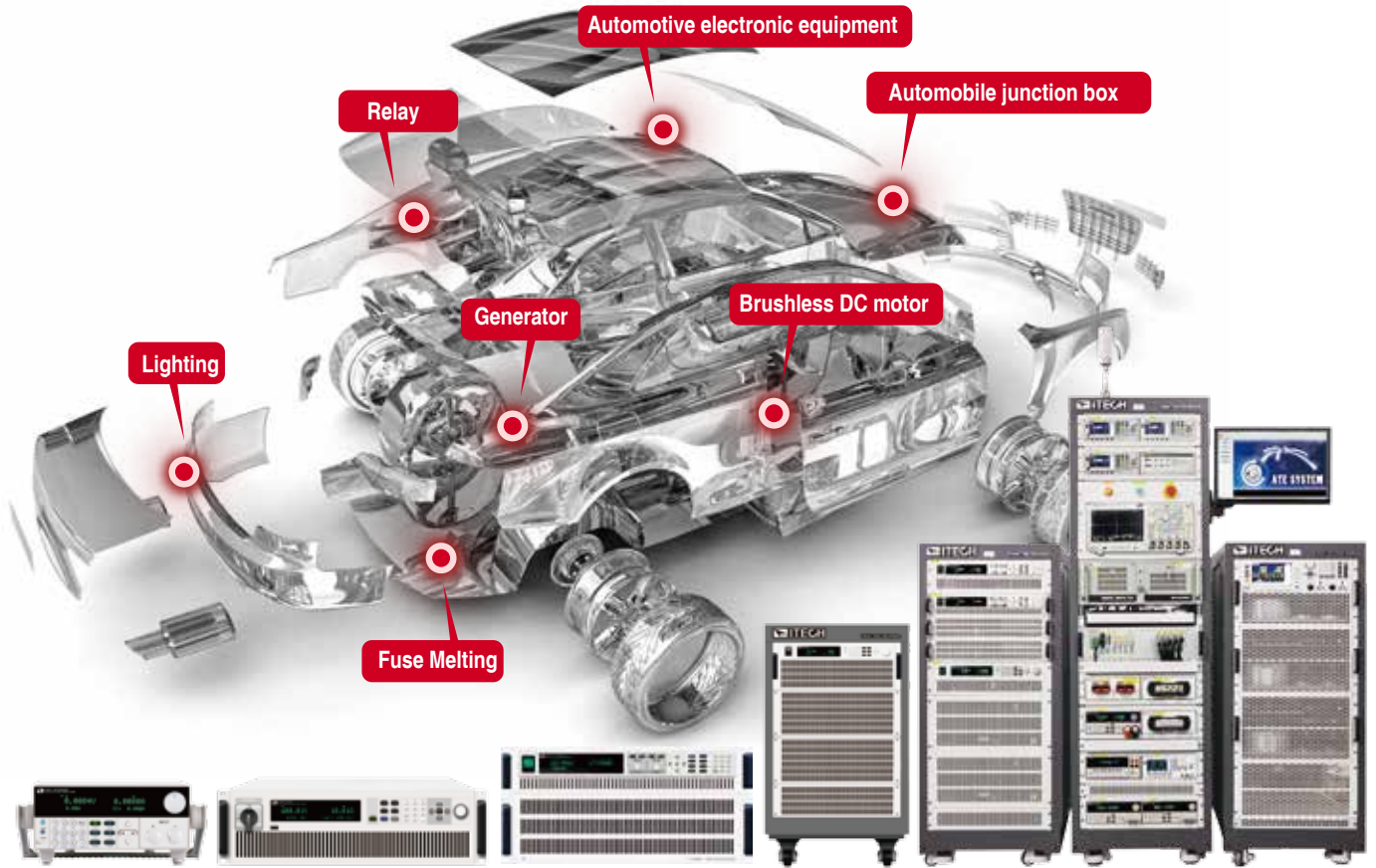


Automotive Electronics Test Solution



Automotive Electronics Test Solution



The control system of the automobile is based on advanced electronic devices. The reliability of the automobile electronic devices is directly related to the safety and reliability of the whole vehicle. Therefore, the environment reliability test requirements are always strict. Common environment reliability tests for automotive electronics include temperature, humidity, vibration, rain, aging resistance, voltage fluctuations, and voltage surges. The test criteria for voltage waveforms and voltage surges are ISO16750-2, SAEJ1113-1, LV124, and DIN 40839, the standards chosen by various manufacturers are different.

Recommended testing instruments

DC power supply

- IT6000B Regenerative Power System
- IT6000C Bidirectional Programmable DC Power Supply
- IT6000D High Power Programmable DC Power Supply
- IT6500 Wide-range High-power DC Power Supply
- IT6900A Wide-range Programmable DC Power Supply
- IT6800A Single Channel Programmable DC Power Supply

DC Electronic load

- IT8000 Regenerative DC Electronic Load
- IT8900A/E Series DC E-load
- IT8800 DC Electronic Load
- IT8300 Regenerative DC Electronic Load

ATE test system

- Car charger/DC-DC converter test system
- Potable AC charging device test system
- Battery pack reliability/charging & discharging test system

| Automotive Electronics Test

Test items

- Voltage disturbance test
- Electrical and electronic system test
- Reset performance test
- Voltage transient test

DUT

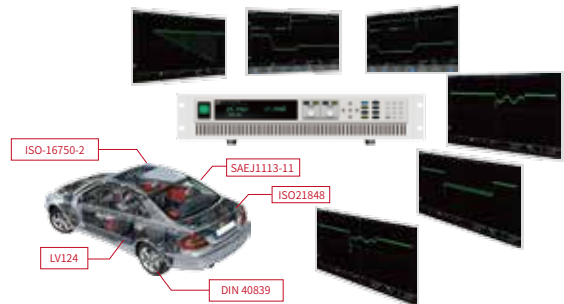
Automotive electronics, such as: car navigation, MP3, CD player, lighter, car audio, car dashboard, automotive glass heating wire, car fuse, electronic fuel injection device, idle speed control (ISC), anti-riot system (brake System), airbag device, electronically controlled windows and doors, active suspension.

Advantages

IT6500C series power supply provide built-in DIN40839, ISO-16750-2, SAEJ1113-11, LV124 and ISO21848 testing curves. Users can select any built-in curve to do the DUT performance test directly according to their demand. 12V, 24V and 48V are available for choice.

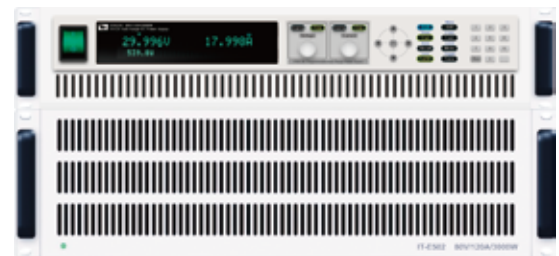
Recommended testing instruments

- IT6000B Regenerative Power System
- IT6000C Bidirectional Programmable DC Power Supply
- IT6500C Wide-range High-power DC Power Supply



IT6512/IT6513/IT6500C series wide range high power programmable DC power supply

- voltage range:80-1000V
- current range:10-1200A
- power range:1200W-30kW
- Built-in DIN 40839, ISO-16750-2, SAEJ1113-11, LV124 and ISO2184 standard voltage curve for automobile power net
- Support multiple power supplies paralleling in Master-Slave mode and ensures each power supply equally shares the load current.
- Support up & down speed independently setting in different operation modes (Power supply: CV/CC/CP modes, Electronic load: CC/CP modes).Adjustable rising and falling time
- LIST mode programming
- Built-in USB/RS232/CAN/GPIB/LAN (LXI compliant) interfaces



IT6522C (80V, 120A, 3kW)

| Automotive Junction Box Test

Test items

- long time working stability
- Fusing test
- others
- Relay life circle test
- Temperature monitoring and fault alarm test

DUT

Automotive junction box (automotive electrical central controller) integrates the whole car's fuse, circuit breaker, relay and so on. It is the vehicle electronic circuit control center.

Advantages

- Structure: Modular design, easy to move and disassemble. When one channel fails, will not affect the operation of the system
- Heat dissipation: Intelligent fan, good heat dissipation and low noise
- Function: High level automation and accuracy
- Communication: Remote control via the computer, easy to show test results, reduce labor cost

Recommended testing instruments

- IT9360 Automotive Junction Box Test System
- IT8500+ programmable DC load
- IT6000D high power programmable DC power supply

| Automotive Generator Test

Test items

Adjust the load input according to the operating conditions of the generator

DUT

DC generators for automobiles and airplanes, commonly used in DC motors, electrolysis, electroplating, electro surgery Refining, charging and excitation of alternators

IT8000 Regenerative DC Electronic Load

- Voltage range:80-2250V
- Current range:20-2040A
- Power range:6kW-144kW, expendable to 1.152MW by parallel
- Ultra high power regenerative efficiency up to 95%
- High power density ,18kW in 3U size
- On-grid electricity accumulation function
- 4 working modes:CC/CV/CR/CP
- Support LIST programming
- Built-in USB/RS232/CAN/LAN interface



Recommended testing instruments

- IT8000 Regenerative DC Electronic Load
- IT8900A/E Series DC E-load
- IT8800 DC Electronic Load
- IT8300 Regenerative DC Electronic Load



IT8018-1500-30 (1500V, 30A,18kW)

| Relay Test

DUT

Relay is commonly exist in Remote control, telemetry, communication, automatic control, mechatronics and power electronics.

IT6000D high power programmable power supply

- Voltage range:80-2250V
- Current range:20-2040A
- Power range:6kw-144kW, expendable to 1.152MW by parallel
- High power density ,18kW in 3U size
- Built-in function generator, support arbitrary-waveform generating
- Adjustable output impedance
- Support multiple working modes, rising and falling time can be adjustable.
- Full protections: support OVP, \pm OCP, \pm OPP, OTP, power down protection, anti-islanding protection
- Standard built-in USB/CAN/LAN/Digital io communication interface, optional GPIB/ANALOG & RS232



Recommended testing instruments

- IT6000D High Power Programmable DC Power Supply
- IT6500D Wide-range High-power DC Power Supply



IT6018D-1500-30 (1500V, 30A,18kW)

| DC Motor/DC-DC Converter Test

DUT

The starting current of a DC motor/DC-DC converter is usually 3-6 times the rated current.

Advantages

allow users to set control loop priority mode setting , CC/CV different loop speed can be set.

IT6000C Bi- directional DC power supply

- Bi-directional source and regenerative sink
- Voltage range:80-2250V
- Current range:20-2040A
- Power range:6kW-144kW, expendable to 1.152MW by parallel high power density ,18kW in 3U size
- Support control loop priority mode setting , different loop speed can be set
- Bi-directional power transfer, seamless switch between sourcing and sinking
- High regenerative efficiency
- Built-in function generator, support arbitrary-waveform generating



Recommended testing instruments

- IT6000B Regenerative Power System
- IT6000C Bidirectional Programmable DC Power Supply
- IT6500C Wide-range High-power DC Power Supply



IT6018C-1500-30 (1500V, 30A, 18kW)

- Adjustable output impedance
- Full protections: support OVP, \pm OCP, \pm OPP, OTP, power down protection, anti-islanding protection
- Standard Built-in USB/CAN/LAN/digital IO communication interface, optional GPIB/analog & RS232

| Brushless Dc Motor Test

DUT

Automotive power - assisted steering, air conditioning, fuel pump, oil pump, robotic and automation industry

Advantages

Power for motor ,capable of seamless switch between sourcing and sinking, allow users to set control loop priority mode setting , CC/CV different loop speed can be set.Under CV mode, can absorb current generated by brushless motor, protect the power supply and ECU.

IT6000B BI- directional DC power system

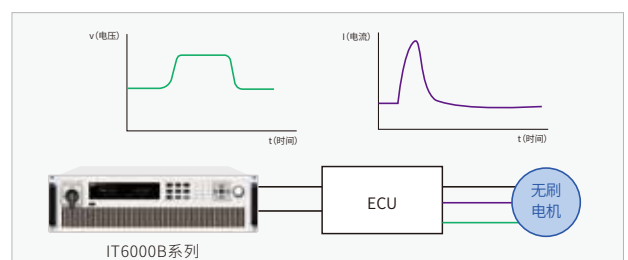
- One button switch between source and sink on panel
- Voltage range:80-2250V
- Current range:20-2040A
- Power range:6kW-144kW, expendable to 1.152MW by parallel
- High power density ,18kW in 3U size
- Support control loop priority mode setting , different loop speed can be set
- Bi-directional power transfer, seamless switch between sourcing and sinking
- High regenerative efficiency
- Built-in function generator, support arbitrary-waveform generating
- Adjustable output impedance
- Full protections: support OVP, \pm OCP, \pm OPP, OTP, power down protection, anti-islanding protection



Recommended testing instruments

- IT6000B Regenerative Power System
- IT6000C Bidirectional Programmable DC Power Supply

- Standard Built-in USB/CAN/LAN/digital IO communication interface, optional GPIB/analog & RS232



| Automotive Lighting Test

DUT

Electronic devices require complicated input waveforms

Advantages

- The IT6500 series can store, recall and run the preset customized program sequences via front panel programming
- List file can be selected from 100 waves edited on the front panel operation

IT6500 series wide range high power programmable DC power supply

- Voltage range:80-1000V
- Current range:10-1200A
- Power range:1200W-30kW
- Support multiple power supplies paralleling in Master-Slave mode and ensures each power supply equally shares the load current.
- Support up & down speed independently setting in different operation modes (Power supply: CV/CC/CP modes, Electronic load: CC/CP modes).Adjustable rising and falling time

Recommended testing instruments

- IT6500 Wide-range High-power DC Power Supply
- IT6900A Wide-range Programmable DC Power Supply
- IT6800A dual range programmable DC Power Supply
- Adjustable rise/fall speed, faster voltage rising speed
- Free PV control software is available for all ITECH power supply series, make it easy for customers to use computer to edit test steps and import files.

| Fuse Blowing Time Test

DUT

Power fuses, Machine tool fuses, Electronic fuses, Automotive fuses

Advantages

- Voltage/current rising/falling time measurable
- Time measurement accuracy can reach 10us
- Low internal resistance, suitable for low voltage test (12v for automotive)
- Automotive manufacturers engineers usually will require the fuse time needs to be tested with the overload current from 1.1IR~6.0IR range, when the overload current is higher, the faster the fuse time. With a 500A fuse, 6IR means the overload current is 3000A, and the fuse time is measured under this

IT8900A/E high power programmable DC power supply

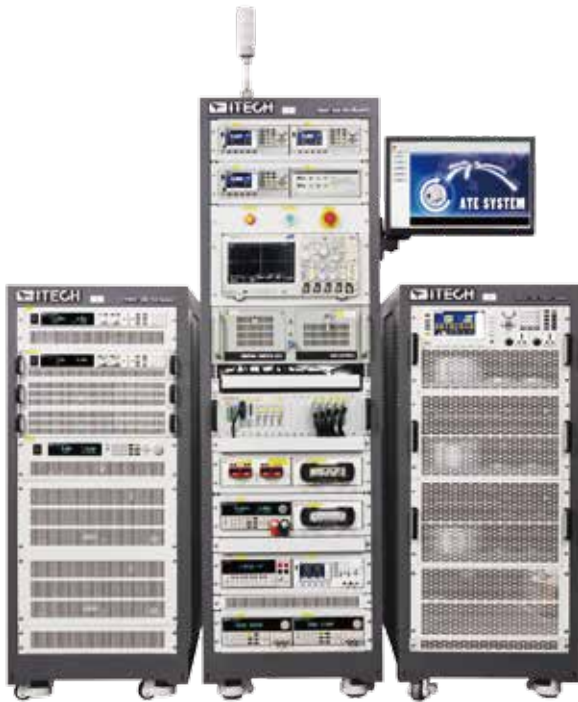
- Voltage range:150-1200V
- Current range:80-2400A
- Power range:2kW-54kW
- Maximum paralleling up to 600 kW.
- Multiple operating modes: CC, CV, CR, CP, CC+CV, CV+CR, CR+CC, CP+CC
- Adjustable CV loop speed, match different power supplies
- 30kHz high-speed dynamic mode, adjustable current rising and falling time
- 500kHz high-speed voltage and current sampling rate
- Time measurement, battery discharge test function
- Short circuit simulation, automatic test function
- Timing control list programming
- Built-in LAN, USB, RS232, GPIB, CAN, external analog control interface

Recommended testing instruments

- IT8900A/E high power programmable DC power supply
- IT8800 high speed high precision programmable DC power supply



| Automotive Electronic Devices Test



Car charger/DC-DC converter test system



Potable AC charging device test system



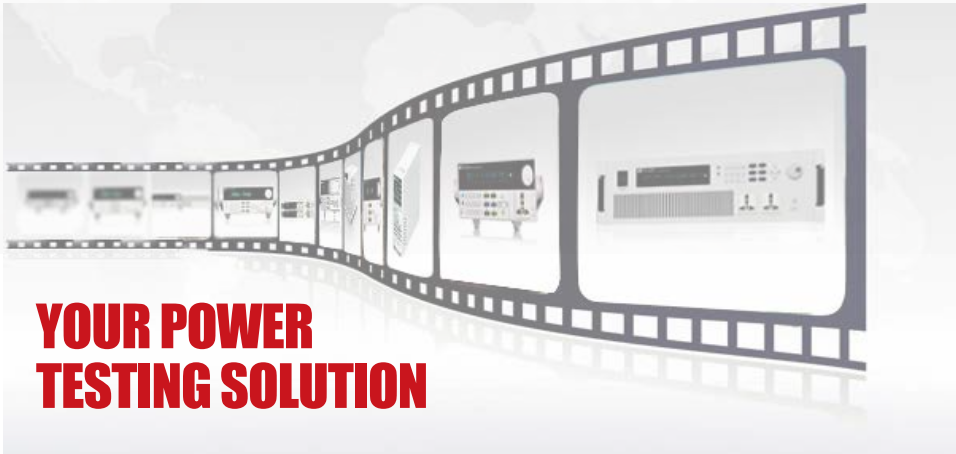
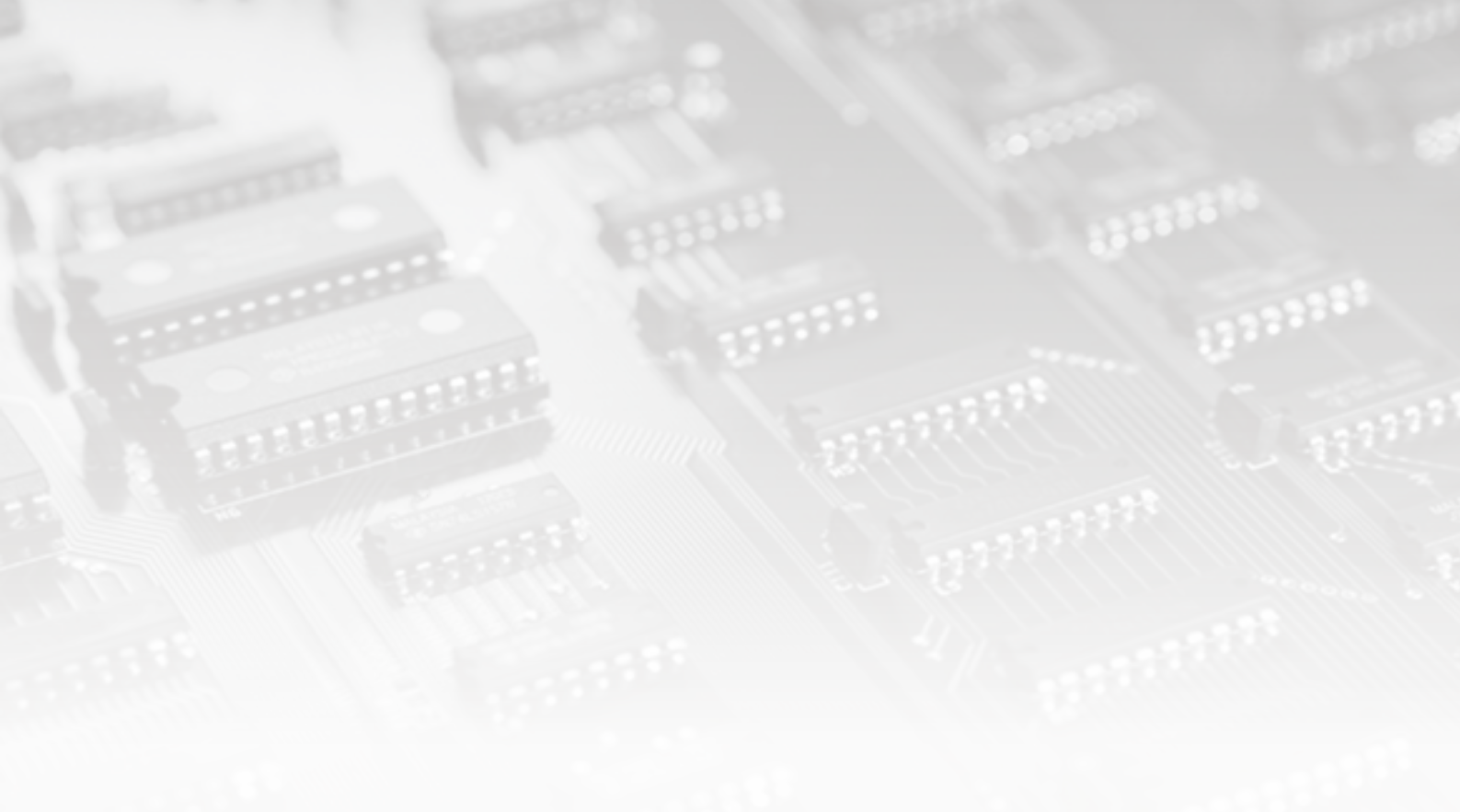
Battery pack reliability/
charging & discharging test system



Charging station test system



Charging station simulation test system



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

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