ITS9500Power supply test system

ITS9500 power supply test system is a convenient, practical and cost-efficient test system designed for switching power supply test. This system adopts a new scheme, overcoming the shortcomings of traditional test system, which is characterized by bulky size, high price, difficult to operate and maintain. Inside the 5U size, this system can provide test results superior to traditional large cabinet test system, thus saving the space as well as the cost for customers. Thanks to the extensive product line of ITECH, users can choose the most suitable instrument to build the ITS9500 test system based on their needs, thus providing the maximum flexibility and scalability for system architecture.

ITS9500 test system can be applied for tests of products such as power supply unit, LED drive power and battery charger. The system provides over 40 test items and through the powerful automatic test software of ITS9500, users can select test items based on the characteristics of the device under test to easily complete the test process. The test software provides two types of user interface, the processional type and the simple type to easily meet varied demands of different users.

System features

The standard 5U unit integrates electronic load, programmable AC power supply, programmable DC power supply, noise analysis, time series analysis, digital electric meter, oscilloscope, I/O card and other precision instruments, and can be installed on the counter top or inside a standard cabinet.

- Best cost-effective unit
- Modular design for easy maintenance
- High measurement precision
- Over 40 test items
- Simultaneous operation of six systems at maximum
- A power supply unit which can test several single outputs at one time
- Test program management/ editing function
- Statistic report output/editing function
- Multi-level authority setting function
  - User authority setting
  - System accesses record
- BarCodeReader supported by the software
- Optional external fixture for improving test speed
- Meet the ENERGY STAR measurement specification

Test items

ITS9500 power test system provides complete test items for users, and different from traditional test system, users are not required to have program editing ability to operate the system. Users only have to choose the test items from over 40 test items provided by the system based on their needs and the system will complete the test process in order.

Input test

1、Input power disturbance test
2、AC cycle drop out test
3、Input surge current test
4、Input RMS current test
5、Input peak current test
6、Input power factor test
7、Input voltage ramp test
8、Input frequency ramp test

Protection tests

20、OV protection test
21、OL protection test
22、OP protection test
23、Short circuit protection test
24、UV protection test

Stability test

32、Power effect test
33、Load effect test
34、Mixed effect test

Special tests

35、Extended measurement test
36、Analog output control
37、PWM output control
38、Can bus read/write
39、GPIB read/write
40、RS232 read/write
41、RS485 read/write
42、I2C read/write
43、TTL signal control
44、Relay control
45、Bar code scan
46、Quick charge 2.0 test

Output test

9、DC output voltage test
10、DC output current test
11、Peak-peak noise test
12、RMS noise test
13、Current ripple test
14、Efficiency test
15、In-test adjustment test
16、Power good signal(Power good)
17、Power fail signal(Power fail)
18、P/S ON signal
19、Overshoot voltage test

Time series/dynamic tests

25、Turn on time
26、Hold-up time
27、Rise time
28、Fall time
29、Transient spike test
30、Attachment point timing test
31、output voltage(Tracking)

Small size and cost-efficiency

ITS9500 power supply test system integrates all necessary instruments for integrated switching power supply test in the limited space and is the smallest in size among similar products.
The system, different from traditional large and expensive power supply auto test system, can be used in production as well as R&D stages.

Modular design for easy maintenance

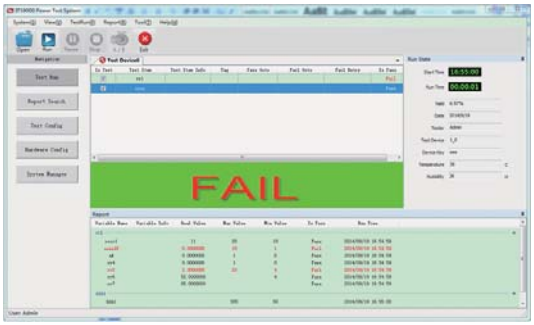
ITS9500 power supply test system adopts traditional modular design, forming an easy, and multi-functional power supply test platform. This facilitates future inspection and maintenance, and reduces the influence on the production

Easy operation and clear result display

ITS9500 test software, working together with the test system, can realize such functions as editing, operation, test, and data analysis of power test items.
ITS9500 test software supports Chinese and English and provides two types of user interface, the processional type and the simple type to easily meet varied demands of different users.

- The operation interface of the software is simple and clean with five distinctive function modules, and even users without programing ability can master the operation easily.

- The status of final test results, which is PASS or FAULT, will be highlighted on the interface to ensure a fast and accurate view for operators.

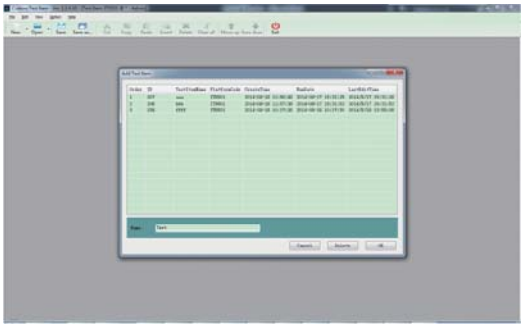


Flexible choice to meet varied demands

- Test item editing function

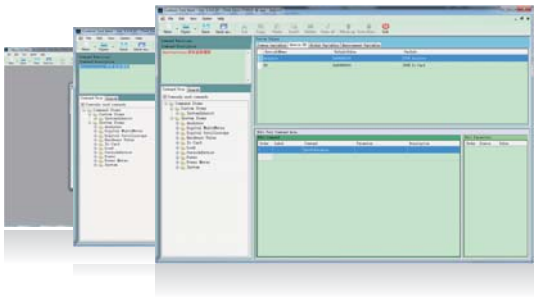
ITS9500 test system provides test item editing function. In addition to test items coming with the system, users can create new test items to meet test demands of all power supply units.

Users can also customize parameters and variables. ITS9500 system also supports filling common parameters for test items in the form of global variables in order to meet advanced test demands of users and to save test time.



Test program editing function

ITS9500 test system enables users to connect several edited test items to form a test program. The system will carry out test in order, thus significantly reducing the test time.



Support simultaneous operation of several systems

One set of ITS9500 system test software can support simultaneous operation of six systems at maximum

Comprehensive and variable analysis tools

Self-defined report template

ITS9500 test system supports users to save the test data in the form of a test report and the report format can be self-defined, thus significantly reducing time.

Report management

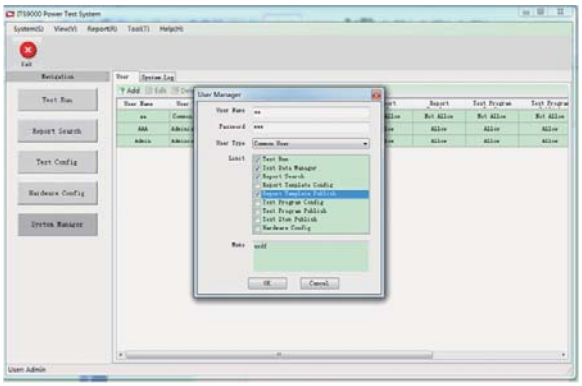
On the "Report Inquiry" interface of ITS9500 test system, user can inquire/edit/print reports by inputing the report number or scanning the bar code.

Report inquiry and analysis function interface

Perfect and safe management system

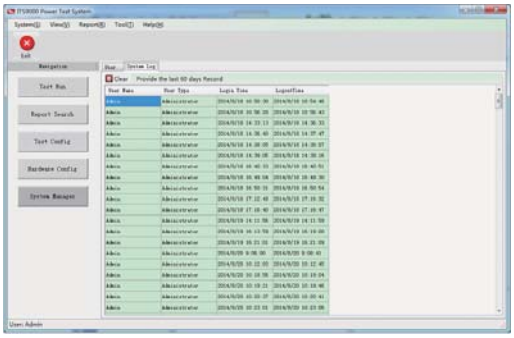
Set user authority

"User management" enables users to set authorities for different users



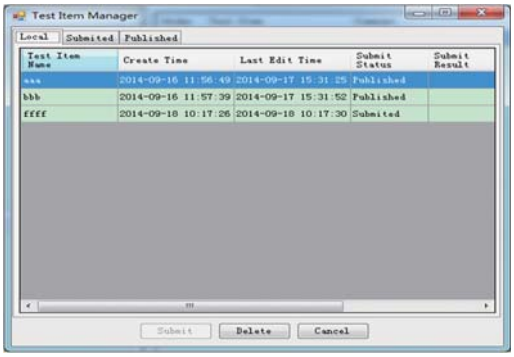
System log

The system log will record the login information of users, including user name, type, login/logoff time.



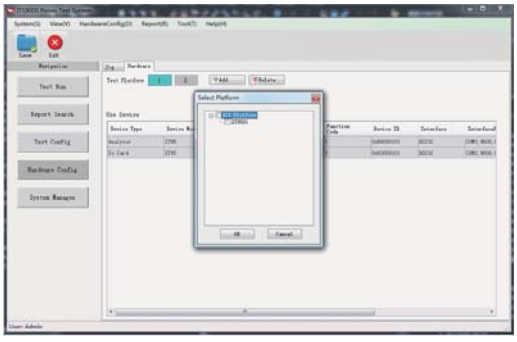
Test item/program management

Users can understand the release, review and edit of test items as well as the operation of test program.



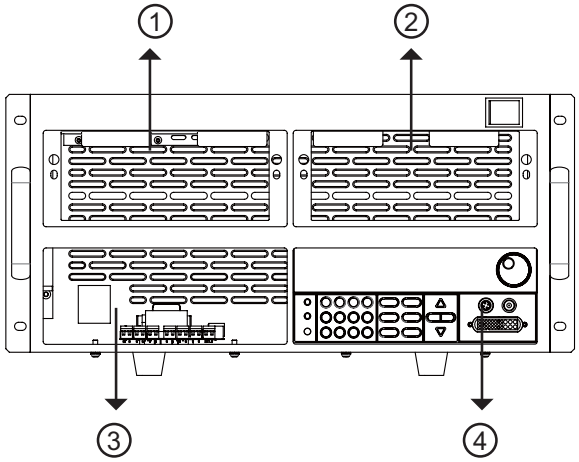
Hardware configuration

Through the "Hardware configuration" function, users can choose equipment from the instrument list to configure the system

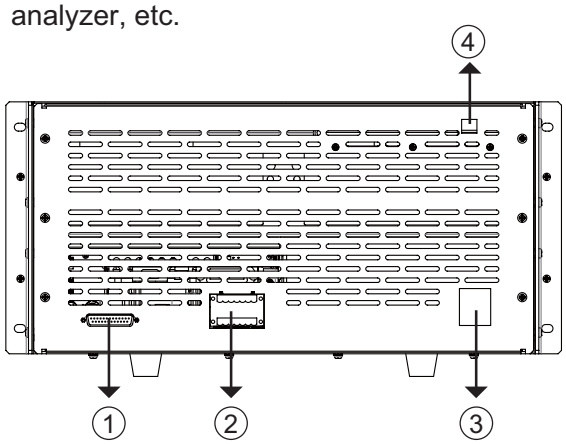


High performance hardware configuration

ITS9500 power supply test system adopts flexible hardware framework architecture integrating necessary hardware test devices, thus facilitating input cost control and test efficiency improvement



1, 2, 3 and 4 can be used for connecting OVP power, AC/DC power, electric load, switch analyzer, etc.



1. Scalable I/O
2. Relay output (10~16 IO Pin)
3. AC power input
4. USB communication port

Programmable AC power

ITS9500 power supply test system's optional AC power can cover 300VA-3000VA power supply products.
With precision linear amplification technology, output of very pure AC power can be realized; distortion factor lower than 0.5%; simulate normal and abnormal AC inputs and measure key electrical performance parameters of device under test. Easy operation, perfect protection and self-diagnose function make it a reliable product for you.

Programmable DC power

ITS9500 power supply test system's optional DC power can cover 100W-6KW power supply products.

Automatic gear technology, for regulating the voltage and current; high accuracy and high resolution, low ripple and low noise; LIST editing function, for application in the voltage drop test of DC-DC converter and inverter, battery charge and product life cycle test. It can be applied in the over-voltage protection test.

DC electronic load

ITS9500 power supply test system's optional electronic load can cover 150W-500KW load products.
Four operating modes (CC,CV,CR,CW), for meeting test demands of different power products; high speed and programmable dynamic load characteristics, for testing the stability of power products; arbitrary waveform simulation function (LIST), for observing whether the device under test can be operated normally in the application field; short current test function; sense function, for ensuring accuracy of long distance measurement; and perfect protection, your priority for test.

Switch analyzer

Switch analyzer is an important part of hardware of ITS9500 power supply test system. This product integrates the product functions of oscilloscope, data acquisition card, IO card and power meter, thus facilitating performance tests of switching power supply and reducing cost and space for customers.

Rich optional accessories

IT-E256	Extended keyboard
IT-E181	Power test system fixture
IT-E182	Power test system fixture
IT-E187	Relay card
IT-E190-6A	Current sensor
IT-E190-15A	Current sensor
IT-E190-25A	Current sensor

IT-E181 is a fixture which can work with ITS9500 test system to realize multiple-channel test. It can connect 4 test systems and test 4 devices under test with the same specification, thus significantly improving the production efficiency and reducing production cost for customers.
IT-E181 supports test for several types of charger interface and visual display of test results or display of specific test data on the test interface are supported.

IT-E256 extended keyboard can be used for controlling the start and stop of ITS9500 system test program, avoid clicking mouse. The system is compact and easy to use, thus improving test efficiency.

LED drive power test

ITS9500 power supply system is the best test system for LED power as it can measure several devices under test at one time, thus significantly improving the capacity of production line.
The system is provided with test items for devices under test with performance optimization (LED drive power for lighting or backlight). Users only have to define test conditions and specifications on the standard test items for test.
Optimized test scheme covers the following 6 types of power test requirement: output characteristic test for detection of general performance of device under test; input characteristic test for detection of input parameters of power supply, protection test for testing the protection circuit which triggers the power supply; real-time and transient measurement of transient status of power supply at turn-on and turn-off, and voltage RMP time at turn-on and turn-off of measurement power; stability test for detection of stability of device under test during the change of input power and load; comprehensive test, providing test environment and other special functions.

Recommended configuration

Measuring range	LED model
Input	300W
Output	500V

DC-DC power supply test scheme

DC-DC power is widely used in military industry, communication equipment, vehicle, electronics and aerospace. ITS9500 test system is particularly suitable for high-efficient automatic test of DC-DC power. With the powerful function of ITS9500, stable and reliable test process can be realized and accurate test data can be obtained.

DC-DC power supply

■ Recommended configuration

Measuring range	LV model	LV affordable model	HV model
Input	250W	150W	300W
Output	120V	72V	500V

Vehicle-mounted charger test scheme

ITS9500 test system is provided with automatic gear technology to regulate voltage and current with high accuracy and resolution, low ripple and noise. LIST editing function provides input/output characteristics, efficiency and protection item test for vehicle-mounted charger, thus greatly reducing test time.

Car charger

■ Recommended configuration

Measuring range	DC-DC Model	DC-DC Model
Input	250W	150W
Output	120V	72V

Switching power supply test scheme

With continuous technological development, the application of switching power supply also increases.
As switching power supply will generate harmonic interference on input electric power, in turn, the harmonic wave of electric power will affect the electronic product. The disturbance test of ITS9500 power supply automatic test system is for test of influence of power supply fluctuation, and is a good helper for engineers.

Switching Power Supply

■ Recommended configuration

Measuring range	LV model	LV affordable model	HV model
Input	250W	150W	300W
Output	120V	72V	500V