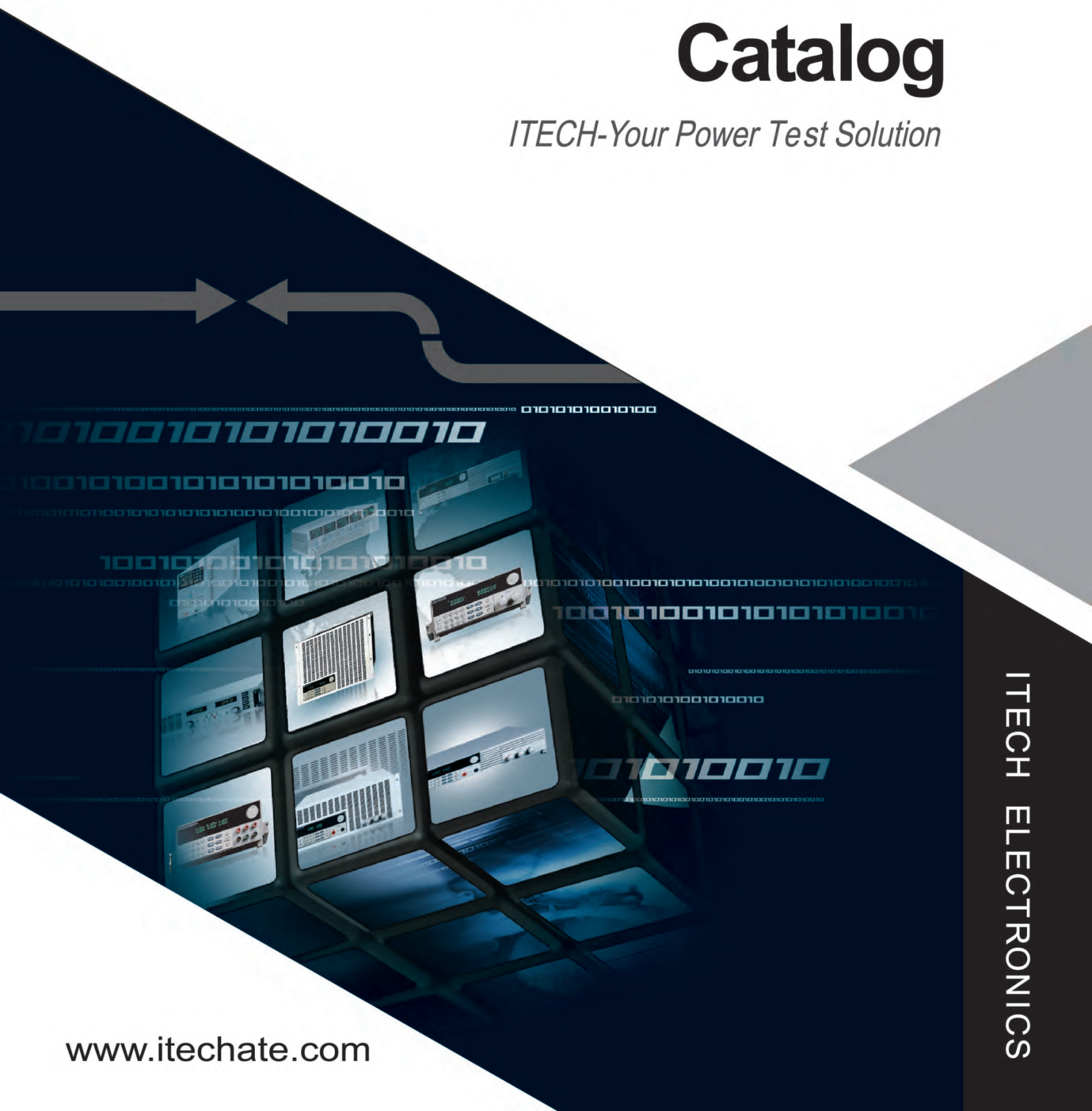




Basic Product Catalog

ITECH-Your Power Test Solution



www.itechate.com

ITECH ELECTRONICS



About ITECH

ITECH is devoted to research and development in power supply technologies in test and measurement. The company specialized over the years and it is skilled in producing high power electronic testing systems, high-performance automated testing systems, power supplies and electronic loads. Our products are widely used by enterprises in all fields. Our products are well known for high performance and quality which are exported to over twenty countries in Europe, North America and Asia.

Quality Policy

ITECH will keep on researching and developing new products to satisfy the diversified application requirements, and supplying perfect quality for your needs through continuous improvements.

Marketing And Service

ITECH market and service cover over thirty countries in Europe, North America and Asia etc. We will supply the best products together with the best after-sale service for you.

Vision

The mission of ITECH is to serve the customer requirements. ITECH will be continuously devoted to researching and manufacturing power supplies and power supply testing products, and supply to you high quality products and the best after sale service support through its excellent technology and marketing network. ITECH will be one of your preferred suppliers.

Our Customer

ITECH products are widely preferred by customers for the reputation, performance and quality. Our customers including famous companies and institutions in worldwide, such as ABB, Bosch, Intel, LG, Nokia, Siemens, Sony, Fuji, Volkswagen, Ford, Delta, Samsung, BMW, Logic and Foxconn etc.



ITECH provides best solution with our continuous research and creativity.

ITECH has excellent agency and service points in worldwide. If you need local service, please visit www.itechate.com or contact us directly.



Electronic Loads P03-P10

Power Supplies P011-P32

Power Analyzers P33-P36

Optional Accessories P37-P39

Selection Guide P40

For other languages version catalog, please contact us.


















































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Kontaktieren Sie uns bitte für den Katalog--in Deutsch Sprache

기타 언어버전 설명서는 한국어를--참조하세요

カタログご請求の場合、ご連絡ください



| Products | Page | Specifications | | | Applications | | | | | |
|---|---------|----------------|---------|-------|---|---|---|---|---|--|
| | | Voltage | Current | Power |  |  |  |  |  | |
| | | Max. | Max. | Max. | | | | | | |
| Basic Products | | | | | | | | | | |
| DC Electronic Loads | | | | | | | | | | |
| IT8500+ Single Channel Electronic Load | P04-P09 | 500V | 240A | 3000W | |  |  |  |  | |
| IT8211 Economic Electronic Load | P10 | 60V | 30A | 150W |  |  |  |  |  | |
| DC Power Supplies | | | | | | | | | | |
| IT6700 Digital Control Power Supplies | P12-P13 | 60V | 8A | 180W |  |  |  |  |  | |
| IT6300&IT6300A Triple Output Power Supplies | P14-P16 | 60V | 3A | 180W |  | | |  |  | |
| IT6500 Auto-range Power Supplies | P17-P20 | 80V | 60A | 800W |  |  |  |  |  | |
| IT6900A/B Multi-function Power Supplies | P21-P23 | 150V | 25A | 600W |  |  |  |  |  | |
| IT6860A/B & IT6870A/B Power Supplies | P24-P25 | 150V | 15A | 180W | |  |  |  |  | |
| IT6120B High Speed And High-accuracy Programmable DC Power Supply | P26-P27 | 72V | 5A | 150W |  | | |  |  | |
| AC Power Supplies | | | | | | | | | | |
| IT7321 AC Power Supplies | P28-P32 | 300V | 6A | 750VA |  |  |  |  |  | |
| Power Analyzers | | | | | | | | | | |
| IT9121E Power Analyzers | P33-P36 | 600V | 20A | |  |  |  |  |  | |
| Optional Accessories | | | | | | | | | | |
| Optional Accessories | P37-P39 | | | | | | | | | |
| Selection Guide | | | | | | | | | | |
| Selection Guide | P40 | | | | | | | | | |

* Note:  Automotive Electronic  Battery  LED  Green Energy  Power Supply



Basic Products

DC ELECTRONIC LOAD

Significantly upgrade the efficiency of researching, designing and production-testing.

Not all the tests require high precision, as ITECH basic series of electronic loads, IT8500+ and IT8200 are stable, affordable and high-value fit.

IT8500+ Single Channel Electronic Load

IT8500+ series has wide operating ranges of up to 500V and 240A, it is well suited for testing and evaluating a variety of DC power supplies, DC to DC converters, batteries, solar cells etc. [P04-P09](#)

IT8211 Economic Electronic Load

IT8211 is equipped with CC/CV/CR mode which can be applied in production-line testing, burn-in testing, maintaining and so on. [P10](#)



Single Channel DC Electronic Load

IT8500+ series is a single-channel programmable electronic load . With power ranges from 150W to 3000W . The user can perform online voltage measurements and adjustments or simulate short circuit test using the simple keypad on the front panel . It also offers a full - featured battery mode for discharging test . IT8500+ series DC loads are a versatile instrument for static and dynamic testing of power supplies , batteries , DC - DC converters , battery chargers , provides user the best testing solution.

■ Features

- Highlight VFD display
- Dynamic mode: up to 10kHz
- Resolution of voltage and current: 0.1 mV / 0.1 mA
- Four working modes: CV/CC/CR/CP
- Remote sensing function
- Battery test, automatic test, OPP test, OCP test functions. The load will default in the specified mode when turn it on.
- Storage for 100 sets
- Short-circuit function
- Test function
- Current monitoring function
- Power off memory function
- With rotary coding switch to make an easy operation
- Portable strong case equipped with non-slip feet
- Intelligent fans cooling
- Built-in Buzzer function

Constant Current (CC)

In CC mode, the electronic load will sink a constant current regardless of the changes of input voltage.

Constant Voltage (CV)

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

Constant Resistance (CR)

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

Constant Power (CP)

In CP mode, the electronic load will dissipate power in accordance with the programmed value. If input voltage increase, input current will decrease.

| Model | Voltage | Current | Power |
|----------|---------|---------|-------|
| IT8511A+ | 150 V | 30 A | 150W |
| IT8512A+ | 150 V | 30 A | 300W |
| IT8512B+ | 500V | 15 A | 300W |
| IT8512C+ | 120 V | 60 A | 300W |
| IT8512H+ | 800 V | 5A | 300 W |
| IT8513C+ | 120 V | 120 A | 600W |
| IT8514B+ | 500 V | 60 A | 1500W |
| IT8514C+ | 120 V | 240 A | 1500W |
| IT8516C+ | 120 V | 240 A | 3000W |

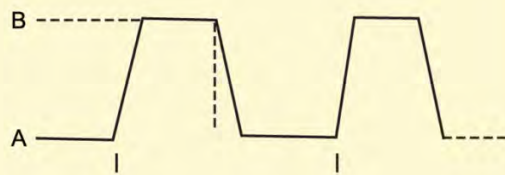
*Note: IT8514C+ and IT8516C+ have RS232 and USB interface

Transient Mode

Transient operation enables the module to periodically switch between two load levels, as might be required for testing power supplies. Transient operation can be turned on and off from the front panel (shift + numeric key "2"). Before you turn on the operation, you should set the parameters associated with the transient operation. The parameters include: A level, B level, frequency, duty cycle and transient testing modes. There are three different transient testing modes: continuous, pulse, and toggle.

■ Continuous Mode

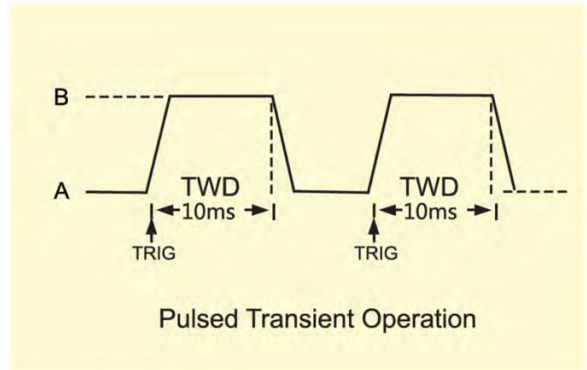
In continuous mode, the electronic load generates a repetitive pulse stream that toggles between two load levels. Load could switch the state between two value settings, A/B.



Continuous Transient Operation

■ Pulse Mode

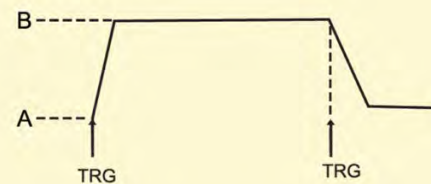
In pulse mode, the electronic load generates a transient pulse of programmable width when pulse transient operation is in effect. The load will automatically switch to A level after maintaining A width time. Then it will switch to B level. The load will not switch to A level again until the instrument receives the pulse signal.



Pulsed Transient Operation

■ Toggle Mode

In toggle mode, the electronic load will switch between A level and B level when receiving a trigger signal after the transient operation is enabled. The following picture shows the current waveform in toggle transient operation.



Toggled Transient Operation

Automatic Test Function

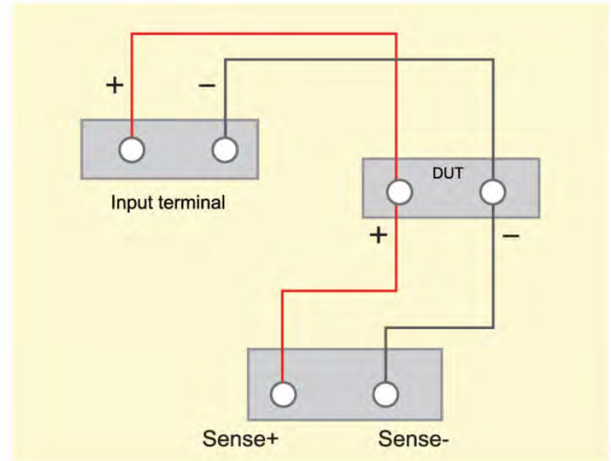
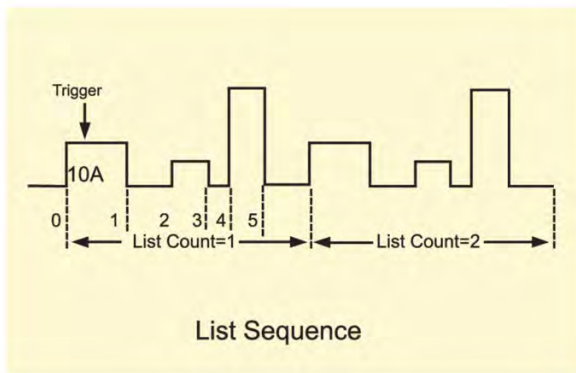
The automatic test function of the IT8500+ series electronic load is useful for simulating various tests and allows the user to edit up to 10 groups of testing files. Each file has 10 steps and up to 100 files can be edited and saved into the EEPROM.

User can also set the default power-up mode to be automatic test. It improves the productivity and automatically judge the product quality.

| Test steps | Test methods | | | | Ripple wave range |
|------------|---------------|-------------------|--------------------|----------|-------------------|
| | Mode | Voltage (V) range | Current (mA) range | Power(W) | |
| Step 1 | CC | 5.8-6.15 | 210 | <4 | <50mVpp |
| Step 2 | no-load | 5.9-6.4 | 0 | <1.2 | |
| Step 3 | short circuit | 0 | <245 | | |
| Step 4 | CV | 5 | 205-245 | | |

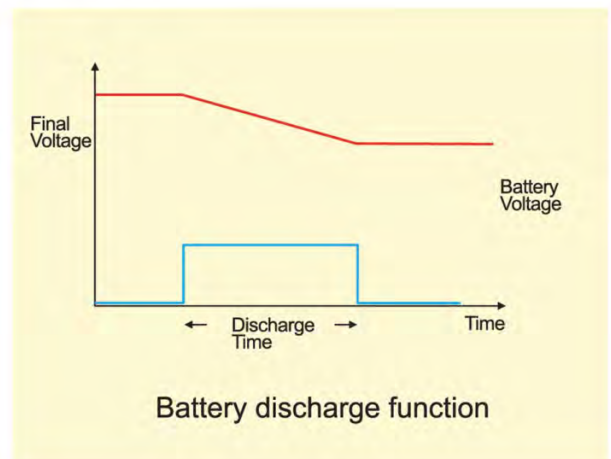
List Mode

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 which can save cost for users. Users can edit step value, pulse width and slope sequence and meet a complex test request. 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 edited list file can be recalled easily. The DC load provides 7 nonvolatile registers to save list files setting for recall later. In the list mode, the DC start to run the list file once receiving a trigger signal, continue to run until end of the operation or receiving another trigger.



Battery Mode

A battery test mode is provided that will measure the ampere*hour (A*hr) characteristic of a battery. It measures the time it takes for a battery voltage to drop to a specified value while drawing a constant current from the battery. There are three stop conditions for IT8500+ series loads: Time, capacity and voltage. In addition, user can make any combination of stop conditions to achieve "And", "Or" relationship. When one or more stop conditions are satisfied, the test is ended and the discharging time, capacity in ampere*hours (A*hrs) of the battery is calculated and displayed on the front panel.

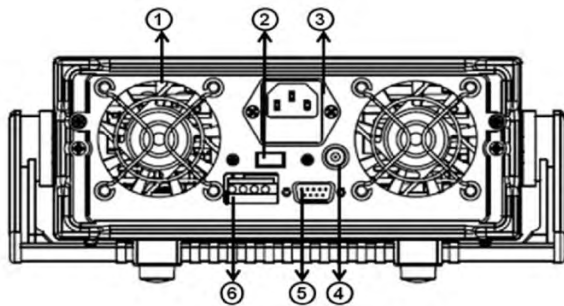


Remote Sense

When working in CC, CV, CP and CR mode, if the electronic load consumes a very large current, it will cause a voltage drop in the leads between the connected device and terminals of the electronic load. In order to ensure testing accuracy, the electronic load provides a pair of remote sensing terminals in the rear panel where users can sense the output terminal voltage of the connected device. Users should set the electronic load in REMOTE SENSE mode before using this function. By eliminating the effect of the voltage drop in the load leads, remote sensing provides greater accuracy by allowing the electronic load to regulate directly at the source's output terminals.

IT8511+ / IT8512+ / IT8512B+ Specification

| | | IT8511+ | | IT8512+ | | IT8512B+ | |
|-------------------|-----------------------------|-------------------------------|---------------|----------------------|---------------|-------------------------------|---------------|
| Input Rating | Voltage | 0 ~ 120 V | | 0 ~ 120 V | | 0 ~ 500 V | |
| | Current | 0 ~ 3 A | 0 ~ 30 A | 0 ~ 3 A | 0 ~ 30 A | 0 ~ 3 A | 0 ~ 15 A |
| (0~40°C) | Power | 150 W | | 300W | | 300 W | |
| | Minimum operating voltage | 0.14V at 3A | 1.4V at 30A | 0.12V at 3A | 1.2V at 30A | 0.6V at 3A | 3V at 15 A |
| CV Mode | Range | 0 ~ 18 V | 0 ~ 120 V | 0 ~ 18 V | 0 ~ 120 V | 0 ~ 50 V | 0 ~ 500 V |
| | Resolution | 1 mV | 10 mV | 1 mV | 10 mV | 1 mV | 10 mV |
| | Accuracy | ± (0.05%+0.02%FS) | | ± (0.05%+0.02%FS) | | ± (0.05%+0.02%FS) | |
| CC Mode | Range | 0 ~ 3 A | 0 ~ 30 A | 0 ~ 3 A | 0 ~ 30 A | 0 ~ 3 A | 0 ~ 15 A |
| | Resolution | 0.1 mA | 1 mA | 0.1 mA | 1 mA | 0.1 mA | 1 mA |
| | Accuracy | ± (0.05%+0.05%FS) | | | | | |
| CR Mode | Range | 0.05 Ω ~ 10 Ω | 10 Ω ~ 7.5 KΩ | 0.05 Ω ~ 10 Ω | 10 Ω ~ 7.5 KΩ | 0.3 Ω ~ 10 Ω | 10 Ω ~ 7.5 KΩ |
| | Resolution | 16bit | | | | | |
| | Accuracy | 0.01%+0.08S | 0.01%+0.0008S | 0.01%+0.08S | 0.01%+0.0008S | 0.01%+0.08S | 0.01%+0.0008S |
| CP Mode | Range | 150 W | | 300 W | | 300 W | |
| | Resolution | 10m W | | | | | |
| | Accuracy | 0.1 % + 0.1 % FS | | 0.1 % + 0.1 % FS | | 0.1 % + 0.1 % FS | |
| | | CC mode | | Dynamic mode | | CC mode | |
| Dynamic Mode | T 1 & T2 | 50 μS~3600S / Res:1μS | | | | | |
| | Accuracy | 5 μS ± 100 ppm | | | | | |
| | Rising / Falling Slope | 0.0001~0.3A/μS | 0.001~1.5A/μS | 0.0001~0.3A/μS | 0.001~1.5A/μS | 0.0001~0.3A/μS | 0.001~0.8A/μS |
| | | Measurement range | | | | | |
| V Measurement | Range | 0 ~ 18 V | 0 ~ 120 V | 0 ~ 18 V | 0 ~ 120 V | 0 ~ 50 V | 0 ~ 500 V |
| | Resolution | 0.1 mV | 1 mV | 0.1 mV | 1 mV | 1 mV | 10 mV |
| | Accuracy | ± (0.025 % + 0.025 % FS) | | | | | |
| C Measurement | Range | 0 ~ 3 A | 0 ~ 30 A | 0 ~ 3 A | 0 ~ 30 A | 0 ~ 3 A | 0 ~ 15 A |
| | Resolution | 0.1 mA | 1 mA | 0.1 mA | 1 mA | 0.1 mA | 1 mA |
| | Accuracy | ± (0.05 % + 0.05 % FS) | | | | | |
| P Measurement | Range | 150 W | | 300 W | | 300 W | |
| | Resolution | 10 mW | | | | | |
| | Accuracy | ± (0.1 % + 0.1 % FS) | | ± (0.1 % + 0.1 % FS) | | ± (0.1 % + 0.1 % FS) | |
| | | Protection range | | | | | |
| | Over power protection | =160 W | | =320 W | | =320 W | |
| | Over current protection | =3.3 A | =33 A | =3.3 A | =33 A | =3.3 A | =16 A |
| | Over voltage protection | =125 V | | | | =530 V | |
| | Over temperature protection | =85 °C | | | | =85 °C | |
| | | Specification | | | | | |
| Short Circuit | Current(CC) | =3.3 / 3 A | =33 / 30 A | =3.3 / 3 A | =33 / 30 A | =3.3 / 3 A | =16 / 15 A |
| | Voltage(CV) | 0V | | | | | |
| | Resistance(CR) | =45 mΩ | | =40 mΩ | | =180 mΩ | |
| | Input impedance | 150 KΩ | | | | | |
| Dimension (W*D*H) | | 214.5 mm * 354.6 mm * 88.2 mm | | | | 214.5 mm * 354.6 mm * 88.2 mm | |

IT8511A+ / IT8511B+ / IT8512B+ / IT8512C+ / IT8512H+ / IT8513C+


- ① Air vents
- ② Voltage switch (110V/220V)
- ③ AC line input
- ④ Current monitoring Terminal
- ⑤ 9-Pin serial port interface connector
- ⑥ Trigger and remote sensing terminal block

IT8512C+ / IT8513C+ / IT8514C+ Specification

| | | IT8512C+ | | IT8513C+ | | IT8514C+ | | |
|--------------------|-------------------------------|--------------------------|--------------------|----------------------------|--------------------|--------------------------|-------------------------------|--|
| Input Rating | Voltage | 0 ~ 120 V | | 0 ~ 120V | | 0 ~ 120 V | | |
| | Current | 0 ~ 6 A | 0 ~ 60 A | 0 ~ 12 A | 0 ~ 120 A | 0 ~ 24 A | 0 ~ 240 A | |
| (0~40°C) | Power | 300 W | | 600 W | | 1500 W | | |
| | Minimum operating voltage | 0.25V at 6A | 2.5V at 60A | 0.2V at 12A | 2V at 120A | 0.25V at 24A | 2.5V at 240A | |
| CV Mode | Range | 0 ~ 18 V | 0 ~ 120 V | 0 ~ 18 V | 0 ~ 120 V | 0 ~ 18 V | 0 ~ 120 V | |
| | Resolution | 1 mV | 10 mV | 1 mV | 10 mV | 1 mV | 10 mV | |
| | Accuracy | ± (0.05%+0.02%FS) | ± (0.05%+0.025%FS) | ± (0.05%+0.02%FS) | ± (0.05%+0.025%FS) | ± (0.05%+0.02%FS) | ± (0.05%+0.025%FS) | |
| CC Mode | Range | 0 ~ 6 A | 0 ~ 60 A | 0 ~ 12 A | 0 ~ 120 A | 0 ~ 24 A | 0 ~ 240 A | |
| | Resolution | 0.1 mA | 1 mA | 1 mA | 10 mA | 1 mA | 10 mA | |
| | Accuracy | ±(0.05%+0.05%FS) | | | | | | |
| CR Mode | Range | 0.05 Ω ~ 10 Ω | 10 Ω ~ 7.5 KΩ | 0.05 Ω ~ 10 Ω | 10 Ω ~ 7.5 KΩ | 0.05 Ω ~ 10 Ω | 10 Ω ~ 7.5 KΩ | |
| | Resolution | 16bit | | | | | | |
| | Accuracy | 0.01%+0.08S | 0.01%+0.0008S | 0.01%+0.08S | 0.01%+0.0008S | 0.01%+0.08S | 0.01%+0.0008S | |
| CP Mode | Range | 300 W | | 600 W | | 1500 W | | |
| | Resolution | 10 mW | | | | | | |
| | Accuracy | 0.1 % + 0.1 % FS | | 0.2 % + 0.2 % FS | | 0.2 % + 0.2 % FS | | |
| Dynamic mode | | | | | | | | |
| Dynamic Mode | CC mode | | CC mode | | CC mode | | | |
| | T1 & T2 | 20 μS~3600 S / Res:1 μS | | 100μS~3600S / Res:1 μS | | 100μS~3600S / Res:1 μS | | |
| | Accuracy | 2 μS ± 100 ppm | | 10 μS ± 100 ppm | | 10 μS ± 100 ppm | | |
| | Rising / Falling Slope | 0.0001~0.3 A / μS | 0.001~3 A / μS | 0.001~0.2 A / μS | 0.01~1.6 A / μS | 0.001~0.3 A / μS | 0.01~3.2 A / μS | |
| V Measurement | Measurement range | | | | | | | |
| | Range | 0 ~ 18 V | 0 ~ 120 V | 0 ~ 18 V | 0 ~ 120 V | 0 ~ 18 V | 0 ~ 120 V | |
| | Resolution | 1 mV | 10 mV | 0.1 mV | 1 mV | 0.1 mV | 1 mV | |
| | Accuracy | ± (0.025 % + 0.025 % FS) | | | | ± (0.025 % + 0.025 % FS) | | |
| C Measurement | Range | 0 ~ 6 A | 0 ~ 60 A | 0 ~ 12 A | 0 ~ 120 A | 0 ~ 24 A | 0 ~ 240 A | |
| | Resolution | 0.1 mA | 1 mA | 1 mA | 10 mA | 1 mA | 10 mA | |
| | Accuracy | ± (0.05%+0.05%FS) | | | | ±(0.05%+0.05%FS) | | |
| P Measurement | Range | 300 W | | 600 W | | 1500 W | | |
| | Resolution | 10 mW | | | | | | |
| | Accuracy | ± (0.1 % + 0.1 % FS) | | ± (0.2 % + 0.2 % FS) | | ± (0.2 % + 0.2 % FS) | | |
| | Over power protection | ≈320 W | | ≈620 W | | ≈1500 W | | |
| | Over current protection | ≈6.5 A | ≈65 A | ≈13 A | ≈130 A | ≈26.7 A | ≈267 A | |
| | Over voltage protection | ≈125V | | | | | | |
| | Over temperature protection | ≈85 °C | | ≈95 °C | | ≈85 °C | | |
| Short Circuit | Specification | | | | | | | |
| | Current(CC) | ≈6.5 / 6 A | ≈65 / 60 A | ≈13 / 12 A | ≈130 / 120 A | ≈26.7 / 24 A | ≈267 / 240 A | |
| | Voltage(CV) | 0V | | | | | | |
| | Resistance(CR) | ≈40 mΩ | | ≈15 mΩ | | ≈8 mΩ | | |
| | Input impedance | | | 150KΩ | | ≈8 mΩ | | |
| Dimension (W*D*H) | 214.5 mm * 354.6 mm * 88.2 mm | | | 482.7mm * 131.4 mm * 536mm | | | 436.5 mm * 463.5 mm * 88.2 mm | |

IT8511A+ / IT8512A+ / IT8512H+ Specification

| | | IT8511A+ | | IT8512A+ | | IT8512H+ | | |
|--------------------|---------------------------|----------------------|----------------|------------------------|----------------|----------------------|------------------------|--|
| Input Rating | Voltage | 0~150 V | | 0~150 V | | 0~800 V | | |
| | Current | 0~3 A | 0~30 A | 0~3 A | 0~30 A | 0~1 A | 0~5 A | |
| (0~40°C) | Power | 150 W | | 300 W | | 300 W | | |
| | Minimum operating voltage | 0.3 V at 3 A | 3 V at 30 A | 0.14 V at 3 A | 1.4V at 30 A | 1.4 V at 1 A | 7 V at 5 A | |
| CV Mode | Range | 0.1~18 V | 0.1~150 V | 0~18 V | 0~150 V | 0~80 V | 0~800 V | |
| | Resolution | 1 mV | 10 mV | 1 mV | 10 mV | 1 mV | 10 mV | |
| | Accuracy | ± (0.05%+0.025% FS) | | ± (0.05%+0.02% FS) | | ± (0.05%+0.025% FS) | | |
| CC Mode | Range | 0~3 A | 0~30 A | 0~3 A | 0~30 A | 0~1 A | 0~5 A | |
| | Resolution | 0.1 mA | 1 mA | 0.1 mA | 1 mA | 0.1 mA | 1 mA | |
| | Accuracy | ± (0.05%+0.05% FS) | | ± (0.05%+0.05% FS) | | ± (0.05%+0.1% FS) | | |
| CR*1 Mode | Range | 0.1Ω~10Ω | 10Ω~7.5 KΩ | 0.05Ω~10Ω | 10Ω~7.5 KΩ | 2Ω~10Ω | 10Ω~7.5 KΩ | |
| | Resolution | 16 bit | | | | | | |
| | Accuracy | 0.01%+0.08 S*2 | 0.01%+0.0008 S | 0.01%+0.08 S | 0.01%+0.0008 S | 0.01%+0.08 S | 0.01%+0.0008 S | |
| CP*1 Mode | Range | 150 W | | 300 W | | 300 W | | |
| | Resolution | 10 mW | | | | | | |
| | Accuracy | 0.2%+0.2% FS | | ± (0.1%+0.1% FS) | | 0.2%+0.2% FS | | |
| Dynamic mode | | | | | | | | |
| Dynamic Mode | CC mode | | CC mode | | CC mode | | | |
| | T1 & T2 | 20μS~3600 S/ Res:1μS | | 20μS~3600 S/ Res:1μS | | 20μS~3600 S/ Res:1μS | | |
| | Accuracy | 2μS+100 ppm | | 2μS+100 ppm | | 2μS+100 ppm | | |
| | Rising/falling slope *3 | 0.0001~0.12 A/μS | | 0.0001~0.2 A/μS | | 0.0001~0.04 A/μS | | |
| | Minimum rising time *4 | ≈20μS | | ≈30μS | | | | |
| V Measurement | Measurement range | | | | | | | |
| | Range | 0~18 V | 0~150 V | 0~18 V | 0~150 V | 0~80 V | 0~800 V | |
| | Resolution | 0.1m V | 1m V | 0.1m V | 1m V | 1m V | 10m V | |
| | Accuracy | ± (0.05%+0.025% FS) | | ± (0.025%+0.025% FS) | | ± (0.025%+0.025% FS) | | |
| C Measurement | Range | 0~3 A | 0~30 A | 0~3 A | 0~30 A | 0~1 A | 0~5 A | |
| | Resolution | 0.1 mA | 1 mA | 0.1 mA | 1 mA | 0.1 mA | 1 mA | |
| | Accuracy | ± (0.05%+0.05% FS) | | ± (0.05%+0.05% FS) | | ± (0.05%+0.05% FS) | | |
| P Measurement | Range | 150W | | 300W | | 300W | | |
| | Resolution | 10mW | | | | | | |
| | Accuracy | ± (0.2%+0.2% FS) | | ± (0.1%+0.1% FS) | | ± (0.2%+0.2% FS) | | |
| | OPP | ≈160W | | ≈320W | | ≈320W | | |
| | OCP | ≈3.3 A | ≈3.3 A | ≈3.3 A | ≈33 A | ≈1.1 A | ≈5.5 A | |
| | OVP | ≈160 V | | ≈160 V | | ≈850 V | | |
| | OTP | ≈85 °C | | ≈85 °C | | ≈85 °C | | |
| Short Circuit | Specification | | | | | | | |
| | Current(CC) | ≈3.3/3A | ≈33/30A | ≈3.3/3A | ≈33/30A | ≈1.1/1A | ≈5.5/5A | |
| | Voltage(CV) | 0 V | | | | | | |
| | Resistance(CR) | ≈100 mΩ | | ≈40 mΩ | | ≈1.4 Ω | | |
| | Input impedance | ≈300 KΩ | | ≈150 KΩ | | ≈2 MΩ | | |
| Dimension (W*D*H) | 214.5mm*88.2mm*354.6mm | | | 214.5mm*88.2mm*354.6mm | | | 214.5mm*88.2mm*354.6mm | |

IT8514B+ / IT8516C+ Specification

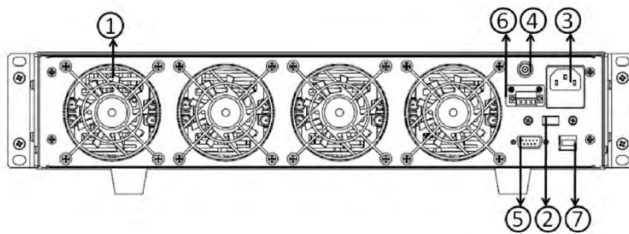
| | | IT8514B+ | | IT8516C+ | |
|-------------------|----------------------------|-----------------------|---------------------|----------------------------|---------------------|
| Input Rating | Voltage | 0-500 V | | 0-120 V | |
| | Current | 0-6 A | 0-60 A | 0-24 A | 0-240 A |
| (0-40°C) | Power | 1500 W | | 3000 W | 0-240 A |
| | Minimum operating voltage | 0.25 V at 6 A | 2.5 V at 60 A | 0.15 V at 24 A | 1.5V at 240 A |
| CV Mode | Range | 0.1-50 V | 0.1-500 V | 0.1-18 V | 0.1-120 V |
| | Resolution | 1 mV | 10 mV | 1 mV | 10 mV |
| | Accuracy | ± (0.05%+0.02% FS) | ± (0.05%+0.025% FS) | ± (0.05%+0.02% FS) | ± (0.05%+0.025% FS) |
| CC Mode | Range | 0-6 A | 0-60 A | 0-24 A | 0-240 A |
| | Resolution | 1 mA | 10 mA | 1 mA | 10 mA |
| | Accuracy | ± (0.05%+0.05% FS) | | ± (0.1%+0.1% FS) | |
| CR Mode*1 | Range | 0.05Ω-10Ω | 10Ω-7.5 KΩ | 0.05Ω-10Ω | 10Ω-7.5 KΩ |
| | Resolution | 16 bit | | 16 bit | |
| | Accuracy | 0.02%+0.08 S | 0.01%+0.0008 S | 0.02%+0.08 S | 0.02%+0.0008 S |
| CP Mode*1 | Range | 1500 W | | 3000 W | |
| | Resolution | 10 mW | | 10 mW | |
| | Accuracy | ± (0.2%+0.2% FS) | | ± (0.2%+0.2% FS) | |
| Dynamic mode | | | | | |
| Dynamic Mode | T 1 & T2 | 100μS-3600 S/ Res:1μS | | 20μS-3600 S/ Res:1μS | |
| | Accuracy | 10μS+100 ppm | | 10μS+100 ppm | |
| | Rising/falling slope *3 | 0.001-0.15 A/μS | 0.01-0.8 A/μS | 0.001-0.3 A/μS | 0.1-2.8 A/μS |
| | Minimum rising time *4 | =60 μS | | =70 μS | |
| Measurement range | | | | | |
| V Measurement | Range | 0-50 V | 0-500 V | 0-18 V | 0-120 V |
| | Resolution | 0.1 mV | 1 mV | 0.1 mV | 1 mV |
| | Accuracy | ± (0.025%+0.025% FS) | | | |
| C Measurement | Range | 0-6 A | 0-60 A | 0-24 A | 0-240 A |
| | Resolution | 1 mA | 10 mA | 1 mA | 10 mA |
| | Accuracy | ± (0.05%+0.05% FS) | | ± (0.1%+0.1% FS) | |
| P Measurement | Range | 1500W | | 3000W | |
| | Resolution | 10mW | | 10mW | |
| | Accuracy | ± (0.2%+0.2% FS) | | | |
| Protection | | | | | |
| OPP | | =1550W | | =3050W | |
| OCP | | = 6.7 A | = 67 A | = 26 A | = 260 A |
| OVP | | =530 V | | =125 V | |
| OTP | | = 85 °C | | = 85 °C | |
| Specification | | | | | |
| Short Circuit | Current(CC) | = 6.7 / 6 A | = 67 / 60 A | = 26 / 24 A | = 260 / 240 A |
| | Voltage(CV) | 0 V | | | |
| | Resistance(CR) | = 30 mΩ | | = 5 mΩ | |
| | Input impedance | = 150 KΩ | | = 150 KΩ | |
| Dimension (W*D*H) | 436.5 mm* 88.2 mm*463.5 mm | | | 436.5 mm* 176 mm* 463.5 mm | |

*1.Voltage/Current input ≥10%FS (FS means final scal)

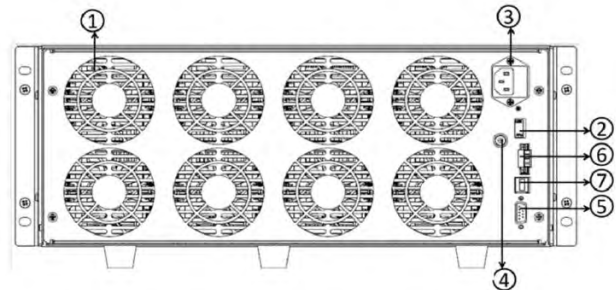
*2.Resistance readback value range:1/[1/R+(1/R)*0.01%+0.08],1/[1/R-(1/R)*0.01%-0.08], IT8514B+/14C+/16C+:1/[1/R+(1/R)*0.02%+0.08],1/[1/R-(1/R)*0.02%-0.08]

*3.Rise/fall slope: rise slope of 10%-90% current rising from 0 to maximum value

*4. Minimum rising time:is the 10%-90% current rising time

IT8514B+ / IT8514C+


- ① Air vents
- ② Voltage switch (110V/220V)
- ③ AC line input
- ④ Current monitoring terminal
- ⑤ RS232 interface
- ⑥ Trigger and remote sensing terminal block
- ⑦ USB interface

IT8516C+


- ① Air vents
- ② Voltage switch (110V/220V)
- ③ AC line input
- ④ Current monitoring terminal
- ⑤ RS232 interface
- ⑥ Trigger and remote sensing terminal block
- ⑦ USB interface

IT8211 Economic Electronic Load

IT8211 digital-control electronic load (60V/30A/150W) 1mV, 1mA, high resolution and high accuracy, can ensure the accurate measurement. CV/CC/CR mode, short-circuit, testing function, easy operation and display interface, built-in 4*40 groups easy access keys, help you to complete all the complex tests easily and rapidly.

■ Features

- Digital-control electronic load
- 60 V / 30 A / 150 W
- 3 mode: CV / CC / CR
- Highlight LED display
- High accuracy voltage and current measurements
- Standard 19 inch rack mount
- Storage for 4*40 preset value ,can be recalled rapidly
- Rapidly rotary encoder input
- Switch high / low current range: 3 A / 30 A
- The smallest size among similar products



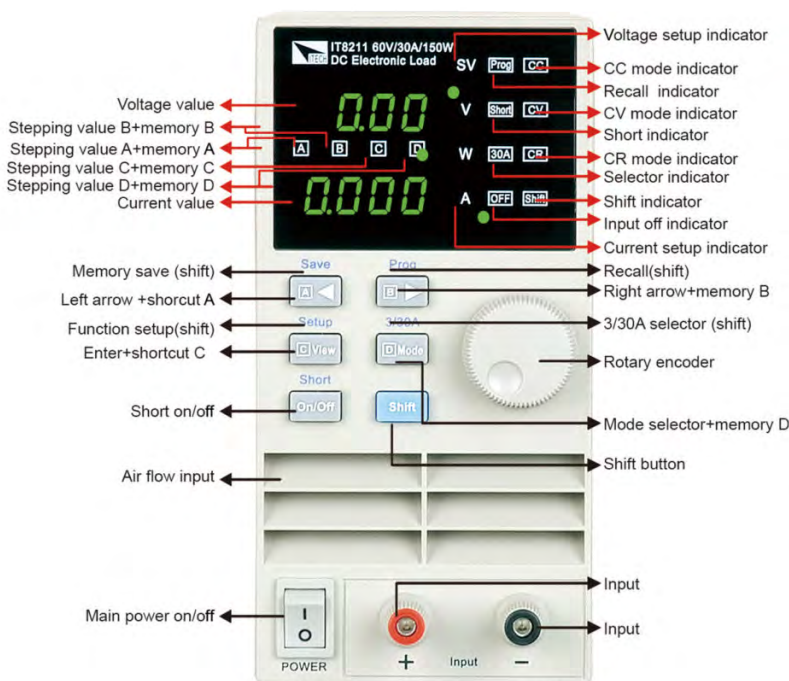
IT8211

■ Specifications

| | | IT8211 | |
|-----------------|----------------|----------------------|--------------|
| Input Rating | Power | 150 W | |
| | Current | 30 A | |
| | Voltage | 60 V | |
| CC Mode | Range | 0-3A | 0-30 A |
| | Resolution | 1 mA | 10 mA |
| | Accuracy*1 | 0.1%+0.1%FS | 0.1%+0.15%FS |
| CV Mode | Range | — | 0-60 V |
| | Resolution | — | 10 mV |
| | Accuracy | — | 0.05%+0.1%FS |
| CR Mode | Range | < 100Ω | < 4KΩ |
| | Resolution | 0.01Ω | 1Ω |
| | Accuracy | 1%+0.8%FS | 1%+0.8%FS |
| V Measurement | Voltage | 0-10 V | 0-60 V |
| | Resolution | 1 mV | 10 mV |
| | Accuracy | 0.05%+0.1%FS | 0.05%+0.1%FS |
| C Measurement | Current | 0-3 A | 0-30 A |
| | Resolution | 1 mA | 10 mA |
| | Accuracy | 0.1%+0.1%FS | 0.1%+0.15%FS |
| P Measurement*2 | Watt | 0-100 W | 100-150 W |
| | Resolution | 10 mW | 100 mW |
| | Accuracy | 1%+0.1%FS | 1%+0.1%FS |
| Short Circuit | Current(CC) | = 30 A | |
| | Voltage(CV) | 0 V | |
| | Resistance(CR) | = 80 mΩ | |
| Temperature | Operating | 0~40℃ | |
| | Nonoperating | -10℃~60℃ | |
| Dimension | W * H * D | 88mm * 175mm * 282mm | |
| Weight | Kg | 2.6 | |

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

*2: While input voltage or current ≥10%FS.





ITECH providing you with the most reliable and accurate power supply, meet your research and development testing, production testing requirements.

Basic Products

AC/ DC Power Supply

Provide you with the most reliable and accurate power supply.

IT6700 Digital control DC Power Supply

The IT6720-series of digital control DC power supplies give you the performance of programmable power supplies without the high price. With the auto-range technology. It offers you the flexible output voltage and current. With high power in a compact unit, the IT6720 series give you excellent performance while saving your space and cost at the same time. [P12-P13](#)

IT6300&IT6300A Triple Output Programmable DC Power Supply

The programmable 3 channel power supply is provided with 1mV, 1mA high resolution and high accuracy. High-definition VFD display can display and set the voltage of 3 channels at one time without switching. It greatly simplifies the complex operation of the traditional 3 channel power supply. [P14-P16](#)

IT6500 Auto-range Programmable DC Power Supply

IT6500 series programmable power supply with 1mV, 1mA high resolution and accuracy. IT6500 series products can function in CV or CC mode, integrated voltage sequence according to DIN 40839. It's the best solution for your laboratory tests, production tests and other applications with small size of 1U. [P17-P20](#)

IT6900A/B Multi-function Programmable DC Power Supply

IT6900A/B series power supply adopt auto-range digital technology, enables customers to adjust to the maximum output voltage or current at a fixed power. IT6900A series of power also has the built-in RS232/ USB / GPIB communication interface. [P21-P23](#)

IT6860A/B & IT6870A/B Dual-range DC Power Supply

The power supply is a dual-range output power supply with high resolution of 1mV, 0.1mA, which can test the products with different power range. You can adjust the voltage /current stepping by pressing the left and right keys to move the cursor. It supports output timer function and programs by the front panel, which will bring great convenience. Its built-in RS232 and USB communication interfaces which can make the communication much faster. [P24-P25](#)

IT6120B High Speed And High-accuracy Programmable DC Power Supply

IT6120B (86W~150W) series has fast voltage rising speed and high accuracy. Voltage range 20V~72V, current range 1.2A~5A, voltage rising speed (<20mS), high accuracy and resolution of 0.1mV /0.01mA, Also configure with standard RS232/USB/GPIB interface to realize fast communication speed. List configure can be operated on front panel. This series offer flexible solution to general laboratory and workshop requirement. [P26-P27](#)

IT7321 Programmable AC Power Supply

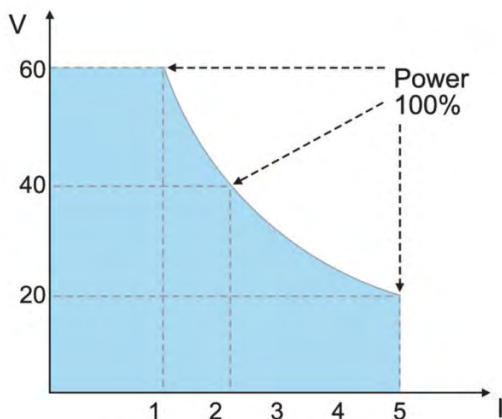
The power supply is single phase programmable AC power supply. This series power supply output kinds of normal and abnormal AC input to measure essential parameters of products. Its built-in LAN, USB, RS232 communication interface makes your test efficient. [P28-P32](#)



IT6700

■ Features

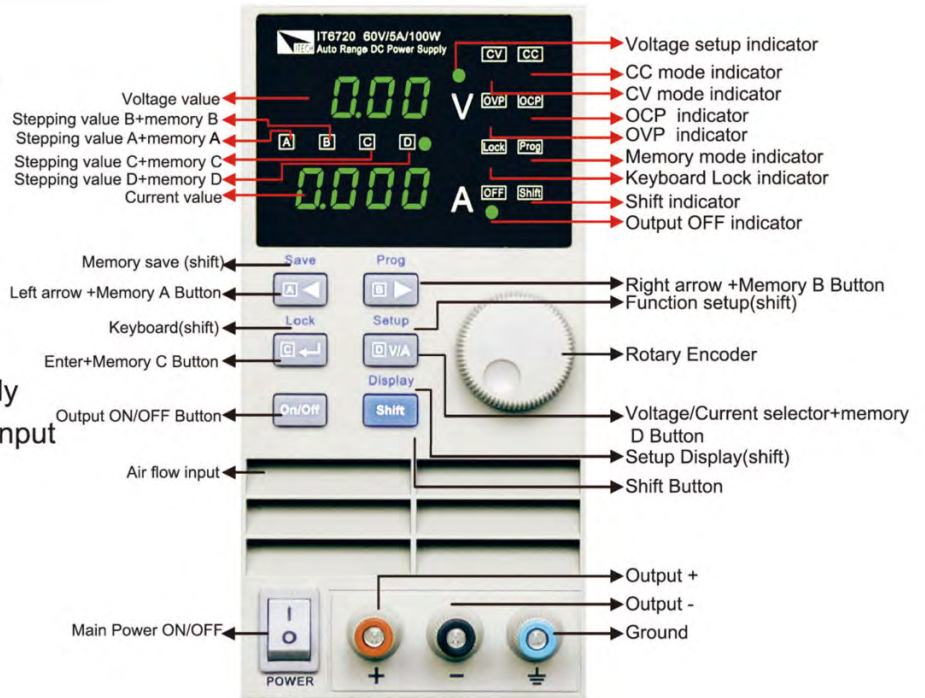
- Completely digital-control
- 10mV/1mA high accuracy and resolution
- Low ripple and noise
- CC/CV modes
- Minimum size to save space
- Highlight LED display
- High stability OCP/OVP/OTP protection
- Most economic digital-control power supply
- Full scale 60V/5A , resolution 10mV/1mA , input no need to switch
- Switch control for output



IT6720 I-V curve graph

IT6720 Digital Control Power Supply

IT6720 have the widest voltage and current utilization. ITECH introduces the digital-control DC power supply with the highest power ratio in the field, which have the widest voltage and current utilization and greatly widen the range of application. With the capacity of 100W, voltage output of 60V, current output of 5A , they can control the change rates of the voltage and current automatically. The power ratio can be up to 3 times . One IT6720 can substitute previous 60V*1.6A/32V*3A/ 20V*5A 3 kinds of models to save your cost .



Panel Layout

Flexible voltage and current configuration make you complete 100% power output as long as voltage above 20V.



| | | IT6720 | IT6721 |
|----------------------|---------|------------------|------------------|
| Output Rating | Voltage | 0 - 60 V | 0 - 60 V |
| | Current | 0 - 5 A | 0 - 8 A |
| | Power | 100 W | 180 W |
| Load Regulation | Voltage | < 0.01 % + 3 mV | < 0.01 % + 5 mV |
| | Current | < 0.01 % + 3 mA | < 0.01 % + 5 mA |
| Line Regulation | Voltage | < 0.01 % + 3 mV | < 0.01 % + 5 mV |
| | Current | < 0.1 % + 3 mA | < 0.1 % + 5 mA |
| Programming Accuracy | Voltage | < 0.05 % + 10 mV | < 0.05 % + 10 mV |
| | Current | < 0.2 % + 2 mA | < 0.3 % + 5 mA |
| Read back Accuracy | Voltage | < 0.05 % + 10 mV | < 0.05 % + 10 mV |
| | Current | < 0.1 % + 2 mA | < 0.3 % + 5 mA |
| Ripple | Voltage | 2 mVrms | 2.5 mVrms |
| | Current | 3 mArms | 3.5 mArms |
| Dimension | W*H*D | 88 * 175 * 282 | 88 * 175 * 282 |
| Weight | Net | 2.5 Kg | 3.5 Kg |



IT6720 60V/5A/100W
IT6721 60V/8A/180W



IT-E152 19" Rack Mount Diagram



IT6300A Triple Output DC Power Supply

IT6300 A triple output power supply can adjust the stepping by left/right arrow button, very convenient for your operation.

IT6300A has remote measurement function, it can ensure your testing accurately. And built-in RS232, USB interface, and each channel can set to serial/ parallel/ track mode, it can bring multipurpose testing solution to you.

Features

- Triple output voltage, all are adjustable.
- Support/parallel/tracking mode
- The voltage and current for each channel can be displayed synchronously
- Small size of 1/2 2U
- VFD display
- Function keys with LED light
- Remote sensing function
- Output switch control
- High accuracy, high resolution and high stability
- OVP, OTP
- Intelligent fan control
- Built-in RS232/USB communication interface
- Low ripple and low noise
- Software for monitor
- Support standard SCPI communication protocol
- Memory capacity of 36 groups, for save and recall
- Adjust the stepping by left/right arrow button
- Output timer function(0.1~99999.9 seconds)
- Isolated circuit, support positive and negative reverse

Triple isolated voltage and current

```

▶ 0.001V   Series   0.001V
  0.000A   CH1+2   0.000A
  
```

Serial mode

```

▶ 0.001V   0.001V   Para
  0.000A   0.000A   CH2+3
  
```

Parallel mode

```

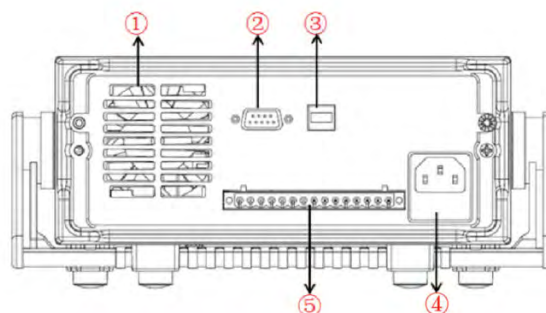
▶ 0.001V   0.003V   0.001V
  0.000A   0.000A   0.000A
  
```

Track mode, set the parameter of one channel, the parameter of other channels will be changed.

| 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 |

IT6300A rear panel

- ① Air vents
- ② RS232 interface
- ③ USB interface
- ④ AC line input
- ⑤ Trigger and remote sensing terminal block



Specifications

| Parameters | | IT6322A | IT6332A | IT6333A |
|----------------------------------|-----------------------------------|---------------------|---|---------------------|
| Output Rating | voltage | 0~30V × 2, 0~5V × 1 | 0~30V × 2, 0~5V × 1 | 0~60V × 2, 0~5V × 1 |
| | current | 0~3A × 2, 0~3A × 1 | 0~6A × 2, 0~3A × 1 | 0~3A × 2, 0~3A × 1 |
| | Voltage limiting protection | 0~31V × 2, 0~6V × 1 | 0~31V × 2, 0~6V × 1 | 0~31V × 2, 0~6V × 1 |
| Load Regulation | voltage | ≤ 0.01% + 3mV | ≤ 0.01% + 5mV (*2) | ≤ 0.01% + 3mV |
| | current | ≤ 0.1% + 3mA | ≤ 0.01% + 3mA (*1) | ≤ 0.1% + 3mA |
| Line Regulation | voltage | ≤ 0.01% + 3mV | ≤ 0.01% + 5mV (*2) | ≤ 0.01% + 3mV |
| | current | ≤ 0.1% + 3mA | ≤ 0.01% + 3mV (*1) ≤ 0.1% + 3mA | ≤ 0.1% + 3mA |
| Setup Resolution | voltage | 1 mV | 1 mV | 1 mV |
| | current | 1 mA | 1 mA | 1 mA |
| Readback Resolution | voltage | 1 mV | | 1 mV |
| | current | 1 mA | | 1 mA |
| Setup Accuracy | voltage | ≤ 0.03% + 10 mV | ≤ 0.03% + 10 mV | ≤ 0.03% + 15 mV |
| | current | ≤ 0.1% + 5 mA | ≤ 0.1% + 8 mA (*2) ≤ 0.1% + 5 mA (*1) | ≤ 0.1% + 5 mA |
| Readback Accuracy | voltage | ≤ 0.03% + 10 mV | ≤ 0.03% + 10 mV | ≤ 0.03% + 10 mV |
| | current | ≤ 0.1% + 5 mA | ≤ 0.1% + 8 mA (*2) ≤ 0.1% + 5 mA (*1) | ≤ 0.1% + 5 mA |
| Ripple and noise | voltage | ≤ 1 mVrms / 3 mVp-p | 4 mVp-p | 5 mVp-p |
| | current | ≤ 3 mArms | ≤ 5 mArms | ≤ 4 mArms |
| Temp.coefficient | voltage | ≤ 0.03% + 10 mV | ≤ 0.03% + 10 mV | ≤ 0.03% + 10 mV |
| | current | ≤ 0.1% + 5 mA | ≤ 0.1% + 5 mA | ≤ 0.1% + 5 mA |
| ReadbackTemp.coefficient | voltage | ≤ 0.03% + 10 mV | ≤ 0.03% + 10 mV | ≤ 0.03% + 10 mV |
| | current | ≤ 0.1% + 5 mA | ≤ 0.1% + 5 mA | ≤ 0.1% + 5 mA |
| Serial synchronous operation | The cascade synchronization error | ≤ 0.05% + 10 mA | | |
| Series parallel setting accuracy | voltage | ≤ 0.02% + 5 mV | | |
| | current | ≤ 0.1% + 20 mA | | |
| Memory | Save / Recall | | 36 groups | |
| Timer | Time setting | | 0.1 S – 99999.9 S | |
| | Resolution | | 0.1 s | |
| | Function | | Timer function for turning off the output | |
| Dimension | W*H*D | | 214.5 mm × 88.2 mm × 453.1 mm | |

IT6322A adopts new button layout, Local and $\triangleleft \triangleright$ arrow buttons added, function keys with LED light, built-in standard RS232, USB communication interfaces, which makes the communication much faster.

IT6322A supports tracking mode settings. When single channel parameter changed, the other channel parameters will also change iproportionaling at the same time.

Tracking mode

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



In state, if voltage of CH1 set to be 2V, the voltages of CH2 will automatically synchronize to be 4V (proportionally).



IT6302

IT6302 Triple Output DC Power Supply

■ Features

- Independent ,fully programmable and electrically isolated outputs
- Display & adjust voltage and current settings for all 3 channels
- Flexible output configuration: connect CH1 or CH2 channels in parallel
- Excellent stability and regulation
- LVP(low voltage) and OTP(over temperature protection)
- Output on / off control
- 27 memory locations for instrument state storage& recall
- Closed case calibration

■ IT6302 Specifications

| IT6302 | | |
|--|----------------|--------------------------|
| Output Ratings (0°C-40°C) | Voltage | 0 ~ 30 V × 2 0 ~ 5 V × 1 |
| | Current | 0 ~ 3 A × 2 0 ~ 3 A × 1 |
| Load Regulation ±(%of output+offset) | Voltage | ≤ 0.01 % + 3 mV |
| | Current | ≤ 0.2 % + 3 mA |
| Line Regulation±(%of output+offset) | Voltage | ≤ 0.01 % + 3 mV |
| | Current | ≤ 0.2 % + 3 mA |
| Programmable Resolution | Voltage | 10 mV |
| | Current | 1 mA |
| Readback Resolution | Voltage | 10 mV |
| | Current | 1 mA |
| Programmming Accuracy (25 °C±5 °C) | Voltage | ≤ 0.06 % + 20 mV |
| (%of output+offset) | Current | ≤ 0.2 % + 10 mA |
| Readback Accuracy (25 °C±5 °C) | Voltage | ≤ 0.06 % + 20 mV |
| (%of output+offset) | Current | ≤ 0.2 % + 10 mA |
| Ripple and Noise | DMV | ≤ 5 mVp - p / 1 mVrms |
| | DMA | ≤ 6 mArms |
| Temperature (0°C~40°C)(%of output+offset) | Voltage | 300 ppm / °C |
| | Current | 300 ppm / °C |
| Temperature coefficient of read back value | Voltage | 300 ppm / °C |
| ±(%of output+offset) | Current | 300 ppm / °C |
| Tracking Accuracy Sries Operation | Voltage | ≤ 0.5 % + 30 mV |
| | Current | ≤ 0.2 % + 15 mA |
| Tracking Accuracy Parallel Operation | Voltage | ≤ 0.2 % + 30 mV |
| | Current | ≤ 0.2 % + 25 mA |
| Memory | Storage/recall | 27 series |

IT6500 Auto-range Programmable DC Power Supply

IT6500 series power supply is single output high-powered and programmable DC power supply which support CC mode and CV mode. The 1200W model has 1U ultrathin body with 1mV, 1mA resolution, the 3000W model outputs adjustable voltage/current value within 80V/120A. In the meanwhile, some models equipped with DIN40839 and ISO-16750-2 standard waveforms. IT6500 provide you with multiple proposal to meet your test demands.

■ Features

- VFD display
- Achieve max. voltage/current within rated power
- High resolution of 1mV, 1mA
- Low noise and ripple, comparable with linear power supply
- Some models equipped with DIN40839 and ISO-16750-2 standard waveforms
- Compact, high density, rack mount size
- Built-in USB/ RS232/ RS485/ GPIB communication interface
- Master-Slave mode for parallel and series operation
- With standard SCPI communication protocol
- Analog control interface
- Remote sensing function
- Intelligent cooling fan to save energy and reduce noise
- List mode

| Mode | Voltage | Current | Power |
|---------|---------|---------|-------|
| IT6502D | 80V | 60A | 800W |



IT6502D

Applications

- Automotive Electronics
- Aerospace and Aviation
- DC Motor Test
- Battery R&D Test
- High Power Application
- Lithium Battery Module Test
- Electronic Components Production

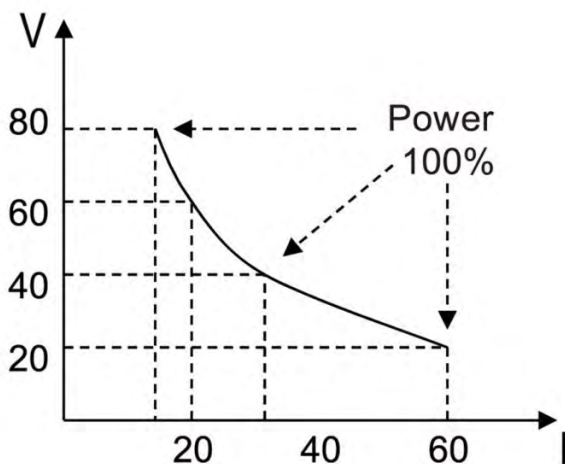
Adjustable Rising and Falling Time Setting

The rising and falling time of IT6500 series power supplies is adjustable. Users can set the transient time of which from one voltage to another voltage. The fastest adjustable time for IT6500 series power supplies can up to 1ms, which can meet most testing requirements.

| Models | List Function | Automotive electronics waveform simulation | Master-Slave | External Analog Interfaces | Communication Interfaces |
|---------|---------------|--|--------------|----------------------------|--------------------------|
| IT6502D | X | X | ✓ | ✓ | RS232/RS485/USB/GPIB |
| IT6512 | ✓ | ✓ | ✓ | ✓ | RS232/RS485/USB/GPIB |
| IT6512A | X | X | ✓ | ✓ | RS232/RS485/USB/GPIB |
| IT6513 | X | X | ✓ | ✓ | RS232/RS485/USB/GPIB/LAN |
| T6513A | ✓ | ✓ | ✓ | ✓ | RS232/RS485/USB/GPIB |
| IT6512D | X | X | ✓ | ✓ | RS232/RS485/USB/GPIB |

Auto Range Function

IT6500 series power supply has applied Auto-range technology. It allows any combination of the rated voltage and current up to the maximum output power of 1200W. For example, the max current output at 20V is 60A.



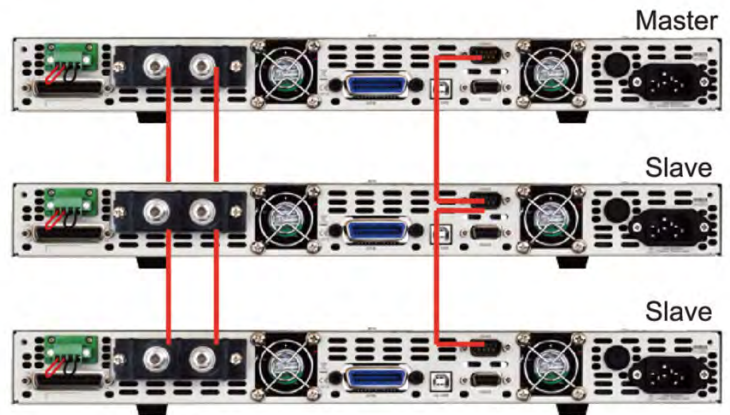
IT6512 I-V curve graph

List Mode

Part of IT6500 series models support list function. In list mode, users can program and modify any testing procedure with multiple steps and different duration according to their different testing requirements. After the operation list programming, the power supply will start to work and operate in order once it receives trigger signal until it finished all the list or receiving trigger signal again.



Master-Slave Operation



Above is the graph for Master-Slave operation

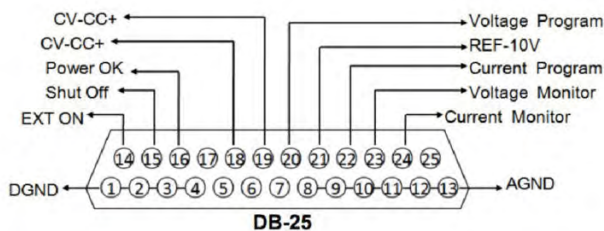
IT6500 series power supplies support Master-Slave parallel connection to enlarge the current and power range. Here below is a schematic illustration of Master-Slave connection mode. Output terminals connect in parallel, the RS485 interfaces of master and slave connect through directly line. When connect several units in parallel, user could specify one unit as a Master and the others as slaves. Also they can connect with a computer through any built-in interface, such as GPIB, USB, RS232 or RS485. All setting operations can be directly finished through Master. And master can distribute the current and voltage automatically. Master and Slave connection simplifies the connection and easier to use.

User-friendly Operation Panel Design

IT6500 series power supplies provide multiple programming and controlling methods, users can adjust the specifications by the knob or numeric keys easily. The setting parameters will be displayed on the VFD screen simultaneously.

Analog Interfaces

On the rear panel of some IT6500 series models, there is a DB25 analog interface. Users can control 0~100% of full scale output voltage and current on the front panel through 0~10V or 0~5V analog, 0~10KΩ or 0~5KΩ is also OK. Analog interface meets the control requirement in industry production. If it is no need to control through PC, then you can control the analog output voltage by PLC.



Remote Sense Function

IT6500 series power supplies has remote sense function. The function can compensate the loss of large voltage-drop on connection lines due to long connection wires.

Protection Functions

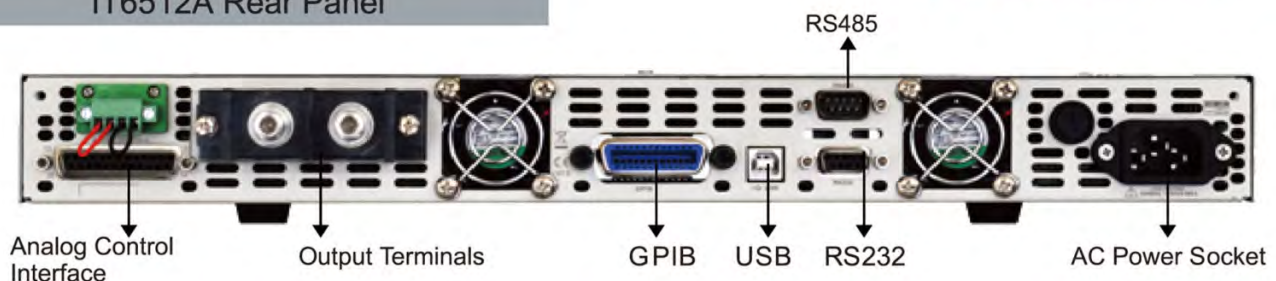
IT6500 series power supplies provide OVP, OCP, OPP, OTP protection functions. Once the circuit value (current, voltage, power or temperature) above the setting value (current, voltage, power or temperature), the protection function will start. For instance, in OCP mode, the power supply will stop to output and display "OCP". OVP is the same theory. Over temperature protection (OTP) starts to work when the internal temperature of the instrument is over 75 °C. Once the OTP starts, the power supply will stop to output and display "OTP".

IT6500 Specifications

| | | Basic Products | | High Performance Products | |
|---------------------|---------|---------------------|---------|---------------------------|---------|
| Parameters | | IT6502D | IT6512A | IT6513 | IT6513A |
| Output Rating | voltage | 0-80V | 0~80V | 0~150V | 0~150V |
| | current | 0-60A | 0~60A | 0~30A | 0~30A |
| | power | 0-800W | 0~1200W | 0~1200W | 0~1200W |
| Load Regulation | voltage | ≤0.01%+8mV | | ≤0.05%+30mV | |
| | current | ≤0.1%+10mA | | ≤0.1%+30mA | |
| Line Regulation | voltage | ≤0.02%+2mV | | ≤0.02%+20mV | |
| | current | ≤0.02%+2mA | | ≤0.02%+10mA | |
| Setup Resolution | voltage | 1mV | | 3mV | |
| | current | 1mA | | 1mA | |
| Readback Resolution | voltage | 1mV | | 3mV | |
| | current | 1mA | | 1mA | |
| Setup Accuracy | voltage | ≤0.02%+30mV | | ≤0.05%+30mV | |
| | current | ≤0.1%+0.1%FS | | ≤0.2%+0.1%FS | |
| Readback Accuracy | voltage | ≤0.02%+30mV | | ≤0.05%+30mV | |
| | current | ≤0.1%+0.1%FS | | ≤0.2%+0.1%FS | |
| Ripple | Vpp | ≤30mVp-p | | ≤60mVp-p | |
| | Irms | ≤20mArms | | ≤40mArms | |
| Temp. coefficient | voltage | ≤0.02%+30mV | | <0.02%+30mV | |
| | current | ≤0.05%+10mA | | ≤0.05%+10mA | |
| Dimension | W*H*D | 415mmW*44mmH*500mmD | | 415mmW*44mmH*500mmD | |
| Weight | Kg | 8.5Kg | | 8.5Kg | |

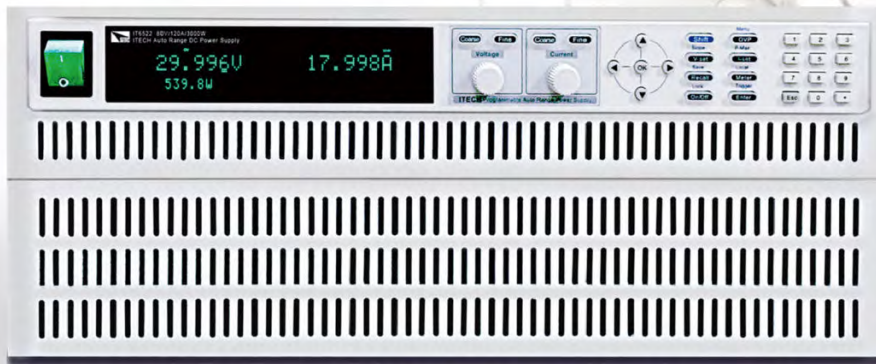
For higher power test, please contact ITECH.

IT6512A Rear Panel



IT6500C/D

WIDE RANGE HIGH-POWER DC POWER SUPPLY



High-power single unit is up to 30kW



Wide-range over 100 models



Continuous source & sink testing



30kW up/down time < 3mS



Fast curves changing without overshoot



Built-in standard curve



Full protection



Simple programming on the front panel

IT6500 helps you to overcome the challenges in high power test.



APPLICATIONS

- Aerospace & Aviation
- Military
- Vehicle Battery
- Solar Charger
- Automotive
- Welding & Plating
- R&D
- Motor



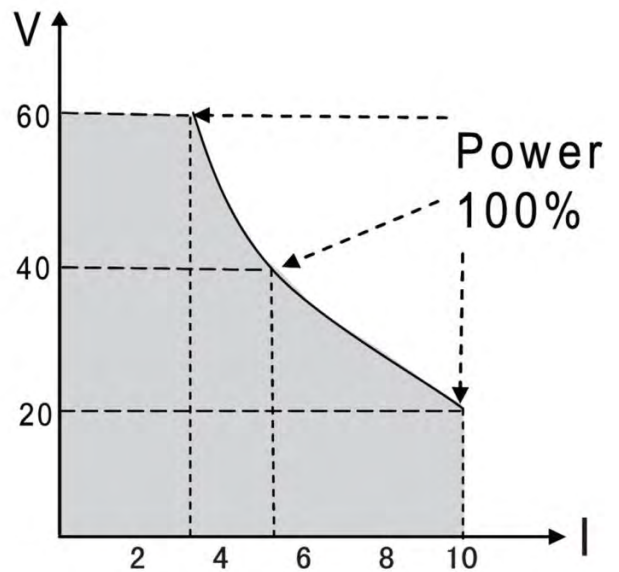
IT6952A

■ **Features**

- VFD display
- Output on/off control
- Convenient data entry via knob or numerical key pad
- High accuracy and high resolution: 1mV/0.1mA
- Low ripple and low noise
- Rack mount kit available
- List Mode: generate, store and execute test sequences without the need for an external computer.
- Built-in communication interface:RS232/USB/GPIB
Different from IT6900A, IT6900B has the external 0-10V analog interface.
- Output Timer(0.1 ~ 99999.9S) Function
- Remote Sense Function
- OVP/OCP/OTP/LCP protection functions
- Intelligent fan control

IT6900A /B Multi-function Power Supply

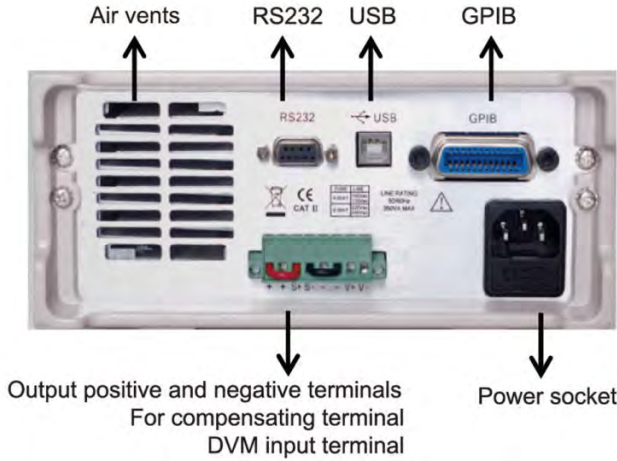
IT6900A series are flexible range single output power supplies. With an easy-to-read VFD display, high accuracy and resolution up to 1mV/0.1mA. It allows to generate and store programmed sequences directly from the front panel. Built-in RS232,USB,GPIB interfaces to provide flexibility for remote operation. IT6900A/B is a compact, laboratory grade power supply well-suited for application in design field, production or use in university labs.



IT6932A I-V curve graph

| Model | Power | Voltage | Current |
|---------|-------|---------|---------|
| IT6922A | 100W | 60V | 5A |
| IT6932A | 200W | 60V | 10A |
| IT6942A | 360W | 60V | 15A |
| IT6952A | 600W | 60V | 25A |
| IT6953A | 600W | 150V | 10A |

Rear Panel



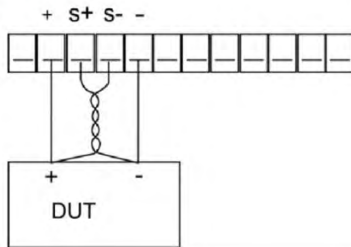
List Mode



List mode allows user to create a sequence of steps, store it into the power supply's non-volatile memory and execute it. 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.

Remote Sense

Remote sense can be used to compensate for voltage drops (up to 1V) due to resistance from test leads connected to your device under test (DUT), thus providing more accurate output voltage. The power supply is initially setup to local sense mode by default. Refer to the following sections for details of local and remote sense setup.



Convenient Panel Operation

An easy-to-use rotary knob and self-guiding keypads allow you to set the output at your desired value without any effort. Also, both voltage and current levels can be set to a maximum resolution of 1mV/0.1mA. In addition, you can store and recall for up to 9*8 groups setups using the internal non-volatile memory.

Built-in DVM

IT6900A provides a built-in digital meter which can measure DC volts in a range from 0.001V-61.000V. The voltage value is displayed on the left bottom field of the display.

Timer Function

IT6900A supports output on timer function. If Timer State is set to ON, then power supply output will turn off after the timer elapsed. The timer setting range is 0.1~99999.9S

Auto-range Function

IT6900A series power supply has adopted Auto-range technology. One unit could replace multiple units with different specifications. Take IT6932A(60V/10A/200W) as an example, the user could use it as a 60V/3.3A/200W instrument and also a 20V/10A/200W unit.

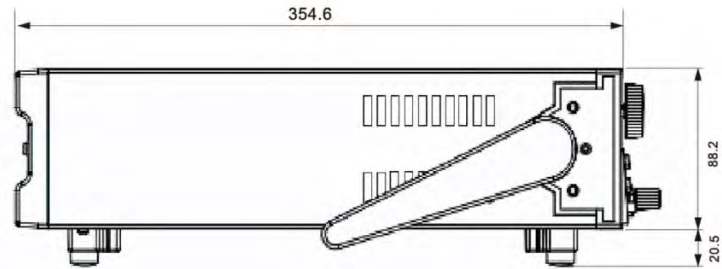
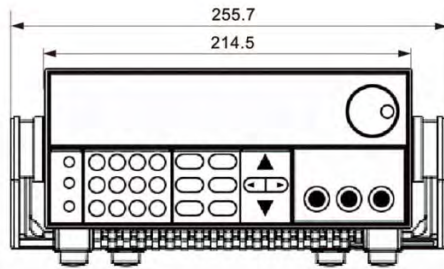
Protection Functions

IT6900A series power supply provides OV, OC, OT protection functions. It enables user to configure OVP and OCP value. When any protection level is triggered, power supply will turn off the output automatically.

IT6900A Specifications

| Parameter | | IT6922A | IT6932A | IT6942A | IT6952A | IT6953A |
|--|---------|---------------------------|---------------------|----------------------|-------------------------|-------------------------|
| Output Rating value (0 °C~40 °C) | voltage | 0 ~60V | 0 ~60V | 0 ~60V | 0 ~60V | 0 ~150V |
| | current | 0~5A | 0~10A | 0~15A | 0~25A | 0~10A |
| | power | 100W | 200W | 360W | 600W | 600W |
| Load regulation± (%of output+offset) | voltage | <0.01%+3mV | ≤0.01%+5mV | ≤0.01%+8mV | ≤0.01%+15mV | ≤ 0.01%+15mV |
| | current | ≤0.05%+2mA | ≤0.05%+4mA | ≤0.05%+6mA | ≤0.1%+10mA | ≤ 0.05%+10mA |
| Line regulation ± (%of output+offset) | voltage | <0.01%+3mV | ≤0.01%+5mV | ≤0.01%+8mV | ≤0.01%+15mV | ≤ 0.01%+15mV |
| | current | ≤0.05%+2mA | ≤0.05%+4mA | ≤0.05%+6mA | ≤0.1%+10mA | ≤ 0.05%+10mA |
| Setup resolution | voltage | 1mV | 1mV | 1mV | 1mV | 1mV (<100V)10mV (>100V) |
| | current | 0.1mA | 0.1mA | 0.1mA | 0.1mA | 0.1mA |
| Readback resolution | voltage | 1mV | 1mV | 1mV | 1mV | 1mV (<100V)10mV (>100V) |
| | current | 0.1mA | 0.1mA | 0.1mA(<10A)1mA(>10A) | 0.1mA(<10A)1mA(>10A) | 0.1mA |
| Setup accuracy (25°C±5°C) ±(%of output+offset) | voltage | ≤0.03%+5mV | ≤0.03%+5mV | ≤0.03%+5mV | ≤0.03%+5mV | ≤ 0.03%+20mV |
| | current | ≤0.1%+ 5mA | ≤0.1%+10mA | ≤0.1%+15mA | ≤0.1%+25mA | ≤ 0.1%+25mA |
| Readback resolution (25°C±5°C) ±(%of output+offset) | voltage | ≤0.03%+5mV | ≤0.03%+5mV | ≤0.03%+5mV | ≤0.03%+5mV | ≤ 0.03%+20mV |
| | current | ≤0.1%+ 5mA | ≤0.1%+10mA | ≤0.1%+15mA | ≤0.1%+25mA | ≤ 0.1%+25mA |
| Ripple (20Hz ~20MHz) | | ≤5mVp-p | ≤8mVp-p | ≤15mVp-p | ≤20mVp-p | ≤ 50mVp-p |
| | | ≤5mA _{rms} | ≤6mA _{rms} | ≤8mA _{rms} | ≤15mA _{rms} | ≤15mA _{rms} |
| Sample rate | | 10Hz | | | 10Hz | |
| Dimension (mm) | | 214.5mmW×88.2mmH×354.6mmD | | | 214.5mmW×88.2mmH×445mmD | |
| Weight | | 7.7Kg | | | 15Kg | |

IT6900A Dimension (Unit: mm)



- IT6932A /IT6942A :214.5mmW×88.2mmH×354.6mmD
- IT6952A /IT6953A :214.5mmW×88.2mmH×445mmD

Standard Accessories

Power Cord

Calibration Report

User Manual

IT6860A/B & IT6870A/B Dual-range Power Supply

IT6860 series are high performance single output dual range programmable DC power supplies. It built-in USB and RS232 interfaces, supporting fast and stable programming procedures. With high resolution of 1mV/0.1mA. They are designed to meet the needs of R&D design verification, production testing, QA verifications and other applications.

■ Features

- Dual range output
- Bright VFD display
- Convenient data entry via knob or numerical key pad
- High accuracy and high resolution
- Low ripple and low noise
- Intelligent fan control, energy conservation, noise reduction
- Output voltage and current values accordance with procedure
- Timer function (0.1~9999.9S)
- Built-in RS232/USB communication interface
- Support SCPI command, compatible IT6800 format protocol



IT6860A

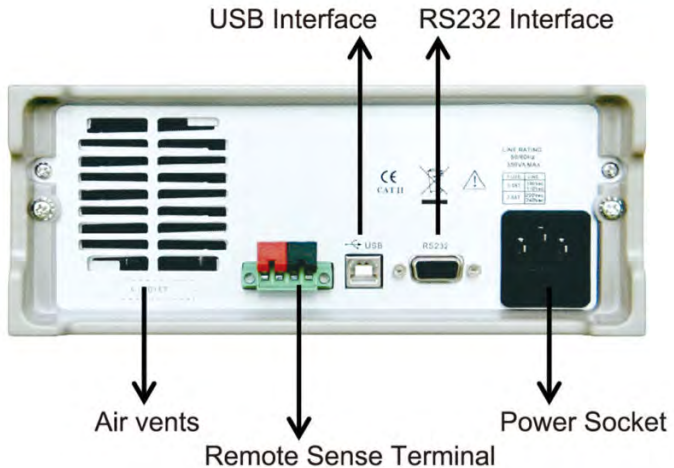
Dual-range Output

Take IT6862A as an example:
 • High voltage range: 0-32V, 3A
 • Low voltage range: 0-12V, 6A
 IT6800A series power supplies give you the flexibility to select from dual output ranges. Normally, if user purchase a 32V/3A/96W power supply, the current working range is limited to 3A. But for IT6862A, user could get a high current working limitation by switch the working range. This feature greatly saves customer's cost.

| Model | Voltage | Current |
|---------|----------|---------|
| IT6861A | 20V/8V | 5A/9A |
| IT6862A | 32V/12V | 3A/6A |
| IT6863A | 72V/32V | 1.5A/3A |
| IT6872A | 32V/15V | 4A/7A |
| IT6873A | 75V/32V | 2A/4A |
| IT6874A | 150V/60V | 1.2A/2A |

*IT6860B series power supplies have built-in GPIB, RS232 and USB interfaces

Rear Panel Of IT6860A



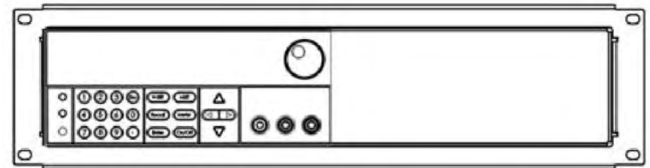
*Compared to IT6860A series power supplies, IT6860B series has add GPIB interface besides built-in RS232 and USB interface.

Specifications

| | | IT6861A | IT6862A | IT6863A | IT6872A | IT6873A | IT6874A |
|-----------------------|---------------|--------------------------|--------------------------|---------------------|-------------------|-------------------|------------------------|
| Output Ratings | | 0-20V,5A/0-8V,9A | 0-32V,3A/0-12V,6A | 0-72V,1.5A/0-32V,3A | 0-35V,4A/0-15V,7A | 0-75V,2A/0-32V,4A | 0-150V 1,2A/0-60V 2A |
| Load Regulation | Voltage | ≤0.01%+4mV | ≤0.01%+3mV | ≤0.01%+3mV | ≤0.01%+5mV | ≤0.01%+4mV | ≤0.01%+4mV |
| | Current | ≤0.01%+2mA | ≤0.01%+2mA | ≤0.01%+2mA | ≤0.01%+3mA | ≤0.01%+2mA | ≤0.01%+2mA |
| Line Regulation | Voltage | ≤0.01%+4mV | ≤0.01%+3mV | ≤0.01%+3mV | ≤0.01%+5mV | ≤0.01%+4mV | ≤0.01%+4mV |
| | Current | ≤0.01%+2mA | ≤0.01%+2mA | ≤0.01%+2mA | ≤0.01%+3mA | ≤0.01%+2mA | ≤0.01%+2mA |
| Setup Resolution | Voltage | 1mV | 1mV | 1mV | 1mV | 1mV | 1mV(<100V) 10mV(≥100V) |
| | Current | 0.1mA | 0.1mA | 0.1mA | 0.1mA | 0.1mA | 0.1mA |
| Read Back Resolution | Voltage | 1mV | 1mV | 1mV | 1mV | 1mV | 1mV(<100V) 10mV(≥100V) |
| | Current | 0.1mA | 0.1mA | 0.1mA | 0.1mA | 0.1mA | 0.1mA |
| Setup Accuracy | Voltage | ≤0.04%+8mV | ≤0.04%+8mV | ≤0.04%+8mV | ≤0.04%+8mV | ≤0.04%+8mV | ≤0.05%+20mV |
| | Current | ≤0.1%+5mA | ≤0.1%+5mA | ≤0.1%+5mA | ≤0.1%+5mA | ≤0.1%+5mA | ≤0.1%+5mA |
| Read Back Accuracy | Voltage | ≤0.04%+8mV | ≤0.04%+8mV | ≤0.04%+8mV | ≤0.04%+8mV | ≤0.04%+8mV | ≤0.05%+20mV |
| | Current | ≤0.1%+5mA | ≤0.1%+5mA | ≤0.1%+5mA | ≤0.1%+5mA | ≤0.1%+5mA | ≤0.1%+5mA |
| Ripple (20Hz-20MHz) | DMV | ≤2mVp-p/0.5mVrms(20V/5A) | ≤3mVp-p/0.5mVrms(32V/3A) | ≤3mVp-p/1mVrms | ≤3mVp-p/1mVrms | ≤3mVp-p/1mVrms | ≤5mVp-p/1.5mVrms |
| | | ≤3mVp-p/1mVrms(8V/9A) | ≤4mVp-p/1mVrms(12V/6A) | ≤3mVp-p/1mVrms | ≤3mVp-p/1mVrms | ≤3mVp-p/1mVrms | ≤5mVp-p/1.5mVrms |
| | DMA | <9 mArms | <7mArms | <6mArms | <6mArms | <6mArms | <6mArms |
| | CMA | <1.5μArms | <1.5μArms | <1.5μArms | <1.5μArms | <1.5μArms | <1.5μArms |
| Up Time | 10%-90% | <90ms | <90ms | <90ms | <90ms | <120ms | <150ms |
| Down Time | 90%-10% | <150ms | <200ms | <250ms | <350ms | <450ms | <2s |
| Dynamic recovery time | Recovery 75mV | <50μS | <50μS | <50μS | <50μS | <50μS | <100μS |
| Dimension (W*H*D) | Size | 214.5mm*88.2mm*354.6mm | | | | | |

Output Timer Function

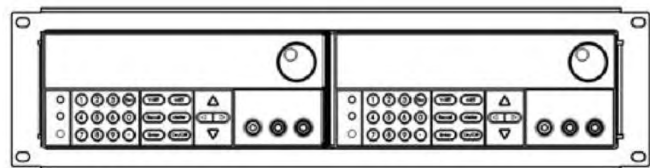
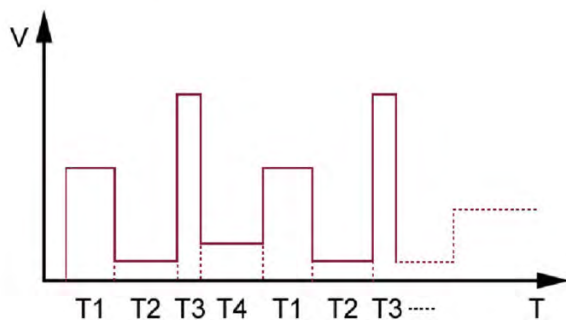
IT6860 series power supplies support output timer function. When you enable the function, the "Timer" indicator will lit on the VFD. When the output is "on", the output will turn off automatically after the time elapsed



19" installation (One unit)

List Mode

List mode allows user to create a sequence of steps, store it into the power supply's non volatile memory and execute it. 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.



19" installation (Two units)

Standard Accessories:

Power Cord

Test Report

User Manual

Optional Accessories:

IT-E151 Mounting Kit

*Note: IT6860A series power supplies have built-in RS232 and USB interfaces.



IT6122B

■ Features

- Luminous LED key
- Memory capacity: 100 groups
- High accuracy and resolution of 0.1mV/ 0.01mA
- List mode
- Timer function (0.01~60000S)
- Fast voltage rise speed (<20mS)
- Remote sense interface to compensate line voltage drop
- Built-in 5½ digital voltmeter
- Built-in RS232/USB/GPIB interface and support SCPI protocol
- OVP, voltage/current-limiting protection
- Provide free software with strong function, saving secondary development time.

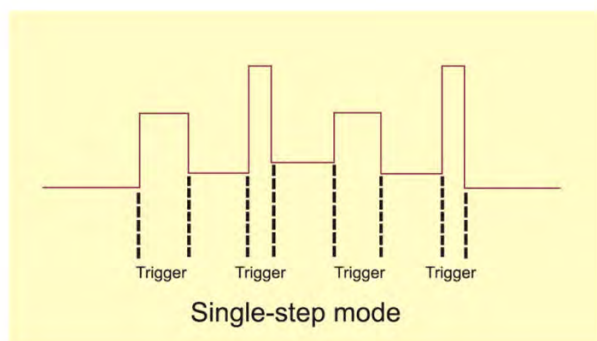
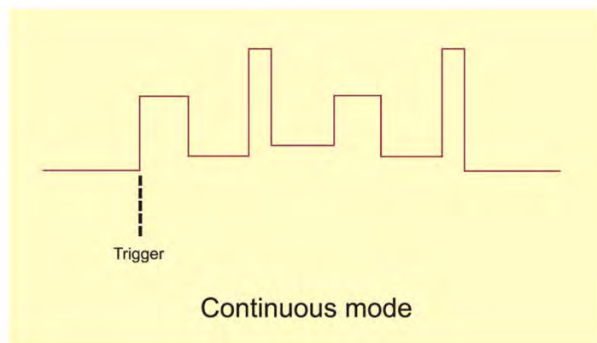
| Model | Voltage | Current | Power |
|---------|---------|---------|-------|
| IT6121B | 20V | 5A | 100W |
| IT6122B | 32V | 3A | 96W |
| IT6123B | 72V | 1.2A | 86W |
| IT6132B | 30V | 5A | 150W |
| IT6133B | 60V | 2.5A | 150W |

IT6120B High Speed And High-accuracy Programmable DC Power Supply

IT6120B (86W~150W) Series has fast voltage rising speed and high accuracy. Voltage range 20V~72V, current range 1.2A~5A, voltage rising speed (<20mS), high accuracy and resolution of 0.1mV /0.01mA, Also configure with standard RS232/USB/GPIB interface to realize fast communication speed. List configure can be operated on front panel. This series offer flexible solution to general laboratory and workshop requirement.

List Mode

List mode allows user to edit output waveform based on current/voltage with time variations. The list parameters include operating modes (continuous mode or single-step mode), recycling times, single-step voltage, single-step current, single-step time, saving file name. After the list editing is finished, when a trigger signal is received, the power supply will work according to the list steps .





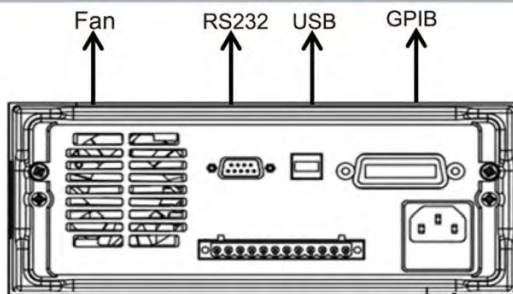
IT6120B Specifications

| | | IT6121B | IT6122B | IT6123B | IT6132B | IT6133B |
|---------------------|------------------|------------------------|--------------|--------------|--------------|---------------|
| Output Rating | Voltage | 0-20V | 0-32V | 0-72V | 0-30V | 0-60V |
| | Current | 0-5A | 0-3A | 0-1.2A | 0-5A | 0-2.5A |
| | Power | 100W | 96W | 86.4W | 150W | 150W |
| Line Resolution | Voltage | <0.01%+1mV | <0.01%+1mV | <0.01%+1mV | <0.01%+1mV | <0.01%+2mV |
| | Current | <0.05%+1mA | <0.05%+1mA | <0.05%+1mA | <0.05%+1mA | <0.05%+0.05mA |
| Load Regulation | Voltage | <0.01%+2mV | <0.01%+2mV | <0.01%+2mV | <0.01%+2mV | <0.01%+2mV |
| | Current | <0.05%+0.1mA | <0.05%+0.1mA | <0.05%+0.1mA | <0.05%+1.5mA | <0.05%+0.5mA |
| Ripple(20-7MHz) | Vpp | <3mv Vp-p | <3mv Vp-p | <4mVp-p | <4mVp-p | <5mVp-p |
| | Irms | <3mA rms | <3mA rms | <3mA rms | <4mArms | <3mArms |
| | Setup Resolution | Voltage | 1mV | 1mV | 1mV | 1mV |
| Setup Resolution | Current | 0.1mA | 0.1mA | 0.1mA | 0.1mA | 0.1mA |
| | Voltage | ±0.03%+3mV | ±0.03%+3mV | ±0.03%+6mV | ±0.03%+3mV | ±0.03%+6mV |
| Setup Accuracy | Current | ±0.05%+2mA | ±0.05%+2mA | ±0.05%+1mA | ±0.05%+2.5mA | ±0.05%+1.5mA |
| | Voltage | 0.1mV | 0.1mV | 0.1mV | 0.1mV | 0.1mV |
| Readback Resolution | Current | 0.01mA | 0.01mA | 0.01mA | 0.01mA | 0.01mA |
| | Voltage | ±0.02%+3mV | ±0.02%+3mV | ±0.02%+5mV | ±0.02%+3mV | ±0.02%+5mV |
| | Current | ±0.05%+2mA | ±0.05%+2mA | ±0.05%+1mA | ±0.05%+2.5mA | ±0.05%+1.5mA |
| Transient Response | | | | | | |
| | Load | <150uS | <150uS | <150uS | <150uS | <150uS |
| | Voltage Rise | <20mS | <20mS | <20mS | <20mS | <20mS |
| | Voltage Decend | <200mS | <150mS | <150mS | <250mS | <200mS |
| OVP | Range | 1-19V | 1-31V | 1-71V | 1-29V | 1-59V |
| | Accuracy | ±(Setup*0.5%+0.5V) | | | | |
| | Response time | <10mS | | | | |
| Size (W*H*D) | Dimension | 214.5mm*88.2mm*354.6mm | | | | |
| Weight | | 7Kg | | | | |

Digital Voltmeter

The digital milliohmmeter: IT6120B provide 4-wires resistance measurement method, measuring range: 0~1KΩ; The digital voltmeter: IT6100B provide 5 ½ voltage meter to measure external voltage, measuring range: 0~40V.

Rear Panel

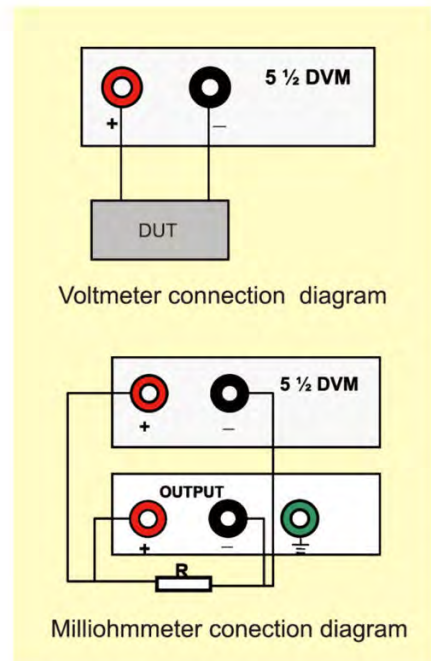


Power supply output/Remote sensing DVM input/External sensing terminals

AC power input socket

Standard Accessories

- Power Cord
- User Manual
- Calibration Report



Optional Accessories

- IT-E121 RS232 Communication Cable
- IT-E122 USB Communication Cable
- IT-E135 GPIB Communication Cable
- IT-E151 (For Under 1200W) 19-inch Rack Mount Kit



IT7321

Features

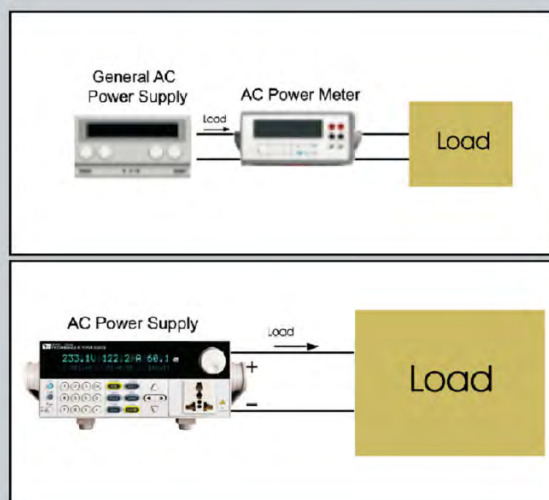
- High accuracy and resolution
- Programmable frequency:45Hz-500Hz
- Display Vrms,Irms,Ipeak,frequency,PF,apparent power and active power simultaneously
- IEC61000-4-11,IEC 61000-4-14,IEC 61000-4-28 voltage dips and frequency variation simulation
- Power line disturbance simulation capability
- Programmable voltage and current limit settings
- Dimmer function
- Turn on,turn off phase angle control(0-360°)
- TTL signal which indicates output transient
- Support front and rear panel output
- List mode to generate surge,sag and other line disturbance simulations
- Over-voltage,over-power,over-current,over-temperature protection features
- Built-in LAN,RS-232/USB interface programming with SCPI command language

| Model | Specification |
|--------|---------------|
| IT7321 | 300V/3A/300VA |

IT7321 AC Power Supply

IT7321 sets up the new standard for high performance AC power source. It equips with all powerful features such as power line disturbance (PLD) simulation, Dimmer and comprehensive measurement functions. IT7321 has built-in LAN / RS232 / USB communication interface. They can be applied to commercial, power electronics and military test applications from bench-top testing to mass production.

“AC power supply” + “Power meter”



Normally, when test AC products, a power meter is needed to connect between AC power supply and DUT in series. Since power meter is built-in in IT7321, users don't need to connect an extra power meter. It is not only easy for test, but also save cost.

Linear Amplifier Technology

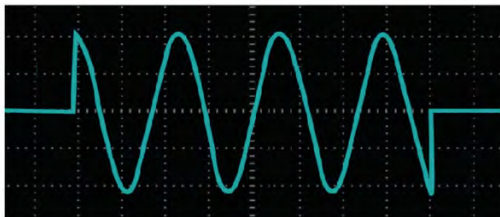
IT7321 AC source adopts latest linear technology which greatly reduce the output noise and ensure high working stability. Because of the lower ripple index, this series AC source can assist user to get a more precision measuring result.

Multi-function & High Precision Measurement

IT7321 AC source uses advanced DSP circuit to get higher precision and high-speed measurement for true RMS voltage, true RMS current, true power, frequency, power factor and peak value. In addition, its high resolution 0.01W/0.1mA extends the application for Energy Star testing standard. IT7321 is not only a AC source, but also a powerful meter.

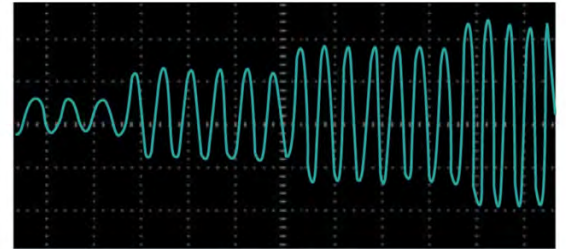
Adjustable Phase Angle

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

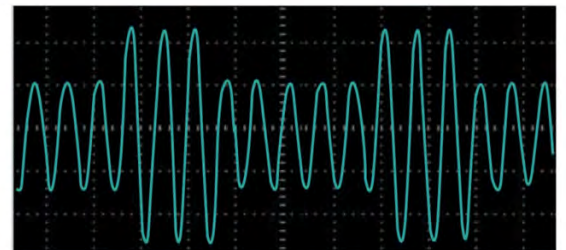


Power Line Disturbance Simulation Function

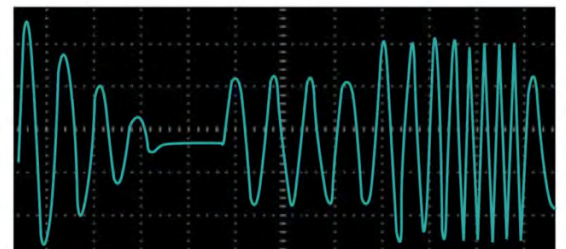
IT7321 provides powerful functions to simulate all kinds of power line disturbance conditions. The STEP and PULSE modes offer a method to execute a single step or continuous output changes. The LIST Mode, up to 100 sequences, extends this function for more complex waveform generator needs. In this way, IT7321 is capable of simulating all sorts of voltage dips, surge or trapped wave. The IT7321 enables users to perform the pre-compliance tests against IEC 61000-4-11 and compliance test against IEC 61000-4-14/4-28 immunity test regulations.



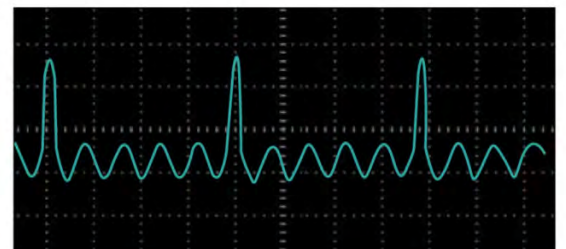
Step Mode



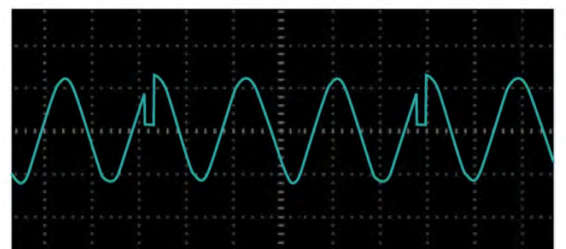
Pulse Mode



List Mode



Surge Waveform



Trap Wave

Built-in Communication Interface

An easy-to use rotary knob and self-guiding keypads allow you to set the output at your desired value without any effort. In addition, IT7321 AC source has built-in RS232/USB/GPIB/LAN interface, providing customer high speed and stable communication quality.

Built-in Communication Interface

IT7000 software offers sweep test, list test, quick setting, phase dimmer test, report and save the data.

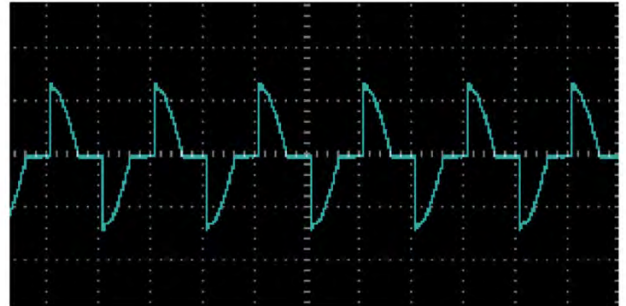


High Stability

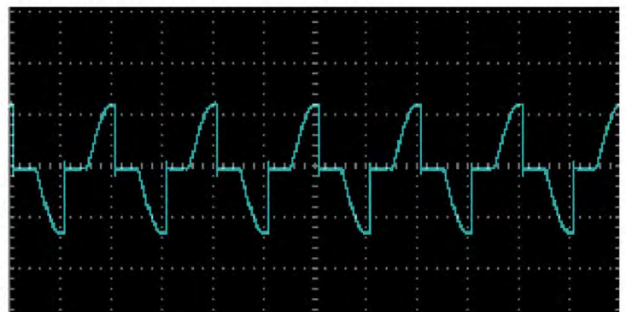
Based on professional high anti-environment disturbance technology, self-diagnosis design and OCP/OPP/OTP protections, this series power supply could work well even in bad environment. IT7321 AC power supply assists engineer to ensure quality for products.

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.



Front Phase Dimmer



Back Phase Dimmer

SWEEP Function

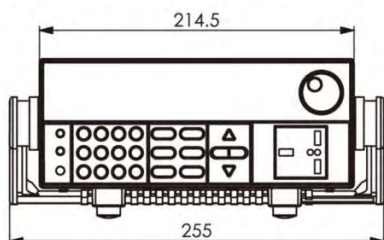
This function tests efficiency of switch power supply and gets voltage and frequency value at max power. It could change voltage and frequency by setting start voltage value, end voltage value, stepping voltage value, start frequency, end frequency, stepping frequency and time of each step. Time unit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



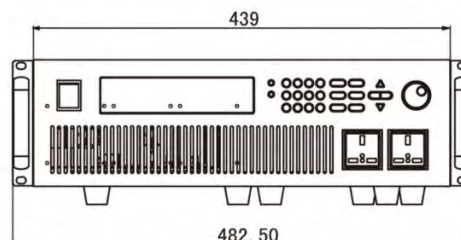
Specification

| | | Basic Products | | High Performance Products | |
|----------------------------------|------------|---|---|---|--|
| | | IT7321 | IT7322 | IT7324 | IT7326 |
| INPUT | | | | | |
| Phase | | 1 | 1 | 1 | 1 |
| Voltage | | 220 Vac/110 Vac±10% | 220 Vac/110 Vac±10% | 220Vac/110Vac±10% | 220 Vac±10% |
| Frequency | | 47-63 Hz | 47-63 Hz | 47-63 Hz | 47-63 Hz |
| Max. Current | | 6.3 A(220Vac)/10 A(110Vac) | 15 A (220 Vac) / 30 A (110 Vac) | 30 A (220Vac) / 60 A (110Vac) | 60A |
| Power Factor | | 0.5 (typical) | 0.7 (typical) | 0.7(typical) | 0.7(typical) |
| AC OUTPUT | | | | | |
| Max. Power | | 300 VA | 750 VA | 1500 VA | 3000 VA |
| Max Current(rms) | 0-150 V | 3.0 A | 6 A (0-150 V) | 12 A(0-150 V) | 24 A(0-150 V) |
| | 0-300 V | 1.5 A | 3 A (0-300 V) | 6 A(0-300 V) | 12 A(0-300 V) |
| Max Current(peak) | 0-150 V | 12 A | 24 A (0-150 V) | 48 A (0-150 V) | 96 A (0-150 V) |
| | 0-300 V | 6 A | 12 A (0-300 V) | 24 A(0-300 V) | 48 A(0-300 V) |
| Phase | | 1Φ/3W | 1Φ/3W | 1Φ/3W | 1Φ/3W |
| Total Harmonic Distortion(T.H.D) | | ≤0.5% at 45-500 Hz (Resistive Load) | | | |
| Crest Factor | | ≤4 | | | |
| Line Regulation | | 0.1% max for a ±10% line change | | | |
| Load Regulation | | ≤0.5%FS (Resistive Load) | | | |
| Response Time | | <100µS | | | |
| SETTING | | | | | |
| | Range | 0-300V, 150/300V Auto | | | |
| Voltage | Resolution | 0.1 V | | | |
| | Accuracy | ±(0.2% +0.6 V) | | | |
| Frequency | Range | 45-500 Hz | | | |
| | Resolution | 0.1Hz at 45-99.9Hz 1Hz at 100-500Hz | | | |
| | Accuracy | 0.1 Hz | | | |
| Phase Angle | Range | 0-360° | | | |
| | Accuracy | ±1°(45-65 Hz) | | | |
| MEASUREMENT | | | | | |
| Voltage(rms) | Range | 0-300 V | | | |
| | Resolution | 0.1 V | | | |
| | Accuracy | ±(0.2% + 0.6V) | | | |
| Current(rms) | Range | L:120.0mA/M:1.200A/H:3A | L:1200 mA/M:1200 A/H:6A | L:1200mA / M:1200A / H:12A | L:1200mA/M:1200A / H:24A |
| | Resolution | L:0.1m A/M: 1mA/H: 10 mA | | | |
| Current(peak) | Accuracy | L:±(0.2%+0.6mA) M:±(0.2%+6mA) H:±(0.2%+40mA) | L: ±(0.2%+0.6mA) M: ±(0.2%+6 mA) H: ±(0.2%+60 mA) | L:±(0.2%+0.6 mA) M:±(0.2%+6 mA) H:±(0.2%+80 mA) | L:±(0.2%+0.6 mA) M:±(0.2%+6 mA) H:±(0.2%+0.1 A) |
| | Range | 0-12A | 0-24 A | 0-48 A | 0-96 A |
| | Resolution | 0.01A | 0.01 A | 0.01 A | 0.01 A |
| Power | Accuracy | ±(1%+360 mA) | | | |
| | Resolution | L:0.01W M:0.1W H:1W | L:0.01 W M:0.1 W H: 1 W | L:0.01W M:0.1W H:1W | L:0.01W M:0.1W H:1W |
| Accuracy | | L:±(0.2%+0.2W) (47Hz-65 Hz) M:±(0.2%+2W) (47Hz-65 Hz) H:±(0.2%+ 4W) (47Hz-65Hz) | L:±(0.2%+0.2W) (47Hz-65 Hz) M:±(0.2%+ 2W) (47Hz-65 Hz) H:±(0.2%+ 6W) (47Hz-65 Hz) | L:±(0.2%+0.2W) (47Hz-65 Hz) M:±(0.2%+2W) (47Hz-65 Hz) H:±(0.2%+ 10W) (47Hz-65 Hz) | L:±(0.2%+0.2 W) (47 Hz-65 Hz) M:±(0.2%+2 W) (47 Hz-65 Hz) H:±(0.2%+ 15W) (47Hz-65Hz) |
| | | | | | |
| | | | | | |
| GENERAL | | | | | |
| Memory | | 10 memories | | | |
| Sync Output Signal | | Output Signal 5V,BNC type | | | |
| Operation Environment | | 0-40°C/20-80%RH | | | |
| Dimension | | ½19" 2U | 19" 3U | 19" 3U | 19" 6U |
| Interface | | LAN/USB/RS232 | LAN/USB/RS232/GPIB | LAN/USB/RS232/GPIB | LAN/USB/RS232/GPIB |

*There are three levels of current, L-level, M-level and H-level. If Ipeak>300%(Full rms), low level will change to high level; if Ipeak<20%(full rms), M-level will change to L-level; if Ipeak<80%(full rms), H-level will change to M-level.



IT7321 Dimension



IT7322/IT7324 Dimension

Unit: mm

Specification

| | | High Performance Products | | |
|----------------------------------|------------|--|--|---|
| | | IT7322H | IT7324H | IT7326H |
| INPUT | | | | |
| Phase | | 1 | 1 | 1 |
| Voltage | | 220 110 Vac±10% | 220 110 Vac±10% | 220Vac±10% |
| Frequency | | 47-63 Hz | 47-63 Hz | 47-63 Hz |
| Max.Current | | 15A(220Vac)/30A(110Vac) | 30A(220Vac)/60A(110Vac) | 60 A |
| Power Factor | | 0.7(typical) | 0.7(typical) | 0.7(typical) |
| AC OUTPUT | | | | |
| Max.Power | | 750 VA | 1500 VA | 3000 VA |
| Max Current(rms) | 0-250V | 3.0 A | 6 A | 12 A |
| | 0-500V | 1.5 A | 3 A | 6 A |
| Max Current(peak) | 0-250V | 12 A | 24 A | 48 A |
| | 0-500V | 6 A | 12 A | 24 A |
| Phase | | 1Φ/3W | 1Φ/3W | 1Φ/2W |
| Total Harmonic Distortion(T.H.D) | | | ≤1% at 45-500 Hz (Resistive Load) | |
| Crest Factor | | | ≤4 | |
| Line Regulation | | | 0.1% max for a ±10% line change | |
| Load Regulation | | | ≤0.5% FS (Resistive Load) | |
| Response Time | | | <100 μS | |
| SETTING | | | | |
| | Range | 0-500V, 250/500V Auto | | |
| Voltage | Resolution | 0.1V | | |
| | Accuracy | ±(0.2%+1.2 V) | ±(0.2% + 0.6V) | ±(0.2% + 0.6V) |
| Frequency | Range | 45-500Hz | | |
| | Resolution | 0.1Hz at 45-99.9Hz 1Hz at 100-500Hz | | |
| | Accuracy | 0.1Hz | | |
| Phase Angle | Range | 0-360° | | |
| | Resolution | 0.1° | | |
| | Accuracy | ±1°(45-65Hz) | | |
| MEASUREMENT | | | | |
| Voltage(rms) | Range | 0-500 V | 0-500V | 0-500V |
| | Resolution | 0.1 V | 0.1V | 0.1V |
| | Accuracy | ±(0.2%+1.2 V) | ±(0.2% + 0.6 V) | ±(0.2% + 0.6V) |
| Current(rms) | Range | L:120.0mA * M:1.200A * H:3.00A * | L:120.0mA/ M:1.200A/ H:6.00A | L:240.0mA/ M:2.400A/ H:24.00A |
| | Resolution | L:0.1mA M:1mA H:10mA | L:0.1mA/ M:1mA/ H:10 mA | L:0.1mA/ M:1mA/ H:10 mA |
| | Accuracy | L:±(0.2%+0.6 mA) M:±(0.2%+6 mA) H:±(0.2%+40 mA) | L: ±(0.2%+0.4 mA) M: ±(0.2%+6 mA) H: ±(0.2%+60 mA) | L:±(0.2%+0.6 mA) M:±(0.2%+6 mA) H:±(0.2%+40 mA) |
| Current(peak) | Range | 0-12 A | 0-24 A | 0-48 A |
| | Resolution | 0.01 A | 0.01 A | 0.01 A |
| | Accuracy | ±(1%+360 mA) | ±(1%+360 mA) | ±(1%+120 mA) |
| Power | Resolution | L:0.01W M:0.1W H:1W | L:0.01W M:0.1W H:1W | L:0.01W M:0.1W H:1W |
| | Accuracy | L: ±(0.2%+0.2W) (47Hz-65 Hz) M: ±(0.2%+2W) (47Hz-65 Hz) H: ±(0.2%+6W) (47Hz-65 Hz) | L: ±(0.2%+0.2W) (47Hz-65Hz) M: ±(0.2%+2W) (47Hz-65Hz) H: ±(0.2%+10W) (47Hz-65Hz) | L:±(0.2%+0.05W) (47Hz-65Hz) M:±(0.2%+0.5W) (47Hz-65Hz) H:±(0.2%+2W) (47Hz-65Hz) |
| GENERAL | | | | |
| Memory | | 10 memories | | |
| Sync Output Signal | | Output Signal 5V,BNC type | | |
| Operation Environment | | 0-40°C/20-80%RH | | |
| Dimension | | 19" 3U | 19" 3U | 19" 6U |
| Interface | | LAN/USB/RS232/GPIB | LAN/USB/RS232/GPIB | LAN/USB/RS232/GPIB |

*There are three levels of current, L-level, M-level and H-level. If $I_{peak} > 300\%$ (Full rms), low level will change to high level; if $I_{peak} < 20\%$ (full rms), M-level will change to L-level; if $I_{peak} < 80\%$ (full rms), H-level will change to M-level.



Standard Accessories

Power Cord

Calibration Report

User Manual


IT9121E Power Analyzer

IT9121E Power Analyzer

The IT9121E power analyzer can provide the maximum input of 600Vrms and 20Arms and measurement bandwidth of 100kHz, and can be easily used for measuring the voltage, current, power, frequency, harmonics and other parameters. The standard configuration includes USB, GPIB, RS232 and LAN communication interfaces and also interfaces for USB-based peripheral devices. The user can save the measured parameters into the external storage medium. The basic voltage and current accuracy is 0.1%. Moreover, the power meter has rich integrating functions, such as the active power. It is widely applied in test of motors, household appliances, UPS, etc.

■ Features

- 4.3-inch color LCD (TFT)
- The row number of matrix displayed on the screen can be set freely and common measurement parameters can be displayed.
- Input range: 600Vrms / 20Arms
- The voltage, current, power, harmonics and other parameters can be measured at the same time.
- The accuracy of voltage and current measurement is up to 0.1%.
- The power analyzer has a function of harmonic measurement, and can be used for measuring up to 50th harmonics.
- The interfaces for USB-based peripheral devices are provided, and the user can save data into the external storage medium.
- The power analyzer has rich and powerful integrating functions, and can be used for measuring electric energy which is bought or sold.
- The power analyzer also has a function of frequency measurement.
- Standard built-in USB, GPIB, RS232 and Ethernet communication interfaces.

Communication Interface

The standard configuration of the IT9121E power analyzer includes, the USB, GPIB, RS232 and Ethernet communication interfaces. Remote control of the power analyzer can be realized via these interfaces. In addition, IT9121E is also equipped with a USB-Host interface for connection of U discs and other devices, and the user can save screenshots into the U disc.

Rich Measurement Functions

The IT9121E power analyzer can measure all AC and DC parameters, including the active power, reactive power, apparent power, power factor, voltage, current, frequency, phase difference, etc. It also has the function of integral measurement and up to 50th harmonic measurement, and can display single harmonic components. It is widely applied in tests of motors, household PCB, UPS, etc.

Current Transducer Input

The IT9121E power analyzer can be used for measuring the voltage of 0-600V and current of 0-20A. For measurement of the current above 20A, the voltage input type current clamp or current transducer can be applied. When IT9121 is used, the user can select the range of 50m V-2V (EX1) or 2.5V-10V (EXT2).



Integral Measurement Function

Due to the power integral function, the sold/bought electric energy in the interconnected power grids can be measured. The IT9121E power analyzer can provide the current integral and active power integral (Wh). Automatic range switching and accurate integral measurement can be carried out in the Buy and Sell mode, according to the input level.



TFT High-resolution LCD

IT9121E 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 IT9121E power meter provides multiple interface display styles (View1, View4 and View12). The user can customize the screen display parameter type and display sequence, and roll over the screen display via the keys "Left" and "Right". The humane design meets engineers' measurement demands in different tests.



Application Advantages

■ Power quality analysis of UPS

As an important backup power supply in the communication industry, the steady-state properties, dynamic properties, power quality and other parameters of UPS should be analyzed. Due to internal nonlinear devices, a large number of harmonic components will be produced during operation of the UPS power supply, which may cause interference to the operation of the communication system. The IT9121E power analyzer can measure the AC/DC signal, power factor, harmonics, frequency, distortion factor and other parameters, and the power properties of UPS can be analyzed systematically and comprehensively.



■ Performance test of household electrical appliances

Along with the large-scale promotion of the concept of reasonable and environment-friendly energy, more and more household electrical appliances adopt the variable frequency control technology to reduce power consumption. The IT9121E power analyzer can measure the inrush current, active power, crest factor and other parameters.



General Specification

| | |
|----------------------------------|---|
| Model | IT9121E |
| AC input voltage | 100 VAC – 240 VAC 50 / 60 Hz |
| Warm-up time | Apporx 30 minutes |
| Operating environment | Temperature : 5°C – 40°C Humidity : 20 % RH – 80 % RH (No condensation) Altitude : 2000 m or less 2000 m |
| Storage environment | Temperature : – 20°C – 50°C Humidity : 20 % RH – 80 % RH (No condensation) Altitude : 2000 m or less 2000 m |
| Installation | Indoors |
| Safety | IEC 61010–1, EN 61010–1, Measurement CAT II |
| Maximum power consumption | 50 VA |

Screen Display

Detailed Information

| | |
|---------------------|---|
| Display type | Dimension : 4.3-inch color LCD (TFT) Full screen pixel : 480 (horizontal) *272 (vertical) points Waveform display pixel : 384 (horizontal) *194 (vertical) points Operating temperature: -20°C ~ 70°C Storage temperature: -30°C ~ 80°C Value display : matrix display |
|---------------------|---|

Input

| Item | Specifications |
|---|---|
| Input terminal type | voltage ; plug-in terminal (safety terminal) |
| Input type | Current Direct input: large binding post External current sensor input DB9 connector |
| Input type | Voltage: Floating input through resistive voltage divider Current: Floating input through shunt |
| Measure range | Voltage : 15V, 30V, 60V, 150V, 300V, 600V current : Direct input : 5mA, 10mA, 20mA, 50mA, 100mA, 200mA, 0.5A, 1A, 2A, 5A, 10A, 20A Sensor input : EX1: 50mV, 100mV, 200mV, 500mV, 1V, 2V; EX2: 2.5V, 5V, 10 V. |
| Input impedance | Voltage: Input resistance: Approx. 2MΩ, input capacitace: Approx. 13pF (in parallel with the resistance) current: <ul style="list-style-type: none"> • Direct input range 5 mA ~ 200 mA: Input resistance: Appro x 505 mΩ Input inductance: Appro x 0.1 μH • Direct input range 0.5A ~ 20 A: Input resistance: Appro x 5 mΩ Input inductance: Appro x 0.1 μH • Sensor input: Input resistance: Appro x 100 kΩ (2.5 V ~ 10 V) Input resistance: Appro x 20 kΩ (50 mV ~ 2 V) |
| Continuous maximum allowable input | Voltage: peak value of 1.5 kV or RMS value of 1 kV, whichever is less current: <ul style="list-style-type: none"> • Direct input range 5 mA ~ 200 mA: peak value of 30 A or RMS value of 20 A, whichever is less • Direct input range 0.5 A ~ 20 A: peak value of 100 A or RMS value of 30 A, whichever is less • Sensor input : Peak value less than or equal to 5 times of the rated range |
| Instantaneous maximum allowable input (1s) | Voltage: peak value of 2 kV or RMS value of 1.5 kV, whichever is less |

| | |
|---|--|
| Instantaneous maximum allowable input (1s) | Current: <ul style="list-style-type: none"> • Direct input range 5 mA ~ 200 mA: peak value of 30 A or RMS value of 20 A, whichever is less • Direct input range 0.5 A ~ 20 A: peak value of 150A or RMS value of 40 A, whichever is less Sensor input : <ul style="list-style-type: none"> • Peak value less than or equal to 10 times of the rated range |
| Input bandwidth | DC, 0.5 Hz ~ 1 MHz |
| Continuous maximum Common-mode voltage | 600 Vrms, CAT II |
| Line filter | select OFF, cut off frequency of 500 Hz |
| Frequency filter | select OFF, cut off frequency of 500 Hz |
| Range | range of each unit can be set separately |
| A/D converter | Simultaneous conversion voltage an current inputs Resolution: 18-bit Maximum conversion rate: 10 μs |

Voltage And Current Accuracy

| Item | Specifications |
|---------------------|---|
| Requirements | temperature : 23 ± 5° C, humidity : 30 ~ 75 % RH. Input waveform: Sine wave crest factor: 3, common-mode voltage: 0 V Number of displayed digits: 5 digits (6 digits when including the decimal point) Frequency filter : Turn on to measure voltage or current of 200 Hz or 30 minutes after warm-up time has passed After zero-level compensation or measurement range is changed |
| Accuracy | DC: ± (0.1% of reading + 0.2% of range) 0.5 Hz ≤ f < 45 Hz : ± (0.1 % of reading + 0.2 % of range) 45 Hz ≤ f ≤ 66 Hz : ± (0.1 % of reading + 0.2 % of range) 66 Hz < f ≤ 1k Hz : ± (0.1 % of reading + 0.2 % of range) 1 kHz < f ≤ 10 kHz : (0.1 % of reading + 0.2 % of range) ± (0.07*f) % of reading + 0.3 % of range 10 kHz < f ≤ 100 kHz: ± (0.5 % of reading + 0.5 % of range) ± [(0.04 × (f-10)) % of reading] |

Active Power Accuracy

| Item | Specifications |
|---|---|
| Requirements | same as the conditions for voltage and current. Power factor: 1 |
| Accuracy | DC: (0.1 % of reading + 0.2 % of range) 0.5 Hz ≤ f < 45 Hz : ± (0.3 % of reading + 0.2 % of range) 45 Hz ≤ f ≤ 66Hz : ± (0.1 % of reading + 0.1 % of range) 66 Hz < f ≤ 1kHz : ± (0.2 % of reading + 0.2 % of range) 1 kHz < f ≤ 10 kHz: ± (0.1 % of reading + 0.3 % of range) ± [(0.067×(f-1)) % of reading] 10 kHz < f ≤ 100 kHz: ± (0.5 % of reading + 0.5 % of range) ± [(0.09×(f-10)) % of reading] |
| Influence of power factor | when power factor (λ)=0 (S: apparent power) <ul style="list-style-type: none"> • ± 0.2 % of S for 45 Hz ≤ f ≤ 66 Hz • ± [(0.2 + 0.2 × f) % of S] for up to 100 kHz as reference data f is frequency of input signal in kHz when 0 < λ < 1 (Φ: phase angle of the Voltage and current) (power reading) × [(power reading error%) + (power range %) × (power range / indicated apparent power value) + (tanΦ × (influence when λ=0) %)] |
| When the line filter is turned ON | 45 ~ 66 Hz: Add 0.3 % of reading < 45 Hz: Add 1 % of reading |
| Temperature coefficient | same as the temperature coefficient for voltage and current |
| Accuracy when the crest factor is set to 6 | accuracy obtained by doubling the measurement range error for the accuracy when the crest factor is set to 3 |
| Accuracy of apparent power S | voltage accuracy + current accuracy |
| Accuracy of reactive power Q | accuracy of apparent power + (√(1.0004 - λ ²) - (√(1 - λ ²)) × 100 % |

| | |
|-------------------------------------|---|
| Accuracy of power factor λ | $\pm [(\lambda - 1/1.0002) + \cos\theta - \cos(\theta + \sin^{-1}(\lambda - 1/1.0002))]$ (influence from the power factor when $\lambda = 0\%/100$) ± 1 digit when voltage and current are at the measurement range rated input |
| Accuracy of phase difference Φ | $\pm [\theta - \cos^{-1}(\lambda/1.0002) + \sin^{-1}(\lambda - 1/1.0002)]$ (influence from the power factor when $\lambda = 0\%/100$) ± 1 digit when voltage and current are at the measurement range rated input |

Voltage, Current And Power Measurements

| | |
|--------------------|--|
| Item | Specifications |
| Measurement method | Digital sampling method |
| Crest factor | 3 or 6 |
| Wiring system | (one element model): single-phase, two-wire (1 P2 W) |
| Range select | select manual or auto ranging |
| Auto range | Range increase Range decline |

| | Name | Symbols And Meanings |
|------------------------------------|--|--|
| Measurement parameters | Voltage current | Select RMS (the effective RMS value of voltage and current) - MEAN: (the rectified mean value calibrated to the RMS value of the voltage and the true RMS value of the current) - RMN (rectified mean value of voltage and current DC: (simple average of voltage and current) - AC: alternating current - PP: (peak value of voltage and peak value of current) |
| | Active power [W] | P |
| | Reactive power [var] | Q |
| | Apparent power [VA] | S |
| | Power factor | λ |
| | Phase difference (°) | ϕ |
| | Frequency (Hz) | fU (FreqU): voltage frequency fI (FreqI): current frequency |
| | Max/mix of voltage (V) | Upk+: voltage positive peak Upk-: voltage negative peak |
| | Max/mix of current (A) | Ipk+: current positive peak Ipk-: current negative peak |
| | Crest factor | CfU: crest factor of voltage CfI: crest factor of current |
| Integration | TM: integration time - WP+: sum of positive and negative watt hour - WP-: positive power sum - WP-: negative power sum - q: sum of positive and negative ampere-hour - q+: positive ampere-hour sum - q-: negative ampere-hour sum | |
| Measurement synchronization source | Select voltage, current, or the entire period of the data update interval for the signal used to achieve synchronization during measurement. | |
| Line filter | Select OFF or ON (cutoff frequency at 500 Hz) | |
| Peak measurement | Measures the peak (max, min) value of voltage, current or power from the instantaneous current or instantaneous power that is sampled. | |

Frequency Measurement

| | | |
|------------------|---|--------------------------------|
| Item | Specifications | |
| Measurement item | Voltage or current frequencies applied to one selected input element can be measured | |
| Frequency filter | Varies depending on the data update interval (see description given later) as follows | |
| | Data update interval | Measurement range |
| | 0.1 s | 25 Hz \leq f \leq 100 kHz |
| | 0.25 s | 10 Hz \leq f \leq 100 kHz |
| | 0.5 s | 5 Hz \leq f \leq 100 kHz |
| | 1 s | 2.5 Hz \leq f \leq 100 kHz |
| | 2 s | 1.5 Hz \leq f \leq 50 kHz |
| 5 s | 0.5 Hz \leq f \leq 20 kHz | |
| Frequency filter | Select OFF or ON (cutoff frequency of 500 Hz) | |
| Accuracy | Requirements: When the input signal level is 30% or more of the measurement range and the crest factor is set to 3 (60% or more if the crest factor is set to 6), Frequency filter is ON when measuring voltage or current of 200Hz or less. Accuracy: \pm (0.06% of reading) | |

Harmonic Measurement

| | |
|-----------------|---|
| Measured item | All installed elements |
| Method | PLL synchronization method |
| Frequency range | Fundamental frequency of the PLL source is in the range of 10Hz to 1.2kHz |
| PLL source | Select voltage of current of each input element |
| FFT data length | 1024 |

| | Name | Symbols And Meanings |
|-----------------------|---------------------------------|---|
| measurement parameter | Voltage (V) | U(k): voltage effective value of Kth harmonic U(Total): voltage effective value |
| | Current (A) | I(k): current effective value of Kth harmonic I(Total): current effective value |
| | Active power (W) | P(k): active power of Kth harmonic P(Total): Active power |
| | Apparent power (VA) | S(k): apparent power of Kth harmonic S(Total): total apparent power |
| | Reactive power (var) | Q(k): reactive power of Kth harmonic Q(Total): total reactive power |
| | Power factor | λ (k): power factor of Kth harmonic λ (Total): Total power factor |
| | Phase difference | ϕ (k): phase difference between voltage and current of Kth harmonic ϕ U(k): voltage phase difference between Kth harmonic(UK) and fundamental wave(U1) ϕ I(k): current phase difference between Kth harmonic(IK) and fundamental wave(I1) ϕ : total phase difference |
| | Harmonic distortion factor (%) | Uhdf(k): Voltage ratio of Kth harmonic(Uk) and fundamental wave(U1) or total distortion wave(Utotal) Ihdf(k): current ratio of Kth harmonic (Ik) and fundamental wave(I1) or total distortion wave(Itotal) Phdf(k): active power ratio of Kth harmonic(Pk) and fundamental wave (P1) or total distortion wave(Ptotal) |
| | (THD) total harmonic distortion | Uthd: voltage ratio of total harmonic and fundamental wave(U1) or total distortion wave(Utotal) Ithd: current ratio of total harmonic and fundamental wave(I1) or total distortion wave(Itotal) Pthd: active power ratio of total harmonic and fundamental wave(P1) or total distortion wave(Ptotal) |
| | Window function | Rectangle |

Note: K is a integer from 0 to upper limit of harmonic analyse times. 0th means DC parameter. User can configure the maximum number of harmonic times manually or auto-decided by equipment, taking the minimum value between the two methods. IT9121 can measure up to 50th harmonic.

Fundamental Frequency

| Fundamental frequency | Sample rate | Window width | Upper limit of* analysis orders |
|-----------------------|-------------|--------------|---------------------------------|
| 10 Hz ~ 75 Hz | f * 1024 | 1 | 50 |
| 75 Hz ~ 150 Hz | f * 512 | 2 | 32 |
| 150 Hz ~ 300 Hz | f * 256 | 4 | 16 |
| 300 Hz ~ 600 Hz | f * 128 | 8 | 8 |
| 600 Hz ~ 1200 Hz | f * 64 | 16 | 4 |

*the upper limit of analysis orders can be decreased

Accuracy

*When line filter is off, the accuracy shown below is the sum of reading and range errors

| Frequency | Voltage | Current | Power |
|------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| 10 Hz \leq f < 45 Hz | 0.15% of reading + 0.35% of range | 0.15% of reading + 0.35% of range | 0.15% of reading + 0.50% of range |
| 45 Hz \leq f \leq 440 Hz | 0.15% of reading + 0.35% of range | 0.15% of reading + 0.35% of range | 0.20% of reading + 0.50% of range |
| 440 Hz < f \leq 1 kHz | 0.20% of reading + 0.35% of range | 0.20% of reading + 0.35% of range | 0.40% of reading + 0.50% of range |
| 1 kHz < f \leq 2.5 kHz | 0.80% of reading + 0.45% of range | 0.80% of reading + 0.45% of range | 1.56% of reading + 0.60% of range |
| 2.5 kHz < f \leq 5 kHz | 3.05% of reading + 0.45% of range | 3.05% of reading + 0.45% of range | 5.77% of reading + 0.60% of range |

Interfaces

- USB Interface
- Ethernet Interface
- GPIB Interface
- RS232 Interface

Standard Accessories

| |
|------------|
| Power Cord |
| CD |
| USB Cable |

Optional Accessories

| |
|---------------------|
| IT-E185 |
| IT-E301/30A/10A |
| IT-E190/25A/40A/60A |



IT-E133 GPIB communication cable,
support SCPI protocol
Applicable model: IT6800 series
IT-E134 GPIB communication cable,
support SCPI protocol
Applicable model: IT8500 series



IT-254 Keyboard
Coordinating IT8500+ series electronic
load to realize automatic testing function
Applicable model: IT8500+ series



IT-E135 GPIB communication cable,
support SCPI protocol
Applicable model: IT6100 series, IT6322



IT-E163 0-10V simulation interface
cable for monitoring and setting
Applicable model: IT8500 series



IT-253 Keyboard
Help IT8500 series electronic load to
complete Auto-test function
Applicable model: IT8500 series



IT-E30110-AB



IT-E31220-OO
IT-E32420-OO

IT-E301 Red & black wires with different specifications

| | |
|--------------|--|
| IT-E30110-AB | 10A / 1m / Alligator clips - Banana plugs |
| IT-E30110-BB | 10A / 1m / Banana plugs - Banana plugs |
| IT-E30110-BY | 10A / 1m / Banana plugs - Y-type terminals |
| IT-E30312-YY | 30A / 1.2m / Y-type terminals - Y-type terminals |
| IT-E30320-YY | 30A / 2m / Y-type terminals - Y-type terminals |
| IT-E30615-OO | 60A / 1.5m / Ring terminals - Ring terminals |
| IT-E31220-OO | 120A / 2m / Ring terminals - Ring terminals |
| IT-E32410-OO | 240A / 1m / Ring terminals - Ring terminals |
| IT-E32420-OO | 240A / 2m / Ring terminals - Ring terminals |
| IT-E33620-OO | 360A / 2m / Ring terminals - Ring terminals |



IT-E121 RS232 Communication interface,with RS232 standard communication cable
 IT-E122 USB Communication interface,with USB standard communication cable
 Applicable models: IT6800, IT6322, IT6302, IT8500+



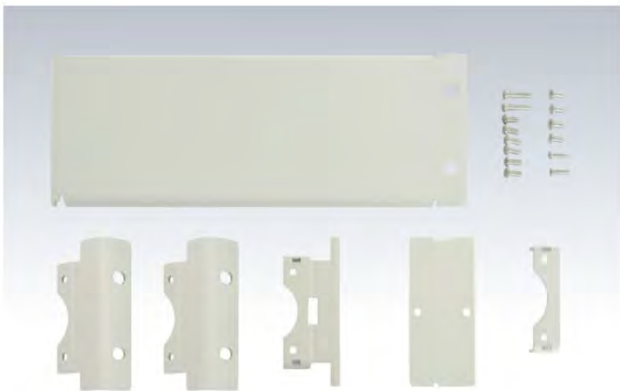
IT-E152 Rack mount kit
 Applicable models:IT8200 and IT6700 series



IT-E123 RS485 Communication interface,with RS485 interface
 Applicable models: IT8500+, IT6322, IT6800,



1/2 2U Double units installation picture



IT-E151A 19 Rack mount kit
 Applicable models : IT9121,6322A



IT-E185 The testing fixture box (250V/15A)
 Applicable model: IT9121E



IT-E190-6A Current sensor
Applicable model: IT9121E



IT-E190-15A Current sensor
Applicable model: IT9121E



IT-E190-25A Current sensor
Applicable model: IT9121E

ITECH Products Selection Guide

| IT8500+ Single Channel Electronic Load (Optional RS232/USB/GPIB interface) | |
|--|------------------------|
| Model | Specification |
| IT8511A+ | 150 V / 30 A / 150 W |
| IT8512A+ | 150 V / 30 A / 300 W |
| IT8512B+ | 500 V / 15 A / 300 W |
| IT8512H+ | 800 V / 5 A / 300 W |
| IT8512C+ | 120 V / 60 A / 300 W |
| IT8513C+ | 120 V / 120 A / 600 W |
| IT8514B+ | 500 V / 60 A / 1500 W |
| IT8514C+ | 120 V / 240 A / 1500 W |
| IT8516C+ | 120 V / 240 A / 3000 W |

| IT8200 Economic Electronic Load | |
|---------------------------------|---------------------|
| Model | Specification |
| IT8211 | 60 V / 30 A / 150 W |

* DC Power Supply

| IT6500 Auto-range DC Power Supply (Standard RS232/USB/GPIB/RS485 interface) | |
|---|---------------------|
| Model | Specification |
| IT6502D | 80 V / 60 A / 800 W |

| IT6900 Multi-function Power Supply (Standard RS232/USB/GPIB interface) | |
|--|----------------------|
| Model | Specification |
| IT6922A | 60 V / 5 A / 100 W |
| IT6932A | 60 V / 10 A / 200 W |
| IT6942A | 60 V / 15 A / 360 W |
| IT6952A | 60 V / 25 A / 600 W |
| IT6953A | 150 V / 10 A / 600 W |

| IT6860A Dual-range Power Supply (Standard RS232/USB interface) | |
|--|---------------------------------|
| Model | Specification |
| IT6861A | 20 V / 5 A / 100 W 8 V / 9A/72W |
| IT6862A | 32 V / 3 A / 96 W 12 V / 6A/72W |
| IT6863A | 72V/1.5A/108W 32V/3A/96W |
| IT6872A | 35V/4A/140W 15V/7A/105W |
| IT6873A | 75V/2A/150W 32V/4A/128W |
| IT6874A | 150V/1.2A/180W 60V/2A/120W |

| IT6860B Dual-range Power Supply (Standard RS232/USB/GPIB interface) | |
|---|----------------------------|
| 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 |

| IT6120B High Accuracy Power Supply (Standard RS232/USB/GPIB interface) | |
|--|----------------------|
| Model | Specification |
| IT6121B | 20 V / 5 A / 100 W |
| IT6122B | 32 V / 3 A / 96 W |
| IT6123B | 72 V / 1.2 A / 86 W |
| IT6132B | 30 V / 5 A / 150 W |
| IT6133B | 60 V / 2.5 A / 150 W |

| IT6300A Triple-Channel Power Supply (Standard RS232/USB interface) | |
|--|--|
| Model | Specification |
| IT6322A | 30 V / 3 A / 90 W*2 CH 5 V / 3A / 15 W*1 CH |
| IT6332A | 30 V / 6A/180W 2CH 5V/3A / 15 W*1 CH |
| IT6333A | 60 V / 3 A / 180 W*2 CH 5 V / 3 A / 15 W*1 CH |

| IT6302 Triple-Channel Power Supply (Optional RS232/USB interface) | |
|---|---|
| Model | Specification |
| IT6302 | 30 V / 3 A / 90 W*2 CH 5 V / 3 A / 15 W*1 CH |

| IT6700 Digital Control Power Supply | |
|-------------------------------------|--------------------|
| Model | Specification |
| IT6720 | 60 V / 5 A / 100 W |
| IT6721 | 60 V / 8 A / 180 W |

| *AC Power Analyzer | |
|--------------------|---------------|
| Model | Specification |
| IT7321 | 300V/3A/300VA |

| *Power Analyzer | |
|--|---------------|
| IT9100 Power Analyzer (Standard RS232/USB/GPIB/Ethernet interface) | |
| Model | Specification |
| IT9121E | 600V/20A |





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