED driver, DC-DC or AC-DC modules' burn-in test.

Working condition simulation, verification of electrical performance of products.

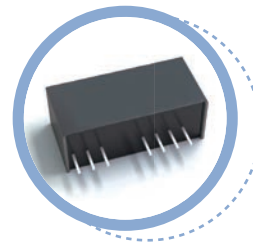
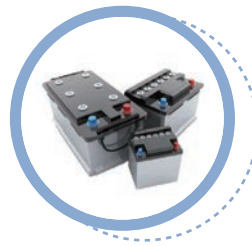
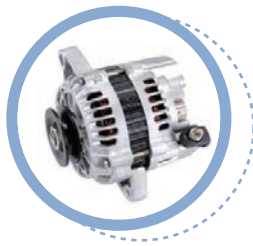
Electrical performance test of mobile phone main board, adapter performance test, small DC generator test

Semi-conductor power IC, relay, and wire harness, etc.

Power regulator, smart electronic switch IPS, and burn-in test of automotive central control box

Discharging test of various types of batteries

Battery capacity test, screening of disqualified batteries



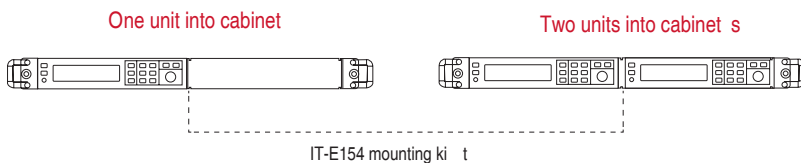
1U half rack, mini size

IT-M3300 has mini size of 1U half rack and is able to input 800W. It has not only the high density but also the high resolution, accuracy, stability and etc. The input voltage can reach 600V and the input current can reach 30A. There're 12 models for IT-M3300 series, with design of wide range input, with one unit, it can cover a wide range of application requirements.



Module design, flexible combination

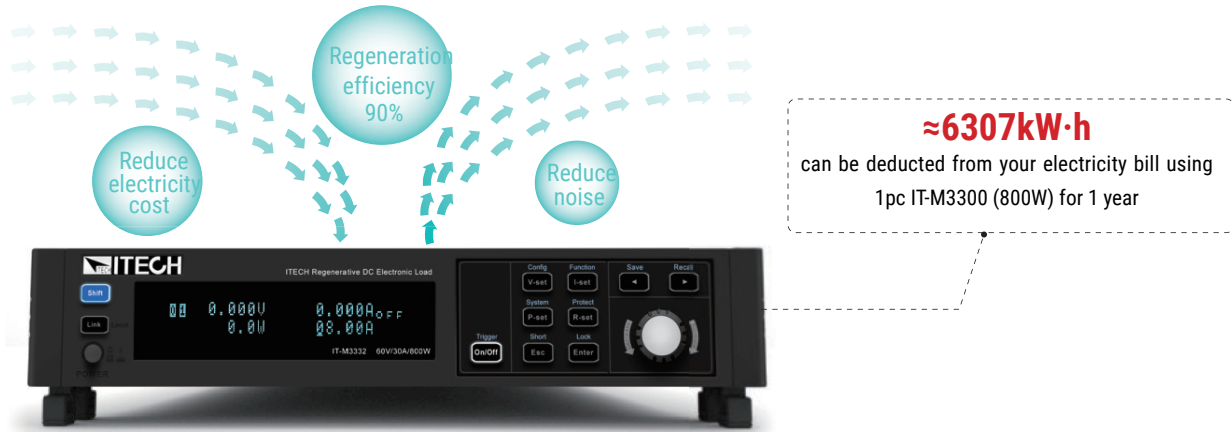
IT-M3300, with module design, without additional spare parts, it can be stacked as easy as the toy bricks. With IT-E154 rack installation kit, users can easily install one or multiple instruments into a standard 19-inch cabinet.





High energy recovery efficiency

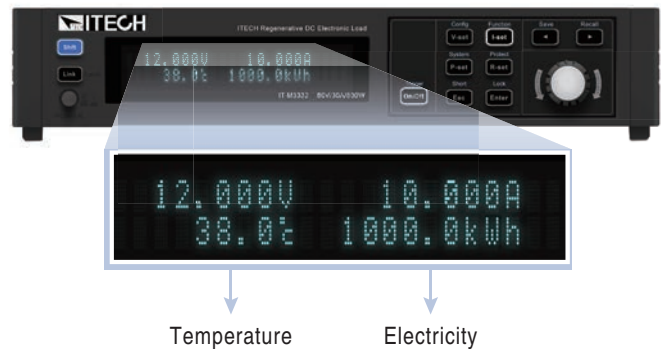
IT-M3300 has energy recovery function, which can feedback power back to local AC grid. The regeneration efficiency can be up to 90%, which greatly reduces the user's electricity cost. It also avoids the using of cooling systems and reduces noise.



Electricity accumulation, high energy saving effect

IT-M3300 uses power electronic conversion technology to recycle the output energy of the power supply under test under the premise of completing the test power experiment. Through the internal high-speed voltage and current sampling, the user can directly view the current total amount of feedback on the instrument panel.

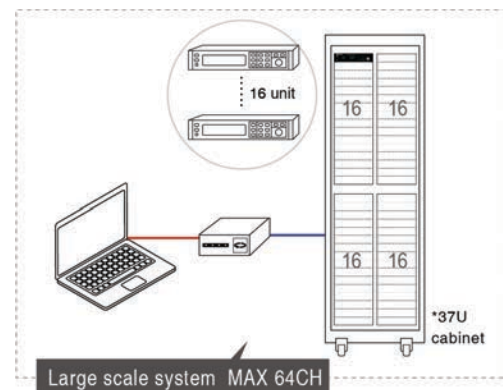
The IT-M3300 is equipped with temperature measurement function as standard. With an optional temperature sensor, you can also directly view the external measurement temperature.



Multi-channel independent control, maximum 256 channels

IT-M3300 series is provided with independent multi-channel design. The channel sequence will be displayed when it combines to be a multi-channel electronic load system. The user can control each unit independently by GUI software when connecting the communication interface of one unit with PC. Each channel can be operated separately.

IT-M3300 series supports maximum 16*16 channels. One 37U rack contains 64 channels. The user may test DUT with different power ranges by parallel connection, making tests more flexible and device usage more efficient.











Battery simulation

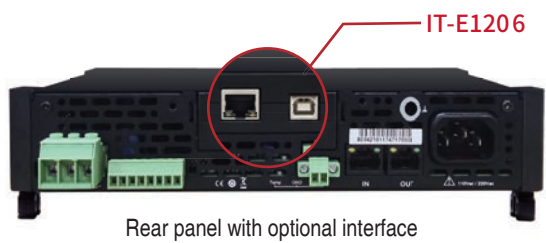
Battery charger will monitor the voltage of battery after battery charger is connected to battery, if the connection is correctly, the battery charger comes into charge state. In Battery Sim mode, users can set analog voltage of battery, and can output low current, to simulate battery state. It can satisfy working demand of battery charger, which can be applied to discharging test of battery charger.



Optional accessories

IT-M3300 series provides below optional multiple interfaces on rear panel to realize different functions, like communication interface, external analog interface.

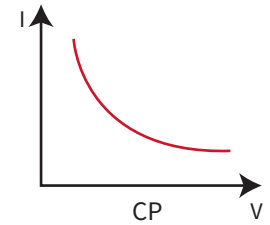
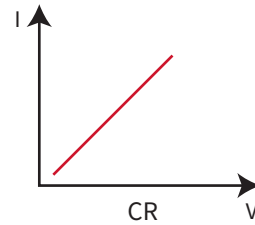
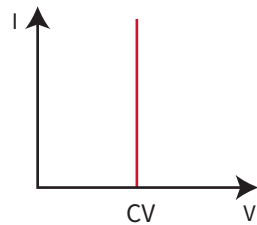
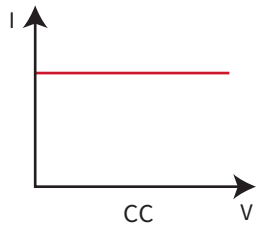
Pictures	Model	Interface
	IT-E1205	GPIB
	IT-E1206	USB/LAN
	IT-E1207	RS-232/CAN
	IT-E1208	Analog/RS485
	IT-E1209	USB
	IT-E118	Anti-reverse module
	IT-E1203	Temperature Sensor
	IT-E154A/B/C	Rack mount kit



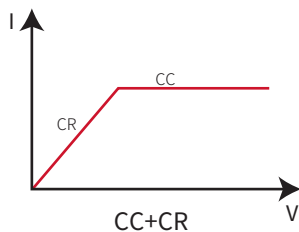


Multiple operation mode

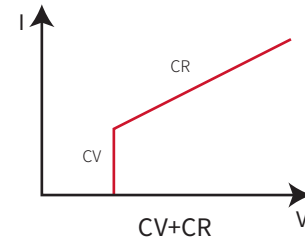
IT-M3300 provides CC/CV/CP/CR four basic operation mode.



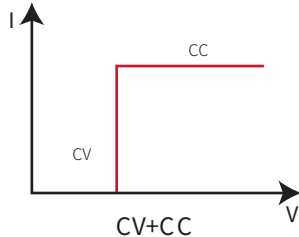
IT-M3300 also provides CC+CR/CV+CR/CV+CC/CC+CV+CP+CR four combined operation mode, which can be applied to the test requirements of various occasions.



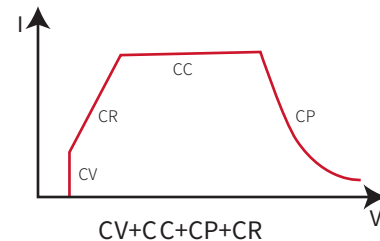
CC+CR mode can be applied to OBC feature test of voltage limit, feature test of current limit, constant voltage accuracy test, constant current accuracy test, to prevent over current protection.



CV+CR mode can be applied to simulate LED light, test LED power, LED current ripple parameters.



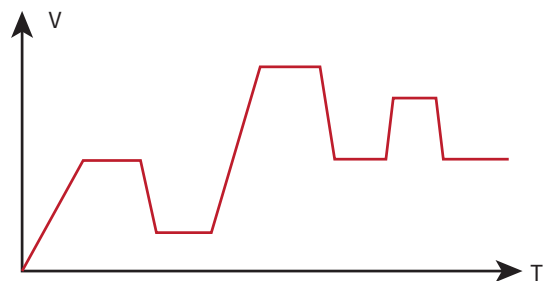
CV+CC mode can be applied to load simulate battery, test charging station or car charger, the maximum loading current is limited, when the CV is working.



CV+CC+CP+CR mode can be applied to test lithium-ion battery charger, to gain complete V-I charging curve. In addition, when protection circuit of DUT is damaged, it can auto switch to avoid damage.

List function

IT-M3300 does not need any software, according to users test demand, it can edit waveform generated by voltage and current, and can control voltage rising slope and falling slope. When receiving the trigger signal, it can switch loading waveform automatically.



IT8000 Regenerative DC Electronic Load



Applications

Multiple types of batteries Charge-Discharge Testing, Natural energy virtual load test, safety testing of mechanical systems with large capacity batteries, Aging test (automotive high voltage motor, fuse, relay) and small motors testing.

Feature

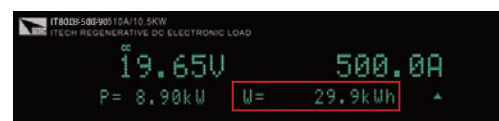
- Recover DC energy to local grid with efficiency up to 95%
- Stand-alone power up to 144kW, expandable by master-slave parallelling up to 2MW
- Stand-alone input voltage up to 2250V
- Stand-alone input current up to 2040A
- High power density design provides 18kW in 3U space
- LIST function, support importing LIST files by MsB
- Power accumulation function
- Battery test function, short circuit test function
- Full protection: OVP/OCP/OPP/OTP/UVP, Vsense anti-reverse connection protection, and voltage transient drop protection
- Built-in standard MsB/CAN/LAN/digital IO interface, and optional GPIB/Analog&RS232 interfaces
- Support SCPI protocol, LabVIEW
- Operating mode: CC/CV/CP/CR/CC+CV/CV+CR/CR+CC/CC+CV+CP+CR

*The regenerated power is for local grid purpose, not for public grid purpose.

IT8000 series is a family of high power regenerative electronic loads with compact size. The highly integrated capability enables the e-load to simulate various e-load characteristics, and return the consumed energy back to the grid cleanly, saving costs related to energy consumption and cooling, meanwhile eco-friendly. With modular high power density design, IT8000 provide up to 18kW in 3U space. The power is expandable up to 2MW by master-slave parallelling and active current sharing. If you move into application of high power UPS, storage battery, PV battery, EV, energy storage system, ITECH can help you with IT8000 series high power regenerative electronic load.

Power Accumulation Function

IT8000 series regenerative DC electronic load uses the power electronic transformation technology on the premise of completing test power experiment to make output energy of measured power supply regenerative recycled and reused. Through the inside fast sampling of voltage and current, the regenerative power value can be observed on the front panel of IT8000 series, including voltage, frequency and power of each phase, as well as total power, total current regenerative and total historical regenerative power, which makes the energy saving effect much easier. Re-open after power failure, IT8000 series will continue to accumulate the regenerative power value based on the last power off value.





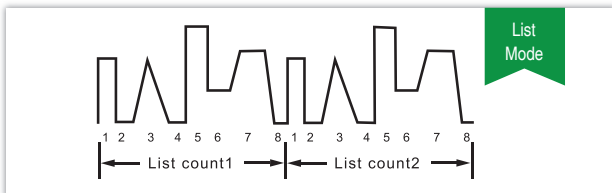
Model	Current	Power	Model	Current	Power	Model	Current	Power			
80V	IT8005-80-150	150A	5kW	300V	IT8006-300-75	75A	6kW	500V	IT8006-500-40	40A	6kW
	IT8010-80-300	300A	10kW		IT8012-300-150	150A	12kW		IT8012-500-80	80A	12kW
	IT8015-80-450	450A	15kW		IT8018-300-225	225A	18kW		IT8018-500-120	120A	18kW
	IT8030-80-900	900A	30kW		IT8036-300-450	450A	36kW		IT8036-500-240	240A	36kW
	IT8045-80-1350	1350A	45kW		IT8054-300-675	675A	54kW		IT8054-500-360	360A	54kW
	IT8060-80-1800	1800A	60kW		IT8072-300-900	900A	72kW		IT8072-500-480	480A	72kW
	IT8075-80-2040	2040A	75kW		IT8090-300-1125	1125A	90kW		IT8090-500-600	600A	90kW
	IT8090-80-2040	2040A	90kW		IT8108-300-1350	1350A	108kW		IT8108-500-720	720A	108kW
	IT8105-80-2040	2040A	105kW		IT8126-300-1575	1575A	126kW		IT8126-500-840	840A	126kW
	IT8120-80-2040	2040A	120kW		IT8144-300-1800	1800A	144kW		IT8144-500-960	960A	144kW

Model	Current	Power	Model	Current	Power	Model	Current	Power			
800V	IT8006-800-25	25A	6kW	1500V	IT8018-1500-40	40A	18kW	2500V	IT8018-2250-25	25A	18kW
	IT8012-800-50	50A	12kW		IT8036-1500-80	80A	36kW		IT8036-2250-50	50A	36kW
	IT8018-800-75	75A	18kW		IT8054-1500-120	120A	54kW		IT8054-2250-75	75A	54kW
	IT8036-800-150	150A	36kW		IT8072-1500-160	160A	72kW		IT8072-2250-100	100A	72kW
	IT8054-800-225	225A	54kW		IT8090-1500-200	200A	90kW		IT8090-2250-125	125A	90kW
	IT8072-800-300	300A	72kW		IT8108-1500-240	240A	108kW		IT8108-2250-150	150A	108kW
	IT8090-800-375	375A	90kW		IT8126-1500-280	280A	126kW		IT8126-2250-175	175A	126kW
	IT8108-800-450	450A	108kW		IT8144-1500-320	320A	144kW		IT8144-2250-200	200A	144kW
	IT8126-800-525	525A	126kW								
	IT8144-800-600	600A	144kW								

* This information is subject to change without notice

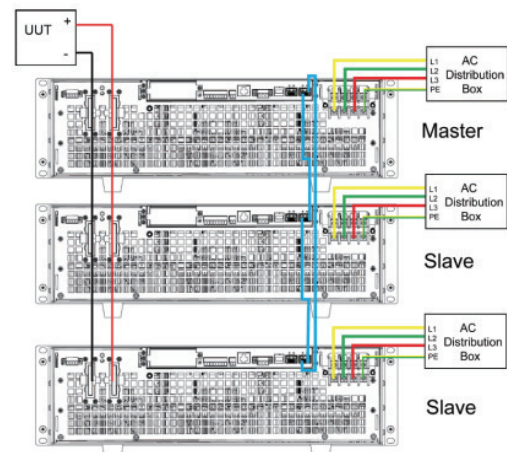
List Function

IT8000 series regenerative DC electronic load provides list mode, it can complete the complex arbitrary current change mode accurately and fast, and can synchronize with internal or external signals to complete multi-level loading precision test, which greatly save cost for customers. By editing the step value, pulse width and the slope of each step, IT8000 can generate a variety of complex sequences and help users to complete various loading waveforms test. In the CC mode, IT8000 series can set rising and falling speed.



Parallel technology

- IT8000 has adopted ITECH 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

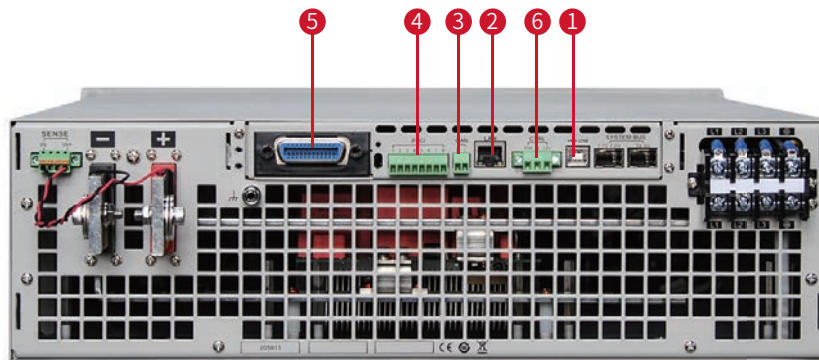








High power density

Conventional electronic loads are not only with high energy consumption, but also with very large size and weight. Energy consumption electronic load with 30kW load is at least 24U, it is difficult to transport and the cost is higher. IT8000 series regenerative DC electronic load adopts high power density design of 18kW in only 3U high. Compared to conventional electronic loads, the size for IT8000 series is decreased by 80% under the same output power.



Multiple interfaces

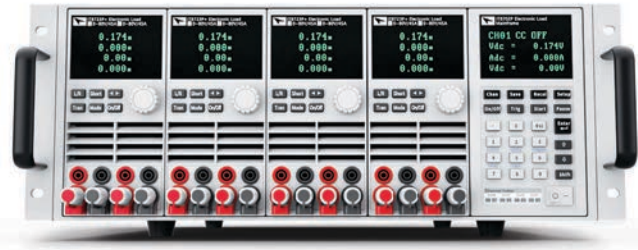


- | | | | | | |
|---|---|---|---|--|---|
| <p>1 Standard USB interface</p>  | <p>2 Standard LAN interface</p>  | <p>3 Standard CAN interface</p>  | <p>4 Standard I/O interface</p>  | <p>5 Optional GPIB interface</p>  | <p>6 External control interface</p>  |
|---|---|---|---|--|---|

* Optional GPIB or Optional RS232 & Analog



IT8700P+ High Speed Multi-channel DC Electronic Load



IT8700P+ series high-speed multi-channel DC electronic load is an upgraded version of the original IT8700P series with higher speed and higher precision. Its modules support master-slave paralleling connection for power extension. It's compatible with IT8700P mainframe, the new modules and old modules can work together. The IT8700P+ modules have faster dynamic response and the current rising and falling slope of a single module can reach 12A/μs. In addition, the low internal resistance makes it suitable for low-voltage loading test. Faster loop speed can accurately control current without overshoot which improves test efficiency. Furthermore, it has three current ranges for higher accuracy and lower ripple. The voltage and current measurement speed of this series has been upgraded to 250kHz. It has built-in LAN, MsB and RS232 interfaces, and supports SCPI protocol. Therefore, IT8700P+ is good for system integration and is suitable for R&D and production line testing of super capacitors, fuel cells, lithium ion batteries, high-speed AC-DC and DC-DC power supplies such as computer power supplies and communication power supplies.

Feature

- Three-stage current range, higher accuracy and lower ripple
- Supports master-slave parallel connection of 16-channel modules, flexibly extends power
- Faster dynamic response, the current rising and falling slope of a single module can reach 12A/μs
- Stable operation down to zero volts, suitable for low-voltage capacitors, solar cells, fuel cells, and other low-voltage high current power supplies.
- Faster loop speed, precise control of current without overshoot
- The voltage and current measurement speed is upgraded to 250kHz, good for system integration
- Comprehensive protection functions: OVP/OCP/OPP/OTP, Sense protection
- Compatible with IT8700P mainframe, old and new modules can be matched
- Short-circuit peak current measurement function
- Available front/rear terminals*1
- 8 operating modes: CC/ C-V/ CR/ C-W/ C-V+CC/ CR+CC/CW+CC/ C-V+CR (CR-LED)
- Automatic test function to tell whether the test results exceed the set specifications
- Built-in LAN, MsB, R S232 interfaces
- CV loop speed is adjustable to match different DUT
- Multi channel synchronous control

*1 Current is no more than 15A if connecting with mainframe

Model	Voltage	Current	Power
IT8721P+*2	150V	20A	MAX 150W*2CH
IT8731P+	150V	40A	200 W
IT8722P+*1	150V	20A	MAX 250W*2CH
IT8723P+	150V	45 A	300W * 2CH
IT8732P+	150V	60 A	400 W
IT8733P+	150V	120 A	600W
IT8722BP+*1	600V	15A	MAX 250W*2CH
IT8732BP+	600V	20A	300W
IT8733BP+	600V	30A	500W

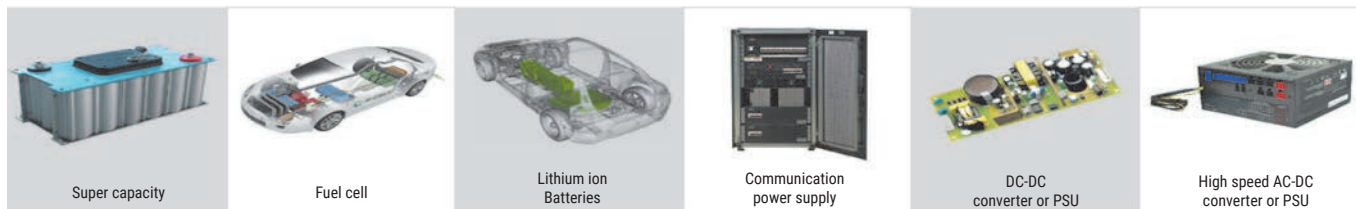
Main Frame

IT8701P	Mainframe for 2 modules (including three interfaces)
IT8702P	Mainframe for 4 modules (including three interfaces)
IT8703P	Expansion mainframe for 4 modules

*1 It is a dual-channel dynamic power distribution module. The parameters of the two channels are the same. The maximum power of a single channel is 250W. The total power of the two channels is not more than 300W. The average power of a single channel is 150W.

*2 is a dual-channel dynamic power distribution module. The parameters of the two channels are the same. The maximum power of a single channel is 150W. The total power of the two channels is not more than 200W. The average power of a single channel is 100W.

Applications

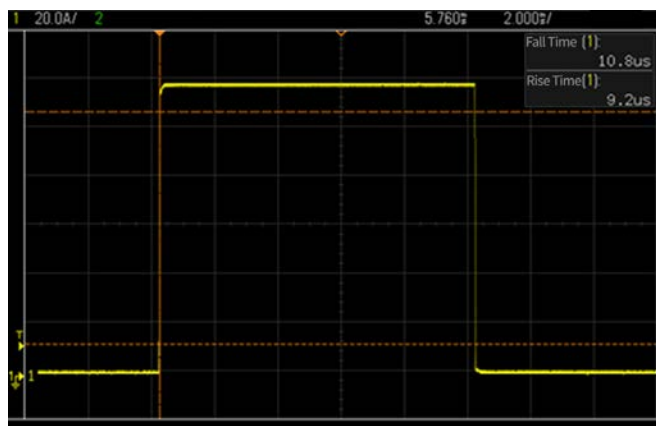


Flexible modules combination

The IT8700P+ series is designed with removable modules, so that you can choose different modules according to your needs. These modules can work with the original IT8700P series modules too. There are high-performance microprocessor chips in each load module and mainframe. Parallel architecture is adopted to achieve faster testing. The load modules are controlled synchronously by the system, and the power supply with multiple outputs can also be tested synchronously.

Fast dynamic response

Power supplies often have high requirements for instantaneous signals and dynamic response. In order to meet faster and faster testing requirements, IT8700P+ series provides high-speed, programmable dynamic sequence control. The current rising and falling slope of a single module can reach $12A/\mu s$, much faster than the last generation. So it can be used for high-speed dynamic test of communication power supply and computer power supply. There are three modes of the dynamic test function, namely continuous mode, pulse mode and toggle mode.



IT8733P+(150V, 120A, 600W) dynamic current curve(1A-120A),
current slew $12A/\mu s$

Master-slave parallel connection

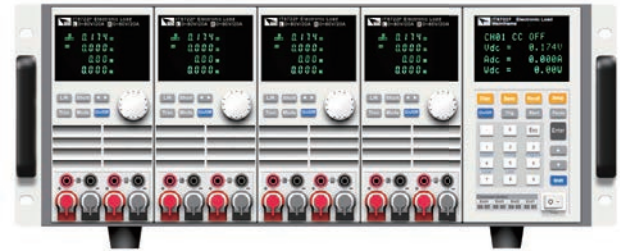
The IT8700P+ series supports master-slave parallel connection, 8 units (16 channels) at most can be connected in parallel, and the power can be extended to 4800W. The synchronization time error is $4\mu s$ between paralleled units, and current equally assigning accuracy is $0.1\%+0.1\%F.S.$. Thanks to the flexible power extension, it can be used to test various DUTs and increase equipment utilization. The current sharing mode makes no sacrifice of the dynamic performance after parallel connection.

3 current ranges, well applied to Energy Star standard test for consumer electronics products

IT8700P+ provides 3 current ranges and higher measurement accuracy for DUTs that require high current accuracy like batteries. No need to build a complex test bench, the low current range of the IT8700P+ can be used for Energy Star standard testing in sleep, idle and standby modes of consumer electronics products. Actually it is suitable for almost all consumer electronics products that require precise current setting and measurement at the μA and mA levels.



IT8700P Multi-channel Modular Programmable DC Electronic Load



IT8700P series multi-channel modular programmable DC electronic load has been upgraded on the basis of IT8700, follow the original modular design. A single frame can reach 8 channels, and extended frame can reach 16 channels. It is equipped with both front and rear terminals, which can meet various testing requirements of users.

Same as IT8700, IT8700P also has the functions of slope adjustment and waveform editing. Besides, IT8700P has increased the functions including maximum current limit, PLC setting and CV loop adjustment. Users can set the automatic test function in the upgraded 8 operating modes, which is convenient for fast and accurate testing on R&D and production lines. At the same time, IT8700P series has full protection such as OVP,OCP,OPP,OTP, etc., which can prevent damage or injury caused by miss operation or environmental factors.

Feature

- Removable modules for easy system configurability
- Dual-channel module can display each channel data simultaneously
- Single frame up to max.8 channels, extended frame up to max.16 channels
- Dynamic power distribution function for dual channels
- Arbitrary selection of front/rear terminal
- Users can customize the left and right modules
- 8 operation modes: CC/CV/CR/CW/CV+CC/CR+CC/CW+CC/CV+CR(CR-LED)
- CV loop speed is adjustable to match different power supplies
- High resolution and accuracy up to 0.1mV/0.01mA
- Measurement of short-circuit peak current and peak voltage
- Voltage and current measurement, up to 50kHz
- Adjustable current rise/fall slope
- Simulate various waveforms with load under List mode
- Up to 25kHz dynamic mode, 100kHz List mode setting
- Automatic test function can automatically determine whether the test results exceed the set specifications
- Simultaneously perform multiple sets of electronic load modules
- OVP/OCP/OPP/OTP/anti-reverse protection
- Standar Lan/MsB/RS232 communication interface

*For any GPIB interface option request , check with ITECH for availability.

Modules	Specification
IT8731P	80V/40A/200W
IT8732P	80V/60A/400W
IT8732BP	500V/20A/300W
IT8733P	80V/120A/600W
IT8733BP	500V/30A/500W
IT8722P*1	80V/20A/250W*2CH
IT8722BP*1	500V/15A/250W*2CH
IT8723P	80V/45A/300W*2CH

Main Frame	
IT8701P*3	Two-load module main control unit (including three interfaces)
IT8702P*3	Four-load module main control unit (including three interfaces)
IT8703P	Four-load module expansion unit

*1: The total power of dual channel for IT8722P/IT8722BP is 300W, namely PCH1+PCH2≤300W

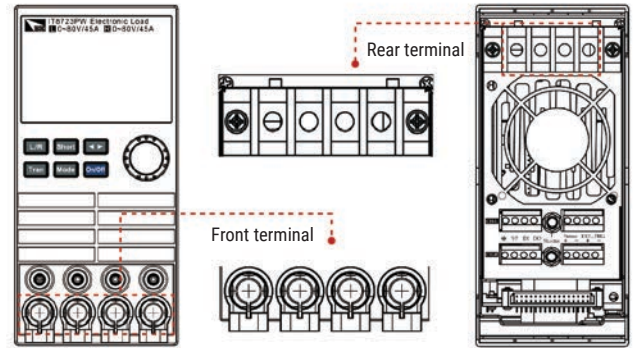
Two channels working range (0W≤PCH1/PCH2≤250W); Upper limit of two channels setting range (50W≤PCH1/PCH2≤250W)

*2: IT8700P modules need to be configured with IT8702P main frame.

*3: Interfaces of main frame:RS232, MsB, LAN

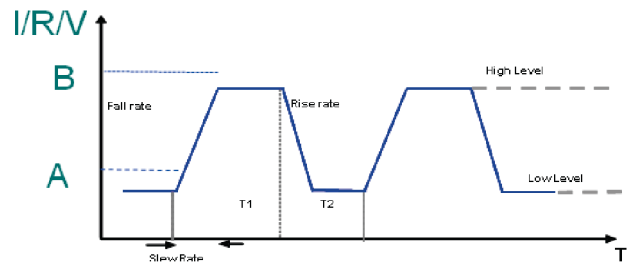
Load Terminals On Front Read Panel

IT8700P is equipped with both front binding post terminals and rear terminals. Both of them can be connected for testing. It meets different test requirements and helps to avoid operational errors as well, which lead to higher test efficiency. At the same time, IT8700P is only 4U in height, making it easy to be rack mounted, which is good for system integration.



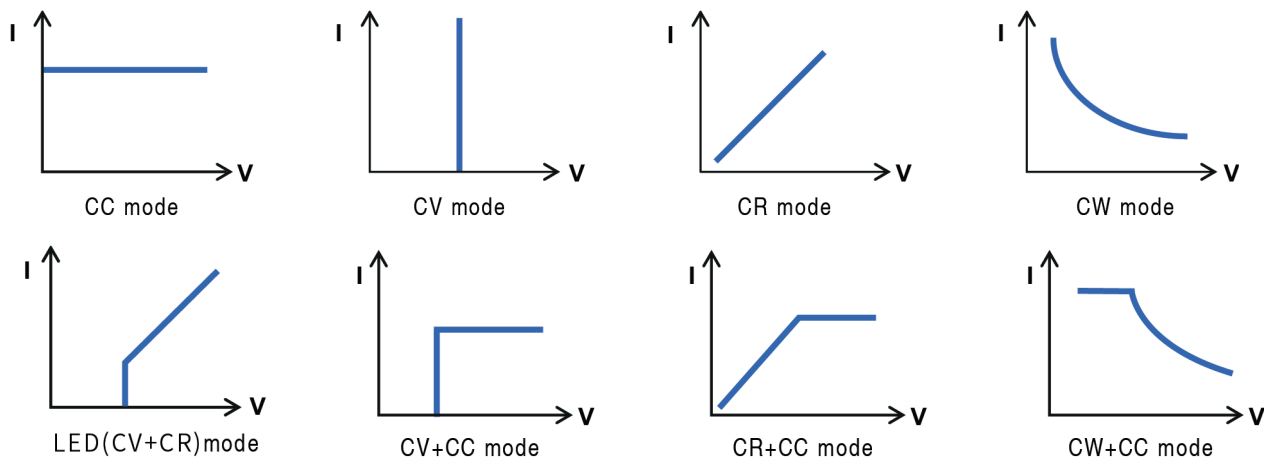
Dynamic testing and control

The operation of dynamic load is periodically switched between the two levels. The adjustment rate and instantaneous response of the power supply monitor its output voltage waveform under the mixed changes of high and low current levels, continuous time and rise/fall rates. The dynamic test function of IT8700P series can be divided into continuous mode, pulse mode and flip transfer mode.



8 operation modes

Besides the four basic operation modes of CC /CV/CR/CW, there are additional 4 new compound operation modes included in IT 8700 P series : CV+CC/CR+CC/CW+CC/CV+CR(CR-LED). Under CV/CR/CW operation mode, the maximum current (I-Limit) is settable. This can effectively solve the problem of instantaneous surge current during testing and avoid the protection triggering, damage of the instrument or any other injury caused by possible miss operation or environmental factors. So it can be used in various applications.



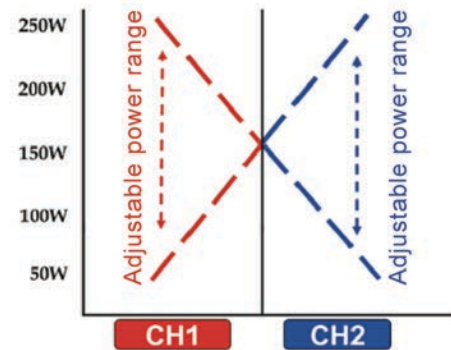
Freely configurable modular system architecture

IT8700P adopts modular design, which has a high-performance microprocessor in every module and mainframe. It has high measurement speed because of parallel architecture. The mainframe controls each models synchronously and show the testing values in real time.



Dynamic power distribution

The models of dual-channel IT8722P and IT8722BP have dynamic power distribution function, which helps to save equipment purchasing cost. Different from traditional distribution mode, when the total power is not more than 300W and the single channel power is less than 250W, its power can be freely allocated to the two channels. The user can adjust the loading power of two channels to the required power ratio according to the actual test requirements, so that the utilization can be optimized. For example, when you need 130W+170W or 50W+250W dual-channel load, only a single IT8700P module can fulfill the test.

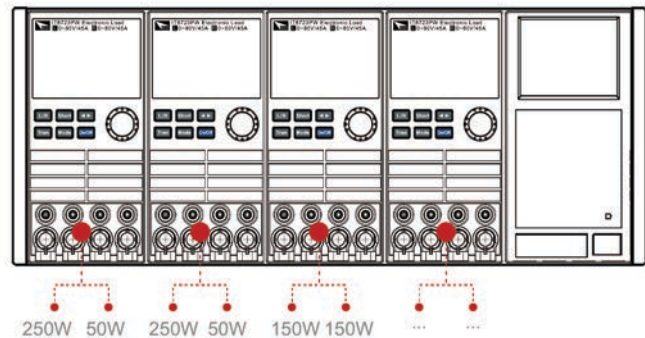


Application

PC ATX 6-channel power supply test
-Only 3 IT8700P modules needed

Recommended solution

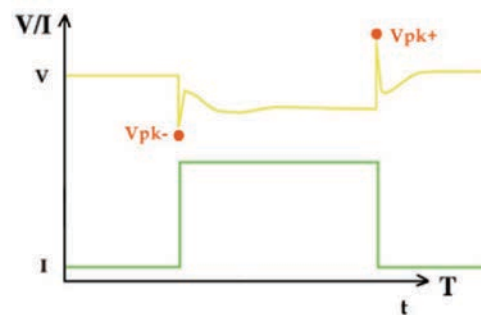
- IT8722P module 1: +12V1DC (250W) / -12VDC (50W)
- IT8722P module 2: +12V2 DC (250W) / +5V SB (50W)
- IT8722P module 3: +5VDC (150W) / +3.3VDC (150W)



* When the total power is not more than 300W and the single channel power is less than 250W, its power can be freely allocated to the two channels.

Peak voltage measurement (Vpk)

When measuring the dynamic current of a switching power supply, an oscilloscope was usually necessary to capture the instantaneous voltage and current waveforms and obtain Vpk+ and Vpk- accordingly. But with digital data acquisition function, IT8700P can directly obtain the Vpk+ and Vpk- values without an oscilloscope.



Fast measurement of I-V characteristic curve

The voltage and current measurement of IT8700P is fast (up to 50kHz). It can be applied to various testing applications such as charging piles, automotive electronics; renewable energy and so on.



List function, up to 100kHz

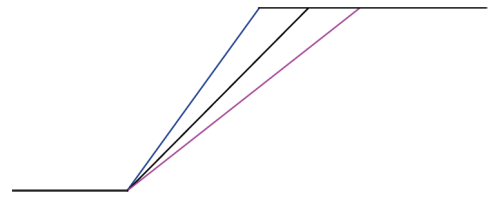
Compared with the dynamic mode, the LIST mode can complete more complex and arbitrary current modes at a high speed instead of the simple double-level changes, so IT8700P can realistically fulfill multi-level load precision tests than other loads. Its built-in waveform generator can simulate multiple waveforms under LIST mode. IT8700P can store 55X7 sets of files to simulate various real loading conditions. In addition, each module can operate independently or synchronously, which means that each module can execute its own timing independently and start working simultaneously.

• Application -Loading test

In the actual test, the product manufacturer tends to load at different current level, such as at 25%, 50%, 75%, 100% of the full-range current, to evaluate whether the value of the voltage fluctuation meets the design purpose. IT8700P can simulate the various complex states of the product in actual working conditions which helps to analyze the performance of the product and then improve it accordingly. IT8700P is especially suitable for complex application environments such as electronic product development, aging of production line, and quality inspection.

Adjustable rise/fall slope

IT8700P has a built-in current slope adjustment loop, users can adjust current rise/fall speed according to different test requirements. Under CC mode, you can set the current rise/fall slope (0.0001-2.5A/7.5A/ μ s)

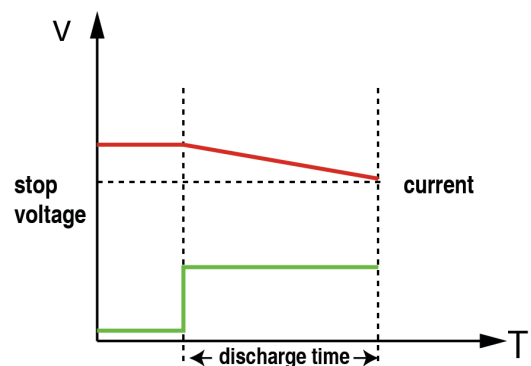


Time measurement

IT8700P has powerful and accurate measurement function, the measurement range is 0.1ms -100,000s. This feature can be applied to battery discharge test, super capacitor discharge electrical time measurement, fuse and circuit breaker trip time measurement, ATX power supply voltage rise time measurement, etc.

• Application -Loading test

IT8700P can display battery test mode, users can set the cut-off condition of battery discharge on the front panel easily. The user can complete the automatic battery charge and discharge test with a simple button operation. For example: when the battery voltage is lower than the first voltage value set by the user, the internal timer of the IT8700P will automatically count, and the timer will not stop counting until the battery voltage drops to the second set voltage.





IT8700 Multi-channel Programmable DC Electronic Load



Applications

Multiple or single output AC / DC power supplies, DC / DC power converters, chargers, batteries and other power supply electronic components performance test, ATE test system, solar cells, LED, communications testing, commercial aviation and other fields.

Feature

- Removable modules for easy system configuration
- Dual-channel module can display each channel information simultaneously
- Single frame up to max.8 channels, extended frame up to max.16 channels
- Dynamic power distribution function for dual channels Measurement resolution: 0.1mV/0.01mA
- Measure short-circuit peak current value and peak voltage value
- Measurement speed for voltage, current up to 50kHz
- Adjustable current rising / falling slope
- Auto-test function, with automatic judgement whether the test result exceeds the set specification
- Simulate various waveforms with load under List mode
- Up to 25kHz dynamic mode
- Automatic test function can automatically determine whether the test results exceed the set specifications
- Simultaneously perform multiple sets of electronic load modules
- OVP / OCP / OPP / OTP / anti-reverse protection function
- Built-in Ether Net / MsB / RS232 communication interface
- Support anti-reverse alarm function

IT8700 series programmable DC electronic load adopts removable modules design, with single frame control 8 channels, and 16 channels with extended mainframe extension transient mode up to 25 kHz, which improves your test efficiency, with high resolution and accuracy. Users can freely choose in the 8 load modules according to the number of channels and power requirements, controlled by mainframe control panel, or controlled by IT9000-PV8700 software via built-in LAN / RS232 / MsB interface. IT8700, with adjustable slope, list function, automatic test and other functions, automatic test function can be set to work under CC / CV / CR / CP can be used in the application of R&D and production line. IT8700 has self-diagnosis and comprehensive OVP, OCP, OPP, OTP, etc., ensure the operator safety.

Model	Specification	Size(D*H*W)
IT8731	80V/40A/200W	573*183*85mm
IT8732	80V/60A/400W	573*183*85mm
IT8732B	500V/20A/300W	573*183*85mm
IT8733	80V/120A/600W	573*183*85mm
IT8733B	500V/30A/500W	573*183*85mm
IT8722	80V/20A/250W*2CH	573*183*85mm
IT8722B	500V/15A/250W*2CH	573*183*85mm
IT8723	80V/45A/300W*2CH	573*183*85mm

Matching frame

IT8701P	Two-load module main control unit (including three interfaces)
IT8702	Four-load module main control unit (including three interfaces)
IT8703	Four-load module expansion unit

*1: The total power of dual channel for IT8722/IT8722B is 300W, if the two channel of IT8722/IT8722B work at the same time, need to meet: $50W \leq PCH1/PCH2 \leq 250W$; $PCH1 + PCH2 \leq 300W$

*2: IT8700 modules should be equipped with IT8701/IT8702 mainframe

*3: Interface of mainframe: RS232, MsB, LAN.

*4: For any GPIB interface option request, check with ITECH for availability.

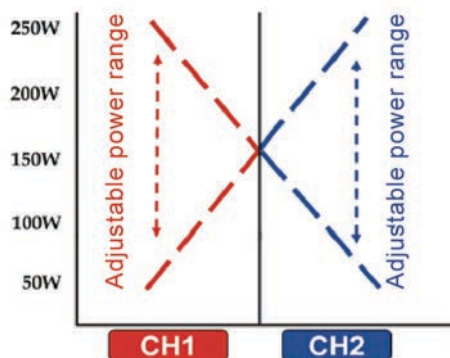
*5: IT8702 only can work with 1pc of IT8703.

Freely configurable modular system architecture

IT8700 adopts modular design, which has a high-performance microprocessor in every module and mainframe. It has high measurement speed because of parallel architecture. The mainframe controls each models synchronously and show the testing values in real time.

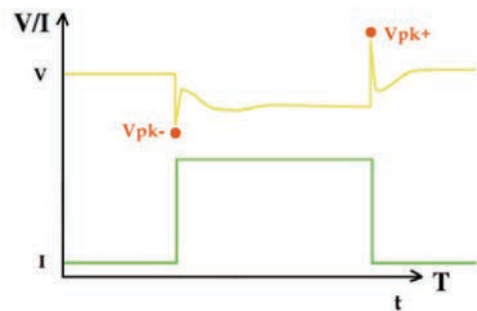
Dynamic power distribution function

Msually, one module require high power while another require low power in battery testing. IT8722/IT8722B has dynamic power distribution function,that means within 300W,any channel which power over 50W and less than 250W,the power can be distributed freely,one module can be used as multiple standard modules.



Peak voltage, peak current measurement function

Dynamic current testing of switching power supply often requires oscilloscope to capture instantaneous voltage and current waveforms to obtain the value of the peak voltage V_{pk} and the peak current I_{pk} . IT8700 is with digital data acquisition function, users can easily get the values of V_{pk} and I_{pk} without oscilloscope.



High resolution and accuracy

IT8700 has the best product features with 0.1mV / 0.01mA resolution and 50kHz measurement speed, so that your test is fast and accurate.

With ITECH test system

ITS5300 battery test system can be formed by IT8700, ITECH power supply, battery resistance tester and temperature data logger,which makes hundreds of channels run at the same time, recorde voltage and current waveforms in real-time. Test data can be exported to EXCEL.

IT8700 can also equip with ITECH AC and DC power supply, relay card, I / O Card, DSO card to set up ITS9500 power supply test system, which achieves multi-supply modules simultaneously test or multiplex output AC / DC or DC / DC power supply module test. IT8700 with IT9380 software can achieve multi-channel solar cell test, the test interface can be switched freely, support the sampling time settings, export test data, and with up to 50KHz I-V sampling rate, achieving high efficient and fully automated testing for solar panel.

High power density

Maximum power density - 600W single module with ITECH advanced cooling technology, making IT8700 has ultra-high power density, 4u height up to 2400W.

Auto test

This function can be applied in the automated production test, users can set measurement mode and pull load value of each step for panel or PC software, and the upper and lower limits of test parameters, and display whether the test results have exceeded the set specifications.



IT8400 High performance DC electronic load

Fast double power loading < 3s

25kHz dynamic loading available for 1200V models

3 current ranges, max.40uA resolution



IT8400 high-performance DC electronic load has two voltage levels, 600V and 1200V. It supports master-slave connection in parallel with power from 6 kW to 600 kW, and is capable of fast double power loading. It has three current readback ranges with a resolution of up to 40uA. IT8400 has faster loop response and current rising and falling speed. It supports up to 8 working modes. It also has dynamic mode, List, OCP, OPP test, automatic test and battery test functions. IT8400 has built-in CAN, LAN, GPIB, MsB, RS232 and analog interfaces, suitable for remote control and system building. In addition, the full protection function makes it well matched with the test of fuel cell, power battery discharge, DC charging pile, BOC, power electronics, solar, automotive high-voltage components, DC-DC, motor and so on.

Feature

- Max.Voltage : 1200V
- Current range: 1.5A~15,000 A
- Power extended to 600 kW through master-slave connection in parallel
- High-precision three current measurement ranges with resolution up to 40uA
- Fast double power loading capability (<3 s)
- 25kHz fast dynamic mode, current rising and falling time is adjustable
- Provide 8 working modes: CC, CV, CR, CP, CC+CV, CV+CR,CR+CC, CP+CC
- 1 kHz continuous sampling rate
- List programming
- The battery discharge function is used to test energy storage devices such as batteries and super capacitors
- CV loop speed is adjustable to match different power supplies
- 500 kHz voltage and current sampling rate
- Time measurement, OCP/OPP test short circuit simulation, automatic test
- Soft start and soft shutdown to prevent voltage fluctuations during on/off
- I-monitor function
- Full protection: OVP, UVP, OCP, OPP, OTP, current oscillation protection, current limit, power limit, reverse alarm, etc.
- Power-off retention memory function, recording up to 100 groups data
- Independent control, easy to maintain and install.
- Built-in standard LAN, MsB, RS232, GPIB, CAN and analog, IO interface
- LabVIEW driver and SCPI protocol

IT8400 High performance DC electronic load

Input	600V	1200V	Height
6 kW	IT8406-600-150	IT8406-1200-75	4u
12 kW	IT8412-600-300	IT8412-1200-150	8u
18 kW	IT8418-600-450	IT8418-1200-225	15u
24 kW	IT8424-600-600	IT8424-1200-300	27u
30 kW	IT8430-600-750	IT8430-1200-375	27u

Input	600V	1200V	Height
36 kW	IT8436-600-900	IT8436-1200-450	27u
42 kW	IT8442-600-1050	IT8442-1200-525	37u
48 kW	IT8448-600-1200	IT8448-1200-600	37u
54 kW	IT8454-600-1350	IT8454-1200-675	37u

* This information is subject to change without notice

Application

Automotive electronics

DC charging station, OBC, DC-DC, generator, motor, fuse, relay, MCU, power electronics devices, sensor.



Energy storage

Battery, fuel cell, super capacity



Solar

PV modules, power optimizer



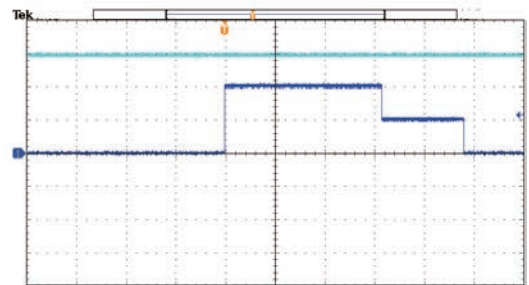
Electric and electronics devices

UPS, motor, power semiconductor

Fast loading with double power

The input voltage of IT8400 DC electronic load can reach 1200V. It has a fast double power loading capacity and is available for all models from 6kW to 600kW. You do not need to select the model according to the maximum power during the actual test, which can greatly save your costs.

The input over power and loading time are relevant with the temperature of the electronic load. For example: below 30°C, IT8400 supports double power loading within 3 seconds. This makes it suitable for instantaneous high-power discharge tests of motors and batteries. For example, simulating the starting of a DC motor, simulating the transient overload characteristics of some power supplies, or instantaneously discharging a high-power battery or fuel cell.

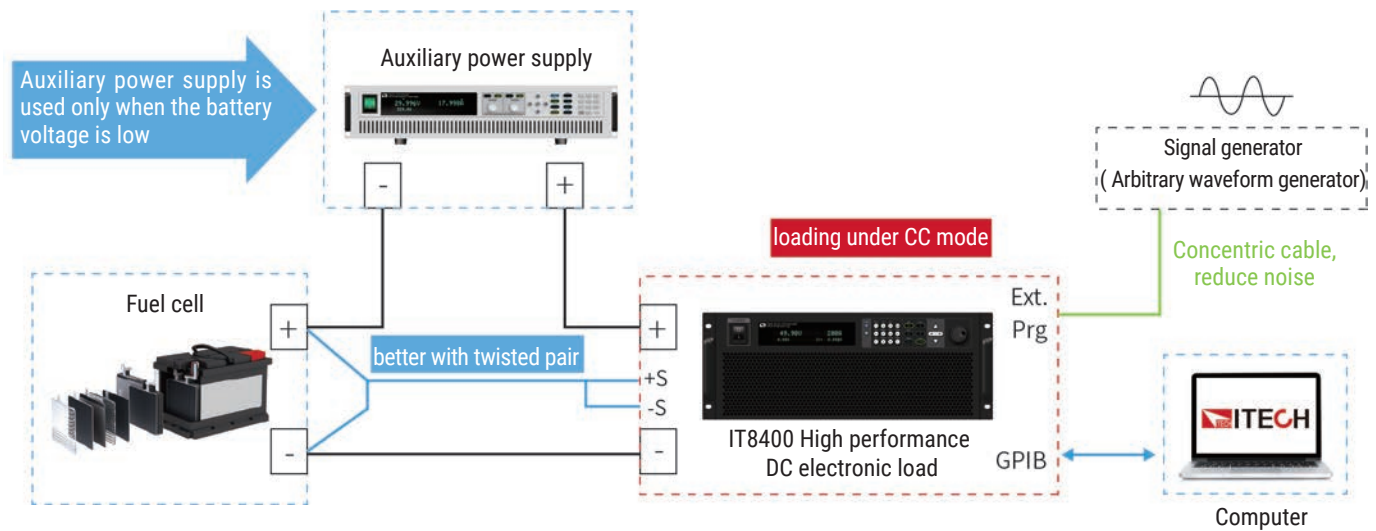




AC impedance test of fuel cells

IT8400 can be used to check the output impedance of fuel cells. Wire according to the figure below, it should be noted that:

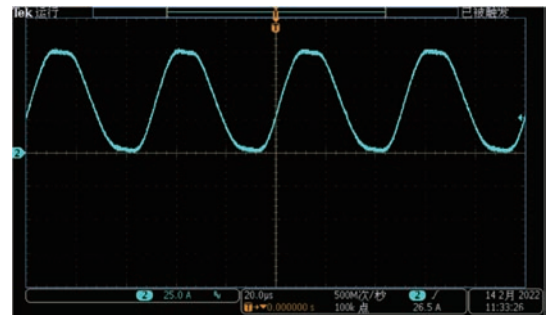
1. Use 4-wire Kelvin wiring to more accurately measure fuel cell output voltage and eliminate voltage drops on power lines. A two-wire system can measure lower voltages.
2. Twist the remote Sense wires together (twisted pair) and separate them from the source leads to reduce noise inductive coupling in the sense wires.
3. Keep the test lines as short as possible to reduce transmission line ringing in case a step load change occurs.



Higher current rise and fall speed and dynamic speed

Dynamic testing is one of the necessary test items for power supplies. The dynamic mode of IT8400 can be used to measure it. Set the current level, time, rising and falling slope and repeat times, and then you can check if the power supply still works stably when the load current is changed stepwise.

IT8400 supports the programmable dynamic loading mode with 25kHz. The minimum current rise and fall time is 15μs. When the loading current changes continuously, the internal monitoring and circuit can minimize the current waveform distortion. So it is well used for transient response test of switching power supply and dynamic discharge test of battery.



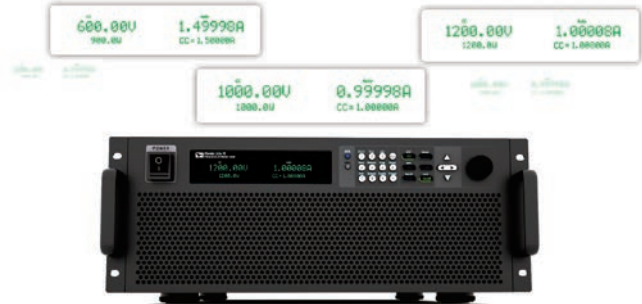
Multiple built-in communication interfaces



IT8400 DC electronic load has built-in standard LAN, MsB, RS232, CAN, GPIB, analog interfaces. It also provides Labview driver and free software IT9000. In addition, it supports SCPI protocol. It is available for power extension, computer or PLC remote control, system building etc.

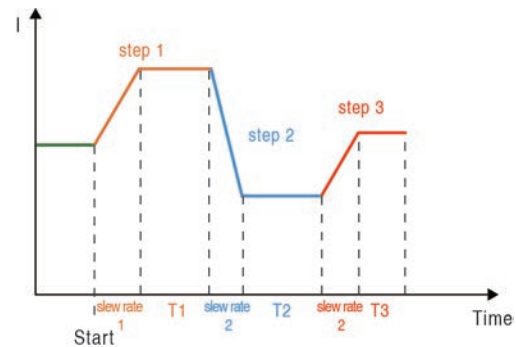
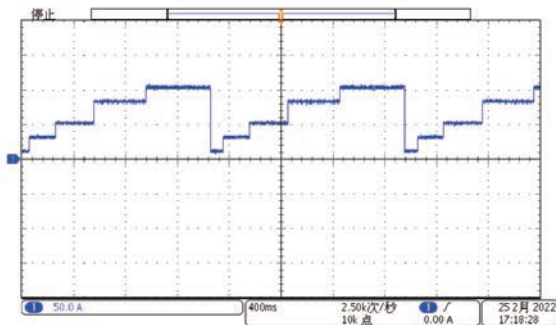
3 Current measurement range

All models of IT8400 series have 3 current measurement ranges. For example, the 1200V, 6kW model, its current can reach 1.5A. In addition, the high resolution (40uA at most) and high accuracy (1.5mA at most) enable it to be widely used in the tests such as solar, power semiconductor devices, automotive electronics and so on.



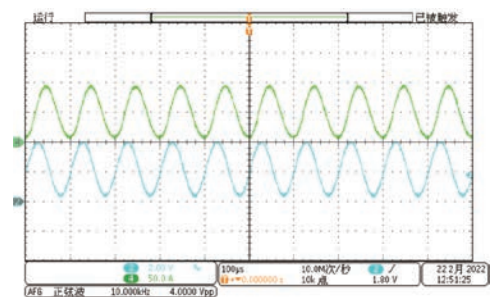
List function

Testing of power supplies or batteries often requires complex simulations of operating conditions with different loading currents. The List mode of IT8400 can help to realize it. In addition, IT8400 DC electronic load also allows programming by both front panel and computer. It synchronizes the triggering of internal or external signals, which makes it easy for system integration and remote control.



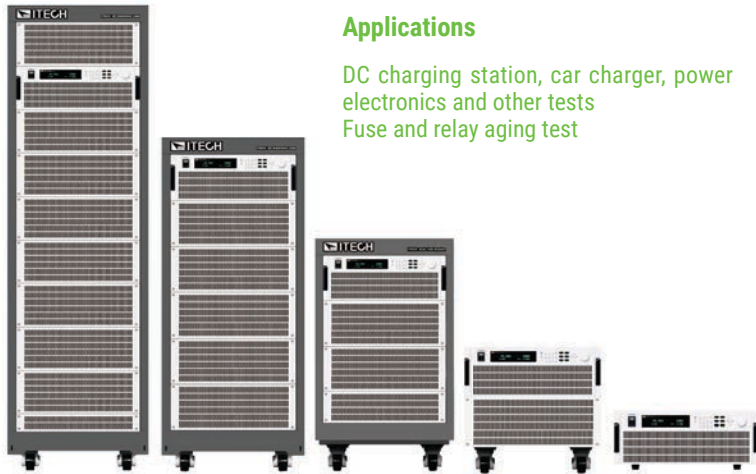
10kHz analog

IT8400 series electronic load has analog control interface, which can be used for industrial control or parallel Expand load power usage. When used for industrial control, use the 0~10V output from PLC to control the 0~100% full-scale change of the load. Compared with the real-time control of the host computer, the response time is faster, up to 10μs, the single step time is less than 10ms, and the accuracy is acceptable. up to 1%. At the same time, it also has the advantage of unlimited steps. It can be used for battery testing of various complex waveforms, and also for impedance analysis of fuel cells test. When used for parallel expansion of load power, the analog interface can be used for parallel differential analog control. Compared with the traditional independent LAN port parallel communication, the data is more stable and reliable.





IT8900A/E series high performance high power DC electronic load



Applications

DC charging station, car charger, power electronics and other tests
Fuse and relay aging test

Feature

- Stand-alone input power: 2kW, 4kW, 6kW, 12kW, 18kW, 24kW, 30kW, 36kW, 42kW, 48kW, 54kW
- Voltage range: 150V, 600V, 1200V
- Current range: up to 600A for 4u modules (up to 2400A for 27u racks)
- Master/slave paralleling control, maximum power expands to 384kW
- Multiple operating modes: CC, CV, CR, CP, CC+CV, CV+CR, CR+CC, CP+CC*1
- Transient over-power loading capability*3
- Adjustable CV loop speed, match different power supplies
- 30kHz high-speed dynamic mode, adjustable current rising and falling time*2
- 500kHz high-speed voltage and current sampling rate
- Time measurement, battery discharge test function
- Short circuit simulation, automatic test function
- Soft start and soft stop prevent voltage fluctuations at on/off
- Timing control list programming
- I-monitor
- Built-in LAN, MsB, RS232, GPIB, CAN, external analog control interface
- OCP/OPP test function
- High-precision voltage and current measurement
- Protection functions: OVP, OCP, OPP, OTP, current oscillation protection, limited current protection, limited power protection, reverse alarm protection etc.
- Up to 100 groups' memories, with power off memory function
- Independent master unit control for easy maintenance installation

*1 IT8900E only supports CC, CV, CR, CP operation mode

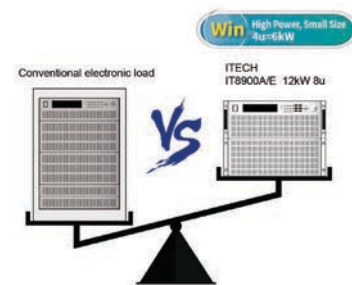
*2 30kHz is only suitable for 150V models

*3 Only IT8900A have

IT8900A/E series high performance high power DC electronic load provides three voltage ranges 150V/600V/1200V, stand-alone power from 2kW to 54kW. IT8900A/E series, with ultra-wide voltage and current range, controlled by an independent master unit. The power expands to 384kW by master-slave paralleling. Ultra-high power density, 6kW is with only 4U height. IT8900A/E series has eight (A series) / four (E series) working modes, faster loop response and current rising and falling speed, as well as dynamic mode, OCP test, OPP test, automatic test and battery test functions. Built-in CAN, LAN, GPIB, MsB, RS232 and analog interfaces, etc., IT8900A/E series has comprehensive protection function, which can be applied to power battery discharge, DC charging station, on-board charger (OBC), power electronics and other power electronics products.

High power density, small size

IT8900A/E series adopts high power density design, the size is half of the conventional electronic load, and the weight is 1/3 of the conventional electronic load.



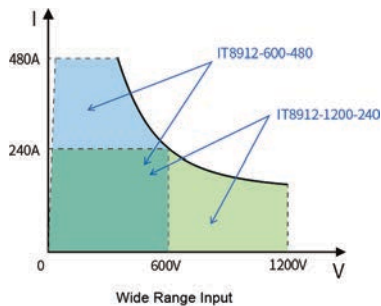
Dynamic and List function

The dynamic mode and list mode of the IT8900A/E series can all be performed in the CC mode. By editing the step width and slope of each step, a variety of complex sequences can be generated, allowing the user to complete various tests with loading wave-forms. And under CC mode, IT8900A/E can set the rising and falling speed.

input parameter	150V	600V	1200V	Height
2kW	IT8902A/E-150-200	IT8902A/E-600-140	IT8902A/E-1200-80	4u
4kW	IT8904A/E-150-400	IT8904A/E-600-280	IT8904A/E-1200-160	4u
6kW	IT8906A/E-150-600	IT8906A/E-600-420	IT8906A/E-1200-240	4u
8kW	/	IT8904A/E-150-560	/	8u
12kW	IT8912A/E-150-1200	IT8912A/E-600-840	IT8912A/E-1200-480	8u
18kW	IT8918A/E-150-1800	IT8918A/E-600-1260	IT8918A/E-1200-720	15u
24kW	IT8924A/E-150-2400	IT8924A/E-600-1680	IT8924A/E-1200-960	27u
30kW	IT8930A/E-150-2400	IT8930A/E-600-2100	IT8930A/E-1200-1200	27u
36kW	IT8936A/E-150-2400	IT8936A/E-600-2400	IT8936A/E-1200-1440	27u
42kW	IT8942A/E-150-2400	IT8942A/E-600-2400	IT8942A/E-1200-1680	37u
48kW	IT8948A/E-150-2400	IT8948A/E-600-2400	IT8948A/E-1200-1920	37u
54kW	IT8954A/E-150-2400	IT8954A/E-600-2400	IT8954A/E-1200-2160	37u

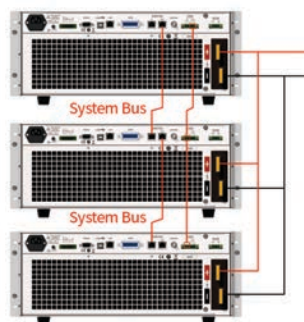
Ultra-wide voltage and current input range

IT8900A/E series has ultra-wide voltage and current input range, covering a variety of existing models, meeting the requirements of high current, low voltage or high voltage, low current.



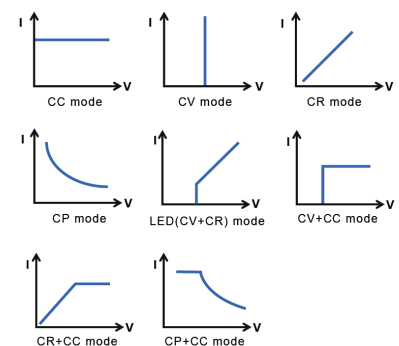
Master-slave paralleling, flexible power configuration

IT8900A/E series have master-slave paralleling and equalized current. IT8900A/E series support cabinet paralleling under different power and same voltage. After paralleling, all functions of the stand-alone can be realized, including working in CV mode, maximum paralleling up to 384kW. The stand-alone can also work independently and the power configuration is more flexible. The paralleling machine adopts analog and digital wiring separately, and the performance of the paralleling machine is more stable.



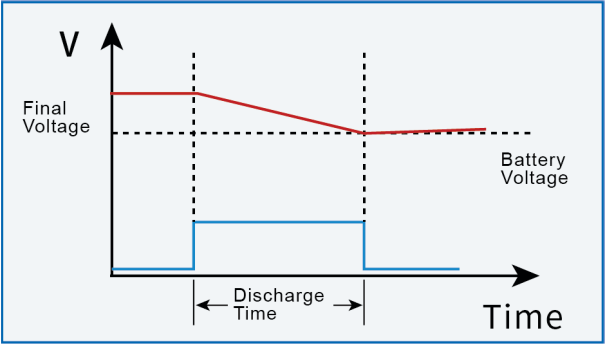
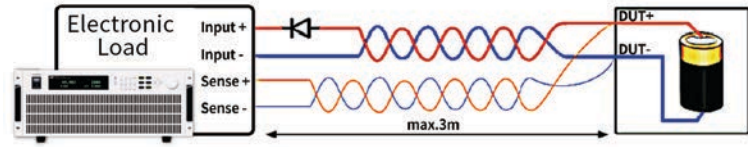
Eight working modes

IT8900A series provides eight kinds of working modes such as CC, CV, CR, CP, CV+CC, CV+CR, CR+CC, CP+CC, which can adapt to the test requirements of various occasions. Among them, the CP mode is often used to UPS battery test, simulate the current change when the battery voltage is decaying. It can also be used to simulate the characteristics of the inputs of DC-DC converters and inverters. The CV+CC mode can be applied to the load simulation battery and test the charging station or the car charger. When the CV is working, the maximum loading current is limited. CR+CC mode is commonly used in the testing of voltage limiting, current limiting characteristics, constant voltage accuracy, and constant current accuracy of on-board chargers, which prevents over-current protection of on-board chargers.



Battery discharge function

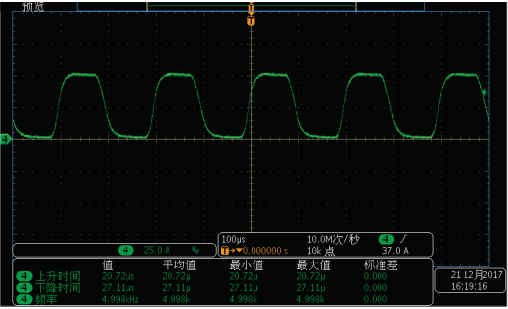
IT8900A/E series electronic load has battery discharge function, and can perform discharge test under CC, CR, or CP mode. IT8900A/E can set 3 battery stop conditions: voltage, capacity and time. Whenever met any condition, it will automatically stop test. During the test, users can observe battery's voltage, time and already-discharged-capacity.



Dynamic mode up to 30kHz

IT8900A series electronic load (150V model) has dynamic mode* with up to 30kHz, the upgrade of the integrated internal structure has greatly improved the loop response and stability. IT8900A can be applied to the transient response test of switching power supplies and can also test transient high current tolerance of DC-DC converters and batteries.

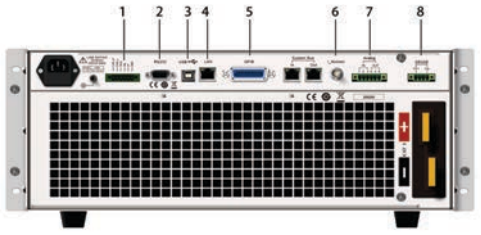
* IT8900E dynamic response is 10 kHz



IT8906A-1200-240
5 kHz dynamic loading 0A-50A

Built-in communication interface

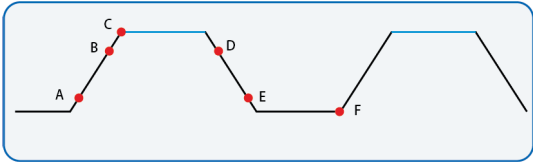
IT8900A/E series electronic load is built-in LAN, MsB, RS232, CAN, GPIB, analog interface, supports SCPI protocol. It is suitable for power expansion, computer or PLC remote control, system building and so on.



- 1. CAN
- 2. RS232
- 3. MsB
- 4. LAN
- 5. GPIB
- 6. i-monitor
- 7. Analog interface
- 8. SENSE

Measure function

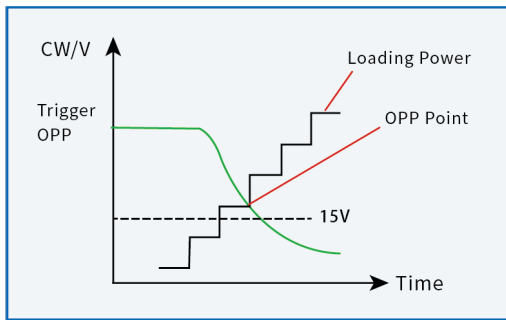
IT8900A/E series provides the measurement of rising and falling time of voltage and current. The measurement accuracy is up to 10µs, which is comparable to the high precision oscilloscope. IT8900A/E series can be applied to measure the start-up and shutdown of power modules, holding time, and fuse blowing time. Measurement time is measured by the PC software.



Remarks: from above graph, A and B are arbitrary points of the rising stage, C is one point on the green stage, D and E are arbitrary points of the falling stage.

OCP, OPP Tests

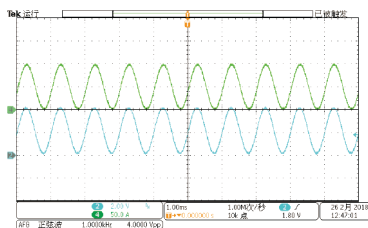
OCP and OPP are mainly applied in over-current and over-power point tests of the lithium-battery protection board and power modules. For power supplies, OCP and OPP are designed to guarantee the user's safety and to reduce damage rate. IT8900A/E series can automatically judge the test result according to the set specifications, so the users can save much time in verification of design and production system.



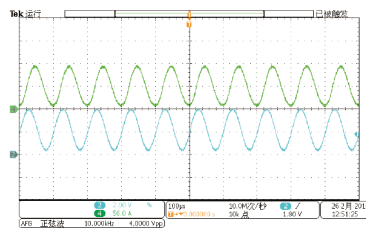
OPP Protection Test

External analog control function

IT8900A/E series electronic load has analog control interface, which can be used for industrial control or expanding load power by paralleling. When IT8900A/E is used for industrial control, using PLC output 0~10V to control the 0~100% full scale change of CC/CV of the load. Compared with the real-time control from PC, the response time is faster and up to 10 μ s, step time is <10ms, accuracy can reach 1%. At the same time, IT8900A/E also has the advantage that the number of steps is not limited. The right picture shows the 0-4.2V sine wave input analog interface, which controls the dynamic loading of the IT8900A 0-100A. The waveform amplitude and phase reduction below 10 kHz are higher. It can be applied to battery tests of all kinds of complicated waveforms, and can also be used for impedance analysis test of fuel cells. When used to paralleling load power expansion, the analog interface can be used for parallel differential analog control interface, which is more stable and reliable than the traditional independent LAN interface parallel communication.



1 kHz sine wave



10 kHz sine wave

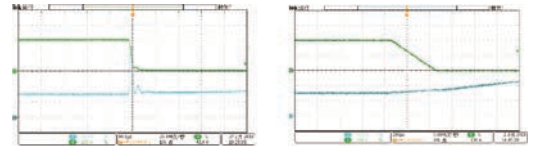
Full protection

To avoid instrument damages by incorrect operations or abnormal ambient surroundings, IT8900A/E provides soft start, soft stop, current oscillation protection, OVP, OCP, OPP, OTP, current limit protection, power limit protection, and etc. When any abnormal situation, IT8900A/E will immediately stop working to ensure the DUT and personnel safety.



Soft start, soft stop function

IT8900A is with soft start and soft stop function, which can prevent the load from loading too fast, transiently pull down the power supply voltage, or transiently turning off the load to cause power supply voltage surge, that is, the settable on slope, openable off slope function.

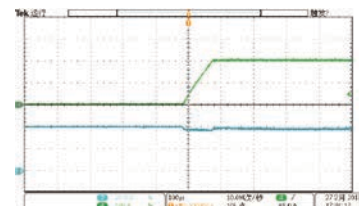


No soft stop function, voltage overshoot

With soft stop function, voltage without overshoot

Transient over power loading capability

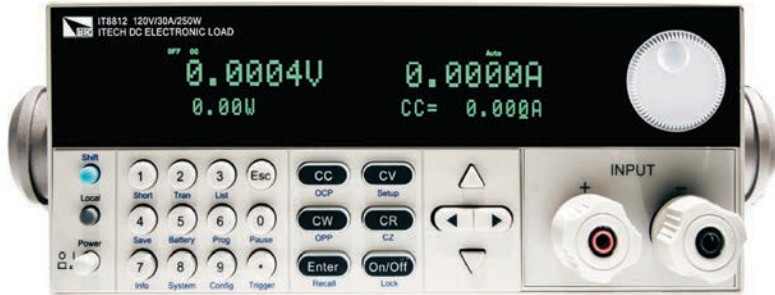
IT8900A/E has 2x transient over power capability, which makes load to take over power loading capability in short time. Users can select models as per rated working power of power supply or battery products, instead of maximum power value, and it can extremely save cost. IT8900A/E can simulate motor start-up features, test power supply's transient over load features, and also test the transient high power discharge characteristics of the power battery, ignition battery, etc.



IT8906A-1200-240
rated power 6kW withstand transient 8kW loading



IT8800 High Power DC Electronic Load



IT8800 series has wide power range 150W~6kW, voltage and current measurement speed up to 50kHz, resolution up to 0.1mV/0.01mA, adjustable measurement current rising speed 0.001A/μs~2.5A/μs, built-in RS232/MSB interface. IT8800 series has wide application fields because of its high performance, it has been applied to LED lighting, aerospace, automotive electronics and other fields.

Applications

High power testing, battery test, power supply test, commercial aviation testing

Feature

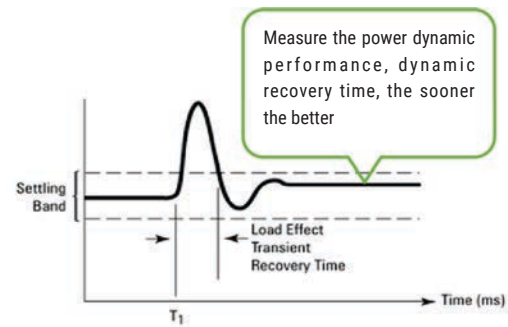
- 150W-6kW/120-500V/15-480A
- CV/CC/CR/CW mode
- Remote sense
- Measurement resolution:0.1mV,0.01mA
- Dynamic mode: up to 25kHz
- Adjustable current rising slope: 0.001A/μs~2.5A/μs
- Measurement speed: up to 50kHz
- Dynamic test, short-circuit test function
- Rotary knob, making the operation more easier
- CR-LED test
- OCP / OVP / OPP / OTP/ Reverse polarity protection
- 100 groups memory capacity
- Power off memory function
- External analog control
- Support VISA/MSBTMC/SCPI communication protocol
- Built-in RS232/MSB communication interface
- Software monitoring via PC

*For any GPIB interface option request , check with ITECH for availability.

Model	Power	Voltage	Current	Size
IT8811	150W	120V	30A	1/2 2U
IT8812	250W	120V	30A	1/2 2U
IT8812B	200W	500V	15A	1/2 2U
IT8812C	250W	120V	60A	1/2 2U
IT8813	750W	120V	60A	3U
IT8813B	750W	500V	30A	3U
IT8813C	750W	120V	120A	3U
IT8814	1500W	120V	120A	3U
IT8814B	1200W	500V	60A	3U
IT8814C	1500W	120V	240A	3U
IT8816	3KW	120V	240A	3U
IT8816B	2500W	500V	100A	3U
IT8817	4500W	120V	360A	6U
IT8817B	3600W	500V	120A	6U
IT8818	6KW	120V	480A	6U
IT8818B	5KW	500V	150A	6U

Dynamic mode up to 25KHz

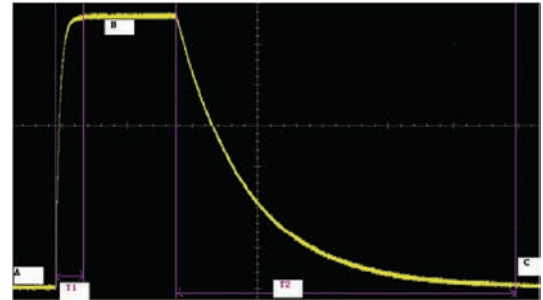
Dynamic mode operation allows the electronic load to be switched between the two setting parameters according to the setting rules. Dynamic mode can be used to test the dynamic nature of the power supply, e.g. when the computer disk drive run or stop, the dynamic load mode can simulate the change of operating current.



Voltage Rising/Falling time test

IT8800 provides unique measurement function to test voltage rising/falling time. Enter the measure menu under config, and set two voltage points. Then turn on display on timer function, and the rising / falling time is displayed on the screen after completing test.

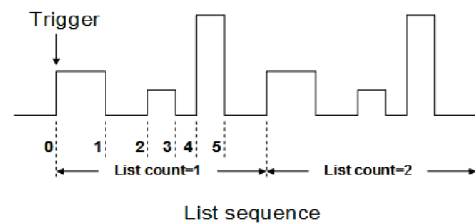
This test is important for switching power supply testing and fuse testing.



Adjustable Rising/Falling speed of current

List mode allows you to generate a complex current sequence. Moreover, the mode change can be synchronized with an internal or external signal, to accomplish dynamic and precise test. A list file includes following parameters: file name, step counts (range 2-84), time width of single step (0.00002s-3600s), step value and slope. The LIST function can make many kinds of complex sequences, to meet complicated test requirements.

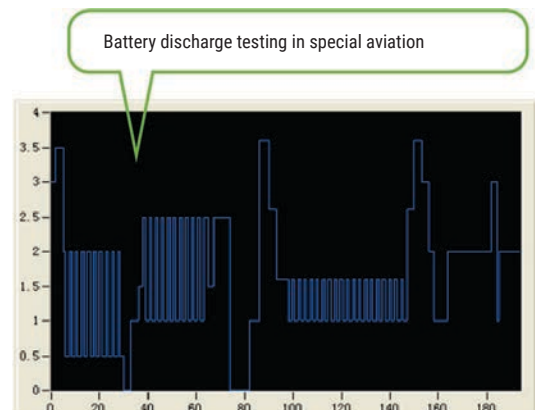
IT8800 electronic load supports panel programming and computer software operation, especially for electronic product development, production line product aging, quality inspection and other complex application environment.



External analog test

IT8800 electronic load can control the loading voltage or current through the EXT PRG (positive and negative) analog port on the rear panel, connect 0-10V adjustable voltage to simulate 0- full-scale input in the EXT PRG terminal, so as to adjust the load input voltage and current value.

Analog control interface meets the control needs of industrial production, users can achieve output voltage control via PLC without the PC control.

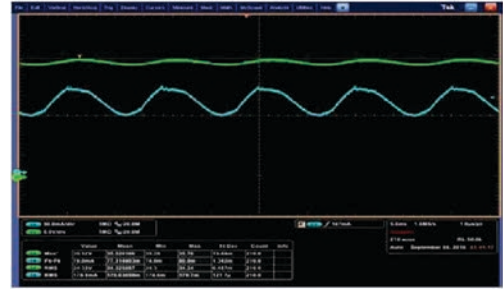




CR-LED test

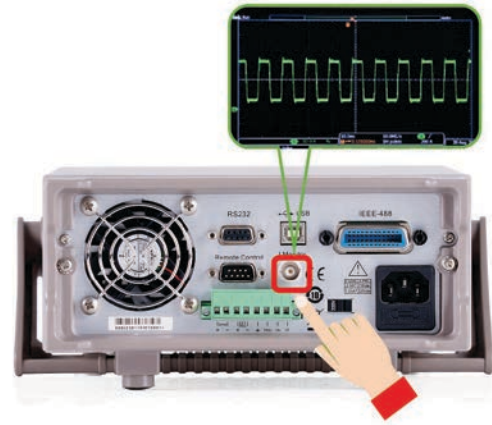
As we all know the LED constant power supply output waveform usually have large current ripple. This is because the traditional type DC loads can't simulate the actual characteristic of LED driver, its testing current and voltage will shake. Based on traditional CR mode, CR-LED mode of IT8800 series adds the setting item of diode break-over voltage. Only when the input voltage is above the set value, the DC load will start to work. Thus, the IT8800 series can simulate the actual characteristic of LED.

IT8800 unique LED mode can provide LED power drive test, which can be used in LED power simulation.



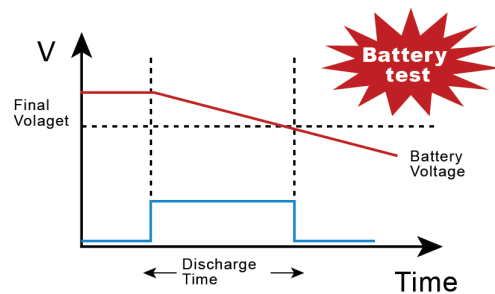
Current monitor

IT8800 series allows the users to monitor actual current through I-monitor terminal. Users could connect an oscilloscope to observe actual current. It will generate at 0-10V analog signal to represent to 0-100% rated current of the front panel.



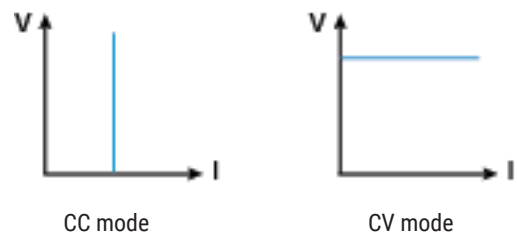
Battery discharge test function

IT8800 series electronic load can respectively set turn off voltage, cut-off capacity, discharge time through the panel and software to be as battery discharge cut-off conditions. The test is automatically stopped when the battery drops to the off voltage or has been discharged to the cut-off capacity or reaches the cut-off time. During the test, you can observe the battery voltage, discharge time and battery discharge capacity.



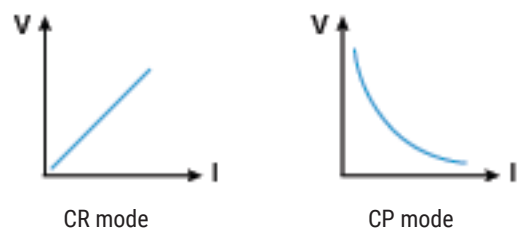
Working mode

The working mode of IT8800 series has CC, CV, CP, CR, and it will make you easy to simulate various characteristics of load, which can save cost greatly. It support OVP, OCP, OPP, OTP, reverse polarity protection and it can set the protection point of current, voltage, and power. In every condition, it will make auditory alarm and cut off the circuit to ensure the safety during test.



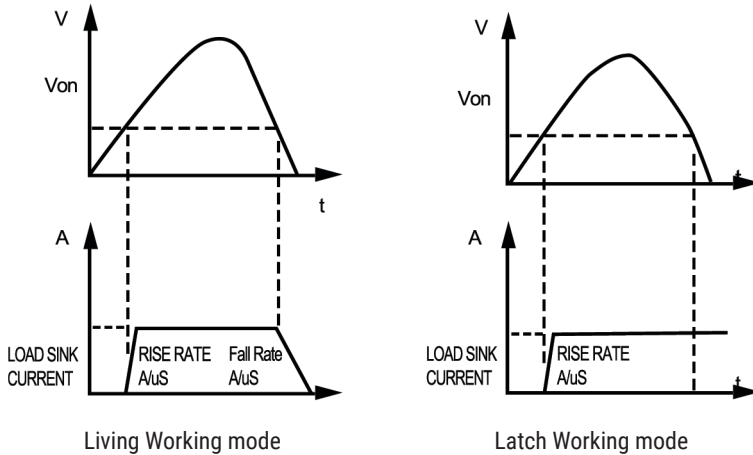
Working mode

IT8800 auto test function can simulate many kinds of testing. It totally can edit 10 test files, and can make connection between one file and another. Also you can choose the condition to stop the test: stop when testing pass or fail. Its adjustable current speed rate of rising and falling can make auto test to simulate kinds of test waveform.



Supporting two loading modes

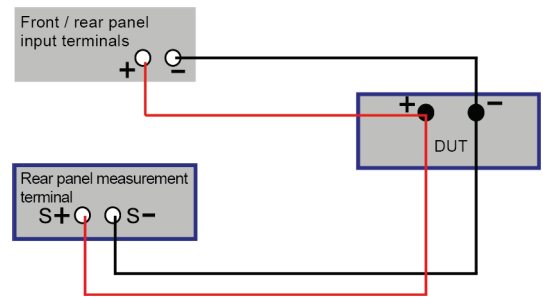
IT8800 series supports loading voltage setting, and it provides two kinds of load modes. Choosing Living means working goes after status, when choosing latch, it means work load point latch with loading states. It can meet different test requirements.



Field	DUT
Automotive electronics	Radio, Car heating seats; Car doors and windows switch
	Auto-car doors and windows switch
	Car central control box
Battery	Power Battery
	Cell phone battery
	Solar battery
	Mobile power
power supply	Power supply module, power supply
	Regulated power supply, constant current source, constant voltage source
	Switching power supply
	Charger
	Power supply for medical equipment
	Power supply for military, aerospace equipment, scientific research equipment
	UPS
LED	LED drive power supply
Power electronic components	MOSFET, IGBT
	Capacitors, rectifiers
	PFC module
Fuse	Fuse

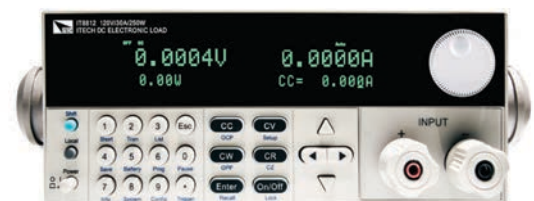
Remote sense function

In CC, CV, CR and CP mode, when load consume high current, it will cause large voltage-drop on the connection wires between tested instrument and terminals of load. Using remote sensing, you can sense the voltage at the power supply's terminals, effectively removing the effect of the voltage drop in the connection wires. In order to avoid the voltage-drop because of too long wires, remote test allows testing on the input terminals to improve the test accuracy.



OCP/OPP test

OCP / OPP are mainly used in lithium battery protection board test, power module over current and over power point test. Through the built-in OCP and OPP function, users can test by built-in OCP program start current setting , cut-off current, step current, as well as the duration of each stage current, etc. IT8800 series can automatically capture the OCP point, with the automatic fast function, users can save a lot of verification time when using for design verification and production line system.





IT8912E High Accuracy DC Electronic Load



Applications

LED test, power supply test, etc.

Feature

- Up to 20kHz CC dynamic mode
- Voltage resolution up to 10mV, current resolution up to 0.01mA (10uA)
- Voltage/current measurement speed up to 50kHz
- Various working modes CR-LED/CC/CV+CC/CR/CW etc, to protect LED driving power supply.
- Unique CR-LED mode, providing the perfect PWM-LED Driver test solution
- Easy programmable parameter setting, applicable for simulating LED lights with different characteristics
- Automatically judge whether the test results beyond the set specifications according to high / low limit specifications of the test parameters
- Adjustable frequency, duty ratio PWM dimming output port
- I-pp/I-max measurement function can test current ripple and start up surge current of LED constant flow source
- Battery test, auto test, short circuit and dynamic test function
- Built-in MsB/RS232 interface, support VISA/MsBTMC/SCPI protocol

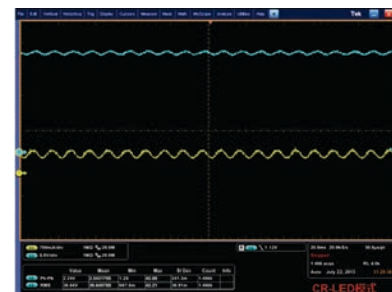
*For any GPIB interface option request, check with ITECH for availability.

Model	Voltage	Current	Power	Power
IT8912E	500V	15A	300W	1/2 2U

IT8900 series high accuracy testing electronic loads can simulate the real output of LED lights with different characteristics. Their specific circuit can realize CR-LED mode, adjustable frequency, duty ratio PWM dimming output port (frequency: 20Hz-2kHz). I-pp/I-max measurement function can test current ripple and start up surge current of LED constant flow source. Voltage and current testing speed can reach 50kHz. IT8900 series provides CR-LED / CC / CV + CC / CR / CW and other working modes, built-in MsB / RS232 communication interface. Widely used in LED driver power dimming test.

CR-LED mode

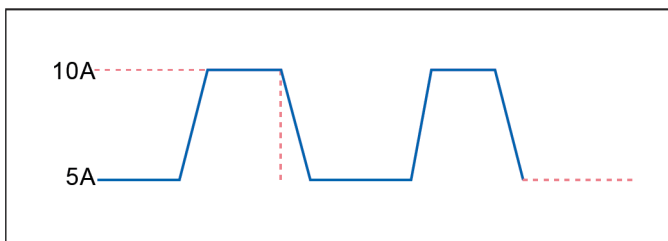
The unique CR-LED mode developed by IT8900 series is especially applicable for LED driver test. The user only needs to set the operating voltage, current and coefficient of LED driver to obtain real output parameter of LED driver. Different from universal electronic load, this adopts pure hardware circuit design without software operation by MCU module, thus increasing the speed and stability of CR mode control circuit, solving voltage and current jitter during LED driver test, increasing frequency width and realizing the load dynamic PWM dimming test.



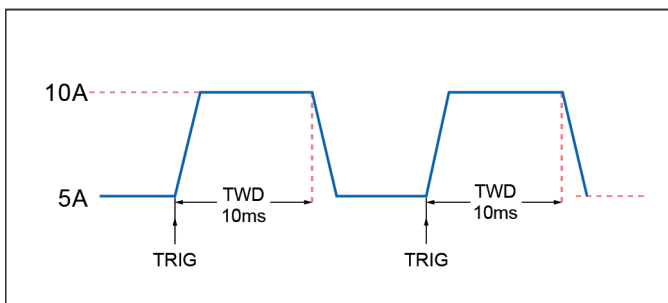
Dynamic test function (Tran)

The operation of dynamic load is periodic switch between two levels and the power supply regulation and transient response are in high and low current levels. With the change of lasting time and ascending and descending rate, the output voltage waveform can be monitored. Dynamic mode can test transient response time of power, reflecting the ability of the power for keeping itself stable during the step change of load current.

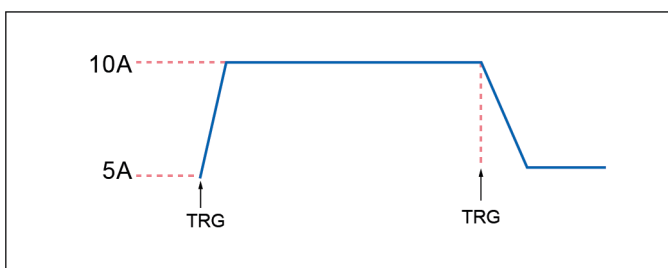
Dynamic test modes can be divided into continuous transient operation, pulsed transient operation and toggled transient operation.



Continuous Transient Operation



Pulsed Transient Operation



Toggled Transient Operation

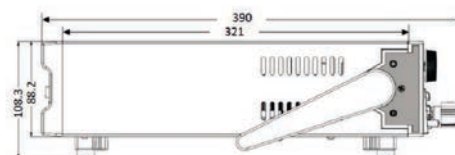
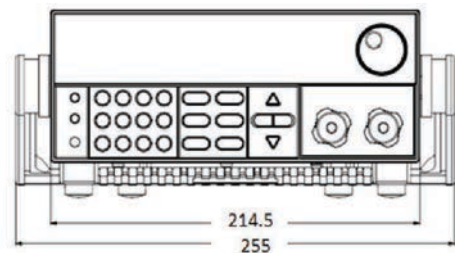
CC+CV mode

For CV + CC operation mode, it will be under CV mode when start up, LED driver IC or concatenated current-limiting resistor should be used. When the output current exceeds the rated value and reached constant current interval, CC mode will be triggered for directly driving LED. This CV+CC can be used for various LED configuration models, contributing to the flexibility of system design as well as protection for LED driver source.

PWM dimming test

For LED driver power with complex dimming technology, in addition to the conventional electrical load test, dimming test is needed. In order to realize the dimming test, it is necessary to provide the PWM pulse signal to the corresponding pin. Therefore, signal generator equipment is needed during experiment. In addition to IT8912E itself CR-LED mode, IT8912E also can output external 20Hz ~ 2kHz PWM pulse waveform for dimming features drive source testing, saving cost.

IT8912E Dimension figure





IT7900P High Performance Regenerative Grid Simulator

Applications

fuses, AC-DC power adapter testing, V2G, V2X, EVSE



Adopting advanced SiC technology, the IT7900P regenerative grid simulator can be used not only as a high power AC power supply, but also a four quadrant grid simulator. The full four-quadrant operation, regenerative ability can feedback power to the grid, meet the needs of environmental protection, but also save a lot of electricity and heat dissipation costs. Compact, modular and efficient structure design allows the IT7900P up to 15kVA in 3U single unit, and its power can be extended to 960kVA after master-slave parallel connection. Colorful touch screen with intuitive GUI allows IT7900P to directly define different waveforms. The rich operation modes can meet the test requirement of single-phase, three-phase, inverse-phase and multi-channel. It provides high exibility for testing and can be widely used in many fields such as PV, ESS and EV.

Power Supply

Applications

ESS

PCS energy storage converters, microgrids, home PV energy storage devices

PV

Photovoltaic inverters, power conditioning systems

Scientific research, universities, laboratories, certification bodies

AC-DC power adapter testing, electromagnetic compatibility testing

Power Electronics

Uninterruptible Power Supply System (UPS), AC power supply, inverter Generators, transformers, AC fans

Electronic Components

Circuit breakers, fuses, connectors

EV

V2G, V2X, EVSE, vehicle type converters, electric vehicle power supply

Model	Output Voltage Vac		Output Amps Phs		Output Power Pac	Phase	Height
	V L-N	V L-L	Arms(3Φ)	Arms(3Φ)			
IT7905P-350-30U	--	606V	30A	--	5kVA	1Φ	3U
IT7906P-350-90	350V	606V	90A	30A	6kVA	1Φ or 3Φ	3U
IT7909P-350-90	350V	606V	90A	30A	9kVA	1Φ or 3Φ	3U
IT7912P-350-90	350V	606V	90A	30A	12kVA	1Φ or 3Φ	3U
IT7915P-350-90	350V	606V	90A	30A	15kVA	1Φ or 3Φ	3U
IT7930P-350-180	350V	606V	180A	60A	30kVA	1Φ or 3Φ	6U
IT7945P-350-270	350V	606V	270A	90A	45kVA	1Φ or 3Φ	15U
IT7960P-350-360	350V	606V	360A	120A	60kVA	1Φ or 3Φ	27U
IT7975P-350-450	350V	606V	450A	150A	75kVA	1Φ or 3Φ	27U
IT7990P-350-540	350V	606V	540A	180A	90kVA	1Φ or 3Φ	27U
IT79105P-350-630	350V	606V	630A	210A	105kVA	1Φ or 3Φ	27U
IT79120P-350-720	350V	606V	720A	240A	120kVA	1Φ or 3Φ	37U
IT79135P-350-810	350V	606V	810A	270A	135kVA	1Φ or 3Φ	37U
IT79150P-350-900	350V	606V	900A	300A	150kVA	1Φ or 3Φ	37U
IT79165P-350-990	350V	606V	990A	430A	165kVA	1Φ or 3Φ	37U

*The above specifications are subject to update without notice.

Parameter Features

- Adopt advanced SiC technology
- High power density, up to 15 kVA for 3U
- Voltage can reach 350V L-N
- Master and slave equal flow, parallel machines up to 960kVA *1
- Highly efficient power regeneration
- Comprehensive working modes selectable: single-phase, three-phase, reversed phase(split phase) and multi-channel, Voltage extension to 200% of rated voltage in inverted mode
- Support LIST/SWEEP/Surge&Sag three waveform modes
- Built-in rich waveform database

Source Features

- Regenerative grid simulator & full 4-Quadrant AC&DC power sources
- Frequency: 16-2400Hz *4
- Professional islanding test mode, support R, L, C and active, reactive power settings *7
- Four output modes of AC/DC/AC+DC/DC+AC can be realized
- Multi-channel function, single unit can test 1-3 DUTs at the same time *5
- Programmable output impedance, simulation of real-world impedance
- Harmonic/inter harmonic synthesis
- Frequency lock and phase lock function to achieve 6 phase& 12 phase power output

Load Features

- Regenerative full 4-Quadrant AC&DC load
- Frequency: 16-500Hz
- AC mode supports CC/CP/CR/CS/CC+CR/CE multiple operating modes, and CE mode can simulate a variety of circuit topologies such as single-phase rectifier RLC and shunt RLC.
- DC mode supports 9 working modes such as CC/CR/CP/CV
- AC mode supports both rectified and non-rectified modes

- Harmonic simulation and analysis function up to 50 times, built-in IEC61000-3-2/3-12 *2
- Can simulate arbitrary waveform output, support CSV file import waveform
- Phase angle 0-360° settable
- Touch screen design, simple UI interface
- Built-in MsB/CAN/LAN /Digital IO interface, optional GPIB/analog & RS232 interface
- Full protection functions including automatic clearing, POVP, watchdog, etc.
- Current source mode
- Support CANopen*3, Modbus, LXI, SCPI communication

- Power Amplifier function for PHIL applications
- Compliance tests incl. LVRT /Phase Jump/Frequency variation/harmonic injection
- Supported regulatory testing include IEC61000-4-11/4-13/4-14/4-17/4-28/4-29
- Provide rich trigger configuration, synchronous capture of the voltage waveform of the object to be measured, to achieve data acquisition and simulation functions
- Optional software can help complete the pre-compliance standards test of civil avionics/electrical ships in terms of the multi-national safety regulations.*3

- Adjustable crest factor: 1.414 ~ 5.0
- Support phase shift function in the range of -180°~180° *6
- The unit power factor1 function allows the current waveform to vary with the voltage waveform and the power factor is as close to 1 as possible
- Supporting unloading angle control, 0-359° adjustable

*1 For 1U/2U models, max.16 units can be parallel connected, for 3U models max. 64 units can be parallel connected.

*2 Voltage/current harmonic analysis, voltage harmonic simulation in source mode, current harmonic simulation in load mode, fundamental waves 60Hz

*3 Stay tuned

*4 In grid simulator and island simulation mode, 16~150Hz

*5 Not available for single-phase models

*6 After the rectification function is turned on, the setting range of the phase shift is restricted by the crest factor

*7 Not available for multi-channel mode



All in one unit

IT7900P series integrates 3 products, a grid simulator(IT7900), an AC/DC power supply (IT7800) and a regenerative AC/DC load (IT8200).

High power regeneration efficiency

Whether it is used as a grid simulator or a load, in AC or DC mode, the IT7900P is high efficiently power regenerative. The energy generated by the DUT can be fed back to the local grid instead of dissipating in the form of heat, which is good for energy-saving and environment protection.

High power density

The IT7900P series can be both 1U/2U/3U stand-alone unit and 15U/27U/37U cabinets. It can meet the test requirements of 2k~165kVA. Among them, the size of the 3U/15kVA model is only 1/12 of the ordinary AC power supply on the market, which can be placed on your test bench, largely saves your room.

Various test items

Sliding the touch screen of the IT7900P series is as simple as operating a mobile phone. The intuitive GUI not only allows multiple parameters displayed at the same time, but also multiple display ways are selectable, such as waveform graph, histogram, vector diagram and list.

Multiple protection and communication interfaces

IT7900P series has a variety of protection functions to ensure the safety of the test,including: over-current Rms protection, over current peak protection, over temperature protection, automatic clear protection, software watchdog and so on. IT7900P not only has built-in USB/CAN/LAN/digital IO interfaces, but also provides optional GPIB/analog & RS232.

Power extension by master-slave parallel connection

Through the master-slave parallel connection, the power of IT7900P can be extended up to 960kVA. It can be easily paralleled without disassembling and assembling the cabinet, and the multi-modules can synchronously share the current output. Not only will it retain all functions after paralleling, but there will be no precision sacrifice.



IT7900EP High Performance Regenerative Grid Simulator



Adopting advanced SiC technology, the IT7900EP series high-performance Regenerative grid simulator provides an all-in-one test solution that can be used not only as a grid simulator and four-quadrant power amplifier, but also as a four-quadrant regenerative AC/DC electronic load. The full four-quadrant operation, regenerative ability can feedback power to the grid, meet the needs of environmental protection, but also save a lot of electricity and heat dissipation costs. Compact, modular and efficient structure design allows the IT7900EP up to 21kVA in 3U single unit, and its power can be extended to 1MVA after master-slave parallel connection. Colorful touch screen with intuitive GUI allows IT7900EP to directly define different waveforms. The rich operation modes can meet the test requirement of single-phase, three-phase, reverse-phase. It provides high flexibility for testing and can be widely used in many fields such as PV, ESS and EV.

Applications

ESS, Power Electronics, PV, Electronic Components, EV, Scientific research, universities, laboratories, certification bodies

Model	Output voltage Vac		Output current Aac		Output power Pac	Phase	Height
	V L-N	V L-L	Arms(1Φ)	Arms(3Φ)			
IT7921EP-350-105	350V	606V	105A	35A	21kVA	1Φ or 3Φ	3U
IT7942EP-350-210	350V	606V	210A	70A	42kVA	1Φ or 3Φ	6U
IT7963EP-350-315	350V	606V	315A	105A	63kVA	1Φ or 3Φ	15U
IT7984EP-350-420	350V	606V	420A	140A	84kVA	1Φ or 3Φ	27U
IT79105EP-350-525	350V	606V	525A	175A	105kVA	1Φ or 3Φ	27U
IT79126EP-350-630	350V	606V	630A	210A	126kVA	1Φ or 3Φ	27U

*Please contact ITECH for higher power needs.

*The above specifications are subject to update without notice.



ESS

PCS energy storage converters, microgrids, home PV energy storage devices



PV

PV inverter, grid power system



EV

V2G, V2X, EVSE, vehicle type converters, electric vehicle power supply



Power Electronics

Uninterruptible Power Supply System (UPS), AC power supply, inverter Generators, transformers, AC fans



Electronic Components

Circuit breakers, fuses, connectors



Scientific research, universities, laboratories, certification bodies

AC-DC power adapter testing, electromagnetic compatibility testing

Source Features

- Regenerative grid simulator & full 4-Quadrant AC&DC power sources
- Frequency: 16~2400 Hz *3
- Power Amplifier function for PHIL applications
- Four output modes of AC/DC/AC+DC/DC+AC can be realized
- Programmable output impedance, simulation of real-world impedance
- Harmonic/inter harmonic synthesis
- Compliance tests incl. LVRT /Phase Jump/Frequency variation/harmonic injection
- Supported regulatory testing include IEC61000-4-11/4-13/4-14/4-17/4-28/4-29
- Optional software can help complete the pre-compliance standards test of civil avionics/electrical ships interms of the multi-national safety regulations.

*3 16~150 Hz under grid simulator and island simulation mode

Load Features

- Regenerative full 4-Quadrant AC&DC load
- Frequency: 16-500 Hz
- AC mode supports CC/CP/CR/CS/CC+CR/CE multiple operating modes, and CE mode can simulate a variety of circuit topologies such as single-phase rectifier RLC and shunt RLC.
- DC mode supports 9 working modes such as CC/CR/CP/CV
- AC mode supports both rectified and non-rectified modes
- Adjustable crest factor: 1.414 ~ 5.0
- Support phase shift function in the range of -180°~180° *4
- The unit power factor1 function allows the current waveform to vary with the voltage waveform and the power factor is as close to 1 as possible
- Supporting unloading angle control, 0-359° adjustable

*4 After turning on the rectification function, the setting range of the phase shift is restricted by the crest factor.

Parameter Features

- Adopt advanced SiC technology
- High power density, up to 21 kVA for 3U
- Voltage can reach 350V L-N
- Highly efficient power regeneration
- Master and slave equal flow, parallel machines up to 1MVA
- Comprehensive working modes selectable: single-phase, three-phase, reversed phase(split phase), Voltage extension to 200% of rated voltage in reversed mode
- Support LIST/SWEEP/Surge&Sag three waveform modes
- Built-in rich waveform database
- Harmonic simulation and analysis function up to 50 times, built-in IEC61000-3-2/3-12*1
- Can simulate arbitrary waveform output, support
- CSV file import waveform
- Phase angle 0-360° settable
- Touch screen design, simple UI interface
- Built-in MsB/CAN/LAN /Digital IO interface, optional GPIB/analog & RS232 interface
- Full protection functions including automatic clearing, POVP, watchdog, etc.
- Support CANopen*2, Modbus, LXI, SCPI communication

*1. Voltage/current harmonic analysis, voltage harmonic simulation in source mode, current harmonic simulation in load mode, fundamental waves 60Hz

*2. Stay tuned

IT7900 Regenerative Grid Simulator



Applications

Electric transportation, New Energy Vehicles, Energy Storage, Research Institute, Power Electronics

Feature

- Adopt advanced SiC technology
- High power density/minimum rack space, 3U up to 15kVA, 16Hz~150Hz
- Regenerative grid simulator & full 4-Quadrant AC&DC power sources
- Power Amplifier function for PHIL applications
- Professional anti-islanding test mode, can set and simulate the RLC (resistive-inductive-capacitive), active and reactive power circuit for anti-islanding detection *3
- Three working modes: CV/Current Limit/Power Limit AC, DC, AC+DC or DC+AC output capability
- Comprehensive working modes selectable: single-phase, three-phase, reversed phase (split phase) and multi-channel *1
- Programmable Output Impedance, allows simulation of Real-World Utility Grid Impedance
- Compliance tests incl LVRT /Phase Jump/Frequency variation /Harmonic Injection
- Supported regulatory testing include IEC61000-4-11/4-13/4-14/4-17/4-28/4-29
- Current source mode
- Wide voltage ranges: 350V L-N
- Master-slave parallel with current sharing technology, up to 960kVA
- Intuitive touch screen; Built-in single/3-phase AC power meter; Scope function
- Fast response time and high accuracy 0.1%+0.2%FS
- Waveforms Library : Sine wave, Square wave, Triangle wave, Clipped sine waves, trapezoidal wave, self-defined waves
- Harmonics and Interharmonics waveform synthesizer
- Power line disturbance simulation testing by LIST programming/SWEEP/ Surge&Sag functions
- The harmonic measurement function can measure 50th order harmonics of voltage and current *2

The IT7900 series is a programmable, four-quadrant grid simulator. It is also a four-quadrant power amplifier, which can be used to test various grid-connected equipment. For example, PCS, energy storage system, microgrid, BOBC (V2X), PHIL, etc. With advanced SiC technology, a single unit of IT7900 can realize the anti-islanding protection test through islanding mode (RLC settable). Besides, the power density of IT7900 series is very high, 6kVA in 1U, 15kVA in 3U. After parallel connection, the power can be extended to 960kVA at most. Rich operating modes meet various test requirements of single-phase, three-phase, reverse-phase and multi-channel. In reverse mode, the voltage can be extended to 200% of the rated voltage. The strong arbitrary waveform editing function can simulate various power grid disturbance waveforms, making it an ideal choice for testing and R&D laboratories.

- Output 0-360° start/stop phase angle can be set
- Front panel MsB port for data and waveform import and export
- Provide rich trigger configuration, synchronously capture the voltage waveform of DUT, collect and simulate data
- Relay CTRL function, to cut off the connection between instrument and DUT
- 6-phase, 12-phase power output
- Built-in MsB/CAN/LAN/Digital IO interface, optional GPIB /Analog&RS232
- Support CANopen*4, Modbus, LXI, SCPI communication

*1 <6kVA models only support single-phase function

*2 Voltage and current harmonic analysis, Voltage harmonic simulation

*3 Not available for multi-channel mode *4 coming soon



Applications

Solar and Energy Storage

Grid-connected inverter, electronic power regulating system, PCS, home energy storage devices

Electric Vehicles

OBC, AC charging pile, EV power supply equipment, BOBC(V2X)

Research Institute and Universities

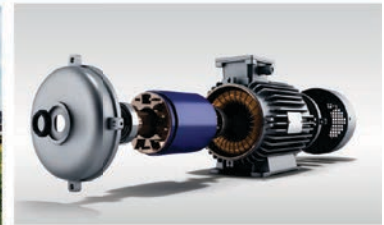
AC-DC power adapter, EMC test

Power Electronics

Transformer, AC fan, UPS, AC motor



Electric Transportation



Power Supply

Model	Voltage range		Current range		Power	Phase	Height	Front panel
	V L-N	V L-L	Arms(1Φ)	Arms(3Φ)				
IT7902-350-10U-ATE New!	350V	—	10A	—	2kVA	—	1U	—
IT7902-350-10U New!	350V	—	10A	—	2kVA	—	2U	Touch screen
IT7904-350-20U-ATE New!	350V	—	20A	—	4kVA	—	1U	—
IT7904-350-20U New!	350V	—	20A	—	4kVA	—	2U	Touch screen
IT7905-350-30U	350V	—	30A	—	5kVA	—	3U	Touch screen
IT7906-350-30-ATE New!	350V	606V	30A	10A	6kVA	1Φ or 3Φ	1U	—
IT7906-350-30 New!	350V	606V	30A	10A	6kVA	1Φ or 3Φ	2U	Touch screen
IT7906-350-90	350V	606V	90A	30A	6kVA	1Φ or 3Φ	3U	Touch screen
IT7909-350-90	350V	606V	90A	30A	9kVA	1Φ or 3Φ	3U	Touch screen
IT7912-350-90	350V	606V	90A	30A	12kVA	1Φ or 3Φ	3U	Touch screen
IT7915-350-90	350V	606V	90A	30A	15kVA	1Φ or 3Φ	3U	Touch screen
IT7930-350-180	350V	606V	180A	60A	30kVA	1Φ or 3Φ	6U	Touch screen
IT7945-350-270	350V	606V	270A	90A	45kVA	1Φ or 3Φ	15U	Touch screen
IT7960-350-360	350V	606V	360A	120A	60kVA	1Φ or 3Φ	27U	Touch screen
IT7975-350-450	350V	606V	450A	150A	75kVA	1Φ or 3Φ	27U	Touch screen
IT7990-350-540	350V	606V	540A	180A	90kVA	1Φ or 3Φ	27U	Touch screen
IT79105-350-630	350V	606V	630A	210A	105kVA	1Φ or 3Φ	27U	Touch screen
IT79120-350-720	350V	606V	720A	240A	120kVA	1Φ or 3Φ	37U	Touch screen
IT79135-350-810	350V	606V	810A	270A	135kVA	1Φ or 3Φ	37U	Touch screen
IT79150-350-900	350V	606V	900A	300A	150kVA	1Φ or 3Φ	37U	Touch screen
IT79165-350-990	350V	606V	990A	330A	165kVA	1Φ or 3Φ	37U	Touch screen

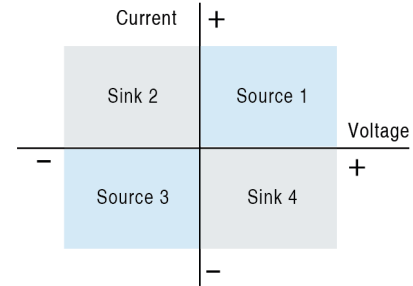
* Reverse phase and phase-locking functions help to meet higher voltage testing requirements

* For higher power, please call for availability

Outstanding Features

Regenerative 4-Quadrant AC Grid Simulator

The IT7900 series are four-quadrant grid simulators with 100% of power sinking and 88% energy recovery capability. The power generated by the DUT can be fed back to the grid, rather than being dissipated as heat, which protects the environment and save the cost of electricity, HVAC and cooling infrastructure.



Production: 24Hr/day x 365 day

R&D: 8Hr/day x 5 workday x 52 weeks

Power (kW)	Electricity saved (kWH)	Cost Saved*1*2 (MsD)
15	115,632	115,632
90	693,792	693,792
165	1,271,952	1,271,952
960	7,400,448	7,400,448

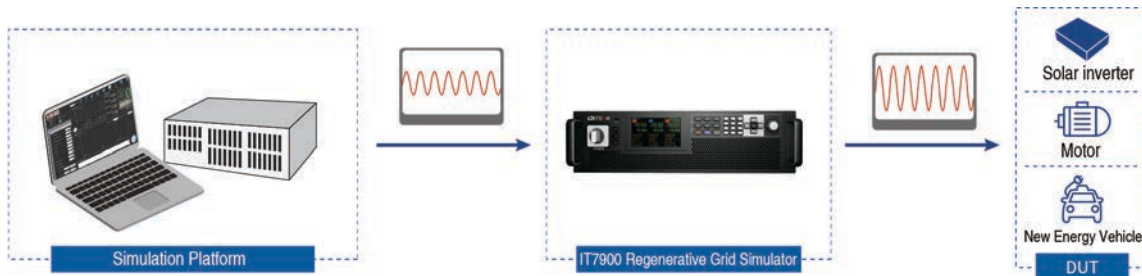
Power (kW)	Electricity saved (kWH)	Cost Saved*1*2 (MsD)
15	27,456	3,844
90	164,736	23,063
165	302,016	42,282
960	1,757,184	246,006

*1 Note: approximate electricity price 0.14MsD/ kWh for industry facility in California

*2 The extra cost of air conditioning is not included.

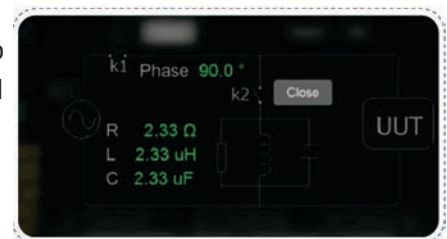
Full 4-Quadrant Power Amplifier

The IT7900 series regenerative grid simulator can be used as a power amplifier to complete power hardware in the loop (PHIL) applications for microgrids, energy storage and new energy vehicles. The digital I/O or a standard suite of analog signal can be input via an external analog interface (optional) and then amplified without distortion to a real power waveshape with an external analog response time of less than 200µs.



Professional Anti-islanding Test Mode

Anti-islanding protection is one of the must-test items for grid-connected inverters. IT7900 series has built-in anti-islanding protection test function, which allows testers to set the active power of resistor R, the reactive power of inductor Q and capacitor C, and also set resistor R, inductor Q, and capacitor C to simulate the inter-network resonance and test the anti-island protection function of grid-connected inverter. IT7900 island test mode can simplify the test process, improve test efficiency, and complete the test of the anti-islanding protection function in the process of grid-connected inverter research and development test, factory inspection, etc.



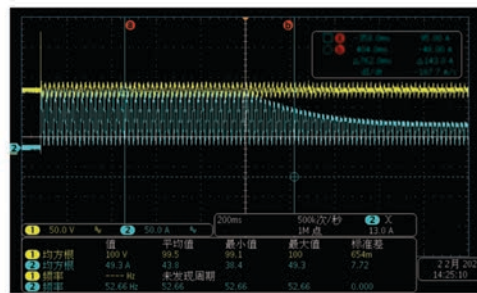


Outstanding Features

Current source mode

The IT7900P series has a current source mode. It can operate in various modes such as single-phase, reverse phase(split phase), AC and AC+DC. Its maximum voltage can reach 700V, which can meet various high voltage and high current applications. Meanwhile, the Normal and LIST functions can cope with various types of conventional and dynamic testing requirements. The rich waveform editing and customization functions can also help you simulate complex current waveforms.

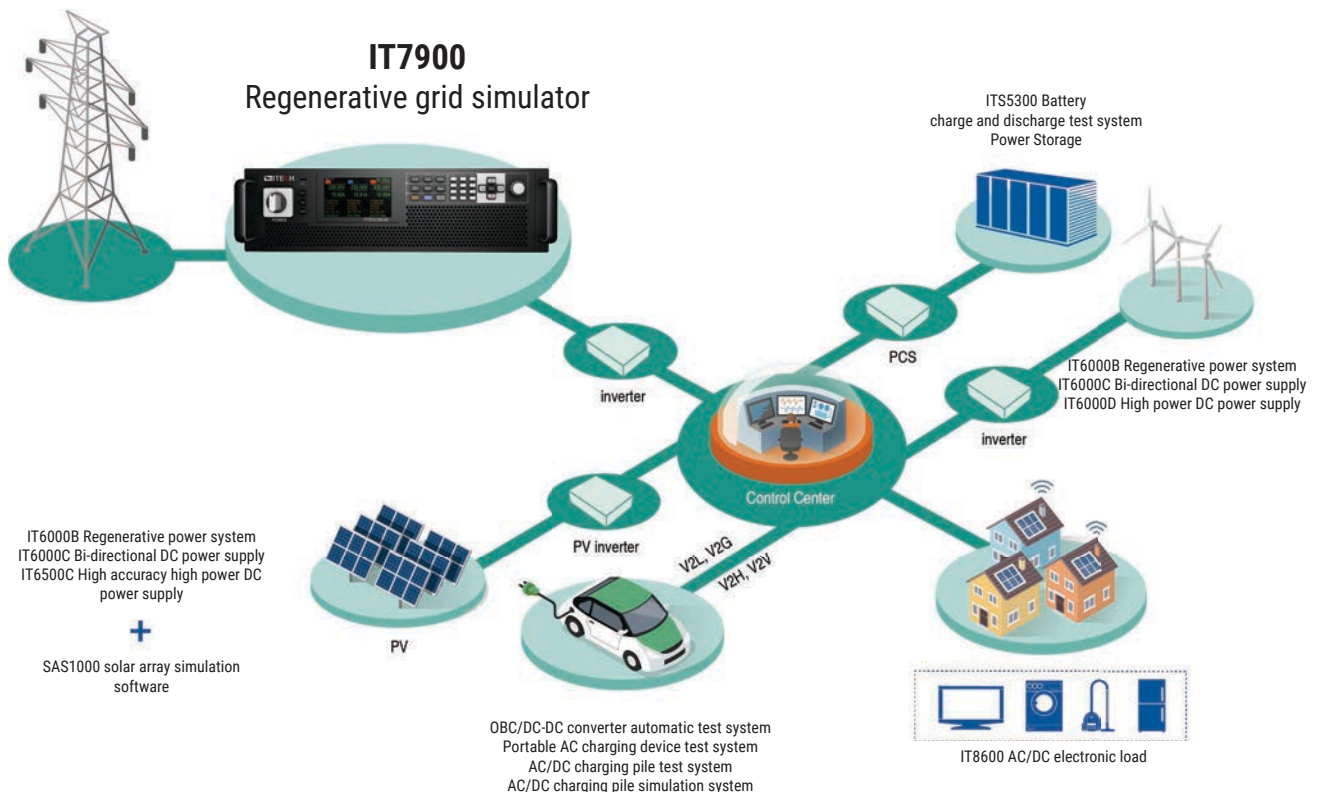
Current source mode can provide stable current output so that you can simulate various loads, such as laser drivers, LEDs, motors, etc. It can quickly do frequency sweep, charge/discharge, AC impedance and other related tests on various types of batteries. While improving test efficiency and accuracy, the IT7900P also optimizes the system design while ensuring safety.



AC+DC,AC20A+ DC30A,50Hz;limit current 10A,enter current loop

Application: Microgrid Testing

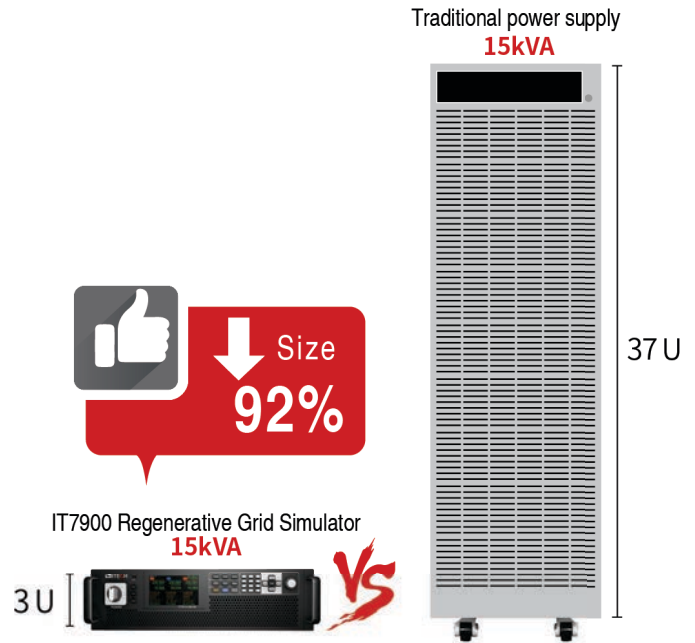
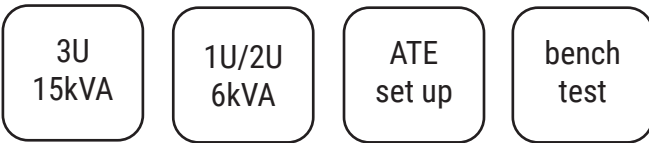
Microgrids can be seen as small power systems, but they are also a typical distributed generation system, so both equipment manufacturers and professional grid research laboratories need to establish simulation testing requirements. The IT7900 series not only meets the testing requirements of phase angle jump, low voltage ride-through, frequency variation and harmonic injection, but also feeds power back to the AC grid, meeting the microgrid testing requirements.



High-power Density, Modular Design

15kVA/3U High-power Density

The IT7900 series provides different compact structures from 1U/2U/3U stand-alone to 15U/27U/37U cabinets, which can meet testing needs from 2k to 165kVA. The 3U/15kVA model is only 1/12 the size of ordinary AC power supplies on the market, which greatly saves testing space. There is no need to deploy more cabinets or expand the laboratory, saving testing costs for you.



Master/Slave parallel, power up to 960kVA

IT7900 series can be master-slave paralleled to get higher current and power. Maximum 64 sets can be paralleled to reach 960kVA, the parallel is flexible and convenient.

IT7900 comes with synchronous On/Off input and output signals, which ensure the synchronization of paralleling and ensures synchronous current sharing of multiple modules. After paralleling, all functions are retained and there's no loss of accuracy, making the construction of the power system faster, more flexible, and more economical, either it is a stand-alone test or ATE system.



Application: UPS testing

- Testing purpose: the input and output testing of UPS, the AC input disturbance testing of UPS and etc.
- Application advantage: UPS modules are normally 10kVA~50kVA, by cascade connection, the UPS system can be MW, and they are used in power system, data center and etc. IT7900 series are very suitable for testing the DUT whose power will be expanded at any time without adding additional testing cost. IT7900 single module unit can test UPS module, when UPS capacity gets higher, IT7900 can still test it after paralleling.



Easy-to-operate interface, abundant operation modes

Easy-to-operate interface, abundant operation modes

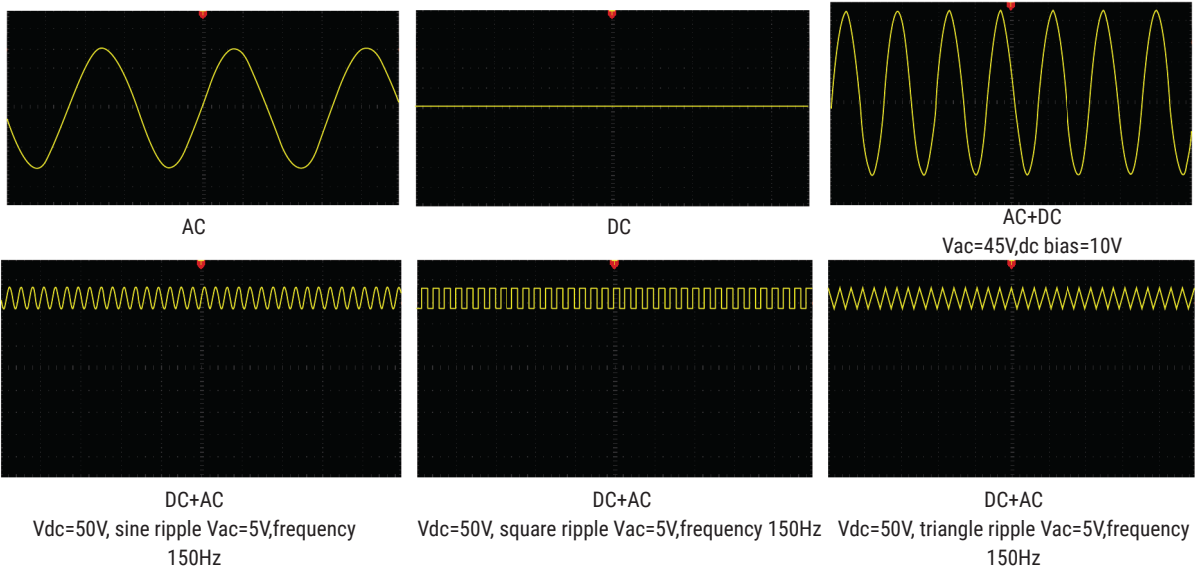
IT7900 series is equipped with innovative touch screen, simple and intuitive UI interface, and the keyboard knob design allows users to directly and quickly perform operations such as mode setting and waveform editing. The built-in digital oscilloscope function collects time-domain signals of voltage and current, phase relationship and performs waveform trigger functions. The oscilloscope sampling rate is up to 10μs, and up to 6 oscilloscope curves can be displayed at the same time. Users can perform instantaneous analysis without an oscilloscope and save them in time.



* Stay tuned!

AC,DC,AC+DC,DC+AC working mode

IT7900 series can be used as a "full four-quadrant AC/DC power supply" and provides four output modes: AC, DC, AC+DC, and DC+AC. Not only provide pure AC/DC output, use AC+DC and DC+AC output modes to realize "AC output superimposed DC bias" and simulate "DC output waveform with ripple" to meet the complex application requirements of engineers. In DC mode, the rated power in 100% AC mode can be achieved.



Single-phase, three-phase, reverse phase(split phase), multi-channel operation modes

IT7900 series has very flexible operation mode that single-phase, three-phase/ reverse phase(split phase) /multi-channel output mode can be selected. Combined with the powerful programming function, it can simulate three-phase unbalance , phase loss and phase sequence reverse connection and so on. In the reverse phase(split phase) mode, users can obtain a single-phase output voltage of up to 700V, and the power remains at 2/3 of the original. Multi-channel mode allows users to test 1-3 independent DUT at the same time. One device for multiple purposes, better equipment utilization, and reduces test costs for enterprises.

IT7900 Operation Mode		
CH1 (1-Phase)	CH2 (1-Phase)	CH3 (1-Phase)
1-Phase		
Reverse phase(split phase)		
3-Phase		

IT7900E Regenerative Grid Simulator



Applications

Solar and Energy Storage, Electric Vehicles, Energy Storage, Research Institute and Universities, Power Electronics

FEATURE

- Wide voltage ranges: 350/700/1050 VL-N*2
- Master-slave parallel with current sharing technology, up to 1MVA+
- Intuitive touch screen, Built-in single/3-phase AC power meter, Scope function
- Fast response time and high accuracy 0.1%+0.2%FS
- Waveforms Library : Sine wave, Square wave, Triangle wave, Clipped sine waves, trapezoidal wave, self-defined waves
- Harmonics and Interharmonics waveform synthesizer
- Power line disturbance simulation testing by LIST programming/SWEEP/ Surge&Sag functions
- Up to 50th harmonic simulation and analysis function is included, along with built-in IEC61000-3-2/3-12 and other test regulations*1
- Harmonic simulation and analysis function can measure 50th order, built-in IEC61000-3-2/3-12 and other test regulations
- Output 0-360 ° start/stop phase angle can be set
- Front panel MsB port for data and waveform import and export
- Relay CTRL function, to cut off the connection between instrument and DUT
- Built-in MsB/CAN/LXI compliant LAN interface/Digital IO interface, optional GPIB /Analog&RS232
- Support CANopen, Modbus, LXI, SCPI communication

*1. Voltage/current harmonic analysis

*2. Pls. refer to IT7900E high voltage version

The IT7900E series is a programmable, four-quadrant grid simulator. It is also a four-quadrant power amplifier, which can be used to test various grid-connected equipment. For example, PCS, energy storage system, micro-grid, BOBC (V2X), PHI, etc. Adopting SiC technology, the IT7900E series has power regeneration function, which can absorb 100% current and feed it back to the grid, saving electricity and heat cost for you.

IT7900E series adopts high power density design, with up to 21kVA and 350VL-N in a 3U height unit. Through master-slave paralleling, the power can be easily expanded to 1MVA+. It has rich operating modes including single-phase, three-phase and reverse-phase. In reverse-phase mode, the voltage can be expanded to 200% of the rated voltage. The powerful arbitrary waveform editing function can simulate various power grid disturbance waveforms, making it an ideal choice for testing and R&D laboratories.

Highlighted Features

- Adopt advanced SiC technology
- High power density/minimum rack space, 3U up to 21kVA
- 16Hz~150Hz
- Regenerative grid simulator & full 4-Quadrant AC&DC power sources
- Power Amplifier function for PHI applications
- Three working modes: CV/Current Limit/Power Limit AC, DC, AC+DC or DC+AC output capability
- Comprehensive working modes selectable: single-phase, three-phase, reversed phase(split phase)
- Programmable Output Impedance, allows simulation of real-World Utility Grid Impedance
- Compliance tests incl LVRT /Phase Jump/ Frequency variation/Harmonic Injection
- Supported regulatory testing include IEC61000-4-11/4-13/4-14/4-17/4-28/4-29



Applications

Solar and Energy Storage

Grid-connected inverter, electronic power regulating system, PCS, home energy storage device

Electric Vehicles

OBC, AC charging pile, EV power supply equipment, BOBC(V2X)

Energy Storage

PCS energy storage converter, home PV energy storage device

Research Institute and Universities

AC-DC power adapter, EMC test

Power Electronics

Transformer, AC fan, UPS, AC motor



Power Supply

Model	Input Vac		Input Amps/Phs		Input Pac	Phase	Height
	V L-N	V L-L	Arms(1Φ)	Arms(3Φ)			
IT7921E-350-90	350V	606V	90A	30A	21kVA	1Φ or 3Φ	3U
IT7942E-350-180	350V	606V	180A	60A	42kVA	1Φ or 3Φ	6U
IT7963E-350-270	350V	606V	270A	90A	63kVA	1Φ or 3Φ	15U
IT7984E-350-360	350V	606V	360A	120A	84kVA	1Φ or 3Φ	27U
IT79105E-350-450	350V	606V	450A	150A	105kVA	1Φ or 3Φ	27U
IT79126E-350-540	350V	606V	540A	180A	126kVA	1Φ or 3Φ	27U

* Reverse phase(split phase) and phase-locking functions help to meet higher voltage testing requirements

* For higher power, please call for availability

IT7900 Regenerative Grid Simulator (HV)



Power Supply

IT7900 series represents a new generation of programmable, full four-quadrant grid simulators that can also be used as four-quadrant power amplifiers for testing all kinds of grid-connected products. Examples include PCS, energy storage systems, micro-grids, BOBC (V2X) and power related hardware loop simulation (PHiL). With the energy regenerative function, it provides 100% current absorption and feeds back to the grid through the device, saving power and cooling costs.

IT7900 series is a high-voltage series with voltage up to 700 VL-N, even up to 1050 VL-N. The power can be easily extended to 900 kVA by parallel operation. Also, it has touch-screen, concise UI interface, and powerful arbitrary waveform editing function that can simulate a variety of grid disturbance waveforms. It is a good choice for test and R&D labs.

Applications

Photovoltaic, Electric Vehicle, Energy Storage, Research Institute, Power Electronics

FEATURE

- Voltage up to 700 VL-N, 1050 VL-N
- 16Hz~100Hz
- Used as regenerative grid simulator, four-quadrant source
- CV/Current Limit/Power Limit
- AC, AC+DC output capability
- Three-phase output capability
- Programmable Output Impedance, power impedance simulation
- LVRT /Phase Jump/Frequency variation /Harmonic Injection
- Touch screen; AC power meter and digital oscilloscope
- Harmonic and interharmonic waveform synthesis*2
- LIST/SWEEP simulate grid disturbances
- Voltage and current harmonics measurement, up to 50 times.*1
- Front MsB interface, support data and waveform import and export
- Relay Ctrl output for electrical isolation between DUT and grid simulator.
- Built-in MsB/CAN/LAN/LXI compliant LAN interface/Digital I/O, optional GPIB /RS232

*1 Voltage and current harmonic analysis, Voltage harmonic simulation

*2 Coming soon



Applications

Photovoltaic

Grid-connected inverters,
power conditioning systems

Electric Vehicle

Vehicle chargers, AC charging piles, EV
power supply, bidirectional vehicle chargers
(V2X)

Energy Storage

PCS energy storage converter,
home PV energy storage device

Research Institute

AC-DC Power Adapter, EMC Test

Power Electronics

Transformer, AC fan, UPS, AC motor



Electric
Transportation

PV Energy
Storage

Power Supply

Model	Output Voltage Vac		Output Amps Phs Arms(3Φ)	Output Power Pac	Phase	Height
	V L-N	V L-L				
IT7990-700-90	700V	1200V	90A	90kVA	3Φ	27U
IT79180-700-180	700V	1200V	180A	180kVA	3Φ	27U*2
IT79270-700-270	700V	1200V	270A	270kVA	3Φ	27U*3
IT79360-700-360	700V	1200V	360A	360kVA	3Φ	27U*4
IT79450-700-450	700V	1200V	450A	450kVA	3Φ	27U*5
IT79540-700-540	700V	1200V	540A	540kVA	3Φ	27U*6
IT79630-700-630	700V	1200V	630A	630kVA	3Φ	27U*7
IT79720-700-720	700V	1200V	720A	720kVA	3Φ	27U*8
IT79810-700-810	700V	1200V	810A	810kVA	3Φ	27U*9
IT79900-700-900	700V	1200V	900A	900kVA	3Φ	27U*10
IT79135-1050-90	1050V	1818V	90A	135kVA	3Φ	37U
IT79270-1050-180	1050V	1818V	180A	270kVA	3Φ	37U*2
IT79405-1050-270	1050V	1818V	270A	405kVA	3Φ	37U*3
IT79540-1050-360	1050V	1818V	360A	540kVA	3Φ	37U*4
IT79675-1050-450	1050V	1818V	450A	675kVA	3Φ	37U*5
IT79810-1050-540	1050V	1818V	540A	810kVA	3Φ	37U*6

*For higher power, please call for availability

*Above specifications are subject to change without prior notice

IT7800 High Power AC/DC power supply



Applications

Appliance, Civil aviation, New Energy, Power electronics, Research institute, lab, testing organizations, Medical equipments

Feature

- Adopt advanced SiC technology
- High power density, 3U up to 15kVA, 1U/2U up to 6KVA
- Master-slave parallel with current sharing technology, up to 960kVA, multiple units in parallel work as one
- Voltage specification: 350/700/1050 VL-N *6
- Comprehensive harmonics measurement and analysis, up to 50th. Built-in IEC61000-3-2/3-12 and other test regulations *4
- Multi-channel function, single unit can connect/test up to 3 DUTs *2
- Output frequency: 16-2400Hz, programmable slew rate setting for changing voltage and frequency
- Built-in single/3-phase AC power meter
- 4 output modes: AC/DC/AC+DC/DC+AC
- Choose single phase, three-phase, reversed phase (split phase) output mode, to simulate 3-phase imbalance, 3-phase harmonics imbalance,
- 3-phase split phase test, reverse phase (split phase) sequence tests for 3-phase models and etc*3
- Harmonics, inter-harmonics waveform synthesizer
- Programmable output impedance
- Intuitive touch screen interface
- Simulate arbitrary waveform output, support csv. file import
- High current crest factor, suitable for inrush current testing *5
- Built-in various waveforms
- List mode simulates the power supply reproduction function to realize the simulation function of instantaneous power interruption
- Provide rich trigger configuration, synchronously capture the voltage waveform of DUT, collect and simulate data
- Current source mode
- Output 0-360 ° start/stop phase angle can be set
- Surge/Sag function
- Relay CTRL function, to cut off the connection between instrument and DUT
- 6-phase, 12-phase power output
- Built-in waveforms compliance with the IEC61000-4-11/4-13/4-14/4-17 /4-28/4-29
- Built-in USB/CAN/LAN/Digital IO interface, optional GPIB/Analog&RS232
- Optional software can help complete the precompliance standards test of civil avionics/ electrical ships interms of the multi-national safety regulations
- Support CANopen *1, Modbus, LXI, SCPI communication

*1 Call for availability

*2 Not available for 3k/5kVA model

*3 3k/5kVA model only support single phase

*4 Voltage and current harmonic analysis and voltage harmonic simulation

*5 maximum CF is up to 6 within peak current range

*6 Pls. refer to IT7800 HV series



Applications

New Energy

OBC, AC/DC charging pile

Power electronics

frequency converter, UPS, AC motor

Appliance

air conditioner, microwave oven,
refrigerator, washing machine

Civil aviation

airborne equipment, airport ground
facilities

Research institute, lab, testing organizations

AC-DC power adapter, EMC test

Medical equipments

CT, MRI, life detector etc



Model	Output voltage Vac		Output Amps/Phs		Output power Pac	Phase	Height	Front panel
	V L-N	V L-L	Arms(1Φ)	Arms(3Φ)				
IT7802-350-10U-ATE New!	350V	—	10A	—	2kVA	—	1U	—
IT7802-350-10U New!	350V	—	10A	—	2kVA	—	2U	touch screen
IT7803-350-30U	350V	—	30A	—	3kVA	—	3U	touch screen
IT7803J-350-30U*1	350V	—	30A	—	3kVA	—	3U	touch screen
IT7804-350-20U-ATE New!	350V	—	20A	—	4kVA	—	1U	—
IT7804-350-20U	350V	—	20A	—	4kVA	—	2U	touch screen
IT7805-350-30U New!	350V	—	30A	—	5kVA	—	3U	touch screen
IT7806-350-30-ATE New!	350V	606V	30A	10A	6kVA	1Φ or 3Φ	1U	—
IT7806-350-30	350V	606V	30A	10A	6kVA	1Φ or 3Φ	2U	touch screen
IT7806-350-90	350V	606V	90A	30A	6kVA	1Φ or 3Φ	3U	touch screen
IT7809-350-90	350V	606V	90A	30A	9kVA	1Φ or 3Φ	3U	touch screen
IT7812-350-90	350V	606V	90A	30A	12kVA	1Φ or 3Φ	3U	touch screen
IT7815-350-90	350V	606V	90A	30A	15kVA	1Φ or 3Φ	3U	touch screen
IT7830-350-180	350V	606V	180A	60A	30kVA	1Φ or 3Φ	6U	touch screen
IT7845-350-270	350V	606V	270A	90A	45kVA	1Φ or 3Φ	15U	touch screen
IT7860-350-360	350V	606V	360A	120A	60kVA	1Φ or 3Φ	27U	touch screen
IT7875-350-450	350V	606V	450A	150A	75kVA	1Φ or 3Φ	27U	touch screen
IT7890-350-540	350V	606V	540A	180A	90kVA	1Φ or 3Φ	27U	touch screen
IT78105-350-630	350V	606V	630A	210A	105kVA	1Φ or 3Φ	27U	touch screen
IT78120-350-720	350V	606V	720A	240A	120kVA	1Φ or 3Φ	37U	touch screen
IT78135-350-810	350V	606V	810A	270A	135kVA	1Φ or 3Φ	37U	touch screen
IT78150-350-900	350V	606V	900A	300A	150kVA	1Φ or 3Φ	37U	touch screen
IT78165-350-990	350V	606V	990A	330A	165kVA	1Φ or 3Φ	37U	touch screen

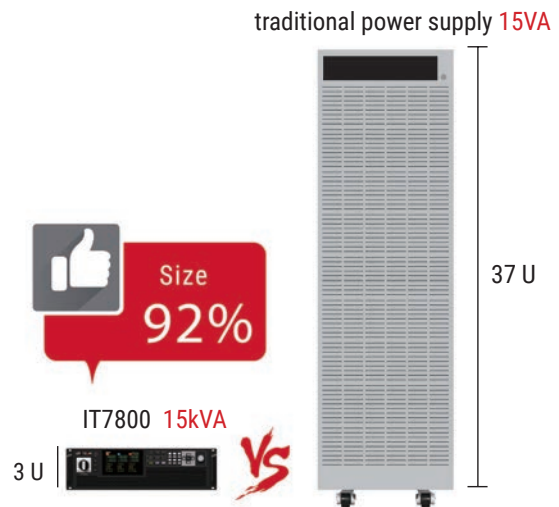
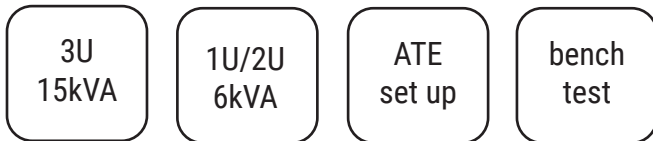
*1 Single-phase AC input terminal

*For higher power, please call for availability

*The above specifications are subject to change without prior notice.

3U/15kVA high power density

The IT7800 series provides multiple compact configurations from a 1U/2U/3U single unit to a 15U/27U/37U cabinet to suit a range of test requirements from 2k to 165kVA. The 3U/15kVA model, the volume is only 1/12 of the conventional AC power supply, greatly saving test space and there is no need to deploy more cabinets or even expand the laboratory, saving test costs for companies.



Master/Slave parallel

ITECH IT7800 series can provide more power by using the master/slave parallel output function, with 64 units in paralleled, to achieve total output power max. 960kVA.

IT7800 comes with synchronous On/Off input and output signals, which ensures the synchronization of paralleling and ensures synchronous current sharing of multiple modules. After paralleling, not only all functions are retained, but there is no loss of accuracy. Make the construction of the power system faster, more flexible, and more economical, whether it is a stand-alone test or ATE system, it can be easily reached.



Intuitive touch panel design

The IT7800 series is equipped with a brand-new touch screen design, a simple and intuitive GUI interface, and the keyboard knob design allows users to perform tests directly and quickly. Users can choose different interface display styles, customize the parameter types and display positions of the page, and the user-friendly settings can meet various measurement needs in the test.



The screen can display real-time voltage and current curves, up to 6 waveforms, users can perform instantaneous analysis without an oscilloscope, and save them.



Multi-channel function

The multi-channel function of the IT7800 series allows users to test 3 independent DUT at the same time without adding additional hardware configuration. In the traditional solution, 3 tests for the DUT, the user needs to configure 3 AC power supplies; and one IT7800 device can meet multi-channel testing requirements. For example, IT7815-350-90 rated power is 15kVA, can provide single-phase/three-phase 15kVA DUT test, can also meet up to 3* single-phase DUT test, one machine with multiple functions, fully improves the equipment utilization.





IT7800E High power programmable AC/DC power supply



Applications

New Energy, Power electronics, Appliance, Civil aviation, Research institute, lab, testing organizations, Medical equipments

FEATURE

- Adopt advanced SiC technology
- High power density, 3U up to 21kVA
- Master-slave parallel with current sharing technology, up to 1MVA, multiple units in parallel work as one
- Voltage ranges : 350/700/1050 VL-N*3
- Up to 50th harmonic simulation and analysis with built-in IEC61000-3-2/3-12 regulations*1
- Output frequency: 16-2400Hz, programmable slew rate setting for changing voltage and frequency
- Built-in single/3-phase AC power meter
- 4 output modes: AC/DC/AC+DC/DC+AC
- Choose single phase, three-phase, reverse phase(split phase) output mode, to simulate 3-phase imbalance, 3-phase harmonics imbalance, 3-phase split phase test, reverse phase(split phase) sequence tests for 3-phase models and etc.
- Harmonics, inter-harmonics waveform synthesizer
- Programmable output impedance
- Intuitive touch screen interface
- Simulate arbitrary waveform output, support csv. file import
- High current crest factor, suitable for inrush current testing*2
- Built-in various waveforms

*1 Voltage and current harmonic analysis / Voltage harmonic simulation

*2 Maximum CF is up to 6 within peak current range

*3 Pls. refer to IT7800 High voltage series.

Adopting advanced SiC technology, ITECH IT7800E 3U high series of programmable AC/DC power supply, with power up to 21kVA, voltage ranges up to 350V L-N. Users are able to increase output power up to more than 1MVA by configuring master-slave parallel. With intuitive LCD touch panel interface, users can be quickly familiar with the unit operation. IT7800E series is built-in power meter and arbitrary waveform generator, which is able to simulate harmonics and other arbitrary waveform output. Users can choose single phase, three-phase and reverse phase(split phase) output modes, with programmable output and complete measurements. ITECH IT7800E series is designed for new energy, power electronics, research institutes etc.

- List mode simulates the power supply reproduction function to realize the simulation function of instantaneous power interruption
- Output 0-360 ° start/stop phase angle can be set
- Surge/Sag function
- Relay CTRL function, to cut off the connection between instrument and DUT
- Built-in waveforms compliance with the IEC61000-4-11/4-13/4-14/4-17/4-28/4-29
- Built-in MsB/CAN/LAN/Digital IO interface, optional GPIB / Analog&RS232
- Optional software can help complete the pre-compliance standards test of civil avionics/ electrical ships interms of the multi-national safety regulations*1
- Support CANopen*1, Modbus, LXI, SCPI communication

Applications

New Energy

OBC, AC/DC charging pile

Power electronics

frequency converter, UPS, AC motor

Appliance

air conditioner, microwave oven, refrigerator, washing machine

Civil aviation

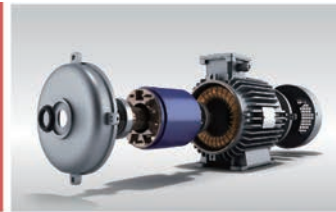
airborne equipment, airport ground facilities

Research institute, lab, testing organizations

AC-DC power adapter, EMC test

Medical equipments

CT, MRI, life detector etc



Model	Voltage range Vac		Current range Aac		Power Pac	Phase	Height
	V L-N	V L-L	Arms(1Φ)	Arms(3Φ)			
IT7821E-350-105	350V	606V	105A	35A	21kVA	1Φ or 3Φ	3U
IT7842E-350-210	350V	606V	210A	70A	42kVA	1Φ or 3Φ	6U
IT7863E-350-315	350V	606V	315A	105A	63kVA	1Φ or 3Φ	15U
IT7884E-350-420	350V	606V	420A	140A	84kVA	1Φ or 3Φ	27U
IT78105E-350-525	350V	606V	525A	175A	105kVA	1Φ or 3Φ	27U
IT78126E-350-630	350V	606V	630A	210A	126kVA	1Φ or 3Φ	27U

**For higher power, please call for availability

* The above specifications are subject to change without prior notice.



IT7800 high power programmable AC power supply(HV)



Applications

New Energy, Power electronics, Appliance, Civil aviation, Research institute, lab, testing organizations, Medical equipments

FEATURE

- Voltages up to 700 VL-N, even 1050 VL-N
- Harmonic simulation and analysis functions up to 50th*1
- Output frequency: 16-100 Hz, voltage and frequency output variation rate adjustable
- Built-in AC power meter
- AC/AC+DC output mode possible
- Three-phase output
- Harmonic and interharmonic waveform synthesis*2
- Programmable output impedance
- Touch screen design, simple UI interface
- Arbitrary waveform output can be simulated, and CSV file import waveform is supported.
- Built-in rich waveform database

*1 Voltage/current harmonic analysis, voltage harmonic simulation

*2 Coming soon

The IT7800 series is a new generation of high power programmable AC power supply featuring user-friendly programming options, a novel touch interface, and rich waveform analysis capabilities. The high-voltage series is available at voltages as high as 700 VL-N and even fulfills 1050 VL-N test standards. By paralleling them, the high voltage series may be easily enlarged to 900 kVA.

The IT7800 series is equipped with an LCD touch screen design with an intuitive and easy-to-use UI interface allowing users to quickly and smoothly use the operation. Built-in all-round power meter and arbitrary waveform generator, which can simulate harmonics and various arbitrary waveform outputs; programmable output impedance and a full range of measurement functions make the IT7800 series widely used in new energy, power electronics, scientific research institutions and other fields of research and development, production, quality control and other stages.

- List mode analog utility reproduction function, realizing the instantaneous power interruption simulation function
- Output start/stop phase angle can be set from 0 to 360°.
- Relay Ctrl relay control output function for electrical isolation between the object to be measured and the source.
- Built-in MsB/CAN/LAN/digital IO interface, optional GPIB/RS232 interface.

IT7800 high power programmable AC power supply(HV)

Applications

New Energy

OBC,AC/DC charging pile

Power electronics

frequency converter, UPS, AC motor

Appliance

air conditioner, microwave oven, refrigerator, washing machine

Civil aviation

airborne equipment, airport ground facilities

Research institute, lab, testing organizations

AC-DC power adapter, EMC test

Medical equipments

CT, MRI, life detector etc



Model	Voltage range Vac		Current range Aac		Power	Phase	Height
	V L-N	V L-L	Arms(1Φ)	Arms(3Φ)			
IT7821E-350-105	350V	606V	105A	35A	21kVA	1Φ or 3Φ	3U
IT7842E-350-210	350V	606V	210A	70A	42kVA	1Φ or 3Φ	6U
IT7863E-350-315	350V	606V	315A	105A	63kVA	1Φ or 3Φ	15U
IT7884E-350-420	350V	606V	420A	140A	84kVA	1Φ or 3Φ	27U
IT78105E-350-525	350V	606V	525A	175A	105kVA	1Φ or 3Φ	27U
IT78126E-350-630	350V	606V	630A	210A	126kVA	1Φ or 3Φ	27U

* For higher power products, please contact ITECH

* The above specifications are subject to change without prior notice.



IT-M7700 High Performance Programmable AC Power Supply



Applications

Testing of commercial and commercial avionics, RD, verification and testing of the small-size power supply production, standard testing, Communications/ Telecommunications, AC power simulation, Manufacturing and process control, Battery or LCD applications, ATE testing, etc.

Feature

- 1U Half-Rack compact design, increased space utilization
- AC, DC, AC + DC output modes, DC voltage offset simulation in AC + DC mode
- Built-in AC power meter with powerful functions
- Built-in abundant waveform database, including 30 harmonic distortion waveforms
- List mode, simulate civil AC working condition, realize instantaneous power interruption simulation function *1
- Arbitrary waveform output function, user can customize waveforms
- Harmonic analysis function
- CF=6, good for the inrush current test at the start moment *2
- Surge/Trap function
- Front and rear edge Dimmer phase dimming function
- Settable output waveform start/stop phase angle
- Higher voltage available by two units in series connection *3
- Three phase output available by three units Y-type external connections *3
- Optional interfaces include RS232, CAN, LAN, GPIB, MsB_TMC, MsB_VCP, external analog, IO. Flexible and cost effective

*1 Realize by PC software

*2 Only available for the model IT-M7722D, IT-M7723D

*3 Available on IT-M7721/7722/7722E/7722D/7723D/7723E

ITECH newly-launched IT-M7700 High Performance Programmable AC Power Supply combines intelligence and flexibility, breaks through the huge defects of the traditional AC power source, reduces the size to only 1U Half-Rack, maximizes space utilization. Built-in power meter and arbitrary waveform generator make it convenient to simulate various arbitrary waveform outputs. IT-M7700 is designed with advanced technologies of programmable AC and DC power supplies, and can be widely used in multiple fields such as power energy products, home appliances, industrial electronics, commercial avionics and standards testing.

Model	Power(AC/AD)	Voltage	Current	Volume
IT-M7721	300 VA/300 W	300 V	3 A	1U Half-Rack
IT-M7722	600 VA/600 W	300 V	6 A	1U Half-Rack
Coming soon IT-M7722E	1 kVA/1 kW	300 V	10 A	2U Half-Rack
IT-M7723	1.2 kVA/1.2 kW	300 V/600 V	12 A /6 A	1U
IT-M7723E	1.5 kVA/1.5 kW	300 V	15 A	2U Half-Rack

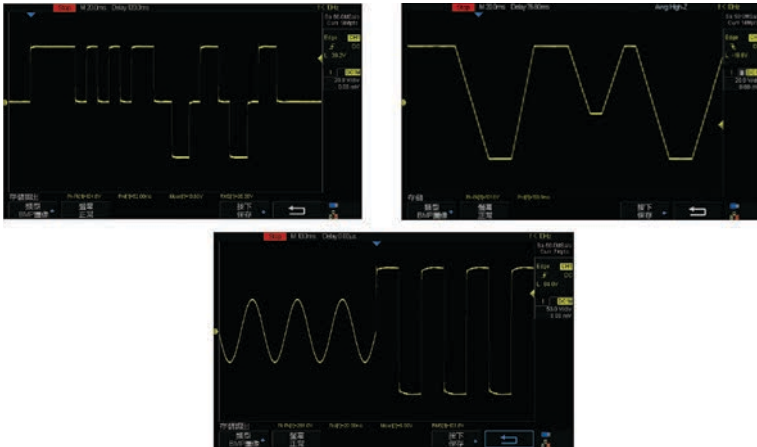
1U Half-Rack Mini size

The conventional AC power supplies are much bigger and heavier, difficult to move. The size of IT-M7700 is only 1U Half-Rack, but its max. power is up to 600VA. Its weight is 4.5kg only. With such high-power density design, the space is better utilized. So it can be portable, convenient for bench testing and good for system building.



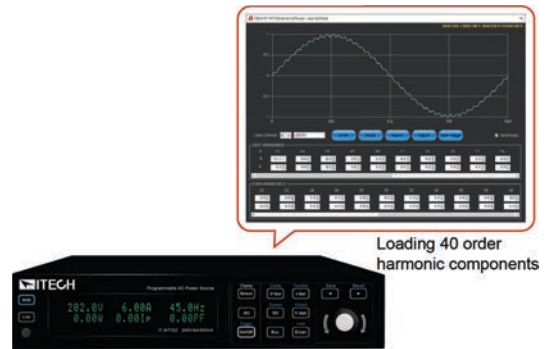
Arbitrary waveforms output

Users can self define arbitrary waveforms through IT-M7700 software and download to power supply so as to simulate or duplicate the real waveforms.



Harmonic simulation function

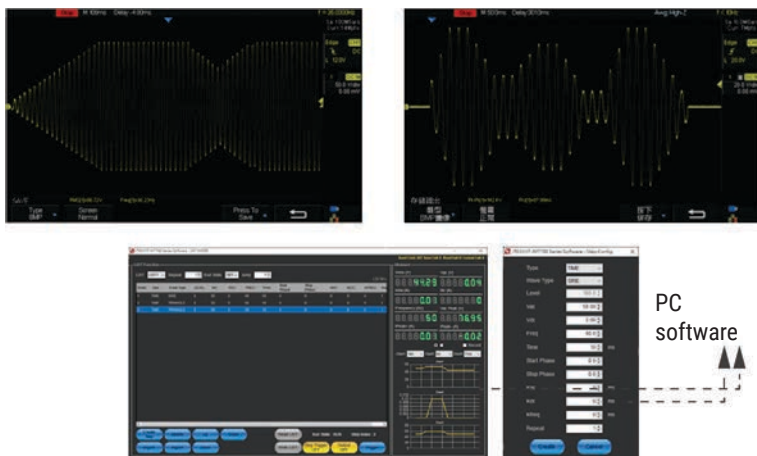
Within the frequency range 45~50Hz, it can measure up to 50 times, which perfectly simulate the distorted waveform and help to find fast solution.



List Mode

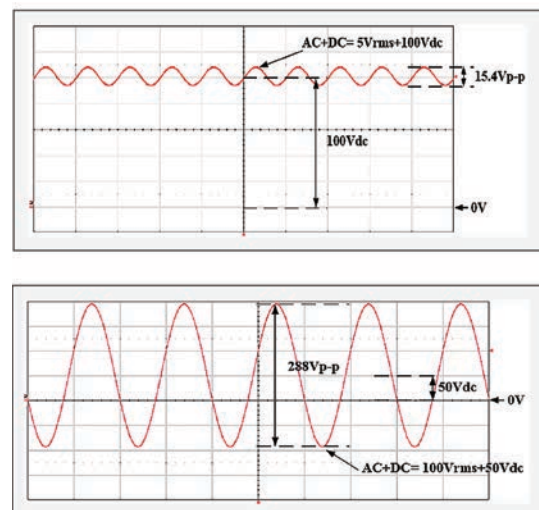
IT-M7700 LIST mode supports program complex waveform editing. The users can edit 5 list files, each file can be edited up to 50 steps. Each step settable parameters include: basic waveform (incl. THD and user defined waveform), AC/DC amplitude, slew rate, frequency, dwell time, start/stop phase angle, times of repetition etc. This function with complex waveforms can help users to simulate grid disturbance, periodic power off and so on.

* Available with ITECH PC software.



Multiple output modes: AC, DC, AC+DC

The output modes of IT-M7700 series include AC, DC, AC+DC. It can not only provide pure AC or DC output but also AC+DC output mode which can expand application fields and test DC offset element.

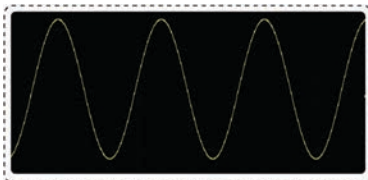




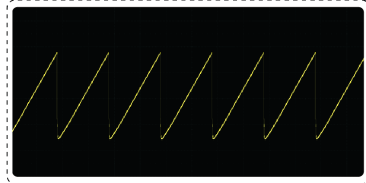
coming soon

Built-in abundant waveform database

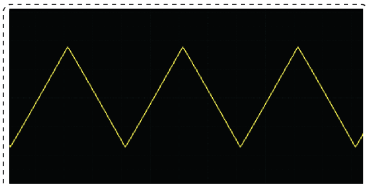
IT-M7700 series has a variety of user-defined waveforms such as square, saw and triangle. There are 30 built-in distortion waveforms for users to edit and recall, which can also be used as the basic waveform to be recalled during list programming.



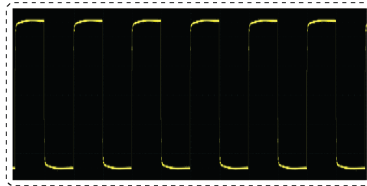
sine



Saw

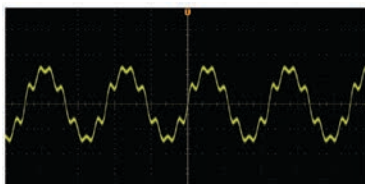


Triangle

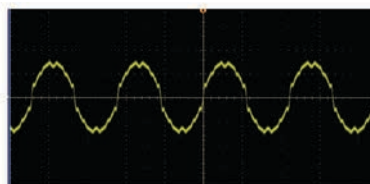


Square

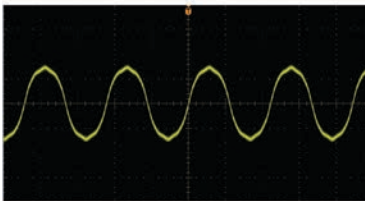
IT-M7700 series has 30 built-in harmonic distortion waveforms



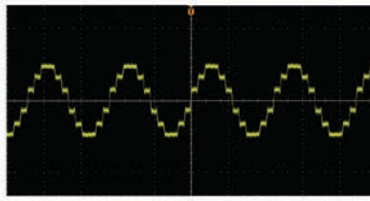
Non-linear



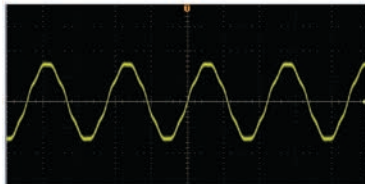
Linear distortion



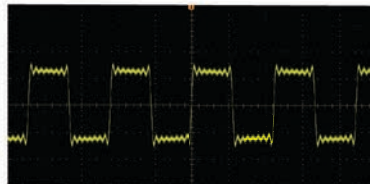
Peak spike



Stepper frequency converter



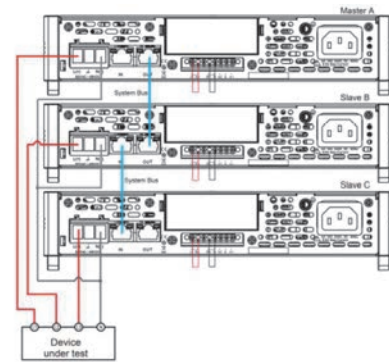
Coil transformer self-excitation



Square wave UPS

3 phase output

Three units single-phase AC power supply can be combined into one unit three-phase AC power supply. Connect 3 units IT-M7721/IT-M7722/IT-M7722D/IT-M7723D/IT-M7723E of the same model through the System Bus to realize the output of three-phase AC power.



Pictures	Model	Interface
	IT-E1205(optional)	GPIO
	IT-E1206(standard)	MsB/LAN
	IT-E1207(optional)	RS-232/CAN
	IT-E1208(optional)	Analog
	IT-E1209(optional)	MsB
	IT-E251(standard)	Connection Cable

*For three phase installation and serial connection , pls. choose the optional accessory IT-E251.

IT7600 High Power Programmable AC power supply



Applications

Testing organizations, Power electronics, Home appliances, New energy, Scientific research & Institutions

Feature

- 7" DSO function, which can display real-time waveforms of voltage and current under the single unit or parallel mode
- Built-in AC power meter
- Output frequency up to 10-5000 Hz, output variable rate of voltage or frequency is adjustable
- Maximum power up to 4.5kVA
- Voltage up to 300 V
- Realize AC, DC, AC+DC output modes, AC+DC can realize simulating distortion of DC Voltage
- Simulate arbitrary waveform output, support CSV format to import waveform
- Built-in various waveform database
- Strong master-slave paralleling makes multi-module output equalized current synchronously
- Three single units can complete the three-phase output, and can simulate three-phase unbalanced output
- Strong harmonic simulation capability, up to 50th harmonic simulation*1
- Strong harmonic analysis function, which can measure up to 50th voltage and current harmonic.*1
- List mode can simulate civil use AC network, achieve simulation of instantaneous power interruption
- The output waveform start / stop phase angle can be set
- Support remote sense compensation function, which can improve measurement accuracy
- Relay Ctrl output function, which can achieve electrical isolation between DUT and the source
- Sweep function, which can test the efficiency of switching power supply and catch the voltage and frequency when reaching maximum power point
- OTP, OCP (Including peak and rms values), OPP
- Built-in MsB / RS232 / LAN / CAN*2 communication Interface*
- MsB on the front panel can achieve importing and exporting file functions and data storage function

*1 10 Hz-500 Hz

*2 Coming soon

*For any GPIB interface option request, check with ITECH for availability.



Model	Voltage(V)	Current(A)	Power(VA)	Phase
IT7622	150/300	6	750	1φ
IT7624	150/300	12	1.5k	1φ
IT7625	150/300	36	4.5	1φ or 3φ
IT7626	150/300	24	3k	1φ

* IT7627/28/28L/30/32/34/36 has been discontinued, please choose IT7800 series for replacement

7" DSO function

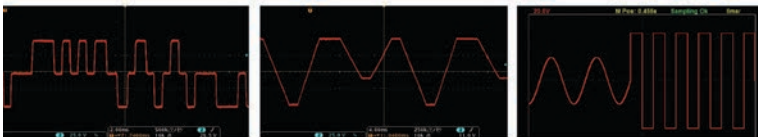
Display real-time waveforms of voltage and current under the stand-alone or parallel mode

IT7600 series high-power AC / DC power supply provide a powerful oscilloscope function by the 7" large screen. Built-in high-speed sampling measurement design realizes the display of real-time voltage and current curves. When multi-units are paralleled, IT7600 can display the status of all paralleled units, instantaneous analysis is available without an oscilloscope.

Simulate arbitrary waveform output

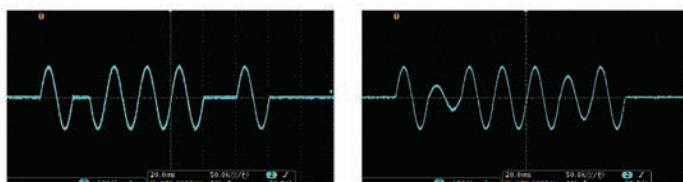
AC voltage and DC voltage deviation simulation

IT7600 series high power AC / DC power supply provide AC voltage and DC voltage deviation simulation functions, and can simulate arbitrary waveform output.



Application: IEC 61000-4-11 test

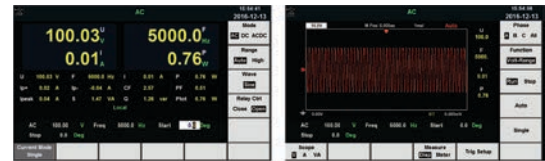
IT7600 series also can simulate IEC 61000-4-11 to do test for voltage transient drop, short circuit interruptions and voltage variations items.



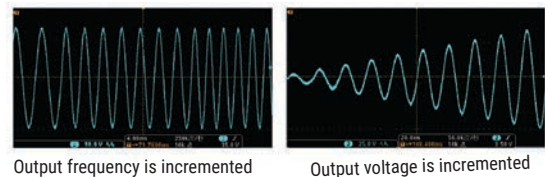
Output frequency up to 10-5000 Hz

Output variable rate of voltage or frequency is adjustable

IT7600 series high-power AC / DC power supply output frequency is adjustable during 10-5000 Hz. IT7600 series have a wide range of applications, which not only to meet the low-frequency demand for general commercial industry, but also can be used for high frequency aerospace



IT7600 series allows users to set their own output fluctuation rate of voltage or frequency, so that the voltage or frequency regularly reach these values step by step. It is more accurate to verify the product operation scope and also can reduce surge current of DUT when starting up.



Output frequency is incremented

Output voltage is incremented

Achieve AC, DC, AC+DC output modes

AC+DC can achieve offset simulation of DC Voltage. IT7600 series high-power AC / DC power supply can achieve AC, DC, AC + DC output modes, not only provide pure AC / DC output, but also can provide AC + DC output mode to expand application and test DC bias components.



* (IT7630, IT7632, IT7634, IT7636) only support AC mode

Support CSV file to import waveforms

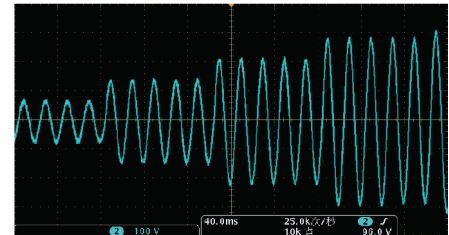
- Import a CSV file via the MsB interface to generate a waveforms output

The user can edit the waveform output by the panel LIST function or can import a CSV file via the MsB interface to generate waveform output. At the same time, IT7600 series provides external ± 10 V analog interface, users can choose separate AM and FM amplitude modulation to receive external signal source.

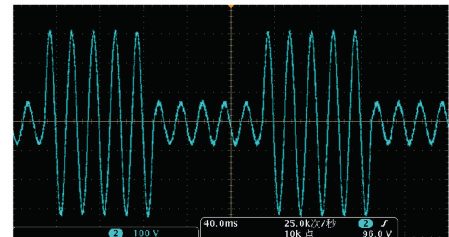


- Application: List mode can simulate civil use AC network

Users can edit and simulate the situation of various power interference by IT7600 series high-power AC / DC power supply panel or program-controlled software.



STEP

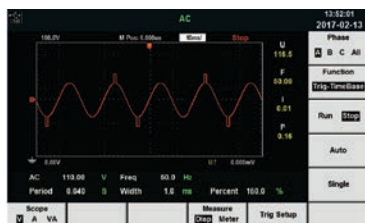


LIST

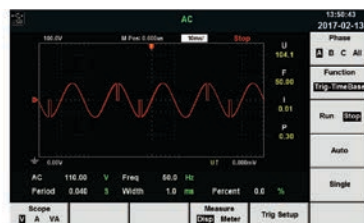
List mode

- List mode can simulate civil use AC network, achieve simulation of instantaneous power interruption

IT7600 series high-power AC / DC power supply provide users a simple way to achieve the output parameters changing gradually or continuously through STEP mode and LIST mode. The amplitude of output voltage, frequency, phase, waveform and other parameters can also be output by controlling the internal trigger or external trigger of the instrument. Thus you can simulate a variety of power instantaneous power interruption, surge, ramp and other characteristics.



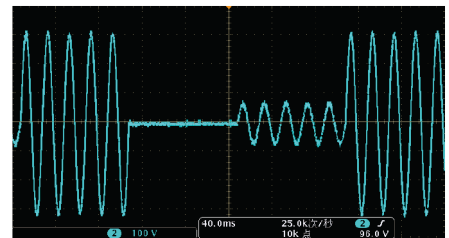
Surge wave



Trap wave

- Application: Simulation of instantaneous power interruption

IT7600 series high-power AC / DC power supply can also effectively simulate a variety of power off.



Strong harmonic simulation capability

- Up to 50th harmonics

IT7600 series high-power AC / DC power supply has strong harmonic simulation capability, up to 50th harmonics.

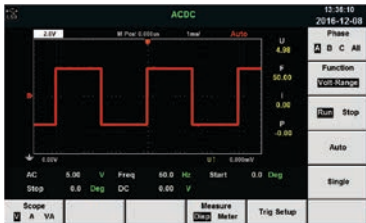
Within 10-500 Hz, IT7600 can measure 50th voltage and current harmonic. Exceed 500 Hz, IT7600 can test 20th voltage and current harmonic.



Built-in abundant waveform database

- Recall by menu and display the selected waveform on the LCD screen

IT7600 series high power AC / DC power supply provide built-in a variety of different types of waveforms, such as triangle wave, sine wave, surge at peak, trap wave, and other waveforms, the user can recall by menu and display the selected waveform on the LCD screen.



Square wave



Sawtooth wave



Triangle wave



Sine waveform

Strong harmonic analysis function

- Voltage / current harmonic measurement

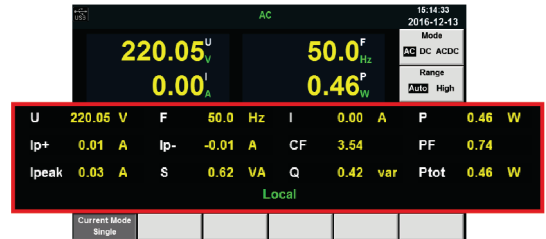
IT7600 high-power AC power supply is with powerful function in harmonic analysis, including harmonic measurements for voltage and current. For harmonic measurements, when frequency is 10-500 Hz, IT7600 can test 50th; when it's above 500 Hz, then 20th. In harmonic mode, it can do tests for U / I THD (Voltage / Current Total Harmonic Distortion) factors, as well as Phase tests. Besides, IT7600 can do multiple harmonic measurements, the results are displayed in list or histogram, so that the test results are more clear.



Built-in powerful AC power meter

- Built-in powerful AC power meter

IT7600 series high power AC / DC power supply is equipped with 16-bit high-precision measuring design, with the built-in powerful AC power meter, it can accurately measure a variety of parameters, including rms voltage, rms current, output frequency, active power, and power factor. Users need no more a power meter, save the test cost, and shorten the complex connection operation time.



Support single / three-phase output

- Simulate unbalanced three phase output

The IT7600 high performance programmable AC power supply can be connected in parallel with multiple single units to test three-phase AC power supplies. Both Y-type and Δ-type connections are available in terms of your needs. The IT7600 series can simulate three-phase unbalance when achieving three-phase output, which helps to cover more applications fields.

When IT7600 series realize three-phase output, IT7600 can simulate unbalanced three-phase output, expanding the scope of application.



IT7200 Programmable AC/DC Power Supply



Application

Power converter, Semiconductor component, Industrial equipment/home appliance, ATE integration

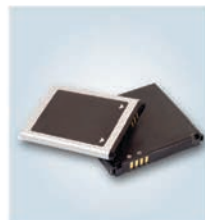
FEATURE

- 2U half rack compact design, suitable for both bench top and ATE integration
- 300Vac L-N rated output, 45Hz-500Hz
- Built-in AC power meter and up to 50th harmonic analysis capability
- Built-in rich waveforms: Sine/Square/Triangle/Sawtooth/Clip sine
- Up to 50th order harmonic simulation function
- Output modes: AC, DC, AC+DC
- Rich waveform editing functions: LIST/Surge&Trap/User-defined
- Built-in rich waveform database, including 30 harmonic distortion waveforms
- The start/stop phase angle of the output waveform can be set
- Standard USB/LAN interface
- Free Demo software

IT7200 series programmable AC/DC power supplies are designed to provide cost-effective testing solutions for R&D, production and laboratories. It is a bench top unit as well as a rack mounted one. It is only in a 2U half rack, but the max. power can output 300VA or 600VA. Its built-in USB/LAN interface allows for easy ATE integration and remote monitoring of data without additional costs. IT7200AC/DC power supply has powerful waveform editing and simulation functions and full protection. Through functions such as LIST, waveform customization or harmonic simulation, it can simulate various power grid disturbance waveforms. For example, voltage sag, short-term power failure, and IEC61000-4-11 regulatory standard waveform. The product is widely used in testing of small home appliances, industrial IoT, power modules, power tools, etc.

Application

- **Power converter**
Adapter, AC-DC power module, LED Driver
- **Semiconductor component**
Chips, sensors, linear regulator
- **Industrial equipment/home appliance**
Power tools, smart meters, low power home appliance
- **ATE integration**
Burning test of power modules, chips, components



Model	Power	Voltage	Current	Height
IT7221	300VA/300W	300V	3A	1/2 1U
IT7222	600VA/600W	300V	6A	1/2 2U



built-in USB/LAN



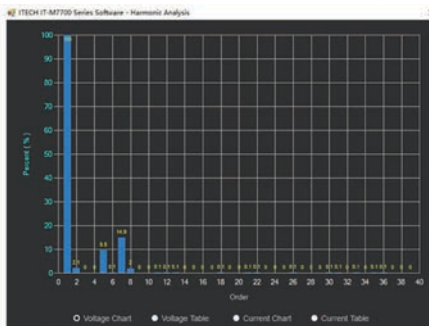
Arbitrary waveform output

The PC software of the IT7200 series can help you customize arbitrary waveforms, supporting up to 1024 points of data. The data is downloaded to the power supply to simulate and reproduce the problem.



Harmonic analysis

The IT7200 series can measure up to the 50th voltage/current harmonic in the range of 45-50Hz, analyze the results, and display them in a list or bar graph. In list mode you can view the percentage of each harmonic. The histogram is conducive to observing the order with the highest harmonic content, making the test results clearer.



bar chart

Harmonic simulation

IT7200 series has harmonic simulation function. It can simulate up to 50 times in the range of 45-50Hz. Quickly and easily restore distorted waveforms.



Load the 50th order harmonic component

List

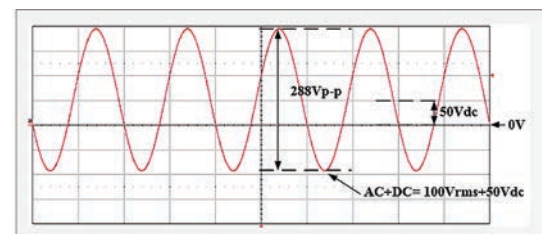
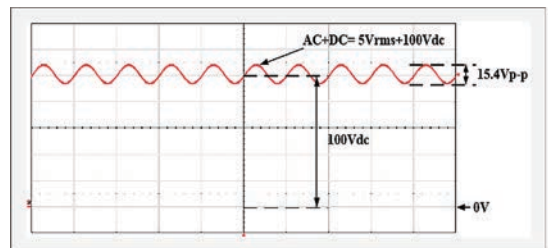
The list mode of IT7200 series can simulate complex waveforms. You can edit 5 list files. Each file can include up to 50 steps. Each step can set the basic waveform (including THD and custom waveforms), AC and DC amplitude, slope, frequency, dwell time, and start/stop phase angle, number of repetitions, etc. This function can help you simulate various complex waveforms such as power grid disturbances and periodic power outages.

* Operate by PC software

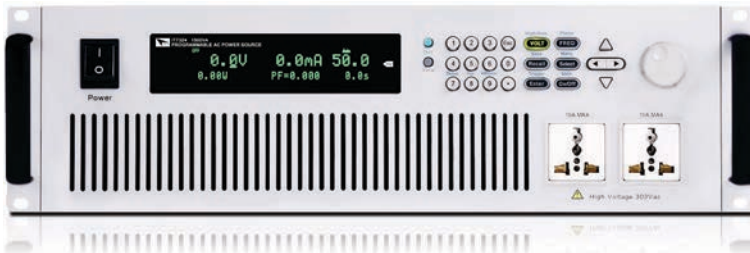


AC, DC, AC+DC output

The IT7200 series can realize various output modes of AC, DC, and AC+DC. It not only provides pure AC/DC output, but also provides AC+DC output mode to test the DC bias component, which covers more applications.



IT7300 Programmable AC Power Supply



Applications

Motor industry, Illumination, Aviation, Lab testing, Production linetest, etc.

Feature

- Precise Linear amplification technology, low noise, high stability
- High power density design, 1500VA for 3U size, save installation space
- Adjustable frequency: 45Hz-500Hz
- Adjustable phase angle: 0-360°
- Settable output slew rate of voltage and frequency
- High current crest factor for surge current testing
- TRIAC Dimmer dimming / governor simulation function
- Output the changed synchronous TTL signal
- LIST mode for testing power perturbation (PLD) simulation
- Simulate the surge, trap waveform
- Voltage dip, short interruption and voltage change simulation
- Measure various electrical parameters, including RMS voltage / current, actual power, power factor, VA (apparent power), peak current and other parameters
- Measurement resolution 0.01W / 0.1mA, meet Energy Star standard requirement
- Built-in RS-232, MsB and LAN (support SCPI protocol)
- Support three devices connection through System Bus to achieve three-phase AC power function
- OCP,OVP,OTP,OPP

* For any GPIB interface option request, check with ITECH for availability

In order to meet the wider range of AC power supply and more complex change characteristics, engineers need more powerful and stable AC power supply to simulate the actual working environment. IT7300 series is the best solution in this area. IT7300 series can be widely applied in the electronics and electrical industry, lighting, R&D specification's verification, laboratory testing and factory production online test etc.

Model	Voltage	Current	Power	Phase	Size
IT7322	150/300	6/3	750	1φ	3U
IT7324	150/300	12/6	1500	1φ	3U
IT7326	150/300	24/12	3000	1φ	6U
IT7322H	250/500	3/1.5	750	1φ	3U
IT7324H	250/500	6/3	1500	1φ	3U
IT7326H	250/500	12/6	3000	1φ	6U
IT7322T	150/300	6/3	2250	3φ	15U
IT7324T	150/300	12/6	4500	3φ	15U
IT7326T	150/300	24/12	9000	3φ	27U
IT7322HT	250/500	3/1.5	2250	3φ	15U
IT7324HT	250/500	6/3	4500	3φ	15U
IT7326HT	250/500	12/6	9000	3φ	27U

Linear amplification technology

IT7300 Series AC Power Supply adopts advanced and high-precision linear amplification design to provide low noise and high stability output. This technology has high-speed response characteristics, stable low noise, it can simulate the abnormal power line, instantaneous voltage rise, drop and power off, and can be applied to ATE and so on.

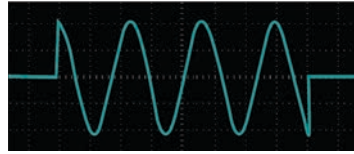
Built-in AC power meter

IT7300 series directly shows voltage RMS, current RMS, frequency, active power, power factor from panel without external power meter, saving the test cost and complex connection operation time.



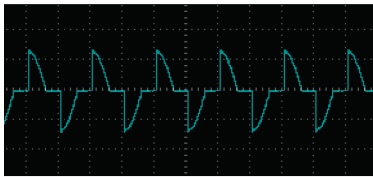
Adjustable phase angle

Users can set the start and stop phase angle within range of 0-360°. This function is widely used for startup and shutdown current inrush impact test or various rectifier performance tests.



TRIAC Dimmer simulation function

ITECH is the pioneer of TRIAC Dimmer function. This function is used to do dimming and speed regulating test for lamp or electric motor to ensure the products work well when controller of dimming and speed regulating is needed.



Leading Edge



Trailing Edge

Sweep function

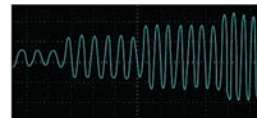
This function tests efficiency of switch power supply and gets voltage and frequency value at max power. It could change voltage and frequency by setting start voltage value, end frequency, stepping frequency and time of each step. It saves 10 files max. Voltage, frequency and current of max power will be displayed when the test is over.

Support Three-phase Parallel function

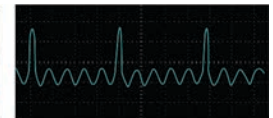
IT7300 series AC source can achieve three-phase without requiring external accessories, users can directly connect into three-phase through the back of the SYSTEM Bus, set one of them as master, the rest are slaves. The slave sends synchronous clock control signal according to each cycle of the DDS inside the device, so that the phase difference is always maintained at 120° and does not deviate greatly in long time running. It is flexible to meet the increase or decrease requirements of production line aging test machine numbers.

List function

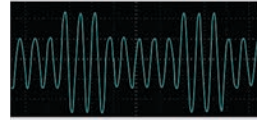
IT7300 series has built-in DDS waveform generator, very flexible waveform simulation function. Users can directly set the required power waveform through the panel keys, to simulate transient power off, surge, trap, specific phase angle on or off, AC sine wave amplitude and frequency range and other characteristics.



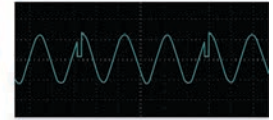
STEP mode



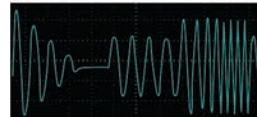
Surge waveform



PULSE mode



Trap waveform



LIST mode

IT6600C Bidirectional Programmable DC Power Supply



Applications

commercial aviation, server power supply, industry 4.0, EV, ESS, fuel cell

FEATURE

- Bidirectional, integrating power supply and e-load in one
- High power density, up to 42kW in 3U
- Independent dual-channel design in 3U unit, and channels can be connected in series or parallel
- High efficient power regeneration
- Master-slave current equalizing, output max. 10MW in parallel, no performance lost
- 5-inch touch screen with intuitive GUI
- Dynamic response $\leq 200\mu\text{s}$
- Rise time $\leq 1\text{ms}$
- High precision $\leq 0.03\% + 30\text{mA}$
- Built-in communication interface
 - USB(USB-TMC/USB-VCP)
 - LAN(Rawssocket/Modbus-TCP/Profinet/VNC/VXI-11/Web/Telnet)
 - CAN 2.0B(CANopen/CAN2.0)
 - digital IO
- Optional communication interface GPIB/EtherCAT /Analog&RS232

*1 Optional BSS2000 battery simulation software

*2 Optional FCS3000 fuel cell simulation software

IT6600C series DC power supply is a new generation graphical bidirectional DC power supply. It adopts a touch screen design and intuitive GUI, making parameter setting and waveform editing simpler and more efficient. It adopts advanced third-generation SiC technology. A 3U height single unit can output 21kW each in dual channels. If the two independent channels are connected in series/parallel, it can reach maximum power 42kW. Since 1 unit IT6600C can cover the output range of 3-5 normal power supplies, it can be applied to various applications requiring high voltage or high current.

IT6600C series is not only a power supply, but also an excellent electronic load. It can not only output power as a DC power supply, but also act as a DC electronic load, absorbing power and feeding clean power back to the grid to realize energy recycling. IT6600C series brings you a new experience during the high-power complex testing in the fields of automobiles, energy storage, industry, green energy and so on and provides strong support for R&D, verification, production, etc.

FUNCTION

- CC/CV priority
- Can be used as a battery simulator*1
- Battery test function, supports battery charge/discharge mode
- Accurately simulate the IV characteristic output of Si, GaAs and other solar panels
- Built-in standard multi-channel solar array simulation software
- Fuel cell simulation*2
- List function, dynamic working condition simulation with tens of millions of points
- Built-in IEC 61000-4-17/IEC 61000-4-29 waveforms
- Built-in 9 standard automotive voltage curves, including LV123, LV148, ISO21498-2, etc.
- Output impedance is adjustable
- Redundancy function, helps to check the status of each single unit or cabinet and ensure the overall output



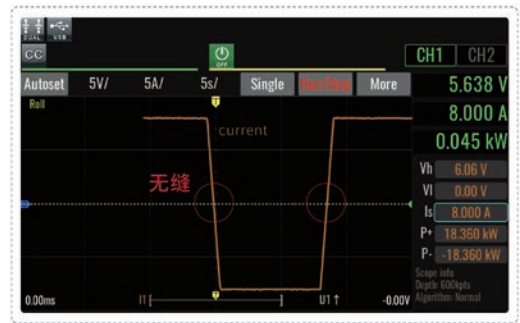
2 in 1 unit

The IT6600C cleverly integrates a bidirectional power supply and a regenerative load to achieve continuous current supply and absorption. As a power supply, it can stably output the required power; and as a load, it can efficiently absorb up to 100% of the rated current. In "Only Load" mode, IT6600C can perform load testing in CR, CC and CW modes, providing more flexible options. The IT6600C series not only saves space, but also reduces energy consumption and costs for you.



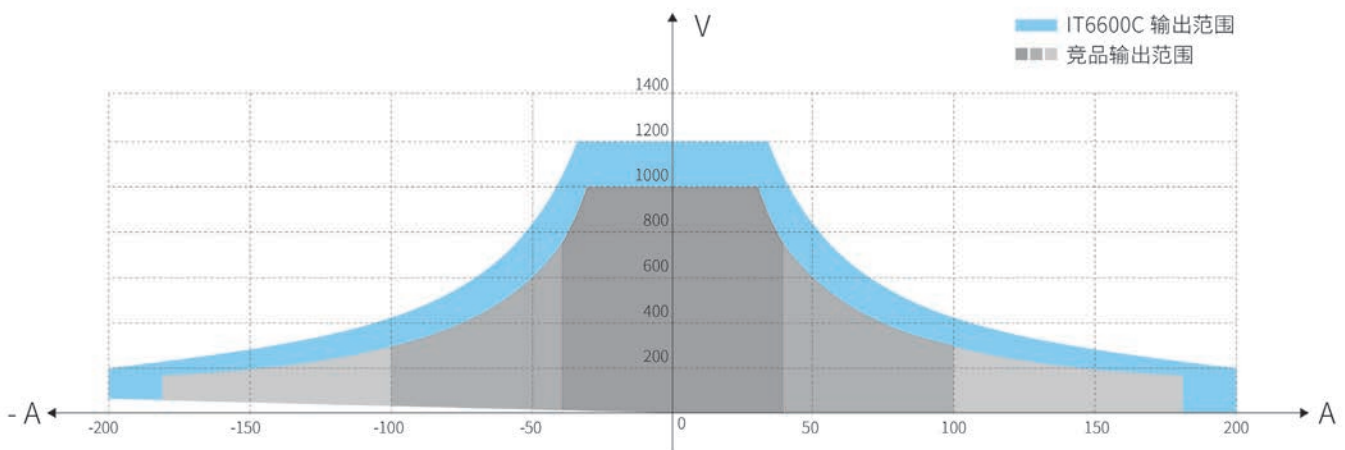
Bidirectional current seamless transfer

IT6600C can perform high-speed current switching between source and load, fast, continuously and seamless, thereby effectively avoiding damage to the output characteristics of the DUT caused by voltage or current overshoot. It provides a higher level of power control and protection in various applications.



Wide range output for various applications

Compared with other DC power supplies, IT6600C's wide-range output is more flexible and provides more voltage and current combinations. IT6600C supports multiple output combinations such as dual channels, channel series connection, and channel parallel connection. You can flexibly configure it according to your testing needs. It is like integrating multiple ordinary DC power supplies, making it an ideal choice to meet diverse experimental needs.



As shown above, one unit IT6642C-1200-200 can cover the output range of several competing products. This means that whether the DUT is low voltage and high current or high voltage and low current, IT6600C can flexibly meet various testing needs. One unit can replace multiple traditional DC power supplies. It is not only suitable for ATE systems and production lines, but also for laboratory use. While meeting the test requirements, it saves cost and space, simplifies wiring, and is more convenient and efficient.

IT6600C Bidirectional Programmable DC Power Supply



Power Supply

Product model	Max. Output Voltage	Max. Output Current	Max. Output Power	Specification			Height
IT6642C-1200-200	1200	±200	±42	600V/±100A/±21kW*2ch	600V/±200A/±42kW*1ch	1200V/±100A/±42kW*1ch	3U
IT6684C-1200-400	1200	±400	±84	600V/±200A/±42kW*2ch	600V/±400A/±84kW*1ch	1200V/±200A/±84kW*1ch	15U
IT66126C-1200-600	1200	±600	±126	600V/±300A/±63kW*2ch	600V/±600A/±126kW*1ch	1200V/±300A/±126kW*1ch	15U
IT66168C-1200-800	1200	±800	±168	600V/±400A/±84kW*2ch	600V/±800A/±168kW*1ch	1200V/±400A/±168kW*1ch	27U
IT66210C-1200-1000	1200	±1000	±210	600V/±500A/±105kW*2ch	600V/±1000A/±210kW*1ch	1200V/±500A/±210kW*1ch	27U
IT66252C-1200-1200	1200	±1200	±252	600V/±600A/±126kW*2ch	600V/±1200A/±252kW*1ch	1200V/±600A/±252kW*1ch	27U
IT66294C-1200-1400	1200	±1400	±294	600V/±700A/±147kW*2ch	600V/±1400A/±294kW*1ch	1200V/±700A/±294kW*1ch	27U
IT66336C-1200-1600	1200	±1600	±336	600V/±800A/±168kW*2ch	600V/±1600A/±336kW*1ch	1200V/±800A/±336kW*1ch	37U
IT66378C-1200-1800	1200	±1800	±378	600V/±900A/±189kW*2ch	600V/±1800A/±378kW*1ch	1200V/±900A/±378kW*1ch	37U
IT66420C-1200-2000	1200	±2000	±420	600V/±1000A/±210kW*2ch	600V/±2000A/±420kW*1ch	1200V/±1000A/±420kW*1ch	37U

Product model <small>coming soon</small>	Max. Output Voltage	Max. Output Current	Max. Output Power	Specification			Height
IT6642C-1600-120	1600	±120	±42	800V/±60A/±21kW*2ch	800V/±120A/±42kW*1ch	1600V/±60A/±42kW*1ch	3U
IT6684C-1600-240	1600	±240	±84	800V/±120A/±42kW*2ch	800V/±240A/±84kW*1ch	1600V/±120A/±84kW*1ch	15U
IT66126C-1600-360	1600	±360	±126	800V/±180A/±63kW*2ch	800V/±360A/±126kW*1ch	1600V/±180A/±126kW*1ch	15U
IT66168C-1600-480	1600	±480	±168	800V/±240A/±84kW*2ch	800V/±480A/±168kW*1ch	1600V/±240A/±168kW*1ch	27U
IT66210C-1600-600	1600	±600	±210	800V/±300A/±105kW*2ch	800V/±600A/±210kW*1ch	1600V/±300A/±210kW*1ch	27U
IT66252C-1600-720	1600	±720	±252	800V/±360A/±126kW*2ch	800V/±720A/±252kW*1ch	1600V/±360A/±252kW*1ch	27U
IT66294C-1600-840	1600	±840	±294	800V/±420A/±147kW*2ch	800V/±840A/±294kW*1ch	1600V/±420A/±294kW*1ch	27U
IT66336C-1600-960	1600	±960	±336	800V/±480A/±168kW*2ch	800V/±960A/±336kW*1ch	1600V/±480A/±336kW*1ch	37U
IT66378C-1600-1080	1600	±1080	±378	800V/±540A/±189kW*2ch	800V/±1080A/±378kW*1ch	1600V/±540A/±378kW*1ch	37U
IT66420C-1600-1200	1600	±1200	±420	800V/±600A/±210kW*2ch	800V/±1200A/±420kW*1ch	1600V/±600A/±420kW*1ch	37U

Product model	Max. Output Voltage	Max. Output Current	Max. Output Power	Specification			Height
IT6642C-2250-100	2250	±100	±42	1200V/±50A/±21kW*2ch	1200V/±100A/±42kW*1ch	2250V/±50A/±42kW*1ch	3U
IT6684C-2250-200	2250	±200	±84	1200V/±100A/±42kW*2ch	1200V/±200A/±84kW*1ch	2250V/±100A/±84kW*1ch	15U
IT66126C-2250-300	2250	±300	±126	1200V/±150A/±63kW*2ch	1200V/±300A/±126kW*1ch	2250V/±150A/±126kW*1ch	15U
IT66168C-2250-400	2250	±400	±168	1200V/±200A/±84kW*2ch	1200V/±400A/±168kW*1ch	2250V/±200A/±168kW*1ch	27U
IT66210C-2250-500	2250	±500	±210	1200V/±250A/±105kW*2ch	1200V/±500A/±210kW*1ch	2250V/±250A/±210kW*1ch	27U
IT66252C-2250-600	2250	±600	±252	1200V/±300A/±126kW*2ch	1200V/±600A/±252kW*1ch	2250V/±300A/±252kW*1ch	27U
IT66294C-2250-700	2250	±700	±294	1200V/±350A/±147kW*2ch	1200V/±700A/±294kW*1ch	2250V/±350A/±294kW*1ch	27U
IT66336C-2250-800	2250	±800	±336	1200V/±400A/±168kW*2ch	1200V/±800A/±336kW*1ch	2250V/±400A/±336kW*1ch	37U
IT66378C-2250-900	2250	±900	±378	1200V/±450A/±189kW*2ch	1200V/±900A/±378kW*1ch	2250V/±450A/±378kW*1ch	37U
IT66420C-2250-1000	2250	±1000	±420	1200V/±500A/±210kW*2ch	1200V/±1000A/±420kW*1ch	2250V/±500A/±420kW*1ch	37U

*For higher power, please check with ITECH

*For multiple masters models, please check with ITECH



IT6600D High Power Programmable DC Power Supply



Applications

Data center, Power supply, UPS(high voltage), ESS, ATE, Electroplating, sputtering, surface treatment

FEATURE

- High power density, up to 42kW in 3U
- Independent dual-channel design in 3U unit, and channels can be connected in series or parallel
- Master-slave current sharing, output max. 10MW in parallel, no performance lost
- 5-inch touch screen with intuitive GUI
- Data recorder function
- Oscilloscope function, instant data analysis and saving
- CC/CV priority
- List function, dynamic working condition simulation with tens of millions of points
- Redundancy function, helps to check the status of each single unit or cabinet and ensure the overall output

IT6600D series DC power supply is a new generation graphical bidirectional DC power supply. Its touch screen and intuitive GUI not only simplify parameter setting and waveform editing, but also improve convenience. It adopts advanced third-generation SiC technology. A 3U height single unit can output 21kW each in dual channels. If the two independent channels are connected in series/parallel, it can reach maximum power 42kW. Since 1 unit IT6600 can cover the output range of 3-5 normal power supplies, it can be applied to various applications requiring high voltage or high current.

IT6600D's CC/CV priority allows the output mode to be selected based on the specific needs of the DUT, which is especially important during precision measurements. High-precision, high-speed features and a variety of standard communication interfaces enable IT6600D to be widely used in laboratories, production lines and automatic test systems.

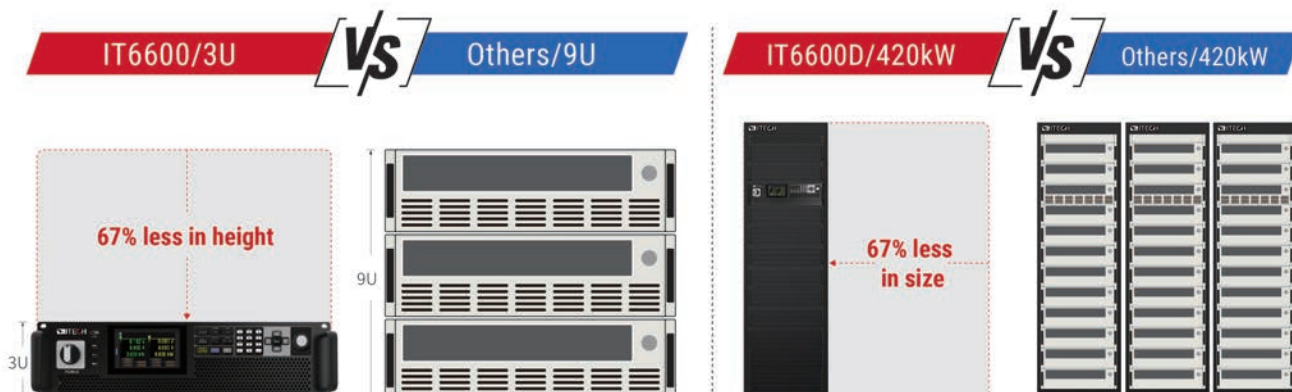
- Built-in communication interface
 - USB(USB-TMC/USB-VCP)
 - LAN(Rawsocet/Modbus-TCP/Profinet/VNC/VXI-11/Web/Telnet)
 - CAN 2.0B(CANopen/CAN2.0)
 - digital IO
- Optional communication interface: GPIB/EtherCAT /Analog&RS232
- Free PC software



APPLICATIONS

Industry-leading high power density

IT6600D provides up to 42kW power supply and loading power in a 3U chassis, making it possible of a bench top solution for a high-performance and high-power test. It is also very suitable for integrated systems with strict space requirements.



Independent dual-channel

A 3U height single unit of IT6600D can output 21kW each in dual channels. Each channel has a completely independent isolation design and can be controlled and measured separately. The two channels can also be connected in series or parallel to increase the output range and cope with various test requirements.

Channel configuration

Two-Channel

- Voltage range:600V~1200V
- Channels can be connected in parallel or series
- 3U/15U/27U/37U.. all can be set as dual channels

Single-Channel

- Voltage range:600V~22500V
- 3U can output up to 42kW
- 3U/15U/27U/37U.. all can be set as single channel

Power output up to max. 10MW

In case of higher power requirement, multiple units of IT6600D with the same specification can be connected in parallel to reach a maximum output of 10MW, which is fast and scalable.

- Master-slave parallel connection, active current sharing
- Easy to operate, no need to disassemble the cabinet
- Full isolation by optical fiber to effectively protect the DUT and itself
- No performance loss after parallel connection
- No calibration required after parallel connection



Product model	Max. Output Voltage	Max. Output Current	Max. Output Power	Specification			Height
IT6642D-1200-200	1200	200	42	600V/100A/21kW*2ch	600V/200A/42kW*1ch	1200V/100A/42kW*1ch	3U
IT6684D-1200-400	1200	400	84	600V/200A/42kW*2ch	600V/400A/84kW*1ch	1200V/200A/84kW*1ch	15U
IT66126D-1200-600	1200	600	126	600V/300A/63kW*2ch	600V/600A/126kW*1ch	1200V/300A/126kW*1ch	15U
IT66168D-1200-800	1200	800	168	600V/400A/84kW*2ch	600V/800A/168kW*1ch	1200V/400A/168kW*1ch	27U
IT66210D-1200-1000	1200	1000	210	600V/500A/105kW*2ch	600V/1000A/210kW*1ch	1200V/500A/210kW*1ch	27U
IT66252D-1200-1200	1200	1200	252	600V/600A/126kW*2ch	600V/1200A/252kW*1ch	1200V/600A/252kW*1ch	27U
IT66294D-1200-1400	1200	1400	294	600V/700A/147kW*2ch	600V/1400A/294kW*1ch	1200V/700A/294kW*1ch	27U
IT66336D-1200-1600	1200	1600	336	600V/800A/168kW*2ch	600V/1600A/336kW*1ch	1200V/800A/336kW*1ch	37U
IT66378D-1200-1800	1200	1800	378	600V/900A/189kW*2ch	600V/1800A/378kW*1ch	1200V/900A/378kW*1ch	37U
IT66420D-1200-2000	1200	2000	420	600V/1000A/210kW*2ch	600V/2000A/420kW*1ch	1200V/1000A/420kW*1ch	37U

Product model	Max. Output Voltage	Max. Output Current	Max. Output Power	Specification			Height
IT6642D-1600-120	1600	120	42	800V/60A/21kW*2ch	800V/120A/42kW*1ch	1600V/60A/42kW*1ch	3U
IT6684D-1600-240	1600	240	84	800V/120A/42kW*2ch	800V/240A/84kW*1ch	1600V/120A/84kW*1ch	15U
IT66126D-1600-360	1600	360	126	800V/180A/63kW*2ch	800V/360A/126kW*1ch	1600V/180A/126kW*1ch	15U
IT66168D-1600-480	1600	480	168	800V/240A/84kW*2ch	800V/480A/168kW*1ch	1600V/240A/168kW*1ch	27U
IT66210D-1600-600	1600	600	210	800V/300A/105kW*2ch	800V/600A/210kW*1ch	1600V/300A/210kW*1ch	27U
IT66252D-1600-720	1600	720	252	800V/360A/126kW*2ch	800V/720A/252kW*1ch	1600V/360A/252kW*1ch	27U
IT66294D-1600-840	1600	840	294	800V/420A/147kW*2ch	800V/840A/294kW*1ch	1600V/420A/294kW*1ch	27U
IT66336D-1600-960	1600	960	336	800V/480A/168kW*2ch	800V/960A/336kW*1ch	1600V/480A/336kW*1ch	37U
IT66378D-1600-1080	1600	1080	378	800V/540A/189kW*2ch	800V/1080A/378kW*1ch	1600V/540A/378kW*1ch	37U
IT66420D-1600-1200	1600	1200	420	800V/600A/210kW*2ch	800V/1200A/420kW*1ch	1600V/600A/420kW*1ch	37U

Product model	Max. Output Voltage	Max. Output Current	Max. Output Power	Specification			Height
IT6642D-2250-100	2250	100	42	1200V/50A/21kW*2ch	1200V/100A/42kW*1ch	2250V/50A/42kW*1ch	3U
IT6684D-2250-200	2250	200	84	1200V/100A/42kW*2ch	1200V/200A/84kW*1ch	2250V/100A/84kW*1ch	15U
IT66126D-2250-300	2250	300	126	1200V/150A/63kW*2ch	1200V/300A/126kW*1ch	2250V/150A/126kW*1ch	15U
IT66168D-2250-400	2250	400	168	1200V/200A/84kW*2ch	1200V/400A/168kW*1ch	2250V/200A/168kW*1ch	27U
IT66210D-2250-500	2250	500	210	1200V/250A/105kW*2ch	1200V/500A/210kW*1ch	2250V/250A/210kW*1ch	27U
IT66252D-2250-600	2250	600	252	1200V/300A/126kW*2ch	1200V/600A/252kW*1ch	2250V/300A/252kW*1ch	27U
IT66294D-2250-700	2250	700	294	1200V/350A/147kW*2ch	1200V/700A/294kW*1ch	2250V/350A/294kW*1ch	27U
IT66336D-2250-800	2250	800	336	1200V/400A/168kW*2ch	1200V/800A/336kW*1ch	2250V/400A/336kW*1ch	37U
IT66378D-2250-900	2250	900	378	1200V/450A/189kW*2ch	1200V/900A/378kW*1ch	2250V/450A/378kW*1ch	37U
IT66420D-2250-1000	2250	1000	420	1200V/500A/210kW*2ch	1200V/1000A/420kW*1ch	2250V/500A/420kW*1ch	37U

IT2700 Multi-channel Modular Power System



Applications

DC-DC power module, Micro-inverters, Power Optimizer, 3C products

FEATURE

- ATE systems for R&D, design verification and manufacturing
- Compact size: 1U single unit outputs up to 8 channels
- Flexible modular system: mix and match various modules
- 2 frame (1U), 3 module types (DC power supply, bidirectional power supply, regenerative load)
- Free PC software, display 8-channel output
- Support Web control, use common browser to realize all functions
- The electrically isolated source load module supports 8 modules in master-slave parallel connection up to 2kW
- Load function: support CC, CV, CP, CR, CC+CV, CR+CV, CP+CV, CC+CR, AUTO, BSIM (battery simulation)
- Power supply function: Supports CV/CC/CP loop and internal resistance setting
- Bidirectional power supply module supports resistance setting in load mode
- All modules are wide-range modules
- Single module voltage up to 150V, current up to 30A, power up to 500W
- Supports synchronous control between different frames, no upper limit of channels
- Rich trigger output and input, support step trigger output, can trigger other modules (acquisition, oscilloscope, data recording, etc.)
- Up to 50kHz external data recording function to improve test efficiency
- Measurement functions: multi-output/single-output display, oscilloscope, data record display, supports average, minimum and maximum values of V/I/P, and calculates P, Ah and Wh for all outputs
- Output functions: list function, arbitrary waveform, swept sine wave, arbitrary wave sequence, constant dwell arbitrary wave, load transient, battery simulation*1, battery test, OCP and OPP test*2, output on/off serialization, Watchdog, support output coupling
- Full protection: OVP, UVP, OCP, OPP, OTP, UCP, Foldback, supports protection coupling
- Modules has anti-reverse connection function, built-in relay, and supports anti-discharge and anti-surge functions
- AC input: adaptive 100-380 V ac single phase
- Built-in LAN, USB-TMC, USB-VCP, CAN, digital I/O, data import and export by USB and supports SCPI protocol

*1 only available for bidirectional power supply modules only

*2 only available for load modules

IT2702 1U frame without front panel

IT2703 1U frame with touch screen



DC-DC function verification



Design verification of electronic products



Battery cell simulation and test



Chip test

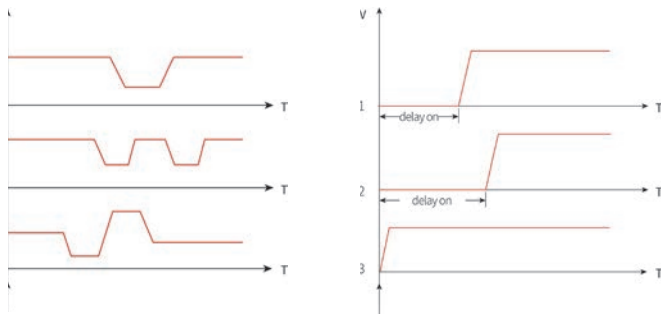
Voltage	Current	Power	DC power supply*	Bidirectional DC power supply*	Regenerative DC load*
30V	15A	200W	IT27134/IT27134R	IT27334/IT27334R	IT27534/IT27534R
	30A	500W(2 slots occupied)	IT27154/IT27154R	IT27354/IT27354R	IT27554/IT27554R
60V	10A	200W	IT27135/IT27135R	IT27335/IT27335R	IT27535/IT27535R
	20A	500W(2 slots occupied)	IT27155/IT27155R	IT27355/IT27355R	IT27555/IT27555R
150V	5A	200W	IT27137/IT27137R	IT27337/IT27337R	IT27537/IT27537R
	10A	500W(2 slots occupied)	IT27157/IT27157R	IT27357/IT27357R	IT27557/IT27557R
IT2702	1U frame without front panel (8 slots)				
IT2703	1U frame with touch screen (6 slots)				
IT2704	1U frame without front panel (8 slots, only available for load modules)				

*IT27xxxR should be equipped with IT2703

Power Supply

I Output on/off serialization

The on/off delay function for each output allows you to serialize the on/off of the output.



AI Data Center -Power MOSFET Testing

As the demand for cloud computing, artificial intelligence applications, and high-power processors and accelerators continues to grow, data centers continue to evolve to accommodate new high-power needs, including microprocessors, GPUs, FPGAs, and ASICs requiring higher power levels. The power consumption of advanced processors, including Intel's "Sky Lake" and AMD's "Rome", has also risen to 230-300W, and Nvidia's GPU power consumption will climb to about 600W.

48V system - 5G communication power supply, data center

- The communications industry uses 48V as the standard voltage
- 5G communications require the use of Massive MIMO technology. The AAU single-sector output power of 5G base stations increases from 4G's 40W and 80W to 200W or even higher.

Advantages tested with IT2700

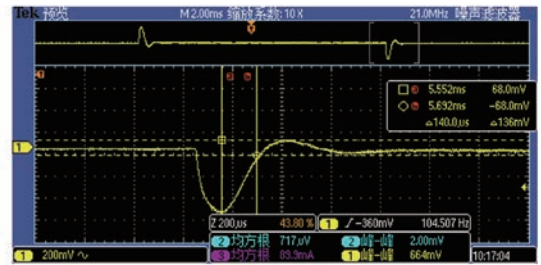
- IT2700 bidirectional power module can simulate batteries and conduct multi-channel power supply tests
- Regenerative load modules can be used for aging test
- Series and parallel connection to adapt to more DUTs

Advantages tested with IT2700

- Compact
- Multiple channels
- Current and power extended in parallel/serial connection

High-speed dynamic recovery

- IT2700 power module has high-speed dynamic recovery capability. Dynamic recovery time refers to the time required for the power supply output voltage to return to its specified value or steady state when the load changes.
- It maintains stable output, which is particularly important for the test performance of high-precision equipment.
- For high-performance computers, communication equipment and other high-speed electronic products, fast dynamic response helps ensure the best and stable performance of the equipment running at high speeds.
- It has a wider range of applications, such as medical equipment, industrial automation, etc.



60V full voltage, 50%-100% load (50Hz)
At low LOOP speed, according to the steady-state value of 10%-90%, the recovery time is 140μs

Coupling - Channel grouping function



Advantages of production line aging test





IT-N2100 Series Solar Array Simulator



Applications

Micro-inverters ,Power Optimizer,Home Energy Storage ,MPPT shutdown module ,Aviation Power Systems

Feature

- Precise simulation of the IV characteristics output of silicon, GaAs and other types of solar PV panels
- Built-in solar array simulation software, supporting multi-channel control
- High-speed current dynamic response to support fast MPPT for microinverters
- Up to 1500V DC output common-mode withstand voltage, supporting series testing of the DUT
- Fixed mode, adjustable output impedance, can simulate CC, CV, CP output
- Ultra-low current ripple, high precision sampling, programming and measurement
- Simulate I-V curve under different temperature and light
- Built-in EN50530, Sandia, NB/T32004, CGC/GF004, CGC/GF035 regulations dynamic model test, and generate reports
- Graphical operation interface, real-time display of MPPT status of PV inverter
- Dynamic list sequence programming: 100 steps x 20 data sets
- Real-time data and curve recording for further analysis
- Simulation of dynamic and static I-V curves of solar panels under cloud shadow
- Table mode supports I-V curve fitting with 4096 points
- Quickly generate I-V by setting Voc, Isc, Vmp, Imp by four-point method
- Comprehensive curve protection: OVP, UVP, OCP, OPP, OTP
- Small size: 2U half rack for single channel
- 4.3" HD LCD, easy to operate
- Front and rear panel output, adaptable to bench top and system integration for various applications
- Standard communication interface LAN, MsB, digital I/O, support SCPI

IT-N2100 series solar array simulator is a high performance DC power supply with fast change of IV curve. It can simulate the IV output characteristics of various solar panels under different environments (temperature, light, shadow decay, aging). It can be applied for the tests of solar micro-inverter, power optimizer, satellite power system, sail power array and so on. IT-N2100 has low ripple, low noise and fast MPPT, supports multi-channel synchronous control and high voltage topology.

Applications

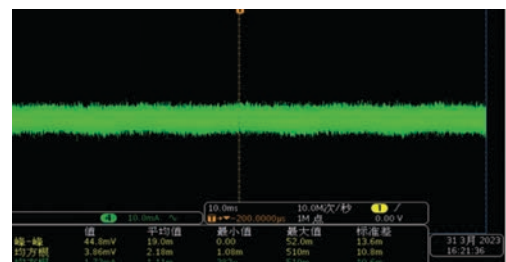


Model	Voltage	Current	Power
IT-N2121 *	80V	25A	800W
IT-N2131 *	80V	25A	1500W
IT-N2123	150V	10A	800W
IT-N2133	150V	10A	1500W

* can be extended to 85V output

Applications

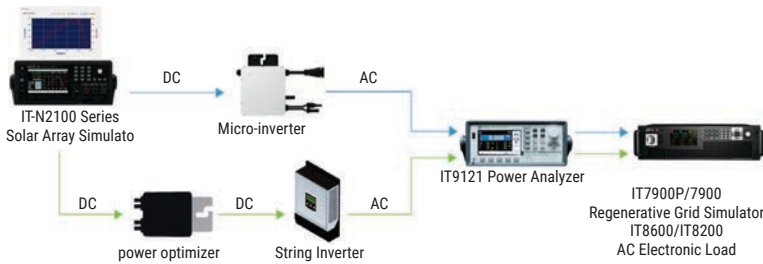
The high fundamental frequency noise of the PV simulator affects the MPPT and current sampling precision of the inverter. The low current noise and pure signal of the IT-N2100 series ensure the accuracy of the test.



Max. ripple of IT-N2133(1.5kW) is about 10mA

For more information, please visit ITECH official website

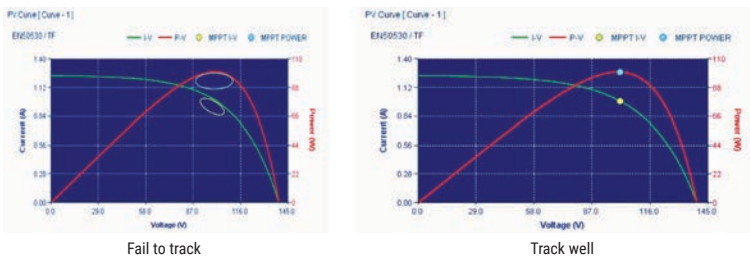
Test Solution- Micro-inverter power optimizer



High response speed

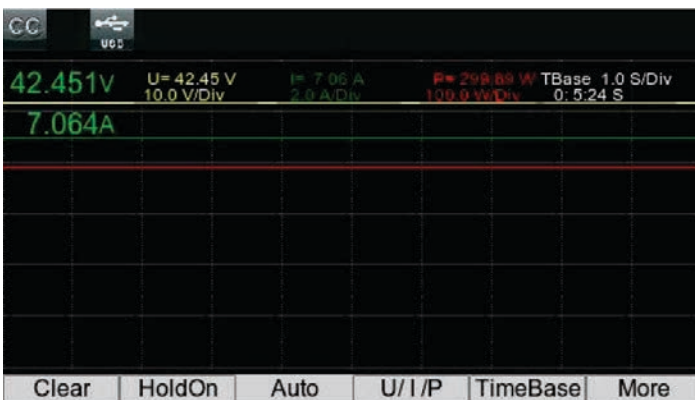
The IT-N2100 series photovoltaic simulator has a current loop speed of up to 500kHz and supports 250Hz MPPT speed. Its IV curve consists of up to 4096 data points which closely matches the real output of the photovoltaic array. The real output of the photovoltaic panel strictly follows its IV curve.

When the MPPT tracking frequency increases, if the response speed of the simulator (power supply) is too slow, it will not be able to track the IV curve, and the reliability of the test results is under doubt. Under the condition of high MPPT tracking frequency of the IT-N2100 series PV simulator, the output still accurately conforms to the preset IV curve.



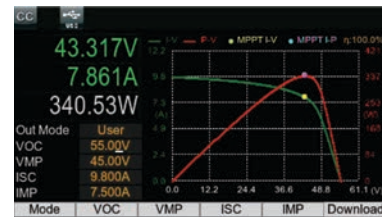
Trend graphs to view data and waveforms in real time

IT-N2100 series can record the voltage, current and power curve of the DUT as soon as it is powered on. It can also save test data to a MsB in real time, supporting file formats of .csv and .Tdms for further data analysis.

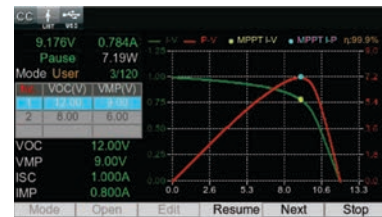


5 PV modes

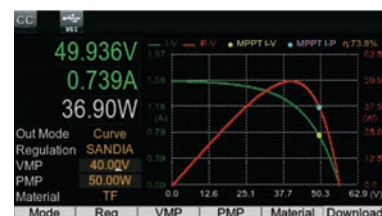
IT-N2100 series has 5 built-in PV models. You can operate it on the front panel. With the built-in IV curves models of multiple regulations, four-point method, table tracing point method, fixed mode or list programming, it can simulate the output of solar array IV curve, big screen graphical display, and real-time view of MPPT status of micro-inverter, power optimizer and other DUTs. In addition, you can import model files via a MsB. When multiple channels operations are required, you can use PV software, very convenient.



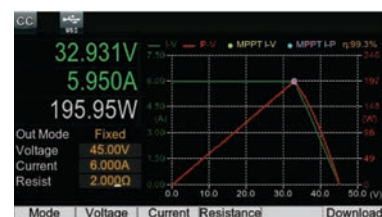
User-defined mode



List mode



Curve mode



Fixed mode

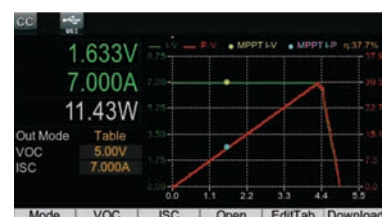


Table mode



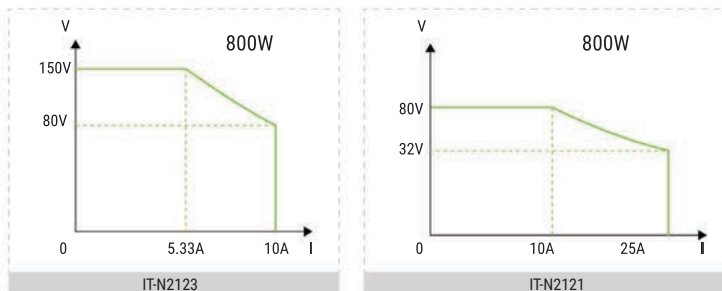
Communication interfaces

IT-N2100 series power supply supports SCPI protocol. Its standard MsB and LAN interfaces are used for communication with PC software, system construction and remote control. The MsB interface on the front panel can be used for file import, export and firmware update.



Wide range output

IT-N2100 series linear power supply not only has excellent stability and precision, its 800W model can also output in a wide range. This maximizes the output range of voltage and current, which is especially suitable for simulating the output of photovoltaic IV curves.



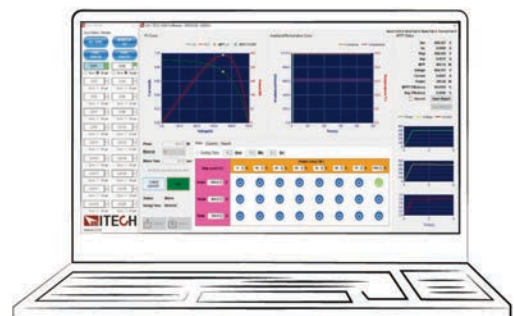
IT-N2100 Multi-channel PV simulator

- Edit and test IV and PV curves in real time
- Continuous display of the maximum power point tracking (MPPT) status of the PV inverter
- Software supports generating, uploading and downloading IV and PV files and storing up to 100 files
- Automatically generate reports in standard format
- Shaded IV curve output simulation (up to 4096 datapoints)
- Simulate static shading curves and dynamic shading curves with the moving shading feature
- Use actual solar panel data from over 100 manufacturer specifications analog array



Built-in solar array simulation software

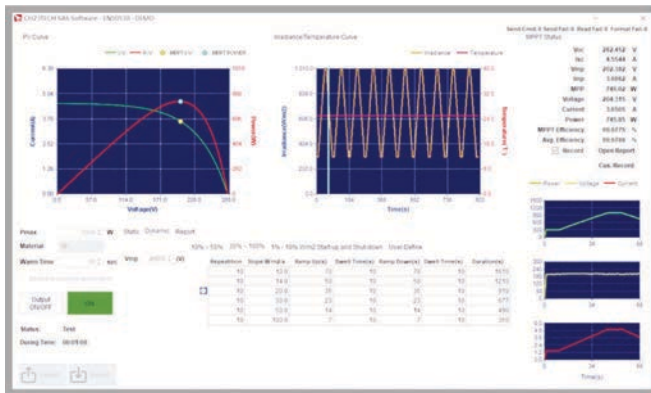
PV software supports synchronous control of 20 channels of solar array simulators, suitable for the testing of micro-inverters, power optimizers. Users can use this software to simulate the output of solar panel monolithic or solar array, build or load various complex weather conditions and international norms defined typical test pattern.



Various regulations testing and report generating

Users can operate either through the built-in software of IT-N2100 or remotely through the PC software. It can test multiple dynamic curves according to the IV and PV curve models stipulated by SANDIA, European standard EN50530 and Chinese standards NB/T32004, CGC/GF004, CGC/GF035, so as to realize the simulation output of solar arrays. Users can select testing standards such as Sandia or EN50530 through the software, and the test reports are generated automatically. The MPPT efficiency of the PV inverter captured in the test will be reflected in the test report.

Among them, the minimum IV curve update rate supported by the software is 50 milliseconds. Users can also customize the test parameters related to solar panels and light temperature conditions in Sandia or EN50530 standards.

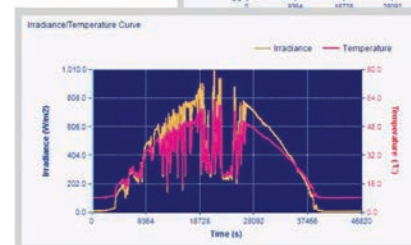
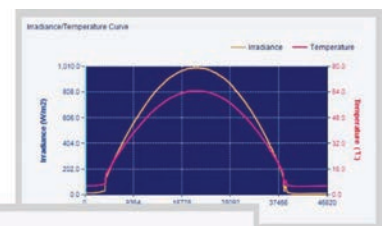
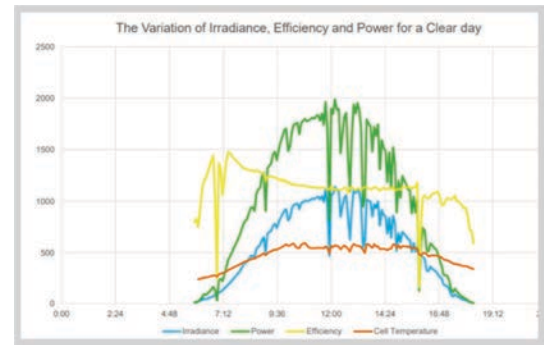


c-Si Dynamic MPPT-Test 10% => 50%							
From-to	Delta		Pmp	Vmp		Waiting time setting	
W/m ²	W/m ²					s	
100-500	400		1000	500		300	
#	Slope	Ramp UP	Dwell time	Ramp DN	Dwell time	Duration	MPPT
W/m ²	W/m ²	s	s	s	s	s	Efficiency (%)
2	0.5	800	10	800	10	3540	99.9678
2	1	400	10	400	10	1940	99.9553
3	2	200	10	200	10	1560	99.9661
4	3	133	10	133	10	1447	99.9590
6	5	80	10	80	10	1300	99.9643
8	7	57	10	57	10	1374	99.9534
10	10	40	10	40	10	1700	99.9656
10	14	29	10	29	10	1071	99.9646
10	20	20	10	20	10	900	99.9545
10	30	13	10	13	10	767	99.9540
10	50	8	10	8	10	660	99.9689
						Total	15939
							4.2539
							s
							h
MPPT Avg Efficiency(%)		99.9621					

Real dynamic simulation

The high-speed and flexible dynamic simulation of IT-N2100 series PV simulators truly meets the dynamic test requirements of EN50530 and other standards. It can continuously simulate dynamic changes of up to 65,000 time points with a resolution of 1 second.

Users can use actual irradiance level and temperature data from various sites around the world. Real conditions such as irradiation and temperature can be imported into the software from an Excel file. These public data can be acquired from the websites of certain national laboratories.





IT-N6900 Programmable DC Power Supply

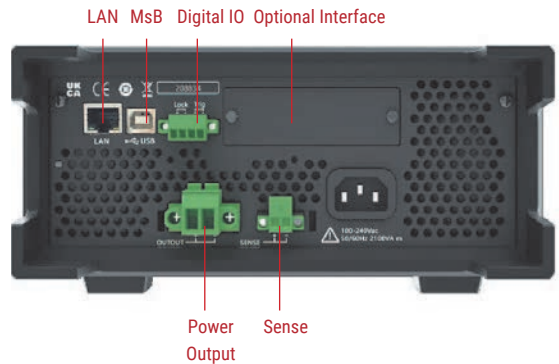


Feature

- 4.3" HD LCD
- Voltage: 60V, 150V
- Power: 850W, 1500W, wide range output
- Two current ranges, 1µA current resolution
- Lower ripple and noise
- Using a new type of transformer, lighter, higher efficiency and stability
- Faster voltage rise and fall
- With CC, CV priority, suitable for a variety of DUT's
- Remote Sense function
- Support OVP, UVP, OCP, OPP, OTP, Foldback protection function
- Built-in MsB/LAN/Digital IO communication interface, optional GPIB/RS232/analog IO
- Support SCPI, LabVIEW programming
- Trend analysis, monitor the voltage, current and power of the DUT in time

Model	Voltage	Current	Power
IT-N6952	60V	25A	850W
IT-N6962	60V	25A	1500W*1
IT-N6953	150 V	10A	850W
IT-N6963	150V	10A	1500W*1
IT-E177	RS232& analog10A		Optional
IT-E176	GPIB		Optional

*1 The power output is 850W under 110Vac input



Applications



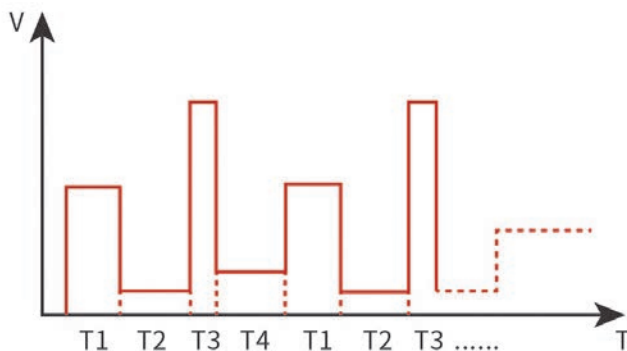
Data logging function (Trend Analysis)

IT-N6900 supports trend analysis function, which allows the end users observe voltage, current and power online for a long time. Users can save test data in U disk, and the time interval of data recording can be set, which is especially suitable for long-term aging test of production lines or R&D laboratories. HD screen with graphic display, users can observe the abnormal situation of the test in real time.



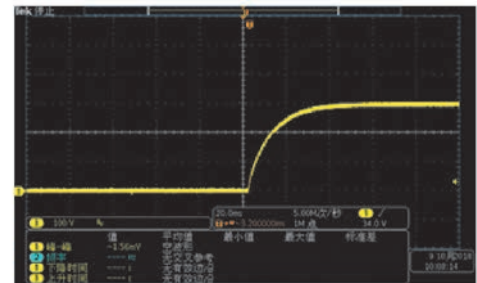
List programming

The LIST programming function of IT-N6900 can provide a maximum of 100 steps of sequence output, and a total of 10 sequence files can be edited. The user can generate various output change sequences by editing the steps such as voltage, current, time and whether to cycle the steps of each single step. The parameters include time units.

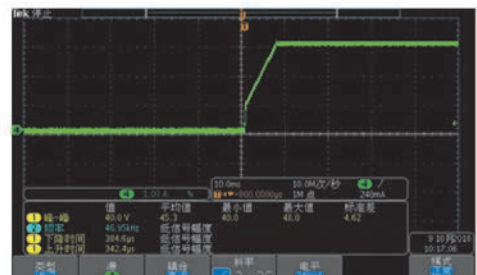


CC&CV priority

IT-N6900 has CC/CV priority function, which is suitable for complex applications with high speed or no overshoot test requirements. In CV priority mode, you can get faster voltage rising. In CC priority mode, the output current has no overshoot, which can be used to test the DUT of constant current operating characteristics. It is good for applications such as laser testing, integrated circuit testing, charge and discharge testing, power transient simulation and characterization of automotive electronics, etc.



CV priority
no voltage overshoot



CC priority
no current priority

Foldback

IT-N6900 supports multiple protection functions such as OVP/UVP/OCP/OPP/OTP/Foldback. The Foldback protection function is mainly used to turn off the output when the power supply CV/CC is switched, so as to protect the DUTs which are sensitive to voltage and current overshoot. You can set the working mode and the protection delay time. If the current working mode is changed, the protection will be triggered when the time is up and the output will be turned off.



IT-M3140 Programmable DC Power Supply



Power Supply

Feature

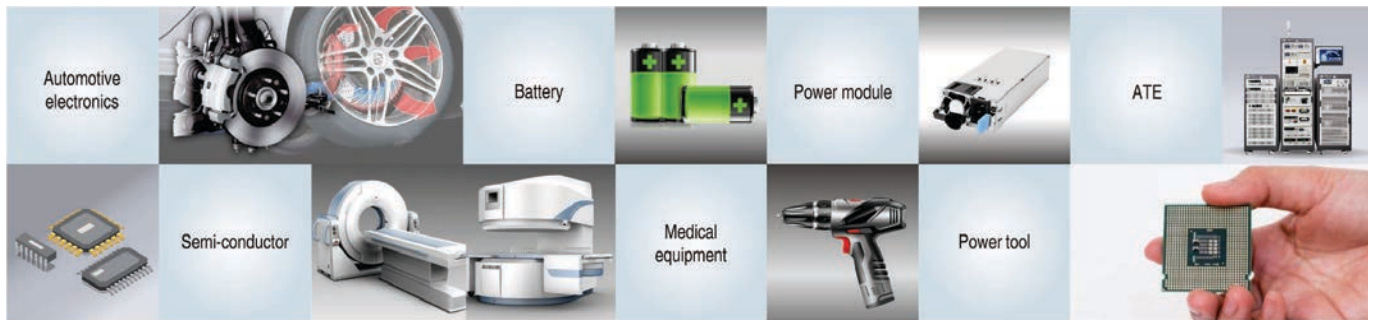
- Only 2U half rack, 1850W/3000W
- 30V-1200V, 150A
- Three output modes: CV/CC/CP
- CC/CV priority to avoid current overshoot
- Fast dynamic response: <1ms
- According to the voltage and current waveform output programmed by LIST, the rising and falling slopes are adjustable
- Fold back, UVP/OVP, UCP/OC, OPP, OTP, inhibit protection, more secure and reliable
- The Sense protection circuit combined with software and hardware can effectively detect Sense reverse connection and missing connection, and protect the DUT
- Standard MsB/LAN, optional RS232 & analog, GPIB, easy to integrate

IT-M3140 Programmable DC Power Supply is specially designed for testing, production, R&D lab and ATE integration. It is only 2U half rack, but can output power up to 1850W and 3000W, and voltage output from 30V to 1200V. It has three output modes of constant voltage, constant current and constant power. Automatic wide-range output enables it to achieve a wider output voltage and current range at full power output, meeting a wider range of testing requirements and greatly saving equipment purchase costs.

Not only that, IT-M3140 is a DC power supply integrating high stability, fast response (<1ms), high-level protection functions and LIST programmable functions. This series is equipped with a standard MsB/LAN interface, and can be used with ITECH's free PV3140 software to easily realize remote control and data storage, and is easy to integrate. IT-M3140 can be widely used in semiconductor device ATE, burn-in integration, testing and certification, power module and automotive electronics and other fields.

<p>Stable output</p>	<p>9 protection modes</p>
<p>2U half rack</p>	<p>Fast dynamic response < 1ms</p>

APPLICATION



Model	Parameter Specifications (3000W)	Model	Parameter Specifications (1850W)
IT-M3141	30V/150A/3000W	IT-M3131E	30V/150A/1850W
IT-M3142	80V/80A/3000W	IT-M3132E	80V/80A/1850W
IT-M3143	150V/40A/3000W	IT-M3133E	150V/40A/1850W
IT-M3144	300V/20A/3000W	IT-M3134E	300V/20A/1850W
IT-M3145	600V/10A/3000W	IT-M3135E	600V/10A/1850W
IT-M3146	1000V/6A/3000W	IT-M3136E	1000V/6A/1850W
IT-M3147	1200V/5A/3000W	IT-M3137E	1200V/5A/1850W

Size: 2U half rack

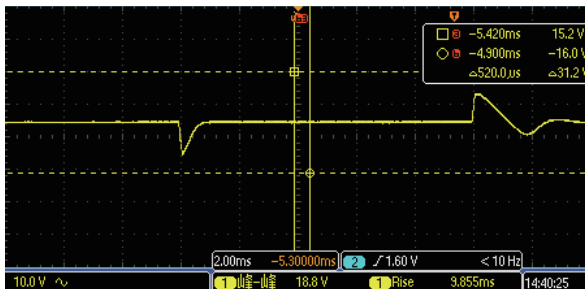
AC input range (single-phase: L, N, PE) : A. 110Vac±10%, power down to 1500W B. 192Vac~264Vac, full power output of all models

Optional accessories

Description	Model	
Rack mounting kit	IT-E158A	For 2 units installed side by side in ITECH standard cabinet
	IT-E158B	For 2 units installed side by side in non-ITECH cabinet
	IT-E158C	For single unit installed in ITECH standard cabinet
	IT-E158D	For single unit installed in non-ITECH cabinet
Communication interfaces	IT-E176	GPIB communication card
	IT-E177	RS232 & Analog card

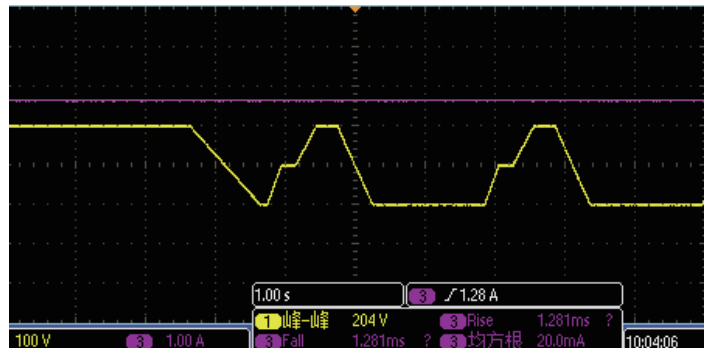
Fast dynamic response < 1ms

IT-M3140 series has high speed dynamic response characteristics, when the external load fluctuations, the power supply can quickly restore stability within <1ms, thus makes the test more reliable.



LIST mode simulates various power supply disturbance waveforms

IT-M3140 series provides LIST programming mode. In this mode, users can generate arbitrary DC voltage disturbance waveforms, such as instantaneous voltage drop or voltage rise slowly, by setting parameters such as working steps (max100 steps), output voltage/current per step, single step duration (0.001s-3600s), rising and falling slopes, etc., to fully verify the anti-interference performance of DC loads. It is suitable for testing products such as DC-DC power modules, motor drivers, and battery-powered household appliances.





IT-M3900B Regenerative Power System



Applications

Industrial power supply modules, Electric Vehicles, Small/Medium Power Motors, 5G communication and data center

Feature

- 2 in 1 unit - a bidirectional power supply and a regenerative load
- One button switch between source and load on front panel
- Compact design, 1U@6kW, 2U@12kW
- Voltage range: 10~1500V
- Current range: -720A~1020A
- Power range: \pm 12kW
- Bidirectional energy flow between the DUT and the grid, current seamless switching
- Master/slave parallel connection keep good performance while power extension*1
- Efficient power regeneration - reduce cost of electricity and cooling
- CC/CV priority
- Adjustable output impedance
- Battery charge and discharge test
- Battery simulation
- Partial pre-compliant with LV123, LV148, DIN40839,ISO-16750-2, SAEJ1113-11,LV124 and ISO21848 automotive testing standards*2
- Slope of voltage, current and power is settable
- Simulation of dynamic driving conditions, up to 10 million points
- 8 operation modes under Source mode:CC/CV/CW/CR/CC+CV/CV+CR/CR+CC/CC+CV+CW+CR
- Multiple protection: OVP/ \pm OCP/ \pm OPP/OTP/voltage transient drop protection/anti-islanding/power grid detection
- Built-in MsB/CAN/LAN/digital IO interfaces, Optional GPIB/Analog&RS232

*1 If 1U models>16, 2U models>8, pls. contact ITECH.

*2 Not available for 10V models

The IT-M3900 series combines four series of DC power supplies, bi-directional power supplies, regenerative power system and regenerative electronic load. It continues the ultra high power density design of M series, with a maximum power of 6kW, current of 510A and voltage up to 1500V in 1U, comfortable system scalability, and a small physical size could save extra space and fully meet the stringent requirements of various requests with the multi-functional, high energy-saving, high safety and high stability product design. IT-M3900B regenerative power system feature two-in-one, which could use as a bidirectional DC power supply, also act as an independent regenerative load. One-button-switch between source and load mode, a unique and decisive feature for the user groups that works in different applications such as battery, energy storage, electric vehicle, Green energy and some ATE fields.

IT-M3900B Regenerative Power system

Power Supply

Voltage	Model	Current	Power	Current	Power	Size
10V	IT-M3901B-10-170	-120~170A	-1200~1700W	3~120A	12~1200W	1U
	IT-M3903B-10-340	-240~340A	-2400~3400W	4~240A	40~2400W	1U
	IT-M3905B-10-510	-360~510A	-3600~5100W	6~360A	60~3600W	1U
	IT-M3910B-10-1020	-720~1020A	-7200~10200W	12~720A	120~7200W	2U
32V	IT-M3902B-32-80	±80A	±2kW	80A	2kW	1U
	IT-M3904B-32-160	±160A	±4kW	160A	4kW	1U
	IT-M3906B-32-240	±240A	±6kW	240A	6kW	1U
	IT-M3912B-32-480	±480A	±12kW	480A	12kW	2U
80V	IT-M3902B-80-40	±40A	±2kW	40A	2kW	1U
	IT-M3904B-80-80	±80A	±4kW	80A	4kW	1U
	IT-M3906B-80-120	±120A	±6kW	120A	6kW	1U
	IT-M3912B-80-240	±240A	±12kW	240A	12kW	2U
300V	IT-M3902B-300-20	±20A	±2kW	20A	2kW	1U
	IT-M3904B-300-40	±40A	±4kW	40A	4kW	1U
	IT-M3906B-300-60	±60A	±6kW	60A	6kW	1U
	IT-M3912B-300-120	±120A	±12kW	120A	12kW	2U
500V	IT-M3902B-500-12	±12A	±2kW	12A	2kW	1U
	IT-M3904B-500-24	±24A	±4kW	24A	4kW	1U
	IT-M3906B-500-36	±36A	±6kW	36A	6kW	1U
	IT-M3912B-500-72	±72A	±12kW	72A	12kW	2U
800V	IT-M3902B-800-8	±8A	±2kW	8A	2kW	1U
	IT-M3904B-800-16	±16A	±4kW	16A	4kW	1U
	IT-M3906B-800-24	±24A	±6kW	24A	6kW	1U
	IT-M3912B-800-48	±48A	±12kW	48A	12kW	2U
1500V	IT-M3906B-1500-12	±12A	±6kW	12A	6kW	1U
	IT-M3912B-1500-24	±24A	±12kW	24A	12kW	2U

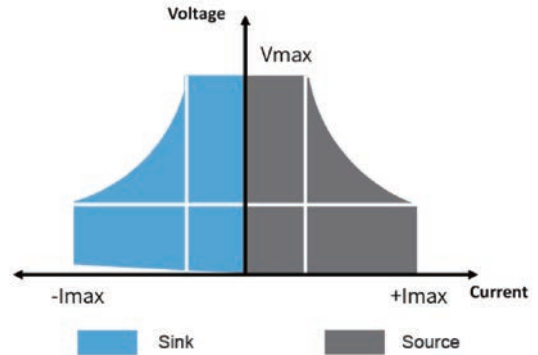


One button switch, bidirectional and regenerative

Different from other bidirectional power supplies, IT-M3900B series is a regenerative power system which combines two devices into a 1U unit. It is both a bidirectional DC power supply and also a regenerative DC electronic load. You can switch between Source and Load with one button on the front panel. IT-M3900B not only saves space and equipment purchasing cost for you, but also enables you to connect DUT easily.

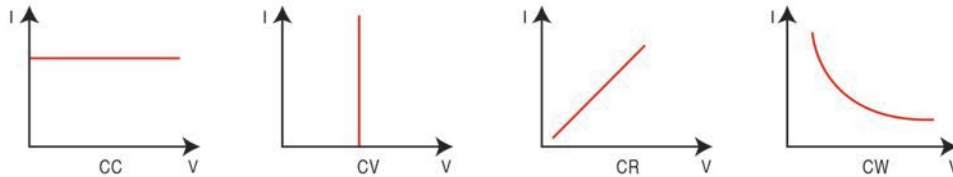


It can switch seamlessly between source and sink mode fast and continuously, which avoids voltage or current overshoot effectively. IT-M3900B can be well applied to battery test, cell packaging equipment test, battery protection board test, etc.

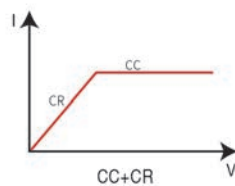


Multiple operation modes

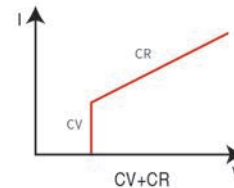
IT-M3900B provide CC/CV/CW/CR modes under source/load mode.



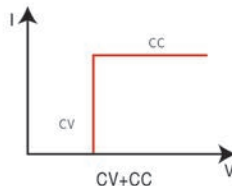
IT-M3900B also provide CC+CR/CV+CR/CV+CC/CC+CV+CW+CR four complex modes under Load mode, adapt to multiple applications.



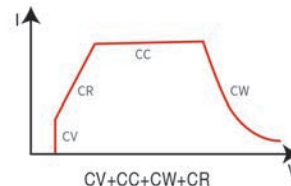
CC+CR mode can be applied to OBC feature test of voltage limit, feature test of current limit, constant voltage accuracy test, constant current accuracy test, to prevent over current protection.



CV+CR mode can be applied to simulate LED light, test LED power, LED current ripple parameters.



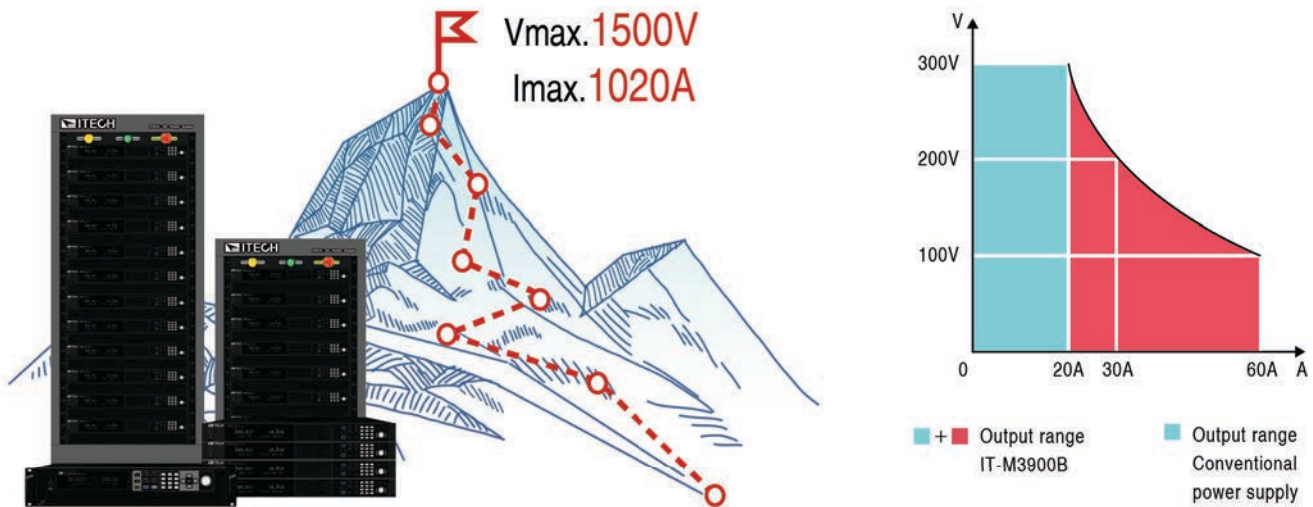
CV+CC mode can be applied to simulate battery, test charging station or car charger, the maximum loading current is limited when the CV is working.



CV+CC+CW+CR mode can be applied to test lithium-ion battery charger, to gain complete V-I charging curve. In addition, when protection circuit of DUT is damaged, it can auto switch to avoid damage.

Wide range output

There are 25 models included in IT-M3900B series. The output voltage ranges from 10V to 1500V and the maximum output current of a single unit can reach 1020A. The wide-range output design provides more voltage and current combinations than conventional fixed-range output DC power supplies, which is more flexible. Just a single unit can cover a wide range of applications which makes it easy to build power systems and largely save room for you at the same time.



Power regenerative and eco-friendly

With the power regeneration function, IT-M3900B 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. In addition, IT-M3900B has the function of automatic grid detection, which can detect phase voltage and frequency in real time and synchronizes with the grid to make energy regeneration automatic and safe.

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

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

Power	Electricity cost saved (appr. MsD/year)	CO2 emission reduced (appr. ton/year)
6 kW	6,971	50
12 kW	13,943	99
36 kW	41,828	298
96 kW	111,541	794

Power	Electricity cost saved (appr. MsD/year)	CO2 emission reduced (appr. ton/year)
6 kW	1,747	12
12 kW	3,494	24
36 kW	10,483	71
96 kW	27,955	189

* The data is based on :

1. approximate electricity price 0.14MsD/kWh for industry facility in California
2. 1kWh power consumption ≈ 0.997 CO emission

* The extra cost of air conditioning is not included.





IT-M3900C Bidirectional Programmable DC Power Supply



Applications

PV energy storage, Super capacitor/Battery, Small/Medium Power Motors, Electric Vehicles

Feature

- Compact design, power up to 6kW in 1U space, power up to 12kW in 2U space
- Voltage range: 10-1500V
- Current range:-720A~1020A
- Power range:+/-12kW
- Wide range of output design, one unit can be used as multiple power supplies
- Bidirectional energy flow between the DUT and grid, seamless switching across quadrants
- With simple master/slave parallel connection, expand power while maintaining performance*1
- Efficient and environmentally friendly energy regenerative, effectively reducing the electricity and cooling costs
- CC/CV priority
- Adjustable output impedance
- Battery charging and discharging test
- Battery simulation, define the battery model
- Dynamic curve simulation function up to 10,000,000 points
- Built-in voltage curves comply with LV123, LV148, DIN40839, ISO-16750-2, SAEJ1113-11, LV124 and ISO21848 automotive standards*2
- Support photovoltaic I-V curves simulation function*3
- List function
- Support CC/CV/ CW/CR in sink mode
- Support CC/CV/CW in Source mode, and can simulate DC output internal resistance
- Multiple protection functions: OVP, \pm OCP, \pm OPP, OTP, power failure protection, anti-islanding protection
- Automatic detection of power grid status to realize reliable grid connection function
- Standard build-in MsB/CAN/LAN/digital IO communication interface, optional GPIB/analog & RS232

*1 If 1U models>16, 2U models>8, pls. contact ITECH.Parallel connection is not recommended under PV simulation function

*2 Not available for 10V models

*3 Available for 85V and 150V models

IT-M3900 series integrates the features of a DC power supply, a bi-directional power supply, a source and load system, and a regenerative electronic load in one. It keeps the advantages of high power density design of M series, power up to 6kw, current up to 510A, and voltage up to 1500V within one 1U unit, effectively reducing the equipment occupation space and cabinet time. wide-range models could meet different test requirements while matching with multi-functional, high energy-saving, high-safety, and high-stability product design, let the customer be confident to face a variety of complex testing, improving the products competition ability.

IT-M3900C is a regenerative bidirectional programmable DC power supply, it is not only a stand-alone bidirectional DC power supply but also can be used as a regenerative electronic load, to absorb the consumed energy and feedback cleanly to the grid. The high-efficiency energy feedback efficiency not only saves electricity consumption and heat dissipation costs but also does not interfere with the operation of the power grid. IT-M3900C provides high accuracy output measurement, high reliability, high safety, and abundant measurement functions. Which makes IT-M3900 meet customers' high accuracy automatic ATE testing requirements, while extensively used in aspects of automotive electronics, new energy vehicles, photovoltaic energy storage, intelligent industrial equipment, battery simulation, etc.

Applications

PV energy storage

Grid-tied inverters, Energy storage converter, Residential solar battery storage system

Super capacitor/Battery

Cell, Battery pack, Capacitor

Small/Medium Power Motors

Drones, Power tools, Electric Motorbikes

Electric Vehicles

BOBC, DC-DC Modules, Automotive Electronic Devices

	Model	Current	Power	Size
10V	IT-M3901C-10-170	-120~170A	-1.2~1.7kW	1U
	IT-M3903C-10-340	-240~340A	-2.4~3.4kW	1U
	IT-M3905C-10-510	-360~510A	-3.6~5.1kW	1U
	IT-M3910C-10-1020	-720~1020A	-7.2~10.2kW	2U

	Model	Current	Power	Size
80V	IT-M3902C-80-40	±40A	±2kW	1U
	IT-M3904C-80-80	±80A	±4kW	1U
	IT-M3906C-80-120	±120A	±6kW	1U
	IT-M3912C-80-240	±240A	±12kW	2U

	Model	Current	Power	Size
300V	IT-M3902C-300-20	±20A	±2kW	1U
	IT-M3904C-300-40	±40A	±4kW	1U
	IT-M3906C-300-60	±60A	±6kW	1U
	IT-M3912C-300-120	±120A	±12kW	2U

	Model	Current	Power	Size
800V	IT-M3902C-800-8	±8A	±2kW	1U
	IT-M3904C-800-16	±16A	±4kW	1U
	IT-M3906C-800-24	±24A	±6kW	1U
	IT-M3912C-800-48	±48A	±12kW	2U

	Model	Current	Power	Size
32V	IT-M3902C-32-80	±80A	±2kW	1U
	IT-M3904C-32-160	±160A	±4kW	1U
	IT-M3906C-32-240	±240A	±6kW	1U
	IT-M3912C-32-480	±480A	±12kW	2U

	Model	Current	Power	Size
85V*1	IT-M3902C-85-40SAS	±40A	±2kW	1U
	IT-M3904C-85-80SAS	±80A	±4kW	1U
	IT-M3906C-85-120SAS	±120A	±6kW	1U

	Model	Current	Power	Size
150V*2	IT-M3901C-150-25PV	±25A	±1.5kW	1U
	IT-M3903C-150-50PV	±50A	±3kW	1U

	Model	Current	Power	Size
500V	IT-M3902C-500-12	±12A	±2kW	1U
	IT-M3904C-500-24	±24A	±4kW	1U
	IT-M3912C-500-72	±72A	±12kW	2U

	Model	Current	Power	Size
1500V	IT-M3906C-1500-12	±12A	±6kW	1U
	IT-M3912C-1500-24	±24A	±12kW	2U

*1 SAS1000L/SAS1000M software is Optional to 85V SAS modes to support PV simulation function

*2 SAS1000M software is included as a standard accessory for 150V PV models

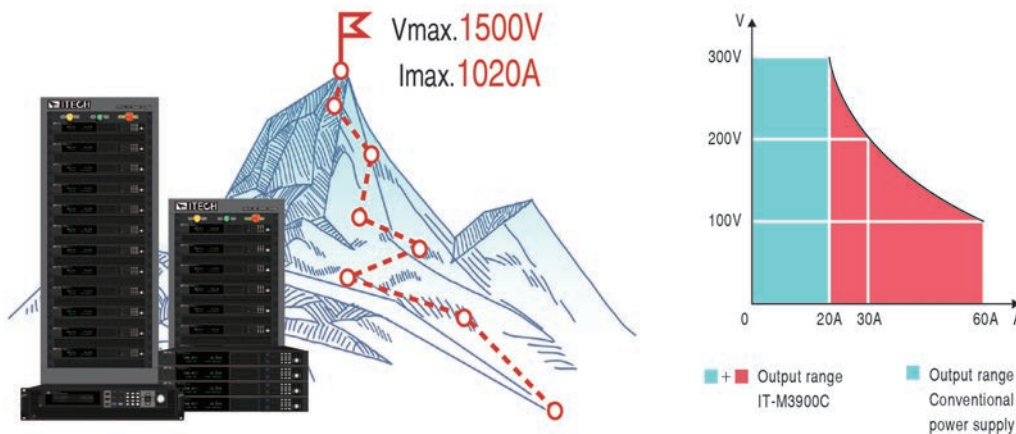
*All specifications are subject to change without notice.

CC&CV priority function

CC/CV priority can continue to help users solve various severe problems in long-term test applications to make applications that require high-speed power or non-overshoot more flexible. The CC&CV priority function of IT-M3900C allows the user to select the response speed and the loop working mode of the CC/CV loop to determine whether the output is high-speed voltage mode or non-overshoot current mode, which is suitable for high-power integrated circuit testing, charging and discharging testing, power transient simulation and characterization of automotive electronics, etc.

Wide range output

There are 32 models included in IT-M3900C series. The output voltage ranges from 10V to 1500V and the maximum output current of a single unit can reach 1020A. The wide-range output design provides more voltage and current combinations than conventional fixed-range output DC power supplies, which is more flexible. Just a single unit can cover a wide range of applications which makes it easy to build power systems and largely save room for you at the same time.



Power regenerative and eco-friendly

With the power regeneration function, IT-M3900C 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. In addition, IT-M3900C has the function of automatic grid detection, which can detect phase voltage and frequency in real time and synchronizes with the grid to make energy regeneration automatic and safe.

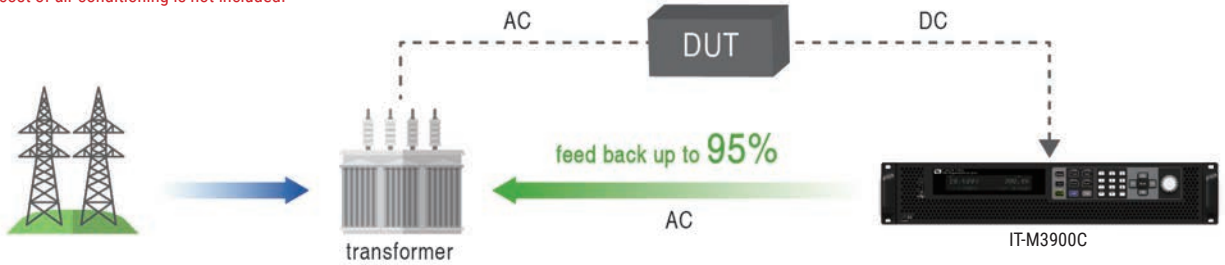
Production facility : 24Hr/day x 7 work days x 52 weeks

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

Power	Electricity cost saved (appr. MsD/year)	CO2 emission reduced (appr. ton/year)
6 kW	6,971	50
12 kW	13,943	99
36 kW	41,828	298
96 kW	111,541	794

Power	Electricity cost saved (appr. MsD/year)	CO2 emission reduced (appr. ton/year)
6 kW	1,747	12
12 kW	3,494	24
36 kW	10,483	71
96 kW	27,955	189

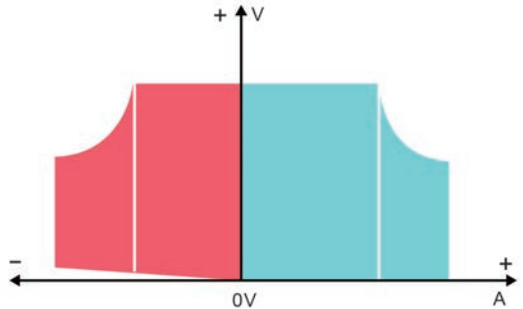
* The data is based on :
 1. approximate electricity price 0.14MsD/kWh for industry facility in California
 2. 1kWh power consumption = 0.997 CO emission
 * The extra cost of air conditioning is not included.



Bidirectional current, seamless switching

The IT-M3900C series integrates bidirectional power supply and regenerative load functional characteristics in one unit for continuous supply and absorption of current. It not only can realize the function of power source, but also capable of sink to load current, that realize the fast and continuous seamless switching between output and sink current , to effectively avoid voltage or current overshoot.

Compared with the conventional power supply and load test solutions, it not only saves the purchase cost, but also saves space and greatly simplifies the connection operation of the devices.



High efficiency parallel connection technology

Considering the user's convenience and versatility , IT-M3900C can use master/slave control mode to connect multiple power supplies in parallel to meet high-power testing requirements. Meanwhile ITECH fiber optic parallel technology fully solve the problems of slow speed and poor accuracy of traditional parallel methods. It is suitable for calibration and measurement, R&D lab, production line and ATE test.

* It is not recommended to connect in parallel under the PV function.

- The parameters will not change after parallel connection
- Calibration is not requested after parallel connection
- Optical fiber transfer between master and slave, guarantee perfect performance of anti-interference
- Adopt Optical fiber isolation technology, effective protection of the device and DUT

IT-M3900D High power DC power supply



Feature

- Compact design, power up to 6kW in 1U space, power up to 12kW in 2U space
- Voltage range: 10-1500V
- Current range: 8A~1020A
- Power range: 1700W~12kW
- Wide range of output design, one unit can be used as multiple power supplies
- With simple master/slave parallel connection, expand power while maintaining performance*1
- CC/CV priority
- Adjustable output impedance
- Built-in function generator, support arbitrary-waveform generating
- List function, up to 200 steps can be set
- Support multiple working modes, adjustable rise and fall time
- The front panel supports the insertion of MsB storage devices to meet the import of List files/Export, data logging functions, etc.
- Standard build-in MsB/CAN/LAN/digital IO communication interface, optional GPIB/analog & RS232

*1 If 1U models > 16, 2U models > 8, pls. contact ITECH.

IT-M3900 series integrates the features of a DC power supply, a bi-directional power supply, a source and load system, and a regenerative electronic load in one. It keeps the advantages of high power density and architecture design of M series, power up to 6kw, current up to 510A, and voltage up to 1500V within one 1U unit, effectively reducing the equipment occupation space and cabinet time. wide-range models could meet different test requirements while matching with multi-functional, high energy-saving, high-safety, and high-stability product design, let the customer be confident to face a variety of complex testing, improving the products competition ability.

The IT-M3900D series is a single channel output programmable DC power supply. The density structure design can effectively save rack space. Also with wide-range output design, can provide a wider range of voltage and current combinations within the specified power range. One unit can be used as multiple power supplies, more flexibility. The CC/CV priority allows user to switch the output mode according to the different needs of the DUT priority, match with the high-precision and high-speed product characteristics, and a variety of standard communication interfaces, simplifying and speeding up the test development, can meet users' variety testing application, widely used in laboratories, production lines, and automatic test systems.



	Model	Current	Power	Size
10V	IT-M3901D-10-170	170A	1700W	1U
	IT-M3903D-10-340	340A	3400W	1U
	IT-M3905D-10-510	510A	5100W	1U
	IT-M3910D-10-1020	1020A	10200W	2U

	Model	Current	Power	Size
32V	IT-M3902D-32-80	80A	2kW	1U
	IT-M3904D-32-160	160A	4kW	1U
	IT-M3906D-32-240	240A	6kW	1U
	IT-M3912D-32-480	480A	12kW	2U

	Model	Current	Power	Size
80V	IT-M3902D-80-40	40A	2kW	1U
	IT-M3904D-80-80	80A	4kW	1U
	IT-M3906D-80-120	120A	6kW	1U
	IT-M3912D-80-240	240A	12kW	2U

	Model	Current	Power	Size
300V	IT-M3902D-300-20	20A	2kW	1U
	IT-M3904D-300-40	40A	4kW	1U
	IT-M3906D-300-60	60A	6kW	1U
	IT-M3912D-300-120	120A	12kW	2U

	Model	Current	Power	Size
500V	IT-M3902D-500-12	12A	2kW	1U
	IT-M3904D-500-24	24A	4kW	1U
	IT-M3906D-500-36	36A	6kW	1U
	IT-M3912D-500-72	72A	12kW	2U

	Model	Current	Power	Size
800V	IT-M3902D-800-8	8A	2kW	1U
	IT-M3904D-800-16	16A	4kW	1U
	IT-M3906D-800-24	24A	6kW	1U
	IT-M3912D-800-48	48A	12kW	2U

	Model	Current	Power	Size
1500V	IT-M3906D-1500-12	12A	6kW	1U
	IT-M3912D-1500-24	24A	12kW	2U

*This information is subject to change without notice.

Applications

Electrolytic plating

Water treatment, surface coating, plating

5G Communications & Data Centre

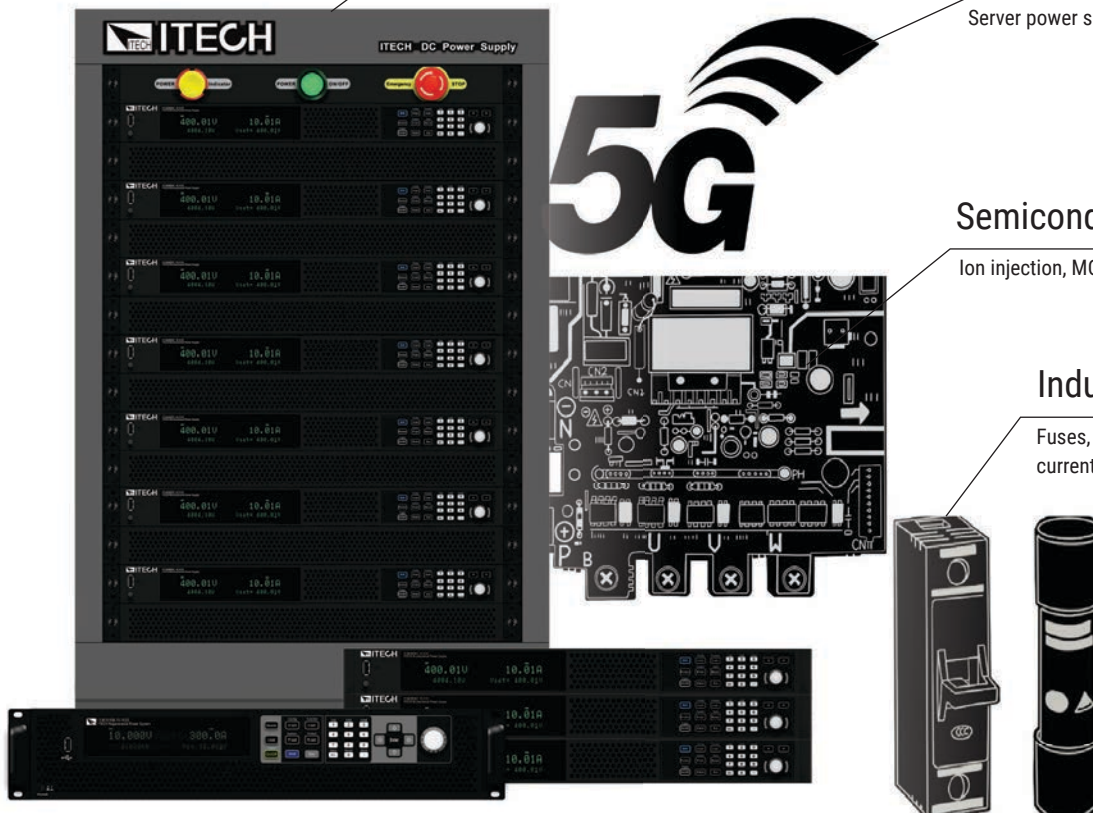
Server power supply, UPS inverter unit

Semiconductor field

Ion injection, MOCVD power supply

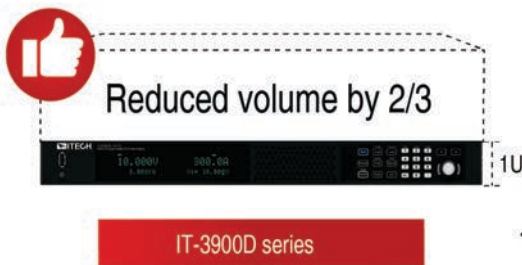
Industrial component

Fuses, automotive connector, current sensor



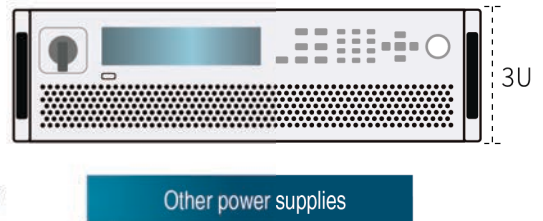
High power density, compact design

ITECH has always adhered to the design concept of high power density to help users optimize the test solutions. The IT-M3900D series adopts a compact structure design to effectively save rack space, and provide up to 6kW power output in a 1U chassis, up to 12kW power output in a 2U chassis, which makes the entire portfolio of ITECH high power density series more complete and comprehensive.



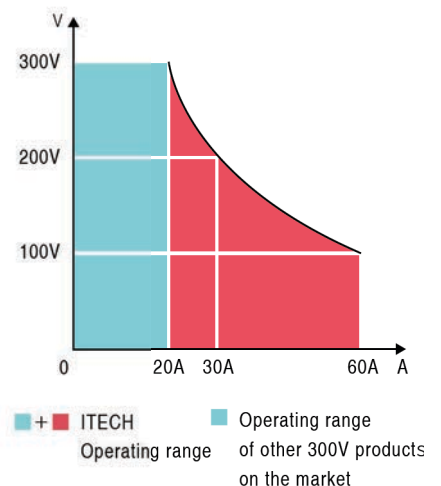
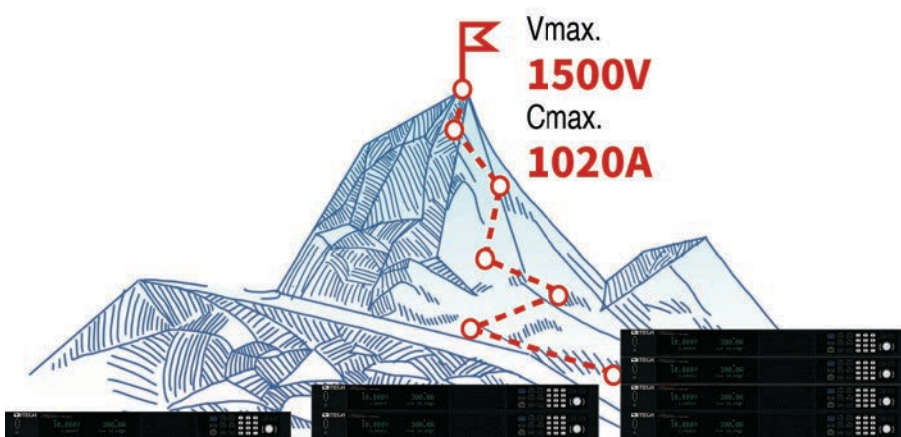
V/S

Testing solution for 6kW



Wide range output

There are 25 models included in IT-M3900D series. The output voltage ranges from 10V to 1500V and the maximum output current of a single unit can reach 1020A. The wide-range output design provides more voltage and current combinations than conventional fixed-range output DC power supplies, which is more flexible. Just a single unit can cover a wide range of applications which makes it easy to build power systems and largely save room for you at the same time.





High efficiency parallel connection technology

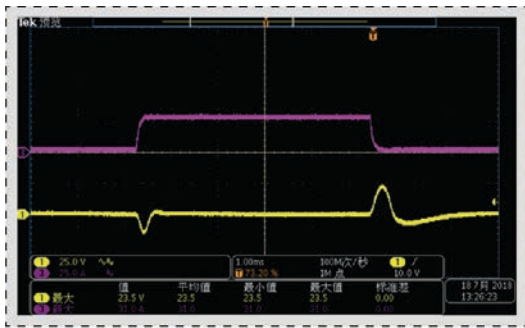
Considering the user's convenience and versatility, IT-M3900D can use master/slave control mode to parallel 6 units or more. Meanwhile ITECH fiber optic parallel technology fully solve the problems of slow speed and poor accuracy of traditional parallel methods. It is suitable for calibration and measurement, R&D lab, production line and ATE test.

The parameters will not change after parallel connection

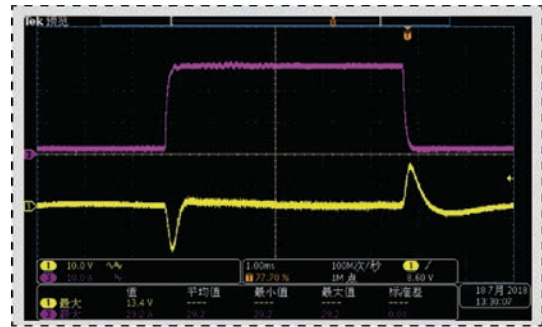
Calibration is not requested after parallel connection

Optical fiber transfer between master and slave, guarantee perfect performance of anti-interference

Adopt Optical fiber isolation technology, effective protection of the device and DUT



Single Unit



Parallel unit

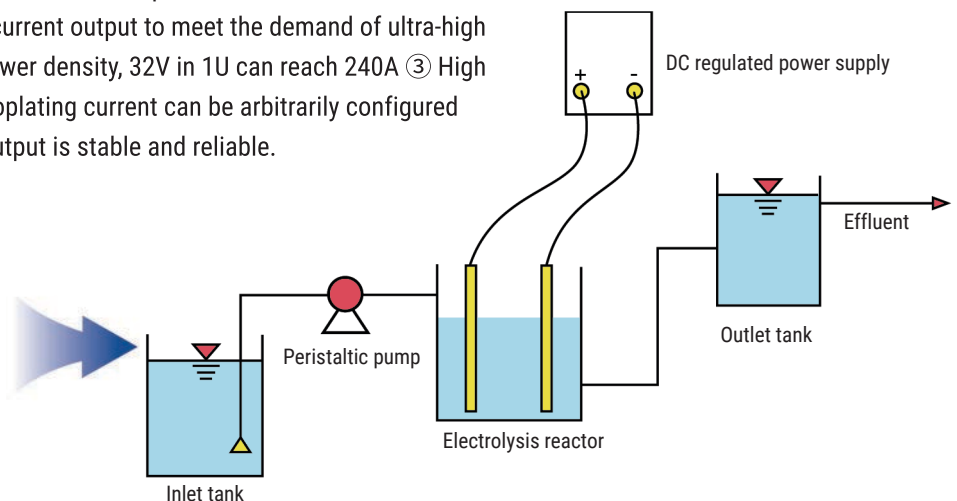


Application

Electrolytic plating, Sewage treatment, Surface coating, Sputtering, Hydrogen production from electrolytic water

Recommendation: IT-M3906D-32-240 *5 units in parallel

Advantages: ① low voltage high current output to meet the demand of ultra-high current test; ② small size high power density, 32V in 1U can reach 240A ③ High accuracy of current output, electroplating current can be arbitrarily configured according to requirements. The output is stable and reliable.



Power Supply

IT-M3100 Series Ultra-compact Wide Range DC Power Supply



Feature

- 1U Half-Rack, Ultra-Compact Size
- Adjustable rising/falling speed of output current, to meet various test applications
- High speed test, up to 10 times per second
- Up to 100 steps LIST operation, support output of various dynamic waveforms
- Support CC/CV loop speed and priority setting
- Parallel operation can be easily controlled by one unit
- Independent control of multi-channels, one communication card can control up to 16 channels, max.256 channels
- Support output of different timings of each channel, can synchronize or delay the output, and supports the output of different ratios of voltage
- Support CANOPEN, LXI, SCPI, Modbus(Customized) and other communication protocols
- Five optional cards for plug-and-play function, providing RS232, CAN, LAN, GPIB, MsB_TMC, MsB_VCP, RS485, external analog and IO communication interfaces
- Support TRACE function, can draw voltage and current waveforms in real time (Supported by IT9000-PV3100)
- Battery charging test function
- Software watchdog provides more reliable and safe automatic battery test solution
- Various protection functions such as OVP, OCP, OPP, OTP, ensure secure testing
- Provide self-locking function, when the device is self-locked, the device will not be able to output

To meet increasing test demands from various industries, ITECH newly released IT-M3100 series is not only innovative in terms of product series is not only innovative in terms of product technology, but also from the perspective of industry application to provide complete innovative solutions. Breaking through the traditional tech limits, in the ultra compact size of only 1U Half-Rack, the unit can not only output high power, but also has high performance and versatility . It supports the master-slave parallel mode. The full range of models support multiple stacking and parallel connection by handily designing "leg" plug-in. Fit with rack mount kit to achieve the perfect use. This new series will empower the engineers with innovation and implement test technology advancements more quickly and more accurately.

The IT-M3100 series consists of 12 models, providing 6 voltages grades, and can be combined to achieve a variety of output power. It has a flexible modular architecture, independent multi-channel design, and supports synchronous operation. Users can configure each channel according to the test requirements of DUT, up to max. 16*16 channels, to meet the needs of customized solutions. It has a wide range of application such as research and development, design verification and automatic test systems intergration.

Ultra-compact - Only 1/2 1U

IT-M3100 series power supply is only 1/2 1U. But its maximum output power is up to 1500W. It has not only high power density, but also has high precision and resolution and reliable stability. The maximum output voltage is up to 600V and maximum output current is up to 120A. Since the output voltage and current are restricted by limited power, lower current can get higher voltage and lower voltage can get higher current. One unit can be used in various applications.



	Model	Voltage	Current	Power
20V	IT-M3110	20V	100A	400W
	IT-M3120	20V	100A	850W
	IT-M3130	30V	120A	1500W

	Model	Voltage	Current	Power
30V	IT-M3111	30V	70A	400W
	IT-M3121	30V	70A	850W
	IT-M3131	30V	100A	1500W

	Model	Voltage	Current	Power
80V	IT-M3112	80V	22A	400W
	IT-M3122	80V	22A	850W
	IT-M3132	80V	40A	1500W

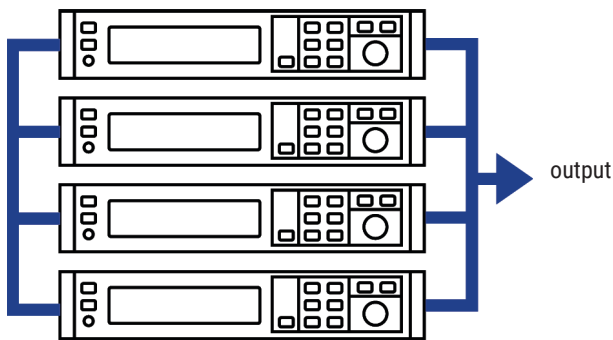
	Model	Voltage	Current	Power
150V	IT-M3113	150V	12A	400W
	IT-M3123	150V	12A	850W
	IT-M3133	150V	20A	1500W

	Model	Voltage	Current	Power
300V	IT-M3114	300V	6A	400W
	IT-M3124	300V	6A	850W
	IT-M3134	300V	10A	1 500W

	Model	Voltage	Current	Power
600V	IT-M3115	600V	3A	400W
	IT-M3125	600V	3A	850W
	IT-M3135	600V	5A	1 500W

Parallel operation can be easily controlled by one unit

IT-M3100 is extensible. Users can have different current by units parallel connection. For parallel connection, the maximum units quantity is up to 4.



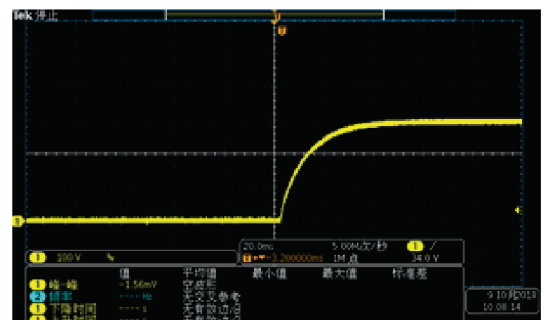
4 units IT-M3120 parallel connection

Synchronism (Link)

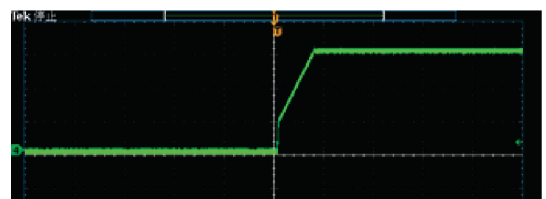
IT-M3100 has the function of synchronism between multiple channels. There are 3 options On/Off, Track, Duplicate. The synchronism works for On/Off, Save/Recall, Priority mode, rising or falling of voltage and current value setting and function of Protect. And the voltage change can be proportional between different units.

CC&CV Priority

IT-M3100 series keep the function of CC/CV priority. It can make the test easier especially for the applications like high speed power supply or no overshooting current. Users can get fast voltage rising time by CV priority mode. This is helpful in the high speed voltage test. Users can also choose CC priority mode to output no overshooting current. It's good for test DUT under CC working condition. This is used in various application field such as laser test, IC test, charge and discharge test, transient simulation of power supply in automotive electronics and so on.



CV priority, voltage without overshoot



CC priority, current without overshoot

Multi-channel independent control, maximum 256 channels

IT-M3100 Series is provided with independent multi-channel design. The channel sequence will be displayed when 16 units IT-M3100 combines to be a multi-channel power system. The user can control each unit independently by PC software when connecting the communication interface of one unit with PC. Each channel can be operated separately.

IT-M3100 supports maximum 16*16 channels. One 37U rack case contains 64 channels. The user may test DUTs with different power ranges by parallel connection, making tests more flexible and device usage more efficient.

* Please contact ITECH for the specific multi-channel solution



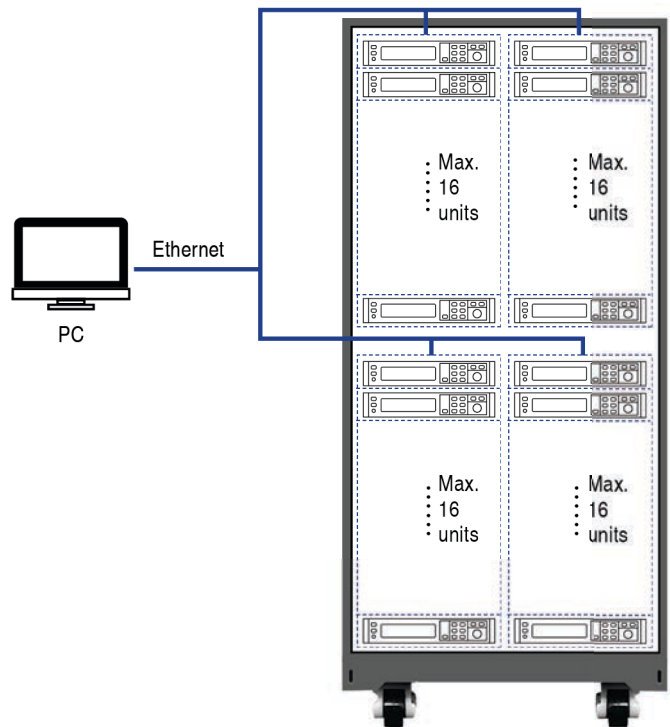
IT-M3100 multi-channel power supplies are widely used in production testing, multi-channel load aging system, integrated circuits etc. fields.

Application 1

When the product is powered by DC and need to do aging test by many channels, similar to DC-DC converter, the charge part of battery aging test, and circuit board etc., the multi-channel power supply is a must, to ensure the synchronization and output consistency. Meanwhile, the program command is much simpler for system test. The user needs to send many commands to control each power supply with traditional multiple units of power supplies. By using M3100, the user only need to synchronize multiple units, and send one command to control the master unit only.

Application 2

Nowadays, the development of integrated circuits tends to be miniaturized. Most of the AC input voltage requires multiple power supplies to realize. Normally a high-voltage main input and multiple voltage auxiliary inputs are required. The multi-channel power supply is needed to do AC input test. If adopts the traditional multiple power supply to multi-path mode physically, it will cause asynchronous control, and result in the circuit board not working. The M31 series adopts the synchronous trigger output function to ensure the synchronization of the output, effectively solve this problem.



Modular design, flexible combination

IT-M3100 breaks through the shackles of traditional product design, with a side ventilation design. The flexible modular design makes it simple for IT-M3100 to stack directly, no need to purchase any accessories. The open structure brings users with different free combinations, just like blocks stacking, simple and convenient.

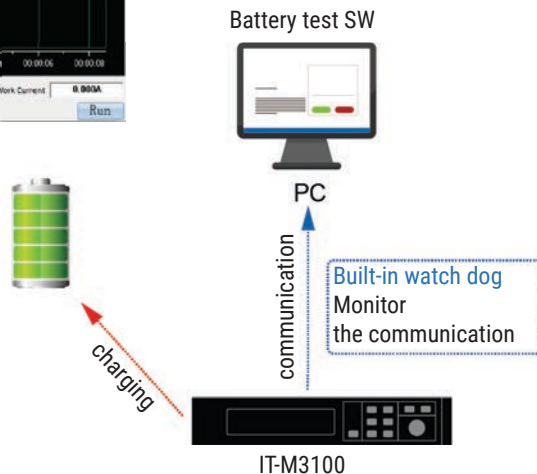
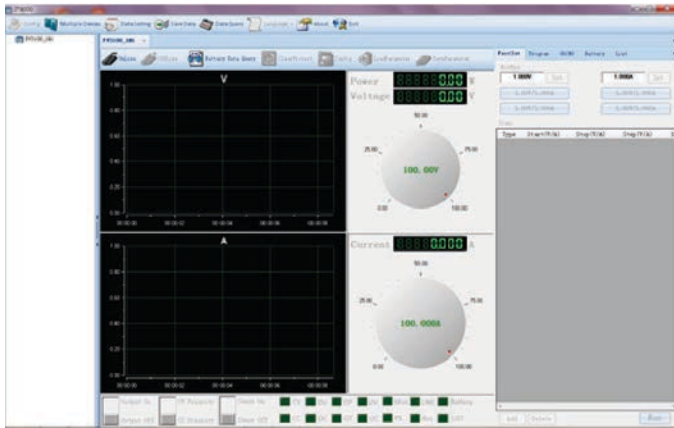


* Stack up to 10 units without rack mount kit



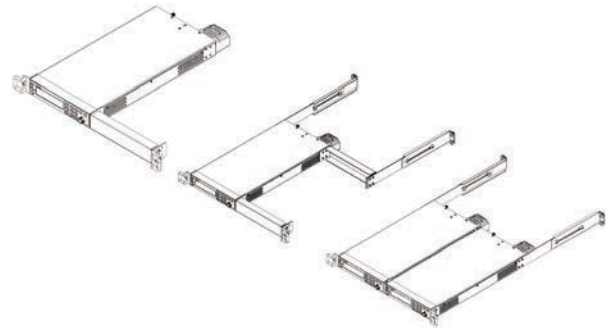
Battery Charging function

IT-M3100 series can test batteries with its battery charging function. The users can set different parameters as turn off conditions: voltage, current, capacity and charging time. When any of the above parameters meet the set condition, it will shut off the test automatically. During the process, the users can observe the voltage, charging time and capacity. Additionally, IT-M3100 can be operated with software, which to achieve reliable auto-test solution.



Battery Charging function

IT-M3100 series adopts high density design with 1U half-rack space. Users may put 2-3 units on bench for initial tests at low power with less channels. When they need more power or more channels, it is convenient to use IT-E154 to gather one or multiple units IT-M3100 to install into the rack case. It is flexible for the customers to configure based on specific requirements to avoid waste.



Optional accessory

IT-M3100 series rear panel provide below listed optional extension interfaces for users to choose. Optional rack mount kit is also available.

Pictures	Model	Interface
	IT-E1205	GPIO Interface
	IT-E1206	MsB/LAN Interface
	IT-E1207	RS-232/CAN Analogue interface
	IT-E1208	/RS485 Interface
	IT-E1209	MsB Interface



Standard rear panel



Rear panel with optional interface

IT-M3100D Dual-channel DC Power Supply



Power Supply

IT-M3100D dual-channel programmable DC power supply, only 1U half rack, provides fully isolated dual-channel output. The automatic wide-range design can provide you with higher voltage and current output, so one unit can cover a wide range of applications. Its flexible modular design, independent multi-channel design and simultaneous operation function allow you to configure each channel freely. IT-3100D dual-channel programmable DC power supply is especially suitable for production line aging test and building automated test system. At the same time, it can also be widely used in experiments and evaluation, quality management and so on.

Feature

- High power density, 1U Half-Rack only Isolated dual-channel design
- Different timing output of each channel, synchronous or delayed output, output with different voltage ratios
- Adjustable rise/fall time
- Up to 100 steps LIST operation, support output of various dynamic waveforms
- CC/CV loop speed and priority setting
- Independent control of multi- channels, one communication card can control up to 16 channels
- Series/parallel connection between two channels is available
**1 new*
- Support CW
- Support CANOPEN, LXI, SCPI
- Five optional cards , providing RS232, CAN, LAN, GPIB,MsB_ TMC, MsB_VCP, RS485, external analog and IO communication interfaces
- Support TRACE function, can draw voltage and current waveforms in real time (Supported by program)
- Various protection functions such as Sense, OVP, OCP, OPP, OTP, Foldback
- Provide self-locking function, when the device is self-locked, the device will not be able to output

Model	CH1	CH2
IT-M3131D	30V/15A/200W	30V/15A/200W
IT-M3141D	30V/15A/400W	30V/15A/400W
IT-M3132D	60V/10A/200W	60V/10A/200W
IT-M3142D	60V/10A/400W	60V/10A/400W

*1 Max.100V can be output after series/parallel connection



Ultra-compacted - Only 1U Half-Rack

IT-M3100D dual-channel DC power supply is only 1U half rack, but it can output 400W per channel. In addition to high power density, it also features as high resolution, high precision and stability. The automatic wide-range design brings more combinations of voltages and currents, which means that one unit can cover a variety of testing requirement.



Modular design, flexible combination

Thanks to the modular design, several units of IT-M3100D dual-channel DC power supply can be freely stacked, no additional accessories needed, as easy as building blocks.

* Max.10 units can be stacked without rack mount kit.

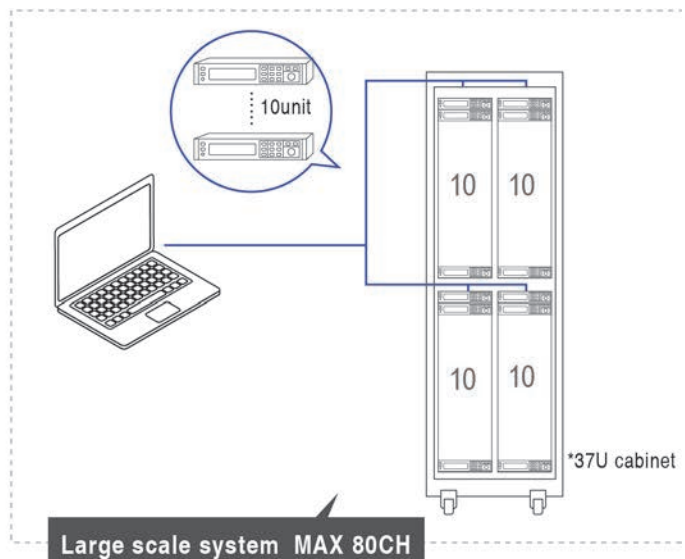
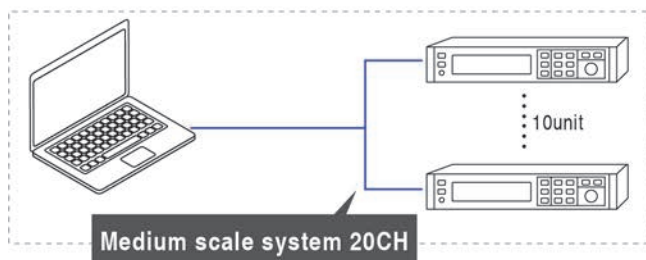
Of course, you can also use the IT-E154 rack mount kit to easily install one or more units in a standard 19-inch rack. Flexible combination can effectively help you to avoid repeated purchases of equipment.



Multi-channel independent control

The IT-M3100D dual-channel DC power supply adopts an independent multi-channel design, which makes it easy to connect between the power supply and the computer. When a multi-channel power supply system is formed, the channel number will be displayed on the interface of each power supply. If the communication interface of one of the units is connected to the computer, you can independently control each power supply in the system by software. Each channel can be operated independently. A 37U cabinet can include up to 40 units/80 channels, which greatly increases the utilization rate of the equipment.

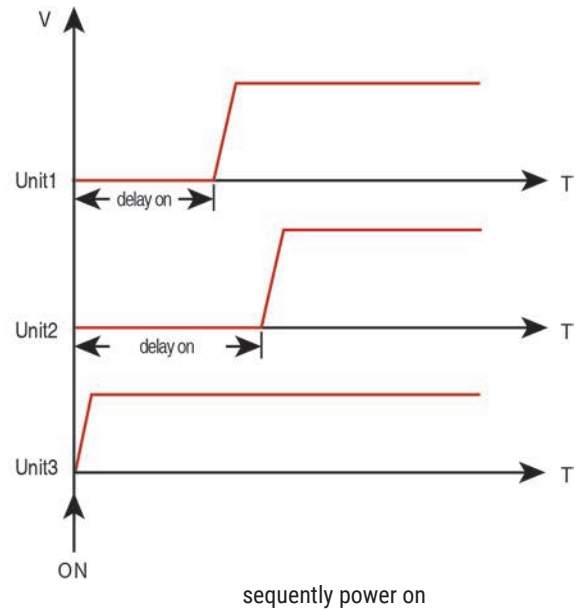
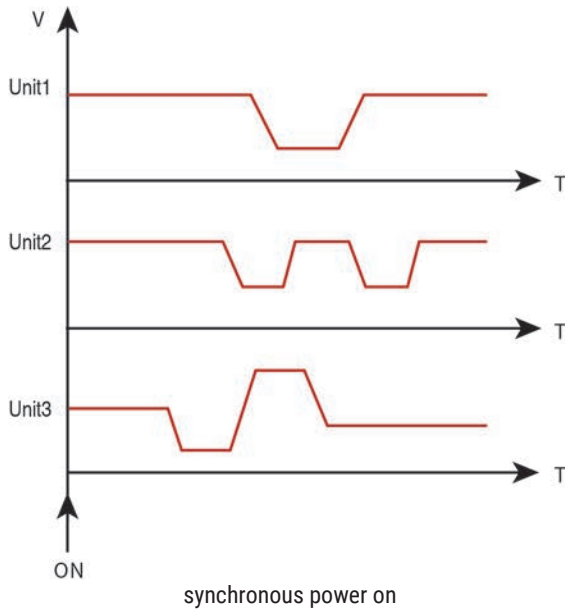
* For details, pls. contact ITECH.



Synchronism (Link)

IT-M3100D supports synchronization function whether it is a single unit or in a multi-channel power supply system. It is suitable for the simultaneous testing of multiple DUTs, or the application scenarios where the DUT is multi-channel power input. There are three synchronization modes for you, On/Off, Track, Duplicate. You just need to configure parameters on one power supply, and the parameters can be automatically replicated or synced proportionally to other power supplies in the loop.

When the ON/OFF function is used with the ON/OFF delay function in the menu, synchronous power-on or sequential power-on can be realized.



Multi-Protection Function

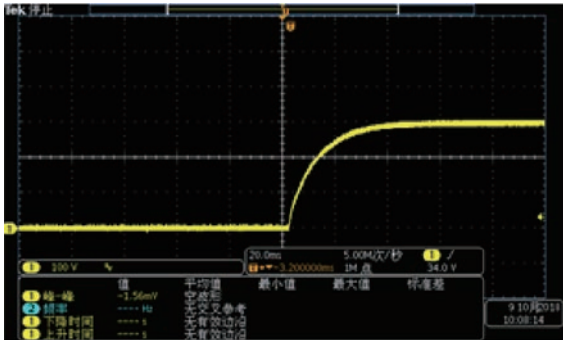
IT-M3100D dual-channel DC power supply has various protection functions such as OCP / OVP / OTP / OPP / U-Max/U-Min/Sense/ Foldback. The Sense function helps to pop up a warning in time and switch the power supply to the Local output when the output terminal fails. The Foldback function is used to turn off the output when the power CV / CC is switched, so as to protect DUT that are sensitive to voltage overshoot and current overshoot.



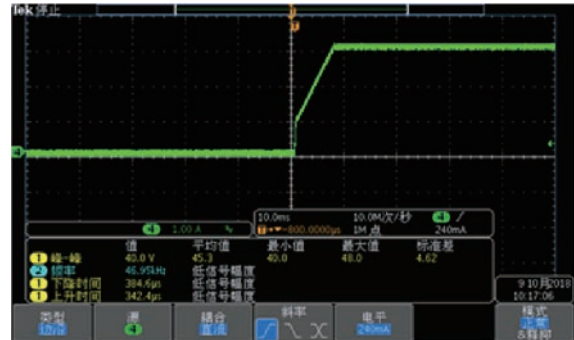


CC & CV priority function

The CC / CV priority function helps to solve a variety of severe problems in long-term testing. For test that require high-speed voltage or no overshoot, you can select the CV priority mode to obtain a faster voltage rising speed. Or you can choose CC priority mode to output current without overshoot, which is used to test DUTs with constant current operating characteristics. This function is good for laser testing, IC testing, charge and discharge testing, power transient simulation and characterization of automotive electronics, etc.



CV



CC

Web server access

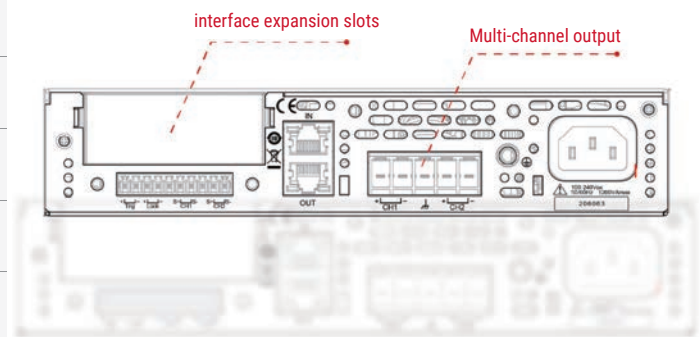
IT-M3100D has a built-in Web server. You can monitor and control it through your web browser. After the IT-M3100D and the computer are connected via LAN interface, enter the IP address of the power supply in the browser, and then you can access the front panel control functions including the LAN configuration parameters.



Optional accessory

The rear panel of the IT-M3100D series provides interface expansion slots. You can choose different interfaces to achieve different functions, such as communication interfaces, external analog interfaces and rack mount kit.

Pictures	Model	Interface
	ITE-E1205	GPIB Interface
	ITE-E1206	MsB/LAN Interface
	ITE-E1207	RS-232/CAN Interface
	ITE-E1208	Analogue interface /RS485 Interface
	ITE-E1208D	double channel analog /RS485
	ITE-E1209	MsB Interface



IT-M3200 High-precision Programmable DC power supply



Power Supply

IT-M3200 high-precision programmable DC power supply adopts a mixed modes design, which not only takes into account high power and low ripple output, but also has dynamic load response, switching between multiple current measurement ranges. It meets various current measurement requirement from ampere level to micro-ampere level.

IT-M3200 has a flexible modular architecture, independent multi-channel design with synchronous operation function. Users can configure each channel arbitrarily according to the test requirements of the DUT. The maximum channels is up to 16*16 which can meet various customized test requirements. It is widely used in the test fields of 3C products, semiconductor devices, 5G, IoT and medical electronic equipment, etc.

Feature

- 1U Half-rack, maximum power is up to 360W
- Wide range measurement
- Low ripple and noise
- High resolution, high accuracy and high stability
- Current readback is up to 10nA
- Four current measurement ranges Low/Middle/High/Auto
- CC/CV priority setting
- Foldback
- Adjustable rise/fall time, soft start / stop
- Multi-channel independent control, one communication card can control 16 channels, up to 256 channels
- Different timing output of each channel to achieve synchronization or proportional tracking List
- Support multiple communication protocol,CANOPEN,LXI,SCPI
- Five optional cards, supporting RS232,CAN,LAN,GPIB, MsB_TMC,MsB_VCP,RS485, analog and IO
- Multiple protection, OVP/OCV/OTP/OPP/UVP/UCP

Model	Voltage	Current	Power
IT-M3223	60V	10A	100W
IT-M3233	60V	10A	200W
IT-M3243	60V	10A	360W
IT-M3253	20V	20A	100W
IT-M3263	20V	20A	200W
IT-M3273	20V	20A	360W





Application Fields

Smart sensor module testing

Acceleration sensor, gyroscope test, flow sensor, pressure sensor test, etc.

5G test

GSM module, WiFi module, optical module test, etc.

Power semiconductor discrete device testing

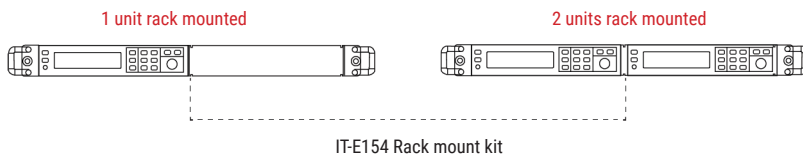
IGBT chip test, power management chip, LED / OLED display power consumption test, etc.

Wearable device testing

Medical wearable devices, smart bracelet testing, etc.

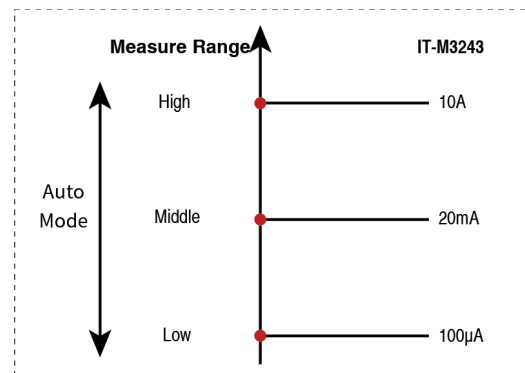
Modular design, flexible combination

The unique plug-in design makes it as simple as building blocks to stack IT-M3200 devices, without purchasing any additional accessories. Meanwhile, users can choose optional IT-E154 rack mount kit to install one or more units into a standard 19-inch cabinet easily.



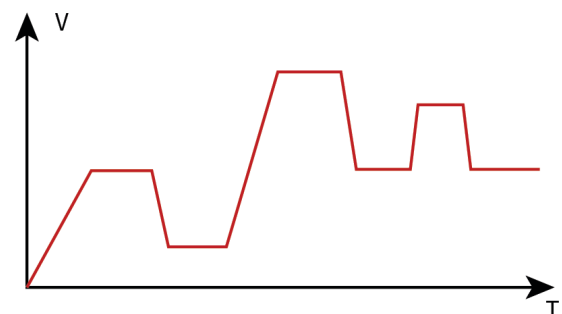
Multi-level current range

IT-M3200 provides multi-level (Low/Middle/High/Auto) current range switching, with resolution up to 10nA, to meet the current measurement needs from Amp level to micro-amp level. The user can realize the flexible switching between low and high current measurement at the Auto level, no need to control manually. This function is suitable for testing in the fields of 5G, wearable devices and other low power consumption products.



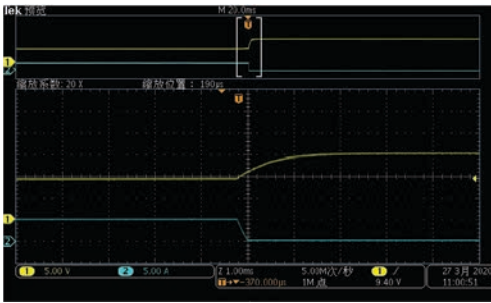
List Function

Users can modify and edit the output waveform of the voltage and current with time according to customer's test requirements without use the software, also can control the voltage rise and decline slope. the power supply will automatically transform the output according to pre-edited waveform after receiving the trigger signal.

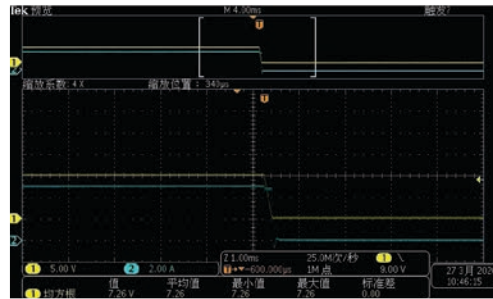


Foldback protection

IT-M3200 Series with Foldback protection function, is used for turn off the output when the power supply is switched by CV/CC, so as to protect certain DUT that are sensitive to voltage overshoot and current overshoot. User can specify working mode and set the delay time protection, if the current working mode is switched, it will trigger the protection and turn off the output when the delay time is used up.



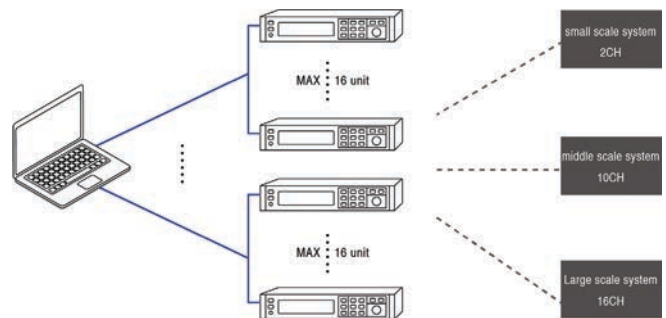
CC to CV, no overshoot



CV to CC, no overshoot

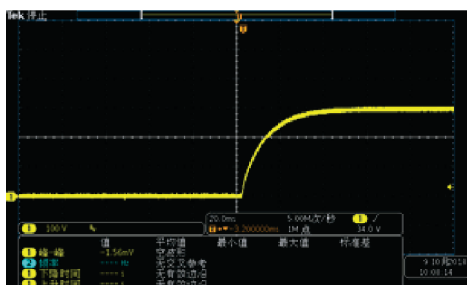
Multiple channel independent control

IT-M3200 Series is provided with independent multi-channel design to simplify the complex wiring between device and PC. When the communication interface of 1 unit IT-M3200 of a multi-channel system is connected with PC, we may realize remote control of 16*16 channels at maximum.

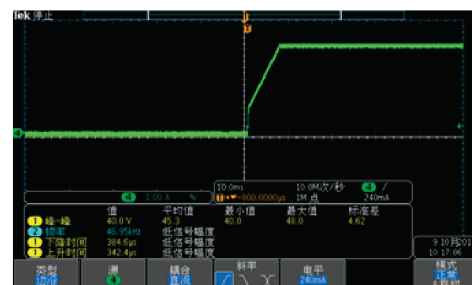


CC & CV Priority

IT-M3200 series have CC/CV priority function, which helps the user to solve the problems, and make the tests easier especially for the applications of high speed power supply or no overshooting current. Users can get fast voltage rising time by CV priority mode. This is helpful in the high-speed voltage test. Users can also choose CC priority mode to output no overshooting current. It's good for test DUT under CC working condition. This is used in various application fields such as laser test, IC test, charge and discharge test, transient simulation of power supply in automotive electronics and so on.



CV priority, voltage without overshoot



CC priority, current without overshoot



IT-M3400 Bidirectional DC Power Supply

Bidirectional

High efficient power regeneration

Battery simulation/charge and discharge test

Independent control of multiple channels



Power Supply

IT-M3400 bidirectional DC power supply integrates the features of a bidirectional power supply and a regenerative load. It keeps the advantages of high power density and modular architecture design of M series.

It can meet the customer's test requirement of different current and power level. Thanks to the independent multi-channel design, users can configure each channel according to the quantity and specifications of the DUT. At the same time, it has high-precision output and measurement, and has made a number of safety designs for testing, suitable for multiple test fields, such as power modules, intelligent industrial equipment, automotive electronics, charging and discharging tests of various small-capacity batteries.

Feature

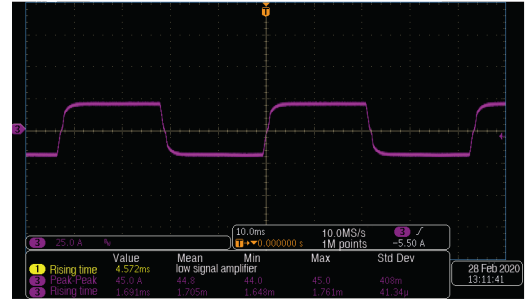
- 1U Half-rack, high power density
- Bidirectional energy flow*
- High efficient power regeneration
- Battery test
- Battery simulation
- Independent control of multi-channels with functions of synchronization and proportional tracking
- High speed measurement, 10 times/S updating rate
- CC/CV priority
- Adjustable output impedance
- Programmable voltage and current rise and fall time
- Temperature measurement function, over temperature protection
- List
- Various protection such as OCP / UCP / OVP / OTP / OPP / UVP over heat protection, grid fault protection and fault storage, foldback, Power-off protection, sense abnormal protection
- Automatic detection of power grid state to realize reliable grid connection
- Pre charge function to prevent overshoot of DC loading current
- Anti-reverse protection function through optional accessories
- Five optional cards, supporting RS232,CAN,LAN,GPIB,MsB_TMC,MsB_VCP, RS485, analog and IO interface

*Only support sink current under CC mode after been paralleled

Model	Voltage	Current	Power	Model	Voltage	Current	Power
IT-M3412	60V	30A	200W	IT-M3414	300V	6A	200W
IT-M3422	60V	30A	400W	IT-M3424	300V	6A	400W
IT-M3432	60V	30A	800W	IT-M3434	300V	6A	800W
IT-M3413	150V	12A	200W	IT-M3415	600V	3A	200W
IT-M3423	150V	12A	400W	IT-M3425	600V	3A	400W
IT-M3433	150V	12A	800W	IT-M3435	600V	3A	800W

Seamless switching between source and sink

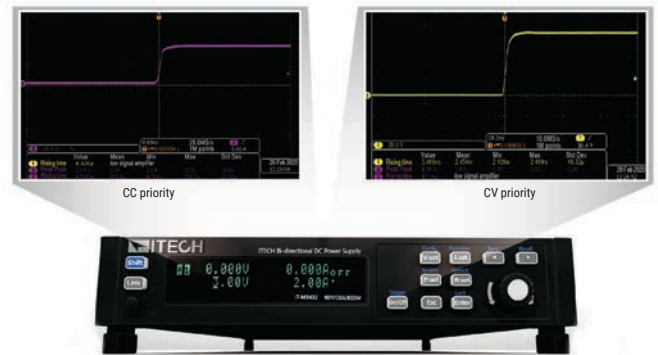
Different from the traditional power supply and load, when positive and negative current switch, there will be a short jump and Incoherence. IT-M3400 integrates bidirectional power supply and regenerative e-load in one, which is capable of achieving high-speed and seamless switching between source and sink. In this way, a fast and seamless switch between source and sink effectively avoids voltage or current overshoot, which is widely used in batteries, battery packaging, battery protection boards and other energy storage equipment testing.



CC priority charge and discharge seamless switching

CC & CV priority function

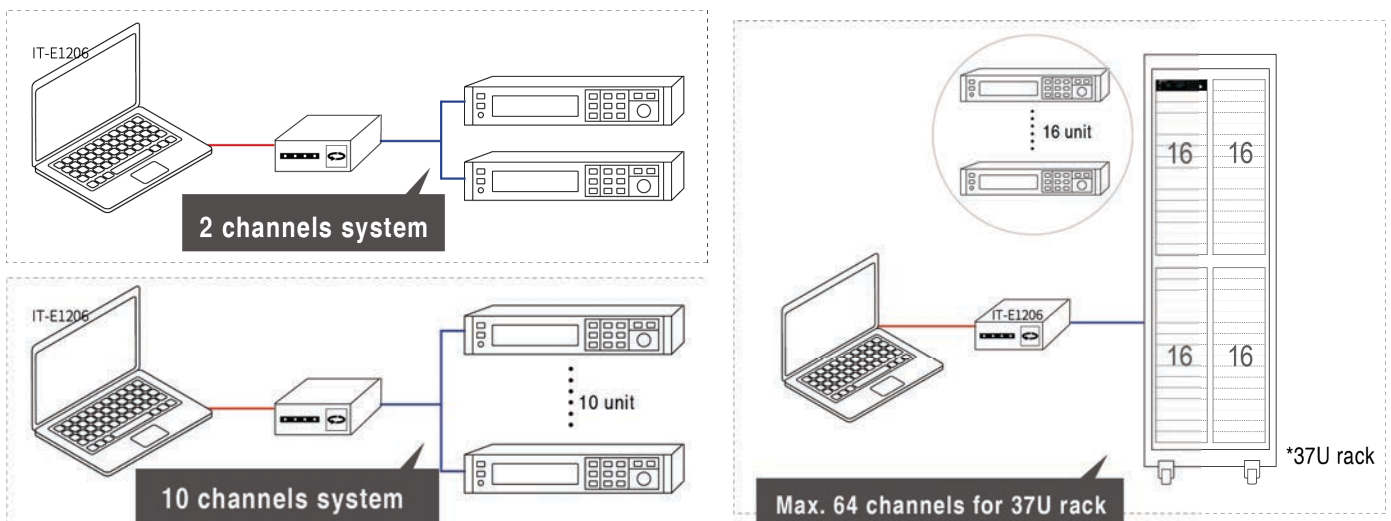
IT-M3400 continues to support CC / CV priority function, help customers solve a variety of severe problems in long-term testing. For test that require high-speed voltage, users can select the CV priority mode to obtain a faster voltage climb speed; or choose CC priority mode, output current without overshoot, used to test DUT with constant current operating characteristics. This function is widely used in power supply transient simulation and characterization test applications, such as lasers, integrated circuits, charge and discharge, automotive electronics.



Multi-channel independent control, up to 256 channel

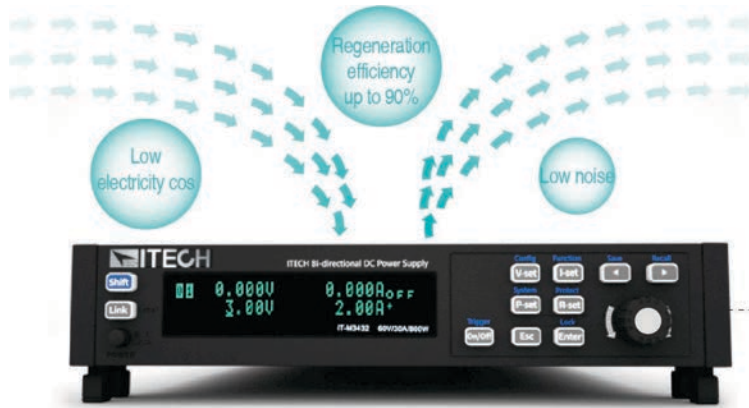
IT-M3400 provides flexible multi-channel function, the users can build-up multi-channel source-sink system, each unit will show the channel number on the front panel. PC only need to connect with one unit to control and program all the units independently by GUI software.

IT-M3400 support maximum 16*16 channels, each 37U rack can integrate 64 units which is 64 channels.



High energy regeneration efficiency

IT-M3400 supports energy regeneration function, the efficiency is up to 90%, which save cost both for the electricity and cooling system, create low noise testing environment.



≈ **6307kW·h**
can be deducted from your electricity bill
using 1pc IT-M3400(800W) for 1 year

Battery simulation function

IT-M3400 can simulate up to 99 batteries in series and parallel. The user can set the battery voltage, capacity, internal resistance, and SOC to quickly define the battery matrix.

The user can set the battery by choosing ITECH optional professional BSS2000 battery simulation software, by setting common battery parameters to quickly establish the battery characteristic curve, they can also set the initial capacity of the battery, to verify the characteristics of the product in different states of the battery. At the same time, BSS2000 supports user to import matlab battery matrix or import the actual battery charge and discharge curve through .CSV file, to simulate real battery's charge and discharge characteristics.



BSS2000 battery emulation software interface

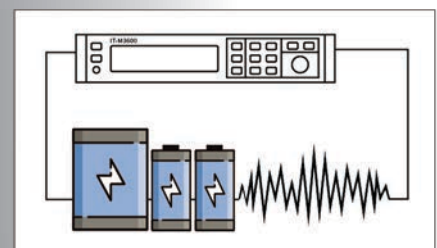
*Please contact ITECH for further details.

Battery Test Function

IT-M3400 series Regenerative Power System, which integrates power supply and regenerative electronic load one unit, and adjustable output impedance design, can simulate the charging and discharging characteristics of the battery, and perform other testing, too. It can be used not only test the multiple single cells, but also comprehensive test the battery packages. It can also perform the battery setting and data processing in various test conditions and plot the test figure.

Optional ITS5300 professional battery test software can perform the following test items:

- working condition simulation
- Battery DC IR Test
- Battery endurance test
- Battery Temperature Test
- Reliability Test
- Charge and Discharge characteristic
- Battery cycle life test
- Battery capacity test
- Over charge and Over discharge endurance test
- Battery conformity test





IT-M3600 Regenerative Power System

One button switch between source and load

Highly efficient power regeneration

Battery simulation and test

PV inverter I-V curve simulation



Power Supply

IT-M3600 regenerative power system integrates two instruments in one device, composed by a bidirectional power supply and a regenerative electronic load. When being used as a load, its energy recovery function can convert the absorbed DC power into AC power and return it to the local grid. When being used as a power supply, it is a wide range bidirectional DC power supply. IT-M3600 combines the advantages of both instruments well, and its small size of only 1U half rack also help to save your space, time and cost. IT-M3600, with high-precision output and measurement, it is suitable for multiple test fields such as multi-module batteries, multi-channel power supplies, micro inverters, and semiconductor devices.

Feature

- 1U half rack, high power density
- One button switch between source and load
- Bidirectional energy flow between DUT and grid
- Highly efficient power regeneration
- Battery test
- Battery simulation
- 8 operating modes: CC/CV/CP/CR/CV+CC/CC+CR/CV+CR/CV+CC+CP+CR*1
- Independent control of multi-channels, implement synchronization or proportional tracking
- High-speed measurement, keep 10 times / s update rate even connecting 16 stand-alone units
- CC/CV priority
- PV inverter I-V curve simulation*2
- Adjustable output impedance
- Programmable rise/fall time for voltage and current*3
- Temperature measurement function, over temperature protection
- List
- Various protection such as OCP, UCP, OVP, OTP, OPP, UVP, over heat protection, grid fault protection and fault storage, foldback, Power-off protection, sense abnormal protection
- Automatic detection of power grid state to realize reliable grid connection
- Precharge function to prevent overshoot of DC loading current
- Anti-reverse protection function through optional accessories
- Five optional cards, supporting RS232, CAN, LAN, GPIB, MsB_TMC, MsB_VCP, RS485, analog and IO communication

*1 Multiple operation modes is only available under load function *2 Stay tuned
*3 Only current rise and fall time can be set under load function

Model	Voltage	Current	Power	Model	Voltage	Current	Power
IT-M3612	60V	30A	200W	IT-M3614	300V	6A	200W
IT-M3622	60V	30A	400W	IT-M3624	300V	6A	400W
IT-M3632	60V	30A	800W	IT-M3634	300V	6A	800W
IT-M3613	150V	12A	200W	IT-M3615	600V	3A	200W
IT-M3623	150V	12A	400W	IT-M3625	600V	3A	400W
IT-M3633	150V	12A	800W	IT-M3635	600V	3A	800W

Applications

Various small capacity battery charge and discharge tests

Electric bicycles, balance bikes, drone batteries, sweeping robot batteries, etc

Battery simulator, simulate the IV curve of different characteristics battery

Servo motor test, unmanned electromechanical test, smart meter test, etc.

Low Power Module Test

Bidirectional DC-DC module test, small inverter module test

Semiconductor IC, relay, wiring harness and other aging test

Power regulator, intelligent electronic switch IPS, auto central control box aging test

Test in photovoltaic field, simulate IV curve of small photovoltaic array

Micro inverter, photovoltaic IC test, photovoltaic optimizer test



One button switch between source and load

IT-M3600 integrates two devices in a small size of 1U Half-rack, which can not only be operated as a high-performance bidirectional DC power supply; but also be operated as a regenerative e-load. Simulate various load characteristics and feedback power to grid without pollution, multi-functions in one. Users do not need to use software and any terminal equipment to switch operation mode, one button switching can greatly save time and space

1U Half-rack

IT-M3600 is only 1U Half-rack, but the power output is up to 800W. Besides high power density, it also has high resolution, high accuracy and high stability, etc. The output voltage is up to 600V and the output current is up to 30A. All series containing 12 models with ultra-wide range output design, can be widely used in various Applications.

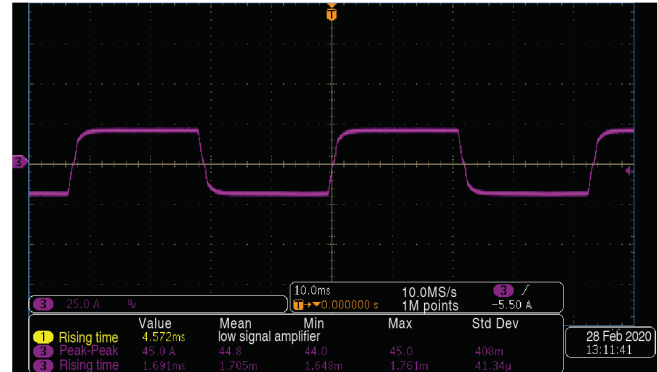




Seamless switching between source and sink

Different from the traditional power supply and load, the switch between positive and negative current, it will have transient jumps and discontinuities. IT-M3600 integrate bidirectional power supply and regenerative load in one unit. When work under source mode, it supports high speed switch between source and sink mode, such seamless switch between positive and negative current is fast, continuous, and seamless, so as to avoid the current or voltage overshoot during the test. This can be widely used to various tests related to storage unit such as battery, battery packaging, battery protection board etc.

*Only available for single unit.



Seamless charging and discharging switch under CC priority

High energy regeneration efficiency

IT-M3600 series is regenerative when working in sink under source mode, also regenerative working under load mode. The max regeneration efficiency is up to 90%, which can save the cost for both electricity and cooling system, achieving low noise testing environment.

≈ 6307kW·h can be deducted from your electricity bill using 1pc IT-M3600(800W)



Battery simulation function

IT-M3600 support to simulate max. 99 cells in series and parallel connection. The users can quickly select battery matrix by setting battery voltage, capacity, resistance, SOC from the front panel. ITECH provides optional BSS2000 battery simulation software, users can self-define the battery curve by setting common parameters, also can set battery initial capacity to verify the DUT characteristics under different battery status. Meanwhile, BSS2000 supports to import matlab battery matrix or CSV. file with battery charging and discharging curve, so as to simulate real battery charge and discharge characteristics.

*Please contact ITECH for details.



BSS2000 battery simulation software interface

Solar panel I-V curve simulation

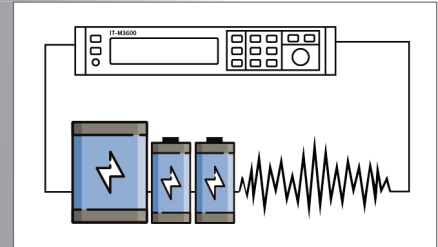
IT-M3600 configured with optional ITECH SAS1000 Solar Array Simulation Software, users can accurately simulate the I-V curve. Built-in EN50530、Sandia、NB/T32004、CGC/GF004、CGC/GF035 standard testing procedures, it is convenient for users to test the static and dynamic MPPT performance of PV inverters and generate reports. Solar simulation power supply also provides the shadow and table mode operation, the user can enter up to 1024 points array to edit any shielded IV curve to achieve dynamic shadow effect simulation and also can store 100 I-V curves under different irradiation and temperature to test the long-term maximum power tracking performance of photovoltaic inverters under different climatic conditions.

Battery Test Function

IT-M3600 series Regenerative Power System, which integrates power supply and regenerative electronic load into one unit, and adjustable output impedance design, can simulate the charging and discharging characteristics of the battery, and perform other testing, too. It can be used not only test the multiple single cells, but also comprehensive test the battery packages. It can also perform the battery setting and data processing in various test conditions and plot the test figure.

Optional ITS5300 professional battery test software can perform the following test items:

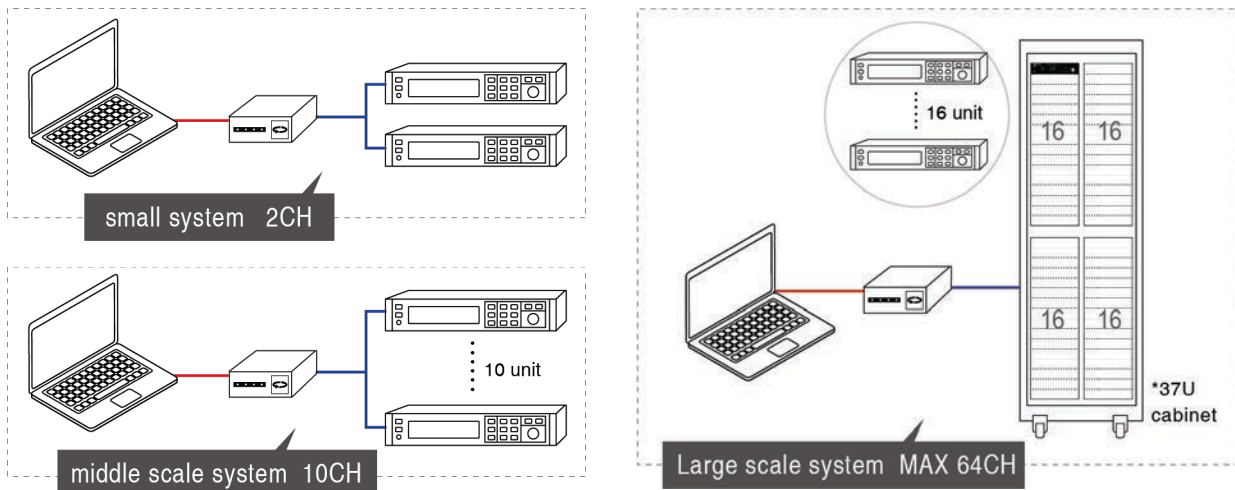
- working condition simulation
- Battery DC IR Test
- Battery endurance test
- Battery Temperature Test
- Reliability Test
- Charge and Discharge characteristic
- Battery cycle life test
- Battery capacity test
- Over charge and Over discharge endurance test
- Battery conformity test



Multi-channel independent control, maximum 256 channels

IT-M3600 Series is provided with independent multi-channel design. The channel sequence will be displayed when it combines to be a multi-channel power and electronic load system. The user can control each unit independently by PC software when connecting the communication interface of one unit with PC. Each channel can be operated separately.

IT-M3600 Series supports maximum 16*16 channels. One 37U rack case contains 64 channels.



Multiple Protection function

IT-M3600 series have comprehensive protection functions, it can also provide OCP, UCP, OVP, OTP, OPP, UCP and grid fault protection, fault storage function, power-off protection function and sense sensing abnormal protection. With unique foldback protection function designing, it is used to turn off the output as soon as the power supply is switched by CV/ CC for protect the DUT which are sensitive to voltage overshoot and current overshoot. As it can automatic detect of power grid status, the product will be shut down when the power grid is suddenly disconnected, which can achieve reliable grid connection and islanding protection. The pre-charging function can prevent the DC load current from overshooting. Users can choose the anti-reverse connection module to achieve the anti-reverse protection function and effectively suppress the battery surge.



IT6000B Series Regenerative Power System



Applications

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

Feature

- 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
- Battery 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, \pm OCP, \pm OPP, OTP, voltage transient drop protection and anti-islanding protection
- Built-in MsB/CAN/LAN/digital IO interface, Optional GPIB/ Analog&RS232
- Support data saving and the shortest interval of sampling is 10us
- Battery simulator(with BSS2000) -Characteristic simulation of various batteries
- Strong dynamic driving profile simulation function, up to 10,000,000 points

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 2000kW. Built-in waveform generator supports generating arbitrary waveforms, and imports LIST files for waveforms via MsB 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.



Specification

Power Supply

	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

Optional accessories

Accessories for cabinet		
Model	Specification	Description
ITE510-15U *	15U unit, grey	800mm×550mm X907.64mm
ITE511-15U *	15U unit, black	800mm×550mm X907.64mm
ITE510-27U *	27U unit, grey	800mm×600mm×1441.41mm
ITE511-27U *	27U unit, black	800mm×600mm×1441.41mm
ITE510-37U *	37U unit, grey	800mm×600mm×1885.91mm
ITE511-37U *	37U unit, black	800mm×600mm×1885.91mm
ITE168	optical fiber kit for parallel connection	for parallel communication between single units
ITE169	optic cables for parallel communication	for parallel communication between cabinet
ITE165A-250	750V/250A	reverse polarity protection
ITE165A-400	750V/400A	reverse polarity protection
ITE165A-500	900V/400A	reverse polarity protection
ITE165A-750	1500V/750A	reverse polarity protection
ITE165A-1000	1500V/1000A	reverse polarity protection
ITE165B	Anti electromotive force protection unit	avoid current back flow
ITE258/E/U-15U	5m power cord for 15U unit	Applied for Europe(-E) or United States(-U) or other area
ITE258/E/U-27U	5m power cord for 27U unit	Applied for Europe(-E) or United States(-U) or other area
ITE258/E/U-37U	5m power cord for 37U unit	Applied for Europe(-E) or United States(-U) or other area
ITE166	GPIB communication card	
ITE167	RS232 & analog interface card	
Software		
Model	Specification	Description
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



IT-E4029-27U (mm)

* contact us for details



IT6000C Series Bidirectional Programmable DC Power Supply



Feature

- Adopts SiC-base technology, integrates source and sink function in one unit
- Stand-alone max. output power 144kW, expandable up to 2 MW by paralleling
- Voltage range: 0 to 2250V
- Current range: 0-2040A (single cabinet); 0-8000A (after parallel connection)
- High power density up to 18kW in compact 3U rack space
- Bi-directional power transfer, seamless switch between sourcing and sinking
- High regenerative efficiency up to 95% *1
- Standard Built-in MsB/CAN/LAN/digital IO interface, optional GPIB/ analog & RS232
- Full protections: support OVP, \pm OCP, \pm OPP, OTP, power down protection, anti-islanding protection
- Support control loop priority mode setting , different loop speed can be set
- Partial pre-compliant with LV123, LV148, DIN40839, ISO-16750-2, SAEJ1113-11, LV124 and ISO21848 testing standards
- Could be used as battery cyclers and support various battery charging and discharging modes, such as CC/CV/CP
- Built-in function generator, support arbitrary-waveform generating
- Could be used as PV simulator, simulating the PV curves (with optional SAS1000 software)
- Support multiple working modes, rising and falling time can be adjustable.
- Support data saving and the shortest interval of sampling is 10us
- Could be used as battery simulator (with optional BSS2000 Software)
- Strong dynamic driving profile simulation function, up to 10,000,000 points

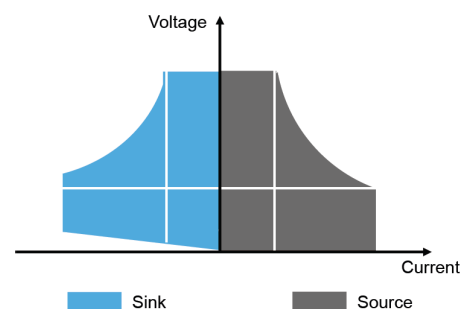
*1 The regenerated power is for local grid purpose, not for public grid purpose

IT6000C series is a bi-directional programmable DC power supply which adopts the third generation SiC-base technology. It integrates the source and sink function in one unit. Based on these two functions, IT6000C offers the functionality of two-quadrant operation. The regenerative capability enables the energy consumed to be put back onto the grid cleanly, saving costs from energy consumption and cooling, while not interfering with the grid.

IT6000C series provide max. output voltage up to 2250V, support master-slave paralleling with averaging current distribution, max. output power up to 2MW. Built-in waveform generator supports generating arbitrary waveforms, and import LIST files for waveforms via front panel MsB port. IT6000C is the combination of high reliability, high efficient setting, safe and multiple measurement functions.






Bi-directional energy, seamless transfer

The IT6000C Series combines source and sink functions in one. Unlike traditional power supplies and E-loads, for which there will be short transitions and inconsistencies in the middle of positive and negative current switching, IT6000C is a standard high-speed bidirectional power supply, enables high-speed source and sink current fast and continuous seamless switching, effectively avoiding voltage or current overshoot, and can be widely used in Energy storage device test, like batteries, cell packaging equipment and battery protection board testing.



Application

Power Supply

01 Renewable Energy		PCS power conversion system		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 tes		LED products	Aviation
04 High-power testing		UPS	Electric motor/generator	Battery Pack	Electro plating/welding	ATE systems

	Model	Current	Power		Model	Current	Power		Model	Current	Power
80V	IT6005C-80-150	150A	5kW	300V	IT6006C-300-75	75A	6kW	500V	IT6006C-500-40	40A	6kW
	IT6010C-80-300	300A	10kW		IT6012C-300-150	150A	12kW		IT6012C-500-80	80A	12kW
	IT6015C-80-450	450A	15kW		IT6018C-300-225	225A	18kW		IT6018C-500-120	120A	18kW
	IT6030C-80-900	900A	30kW		IT6036C-300-450	450A	36kW		IT6036C-500-240	240A	36kW
	IT6045C-80-1350	1350A	45kW		IT6054C-300-675	675A	54kW		IT6054C-500-360	360A	54kW
	IT6060C-80-1800	1800A	60kW		IT6072C-300-900	900A	72kW		IT6072C-500-480	480A	72kW
	IT6075C-80-2040	2040A	75kW		IT6090C-300-1125	1125A	90kW		IT6090C-500-600	600A	90kW
	IT6090C-80-2040	2040A	90kW		IT6108C-300-1350	1350A	108kW		IT6108C-500-720	720A	108kW
	IT6105C-80-2040	2040A	105kW		IT6126C-300-1575	1575A	126kW		IT6126C-500-840	840A	126kW
	IT6120C-80-2040	2040A	120kW		IT6144C-300-1800	1800A	144kW		IT6144C-500-960	960A	144kW

	Model	Current	Power		Model	Current	Power		Model	Current	Power		
800V	IT6006C-800-25	25A	6kW	1500V	IT6018C-1500-40	40A	18kW	2250V	IT6018C-2250-25	25A	18kW		
	IT6012C-800-50	50A	12kW		IT6036C-1500-80	80A	36kW		IT6036C-2250-50	50A	36kW		
	IT6018C-800-75	75A	18kW		IT6054C-1500-120	120A	54kW		IT6054C-2250-75	75A	54kW		
	IT6036C-800-150	150A	36kW		IT6072C-1500-160	160A	72kW		IT6072C-2250-100	100A	72kW		
	IT6054C-800-225	225A	54kW		IT6090C-1500-200	200A	90kW		IT6090C-2250-125	125A	90kW		
	IT6072C-800-300	300A	72kW		IT6108C-1500-240	240A	108kW		IT6108C-2250-150	150A	108kW		
	IT6090C-800-375	375A	90kW		IT6126C-1500-280	280A	126kW		IT6126C-2250-175	175A	126kW		
	IT6108C-800-450	450A	108kW		IT6144C-1500-320	320A	144kW		IT6144C-2250-200	200A	144kW		
	IT6126C-800-525	525A	126kW										
	IT6144C-800-600	600A	144kW										

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High energy regenerative efficiency

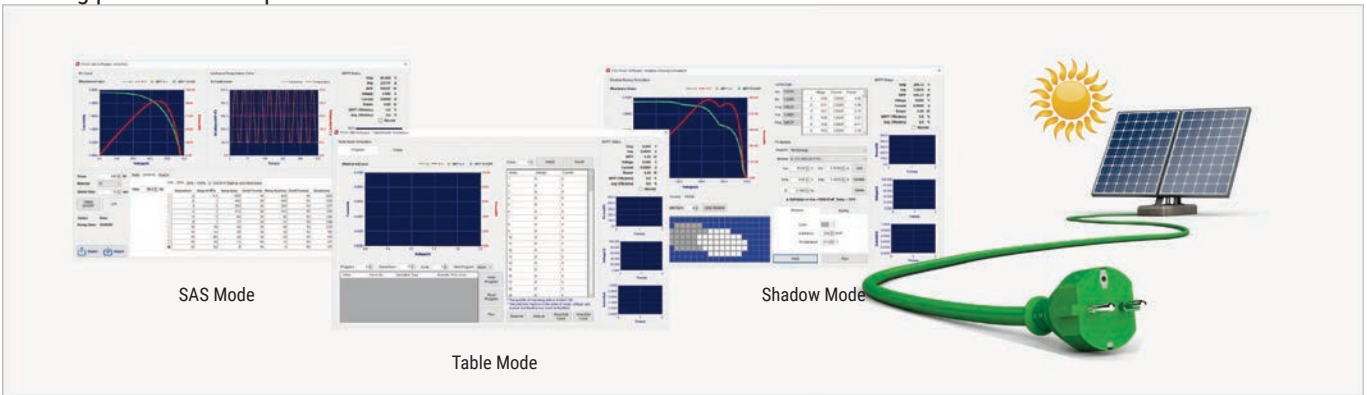
The IT6000C series has a unique energy regenerative function that can regenerate electrical energy and then directly use it in the plant instead of consuming it in the form of heat. The regenerative efficiency can reach up to 95%, which not only will greatly reduce the user's electricity cost, but also avoid the using of air conditioning or expensive cooling systems.



Power Supply

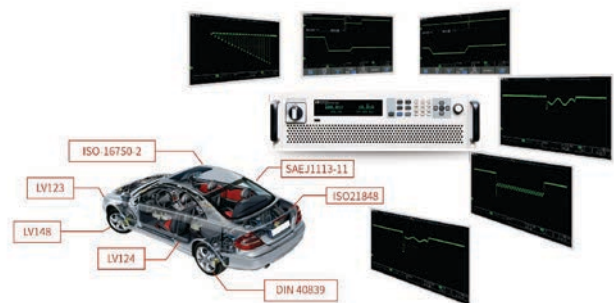
Application for solar array simulation

IT6000C configured with optional ITECH SAS1000 Solar Array Simulation Software, users can easily use the software to output, measure, display the MPP tracking status of photovoltaic inverter in real time simulation and record value. Built-in EN50530, Sandia, NB/T32004, CGC/GF004, CGC/GF035 standard testing procedures, it is convenient for users to test the static and dynamic MPPT performance of PV inverters and generate reports. Solar simulation power supply also provides the shadow and table mode operation, the user can enter up to 4096 points array to edit any shielded IV curve to achieve dynamic shadow effect simulation and also can store 100 I-V curves under different irradiation and temperature to test the long-term maximum power tracking performance of photovoltaic inverters under different climatic conditions.



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

Automotive electronics may often encounter 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 IT6000C series has built-in standard automotive voltage curves LV123, LV148, DIN40839, ISO-16750-2, SAEJ1113-11, LV124 and ISO21848. The User can directly recall the vehicle's starting voltage drop, various automotive electronic tests, pulse waveforms and other related automotive electronics for performance tests. Available voltage grades in 12V, 24V and 48V voltage levels.



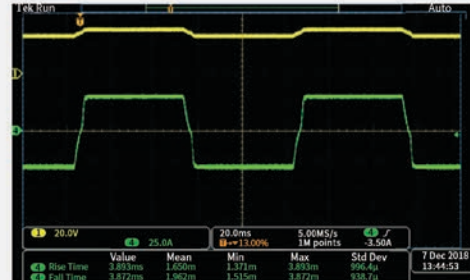
Control loop CC/CV priority mode

IT6000 C series continues to adopt ITECH-developed innovative CV & CC priority concept, which will help customers effectively and flexibly solve their various tough problems in test applications request for high speed and no over shoot power supplies. Customers can select CV or CC priority to adjust the speed of the loop circuit, to decide output with the high-speed voltage or current with no overshoot. It is applicable for high-power integrated circuit test, charging/ discharging test, and the transient simulation/ characteristic test of automotive electronics.



Control loop CV priority mode

After setting the high-speed voltage mode, the voltage output faster and bring with an inrush current which is higher than the current range.



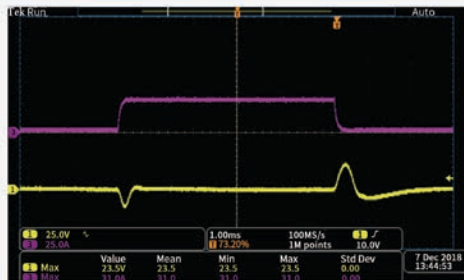
Control loop CC priority mode

battery charging and discharging, high speed seamless switch, effectively suppress the current overshoot.

Parallel connection technology

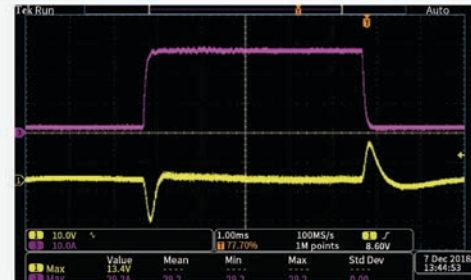
Advantages:

- IT6000 BCD series adopts ITECH parallel connection technology
- Optical fiber transfer between master and slave, guarantee perfect performance of anti-interference
- The parameters will not change after parallel connection
- Adopt Optical fiber isolation technology, effective protection of the device and DUT
- Calibration is not requested after parallel connection



Stand-alone unit

Stand-alone unit: IT6006C-500-40 500V 40A 6000W
Input voltage:100V Input current:28A Sinking current:30A



Paralleled units

2 sets IT6006C-500-40 paralleled
Input voltage:100V Input current:56A Sinking current :60A

* Yellow waveform: output voltage Violet waveform: output current



From the above waveforms comparison:

we can see the paralleled IT6000C can output the same dynamic response waveform as the original single unit does, and show no-delay fast synchronized response.

Falling speed

No substantial changes comparing with single unit after parallel connection

Falling speed

Even faster rising speed, comparing with single unit after parallel connection

Falling speed

consistent with single unit waveform after parallel connection



IT6000D Series High Power Programmable DC Power Supply



Feature

- Master-slave parallel, the power can be paralleled up to 2 MW
- Current range: 0-2040A (single cabinet); 0-8000A (after parallel connection)
- The adoption of high frequency switching structure supports the automatic switching among CV, CC and CP
- Provides various protections: OVP, OCP, OPP, OTP, protection of power failure and UVP
- Supports data recording function, can continuously record the Max, Min, Average values of output voltage and current, and it can automatically execute data by sequence
- Power efficiency up to 92%
- High power density supported by advanced SiC technology is up to 3U/18kW
- Supports external data recording function, internal buffering, and the PC will periodically read data from the power supply, the shortest interval of sampling is 10us
- Built-in communication interfaces of MsB/CAN/LAN/Digital IO, and optional interfaces of GPIB, Analog and RS232
- Supports SCPI protocol, built-in Web server

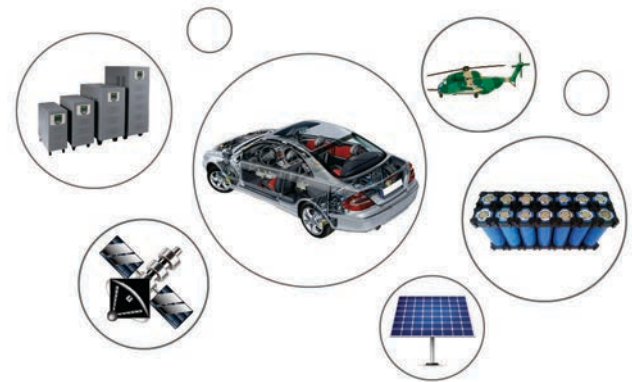
IT6000D, single channel output programmable DC power supply, is applicable in laboratories and automatic test system to provide high-power and stable DC supply.

The feature of autoranging output enables a wide range of voltage and current combinations at full power, unprecedentedly flexible.

IT6000D Series has wide range of applications and its current up to 8000A, as well as its voltage up to 2250V. Besides, IT6000D provides multi built-in communication interfaces to simplify and accelerate the testing development. The compact 3U design saves rack space. Multi units of the same model can be paralleled easily to have higher power and the maximum power can reach up to 2 MW.

Applications

- Applications
- Data center
- Server power supply
- High voltage UPS
- Telecommunications power
- Solar battery panels
- On-board-charger
- Battery pack
- Energy storage system
- Electrical vehicle charging station
- Fuel battery
- Automatic Test Equipment
- High precision electroplating, sputtering, surface treatment



3U/18kW High power density

High power density of 18kW in 3U size, IT6000D series DC power supply has good capability of low output ripple and noise, power grid disturbance adjustment, load regulation and fast transient response. Standalone unit with voltage range of 80V-2250V, current of 450A-20A. Its wide range allows the devices to be used in every testing step of R&D, products testing and production.

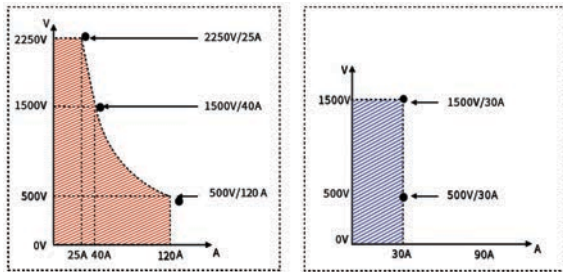
CC & CV priority

IT6000D series keep the CC/CV priority function, which fit different application requests such as fast speed or no overshoot, making the whole test more convenient. 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, and transient simulation test of automotive electronics etc.

Output features

Comparing with the conventional design, the IT6000D has much better output range to satisfy various requirement.

Featured as its wide auto range output, it can cover more applications. One standalone unit equals to 3-5 traditional power supplies and 3 units equals to 10-13 traditional power supplies. This makes it easier to build a system and save space at the same time.

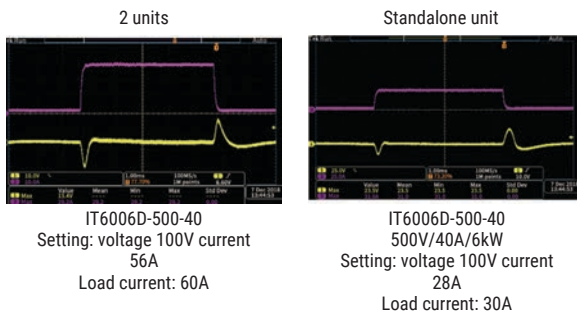


CP curve of IT6000D

Output feature of conventional power supply

Parallel technology

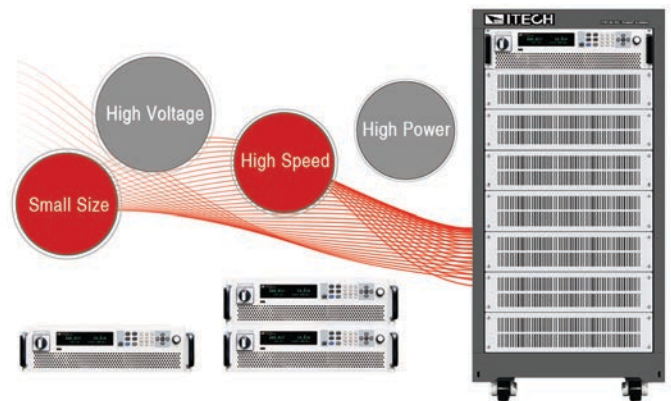
- IT6000 has adopted ITECH parallel technology
- All the function and performance will be the same as standalone unit
- No need to calibrate after paralleling
- Fiber transmission, good for anti-interference
- Digital paralleling, fully insulated, good for protecting DUT



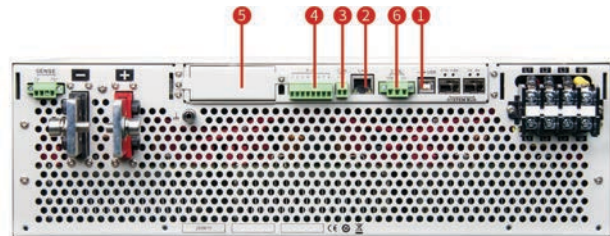
Parallel technology

When the higher power is required, IT6000D series can be paralleled with several same model units. The system will be built faster and more flexible.

- Parallel unit up to 64 units
- Master / Slave parallel operation up to 2MW
- Parallel current up to 2040A
- Smart Master / Slave mode make the parallel connection easy and fast
- High power density for standalone unit and parallel connection
- Precise synchronization to ensure the whole power system synchronization after parallel connection.



Multiple interfaces

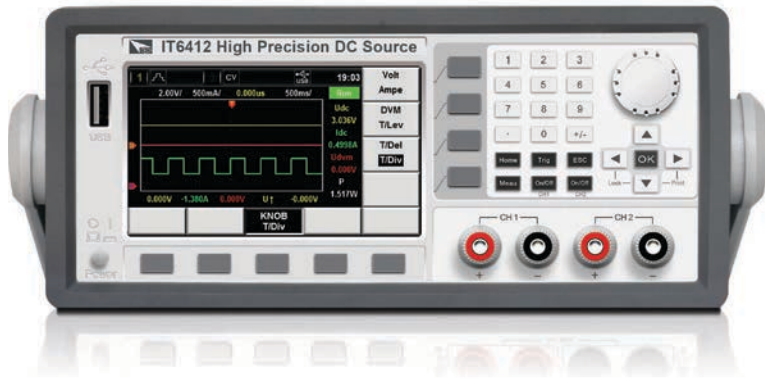


- | | | |
|---------------------------------|----------------------------------|-------------------------------------|
| <p>1 Standard MsB interface</p> | <p>2 Standard LAN interface</p> | <p>3 Standard CAN interface</p> |
| <p>4 Standard I/O interface</p> | <p>5 Optional GPIB interface</p> | <p>6 External control interface</p> |

* Optional GPIB or Optional RS232 & Analog



IT6400 Bipolar DC Power Supply / Battery Simulator



Applications

Portable battery-powered product testing, mobile power testing, battery testing, etc.

Feature

- Maximum output power of single channel up to 150 W, output voltage max. ± 60 V, output current max. ± 10 A
- High performance color LCD display, dual channel output display main interface*1
- Bipolar dual-range output
- Accurate Battery Simulation
- Oscilloscope waveform display (DSO)
- Ultrafast transient response time < 20 us
- Ultrafast voltage rising time up to 150 us
- Current display resolution up to 1 nA
- Ultra-small current ripple up to 2 μ Arms
- Built-in high accuracy DVM
- Variable output impedance
- Applicable to portable battery-powered products test
- LED test no overshoot current
- Relay out function achieves electrical isolation on terminals
- High speed AD sampling
- List function achieves voltage/current output as programmed
- Standard interface LAN/MsB

*1 IT6402/IT6412 provides this function.

* For any GPIB interface option request , check with ITECH for availability.

The unique bipolar voltage/current output makes IT6400 series can be used as a bipolar power source or a bipolar electronic load. The battery simulating function is especially applicable for development and high speed production testing of portable, battery-operated products. IT6400 has ultrafast transient time less than 20 us and resolution up to 1 nA. Its new designed speed shift mode achieves voltage/current fast rising and without overshoot, rising time up to 150us. Meanwhile, the waveform display function let the test be visible and simple. IT6400 series can be widely used in portable battery-operated products test, mobile power pack test, LED test and other fields.

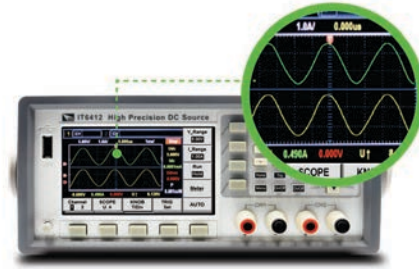
Model	Voltage	Current	Power	Channel
IT6402	CH1: ± 6 V CH2: 0~6V	CH1: ± 2 V CH2: ± 2 V	CH1:12W CH2:12W	2
IT6411	± 15 V/ ± 9 V	± 3 A/ ± 5 A	45W	1
IT6411S	-15V~0V,0~15V	± 0.1 A	1.5W	1
IT6412	CH1: ± 15 V/ ± 9 V CH2: 0~15V/0~9V	CH1: ± 3 A/ ± 5 A CH2: ± 3 A/ ± 5 A	CH1:45W CH2:45W	2
IT6412S	CH1: -15V~0V,0~15V CH2: 0~15V	CH1: ± 0.1 A CH2: ± 0.1 A	CH1:1.5W CH2:1.5W	2
IT6431	-15V~0V,0~15V	± 10 A	150W	1
IT6432	-30V~0V,0~30V	± 5 A	150W	1
IT6432S	-30V~0V,0~30V	± 21 mA	0.63W	1
IT6433	-60V~0V,0~60V	± 2.5 A	150W	1

Bipolar Output

IT6400 high speed linear DC source provides bipolar output, maximum output voltage of single channel up to ± 60 V, maximum output current up to ± 10 A. With multi-functional and high-performance output, IT6400 meets various of test needs. As dual-channel bipolar DC source, it is available for easy-shifting dual range output with each channel. Users can switch according to test requirements, one unit IT6412 can finish mobile and charger test independently, easy to use.

Oscilloscope Waveform Display Function

IT6400 provides waveform display function based on sample data. The Voltage/current waveform is visible or invisible by your option, and can be adjusted by the knob. The graphic on the newly design colorful display can be saved, achieves easy and effective oscilloscope experience.



Battery Simulating Function

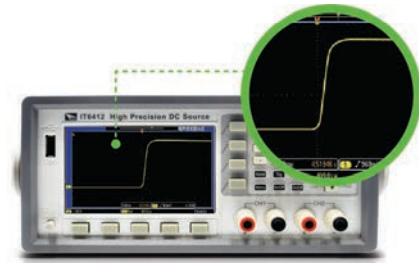
With the unique current bipolar design and 0~20 Ω variable output impedance, IT6400 is applicable to types of portable battery charge-discharge tests. Simulating the battery charge-discharge features and assist with other tests are also reliable. One equipment, diversified applications.



Portable battery-operated products test

Ultrafast Transient Time <20 μs

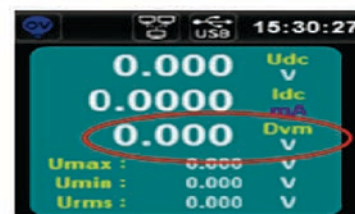
IT6400 has ultrafast transient ability, the transient time for recovering to 50 mV is less than 20 μs when 50%-100% loaded. New designed speed shift mode achieving voltage/current high speed rising waveform without overshoot, supports stable power supply, and ensures the security, especially for LED test.



LED test without overshoot current

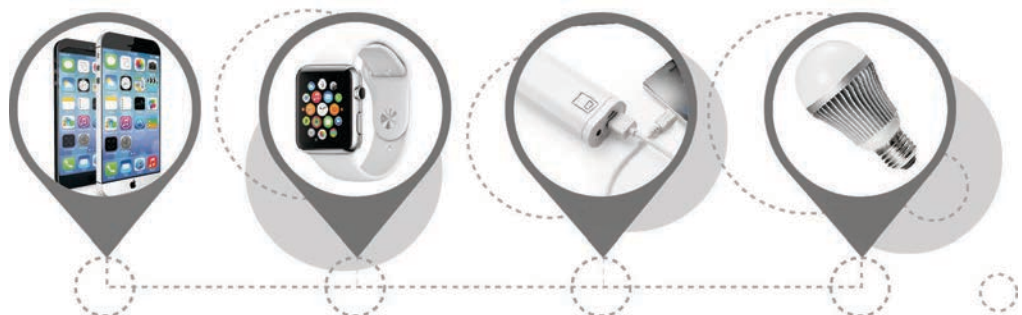
DVM Test Function

Abundant electrical basic measuring functions are available on IT6400. High accuracy DVM is built in each channel with readback resolution up to 1 mV. The measured data will be visible on specified channel screen. The changes of voltage waveform measured by DVM can be observed by oscilloscope display function.



Applications

- Portable battery-operated products test
- Mobile power pack test
- Battery protection board test
- Battery test
- LED test
- Power amplifier Test
- DC / DC converter test



IT6500 Wide-range High-power DC Power Supply



With ITECH's latest technology, the IT6500 series offers a full-featured high-performance power test solution. With fast response these DC power supplies provide users with a new level of power supply performance. From 800W to 6kW, the maximum output voltage and current is up to 1000V and 240A respectively.

Power Supply

Applications

Electric Vehicle Battery Test, Battery Simulation, LED, Automotive Electronics, Solar Panel I-V Curve Simulation

Choose the right power supplies that fit your test requirements

IT6502D/IT6512/ IT6512A/ IT6513/IT6513A	Good performance and compact size, designed for general purpose testing in R&D and production.
IT6500C series	Multi-functional and with fast response. These power supplies are designed for continuous source and sink testing requirements. Such as automobile electronics, solar panel IV simulation, DC motors, batteries etc.
IT6500D series	High performance with stable output, designed for automobile, green energy, high speed testing, high-power testing etc.

800W	IT6502D 80V/60A/800W					
1200W	IT6512/A 80V/60A/1200W	IT6513/A 150V/30A/1200W				
1800W	IT6512C/D 80V/120A/1800W	IT6513C/D 200V/60A/1800W	IT6514C/D 360V/30A/1800W	IT6515C/D 500V/20A/1800W	IT6516C/D 750V/15A/1800W	IT6517C/D 1000V/10A/1800W
3kW	IT6522C/D 80V/120A/3kW	IT6523C/D 200V/60A/3kW	IT6524C/D 360V/30A/3kW	IT6525C/D 500V/20A/3kW	IT6526C/D 750V/15A/3kW	IT6527C/D 1000V/10A/3kW
6kW	IT6532C/D 80V/240A/6kW	IT6533C/D 200V/120A/6kW	IT6534C/D 360V/60A/6kW	IT6535C/D 500V/40A/6kW	IT6536C/D 750V/30A/6kW	IT6537C/D 1000V/20A/6kW

* For higher power test, please contact ITECH.

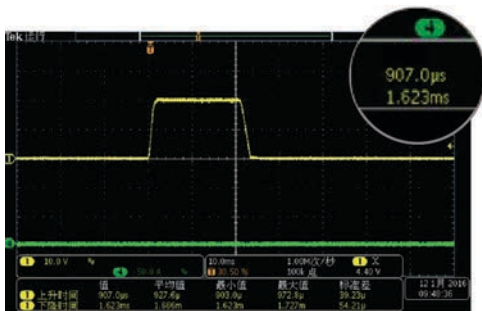
FAST Fast response

Independent settable slew rate in different modes

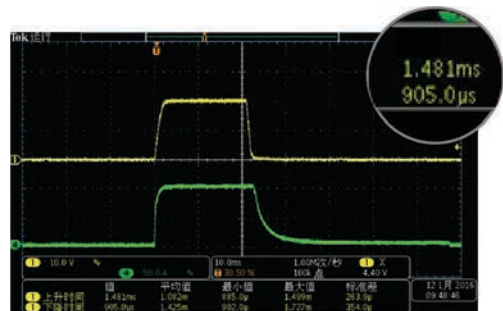
IT6500C series can be used as a power supply and an electronic load. As a power supply, CV, CC, CP modes are available. As an electronic load, CC and CP mode are available. IT6500C supports independent adjustable rise/fall time setting in different modes.

For every single model of IT6500C/D series, no matter it is a single unit or multiple units paralleled together, the rise and fall time of each power supply in IT6500C/D series are the same. Take IT6522C as an example:

- Within 30V voltage range, with 0-90% load, up and down speed <3ms
- Falling time of no load with voltage at full scale: Without power dissipater unit, falling time <30ms With power dissipater unit, falling time <5ms
- Dynamic response time <3ms



DC ratings of single unit IT6522C: 80V/120A/3000W
Voltage ratings: 10V
Current ratings: 120A
Load Current: 0A



DC ratings of single unit IT6522C: 80V/120A/3000W
Voltage ratings: 10V
Current ratings: 120A
Load Current: 100A

No matter whether it is in the power supply mode (CV, CC, CP) or in the electronic load mode (CC, CP), IT6500 series has adjustable rise and fall time, and the settable range is 1ms-24h.

CC/CV PRIORITY Fast curve changing without overshoot CC & CV Priority Function

To conquer the demanding testing requirements existing for a long time in various applications, ITECH developed an innovative industry-leading CV & CC priority concept. The IT6500 is available for high-speed test applications without overshoot. Users can choose the desired output mode. Voltage high-speed mode or current no overshoot mode by choosing the loop response speed and loop operation mode. It is suitable for high-power integrated circuit test, charging / discharging test, solar array simulation and the transient simulation / characteristic of automotive electronics.



Fast voltage built with turn-on over range inrush current (CV-High, CC-Low, CV takes precedence)



Battery charging / discharging test with seamless and no overshoot switching (CV-High, CC-High, CC takes precedence)



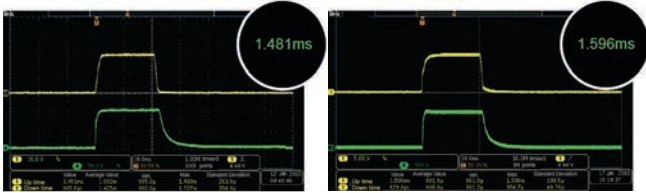
Maintain excellent performance after paralleling

Built-in paralleling of multiple power supplies with even current distribution

IT6500C supports multiple power supplies paralleling together in master-slave mode. Even further it can ensure that each power supply equally shares the load current and they all remain in the desired mode. In the traditional sense, when paralleling power supplies together, different power supplies will operate in different operation modes. For instance, when two sets of power supplies are paralleled together, one will offer a majority of current in CC mode, and the other will offer only a small part of current in CV mode, which will degrade certain power supplies' performance specifications. The even current distribution ability of the IT6500 ensures each power supply equally shares the load current without degrading the performance specifications. When paralleling multiple IT6500 the combined system has all the same functions as a standalone unit. That is a great way to add power flexibility to your test system. What is particularly unusual is that after the expansion of power, IT6500C can still maintain the excellent dynamic characteristics of the single unit to meet the I-V characteristic curve testing demanding a variety of high-power high-speed applications.



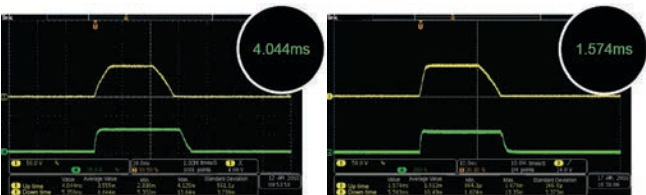
Low voltage & high current test



Standalone set IT6522C
80V,120A, 3000W
Voltage ratings: 10V
Current ratings: 120A
Load current: 100A

8 sets of IT6522C paralleling together
Voltage ratings: 10V
Current ratings: 960A
Load current: 800A

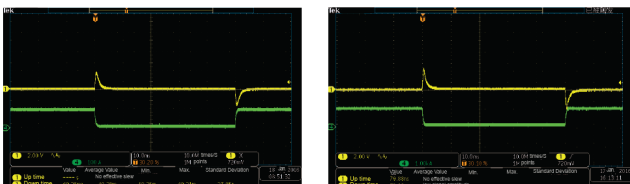
High voltage & low current test



Standalone set unit IT6522C
80V, 120A, 3000W
Voltage ratings: 80V
Current ratings: 120A
Load current: 30A

8 sets of IT6522C paralleling together
Voltage ratings: 80V
Current ratings: 960A
Load current: 300A

Dynamic response test



Standalone set IT6522C
80V, 120A, 3000W
Voltage ratings: 10V
Current ratings: 120A
Load current:
Level A=10A
Level B=100A
F=10 Hz

8 sets of IT6522C paralleling together
Voltage ratings: 10V
Current ratings: 960A
Load current:
Level A=100A
Level B=800A
F=10Hz

* Figure: Voltage-Yellow, Current-Green

From the tests, we conclude:

1. Voltage rise time: 8 units of IT6522C paralleling together, the voltage rise time is faster than single unit operation.
2. Fall time: parallel units remain the same as single unit.
3. Dynamic response waveforms: parallel units remain the same as single unit.



Multiple built-in interfaces*

In conventional high power test instrument, extra interfaces add cost. In the IT6500 series all the implemented interfaces are built-in standard. Simplifying the configuration process and adding flexibility to change interface used without adding additional cost.

Cost saving	IT6500C	IT6500D	IT6512 IT6513	IT6502D IT6512A IT6513A
Analog control interfaces	✓	✓	✓	✓
MsB	✓	✓	✓	✓
RS232	✓	✓	✓	✓
RS485	-	-	✓	✓
LAN	✓	✓	-	-
CAN	✓	✓	-	-

* For any GPIB interface option request , check with ITECH for availability



Full protections

Integrating protection measures into test instruments is critical and high cost especially in high power test. To provide fully protections for DUTs, IT6500 series integrate multiple fast protection measures.

These protection capabilities include:

- CC & CV Priority Function to avoid unwanted overshoot
- Power Supply mode: OVP,OCP,OPP
- Electronic Load mode: OCP,OPP,OTP (IT6500C)
- Anti-reverse protection (optional)
- Turn-off protection
- Under voltage protection (UVP)

IT6900B Wide-range Programmable DC Power Supply



Applications

DC-DC power module, battery charging and sensors, etc.

IT6900B series wide range programmable power supply has built-in standard RS232, MsB, RS485 and analog interface, supports SCPI protocol, facilitate remote control, industrial PLC control and the formation of intelligent test platform. Remote compensation terminals avoid the problem of inaccurate testing caused by voltage drop on the wire. Low ripple, low noise and built-in digital voltmeter make IT6900B easy to do external measurement. IT6900B can be widely used in testing DC-DC power supply module, battery charging and sensors and other test areas.

Feature

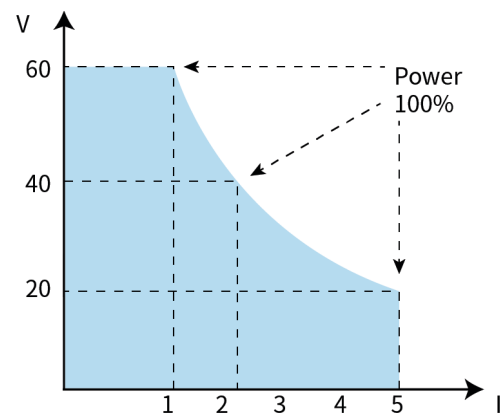
- VFD display
- Adjust voltage and current via knob or numerical key pad
- High accuracy and high resolution
- Adjust digital step value via cursor
- Output voltage and current values accordance with procedure
- Output Timer(0.1 ~ 99999.9S) Function
- Low ripple and low noise
- Remote Sense Function
- Intelligent fan control
- Rich SCPI instructions to facilitate the formation of intelligent test platform
- Support front and rear panel output
- Optional external analog function
- Standard communication interface RS232/MsB/RS485*

* For any GPIB interface option request, check with ITECH for availability

Model	Voltage	Current	Power	Size
IT6922B	60V	5A	100W	1/2 2U
IT6932B	60V	10A	200W	1/2 2U
IT6933B	150V	5A	200W	1/2 2U
IT6942B	60V	15A	360W	1/2 2U
IT6952B	60V	25A	600W	1/2 2U
IT6953B	150V	10A	600W	1/2 2U

Auto-range Function

IT6900B series power supply can achieve the combined output of multiple voltage and current at a fixed power. Single power supply can meet different DUT tests with high voltage low current or high current low voltage, at the same time, because the output of voltage and current is controlled by the limit power, it will show the switching of voltage and current auto ranging.



I-V Curve Graph

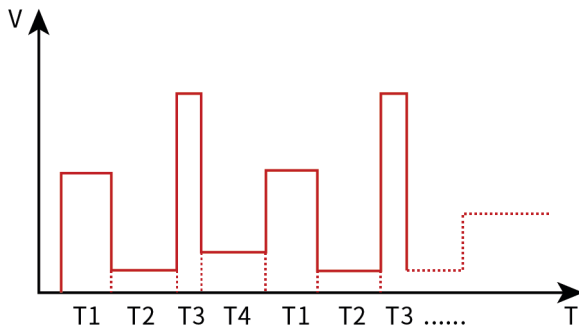


Remote Sense

In order to avoid the voltage drop caused by the length of the wire connecting the load, the remote test allows measurement directly on the terminal of the test object to improve the measurement accuracy. S +, S is the remote measurement terminal, +, - is the output positive and negative terminals. When using the remote measurement function, it is necessary to disconnect the wires connected to the "+, -" terminals and lead S +, S to the test object.

List Mode

List mode allows user to create a sequence of steps, store it into the power supply's non-volatile memory and execute the input parameters for generating a list include the name of the list file, the input steps (no more than 150 steps), the step time (the minimum is 100ms) and the value of each step.



OVP Functions

IT6900B series power supply provides OVP function. The over voltage protection point of the power supply can be set via the keys on the panel. Once power supply is protected (OVP), the output will be off immediately and "OVP" indicator light will be lit, the VFD display "OVER VOLT".



Separate Local key can quickly switch to panel operation mode from PC operation mode

Built-in DVM

IT6900B provides a built-in digital meter which can measure DC volts in a range from 0.001V to 61.000V. The voltage value is displayed on the left bottom field of the display.

Timer Function

IT6900B series supports output timer function, in ON mode, the indicator light "Timer" will be lit on the VFD screen. When output of power supply is opened, timer will begin to work, after reaching the definite time, output will be off automatically. Timing output time range is 0.1s~99999.9s.

Optional external analog interface

The rear panel DB9 analog interface is connected via cable and external DB9 socket board. The corresponding pin on the DB9 socket board is added 0~10V voltage to simulate the voltage or current output from 0 to full-scale.

IT9000 PC software

IT6900B series has built-in RS232, MsB, RS485, and provides free IT9000 series software. Using PC software, IT6900B can easily remote control, set voltage and current, record storage data, programming, and test automatically.



IT6800A/B Single Channel Programmable DC Power Supply



IT6800 single channel programmable DC power supply (180W-216W) supports resolution 1mV/0.1mA. Users can adjust the voltage/current step value by pressing the left and right keys to move the cursor and program on the front panel. IT6800 supports OVP/OTP protection and timer function. Built-in RS232 and MsB communication interfaces offer the user convenient experience.

Applications

Laboratory testing, production testing, maintenance testing

Feature

- Support panel programming, numeric keypad operation
- High accuracy and resolution 1mV/0.1mA
- Outputs according to the programmed voltage and current values
- Adjust the voltage and current via knob
- Lower ripple and noise
- Remote sense
- Built-in RS232 / MsB/ GPIB interface *1
- Intelligent fan control, save energy and reduce noise

*1Built-in GPIB is available with IT6800B series only

Model	Voltage	Current	Power	Interface
IT6831A	18V	10V	180W	MsB/RS232
IT6832A	32V	6V	192W	MsB/RS232
IT6832B	32V	6V	192W	MsB/RS232/GPIB
IT6833A	72V	3V	216W	MsB/RS232
IT6833B	72V	3V	216W	MsB/RS232/GPIB
IT6835A	50V	4V	200W	MsB/RS232
IT6835B	50V	4V	200W	MsB/RS232/GPIB

*IT6800A single channel series is standard model, IT6800B single channel series is optional if you need GPIB interface.

Support panel programming function (List)

IT6800A/B Series Single Channel Programmable DC Power Supply generates a variety of output change sequences by sequentially operating each single step value and time. The parameters in the sequence include time unit, single step voltage, single step current, single step time, and the next step, loop steps, saving files, and so on. After the sequential operation is completed, when a trigger signal is received, the power supply will be turned on until the sequence operation is completed or receive another trigger signal again.

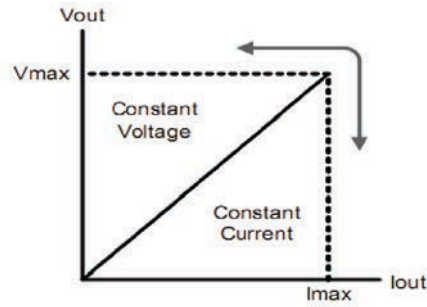
Output timer

IT6800A/B series supports Output timer function, users can start this function in the Menu and set the time. The timer starts working when the unit is powered on. The unit will automatically turn off the output when the set time is due. Timing time setting range 0.1 ~ 9999.9S or 0.1 ~ 9999.9M.



CV/ CC automatic conversion function

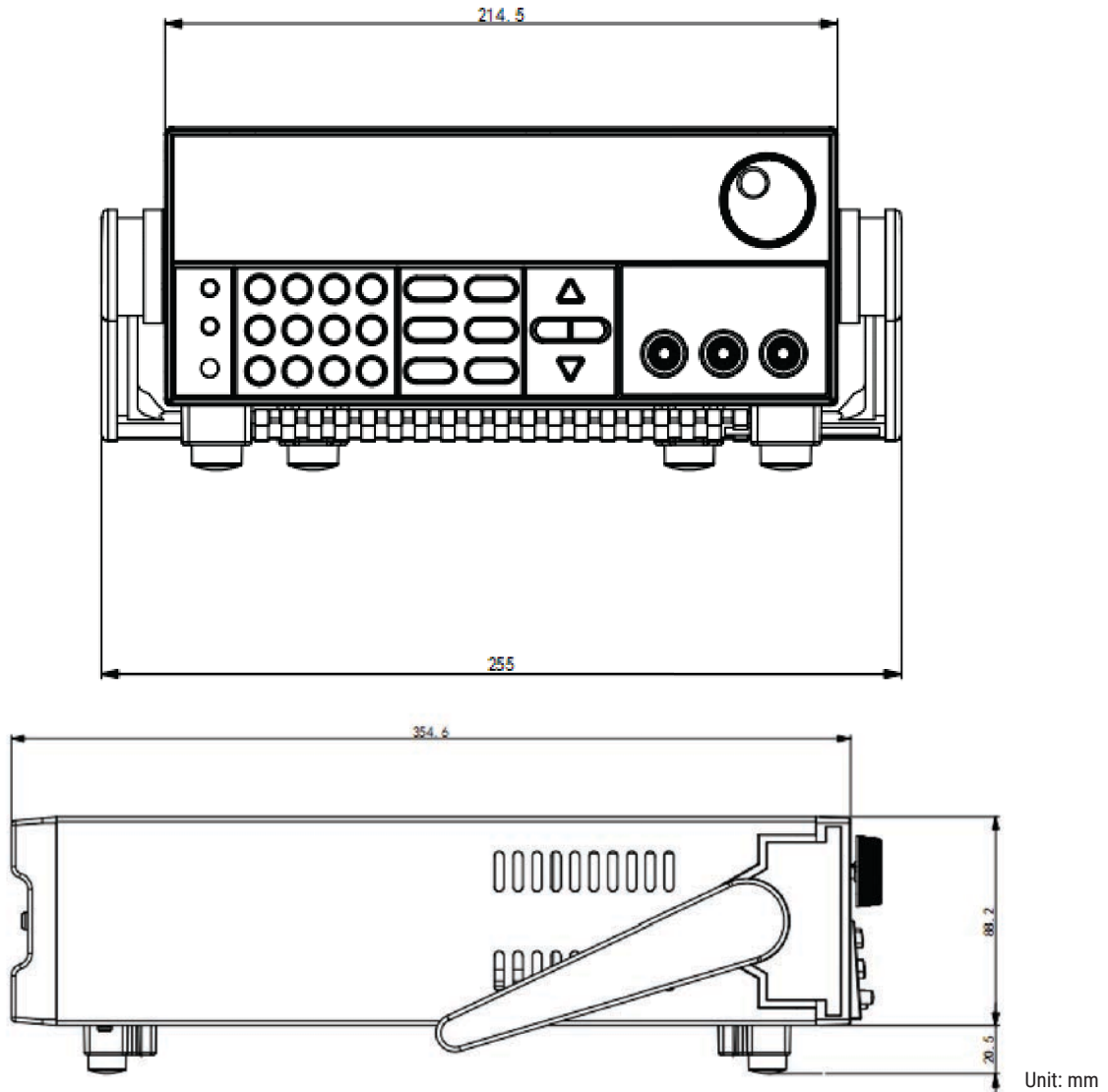
With this function, the power supply can be operated continuously from constant voltage mode to constant current mode caused by the load changes



Remote sense function

In order to avoid the voltage drop caused by the length of the wire connecting with the load, the remote sense allows measuring directly on the terminal of DUT to improve the measurement accuracy. S +, S- are the remote sense terminals, +, - refers to the output positive and negative terminals. When using the remote sense function, it is necessary to disconnect the wires connected to the "+, -" terminals and lead S +, S- to the DUT.

IT6800A/B Dimension figure



IT6700H High Voltage Wide Range Programmable DC Power Supply



IT6700H high voltage DC power supply support maximum output power 3000W, voltage up to 1200V. IT6700H series provide list mode, built-in RS232 / MsB communication interfaces, rich SCPI protocol to facilitate the configuration of a variety of intelligent test platforms.

Applications

Battery fluctuation simulation test, battery charger, high voltage ultra-high speed diode, electrolytic capacitor, electromechanical control field and ATE test system

Feature

- Voltage up to 1200V
- VFD display
- High voltage high current models optional
- Output control via ON/OFF switch
- Safety terminal
- List mode, editable waveforms of voltage and current
- Remote sense
- Built-in RS232/MsB *1

*1:IT6722 is with GPIB interface.

*2:For any GPIB interface option request , check with ITECH for availability.

Battery fluctuation simulation test

Battery charging needs high-precision voltage and stable current output to simulate the battery charge and discharge process. IT6700H series can accurately describes the battery charge and discharge process, which is applied in areas need high voltage and low flow direct current, such as battery fluctuation simulation tests, battery chargers, high voltage ultra-high speed diodes, electrolytic capacitors, electromechanical control, and ATE test systems, etc.

Model	Voltage	Current	Power	Size
IT6722	80V	20A	400W	1/2 2U
IT6722A	80V	20A	400W	1/2 2U
IT6723	80V	40A	850W	1/2 2U
IT6723B	150V	20A	850W	1/2 2U
IT6723C	32V	110A	850W	1/2 2U
IT6723G	600V	5A	850W	1/2 2U
IT6723H	300V	10A	850W	1/2 2U
IT6724	80V	40A	1500W	1/2 2U
IT6724B	150V	20A	1500W	1/2 2U
IT6724C	32V	110A	1500W	1/2 2U
IT6724G	600V	5A	1500W	1/2 2U
IT6724H	300V	10A	1500W	1/2 2U
IT6726B	160V	40A	3kW	2U
IT6726C	32V	220A	3kW	2U
IT6726G	600V	10A	3kW	2U
IT6726H	300V	20A	3kW	2U
IT6726V	1200V	5A	3kW	2U

Small size abundant functions, more flexible

IT6700H is with small size, up to 3000W power with only 2U half rack. It can be placed in the standard cabinet. Even for benchtop usage, it saves much space.



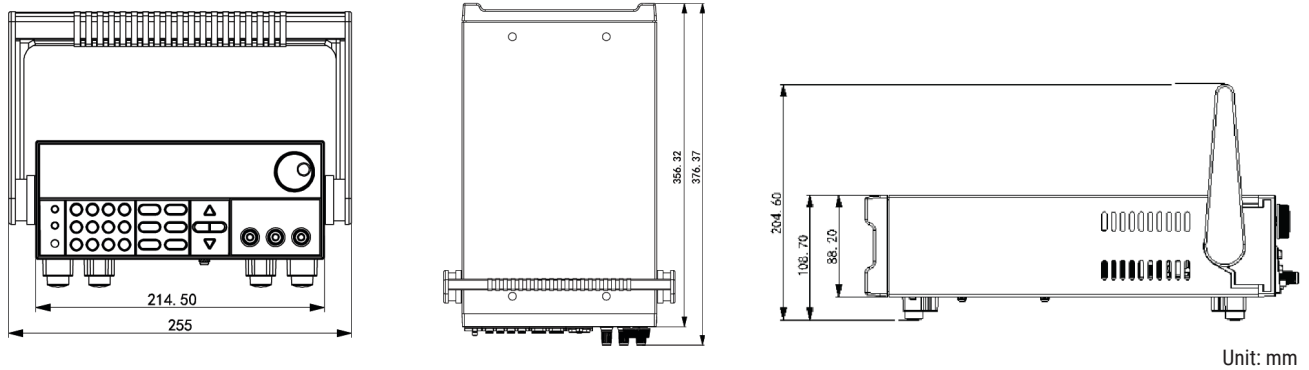
Voltage up to 1200V, reasonable design makes high voltage test more secure

IT6700H series supports voltage up to 1200V. High voltage is the basic requirement to the power supply in the fields of LED, battery, DC / DC converters and other industries. Except for mentioned industries above, IT6700H high voltage DC power supply series can also meet ultra-high voltage requirements of the special tests. Engineers always have concerns on the safety of high voltage testing. ITECH is with the design of security terminals and other details to ensure the safety of the test.

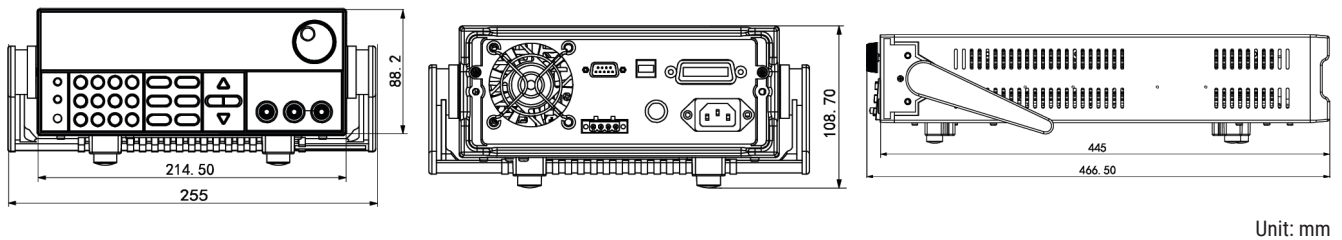
Ultra wide range design

The maximum power is not the maximum voltage multiplied by the maximum current. Take one of the models as an example, IT6726H maximum power is 3000W, the maximum voltage and current reach 300V and 20A, a model can replace 2 units or more general power supplies.

IT6722/IT6722ADimension figure



IT6723H/IT6724H/T6723GDimension figure



Power Supply

IT6100B High Accuracy Programmable DC Power Supply



Applications

Aerospace power module testing, circuit board testing, medical equipment testing, electronic rectifier testing, etc.

Feature

- Output linear adjustment, high speed, reliable, low noise
- High accuracy and resolution
- Ultrafast voltage rise slew rate
- Built-in 5½ digit voltmeter and milliohmmeter
- Memory capacity: 100 groups
- List mode
- Timer function (0.01~60000S)
- Remote sense, compensate line voltage
- Built-in RS232/MsB interfaces, support SCPI protocol *1

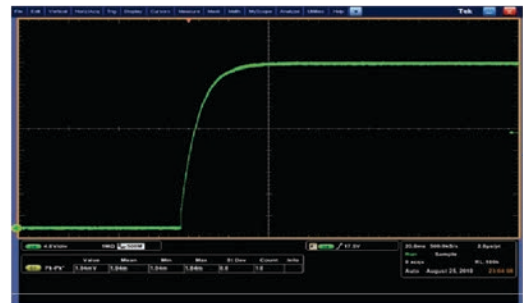
*1:For any GPIB interface option request , check with ITECH for availability.

Model	Voltage	Current	Power	Size
IT6121B	20V	5A	100W	1/2 2U
IT6122B	30V	3A	96W	1/2 2U
IT6123B	72V	1.2A	86W	1/2 2U
IT6132B	30V	5A	150W	1/2 2U
IT6133B	60V	2.5A	150W	1/2 2U

IT6100B series (86 ~ 1200W) high speed high precision programmable DC power supply is with ultra-fast voltage rising slew rate, resolution up to 0.1mV / 0.01mA, the latest output waveform priority mode allows rising waveform of voltage or current is generated with high-speed and no overshoot, which is widely used in aerospace power modules and other high-precision tests. IT6100B has built-in MsB / RS232 communication interfaces and the panel supports List programming, which can provide multi-purpose solution according to customer design and testing demands, easy to use.

Ultrafast voltage rise speed

Comparing with general high speed power supplies, IT6100B series power supplies reduce the ripple and noise to the lowest level. The ultrafast voltage rise speed suits for all high speed and precise tests.



Digital voltage milliohmmeter

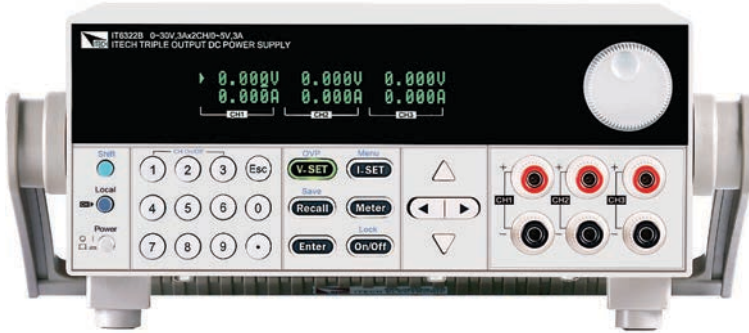
IT6100B series has built-in precision digital voltage ohmmeter

Digital ohmmeter: Provide four-wire system to measure resistance, within range: 0 ~ 1KΩ

Digital voltmeter: Built-in 5½ voltmeter is provided to measure the external voltage within range: 0 ~ 40V



IT6300 High Performance Triple Channels DC power supply



Applications

School/educational laboratories, production lines test, maintenance testing

Feature

- Triple adjustable voltage output, isolated 3 channels
- Serial Parallel Track mode *1
- Display voltage and current measurements continuously from all three outputs
- Small size of 2U half-rack
- VFD display
- Panel function keys with backlight display
- Adjust the digital step value via cursor
- Output switch control
- High accuracy, high resolution and high stability
- Remote measurement function, compensation online voltage drop*2
- Comprehensive protection functions
- Intelligent fan control to reduce noise
- Multi interfaces for choosing, such as MsB/RS232/LAN *3

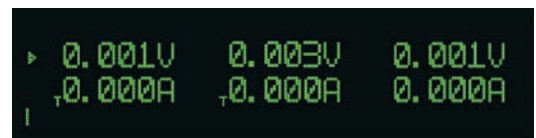
*1: Table 1 for details *2: IT6300A/B/C

*3: For any GPIB interface option request, check with ITECH for availability.

IT6300 series is high-performance programmable triple channels DC power supply, each output voltage and current can be set from 0 to maximum rated output. This series supports series connection, parallel connection and track mode, which offer multi-purpose solutions for customers test. IT6300 series is with high resolution 1mV 1mA and remote sense function, which make the test more accurate. With built-in standard MsB /RS2321 LAN communication interface, IT6300 series greatly enhance the communication speed, and customers also can adjust the digital step value by using the cursor to facilitate the operation.

Track mode (Synchronous output)

CH1 and CH2, CH2 and CH3, or all three channels to be set as track mode, if any one channel parameter changed, the corresponding parameters of the other channels will also change in direct proportion. For example, set up voltage and current of CH1 and CH2 to be CH1: 4V, 1A; CH2:8V, 2A. Set CH1 and CH2 in track mode, in output off and Meter state, VFD is shown below:



*In the setting state, if the voltage of CH1 is set to 2V, the voltage of CH2 will be automatic synchronization to 4V(proportional)

	Specification	Interface	Protection	Channel Setting
IT6322	30V/3A/90W*2CH 5V/3A/15W*1CH	Optional MsB/GPIB/RS232	Limited voltage, limited current and OTP	Support serial or parallel connection
IT6322A	30V/3A/90W*2CH 5V/3A/15W*1CH	MsB/RS232	OVP,OTP	Support serial, parallel or synchronization
IT6322B	30V/3A/90W*2CH 5V/3A/15W*1CH	MsB/GPIB/RS232	OVP,OTP	Support serial, parallel or synchronization
IT6322C	30V/3A/90W*2CH 5V/3A/15W*1CH	MsB/LAN	OVP,OTP	Support serial, parallel or synchronization
IT6332A	30V/6A/180W*2CH 5V/3A/15W*1CH	MsB/RS232	OVP,OTP	Support serial, parallel or synchronization
IT6332B	30V/6A/180W*2CH 5V/3A/15W*1CH	MsB/GPIB/RS232	OVP,OTP	Support serial, parallel or synchronization
IT6332C	30V/6A/180W*2CH 5V/3A/15W*1CH	MsB/LAN	OVP,OTP	Support serial, parallel or synchronization
IT6333A	60V/3A/180W*2CH 5V/3A/15W*1CH	MsB/RS232	OVP,OTP	Support serial, parallel or synchronization
IT6333B	60V/3A/180W*2CH 5V/3A/15W*1CH	MsB/GPIB/RS232	OVP,OTP	Support serial, parallel or synchronization
IT6333C	60V/3A/180W*2CH 5V/3A/15W*1CH	MsB/LAN	OVP,OTP	Support serial, parallel or synchronization



IT2800 Graphical Source Measure Unit



Applications

Wafer Die, Analog chip, Passive components, Solar cells, Low power cell, Photodetectors, sensors, Laser light diode

The IT2800 Series are compact and cost-effective bench-top Source Measure Units (SMMs) with the capability to source and measure both voltage and current. These capabilities make the IT2800 Series ideal for a wide variety of IV (current versus voltage) measurement tasks that require both high resolution and accuracy.

The IT2800 Series combine the capabilities of a voltage source, a current source, a voltage meter, a current meter and an ohmmeter (along with the capability to switch easily between these various functions). This ensures the independent measurement of IV characteristic in 4-quadrant. Easily and accurately measure current and voltage using a single instrument without the need to manually change any connections. Besides, the IT2800 Series (SMU) also possess a voltage and current limit feature that allows the user to set limits and to protect devices from damage. Besides, it also provides a broad range of IV measurements for various double or triple terminal devices. With a current range of 10fA to 10A and a voltage range of 100nV to 1000V, the IT2800 series SMU has capabilities that allow it to perform more than just simple DC and pulsed measurements to prevent errors in measurement results due to the device's own heating. In addition, the IT2800 series SMMs are equipped with high-speed, reliable fiber optic parallel mode, which enables them to work stably and reliably among multiple SMMs and exchange large amounts of data to fulfill a wide variety of test requirements. Excellent Front Panel GUI with 5 inch touch display supports various view modes, to help engineers significantly improve the efficiency of testing.

The IT2800 Series provide best-in-class performance for voltage, current sourcing, excellent precision and various test functions. These capabilities make it suitable for a variety of test applications: discrete semiconductor devices, passive devices, transient suppression devices, laser diodes, TVS, varistors, etc.

Feature

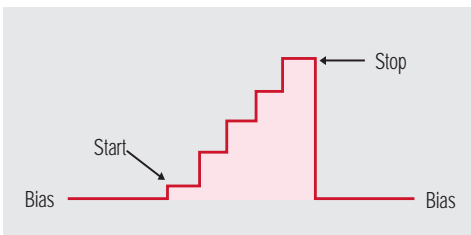
- 5 inch touch display supports both graphical and numerical view modes.
- Combining the capabilities of six devices in one: Voltage Source, Current Source, 6 ½ Digital Multimeter (DCV, DCI, ohms), Battery Simulator, electronic load and Pulse Generator
- Integrating 4-quadrant sourcing & measuring capabilities, and supporting Two-wire & Four-wire measurement
- Resolution up to 10fA/100nV, sampling rate up to 10µs.
- Three graphic display modes: Graph View, Scope View and Record View.
- Built-in battery simulator function, suitable for IOT low power precision measurement
- Sweep Capability: Linear/Log/ Pulsed-line AR/ Pulsed-Log and LIST
- Multi-channel and simultaneous operation design, with parallel testing capability
- Built-in resistance, power, and Math measurement features
- With GUARD output function, suitable for low current measurement
- Front MsB port used for data storage, screen capture, or test configuration import
- Built-in Digital IO/MsB/LAN communication interface

Model	Voltage	Current	Power	Channels
IT2801/ IT2801R	±1000V	±1A DC&Pulse	±20W	Φ1
IT2805/ IT2805R	±200V	±1.5A DC&Pulse	±20W	Φ1
IT2806/ IT2806R	±200V	±3A DC/ 10A Pulse	±20W	Φ1

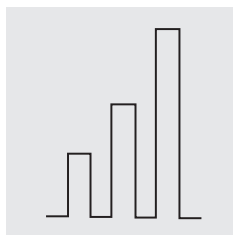
* Models with R support both front and rear panel output and the rear panel has triaxial connector. Models with R do not support GPIB.

Standard and LIST sweep capabilities

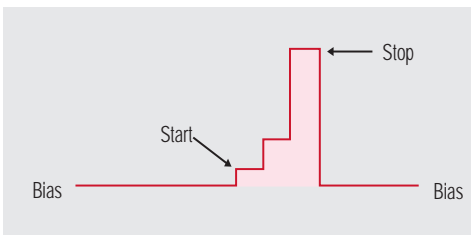
IT2800 Series features standard and LIST sweep capabilities. Under standard sweep mode, it supports parameters such as linear and logarithmic modes, single and double sweep functions and constant and pulsed sweep operation. List sweep functions can efficiently perform arbitrary waveform output which is useful when characterizing devices where the test response varies greatly depending upon the applied voltage or current. The user can use Excel import or panel edit to generate sweep curves of any shape with up to 99,999 data points can be import, which is an ideal choice for testing U-I and I-U features.



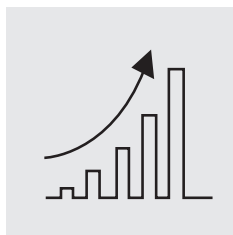
Linear staircase sweep



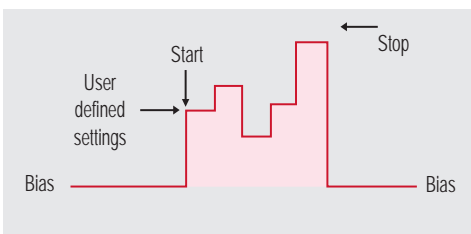
Pulsed linear sweep



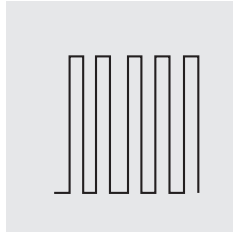
Logarithmic staircase sweep



Pulsed logarithmic sweep



Custom sweep



Constant pulsed sweep

Applications

E-Batteries and optoelectronic device

Laser light diode/LEDS/AMOLEDs/Mini LEDs, Solar cells, Low power cell, Photodetectors, sensors

Semiconductors, discrete and passive components

Wafer Die, Power LCS (Analog chip, RF chip, Power management chip...), Discrete devices (BJTs, FETs, IGBT, SiC, GaN, Diodes...), Passive components (Varistors, thermistors, switches, resistors...)

Material characterization

Graphene material, Nano materials and other new materials, CNT(carbon nano tube), Giant magnetic resistance (GMR), Organic devices (e-ink)

Multi-channel cascade, easy to achieve parallel testing

The IT2800 series SMU offers multi-channel expansion applications that can connect up to 16 source meter units through fiber ports on the rear backplane to serve as a single, tightly synchronized, multi-channel system. Each channel instrument can run its own independent test sequence to achieve a fully multi-thread test which can meet advanced semiconductor test research as well as batch production line test applications.



Intuitive graphical display, fast access to product features

The IT2800's front panel has many features that improve the speed of interactive use, user friendliness and ease of operation. These include a 5 inch color LCD display, a MsB2.0 memory I/O port, a rotating navigation button, a trigger button, function keys and popular banana

jack. The MsB2.0 memory port supports easy data storing, test configuration file import and system upgrade.

The IT2800 Series supports both graphical and numerical test results view modes. The intuitive graph view, scope view and record view greatly improves the productivity of bench-top tests and IV characteristic analysis.

Graph view: Graph View displays measurement results on XY graphs (such as I-V and V-t curves) on up to 2 channels. This is useful for quick evaluation of device characteristics, especially those obtained from sweep measurements.

Scope view: Scope view draws I-t or V-t curves in real time during the test. It can capture and export up to 600,000 data points. This function is independent of other functions and can be run simultaneously. In Scope view mode, the sampling rate is up to 100,000 points per second (10µs), which facilitates the tester to monitor low frequency transient signals.

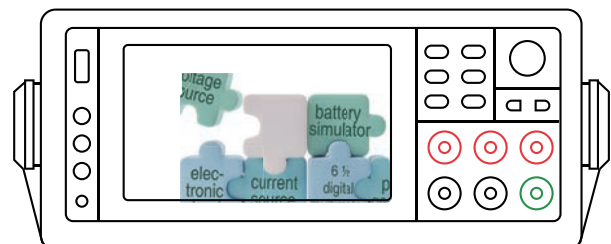
Record view: Record view allows the user to view historical waveforms and table data over a period of time. The minimum sampling time interval is 100Ms, and up to 1 million points of data can be recorded. It also supports exporting to spreadsheets (.csv) for further analysis, greatly improving the efficiency of testing and debugging.



Six in one high precision SMU, reduce your test cost

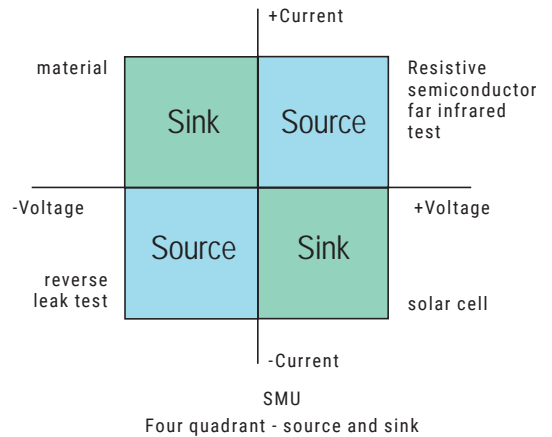
Performing IV measurements with conventional instruments such as voltage/current sources, pulse generator, high precision voltage/current meters, etc. is complicated and costly. It takes up limited test bench space and requires engineers control and synchronize programming of multiple devices to perform an accurate measurement.

The IT2800 series SMU provides engineers with an economical and efficient solution. It integrates different source and measurement capabilities into one compact form factor of 1/2 2U size, which can accurately source and measure voltage and current. It combine the capabilities of six devices including:



Four quadrants and pulse output capability

The IT2800 Series SMU can operate in all four quadrants, where quadrant 1 & 3 are Source mode and quadrant 2 & 4 are Sink mode. The IT2800 Series features a 6 ½ Digital Multimeter with up to 100nV/10fA resolution. The full range of models are available in DC and Pulse output modes. The IT2806 model also offers up to 10A pulse output capability, ideal for testing devices at the semiconductor wafer level, such as VCSELS, laser diodes, and LEDs, protecting DUTs.



Professional I-V Characteristics Software and Semiconductor Parameters Testing Software

The I-V feature software provides a user-friendly GUI, which can be connected to a PC through the standard USB/LAN interface of the device for fast I-V measurement. The software provides multiple test function modules, I-V characteristic test, LIMIT test, resistance test and battery simulation test.

Semiconductor parameter testing software provides fast and powerful dynamic and static parameter testing solutions for semiconductors. The software presets various types of semiconductor devices, and users can quickly configure SMU by dragging. The graphical UI interface is simple and easy to operate, which accelerates the testing and research process of engineers.





Other Test Equipment

Provide your comprehensive test solution

IT9100 Power Meter

P157~P158

IT9121 power meter can be easily used for measuring the voltage, current, power, frequency, harmonics and other parameters. Whether you need basic power measurement, or more high-end frequency, harmonic and accumulation measurement and other functions, it can provide you with the most stable and reliable, comprehensive and accurate solutions. It is widely applied in test of motors, household appliances, UPS, etc.

IT5100 Battery Internal Resistance Tester

P159~P161

IT5100 series battery internal resistance testers are high in precision, resolution and speed. IT5100 resolution is up to $0.1 \mu\Omega$ and voltage resolution is $10 \mu\text{V}$. IT5100 is with built-in GPIB/MSB/LAN interfaces, support SCPI protocol, and can be widely used in various batteries' testing, such as lithium batteries of mobile phone and Unmanned Aerial Vehicles, power batteries, storage batteries and etc.

IT9100 Power Meter



Applications

Motors, household appliances, UPS ,etc.

Feature

- 4.3-inch color LCD (TFT)
- Input range: 1000 Vrms / 50 Arms
- Harmonic measurement function
- The accuracy of voltage and current measurement is up to 0.1%
- Simultaneous measurements of the voltage, current, power, harmonics and other parameters
- The power meter has a function of harmonic measurement, and can be used for measuring up to 50th harmonics *1
- The power meter has rich and powerful accumulation functions, and can be used for measuring electric energy purchased or sold from/to the grid.
- The MsB port on front panel is available, the user can save data into external storage
- Standard built-in MsB, RS232 and LAN communication interfaces

*1 Optional function for IT9121E

*2 For any GPIB interface option request , check with ITECH for availability.

Model	Voltage	Current	Size
IT9121	600V	20A	1/2 2U
IT9121C	600V	50A	1/2 2U
IT9121H	1000V	20A	1/2 2U

IT9100 power meter can provide a maximum input of 1000 Vrms and 50 Arms and measurement bandwidth of 100 kHz, and can be easily used for measuring the voltage, current, power, frequency, harmonics and other parameters. Whether you need basic power measurement, or more high-end frequency, harmonic and accumulation measurement and other functions, it can provide you with the most stable and reliable, comprehensive and accurate solutions. It is widely applied in test of motors, household appliances, UPS, etc.

Self-define Interface display style

IT9100 power meter provides a 4.3-inch color high-resolution TFT LCD for the user, and real-time values can be displayed with high brightness and remarkable colors even in a dark test environment. In addition, the IT9100 power meter provides multiple interface display styles (View1, View4 and View12). The user can customize the screen display parameter type and display sequence. The humanized design meets engineers' measurement demands in different tests.



Abundant measurement function

IT9100 power meter can measure all AC and DC parameters, including active power, reactive power, apparent power, power factor, voltage, current, frequency, phase difference, etc.. IT9100 provides integrated measurement and up to 50 times of the harmonic measurement function. It is widely used in electronic motors, home appliances PCB board, UPS power supply and other test applications.

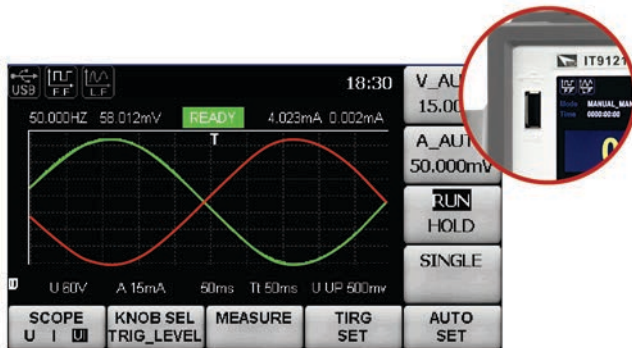


Oscilloscope function

IT9100 power meter can display the waveform basing on sampling data. You can choose to display or hide the waveform of the input voltage and current. Oscilloscope function of IT9100 power meter allows users to directly observe the display fluctuations of voltage, current and power trends when testing household appliances performance, and can set the display trends, waveforms, values, histograms. Users can directly capture the waveform and record the value without external oscilloscope via front panel MsB storage interface.

Integral measurement function

IT9100 Power Integration feature measures the sold / purchased power with the grid interconnections. IT9100 power meter provides current integration and active power integration (Wh). IT9100 automatically switches the range and performs the integral measurement accurately according to the size of the input level in the mode of buying electricity and selling electricity.



Harmonic Measurement

IT9100 power meter has a bandwidth of 100 kHz, which can realize high-speed harmonic measurement within a wider dynamic range. In the harmonic mode, the voltage, the current, the active power, reactive power and phase of each harmonic and the factor of total harmonic distortion (THD) can be tested.



Line and frequency filtering

IT9100 filters out useless frequency components in the signal, improves the waveform purity, thereby improving the accuracy of the test. Frequency filtering filters out the high frequency components of the interference, making the measured frequency parameters more accurate.



The waveform before turned on line filtering

The waveform after turned on line filtering

Current sensor input

IT9100 power meter provides voltage 0~1000V, the current 0~50A measuring value range. For current measurements above 50A, voltage input type current clamp or current sensor are all adoptable. IT9100 allows users to choose 50mV-2V (EX1) or 2.5V-10V (EXT2) range



IT-E185 Power meter fixture

IT-E185 is an optional accessory, it can facilitate wiring test of IT9100 power meter for users.



IT5100 Battery Internal Resistance Tester



Applications

Lithium batteries, Electric vehicle batteries, Lead-acid batteries, etc.

Feature

- Simultaneous resistance and voltage measurements
- Internal impedance (AC-IR) measurement range:
3mΩ/30mΩ/300mΩ/3Ω/30*1
- Ω/300Ω/3kΩ
- Open voltage measurement range: ±6V/±60V/±300V; ±10V/±100V/±1000V (high-voltage models)
- 3 voltage ranges, 7 resistance ranges automatic or manual test*2
- Up to 125 measurements /s*3
- 4.3 inch LCD color display
- Built-in MsB, LAN interfaces with SCPI support*4
- Statistics calculation and data storage function
- Comparator function
- Zero adjustment function
- 4-terminal AC measurement
- Measuring result alarm function
- Production line dummy-proof and error-proof design
- Support mass production statistics and calculation function

*1 IT5101E: 15 mΩ to 3 Ω *2 IT5101/E: 10μV || 300V *3 IT5101E is 2 resistance ranges

*4 In Ex_fast mode *5 For any GPIB interface option request, check with ITECH for availability.

Model	Voltage	Resistance	Size
IT5101	-300V~+300V	3mΩ~3000Ω	2U half rack
IT5101E	-300V~+300V	300mΩ~3Ω	2U half rack
IT5101H	-1000V~+1000V	3mΩ~3000	2U half rack

IT5100 series of battery internal resistance testers are high in precision, resolution and speed. IT5100 adopts AC 4-terminal sensing, so it can be more accurate when testing battery internal resistance and voltage. Its resolution is up to 0.1 μΩ and voltage resolution is 10 μV. Through the external U-disk, it can do long-time statistics calculation. Its built-in comparator function can automatically analyze battery's specifications to check standard qualification, pass rate, thus IT5100 is very suitable for battery testing and sorting. IT5100 is with built-in MsB/LAN interfaces, support SCPI protocol, it's suitable for the test of lithium-ion battery, fuel cell, super capacitor etc., which can be widely used in the industries like EV, electric products, semiconductors, 5G communication and so on. It can match the applications of industrial research and development, incoming material testing, production line, metrology institute, system integration, universities, research institutes, etc.

Measure accuracy, resolution and speed

- High Accuracy
Resistance: ±0.4%±0.05%FS
Voltage: ±0.01%±0.01% FS
- High resolution *
Resistance: 0.1 μΩ
Voltage: 10 μV
- High speed
Resistance+Voltage simultaneously sampling time < 8 ms
Single sampling time (Resistance or Voltage) < 4 ms

* The resolution is only for IT5101, IT5101E resolution is 10 μΩ.

Applications

The wide measuring range and multi-functions makes the IT5100 series ideal for inspection and sorting of all types of batteries. It can be used to validate various types of DUT's requiring test of internal resistance, contact resistance, Equivalent Series Resistance (ESR) etc. It is useful in both R&D, production test and other applications.

- Inspection of the entry and exit of various battery packs such as high-voltage EVs, PHEVs, and residential storage batteries.
- High-voltage battery pack test e.g. electric vehicles, lithium battery etc.
- Battery module testing
- Large (low-resistance) cell testing
- High-speed mass production testing of coin batteries UPS inspection
- Deterioration & life assessment of alkaline batteries, lead-acid battery
- Various contact resistance test
- Equivalent Series Resistance (ESR) test



Multifunction ensures measurement accuracy

- **Abnormal measurement inspection**
Detect contact failure and disconnection of test probe, improve the credibility of the measurement
- **Averaging function**
To ensure test stability and reliability, Every 2-16th calculations, there is an averaging
- **AC 4 terminal method**
Impedance measurement uses AC 4-terminal method, the measurement is not affected by the wiring impedance of the test wiring.

Support statistics calculation function

Combined with an external MsB disk, IT5101 supports statistical calculation function. The data storage capacity is up to 1000 groups, which greatly simplifies the process and provides convenience to quality control.

Optional accessories

ITECH provides multiple optional accessories for IT5100 series battery testers, including 4 types of testing leads with different probes and zero adjustment board.

Comparator function

- Test resistances & voltage simultaneously
- An alarm signal will be generated when the actual value exceeds the preset (Hi/Lo) range.
- Alternative setting method
- Manual comparator
- Two setting methods
- Comparator function: absolute value comparison and relative value comparison.

IT5101/E provides built-in comparator function, the function can distinguish whether the test parameters are compliant with the related standard and automatically counts the pass/fail rate.

4 types of optional testing leads (600 Vdc max.)



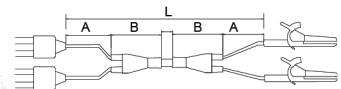
IT-E601 300V
IT-E601H 1000V
pin type lead



IT-E602 300V
IT-E602H 1000V
large clip type lead



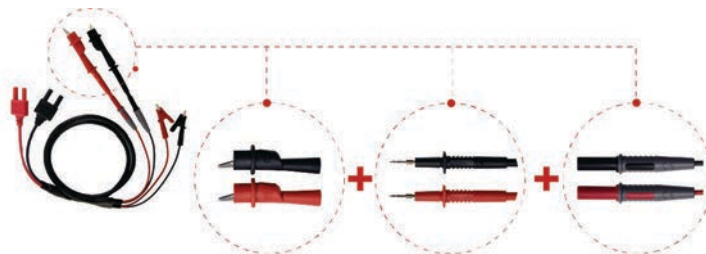
IT-E603 300V
IT-E603H 1000V
pin type lead



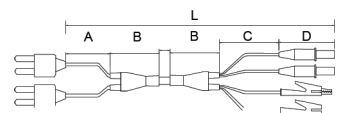
A: 500 mm
B: 59.7 mm
L: 2019.4 mm



IT-E605
zero adjustment board
(For pin testing wire)



IT-E604 300V
IT-E604H 1000V



A: 100 mm
B: 59.7 mm
C: 150 mm
D: 67 mm
L: 1269.4 mm

Test Software

Provide your a stable and efficient test system

SAS1000 Solar Array Simulation Software

P156~P161

ITECH latest SAS1000 solar array simulation software, combined with IT6000C, IT6000B or IT6500C high performance high power DC power supply, can accurately simulate solar array I-V curve. It has the characteristics of accurate measurement, high stability and fast response speed . With the built-in EN50530, Sandia, NB/T32004, CGC/GF004, CGC/GF035 SAS module, he solar array simulator enables easy programming on test regulations, materials, Vmp, Pmp parameters, so as to simulate I-V curve characteristic output and generate reports. These benefit much in test of the static & dynamic maximum power tracking performance of photovoltaic inverters.

BSS2000 Battery Simulation Software

P162~P167

The BSS2000/BSS2000 Pro/BSS2000M battery simulating software are products specifically designed for the above test scenarios. On the one hand, it will solve the problem of increasing cost of buying and storage of different types of batteries; On the other hand, the battery simulator can be quickly set to different state of SoC without real charge and discharge process, greatly improve test efficiency.

FCS3000 Fuel Cell Simulation Software

P168~P169

The FCS3000 fuel cell simulation software matched with IT6000C bidirectional DC power supply and IT6000B regenerative power system, can accurately simulate the polarization characteristic curve of the fuel cell stack. The maximum voltage can reach 2250V and the power can be expanded to 1152kW to meet the test requirement of high-power fuel cell simulation.

IT9380 Solar Battery Test Software

P170~P171

IT9380 solar battery test software is the professional software aims to solar IV characteristic. With combination of ITECH programmable electronic loads IT8700/IT8800/IT8900, the solar battery test system is built up. It can test solar battery IV characteristic under kinds of Spectrums and light sources, and supports long time automatic testing.

Simulation Software for Power System of Aerospace and Ship

P172~P175

The software APS4000 can be equipped with ITECH IT7800/IT7900P series high-performance programmable AC/ DC power supplies to provide 5kVA-960kVA and 16Hz~2400Hz output for the onboard electrical equipment. The software has built-in several aircraft power supply characteristic test standards, such as MIL-STD-704, DO160, A350, A380, GJB181B, HB20326 and MIL1399, etc., which helps to truly simulate various AC and DC power supply systems in the aviation field.

SPS5000 Semiconductor Parametric Test Software

P176~P177

ITECH SPS5000 semiconductor parametric test software is equipped with the IT2800 high precision source measurement unit.



SAS1000 Solar Array Simulation Software



Applications

Solar array simulation, Photovoltaic inverter, Micro inverters and solar chargers

Feature

- Automatic wide range output, the voltage up to 2250V
- Power up to 2MW
- Support up to 20 solar cell power supplies for multi-channel MPPT testing*1
- Solar array simulate I-V function (Built-in I-V curve mathematical formula)
- Simulate the output characteristics of various solar cell (monocrystalline silicon cell, polysilicon cell, thin film cell) (Fill Factor)
- Simulate I-V curve under different temperature and irradiation
- Simulate I-V curve for solar panel under shadow
- Static & dynamic MPPT efficiency test
- Built-in EN50530, Sandia, NB/T32004, CGC/GF004, CGC/GF035 test program, and generate reports
- Graphical software interface, real-time test and display
- MPPT state of PV inverter
- Auto program control 100 I-V curves via Vm, Pm, FF, materials, regulations and other parameter points
- 100 * 128 points curves and 4096 points precise programming control.*2
- Support pre-program multiple IV curves(Vmp, Imp, Voc, Isc)and switch online*3
- List Mode

*1: Only applicable for SAS1000M

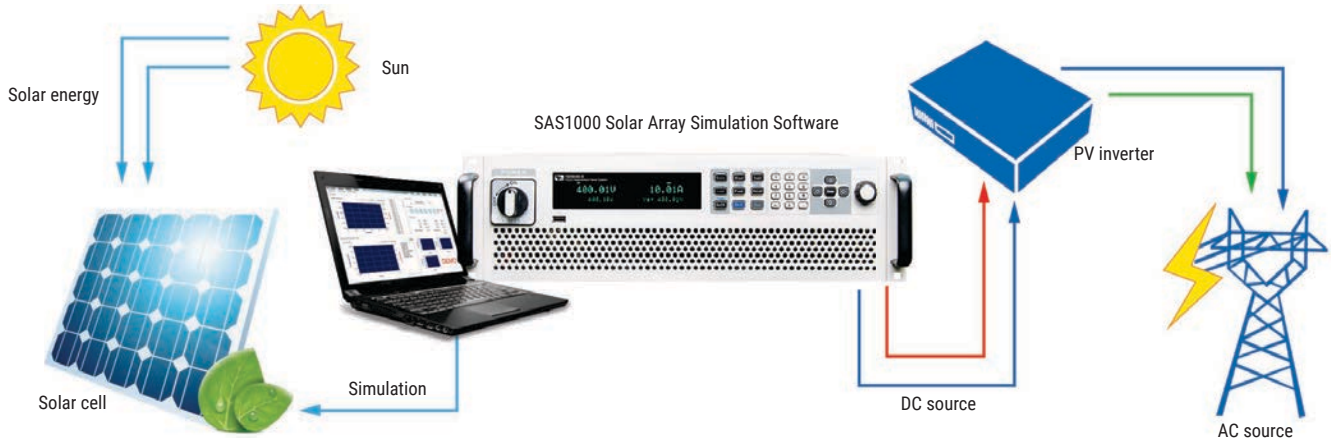
*2: IT-M3600 supports 10 curves and 1024 points control under Table Mode

*3: Not applicable for IT6500C

ITECH latest SAS1000 solar array simulation software, combined with high performance high power DC power supply, can accurately simulate solar array I-V curve. It has the characteristics of accurate measurement, high stability and fast response speed, etc. With the built-in EN50530 / Sandia / NB/T32004 / CGC/GF004 / CGC/GF035 SAS module, the solar array simulator enables easy programming on test regulations, materials, Vmp, Pmp parameters, so as to simulate I-V curve characteristic output and generate reports. These benefit much in test of the static & dynamic maximum power tracking performance of photovoltaic inverters. ITECH SAS1000 solar array simulation software also provide Shadow and Table mode. The shadow mode is provided to allow users to edit any shielded I-V curves for dynamic shadow. Under Table mode, the user can select 4096 points matrix, or store 100 I-V curves of different temperature and irradiation in the memory, and can set the implementation sequence and time of each curve, to test the long-term MPPT performance evaluation under different climates. SAS1000M is also available for multi-channel MPPT testing. The solar panel output simulation under the 24-hour real environmental parameters is also available. As a solar simulator, our power supply also provides supports for micro-grid, distributed photovoltaic etc power system simulation and core equipments testing.

Applications

- Design & verify the MPPT circuit and algorithm of the PV inverter
- Verify static maximum power tracking efficiency of the PV inverter
- Verify the MPP voltage range and the full load MPP voltage range of the inverter
- Verify the MPPT performance of the inverter for dynamic curves (Built-in EN50530, Sandia, NB/T32004, CGC/GF004, CGC/GF035)
- Verify the inverter starting voltage and the maximum input voltage, the maximum input current and other electrical parameters
- Verify the MPPT mechanism of the inverter for the I-V curve when the solar cell is shaded by clouds or trees.
- Test inverter DC terminal OVP, OPP
- Verify micro-grid control center and control function of photovoltaic energy storage system
- Verify the MPPT performance of the inverter from early morning to nightfall
- Verify the total efficiency and conversion efficiency of the inverter with IT9100 power analyzer



Model table

SAS1000	Suitable for IT6000C series, IT6000B series, IT6500C series, IT-M3600 series
SAS1000L	Suitable for IT6000C, IT6000B, IT6500C and IT-M3600 series with power $\leq 15\text{KW}$
SAS1000M	Standard Software for IT-N2100 and IT-M3900C PV series Multi-channel version, support up to 20 solar cell power supplies for multi-channel MPPT testing

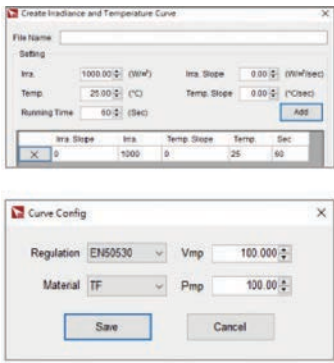
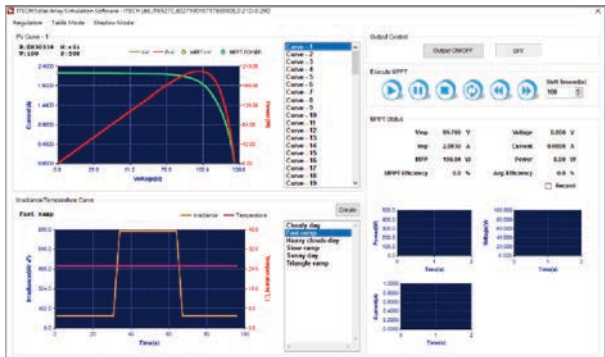
* For higher power test, please contact ITECH

Applicable model list

Series	Product Name	Specification
IT6000C	Bidirectional Programmable DC Power Supply	80~2250V / 5~1152kW
IT6000B	Regenerative Power System	80~2250V / 5~1152kW
IT6500C	Wide-range High-power DC Power Supply	80~1000V / 3~6kW
IT-M3600	Regenerative Power System	60~600V / 0.2~12.8kW

Simulate the output characteristics of various solar cell (FILL FACTOR)

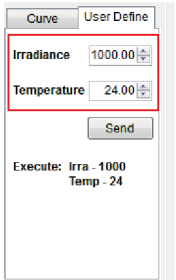
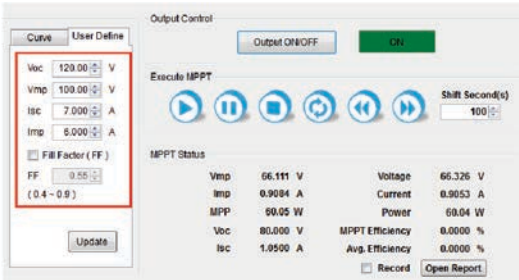
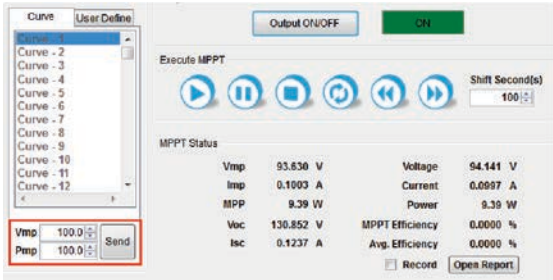
Since solar cell utilization is not only related to its internal characteristics, but also related to weather, season, temperature, irradiation, cloud cover, rain and snow and other factors, solar cell has different I-V characteristics in different periods. Therefore, PV inverter must have a strategy to adjust real-time working point of the solar cell to make it always work in the vicinity of the maximum power point, this process is called MPPT. SAS1000 solar array simulation software can be used to directly simulate various real-life solar cell arrays in a laboratory test environment to test the static & dynamic MPPT performance of photovoltaic inverters.



Set dwell time for each I-V curve to track MPPT and efficiency.

Easy to edit, save 1 - 100 I-V curves

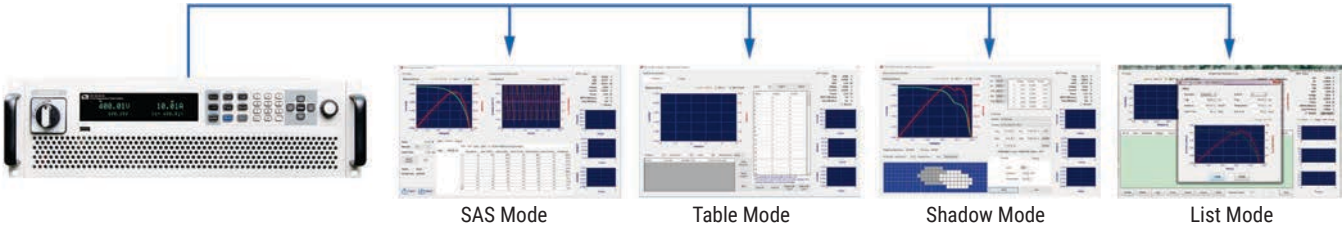
SAS1000 solar array simulation software newly supports pre-program multiple IV curves (Vmp, Imp, Voc, Isc) and switch online function. During the software operation, users can also dynamically adjust the parameters of Voc, Vmp, Isc, Imp, illuminance and temperature curve. The curve will be adjusted in real time according to the new parameters, making the test more accurate.



Test Software

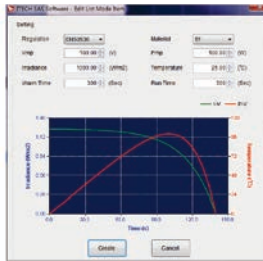
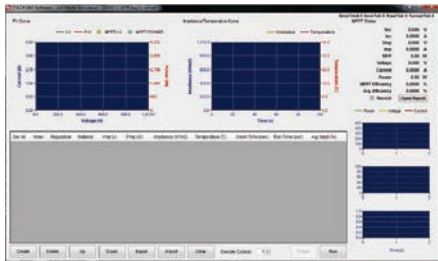
Graphical software interface

SAS1000 solar array simulation software has graphical software interface, users can easily use the software to output, measure, display the maximum power tracking status of photovoltaic inverter in real time and record value. Built-in EN50530, Sandia, NB/T32004, CGC/GF004, CGC/GF035 five kinds of regulatory testing procedures, it is convenient for users to test the static and dynamic MPPT performance of PV inverters and generate reports, so as to compare with competitors' results. Solar simulator power supply also provides the shadow, table and List mode, the user can enter the 128 ~ 4096 points array to edit any shielded I-V curve to achieve dynamic shadow effect and also can store 100 I-V curves under different irradiation and temperature to test the long-term maximum power tracking performance of photovoltaic inverters under different climatic conditions.

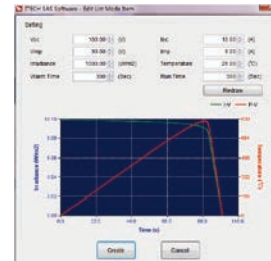


List Mode

SAS1000 solar array simulation software provides List mode, users can freely choose whether to simulate the curve by setting the Voc, Vmp, Isc, Imp or regulations, and then combine the different curves and run them in sequence.



Curve Mode

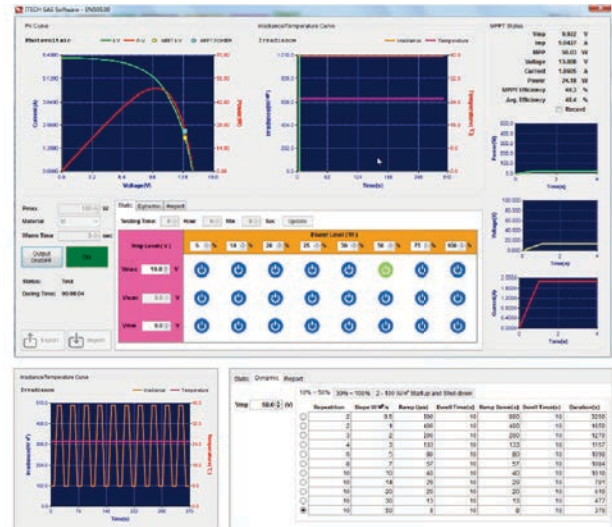
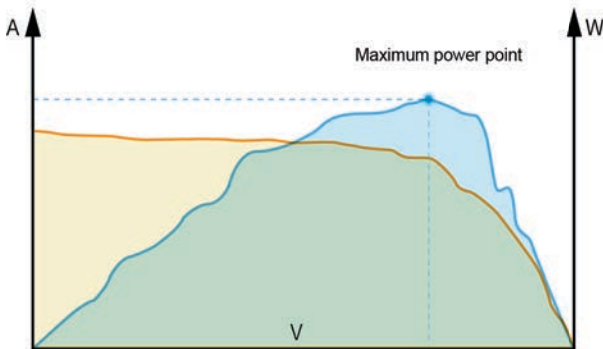


UserDefine Mode

Static & Dynamic MPPT performance test

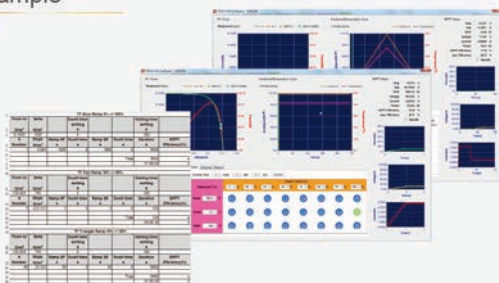
MPPT tracking performance is a very important specification of PV inverter, PV inverter needs a built-in MPPT mechanism to track real-time maximum output power of solar cell. Therefore, some of the industry's organizations have defined some "standard" test patterns to match all kinds of inverters, which allows inverter manufacturers to test and improve MPPT performance. Built-in MPPT test program of EN50530, Sandia, NB/T32004, CGC/GF004, CGC/GF035, users can set their own Vmp, Pmp, materials and other parameters, test run time and maximum run power percentage, the I-V curve and the real-time trace process are displayed on the screen to verify MPPT performance of the PV inverter, record the data during the whole test and generate report.

Test the MPPT performance of PV inverter by easy programming illumination intensity with time

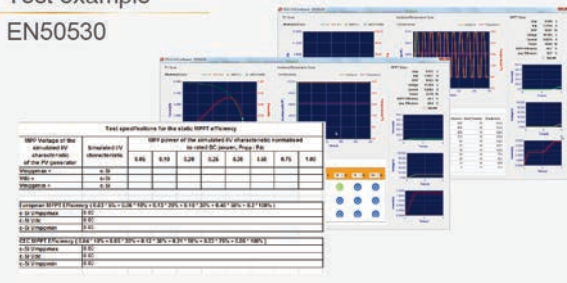


Test Software

Test example Sandia



Test example EN50530





Automatic program(Table Mode)

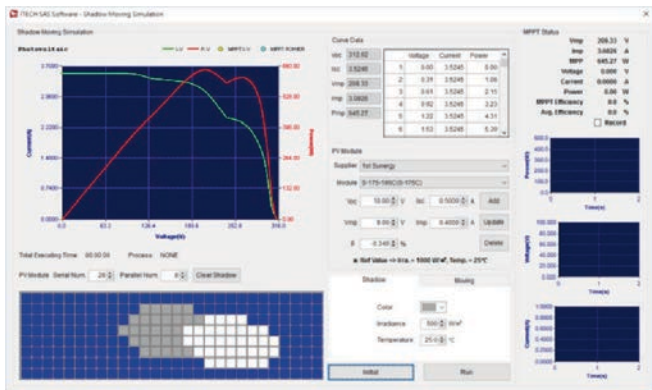
Table Mode of SAS1000 solar array simulation software can facilitate users to quickly verify the MPPT performance of photovoltaic inverter in the R & D and quality testing. Users can define 100 curves which has 128 points on each curve, after selecting the Curve, Loop, Next program and other necessary information, the software can be test by the setting steps, report will be automatically generated after finished.

Table Program Test example

- 1 Run the first curve of the first program
- 2 Run the second curve of the first program after 5s
- 3 Clicking next, run the first curve of next program

Shield I-V curve simulation(Shadow Mode)

SAS1000 solar array simulation software can help users to complete the solar array output simulation under different shadow modes, test and track real-time maximum power and performance test of the PV array. Providing various Module for the user to choose according to different supplier, users can also build their own PV module. User can define irradiation and temperature parameters of shadow, cell string set, parallel quantity and dynamic shielding the moving direction of the cloud, initialization time, running time and the time interval of cloud moving.



Shadow Moving

Select the moving direction of the cloud, initialization time, running time and the time interval of cloud moving

Initializing Time: 5 Sec
Executing Time: 3000 Sec
Changing Time: 5 Sec

Shadow Moving

Set the irradiation and temperature parameters of clouds

Color: [Dropdown]
Irradiance: 1000 W/m²
Temperature: 25.0 °C

Test Software

Inverter conversion efficiency test

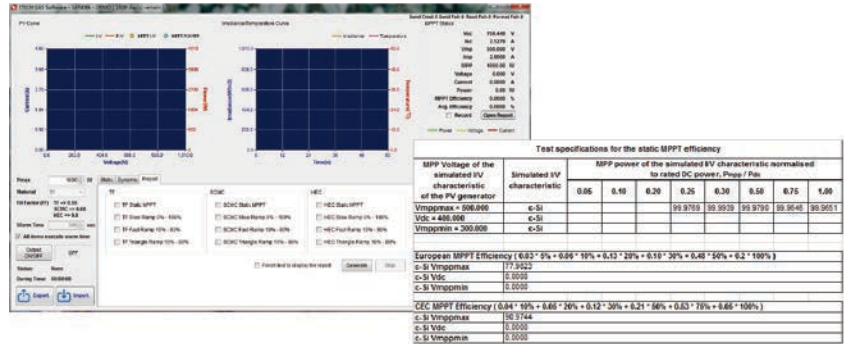
SAS1000 solar array simulation software is with built-in regulations EN50530, Sandia, NB/T32004, CGC/GF004, CGC/GF035 PV IV curve model, users can equip with IT9100 power meter to test conversion efficiency of photovoltaic inverter according to the maximum power percentage value.



IT9121 Power Meter

Report generation

SAS1000 solar array simulation software allows users to record the measured parameters, such as voltage, current, power, watts, MPPT efficiency, sampling time interval and total length of time, etc., which facilitates the analysis of PV inverter.



Multi-channel MPPT Test

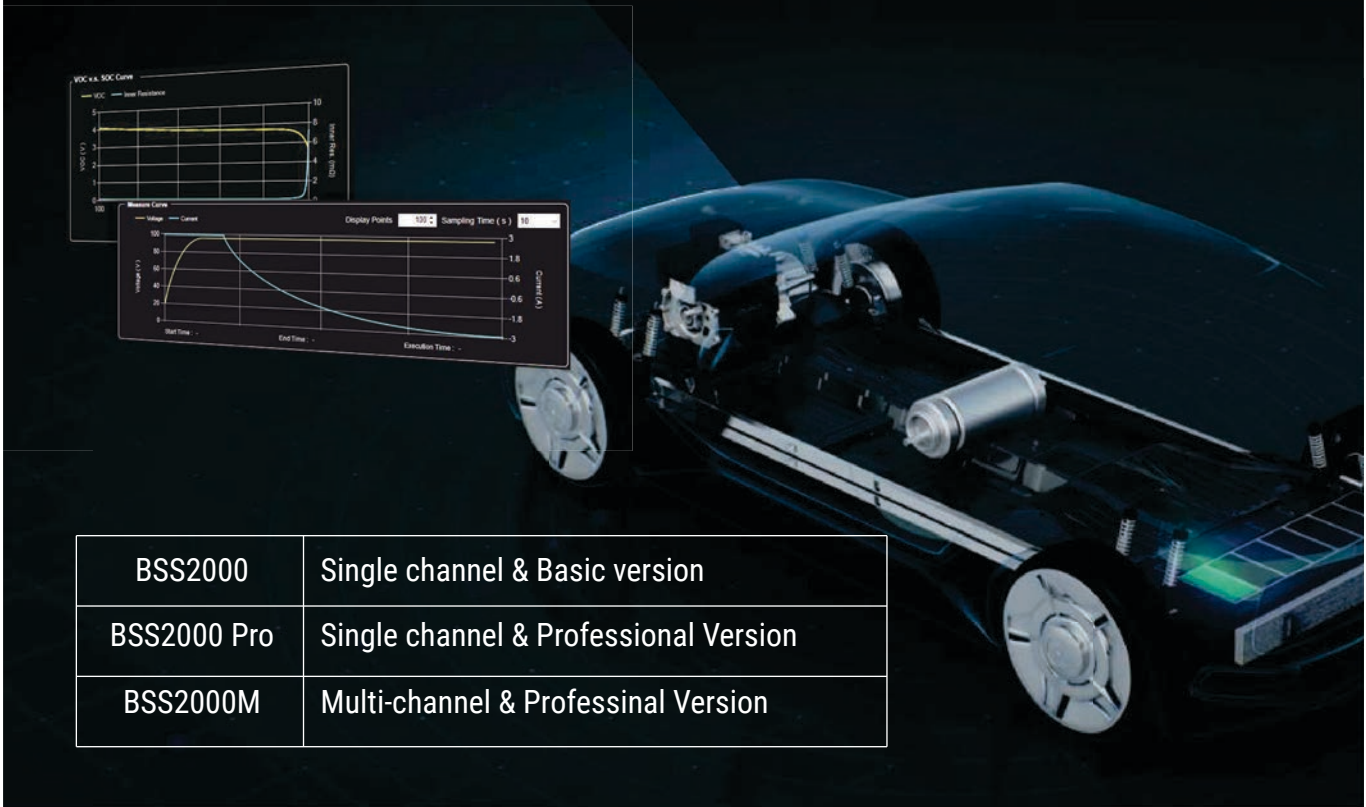
SAS1000M multi-channel solar array simulation software supports up to 20 channels MPPT test, users can not only choose whether to perform single-channel test or multi-channel synchronous test. At the same time, users can also choose to copy the setting of one channel to several or all channels, which provides maximum flexibility for users to facilitate users to complete multi-channel testing.

View all channel MPPT execution information
Switch the current test interface

Set channel synchronization, open and close

Channel test main interface, run MPPT test

View the output status and MPPT running information of all channels.



BSS2000	Single channel & Basic version
BSS2000 Pro	Single channel & Professional Version
BSS2000M	Multi-channel & Professional Version

With the development of battery technology, battery weight and energy density are further improved while the cost is reducing, making batteries widely used in new energy vehicles, photovoltaic energy storage and consumer electronics products. In order to fully verify the performance of the product in different SOC states of the battery, engineers need to conduct lots of tests in the early stage of R&D to continuously optimize the product design or select a more suitable battery.

The BSS2000/BSS2000 Pro/BSS2000M battery simulating software are products specifically designed for the above test scenarios. On the one hand, it will solve the problem of increasing cost of buying and storage of different types of batteries; On the other hand, the battery simulator can be quickly set to different state of SoC without real charge and discharge process, greatly improve test efficiency. The advanced version of BSS2000 Pro/BSS2000 M is developed to meet higher level testing requests. Based on the basic version of BSS2000, .mat file importing and more built-in battery types are provided with the Pro version software. Software combined with ITECH's latest high-performance bidirectional DC power supply, IT6000B/IT6000C/IT-M3400/IT-M3600/IT-M3900B/IT-M3900C/IT6000PV/IT6600C/IT6600PV, covering a power range up to 10MW, can provide users with a wide range simulation solution covering low-power battery module to high-power power battery system simulation.

Feature

- Battery simulation range: 2250V/10MW
- Support up to 20ch batteries simulation*1
- Bidirectional regenerative battery simulator, regenerative efficiency up to 95%
- Seamless switching between battery charging and discharging mode
- Support user-defined battery characteristic curve import
- Support quick set up of battery characteristic curves by input common parameters
- Support .mat file import function*2
- Built-in various battery types (include LeadAcid,Li-on,LMO, LNMCO, LNMCO&LMO,LFP,LTO and NiMH .) *3
- Battery protection parameter setting function
- Initial SoC setting function
- Ideal data report function
- Battery curve preview and real-time curve display function
- Flexible expansion by parallel for larger current/power simulation request

*1 BSS2000M

*3 BSS2000 basic version software is used to simulate lead-acid and lithium-ion batteries.

*2 BSS2000Pro

Applications

E-mobility

EV Powertrain testing, DC Charger testing
FCEV PDU power distribution unit testing

Solar PV

Renewable energy storage control unit test,
smart micro grid PCS testing

Others

Aerospace and defense energy storage
battery simulation test and more



Common battery parameters setting and function simulation

By combined various types of battery modelling and high-speed algorithms, BSS2000/BSS2000 Pro/BSS2000M Battery Simulation Software provide the user with real-time battery curve simulation function. No need to know the specific internal characteristics of the battery, the user only needs to select the battery type and the battery characteristic curve can be generated easily by setting a few basic parameters, parameters including full voltage, empty voltage, rated capacity, serial qty, parallel qty and battery internal resistance, etc. Thanks to the strong support of ITECH hardware, the battery simulator can simulate up to 10MW battery packs, covering the test requests of solar PV ,energy storage, EV and other high-power fields.

Full Voltage (V)	12.00
Empty Voltage (V)	8.00
Inner Resistance (mΩ)	1.0
Capacity (Ah)	10.000
Parallel	1
Series	1
I+ (A)	5.00
I- (A)	-5.00
Initial SOC (%)	90.00

User-defined battery characteristic curve

BSS2000/BSS2000 Pro/BSS2000M Battery Simulation Software provides the battery curve simulation function by importing Data to meet the needs of various simulation requests. Users can import the measured battery charge and discharge data in a csv file to simulate the battery charge and discharge characteristic curve. This function is not only suitable for the simulation of conventional batteries, but also for the simulation of some special batteries or novel batteries.

SOC	OCV	R
0	2.654	7.25179
0.1	2.689676	6.28948
0.2	2.724133	5.463998
0.3	2.757411	4.755715
0.4	2.789552	4.147823
0.5	2.820595	3.625931
0.6	2.850577	3.177712
0.7	2.879535	2.792612
0.8	2.907504	2.461595

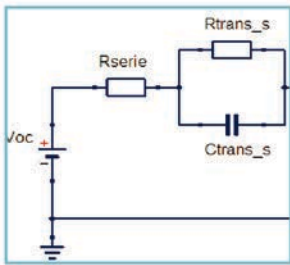


Support .mat file import function

BSS2000 Pro/BSS2000M

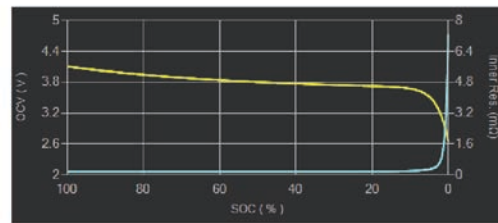
BSS2000 Pro/BSS2000M battery simulation software provides professional battery researchers with the function of importing .mat files, through which users can simulate the corresponding battery characteristic curves under different battery mathematical models. This function is of great significance for the research on the adaptability of new batteries and products, and the application of conventional batteries in special environments. Conventional types of battery characteristic curves or mathematical models are generally based on typical conditions, and for new batteries or applications in special environments, engineers often need to construct new battery mathematical models to more realistically reflect the performance of batteries in specific application contexts. This function is specially developed for such applications. Users can build a new battery mathematical model through a third-party MATLAB * simulation platform and import .mat file into BSS2000 Pro/BSS2000M for simulation, and then verify the battery's adaptability in practical applications.

* MATLAB is a mathematical software developed by MathWorks, Usa



Battery mathematical model

Support .mat file import function



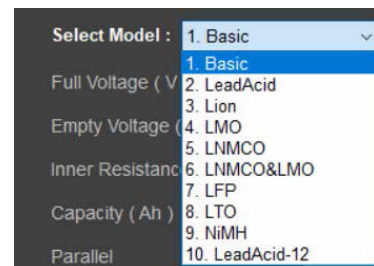
BSS2000 Pro Software

Built-in various batteries types for selection

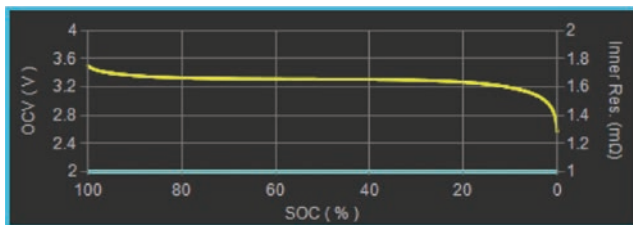
BSS2000 Pro/BSS2000M

BSS2000 Pro/BSS2000M Battery Simulation Software provides users with unique Modelling functions, by built-in commonly used battery types and characteristic curves into the software. The user only needs to select the battery type and configure the series and parallel parameters to simulate the characteristic curves of battery modules of different types and different capacities. The battery types selectable by BSS2000 Pro include Lion,LMO,LNMCO,LNMCO&LMO, LFP,LTO and NiMH .

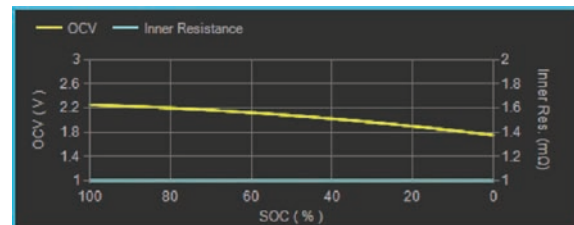
* BSS2000 basic version software is used to simulate lead-acid and lithium-ion batteries.



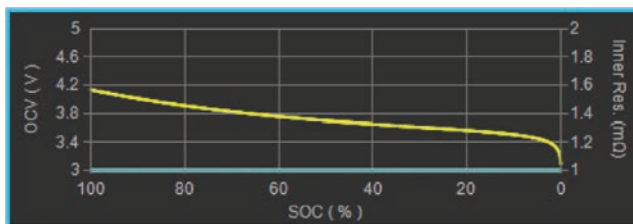
Test Software



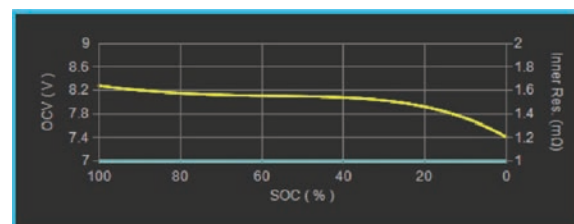
LFP



Lead-acid battery



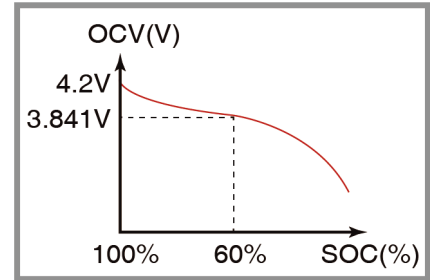
Ternary lithium battery



Ni/MH

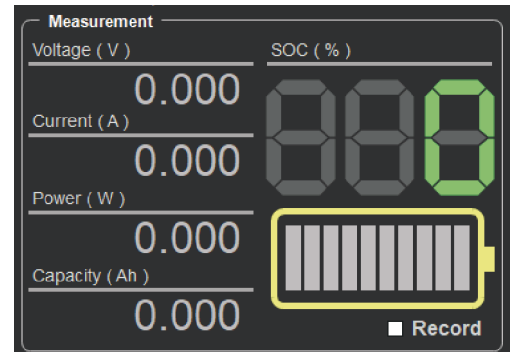
Initial SoC setting function

The BSS2000/BSS2000 Pro/BSS2000M battery simulation software allows the user to set the initial capacity of the battery to study the startup characteristics or energy management characteristics of DUT when the battery is fully charged or depleted, without the need to perform real charging and discharging, and improve test efficiency.



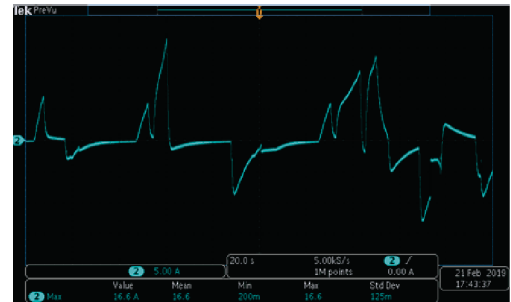
Real-time parameter monitoring

The BSS2000/BSS2000 Pro/BSS2000M battery simulation software provides multi-channel control function and supports preview function of edited curves. Meanwhile, during the test operation, the operating parameters and operating curves of the battery simulator are monitored in real time. In order to facilitate research and test personnel to trace the experimental data, the software provides report generation function, and the saved data includes voltage, current, power, SoC, charge/ discharge status, and capacity.



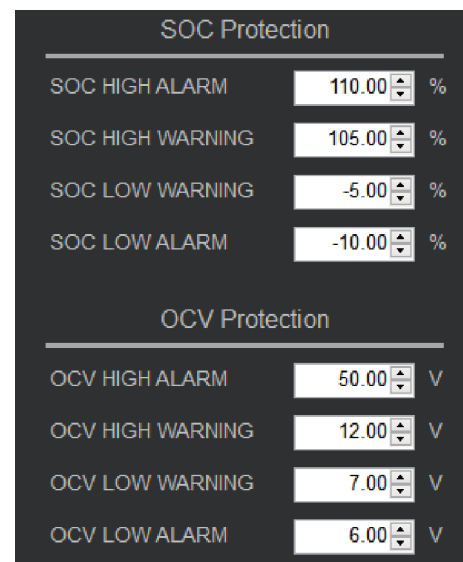
Seamless battery charge / discharge simulation

In real life scenarios, such as the EV field, as the vehicle decelerates, accelerates, or brakes, the battery continuously switches between the two states of discharge and energy recovery. Therefore, the battery simulator also needs to flexibly switch between being charged and discharge status and respond in a timely manner according to external state changes. The BSS2000/BSS2000 Pro/BSS 2000M battery simulator benefits from the hardware advantages of source and load in one device, which can realize the seamless switching between charging and discharging, to simulate the characteristics of the battery more realistically.



Protection parameter settings

In practical applications, in order to extend the service life of the battery and prevent the battery from overcharge and overdischarge, the BMS (battery management system) in the battery pack will limit the safety range of the battery for different applications. When it is higher or lower than the protection limit value, the software cut down the circuit in time to protect the battery and DUT. BSS2000/BSS2000 Pro/BSS2000M battery simulation software supports multiple protection condition settings: SoC upper/lower alarm value setting, SoC upper/lower protection value setting; OCV upper/lower alarm value setting, OCV upper/lower protection value setting.





Battery Simulator

Application field 1 -Hydrogen fuel cell vehicle

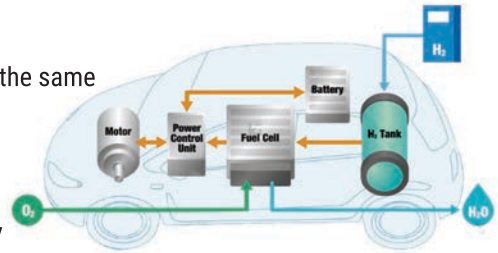
Test purpose -verify the energy management strategies of fuel cells and lithium-ion battery packs

Mode 1 Power battery and fuel cell systems to power the motor

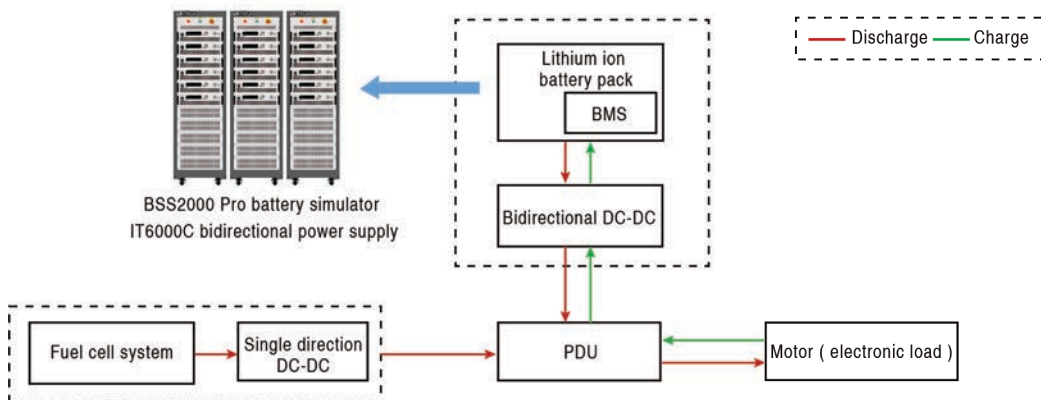
Mode 2 The fuel cell system powers the motor and charges the power battery at the same time (when the battery SOC is low)

Mode 3 Motor braking energy is feedback to power battery

ITECH solution -BSS2000 Pro & IT6000C/IT6000B/IT6000PV/IT6600C/IT6600PV



- Advantage**
- battery simulator can simulate power battery
 - battery simulator can realize seamless switching between charging and discharging
 - multiple built-in battery types (lithium battery, lithium iron phosphate battery...)

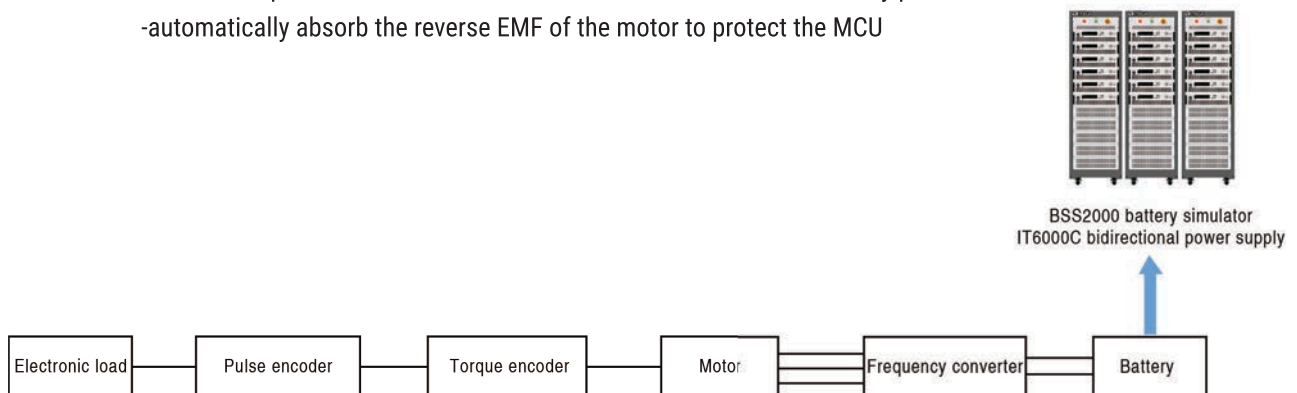
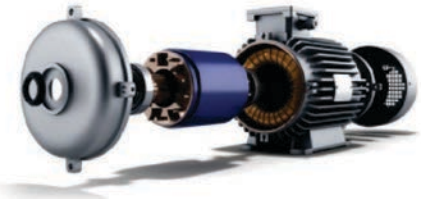


Application field 2 – MCU Test

Test purpose -verify the MCU performance under different SOC

ITECH solution -BSS2000 Pro & IT6000C/IT6000B

- Advantage**
- arbitrarily specify the initial SOC state of the battery
 - verifies the performance of the MCU under the limit state of the battery power
 - automatically absorb the reverse EMF of the motor to protect the MCU



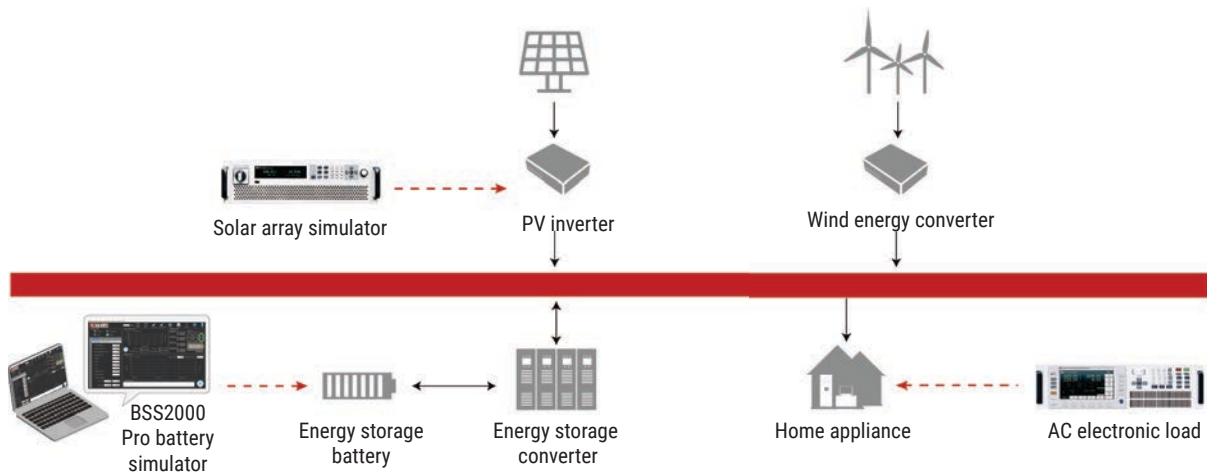
For more information, please visit ITECH official website
www.itechate.com

Application field 3 – Smart grid

Test purpose -Verify the PCS electrical performance of energy storage converter

ITECH solution -BSS2000 Pro & IT6000C/IT6000B/IT6000PV/IT6600C/IT6600PV

Advantage -max. power of battery simulator is up to 10MW
-support multiple choices of battery types, including lithium battery, lead-acid battery, etc.

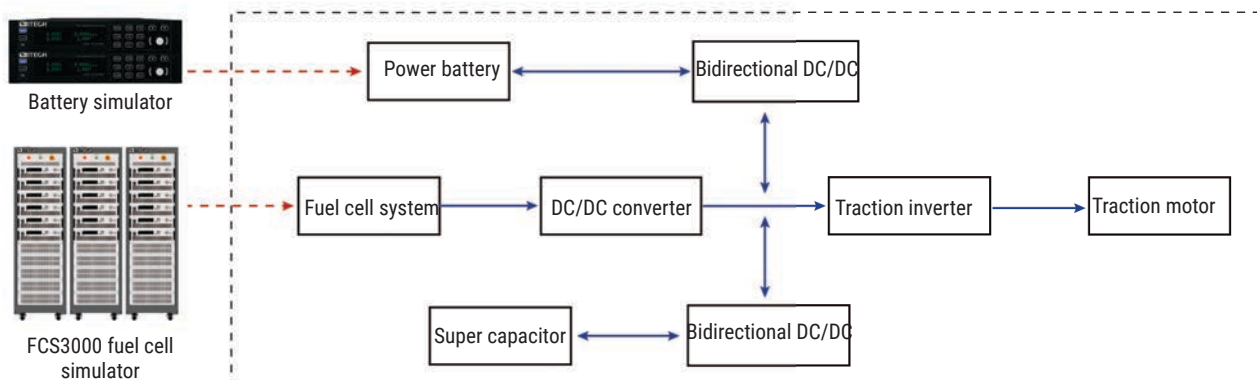


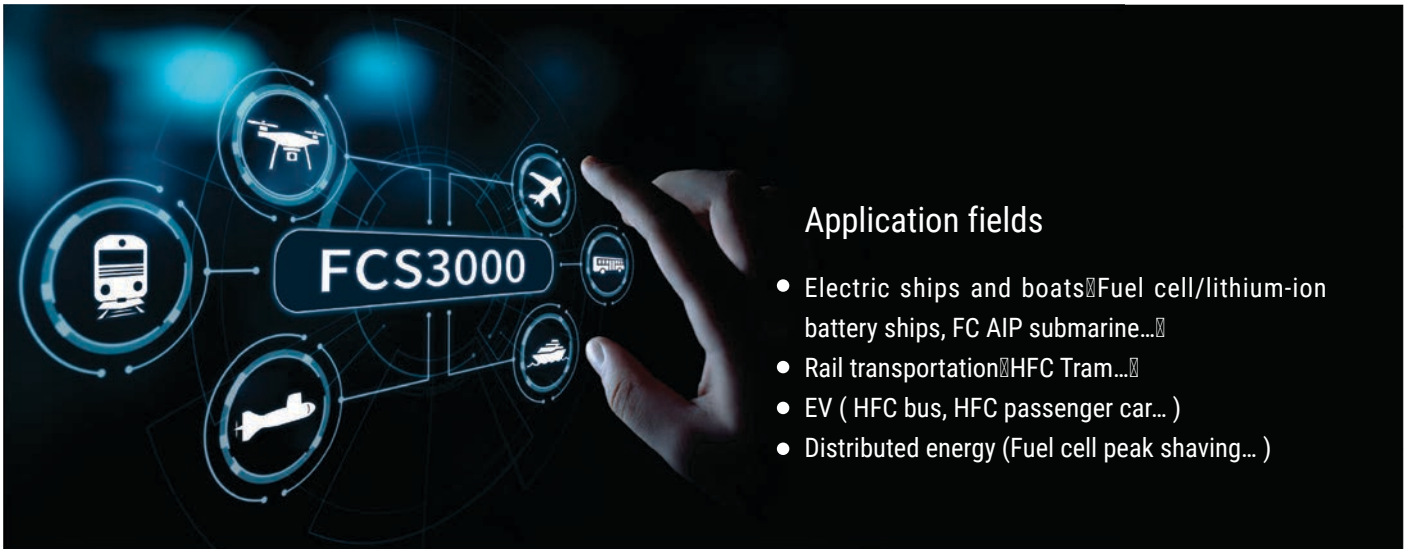
Application field 4- transportation

Test purpose -Research on Energy Distribution of Hydrogen Energy Tram Power System

ITECH solution -BSS2000 Pro & IT6000C/IT6000B/IT6000PV/IT6600C/IT6600PV

Advantage -user-defined battery characteristic curve
-supports the import of .mat format files, which is convenient for the performance research of the new kind of battery in the propulsion system
-real-time display of current battery voltage, current, capacity, energy and SOC





Application fields

- Electric ships and boats Fuel cell/lithium-ion battery ships, FC AIP submarine...
- Rail transportation HFC Tram...
- EV (HFC bus, HFC passenger car...)
- Distributed energy (Fuel cell peak shaving...)

The FCS3000 fuel cell simulation software matched with power supplies IT6000B/IT6000C/IT-M3900B/IT-M3900C/IT6600C/IT6600PV, can accurately simulate the polarization characteristic curve of the fuel cell stack. The maximum voltage can reach 2250V and the power can be expanded to 10MW to meet the test requirement of high-power fuel cell simulation.

FCS3000 is designed to replace real fuel cell systems and provide an efficient simulation platform for research on hydrogen energy hybrid

propulsion systems. It can overcome the weakness of high cost, complex platform building and weakening of fuel cell performance in experiments testing with real fuel cell stacks. FCS3000 has simple interfaces which is easy for configuration. At the same time, the complete data report also provides important data support for theoretical research.

Feature

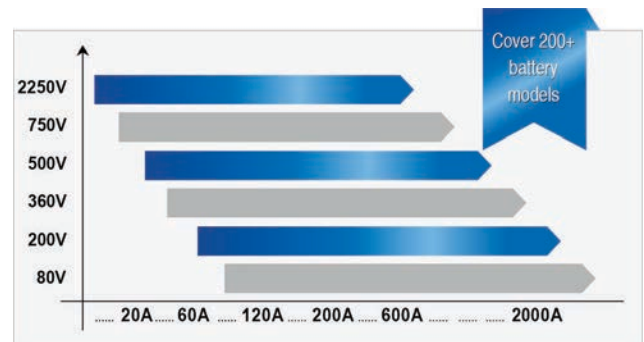
- Auto range output, 10V~2250V
- The power of the fuel cell simulator can be expanded to 10MW
- User-defined FC polarization curve (4096 points can be edited)
- Support .csv file import
- Data storage and export
- Graphical software operation interface, real-time display the output voltage, current and power

Application

- Study the power performance and economic performance of FC propulsion systems
- Verify the input performance of the FC DC-DC module
- Study the parameter matching of the key components of the FC propulsion system
- Research on vehicle energy management strategies for FC propulsion systems
- Verify the control strategy of peak and valley adjustment in distributed energy applications

Flexible parallel connection, power extended to max. 10MW

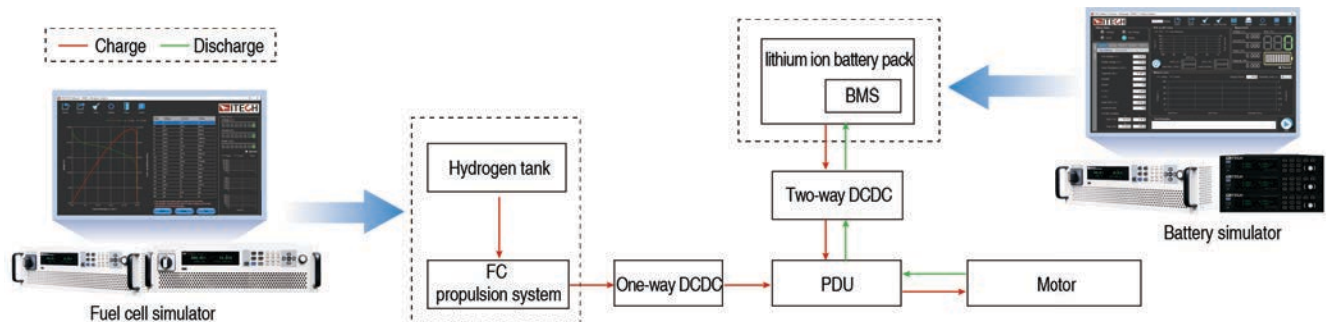
The ITECH power supplies can be expanded to 1152kW through a simple master-slave parallel configuration. Different from the traditional parallel connection, IT6000B/IT6000C/IT-M3900B/IT-M3900C/IT6600C/IT6600PV use optical fiber parallel technology. After paralleling, the synchronization and performance of master and slave are almost the same as one single unit. And there is no need to calibrate again, which greatly simplifies the parallel connection. Meanwhile it's helpful on cost control and high equipment utilization.



The fuel cell simulator is of great significance to the study of fuel cell propulsion systems.

What is fuel cell propulsion systems ?

A typical fuel cell propulsion system is mainly composed of a fuel cell stack, a hydrogen tank, a fuel cell boost DC-DC module, a lithium ion battery pack and an energy distribution control unit. When start-up of the ship or vehicle, the fuel cell is in a warm-up state, and the lithium ion battery pack provides energy to drive the motor; during driving, the fuel cell provides energy for the motor; when acceleration, both the fuel cell stack and the lithium ion battery pack provide energy for the motor; when braking, the recovered energy is stored in the power batteries.



Compared with the traditional diesel engine as the motive power, the fuel cell power propulsion system has the advantages of no pollution, no emission and low noise. It is very suitable for applications requiring long driving mileage and high stability.

What is a fuel cell simulator ?

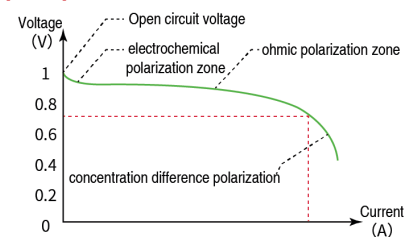
The fuel cell simulator replaces the real fuel cell stack and complex devices such as hydrogen and oxygen device, and provides an easy operating simulation platform for theoretical research. It also avoids the problems of high hydrogen cost and complex device building when using real fuel cells for testing. It's good for studying the energy distribution of the fuel cell propulsion system and evaluation of overall dynamic performance and economic value.

FCS3000 with IT6000B/IT6000C/IT-M3900B/IT-M3900C/IT6600C/IT6600PV can provide a complete fuel cell simulation solution.

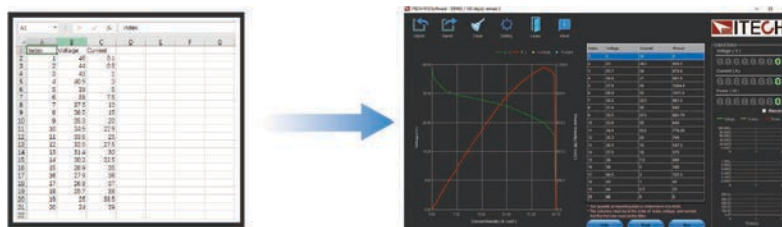
FCS3000-Graphical design interface to simulate fuel cell output polarization curve

The output voltage of a real fuel cell stack is affected by driving conditions.

When the working current changes, the output voltage of the FC stack is a three-stage curve due to the internal polarization reaction, including electrochemical polarization zone and ohmic polarization zone and the concentration difference polarization zone.



The FCS3000 software is based on the measured fuel cell polarization curve, and allows users to import the .csv file, download it to the device and realize the fuel cell output polarization characteristic curve simulation. In the experiment, the FCS3000 fuel cell simulation software changes the output voltage of the control system according to the polarization curve, and records the parameters such as voltage, current and power in real time, which helps to study fuel cell propulsion systems to provide important experimental data.





IT9380 Solar Battery Test Software

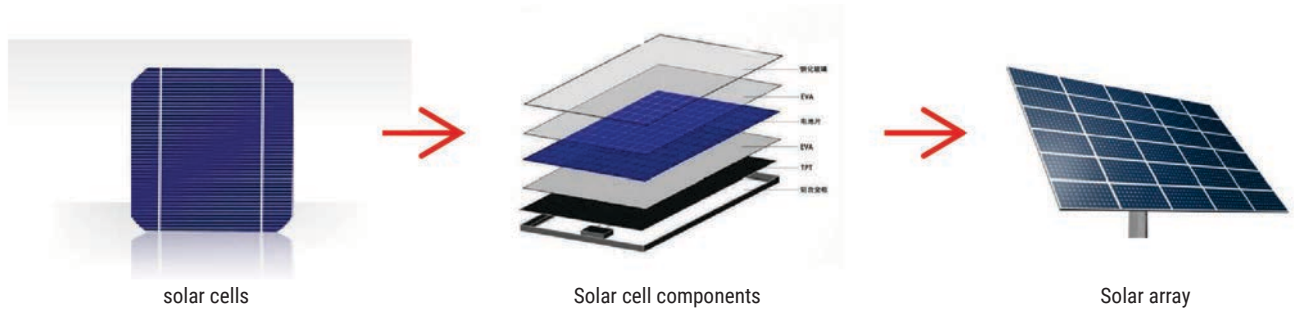
IT9380 solar battery test software is the professional software aims for solar IV characteristic. With combination of ITECH programmable electronic loads IT8700/IT8800/IT8900, the solar battery test system is built up. It can test solar battery IV characteristic under kinds of Spectrums and light sources, and supports long time automatic testing. With the ambient temperature and sunlight irradiance changing, the IV characteristics and conversion efficiency of the solar battery will change. When the ambient temperature goes up, the shape of I-V curve will change at the same time and filling factor will go down. Also the conversion efficiency will decline. Sunlight irradiance increases, output power increases, then higher conversion efficiency for solar battery. All the above factors determine that the IV characteristics of solar batteries must be ensured the accurate test results by measuring voltage at multi-points in a period of time.

Feature

- Work with IT8700/IT8800/IT8900A/E series electronic loads for different DUTs
- Set up testing interval and time period, the software manages periodic scan during time period, automatic testing
- Support multi-channel testing at the same time, free to switch the interface of each channel
- Testing data can be exported to save in excel format

Functions & specification requirements

Equipment Name	Function Requirements	Specification Requirements	Recommended models
DC Electronic Load	1.High voltage and current measurement speed 2.High accuracy and high resolution	Single channel test	IT8800/IT8900A/E series
		Multi-channel test	IT8700 series



System structure

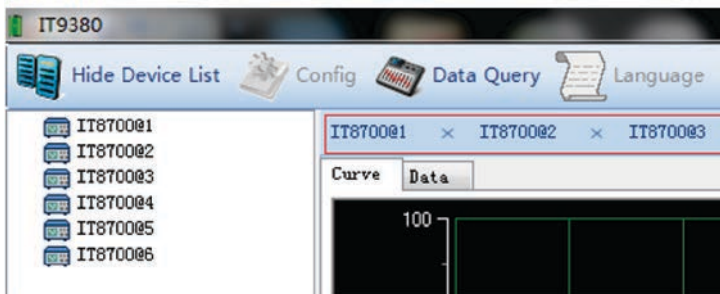


Test items

Test Parameters
Short circuit current(Ishort)
Open circuit voltage(Vopen)
Peak power(Pmax)
Peak power point voltage(Vpmax)
Peak power point current(Ipmax)
Fill factor(FF)

IT9380 Support connecting multiple units

IT9380 software supports multi-channel testing, It can monitor IT8700/IT8800/IT8900 in multiple channels running solar batteries testing by one computer and switch freely among the controlling interfaces.



Powerful Data Management Ability

IT9380 software has batch data preservation function, you can delete or export/save your testing data in the data management interface.

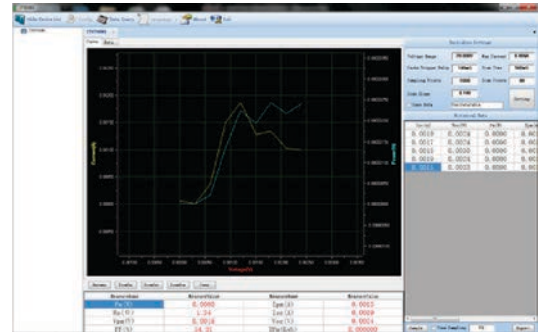
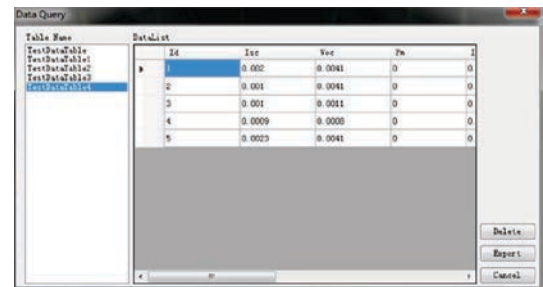
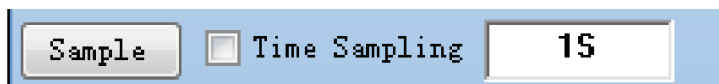



Table Name	Id	Ishort	Vopen	Pmax
TestDataTable1	1	0.002	0.0041	0
TestDataTable2	2	0.001	0.0041	0
TestDataTable3	4	0.001	0.0011	0
TestDataTable4	5	0.0009	0.0000	0
TestDataTable5	5	0.0025	0.0041	0

IT9380 Support Long Time Periodic Testing

Besides single test, IT9380 support multiple tests, the testing time interval and time range are available to set. The software automatically scans based on the time interval as the preset process.





Simulation Software for Power System of Aerospace and Ship

In aircraft and ships, there is always a conflict between the power supply system and the electric equipment. The electric equipment require an uninterrupted, transient-free, pure sine wave AC power supply and a pulsation-free, transient-free DC power supply. The power supply system, however, expects the electric equipment to have a constant load and no distortion of the voltage waveform due to load fluctuations. In fact, neither of them can reach idealized conditions, so some compromises are made. In this case, the aircraft power supply characteristics standards are established and continuously improved, defining the permissible limits for the output of the power supply system, and requiring the on-board electrical equipment to meet the corresponding design specifications within the accepted permissible power supply disturbance limits as well.

Military and civil aviation regulations and standards

Aircraft power supply characteristics standards specify the power supply characteristics of the electrical equipment. There are different standards between military and civil aviation. For example, the U.S. military standard MIL-STD-704 is applicable to military aircraft, which specifies the electrical requirements of the electrical equipment of military aircraft and how the electrical equipment should work under various power supply conditions. Common power supply states include normal operating conditions, abnormal operating conditions, overvoltage and undervoltage, frequency modulation, etc.

Other power supply standards are applicable to civil aircraft, such as the RTCA standard DO-160 "Environmental Conditions and Test Methods for Airborne Electric Equipment". It covers a variety of power supply disturbances such as voltage dips, short interruptions, harmonic distortion, etc. In addition, top commercial aircraft manufacturers often have their own standards, such as Airbus' ABD and AMD standards, and boeing's 787 standard. These standards are very valuable references for the design of electrical systems of large passenger aircraft, and place higher requirements on the ability of electrical equipment to withstand disturbances.

APS4000- Optional software for power system of aerospace and ship

To accelerate the verification of power supply adaptability for electrical equipment on aircraft, ITECH presents you with the APS4000 aviation and ship regulations software. Equipped with the IT7800/IT7900P series high performance programmable AC/DC power supplies, it can help to achieve various DC and AC output waveforms as specified in aircraft power supply standards, such as harmonic distortion, non-normal voltage transients, etc. The APS4000 has a user-friendly GUI. It has built-in test items that correspond to the regulations, you only need to select the correct item number to start the correspondent test, which largely saves your time on editing and configuration.

Test challenges for aircraft electric equipment

Power supply suitability testing of avionics equipment is very complex and time consuming. Even experienced engineers may spend weeks researching regulatory test conditions and getting the waveforms to output successfully on a powerful programmable AC/DC power supply. It requires to repeatedly study custom waveform editing and even understand secondary development instructions for automate testing and obtaining perfect test reports. In addition, choosing a high-speed AC/DC power supply with powerful waveform simulation is also important for successful testing.

AC/DC power system

Aircraft power supply system has experienced the development process of low-voltage DC, AC, high-voltage DC, where the AC power supply has experienced constant speed constant frequency (400Hz), variable speed constant frequency and variable speed variable frequency (360Hz-800Hz). The Boeing 787 aircraft power distribution system, for example, uses four power supply systems, 230VAC, 115VAC, 28VDC and 270VDC to supply power to the electric equipment.

Features and Advantages of APS4000

APS4000 aviation and ship regulations software can be used with ITECH IT7800/IT7900P high performance programmable AC/DC power supply to provide 5kVA-960kVA and 16Hz~2400Hz power supply output for electric equipment. The software has built-in mainstream military and commercial aircraft power supply characteristics standards, such as MIL-STD-704, DO160, A350, A380, GJB181B, HB20326 and MIL1399, etc., which can realistically reproduce a variety of AC and DC power supply systems in the aviation field, including DC 270Vdc, 28Vdc, single-phase AC 115V/400Hz, three-phase AC 115V/400Hz and wide frequency range 360Hz-800Hz. The APS4000 includes four models, the APS4000-ASTD, APS4000-B787&AMD, APS4000-AVALL and APS4000 1399, which can cover different applications. The user-friendly GUI of the software helps to quickly select test items and complete the test.

Advantage of AC/DC power supply

- Adopt next generation SiC technology, high power density design
- 15kVA in 3U, master-slave parallel up to 960kVA
- Voltage range: 0-350V L-N, reverse mode up to 700V L-N
- Up to 50th harmonic simulation and analysis function
- Four output modes: AC/DC/AC+DC/DC+AC
- Single-phase/three-phase output
- Powerful power supply waveform simulation function: LIST / user-defined waveform
- Built-in EC61000-4-11/4-13/4-14/4-28 regulation waveform
- Built-in MsB/CAN/LAN/Digital IO communication interface

Advantage of APS4000:

- User-friendly GUI, easy to operate
- Provide MIL-STD-704, DO160, A350, A380, GJB181B, HB20326, B787 and AMD regulatory standards
- Provide MIL 1399 power supply adaptability test standard for marine electrical equipment
- Provide single/three-phase output parameter setting and measurement interface
- Flexibility to run all test items or specified number of test items
- Automatic generation of test reports



Features and Advantages of APS4000

Model	Regulatory Standards	Revision
APS4000-ASTD	MIL-STD-704、DO160、ABD0100.1.8(A380)、ABD0100.1.8.1(A350)、GJB181B、HB20326	MIL-STD-704:Rev A/B/C/D/E/F DO160:Rev E/F/G
APS4000-B787&AMD	B787、AMD24C(A400M)	A380: Rev D/E
APS4000-AVALL	MIL-STD-704、DO160、ABD0100.1.8(A380)、ABD0100.1.8.1(A350)、GJB181B、HB20326、B787、AMD24C(A400M)	A350:Rev B/C GJB181B:Rev B
APS4000-1399	MIL-STD-1399-300	HB20326:Rev 2016



Features and Advantages of APS4000

- Cabin entertainment systems
- Aircraft lighting system
- Airborne radar system
- Communication and navigation Systems
- Flight recording system
- Cockpit display system
- Airborne radar system
- Atmospheric data and inertial reference systems



Features and Advantages of APS4000

Install the optional software APS4000 and connect it to ITECH AC/DC power supply, you just need several simple procedures to complete various avionics tests.

1. Select the regulatory standard, such as MIL-STD 704.
2. Select the appropriate revision number, such as MIL704 RevF or RevE
3. Select the correct operating mode, DC or AC.
4. Select test serial number, such as HD101, HD102...
5. Select running mode: Run all steps/ Run single step/ Loop single step.
6. Click and start the test.



Test Items

Take MIL-STD 704 military aircraft test standard as an example, APS4000-ASTD provides 6 test versions from RevA~RevF. You can choose any one of them and configure the corresponding power supply voltage. For example, when you select the RevF version, multiple voltage options below will appear in the voltage column of the software.

Power supply mode	Specification	Rated voltage	Rated frequency	Phase
SAC	single-phase constant frequency 115Vac/400Hz	115Vrms L-N	400Hz	1φ
TAC	three-phase constant frequency 115Vac/400Hz	115Vrms L-N	400Hz	3φ
SVF	single-phase constant frequency 115Vac	115Vrms L-N	360Hz~800Hz	1φ
TVF	three-phase constant frequency 115Vac	115Vrms L-N	360Hz~800Hz	3φ
SXF	single-phase constant frequency 115Vac/60Hz	115Vrms L-N	60Hz	1φ
LDC	MIL-STD-704 standard compliance test of 28V DC electric equipment	28Vdc	N/A	N/A
HDC	MIL-STD-704 standard compliance test of 270V DC electric equipment	270Vdc	N/A	N/A

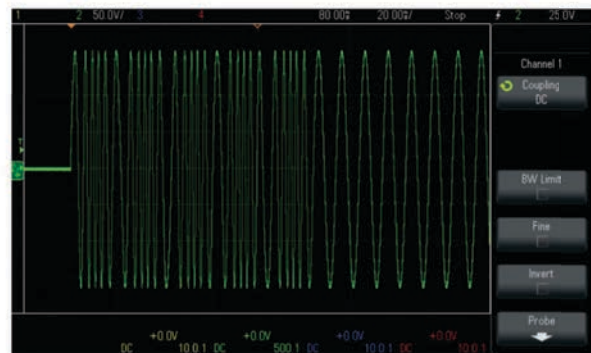
Just select the type of output, such as SAC (Single Phase Constant Frequency 115Vac), the software will automatically switch to the test item number under the SAC power supply system, containing SAS101-SAC603. The APS4000 allows you to select the test sequence to be performed and click the Run button to make the test easier and save configuration time.

Regulations Category RevF SAC Execution Mode Run all steps Run/Stop

Method	Subject	Test Condition	Comment
	Normal Voltage Transients (Repetitive)	90V RMS to 140V RMS	Not less than ^
SAC110	Normal Frequency Transients (Overfrequency)	High Frequency 425Hz	TABLE SAC1
	Normal Frequency Transients (Underfrequency)	Low Frequency 375Hz	TABLE SAC1
	Normal Frequency Transients (Combined)	375Hz to 425Hz	TABLE SAC1
SAC201	Power Interrupt	0V RMS for 50msec	TABLE SAC2
SAC301	Abnormal Steady State Limits for Voltage and Frequency	100V RMS to 125V RMS, 380Hz to 420Hz	TABLE SAC3



LDC302 28V abnormal voltage transients (overvoltage)



SAC303 115Vac abnormal frequency transients (over frequency)

SPS5000 Semiconductor Parametric Test Software

ITECH SPS5000 semiconductor parametric test software is equipped with the IT2800 high precision source measurement unit. It helps to quickly complete semiconductor test of device IV characterization and parametric test. SPS5000 supports DC, pulse, single and bidirectional sweeping modes. With an intuitive GUI, the SPS5000 helps university laboratories, semiconductor suppliers and research institutes to quickly perform semiconductor device characterization test. No programming knowledge is required when you use it.

SPS5000 software provides ready-to-use test items for different types of semiconductor devices such as MOSFETs, BJTs, diodes, and resistors. Take Diodes as an example, its ready-to-use test items include breakthrough voltage, forward bias, reverse bias and I-V. Depending on the test requirements, users can execute only one test item at a time, or a test sequence with multiple test items for rapid parametric analysis (capable for items with the same wiring). The graphical display window and various powerful features of SPS5000 allow user to perform the measurement quickly and acquire the result graphically, dramatically improving the test efficiency of characterization.

Features

- Intuitive GUI simplifies measurement setup, I-V characterization and data analysis
- Provides ready-to-use test items for MOSFETs/BJTs/Diodes/Resistors for quick Recall
- Automated test sequence function for continuous execution of multiple parameter tests for devices*1
- Interactive and real-time data plotting accelerates review of test results
- Quick test mode to perform up to 32ch DUTs test simultaneously
- Built-in database allows user to store and rapidly recall the data and graphs
- Powerful graph analysis tools such as auto-scaling and line operations
- Multiple Y axes capabilities and configurable parameter type and scale type of Y-axis/X-axis
- Provides customized test item function*2
- Software compatible with Windows 7 (or above) operating system
- Test fixture IT-E803 for low-power diodes and Mosfet test (42V/1A)
- Capable used with IT2800 series SMU, Minimum resolution up to 100nV/10fA

*1 Test items that apply to the same wiring.

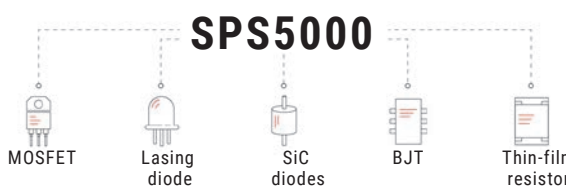
*2 Stay tuned.

Model	Voltage	Current	Power	Source resolution	Measure resolution
IT2801 IT2801R	±1000V	±1A DC&pluse	±20W	100nV/1pA	100nV/1pA
IT2805 IT2805R	±200V	±1.5A DC&pluse	±20W	1uV/100fA	100nV/10fA
IT2806 IT2806R	±200V	±3A DC,10A pulse	±20W	100nV/10fA	100nV/10fA

* Models with 'R' also support rear panel outputs and with the triple coaxial terminals.

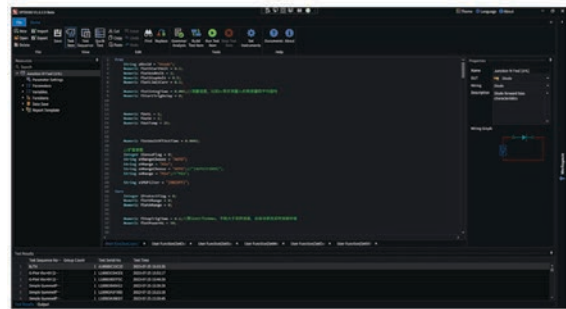
Applications

SPS5000 is a reliable software designed for the manual or automated testing needs of semiconductors in research institutes, semiconductor companies and universities.



User-defined test items

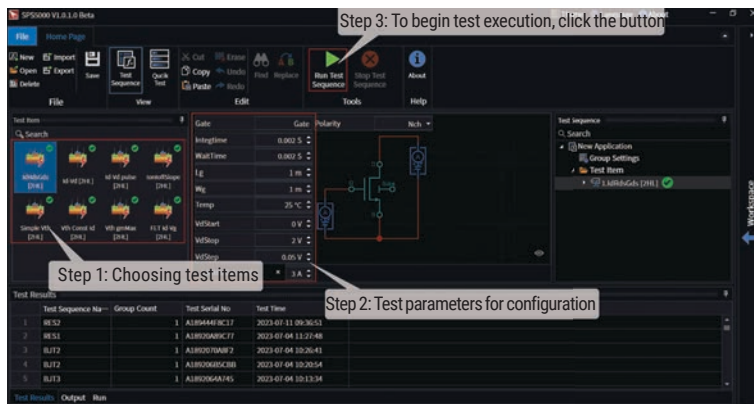
In addition to ready-to-use test items, SPS5000 also provides the function of user-defined test items. You can directly access the hardware of the IT2800 SMU, and set various parameters by yourself, such as output voltage/current, number of sweep steps, sweep range, etc. In addition, in order to speed up the development of the test items, you can copy the code of ready-to-use test items for quick modification without creating from scratch, which greatly improves development efficiency.



Test Software

Ready-to-use test items greatly accelerate the semiconductor devices characterization

The SPS5000 software provides convenient ready-to-use test items for different types of semiconductor devices such as MOSFETs, BJTS, diodes, and resistors. Enabling user to perform measurement setup and data collecting quickly without any secondary programming. Take MOSFET test as an example, a common testing process will be like this: defining test variables---develop the testing methods----writing automated test code----executing the test----making the data analysis. By using SPS5000, user can simply the test process in three steps with the preinstalled test items. Step one is to select the ready-to-use test item such as Id-Vd. Step two is to configure the measurement conditions. The last step is the clicking “running” to start the test. When test is finished, user can acquire the data and graphs automatically.

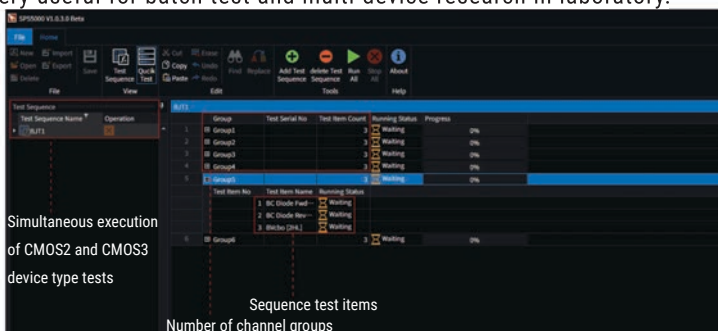


Ready-to-use test item examples

MOSFET	V(BR)DSS,V(BR)GSS,Id-Vd,Vth,Rds(on),Id-Vg
BJT	U(BR)CBO,U(BR) EBO,U(BR)CEO,Ic-Vc, ICBO,Ib=f,UBE, Ic=f(UCE),Gummel plot
Diode	IR,IF,Id-Vd,Ubr
Resistor	R-I,R-V,Dual sweep

High-efficiency quick test mode, supports up to 32ch

SPS5000 supports quick test mode to perform up to 32ch semiconductor devices test synchronously. It is capable for 32 different DUTs or 32 identical DUTs without any test limitations, greatly improving equipment utilization. In another word, SPS5000 supports to run different test sequences for different DUTs simultaneously. The quick test mode is very useful for batch test and multi-device research in laboratory.

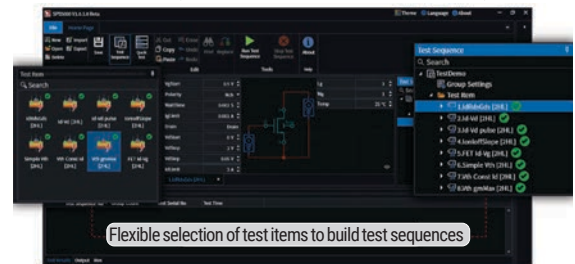


Simultaneous execution of CMOS2 and CMOS3 device type tests

Sequence test items
Number of channel groups

Automated test sequence mode to fulfill multiple characterization test

The SPS5000 software provides a flexible and high-efficiency testing mode by allowing the user to form a test sequence with multiple ready-to-use test items. Automated test sequence mode is important to efficiently gather multiple parameters on the semiconductor device. For example, when you select Id-Vd test item of MOSFET, SPS5000 will automatically recall other test items with the same wiring connection, such as Vth, FET Id-Vg. users can execute only one test item at a time (e.g. Id-Vd), or combine them into a sequence for rapid multiple parametric test(Id-Vd ->Vth -> Ion/offslop ->...).



Flexible selection of test items to build test sequences

Auto-analysis and graphical display features accelerate the characterization analysis

The GUI based characterization software SPS5000 allow user to perform the measurement setup quickly and get the result graphically. It not only directly display the calculated and extracted parameters, but also provide powerful graph analysis tools for further analysis, such as auto-scaling and line operations(constant line, tangent line and regression line). User can also use the strip feature to mark MOSET cut-off or saturation regions on the graph. In addition, SPS5000 supports multiple Y axes capabilities. User can flexibly configure the data types of the X-axis and Y-axis, log or linear scale format according to the analysis requirements.





Communication interface



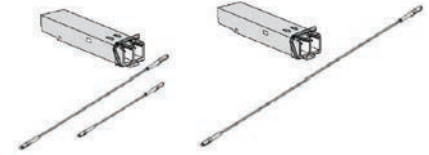
IT-E177

RS232 communication interface and analog interface
Applicable model:IT7800, IT7900



IT-E178

GPIB communication interface
Applicable model:IT7800, IT7900



IT-E168 / IT-E169

Fiber optical kit for single unit or cabinet parallel connection
Applicable model: IT6000 series,IT7800, IT7900



IT-E121 RS232 Communication interface, with RS232 standard communication cable
Applicable model:IT6100, IT6800, IT6322, IT6302, IT8500+, IT8500



IT-E122 MsB Communication interface, with MsB standard communication cable
Applicable model:IT6100, IT6800, IT6322, IT6302, IT8500+, IT8500



IT-E123 RS485 Communication interface, with RS485 interface
Applicable model:IT8500+, IT8500, IT6800, IT6100, IT6322



IT-E1205 GPIB interface
Applicable model:IT-M3100/3100D /3200/3300/3400/3600/7700



IT-E1206 MsB/LAN interface
Applicable model:IT-M3100/3100D /3200/3300/3400/3600/7700



IT-E1207 RS232/CAN interface
Applicable model:IT-M3100/3100D /3200/3300/3400/3600/7700



IT-E1208 External analog/RS485 interface
Applicable model:IT-M3100/3100D /3200/3300/3400/3600/7700



IT-E1208D
double channel analog / RS485
Applicable model:IT-M3100D



IT-E1209 MsB interface
Applicable model:IT-M3100/3100D /3200/3300/3400/3600/7700



IT-E166 GPIB interface
Applicable model:IT8000, IT6000B, IT6000C, IT6000D



IT-E167 External analog/RS232 interface
Applicable model:IT8000, IT6000B, IT6000C, IT6000D

Optional keyboard



IT-253 Keyboard
Help IT8500 series electronic load to complete Auto-test function
Applicable model:IT8500 series



IT-254 Keyboard
Coordinating IT8500+ series electronic load to realize automatic testing function
Applicable model:IT8500+ series

Quick Charger Controller

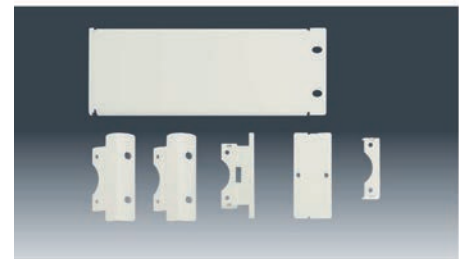


IT-E255A
Applicable model:IT8500+ series

IT-E255M
Applicable model: IT8500+, IT8800, IT8700

Test leads

IT-E30110-AB	10A / 1m/ Alligator clips - Banana plugs	A pair of red and black test line
IT-E30110-BB	10A /1m/ Banana plugs - Banana plugs	A pair of red and black test line
IT-E30110-BY	10A /1m/ Banana plugs - Y-type terminals	A pair of red and black test line
IT-E30312-YY	30A /1.2m / Y-type terminals	A pair of red and black test line
IT-E30320-YY	30A / 2m / Y-type terminals	A pair of red and black test line
IT-E30615-00	60A/ 1.5m / Ring terminals	A pair of red and black test line
IT-E31220-00	120A / 2m / Ring terminals	A pair of red and black test line
IT-E32410-00	240A / 1m / Ring terminals	A pair of red and black test line
IT-E32420-00	240A / 2m / Ring terminals	A pair of red and black test line
IT-E33620-00	360A / 2m / Ring terminals	A pair of red and black test line



IT-E151A 19 Rack mount kit
Applicable model: IT8900 / IT8500 <1800W series, IT8811, IT8812, IT6800, IT6900, IT6322, IT6120, IT6150, IT6400, IT6700H (except IT6726)

Rack mount kit



IT-E154A/IT-E154B Rack mount kit
Applicable model:IT-M series



IT-E152 Rack mount kit
Applicable model: IT8200/ IT6700 series



IT-E601 300V
IT-E601H 1000V
Pin type lead
Rubber straight plug – Probe crown round head
Applicable model:IT5100



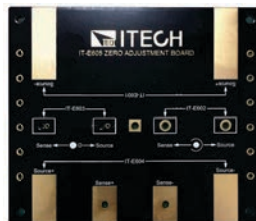
IT-E602 300V
IT-E602H 1000V
Large clip type lead
Rubber straight plug – Alligator clips
Applicable model:IT5100



IT-E603 300V
IT-E603H 1000V
Pin type lead
Rubber straight plug – Probe double pin plugs
Applicable model:IT5100



IT-E604 300V
IT-E604H 1000V
Black straight plug - Universal pen + Alligator clip
Applicable model:IT5100



IT-E605
Zero adjustment board (suitable for different probe)
Applicable model:IT5100

Current sensor



IT - E185 (option)
Measuring fixture box (250 V / 15 A), easy wiring test
Applicable model:IT9100



IT-E190-25A (option)
Current sensor
Applicable model:IT9100, ITS9500



IT-E190-50A (option)
Current sensor
Applicable model:IT9100, ITS9500

IT-E165A / IT-E165B



IT-E165A is an optional anti-reverse protection module, suitable for IT6000B, IT6000C, IT6000D, IT8000 series products.

Model	Voltage	Current	Size
IT-E165A-250	750V	250A	1/22U
IT-E165A-400	750V	400A	1/22U
IT-E165A-500	900V	400A	1/22U
IT-E165A-750	1500V	750A	3U
IT-E165A-1000	1500V	1000A	3U



IT-E165B is an optional anti electromotive force module, suitable for IT6000B, IT6000C, IT6000D series instruments.

Model	Voltage	Current
IT-E165B	1200V	200A

AC electronic load

IT8200 Regenerative AC/DC Electronic Load **P05**

Model	Specification	
IT8202-350-10U-ATE	350V/10A/2kVA/1Φ	NEW
IT8202-350-10U	350V/10A/2kVA/1Φ	NEW
IT8203-350-30U	350V/30A/3kVA/1Φ	
IT8204-350-20U-ATE	350V/20A/4kVA/1Φ	NEW
IT8204-350-20U	350V/20A/4kVA/1Φ	NEW
IT8205-350-30U	350V/30A/5kVA/1Φ	
IT8203-350-30U-ATE	350V/30A/6kVA/1Φ or 3Φ	NEW
IT8206-350-30U	350V/30A/6kVA/1Φ or 3Φ	NEW
IT8206-350-90	350V/90A/6kVA/1Φ or 3Φ	
IT8209-350-90	350V/90A/9kVA/1Φ or 3Φ	
IT8212-350-90	350V/90A/12kVA/1Φ or 3Φ	
IT8215-350-90	350V/90A/15kVA/1Φ or 3Φ	
IT8230-350-180	350V/180A/30kVA/1Φ or 3Φ	
IT8245-350-270	350V/270A/45kVA/1Φ or 3Φ	
IT8260-350-360	350V/360A/60kVA/1Φ or 3Φ	
IT8275-350-450	350V/450A/75kVA/1Φ or 3Φ	
IT8290-350-540	350V/540A/90kVA/1Φ or 3Φ	
IT82105-350-630	350V/630A/105kVA/1Φ or 3Φ	
IT82120-350-720	350V/720A/120kVA/1Φ or 3Φ	
IT82135-350-810	350V/810A/135kVA/1Φ or 3Φ	
IT82150-350-900	350V/900A/150kVA/1Φ or 3Φ	
IT82165-350-990	350V/990A/165kVA/1Φ or 3Φ	

IT8200E 回馈式交 / 直流电子负载 **P08**

Model	Specification	
IT8221E-350-105	350V/105A/21kVA/1Φ or 3Φ	NEW
IT8242E-350-210	350V/210A/42kVA/1Φ or 3Φ	NEW
IT8263E-350-315	350V/315A/63kVA/1Φ or 3Φ	NEW
IT8284E-350-420	350V/420A/84kVA/1Φ or 3Φ	NEW
IT82105E-350-525	350V/525A/105kVA/1Φ or 3Φ	NEW
IT82126E-350-630	350V/630A/126kVA/1Φ or 3Φ	NEW
IT82147E-350-735	350V/735A/147kVA/1Φ or 3Φ	NEW
IT82168E-350-840	350V/840A/168kVA/1Φ or 3Φ	NEW
IT82189E-350-945	350V/945A/189kVA/1Φ or 3Φ	NEW
IT82210E-350-1050	350V/1050A/210kVA/1Φ or 3Φ	NEW
IT82231E-350-1155	350V/1155A/231kVA/1Φ or 3Φ	NEW

IT8600 AC/DC Electronic Load **P10**
 Built-in communication interface: MsB / LAN / front MsB

Model	Specification
IT8615	50~420Vrms/20Arms/1800VA/1Φ
IT8615L	15~260Vrms/20Arms/1800VA/1Φ
IT8616	50~420Vrms/40Arms/3600VA/1Φ
IT8617	50~420Vrms/60Arms/5400VA/1Φ or 3Φ
IT8624	50~420Vrms/80Arms/7200VA/1Φ
IT8625	50~420Vrms/100Arms/9000VA/1Φ
IT8626	50~420Vrms/120Arms/10.8kVA/1Φ
IT8627	50~420Vrms/140Arms/12.6kVA/1Φ
IT8628	50~420Vrms/160Arms/14.4kVA/1Φ

DC electronic load

IT-M3800 Regenerative DC Electronic Load **P13**
 Built-in : MsB/CAN/LAN/Digital I/O Optional: GPIB&RS232Analog

Model	Specification
IT-M3801-10-120	10V/120A/1200W
IT-M3802-10-240	10V/240A/2400W
IT-M3803-10-360	10V/360A/3600W
IT-M3807-10-720	10V/720A/7200W
IT-M3802-32-80	32V/80A/2kW
IT-M3804-32-160	32V/160A/4kW
IT-M3806-32-240	32V/240A/6kW
IT-M3812-32-480	32V/480A/12kW
IT-M3802-80-40	80V/40A/2kW
IT-M3804-80-80	80V/80A/4kW
IT-M3806-80-120	80V/120A/6kW
IT-M3812-80-240	80V/240A/12kW
IT-M3802-300-20	300V/20A/2kW
IT-M3804-300-40	300V/40A/4kW
IT-M3806-300-60	300V/60A/6kW
IT-M3812-300-120	300V/120A/12kW
IT-M3802-500-12	500V/12A/2kW
IT-M3804-500-24	500V/24A/4kW
IT-M3806-500-36	500V/36A/6kW

IT-M3800 Regenerative DC Electronic Load **P16**

Model	Specification
IT-M3812-500-72	500V/72A/12kW
IT-M3802-800-8	800V/8A/2kW
IT-M3804-800-16	800V/16A/4kW
IT-M3806-800-24	800V/24A/6kW
IT-M3812-800-48	800V/48A/12kW
IT-M3806-1500-12	1500V/12A/6kW
IT-M3812-1500-24	1500V/24A/12kW
IT-M3804-800-16	800V/16A/4kW
IT-M3806-800-24	800V/24A/6kW
IT-M3812-800-48	800V/48A/12kW
IT-M3806-1500-12	1500V/12A/6kW

IT-M3300 Regenerative DC Electronic Load **P21**
 Optional communication interface: RS232/MsB/CAN/LAN/RS485/GPIB

Model	Specification
IT-M3312	60V/30A/200W
IT-M3322	60V/30A/400W
IT-M3332	60V/30A/800W
IT-M3313	150V/12A/200W
IT-M3323	150V/12A/400W
IT-M3333	150V/12A/800W
IT-M3314	300V/6A/200W
IT-M3324	300V/6A/400W
IT-M3334	300V/6A/800W
IT-M3315	600V/3A/200W
IT-M3325	600V/3A/400W
IT-M3335	600V/3A/800W

IT8000 Regenerative DC Electronic Load **P24**
 Built-in communication interface: MsB/CAN/LAN/Digital I/O

Model	Specification
IT8005-80150	80V/150A/5kW
IT8010-80300	80V/300A/10kW
IT8015-80-450	80V/450A/15kW
IT8030-80-900	80V/900A/30kW
IT8045-80-1350	80V/1350A/45kW
IT8060-80-1800	80V/1800A/60kW
IT8075-80-2040	80V/2040A/75kW
IT8090-80-2040	80V/2040A/90kW
IT8105-80-2040	80V/2040A/105kW
IT8120-80-2040	80V/2040A/120kW
IT8006-300-75	300V/75A/6kW
IT8012-300-150	300V/150A/12kW
IT8018-300-225	300V/225A/18kW
IT8036-300-450	300V/450A/36kW
IT8054-300-675	300V/675A/54kW
IT8072-300-900	300V/900A/72kW
IT8090-300-1125	300V/1125A/90kW
IT8108-300-1350	300V/1350A/108kW
IT8126-300-1575	300V/1575A/126kW
IT8144-300-1800	300V/1800A/144kW
IT8006-500-40	500V/40A/6kW
IT8012-500-80	500V/80A/12kW
IT8018-500-120	500V/120A/18kW
IT8036-500-240	500V/240A/36kW
IT8054-500-360	500V/360A/54kW
IT8072-500-480	500V/480A/72kW
IT8090-500-600	500V/600A/90kW
IT8108-500-720	500V/720A/108kW
IT8126-500-840	500V/840A/126kW
IT8144-500-960	500V/960A/144kW
IT8006-800-25	800V/25A/6kW
IT8012-800-50	800V/50A/12kW
IT8018-800-75	800V/75A/18kW
IT8036-800-150	800V/150A/36kW
IT8054-800-225	800V/225A/54kW
IT8072-800-300	800V/300A/72kW
IT8090-800-375	800V/375A/90kW
IT8108-800-450	800V/450A/108kW
IT8126-800-525	800V/525A/126kW
IT8144-800-600	800V/600A/144kW



IT8000 Regenerative DC Electronic Load		P24
Built-in communication interface: MsB/CAN/LAN/Digital I/O		
Model	Specification	
IT8018-1500-40	1500V/40A/18kW	
IT8036-1500-80	1500V/80A/36kW	
IT8054-1500-120	1500V/120A/54kW	
IT8072-1500-160	1500V/160A/72kW	
IT8090-1500-200	1500V/200A/90kW	
IT8108-1500-240	1500V/240A/108kW	
IT8126-1500-280	1500V/280A/126kW	
IT8144-1500-320	1500V/320A/144kW	
IT8018-2250-25	2250V/25A/18kW	
IT8036-2250-50	2250V/50A/36kW	
IT8054-2250-75	2250V/75A/54kW	
IT8072-2250-100	2250V/100A/72kW	
IT8090-2250-125	2250V/125A/90kW	
IT8108-2250-150	2250V/150A/108kW	
IT8126-2250-175	2250V/175A/126kW	
IT8144-2250-200	2250V/200A/144kW	

IT8700P+ High Speed Multi-channel DC Electronic Load		P26
Built-in communication interface:RS232/MsB/GPIB/LAN		
Model	Specification	
IT8721P+	150V/20A/2 x 100W	NEW
IT8731P+	150V/40A/200W	NEW
IT8732P+	150V/60A/400W	NEW
IT8722P+ *1	150V/20A/2 x 250W	NEW
IT8723P+	150V/45A/2 x 300W	NEW
IT8733P+	150V/120A/600W	NEW
IT8732BP+	600V/20A/300W	NEW
IT8733BP+	600V/30A/500W	NEW
IT8722BP+*1	600V/15A/2 x 250W	NEW
IT8701P	Mainframe for 2 modules (including three interfaces)	NEW
IT8702P	Mainframe for 4 modules (including three interfaces)	NEW
IT8703P	Expansion mainframe for 4 modules	NEW

*1 Dynamic power allocation, the total power of two channels is 300W, and the power of one channel does not exceed 250W

IT8700P Multi-channel Programmable DC Electronic Load		P26
Main frame has built-in communication interface: RS232 / MsB / LAN		
Model	Specification	
IT8731P	80V/40A/200W	
IT8732P	80V/60A/400W	
IT8732BP	500V/20A/300W	
IT8733P	80V/120A/600W	
IT8733BP	500V/30A/500W	
IT8722P	80V/20A/250W*2	
IT8722BP	500V/15A/250W*2	
IT8723P	80V/45A/300W*2	
IT8701P	Two-load module main control unit	
IT8702P	Four-load module main control unit	
IT8703P	Four-load module expansion unit	

*1 IT8722P/IT8722BP two-way total power is 300W, the two-way simultaneous work need to meet:(50W≤PCH1/PCH2≤250W;PCH1+PCH2≤300W)

*2 IT8700P modules should be equipped with IT8702P mainframe.

IT8700 Multi-channel Programmable DC Electronic Load		P30
Main frame has built-in communication interface: RS232 / MsB / LAN		
Model	Specification	
IT8731	80V/40A/200W	
IT8732	80V/60A/400W	
IT8732B	500V/20A/300W	
IT8733	80V/120A/600W	
IT8733B	500V/30A/500W	
IT8722	80V/20A/250W*2	
IT8722B	500V/15A/250W*2	
IT8723	80V/45A/300W*2	
IT8701	Two-load module main control unit	
IT8702	Four-load module main control unit	
IT8703	Four-load module expansion unit	

*1 IT8722/IT8722B two-way total power is 300W, the two-way simultaneous work need to meet:(50W≤PCH1/PCH2≤250W;PCH1+PCH2≤300W)

*2 IT8700 modules should be equipped with IT8702 mainframe

IT8400 High performance DC electronic load		P32
Built-in standard LAN, MsB, RS232, GPIB, CAN and analog, I/O interface		
Model	Specification	
IT8406-600-150	600V/150A/6 kW	
IT8406-1200-75	1200V/75A/6 kW	
IT8412-600-300	600V/300A/12 kW	
IT8412-1200-150	1200V/150A/12 kW	
IT8418-600-450	600V/450A/18 kW	
IT8418-1200-225	1200V/225A/18 kW	
IT8424-600-600	600V/600A/24 kW	
IT8424-1200-300	1200V/300A/24 kW	
IT8430-600-750	600V/750A/30 kW	
IT8430-1200-375	1200V/375A/30 kW	
IT8436-600-900	600V/900A/36 kW	
IT8436-1200-450	1200V/450A/36 kW	
IT8442-600-1050	600V/1050A/42 kW	
IT8442-1200-525	1200V/525A/42 kW	
IT8448-600-1200	600V/1200A/48 kW	
IT8448-1200-600	1200V/600A/48 kW	
IT8454-600-1350	600V/1350A/54 kW	
IT8454-1200-675	1200V/675A/54 kW	

IT8900A/E High Power DC Electronic Load		P36
Built-in communication interface: MsB / GPIB / RS232 / LAN/CAN		
Model	Specification	
IT8902A-150-200	150V/200A/2kW	
IT8902E-150-200	150V/200A/2kW	
IT8902A-600-140	600V/140A/2kW	
IT8902E-600-140	600V/140A/2kW	
IT8902A-1200-80	1200V/80A/2kW	
IT8902E-1200-80	1200V/80A/2kW	
IT8904A-150-400	150V/400A/4kW	
IT8904E-150-400	150V/400A/4kW	
IT8904A-600-280	600V/280A/4kW	
IT8904E-600-280	600V/280A/4kW	
IT8904A-1200-160	1200V/160A/4kW	
IT8904E-1200-160	1200V/160A/4kW	
IT8906A-150-600	150V/600A/6kW	
IT8906E-150-600	150V/600A/6kW	
IT8906A-600-420	600V/420A/6kW	
IT8906E-600-420	600V/420A/6kW	
IT8906A/E-1200-240	1200V/240A/6kW	
IT8912A/E-150-1200	150V/1200A/12kW	
IT8912A/E-600-840	600V/840A/12kW	
IT8912A/E-1200-480	1200V/480A/12kW	
IT8918A/E-150-1800	150V/1800A/18kW	
IT8918A/E-600-1260	600V/1260A/18kW	
IT8918A/E-1200-720	1200V/720A/18kW	
IT8924A/E-150-2400	150V/2400A/24kW	
IT8924A/E-600-1680	600V/1680A/24kW	
IT8924A/E-1200-960	1200V/960A/24kW	
IT8930A/E-150-2400	150V/2400A/30kW	
IT8930A/E-600-2100	600V/2100A/30kW	
IT8930A/E-1200-2100	1200V/1200A/30kW	
IT8936A/E-150-2400	150V/2400A/36kW	
IT8936A/E-600-2400	600V/2400A/36kW	
IT8936A/E-1200-1440	1200V/1440A/36kW	
IT8942A/E-150-2400	150V/2400A/42kW	
IT8942A/E-600-2400	600V/2400A/42kW	
IT8942A/E-1200-1680	1200V/1680A/42kW	
IT8948A/E-150-2400	150V/2400A/48kW	
IT8948A/E-600-2400	600V/2400A/48kW	
IT8948A/E-1200-1920	1200V/1920A/48kW	
IT8954A/E-150-2400	150V/2400A/54kW	
IT8954A/E-600-2400	600V/2400A/54kW	
IT8954A/E-1200-2160	1200V/2160A/54kW	

IT8800 High Power DC Electronic Load		P40
Built-in communication interface: MsB / RS232		
Model	Specification	
IT8811	120V1 50W30A/150W	
IT8812	120V/30A/250W	
IT8812B	500V/15A/200W	
IT8812C	120V/60A/250W	
IT8813	120V/60A/750W	
IT8813C	120V/120A/750W	
IT8813B	500V/30A/750W	

IT8800 High Power DC Electronic Load		P40
Built-in communication interface: MsB / RS232		
Model	Specification	
IT8814	120V/120A/1500W	
IT8814B	500V/60A/1200W	
IT8814C	120V/240/1500W	
IT8816	120V/240A/3000W	
IT8816B	500V/100A/2500W	
IT8817	120V/360A/4500W	
IT8817B	500V/120A/3600W	
IT8818	120V/480A/6000W	
IT8818B	500V/150A/5000W	
IT8814C	120V/240A/1.5kW	
IT8816C	120V/480A/3kW	
IT8817C	120V/600A/4.5W	

IT8912E High Accuracy DC Electronic Load		P44
Built-in communication interface: MsB / RS232		
Model	Specification	
IT8912E	500V/15A/300W	

IT8500G+ Programmable DC Electronic Load	
Built-in communication interface: MsB	
Model	Specification
IT8511G+	150V/30A/150W (Standard MsB)
IT8511AG+	150V/30A/150W (Standard MsB)
IT8512G+	150V/30A/300W (Standard MsB/LAN)
IT8512BG+	600V/15A/300W (Standard MsB/LAN)

IT8500+ Programmable DC Electronic Load	
Optional communication interface: RS485/RS232/MsB	
Model	Specification
IT8511+	120V/30A/150W
IT8511A+	150V/30A/150W
IT8511B+	500V/15A/150W
IT8512+	120V/30A/300W
IT8512A+	150V/30A/300W
IT8512B+	500V/15A/300W
IT8512C+	120V/60A/300W
IT8512H+	800V/5A/300W
IT8513A+	150V/60A/400W
IT8513C+	120V/120A/600W

Built-in communication interface: RS232/MsB	
Model	Specification
IT8514B+	500V/60A/1500W (Standard RS232/MsB)
IT8514C+	120V/240A/1500W (Standard RS232/MsB)
IT8516B+	120V/240A/3000W (Standard RS232/MsB)

IT8200 Digital Control DC Electronic Load	
Model	Specification
IT8211	60V/30A/150W

Programmable AC power supply

IT7900P High Performance Regenerative Grid Simulator		P46
Model	Specification	
IT7905P-350-30U	350V/30A/5kVA/1Φ	
IT7906P-350-90	350V/90A/6kVA/1Φ or 3Φ	
IT7909P-350-90	350V/90A/9kVA/1Φ or 3Φ	
IT7912P-350-90	350V/90A/12kVA/1Φ or 3Φ	
IT7915P-350-90	350V/90A/15kVA/1Φ or 3Φ	
IT7930P-350-180	350V/180A/30kVA/1Φ or 3Φ	
IT7945P-350-270	350V/270A/45kVA/1Φ or 3Φ	
IT7960P-350-360	350V/360A/60kVA/1Φ or 3Φ	
IT7975P-350-450	350V/450A/75kVA/1Φ or 3Φ	
IT7990P-350-540	350V/540A/90kVA/1Φ or 3Φ	
IT79105P-350-630	350V/630A/105kVA/1Φ or 3Φ	
IT79120P-350-720	350V/720A/120kVA/1Φ or 3Φ	
IT79135P-350-810	350V/810A/135kVA/1Φ or 3Φ	
IT79150P-350-900	350V/900A/150kVA/1Φ or 3Φ	
IT79165P-350-990	350V/990A/165kVA/1Φ or 3Φ	

IT7900EP High Performance Regenerative Grid Simulator		P49
Built-in:MsB/CAN/LAN /Digital IO interface optional:GPIB/analogue & RS232		
Model	Specification	
IT7921EP-350-105	350V/105A/21kVA/1Φ or 3Φ	NEW
IT7942EP-350-210	350V/210A/42kVA/1Φ or 3Φ	NEW
IT7963EP-350-315	350V/315A/63kVA/1Φ or 3Φ	NEW
IT7984EP-350-420	350V/420A/84kVA/1Φ or 3Φ	NEW
IT79105EP-350-525	350V/525A/105kVA/1Φ or 3Φ	NEW
IT79126EP-350-630	350V/630A/126kVA/1Φ or 3Φ	NEW

IT7900 Regenerative Grid Simulator		P51
Built-in : MsB/CAN/LAN/Digital I/O Optional:GPIB&RS232&Analog		
Model	Specification	
IT7902-350-10U-ATE	350V/10A/2kVA/1Φ	NEW
IT7902-350-10U	350V/10A/2kVA/1Φ	NEW
IT7904-350-20U-ATE	350V/20A/4kVA/1Φ	NEW
IT7904-350-20U	350V/20A/4kVA/1Φ	NEW
IT7905-350-30U	350V/30A/5kVA/1Φ	
IT7906-350-30-ATE	350V/30A/6kVA/1Φ or 3Φ	NEW
IT7906-350-30	350V/30A/6kVA/1Φ or 3Φ	NEW
IT7906-350-90	350V/90A/6kVA/1Φ or 3Φ	
IT7909-350-90	350V/90A/9kVA/1Φ or 3Φ	
IT7912-350-90	350V/90A/12kVA/1Φ or 3Φ	
IT7915-350-90	350V/90A/15kVA/1Φ or 3Φ	
IT7930-350-180	350V/180A/30kVA/1Φ or 3Φ	
IT7945-350-270	350V/270A/45kVA/1Φ or 3Φ	
IT7960-350-360	350V/360A/60kVA/1Φ or 3Φ	
IT7975-350-450	350V/450A/75kVA/1Φ or 3Φ	
IT7990-350-540	350V/540A/90kVA/1Φ or 3Φ	
IT79105-350-630	350V/630A/105kVA/1Φ or 3Φ	
IT79120-350-720	350V/720A/120kVA/1Φ or 3Φ	
IT79135-350-810	350V/810A/135kVA/1Φ or 3Φ	
IT79150-350-900	350V/900A/150kVA/1Φ or 3Φ	
IT79165-350-990	350V/990A/165kVA/1Φ or 3Φ	

IT7900E Regenerative Grid Simulator		P57
Built-in:MsB/CAN/LXI compliant LAN /Digital IO optional:GPIB /Analog&RS232		
Model	Specification	
IT7921E-350-90	350V/105A/21kVA/1Φ or 3Φ	NEW
IT7942E-350-180	350V/210A/42kVA/1Φ or 3Φ	NEW
IT7963E-350-270	350V/315A/63kVA/1Φ or 3Φ	NEW
IT7984E-350-360	350V/420A/84kVA/1Φ or 3Φ	NEW
IT79105E-350-450	350V/525A/105kVA/1Φ or 3Φ	NEW
IT79126E-350-540	350V/630A/126kVA/1Φ or 3Φ	NEW

IT7900 Regenerative Grid Simulator (HV)		P59
Built-in:MsB/CAN/LAN/LXI compliant LAN/DigitalIO optional:GPIB /RS232		
Model	Specification	
IT7990-700-90	700V/90A/90kVA/3Φ	NEW
IT79180-700-180	700V/180A/180kVA/3Φ	NEW
IT79270-700-270	700V/270A/270kVA/3Φ	NEW
IT79360-700-360	700V/360A/360kVA/3Φ	NEW
IT79450-700-450	700V/450A/450kVA/3Φ	NEW
IT79540-700-540	700V/540A/540kVA/3Φ	NEW
IT79630-700-630	700V/630A/630kVA/3Φ	NEW
IT79720-700-720	700V/720A/720kVA/3Φ	NEW
IT79810-700-810	700V/810A/810kVA/3Φ	NEW
IT79900-700-900	700V/900A/900kVA/3Φ	NEW
IT79135-1050-90	1050V/90A/135kVA/3Φ	NEW
IT79270-1050-180	1050V/180A/270kVA/3Φ	NEW
IT79405-1050-270	1050V/270A/405kVA/3Φ	NEW
IT79540-1050-360	1050V/360A/540kVA/3Φ	NEW
IT79675-1050-450	1050V/450A/675kVA/3Φ	NEW
IT79810-1050-540	1050V/540A/810kVA/3Φ	NEW



IT7800 High Power Programmable AC/DC Power Supply		P61
Built-in : MsB/CAN/LAN/Digital I/O Optional: GPIB&RS232&Analog		
Model	Specification	
IT7802-350-10U-ATE	350V/10A/2kVA/1Φ	NEW
IT7802-350-10U	350V/10A/2kVA/1Φ	NEW
IT7803-350-30U	350V/30A/3kVA/1Φ	
IT7803J-350-30U	350V/30A/3kVA/1Φ	NEW
IT7804-350-20U-ATE	350V/20A/4kVA/1Φ	NEW
IT7804-350-20U	350V/20A/4kVA/1Φ	
IT7805-350-30U	350V/30A/5kVA/1Φ	NEW
IT7806-350-30-ATE	350V/30A/6kVA/1Φ or 3Φ	NEW
IT7806-350-30	350V/30A/6kVA/1Φ or 3Φ	
IT7806-350-90	350V/90A/6kVA/1Φ or 3Φ	
IT7809-350-90	350V/90A/9kVA/1Φ or 3Φ	
IT7812-350-90	350V/90A/12kVA/1Φ or 3Φ	
IT7815-350-90	350V/90A/15kVA/1Φ or 3Φ	
IT7830-350-180	350V/180A/30kVA/1Φ or 3Φ	
IT7845-350-270	350V/270A/45kVA/1Φ or 3Φ	
IT7860-350-360	350V/360A/60kVA/1Φ or 3Φ	
IT7875-350-450	350V/450A/75kVA/1Φ or 3Φ	
IT7890-350-540	350V/540A/90kVA/1Φ or 3Φ	
IT78105-350-630	350V/630A/105kVA/1Φ or 3Φ	
IT78120-350-720	350V/720A/120kVA/1Φ or 3Φ	
IT78135-350-810	350V/810A/135kVA/1Φ or 3Φ	
IT78150-350-900	350V/900A/150kVA/1Φ or 3Φ	
IT78165-350-990	350V/990A/165kVA/1Φ or 3Φ	

IT7800E High power programmable AC/DC power supply		P64
Built-in MsB/CAN/LAN/Digital IO interface, optional GPIB / Analog&RS232		
Model	Specification	
IT7821E-350-105	350V / 105A / 21kVA / 1Φ or 3Φ	NEW
IT7842E-350-210	350V / 210A / 42kVA / 1Φ or 3Φ	NEW
IT7863E-350-315	350V / 315A / 63kVA / 1Φ or 3Φ	NEW
IT7884E-350-420	350V / 420A / 84kVA / 1Φ or 3Φ	NEW
IT78105E-350-525	350V / 525A / 105kVA / 1Φ or 3Φ	NEW
IT78126E-350-630	350V / 630A / 126kVA / 1Φ or 3Φ	NEW

IT7800 high power programmable AC power supply(HV)		P66
Built-in MsB/CAN/LAN/digital IO interface, optional GPIB/RS232 interface		
Model	Specification	
IT7890-700-90	700V / 90A / 90kVA / 3Φ	NEW
IT78180-700-180	700V / 180A / 180kVA / 3Φ	NEW
IT78270-700-270	700V / 270A / 270kVA / 3Φ	NEW
IT78360-700-360	700V / 360A / 360kVA / 3Φ	NEW
IT78450-700-450	700V / 450A / 450kVA / 3Φ	NEW
IT78540-700-540	700V / 540A / 540kVA / 3Φ	NEW
IT78630-700-630	700V / 630A / 630kVA / 3Φ	NEW
IT78720-700-720	700V / 720A / 720kVA / 3Φ	NEW
IT78810-700-810	700V / 810A / 810kVA / 3Φ	NEW
IT78900-700-900	700V / 900A / 900kVA / 3Φ	NEW
IT78135-1050-90	1050V / 90A / 135kVA / 3Φ	NEW
IT78270-1050-180	1050V / 180A / 270kVA / 3Φ	NEW
IT78405-1050-270	1050V / 270A / 405kVA / 3Φ	NEW
IT78540-1050-360	1050V / 360A / 540kVA / 3Φ	NEW
IT78675-1050-450	1050V / 450A / 675kVA / 3Φ	NEW
IT78810-1050-540	1050V / 540A / 810kVA / 3Φ	NEW

IT-M7700 High Performance Programmable AC Power Supply		P68
Optional communication interface: RS232/MsB/CAN/LAN/RS485/GPIB		
Model	Specification	
IT-M7721	300V/3A/300VA	
IT-M7722	300V/6A/600VA	
IT-M7722E	300V/10A/1000VA	
IT-M7723	300V/12A/1200VA	
IT-M7723E	600V/6A/1200VA	
IT-M7724	300V/15A/1500VA	
IT-M7724E	300V/30A/3000VA	
IT-M7724E	600V/15A/3000VA	

IT7600 high performance programmable AC power supply		P71
Built-in communication interface: MsB/RS232/L AN/CAN 1 front MsB		
Model	Specification	
IT7622	150V/300V/6A/750VA,1Φ	
IT7624	150V/300V/12A/1500VA,1Φ	
IT7625	150V/300V/36A/4500VA,1Φ or 3Φ	
IT7626	150V/300V/24A/3000VA,1Φ	

IT2700 Multi-channel Modular Power System		P75
Model	Specification	
IT7221	300VA / 300W,300V ,3A ,1/2 1U	NEW
IT7222	600VA / 600W, 300V,6A,1/2 2U	NEW

IT7300 Programmable AC Power Supply		P77
Built-in : MsB/RS232/LAN		
Model	Specification	
IT7321	150V/300V,3A/1.5A,300VA,1Φ	
IT7322	150V/300V,6A/3A, 50VA,1Φ	
IT7324	150V/300V,12A/6A,500VA, φ	
IT7326	150V/300V,24A/12A,3000VA,1Φ	
IT7322H	250V/500V,3A/1.5A, 50VA,1Φ	
IT7324H	250V/500V,6A/3A,1500VA,1Φ	
IT7326H	250V/500V,12A/6A,3000VA,1Φ	
IT7322T	150V/300V,6A/3A,2250VA,3Φ	
IT7324T	150V/300V,12A/6A,4500VA,3Φ	
IT7326T	150V/300V,24A/12A,9000VA,3Φ	
IT7322HT	250V/500V,3A/1.5A,2250VA,3Φ	
IT7324HT	250V/500V,6A/3A,4500VA,3Φ	
IT7326HT	250V/500V,12A/6A,9000VA,3Φ	

Programmable DC power supply		P79
IT6600C Bidirectional Programmable DC Power Supply		
Model	Specification	
IT6642C-1200-200	600V/100A/21kW*2ch	NEW
	600V/200A/42kW*1ch	NEW
	1200V/100A/42kW*1ch	NEW
IT6684C-1200-400	600V/200A/42kW*2ch	NEW
	600V/400A/84kW*1ch	NEW
	1200V/200A/84kW*1ch	NEW
IT66126C-1200-600	600V/300A/63kW*2ch	NEW
	600V/600A/126kW*1ch	NEW
	1200V/300A/126kW*1ch	NEW
IT66168C-1200-800	600V/400A/84kW*2ch	NEW
	600V/800A/168kW*1ch	NEW
	1200V/400A/168kW*1ch	NEW
IT66210C-1200-1000	600V/500A/105kW*2ch	NEW
	600V/1000A/210kW*1ch	NEW
	1200V/500A/210kW*1ch	NEW
IT66252C-1200-1200	600V/600A/126kW*2ch	NEW
	600V/1200A/252kW*1ch	NEW
	1200V/600A/252kW*1ch	NEW
IT66294C-1200-1400	600V/700A/147kW*2ch	NEW
	600V/1400A/294kW*1ch	NEW
	1200V/700A/294kW*1ch	NEW
IT66336C-1200-1600	600V/800A/168kW*2ch	NEW
	600V/1600A/336kW*1ch	NEW
	1200V/800A/336kW*1ch	NEW
IT66378C-1200-1800	600V/900A/189kW*2ch	NEW
	600V/1800A/378kW*1ch	NEW
	1200V/900A/378kW*1ch	NEW
IT66420C-1200-2000	600V/1000A/210kW*2ch	NEW
	600V/2000A/420kW*1ch	NEW
	1200V/1000A/420kW*1ch	NEW

IT6600C Bidirectional Programmable DC Power Supply		P79
Model	Specification	
IT6642C-1600-120	800V/±60A/±21kW*2ch	NEW
	800V/±120A/±42kW*1ch	NEW
	1600V/±60A/±42kW*1ch	NEW
IT6684C-1600-240	800V/±120A/±42kW*2ch	NEW
	800V/±240A/±84kW*1ch	NEW
	1600V/±120A/±84kW*1ch	NEW
IT66126C-1600-360	800V/±180A/±63kW*2ch	NEW
	800V/±360A/±126kW*1ch	NEW
	1600V/±180A/±126kW*1ch	NEW
IT66168C-1600-480	800V/±240A/±84kW*2ch	NEW
	800V/±480A/±168kW*1ch	NEW
	1600V/±240A/±168kW*1ch	NEW
IT66210C-1600-600	800V/±300A/±105kW*2ch	NEW
	800V/±600A/±210kW*1ch	NEW
	1600V/±300A/±210kW*1ch	NEW

IT6600C Bidirectional Programmable DC Power Supply		
Model	Specification	
IT66252C-1600-720	800V/±360A/±126kW*2ch	NEW
	800V/±720A/±252kW*1ch	NEW
	1600V/±360A/±252kW*1ch	NEW
IT66294C-1600-840	800V/±420A/±147kW*2ch	NEW
	800V/±840A/±294kW*1ch	NEW
IT66336C-1600-960	1600V/±420A/±294kW*1ch	NEW
	800V/±480A/±168kW*2ch	NEW
	800V/±960A/±336kW*1ch	NEW
IT66378C-1600-1080	1600V / ±480A / ±336kW*1ch	NEW
	800V/±540A/±189kW*2ch	NEW
	800V/±1080A/±378kW*1ch	NEW
IT66420C-1600-1200	1600V/±540A/±378kW*1ch	NEW
	800V/±600A/±210kW*2ch	NEW
	800V/±1200A/±420kW*1ch	NEW
1600V/±600A/±420kW*1ch	NEW	

IT6600C Bidirectional Programmable DC Power Supply		
Model	Specification	
IT6642C-2250-100	1200V/±50A/±21kW*2ch	NEW
	1200V/±100A/±42kW*1ch	NEW
	2250V/±50A/±42kW*1ch	NEW
IT6684C-2250-200	1200V/±100A/±42kW*2ch	NEW
	1200V/±200A/±84kW*1ch	NEW
	2250V/±100A/±84kW*1ch	NEW
IT66126C-2250-300	1200V/±150A/±63kW*2ch	NEW
	1200V/±300A/ ±126kW*1ch	NEW
	2250V/±150A/±126kW*1ch	NEW
IT66168C-2250-400	1200V/±200A/±84kW*2ch	NEW
	1200V/±400A/±168kW*1ch	NEW
	2250V/±200A/±168kW*1ch	NEW
IT66210C-2250-500	1200V/±250A/±105kW*2ch	NEW
	1200V/±500A/±210kW*1ch	NEW
	2250V/±250A/±210kW*1ch	NEW
IT66252C-2250-600	1200V/±300A/±126kW*2ch	NEW
	1200V/±600A/±252kW*1ch	NEW
	2250V/±300A/±252kW*1ch	NEW
IT66294C-2250-700	1200V/±350A/±147kW*2ch	NEW
	1200V/±700A/±294kW*1ch	NEW
	2250V/±350A/±294kW*1ch	NEW
IT66336C-2250-800	1200V/±400A/±168kW*2ch	NEW
	1200V/±800A/±336kW*1ch	NEW
	2250V/±400A/±336kW*1ch	NEW
IT66378C-2250-900	1200V/±450A/±189kW*2ch	NEW
	1200V/±900A/±378kW*1ch	NEW
	2250V/±450A/±378kW*1ch	NEW
IT66420C-2250-1000	1200V/±500A/±210kW*2ch	NEW
	1200V/±1000A/±420kW*1ch	NEW
	2250V/±500A/±420kW*1ch	NEW

IT6600D High Power Programmable DC Power Supply		
Model	Specification	
IT6642D-1200-200	600V/100A/21kW*2ch	NEW
	600V/200A/42kW*1ch	NEW
	1200V/100A/42kW*1ch	NEW
IT6684D-1200-400	600V/200A/42kW*2ch	NEW
	600V/400A/84kW*1ch	NEW
	1200V/200A/84kW*1ch	NEW
IT66126D-1200-600	600V/300A/63kW*2ch	NEW
	600V/600A/126kW*1ch	NEW
	1200V/300A/126kW*1ch	NEW
IT66168D-1200-800	600V/400A/84kW*2ch	NEW
	600V/800A/168kW*1ch	NEW
	1200V/400A/168kW*1ch	NEW
IT66210D-1200-1000	600V/500A/105kW*2ch	NEW
	600V/1000A/210kW*1ch	NEW
	1200V/500A/210kW*1ch	NEW
IT66252D-1200-1200	600V/600A/126kW*2ch	NEW
	600V/1200A/252kW*1ch	NEW
	1200V/600A/252kW*1ch	NEW
IT66294D-1200-1400	600V/700A/147kW*2ch	NEW
	600V/1400A/294kW*1ch	NEW
	1200V/700A/294kW*1ch	NEW
IT66336D-1200-1600	600V/800A/168kW*2ch	NEW
	600V/1600A/336kW*1ch	NEW
	1200V/800A/336kW*1ch	NEW

IT6600D High Power Programmable DC Power Supply		
Model	Specification	
IT66378D-1200-1800	600V/900A/189kW*2ch	NEW
	600V/1800A/378kW*1ch	NEW
	1200V/900A/378kW*1ch	NEW
IT66420D-1200-2000	600V/1000A/210kW*2ch	NEW
	600V/2000A/420kW*1ch	NEW
	1200V/1000A/420kW*1ch	NEW
IT6642D-1600-120	800V/±60A/±21kW*2ch	NEW
	800V/±120A/±42kW*1ch	NEW
	1600V/±60A/±42kW*1ch	NEW
IT6684D-1600-240	800V/±120A/±42kW*2ch	NEW
	800V/±240A/±84kW*1ch	NEW
	1600V/±120A/±84kW*1ch	NEW
IT66126D-1600-360	800V/±180A/±63kW*2ch	NEW
	800V/±360A/±126kW*1ch	NEW
	1600V/±180A/±126kW*1ch	NEW
IT66168D-1600-480	800V/±240A/±84kW*2ch	NEW
	800V/±480A/±168kW*1ch	NEW
	1600V/±240A/±168kW*1ch	NEW
IT66210D-1600-600	800V/±300A/±105kW*2ch	NEW
	800V/±600A/±210kW*1ch	NEW
	1600V/±300A/±210kW*1ch	NEW
IT66252D-1600-720	800V/±360A/±126kW*2ch	NEW
	800V/±720A/±252kW*1ch	NEW
	1600V/±360A/±252kW*1ch	NEW
IT66294D-1600-840	800V/±420A/±147kW*2ch	NEW
	800V/±840A/±294kW*1ch	NEW
	1600V/±420A/±294kW*1ch	NEW
IT66336D-1600-960	800V/±480A/±168kW*2ch	NEW
	800V/±960A/±336kW*1ch	NEW
	1600V/±480A/±336kW*1ch	NEW
IT66378D-1600-1080	800V/±540A/±189kW*2ch	NEW
	800V/±1080A/±378kW*1ch	NEW
	1600V/±540A/±378kW*1ch	NEW
IT66420D-1600-1200	800V/±600A/±210kW*2ch	NEW
	800V/±1200A/±420kW*1ch	NEW
	1600V/±600A/±420kW*1ch	NEW

IT6600D High Power Programmable DC Power Supply		
Model	Specification	
IT6642D-2250-100	1200V/50A/21kW*2ch	NEW
	1200V/100A/42kW*1ch	NEW
	2250V/50A/42kW*1ch	NEW
IT6684D-2250-200	1200V/100A/42kW*2ch	NEW
	1200V/200A/84kW*1ch	NEW
	2250V/100A/84kW*1ch	NEW
IT66126D-2250-300	1200V/150A/63kW*2ch	NEW
	1200V/300A/126kW*1ch	NEW
	2250V/150A/126kW*1ch	NEW
IT66168D-2250-400	1200V/200A/84kW*2ch	NEW
	1200V/400A/168kW*1ch	NEW
	2250V/200A/168kW*1ch	NEW
IT66210D-2250-500	1200V/250A/105kW*2ch	NEW
	1200V/500A/210kW*1ch	NEW
	2250V/250A/210kW*1ch	NEW
IT66252D-2250-600	1200V/300A/126kW*2ch	NEW
	1200V/600A/252kW*1ch	NEW
	2250V/300A/252kW*1ch	NEW
IT66294D-2250-700	1200V/350A/147kW*2ch	NEW
	1200V/700A/294kW*1ch	NEW
	2250V/350A/294kW*1ch	NEW
IT66336D-2250-800	1200V/400A/168kW*2ch	NEW
	1200V/800A/336kW*1ch	NEW
	2250V/400A/336kW*1ch	NEW
IT66378D-2250-900	1200V/450A/189kW*2ch	NEW
	1200V/900A/378kW*1ch	NEW
	2250V/450A/378kW*1ch	NEW
IT66420D-2250-1000	1200V/500A/210kW*2ch	NEW
	1200V/1000A/420kW*1ch	NEW
	2250V/500A/420kW*1ch	NEW



IT2700 Multi-channelModular Power System		P85
Model	Specification	
IT27134	30V/15A/200W	NEW
IT27135	60V/10A/200W	NEW
IT27137	150V/5A/200W	NEW
IT27154	30V/30A/500W	NEW
IT27155	60V/20A/500W	NEW
IT27157	150V/10A/500W	NEW
IT27334	30V/±15A/±200W	NEW
IT27335	60V/±10A/±200W	NEW
IT27337	150V/±5A/±200W	NEW
IT27354	30V/±30A/±500W	NEW
IT27355	60V/±20A/±500W	NEW
IT27357	150V/±10A/±500W	NEW
IT27534	30V/15A/200W	NEW
IT27535	60V/10A/200W	NEW
IT27537	150V/5A/200W	NEW
IT27554	30V/30A/500W	NEW
IT27555	60V/20A/500W	NEW
IT27557	150V/10A/500W	NEW
IT2702	1u 无控制面板机框	NEW
IT2703	1u 带控制面板机框	NEW
IT2704	1u 无控制面板机框(仅适用负载模组)	NEW

IT-N2100 Series Solar Array Simulator		P88
Model	Specification	
IT-N2121	80V, 25A, 800W,solar array simulation software included	NEW
IT-N2123	150V, 10A, 800W,solar array simulation software included	NEW
IT-N2131	80V, 20A, 1500W,solar array simulation software included	NEW
IT-N2133	150V, 10A, 1500W,solar array simulation software included	NEW

IT-N6900 Programmable DC Power Supply		P92
Built-in : MsB/LAN/Digital I/O		
Model	Specification	
IT-N6952	60V/25A/850W	NEW
IT-N6962	60V/25A/1500W	NEW
IT-N6953	150V/10A/850W	NEW
IT-N6963	150V/10A/1500W	NEW

IT-M3140 SeriesProgrammable DC Power Supply		P94
Standard MsB/LAN optional RS232 & analog, GPIB		
Model	Specification	
IT-M3141	30V/150A/3000W	NEW
IT-M3142	80V/80A/3000W	NEW
IT-M3143	150V/40A/3000W	NEW
IT-M3144	300V/20A/3000W	NEW
IT-M3145	600V/10A/3000W	NEW
IT-M3146	1000V/6A/3000W	NEW
IT-M3147	1200V/5A/3000W	NEW
IT-M3131E	30V/150A/1850W	NEW
IT-M3132E	80V/80A/1850W	NEW
IT-M3133E	150V/40A/1850W	NEW
IT-M3134E	300V/20A/1850W	NEW
IT-M3135E	600V/10A/1850W	NEW
IT-M3136E	1000V/6A/1850W	NEW
IT-M3137E	1200V/5A/1850W	NEW
IT-E158A	For 2 units installed side by side in ITECH standard cabinet	NEW
IT-E158B	For 2 units installed side by side in non-ITECH cabinet	NEW
IT-E158C	For single unit installed in ITECH standard cabinet	NEW
IT-E158D	For single unit installed in non-ITECH cabinet	NEW
IT-E176	GPIB communication card	NEW
IT-E177	RS232 & Analog card	NEW

IT-M3900B Regenerative Power system			P96
Built-in : MsB/CAN/LAN/Digital I/O Optional:GPIB&RS232&Analog			
Model	Specification		
IT-M3901B-10-170	source:10V/170A/1700W	load:10V/120A/1200W	
IT-M3903B-10-340	source:10V/340A/3400W	load:10V/240A/2400W	
IT-M3905B-10-510	source:10V/510A/5100W	load:10V/360A/3600W	
IT-M3910B-10-1020	source:10V/1020A/10200W	load:10V/720A/7200W	
IT-M3902B-32-80	source:32V/80A/2kW	load:32V/80A/2kW	
IT-M3904B-32-160	source:32V/160A/4kW	load:32V/160A/4kW	
IT-M3906B-32-240	source:32V/240A/6kW	load:32V/240A/6kW	
IT-M3912B-32-480	source:32V/480A/12kW	load:32V/480A/12kW	
IT-M3902B-80-40	source:80V/40A/2kW	load:80V/40A/2kW	
IT-M3904B-80-80	source:80V/80A/4kW	load:80V/80A/4kW	
IT-M3906B-80-120	source:80V/120A/6kW	load:80V/120A/6kW	
IT-M3912B-80-240	source:80V/240A/12kW	load:80V/240A/12kW	
IT-M3902B-300-20	source:300V/20A/2kW	load:300V/20A/2kW	
IT-M3904B-300-40	source:300V/40A/4kW	load:300V/40A/4kW	
IT-M3906B-300-60	source:300V/60A/6kW	load:300V/60A/6kW	
IT-M3912B-300-120	source:300V/120A/12kW	load:300V/120A/12kW	
IT-M3902B-500-12	source:500V/12A/2kW	load:500V/12A/2kW	
IT-M3904B-500-24	source:500V/24A/4kW	load:500V/24A/4kW	
IT-M3906B-500-36	source:500V/36A/6kW	load:500V/36A/6kW	
IT-M3912B-500-72	source:500V/72A/12kW	load:500V/72A/12kW	
IT-M3902B-800-8	source:800V/8A/2kW	load:800V/ 8A/2kW	
IT-M3904B-800-16	source:800V/16A/4kW	load:800V/16A/4kW	
IT-M3906B-800-24	source:800V/24A/6kW	load:800V/24A/6kW	
IT-M3912B-800-48	source:800V/48A/12kW	load:800V/48A/12kW	
IT-M3906B-1500-12	source:1500V/12A/6kW	load:1500V/12A/6kW	
IT-M3912B-1500-24	source:1500V/24A/12kW	load:1500V/24A/12kW	NEW

IT-M3900C Bidirectional Programmable DC Power Supply			P100
Built-in : MsB/CAN/LAN/Digital I/O Optional:GPIB&RS232&Analog			
Model	Specification		
IT-M3901C-10-170	10V/170A/1700W		
IT-M3903C-10-340	10V/340A/3400W		
IT-M3905C-10-510	10V/510A/5100W		
IT-M3910C-10-1020	10V/1020A/10200W		
IT-M3902C-32-80	32V/80A/2kW		
IT-M3904C-32-160	32V/160A/4kW		
IT-M3906C-32-240	32V/240A/6kW		
IT-M3912C-32-480	32V/480A/12kW		
IT-M3902C-80-40	80V/40A/2kW		
IT-M3904C-80-80	80V/80A /4kW		
IT-M3906C-80-120	80V/120A/6kW		
IT-M3912C-80-240	80V/240A/12kW		
IT-M3902C-85-40SAS	85V/40A/2kW		
IT-M3904C-85-80SAS	85V/80A/4kW		
IT-M3906C-85-120SAS	85V/120A/6kW		
IT-M3901C-150-25PV	150V/25A/1.5kW		
IT-M3903C-150-50PV	150V/50A/3kW		
IT-M3902C-300-20	300V/20A/2kW		
IT-M3904C-300-40	300V/40A/4kW		
IT-M3906C-300-60	300V/60A/6kW		
IT-M3912C-300-120	300V/120A/12kW		
IT-M3902C-500-12	500V/12A/2kW		
IT-M3904C-500-24	500V/24A/4kW		
IT-M3906C-500-36	500V/36A/6kW		
IT-M3912C-500-72	500V/72A/12kW		
IT-M3902C-500-12	800V/8A/2kW		
IT-M3904C-500-24	800V/16A/4kW		
IT-M3906C-500-36	800V/24A/6kW		
IT-M3912C-500-72	800V/48A/12kW		
IT-M3906C-1500-12	1500V/12A/6kW		
IT-M3912C-1500-24	1500V/24A/12kW		

IT-M3900D High power DC power supply			P103
Built-in : MsB/CAN/LAN/Digital I/O Optional:GPIB&RS232&Analog			
Model	Specification		
IT-M3901D-10-170	10V/170A/1700W		
IT-M3903D-10-340	10V/340A/3400W		
IT-M3905D-10-510	10V/510A/5100W		
IT-M3910D-10-1020	10V/1020A/10200W		
IT-M3902D-32-80	32V/80A/2kW		
IT-M3904D-32-160	32V/160A/4kW		
IT-M3906D-32-240	32V/240A/6kW		
IT-M3912D-32-480	32V/480A/12kW		
IT-M3902D-80-40	80V/40A/2kW		

IT-M3900D High power DC power supply		P103
Built-in : MsB/CAN/LAN/Digital I/O Optional: GPIB&RS232&Analog		
Model	Specification	
IT-M3904D-80-80	80V/80A/4kW	
IT-M3906D-80-120	80V/120A/6kW	
IT-M3912D-80-240	80V/240A/12kW	
IT-M3902D-300-20	300V/20A/2kW	
IT-M3904D-300-40	300V/40A/4kW	
IT-M3906D-300-60	300V/60A/6kW	
IT-M3912D-300-120	300V/120A/12kW	
IT-M3902D-500-12	500V/12A/2kW	
IT-M3904D-500-24	500V/24A/4kW	
IT-M3906D-500-36	500V/36A/6kW	
IT-M3912D-500-72	500V/72A/12kW	
IT-M3902D-800-12	800V/8A/2kW	
IT-M3904D-800-24	800V/16A/4kW	
IT-M3906D-800-36	800V/24A/6kW	
IT-M3912D-800-72	800V/48A/12kW	
IT-M3906D-1500-12	1500V/12A/6kW	
IT-M3912D-1500-24	1500V/24A/12kW	

NEW

IT-M3100 Ultra-compact Wide Range DC Power Supply		P107
Optional communication interface: RS232/MsB/CAN/LAN/RS485/GPIB		
Model	Specification	
IT-M3110	20V/100A/400W	
IT-M3120	20V/100A/850W	
IT-M3130	20V/120A/1500W	
IT-M3111	30V/70A/400W	
IT-M3121	30V/70A/850W	
IT-M3131	30V/100A/1500W	
IT-M3112	80V/22A/400W	
IT-M3122	80V/22A/850W	
IT-M3132	80V/40A/1500W	
IT-M3113	150V/12A/400W	
IT-M3123	150V/12A/850W	
IT-M3133	150V/20A/1500W	
IT-M3114	300V/6A/400W	
IT-M3124	300V/6A/850W	
IT-M3134	300V/10A/1500W	
IT-M3115	600V/3A/400W	
IT-M3125	600V/3A/850W	
IT-M3135	600V/5A/1500W	

NEW

NEW

NEW

NEW

NEW

IT-M3100D Dual-channel DC Power Supply		P111
Model	Specification	
IT-M3131D	CH1:30V/15A/200W;CH2:30V/15A/200W	
IT-M3141D	CH1:30V/15A/400W;CH2:30V/15A/400W	
IT-M3132D	CH1:60V/10A/200W;CH2:60V/10A/200W	
IT-M3142D	CH1:60V/10A/400W;CH2:60V/10A/400W	

IT-M3200 High-precision Programmable dC power		P115
Optional communication interface: RS232/MsB/CAN/LAN/RS485/GPIB		
Model	Specification	
IT-M3223	60V/10A/100W	
IT-M3233	60V/10A/200W	
IT-M3243	60V/10A/360W	
IT-M3253	20V/20A/100W	
IT-M3263	20V/20A/200W	
IT-M3273	20V/20A/360W	

IT-M3400 Bidirectional DC Power Supply		P118
Optional communication interface: RS232/MsB/CAN/LAN/RS485/GPIB		
Model	Specification	
IT-M3412	60V/30A/200W	
IT-M3422	60V/30A/400W	
IT-M3432	60V/30A/800W	
IT-M3413	150V/12A/200W	
IT-M3423	150V/12A/400W	
IT-M3433	150V/12A/800W	
IT-M3414	300V/6A/200W	
IT-M3424	300V/6A/400W	
IT-M3434	300V/6A/800W	
IT-M3415	600V/3A/200W	
IT-M3425	600V/3A/400W	
IT-M3435	600V/3A/800W	

IT-M3600 Regenerative Power System		P121
Optional communication interface: RS232/MsB/CAN/LAN/RS485/GPIB		
Model	Specification	
IT-M3612	60V/30A/200W	
IT-M3622	60V/30A/400W	
IT-M3632	60V/30A/800W	
IT-M3613	150V/12A/200W	
IT-M3623	150V/12A/400W	
IT-M3633	150V/12A/800W	
IT-M3614	300V/6A/200W	
IT-M3624	300V/6A/400W	
IT-M3634	300V/6A/800W	
IT-M3615	600V/3A/200W	
IT-M3625	600V/3A/400W	
IT-M3635	600V/3A/800W	

IT6000B Regenerative Power System		P125
Built-in communication interface: MsB/CAN/LAN/Digital I/O		
Model	Specification	
IT6005B-80-150	80V/150A/5kW	
IT6010B-80-300	80V/300A/10kW	
IT6015B-80-450	80V/450A/15kW	
IT6030B-80-900	80V/900A/30kW	
IT6045B-80-1350	80V/1350A/45kW	
IT6060B-80-1800	80V/1800A/60kW	
IT6075B-80-2040	80V/2040A/75kW	
IT6090B-80-2040	80V/2040A/90kW	
IT6105B-80-2040	80V/2040A/105kW	
IT6120B-80-2040	80V/2040A/120kW	
IT6006B-300-75	300V/75A/6kW	
IT6012B-300-150	300V/150A/12kW	
IT6018B-300-225	300V/225A/18kW	
IT6036B-300-450	300V/450A/36kW	
IT6054B-300-675	300V/675A/54kW	
IT6072B-300-900	300V/900A/72kW	
IT6090B-300-1125	300V/1125A/90kW	
IT6108B-300-1350	300V/1350A/108kW	
IT6126B-300-1575	300V/1575A/126kW	
IT6144B-300-1800	300V/1800A/144kW	
IT6006B-500-40	500V/40A/6kW	
IT6012B-500-80	500V/80A/12kW	
IT6018B-500-120	500V/120A/18kW	
IT6036B-500-240	500V/240A/36kW	
IT6054B-500-360	500V/360A/54kW	
IT6072B-500-480	500V/480A/72kW	
IT6090B-500-600	500V/600A/90kW	
IT6108B-500-720	500V/720A/108kW	
IT6126B-500-840	500V/840A/126kW	
IT6144B-500-960	500V/960A/144kW	
IT6006B-800-25	800V/25A/ 6kW	
IT6012B-800-50	800V/50A/12kW	
IT6018B-800-75	800V/75A/18kW	
IT6036B-800-150	800V/150A/36kW	
IT6054B-800-225	800V/225A/54kW	
IT6072B-800-300	800V/300A/72kW	
IT6090B-800-375	800V/375A/90kW	
IT6108B-800-450	800V/450A/108kW	
IT6126B-800-525	800V/525A/126kW	
IT6144B-800-600	800V/600A/144kW	
IT6018B-1500-40	1500V/40A/18kW	
IT6036B-1500-80	1500V/80A/36kW	
IT6054B-1500-120	1500V/120A/54kW	
IT6072B-1500-160	1500V/160A/72kW	
IT6090B-1500-200	1500V/200A/90kW	
IT6108B-1500-240	1500V/240A/108kW	
IT6126B-1500-280	1500V/280A/126kW	
IT6144B-1500-320	1500V/320A/144kW	
IT6018B-2250-25	2250V/25A/18kW	
IT6036B-2250-50	2250V/50A/36kW	
IT6054B-2250-75	2250V/75A/54kW	
IT6072B-2250-100	2250V/100A/72kW	
IT6090B-2250-125	2250V/125A/90kW	
IT6108B-2250-150	2250V/150A/108kW	
IT6126B-2250-175	2250V/175A/126kW	
IT6144B-2250-200	2250V/200A/144kW	



IT6000C Bidirectional Programmable DC Power Supply P131
Built-in communication interface: MsB/CAN/LAN/Digital I/O

Model	Specification
IT6005C-80-150	80V/150A/5kW
IT6010C-80-300	80V/300A/10kW
IT6015C-80-450	80V/450A/15kW
IT6030C-80-900	80V/900A/30kW
IT6045C-80-1350	80V/1350A/45kW
IT6060C-80-1800	80V/1800A/60kW
IT6075C-80-2040	80V/2040A/75kW
IT6090C-80-2040	80V/2040A/90kW
IT6105C-80-2040	80V/2040A/105kW
IT6120C-80-2040	80V/2040A/120kW
IT6006C-300-75	300V/75A/6kW
IT6012C-300-150	300V/150A/12kW
IT6018C-300-225	300V/225A/18kW
IT6036C-300-450	300V/450A/36kW
IT6054C-300-675	300V/675A/54kW
IT6072C-300-900	300V/900A/72kW
IT6090C-300-1125	300V/1125A/90kW
IT6108C-300-1350	300V/1350A/108kW
IT6126C-300-1575	300V/1575A/126kW
IT6144C-300-1800	300V/1800A/144kW
IT6006C-500-40	500V/40A/6kW
IT6012C-500-80	500V/80A/12kW
IT6018C-500-120	500V/120A/18kW
IT6036C-500-240	500V/240A/36kW
IT6054C-500-360	500V/360A/54kW
IT6072C-500-480	500V/480A/72kW
IT6090C-500-600	500V/600A/90kW
IT6108C-500-720	500V/720A/108kW
IT6126C-500-840	500V/840A/126kW
IT6144C-500-960	500V/960A/144kW
IT6006C-800-25	800V/25A/ 6kW
IT6012C-800-50	800V/50A/12kW
IT6018C-800-75	800V/75A/18kW
IT6036C-800-150	800V/150A/36kW
IT6054C-800-225	800V/225A/54kW
IT6072C-800-300	800V/300A/72kW
IT6090C-800-375	800V/375A/90kW
IT6108C-800-450	800V/450A/108kW
IT6126C-800-525	800V/525A/126kW
IT6144C-800-600	800V/600A/144kW
IT6018C-1500-40	1500V/40A/18kW
IT6036C-1500-80	1500V/80A/36kW
IT6054C-1500-120	1500V/120A/54kW
IT6072C-1500-160	1500V/160A/72kW
IT6090C-1500-200	1500V/200A/90kW
IT6108C-1500-240	1500V/240A/108kW
IT6126C-1500-280	1500V/280A/126kW
IT6144C-1500-320	1500V/320A/144kW
IT6018C-2250-25	2250V/25A/18kW
IT6036C-2250-50	2250V/50A/36kW
IT6054C-2250-75	2250V/75A/54kW
IT6072C-2250-100	2250V/100A/72kW
IT6090C-2250-125	2250V/125A/90kW
IT6108C-2250-150	2250V/150A/108kW
IT6126C-2250-175	2250V/175A/126kW
IT6144C-2250-200	2250V/200A/144kW

IT6000D High Power Programmable DC Power Supply P133
Built-in communication interface: MsB/CAN/LAN/Digital I/O

Model	Specification
IT6005D-80-150	80V/150A/5kW
IT6010D-80-300	80V/300A/10kW
IT6015D-80-450	80V/450A/15kW
IT6030D-80-900	80V/900A/30kW
IT6045D-80-1350	80V/1350A/45kW
IT6060D-80-1800	80V/1800A/60kW
IT6075D-80-2040	80V/2040A/75kW
IT6090D-80-2040	80V/2040A/90kW
IT6105D-80-2040	80V/2040A/105kW
IT6120D-80-2040	80V/2040A/120kW
IT6006D-300-75	300V/75A/6kW
IT6012D-300-150	300V/150A/12kW
IT6018D-300-225	300V/225A/18kW
IT6036D-300-450	300V/450A/36kW
IT6054D-300-675	300V/675A/54kW
IT6072D-300-900	300V/900A/72kW
IT6090D-300-1125	300V/1125A/90kW
IT6108D-300-1350	300V/1350A/108kW
IT6126D-300-1575	300V/1575A/126kW
IT6144D-300-1800	300V/1800A/144kW
IT6006D-500-40	500V/40A/6kW
IT6012D-500-80	500V/80A/12kW
IT6018D-500-120	500V/120A/18kW
IT6036D-500-240	500V/240A/36kW
IT6054D-500-360	500V/360A/54kW
IT6072D-500-480	500V/480A/72kW
IT6090D-500-600	500V/600A/90kW
IT6108D-500-720	500V/720A/108kW
IT6126D-500-840	500V/840A/126kW
IT6144D-500-960	500V/960A/144kW
IT6006D-800-25	1500V/40A/18kW
IT6012D-800-50	1500V/80A/36kW
IT6018D-800-75	1500V/120A/54kW
IT6036D-800-150	1500V/160A/72kW
IT6054D-800-225	1500V/200A/90kW
IT6072D-800-300	1500V/240A/108kW
IT6090D-800-375	1500V/280A/126kW
IT6108D-800-450	1500V/320A/144kW
IT6126D-800-525	2250V/25A/18kW
IT6144D-800-600	2250V/50A/36kW
IT6018D-1500-40	2250V/75A/54kW
IT6036D-1500-80	2250V/100A/72kW
IT6054D-1500-120	2250V/125A/90kW
IT6072D-1500-160	2250V/150A/108kW
IT6090D-1500-200	2250V/175A/126kW
IT6108D-1500-240	2250V/200A/144kW
IT6126D-1500-280	800V/25A/ 6kW
IT6144D-1500-320	800V/50A/12kW
IT6018D-2250-25	800V/75A/18kW
IT6036D-2250-50	800V/150A/36kW
IT6054D-2250-75	800V/225A/54kW
IT6072D-2250-100	800V/300A/72kW
IT6090D-2250-125	800V/375A/90kW
IT6108D-2250-150	800V/450A/108kW
IT6126D-2250-175	800V/525A/126kW
IT6144D-2250-200	800V/600A/144kW

IT6400 Bipolar DC Power Supply / Battery Simulator Built-in communication interface: MsB / LAN / front MsB		P135
Model	Specification	
IT6402	CH1: -6V~0V,0~6V CH1: ±2A CH1: 12W CH2: 0~6V CH2: ±2A CH2: 12W	
IT6411	±15V/±9V/±3A/±5A/45W	
IT6411S	-15V-0V,0-15V/±0.1A/1.5W	
IT6412	CH1: ±15V/±9V CH1: ±3A/±5A CH1: 45W CH2: 0~15V/0~9V CH2: ±3A/±5A CH1: 45W	
IT6412S	CH1: -15V~0V,0~15V CH1: ±0.1A/1.5W CH1: 1.5W CH2: 0~15V CH2: ±0.1A/1.5W CH2: 1.5W	
IT6431	-15V-0V,0-15V/±10A/150W	
IT6432	-30V-0V,0-30V/±5A/150W	
IT6432S	-30V-0V,0-30V/±21mA/0.63W	
IT6433	-60V-0V,0-60V/±2.5 A/150W	

IT6500 Wide-range High-power DC Power Supply Built-in communication interface: MsB / RS232 / RS485		P138
Model	Specification	
IT6502D	80V/60A/800W	
IT6512	80V/60A/1200W(Support List, DIN waveforms)	
IT6512A	80V/60A/1200W	
IT6513	150V/30A/1200W(Support List, DIN waveforms)	
IT6513A	150V/30A/1200W	

IT6500 Wide-range High-power DC Power Supply Built-in communication interface: MsB / RS232 / CAN / LAN		P138
Model	Specification	
IT6512C	80V/120A/1800W	
IT6512D	80V/120A/1800W	
IT6513C	200V/60A/1800W	
IT6513D	200V/60A/1800W	
IT6514C	360V/30A/1800W	
IT6514D	360V/30A/1800W	
IT6515C	500V/20A/1800W	
IT6515D	500V/20A/1800W	
IT6516C	750V/15A/1800W	
IT6516D	750V/15A/1800W	
IT6517C	1000V/10A/1800W	
IT6517D	1000V/10A/1800W	
IT6522C	80V/120A/3kW	
IT6522D	80V/120A/3kW	
IT6523C	200V/60A/3kW	
IT6523D	200V/60A/3kW	
IT6524C	360V/30A/3kW	
IT6524D	360V/30A/3kW	
IT6525C	500V/20A/3kW	
IT6525D	500V/20A/3kW	
IT6526C	750V/15A/3kW	
IT6526D	750V/15A/3kW	
IT6527C	1000V/10A/3kW	
IT6527D	1000V/10A/3kW	
IT6532C	80V/240A/6kW	
IT6532D	80V/240A/6kW	
IT6533C	200V/120A/6kW	
IT6533D	200V/120A/6kW	
IT6534C	360V/60A/6kW	
IT6534D	360V/60A/6kW	
IT6535C	500V/40A/6kW	
IT6535D	500V/40A/6kW	
IT6536C	750V/30A/6kW	
IT6536D	750V/30A/6kW	
IT6537C	1000V/20A/6kW	
IT6537D	1000V/20A/6kW	

*1 IT6500C is high speed multi-function DC power supply, IT6500D is stable multi-function DC power supply

IT6900B Wide -range Programmable DC Power Supply Built-in communication interface: MsB / RS232		P138
Model	Specification	
IT6922A	60V/5A/100W	
IT6932A	60V/10A/200W	
IT6933A	150V/5A/200W	
IT6942A	60V/15A/360W	
IT6952A	60V/25A/600W	
IT6953A	150V/10A/600W	

Built-in communication interface: MsB / RS232 / RS485 / external analog	
Model	Specification
IT6922B	60V/5A/100W
IT6932B	60V/10A/200W
IT6942B	60V/15A/360W
IT6952B	60V/25A/600W
IT6953B	150V/10A/600W

IT6800A/B Single Channel Programmable DC Power Supply Built-in communication interface: RS232 / MsB		P140
Model	Specification	
IT6831A	18V/10A/180W	
IT6832A	32V/6A/192W	
IT6833A	72V/3A/216W	
IT6835A	50V/4A/200W	

IT6800A/B Single Channel Programmable DC Power Supply Built-in communication interface: RS232 / MsB / GPIB	
Model	Specification
IT6832B	32V/6A/192W
IT6833B	72V/3A/216W
IT6835B	50V/4A/200W

IT6800A / B Dual range programmable DC power supply Built-in communication interface: RS232 / MsB	
Model	Specification
IT6861A	20V/5A/100W 8V/9A/72W
IT6862A	32V/3A/96W 12V/6A/72W
IT6863A	72V/1.5A/108W 32V/3A/96W
IT6872A	35V/4A/140W 15V/7A/105W
IT6873A	0-75V,2A/0-32V,4A
IT6874A	0-150V,1.2A/0-60V,2A

Built-in communication interface: RS232 / MsB / GPIB	
Model	Specification
IT6861B	20V/5A/100W 8V/9A/72W
IT6862B	32V/3A/96W 12V/6A/72W
IT6863B	72V/1.5A/108W 32V/3A/96W
IT6872B	35V/4A/140W 15V/7A/105W
IT6873B	75V/2A/150W 32V/4A/128W
IT6874B	150V/1.2A/180W 60V/2A/120W

IT6800 High Performance DC Power Supply Optional communication interface: GPIB / RS232 / MsB	
Model	Specification
IT6821	18V/5A/90W
IT6822	32V/3A/96W
IT6823	72V/1.5A/108W
IT6831	18V/10A/180W
IT6832	32V/6A/192W
IT6833	72V/3A/216W
IT6834	150V/1.2A/180W



IT6700H High Voltage DC Power Supply Built-in communication interface: MsB / RS232		P142
Model	Specification	
IT6722	80V/20A/400W, with GPIB	
IT6722A	80V/20A/400W	
IT6723B	150V/20A/850W	
IT6723C	32V/110A/850W	
IT6723	80V/40A/850W	
IT6723G	600V/5A/850W	
IT6723H	300V/10A/850W	
IT6724C	32V/110A/1500W	
IT6724	80V/40A/1500W	
IT6724B	150V/20A/1500W	
IT6724H	300V/10A/1500W	
IT6724G	600V/5A/1500W	
IT6726B	160V/40A/3KW	
IT6726C	32V/220A/3KW	
IT6726H	300V/20A/3KW	
IT6726G	600V/10A/3KW	
IT6726V	1200V/5A/3KW	

IT6700 DC Power Supply	
Model	Specification
IT6720	60V/5A/100W
IT6721	60V/8A/180W

IT6100B High Accuracy DC Power Supply Built-in communication interface: MsB / RS232		P144
Model	Specification	
IT6121B	20V/5A/100W	
IT6122B	32V/3A/96W	
IT6123B	72V/1.2A/86W	
IT6132B	30V/5A/150W	
IT6133B	60V/2.5A/150W	

IT6300 Triple Channels DC power supply		P146
Model	Specification	
IT6302	30V/3A/90W*2CH Optional communication interface:MsB/RS232 5V/3A/15W*1CH Optional communication interface:MsB/RS232	
IT6322	30V/3A/90W*2CH Optional communication interface:MsB/GPIB/RS232 5V/3A/15W*1CH Optional communication interface:MsB/GPIB/RS232	

Built-in communication interface: MsB / RS232	
Model	Specification
IT6322A	30V/3A/90W*2CH 5V/3A/15W*1CH
IT6332A	30V/6A/180W*2CH 5V/3A/15W*1CH
IT6333A	60V/3A/180W*2CH 5V/3A/15W*1CH

Built-in communication interface: MsB / RS232 / GPIB	
Model	Specification
IT6322B	30V/3A/90W*2CH 5V/3A/15W*1CH
IT6332B	30V/6A/180W*2CH 5V/3A/15W*1CH
IT6333B	60V/3A/180W*2CH 5V/3A/15W*1CH

Built-in communication interface: MsB / LAN	
Model	Specification
IT6322C	30V/3A/90W*2CH 5V/3A/15W*1CH
IT6332C	30V/6A/180W*2CH 5V/3A/15W*1CH
IT6333C	60V/3A/180W*2CH 5V/3A/15W*1CH
IT6341C	6V/16A/80W*1CH 16V/5A/80W*1CH

Source Measure Unit		P151
IT2800 Graphical Source Measure Unit Built-in communication interface:Digital IO/MsB/LAN		
Model	Specification	
IT2801	±1000V/±1A/±20W*1CH	NEW
IT2805	±200V/±1.5A/±20W*1CH	NEW
IT2806	±200V/±3A DC/±10A Pulse/20W*1CH	NEW

Power meter		P153
IT9100 Power Meter Built-in communication interface: MsB /RS232 / Ethernet communication interface Front MsB interface		
Model	Specification	
IT9121	600V/20A AC power meter (with harmonic measurement)	
IT9121C	600V/50A	
IT9121E	600V/20A	
IT9121H	1000V/20A	
IT-E185	Power meter test fixture	

Battery tester		P156
IT5100 Battery tester Built-in communication interface: MsB / LAN // front MsB interface		
Model	Specification	
IT5101	-300V~+300V/3mΩ~3000Ω	
IT5101E	-300V~+300V/300mΩ~3Ω	
IT5101H	-1000V~+1000V/3mΩ~3000Ω	



**Automotive
Electronics
Test Solutions**



IT6000C Bidirectional
Programmable DC Power
Supply



IT6500 Wide-range
High-power DC Power Supply



IT8900A/E High Performance
High Power DC Electronic Load



IT6400 Series Bipolar
DC Power Supply / Battery
Simulator



IT-M3400 Bidirectional
DC Power Supply



IT6600C Bidirectional
Programmable DC Power Supply



**EV Test
Solutions**



IT7900/IT7900E Regenerative
Grid Simulator



IT7900P/IT7900EP Regenerative
Grid Simulator



IT6000C Bidirectional
Programmable DC Power Supply



IT8000 Series Regenerative
DC Electronic Load



IT6600C/IT6600PV Bidirectional
Programmable DC Power Supply



**Battery Test/
Simulation
Solutions**



IT6400 Series Bipolar
DC Power Supply / Battery Simulator



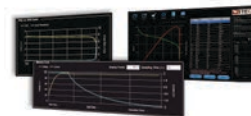
IT6000C Bidirectional
Programmable DC Power Supply



IT5100 Battery Tester



IT-M3900C Bidirectional
DC Power Supply



BSS2000 Battery Simulation Software
FCS3000 Fuel Cell Simulation Software



IT6600C/IT6600PV Bidirectional
Programmable DC Power Supply



Semiconductor / IC Test Solutions



IT6400 Series Bipolar DC Power Supply / Battery Simulator



IT6100B High Speed High Precision Programmable DC Power Supply



IT-M3200 High Precision Programmable DC Power Supply



IT2800 Series Power Meter / uA Level Power Test



IT6500 Series Wide-range High-power DC Power Supply



IT6000C Bidirectional Programmable DC Power Supply



Power Supply Test Solutions



IT7800/IT7800E High Power Programmable AC/DC Power Supply



IT6000D Series High Power Programmable DC Power Supply



IT-M7700 High Performance Programmable AC Power Supply



IT8700P+ Multi-channel Programmable DC Electronic Load



IT8200 Series AC / DC Electronic Load



IT6600D High Power Programmable DC Power Supply



Industrial Equipment Test Solutions



IT6000B Series Regenerative Power System



IT-M3300 Series Regenerative DC Electronic Load



IT8000 Series Regenerative DC Electronic Load



IT7900/IT7900E High Performance Regenerative Grid Simulator



IT8900A/E High Performance High Power DC Electronic Load



IT-M3140 Programmable DC Power Supply



Solar / Inverter Solutions



SAS1000
Solar Array Simulation Software



IT6000PV Bidirectional
Programmable DC Power Supply



IT-N2100 Series
Solar Array Simulator




BSS2000
Battery Simulation Software



IT7900P Regenerative
Grid Simulator



IT6600C/IT6600PV Bidirectional
Programmable DC Power Supply



IoT Solutions



IT6400 Series Bipolar
DC Power Supply / Battery Simulator



IT6000C Bidirectional
Programmable DC Power Supply



IT-M3600
Regenerative Power System



IT8200 Series
AC / DC Electronic Load



IT-M3200 High Precision
Programmable DC Power Supply



IT8500G+ Series
Programmable DC Electronic Load



Research / Education Solutions



IT6300 Series
Triple Channels DC power supply



IT6900 Series
Wide-range Programmable
DC Power Supply



IT-M3100D Ultra-compact
Wide Range DC Power Supply



IT8800 Series
High Power DC Electronic Load



IT6800A/B Dual-range
Programmable DC Power Supply



IT8400 High Performance
High Power DC Electronic Load



Get the latest information—Visit ITECH's website online

The image shows two overlapping screenshots of the ITECH website. The top screenshot features a banner for the IT6000 series with the text "IT6000 The choice of a new solution" and lists specifications: "Output range reaches: 2250V/2040A/1152kW" and "High power density 18kW in 3U size". Below the banner are icons for various power supply solutions. The bottom screenshot shows the "Support" page with a navigation menu including "Product Registration". A red dashed line connects the "Product Registration" link in the menu to a registration form. The form includes fields for "Phone", "Mobile", "Email", "Country", "Address", and "Model". A red dot is placed at the bottom of the form, with a red dashed line extending to the label "Product registration" below it.

Product registration

★ You can enjoy six-month extended warranty after registration within three months of purchase

The product overview provided in this catalog is for reference only; it is neither suggestions nor recommendation, and not a part of any contract. Due to the continual updating of our products, we reserve the right to change technical specifications and product specifications without notice. For more information, please feel free to visit www.itechate.com.



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