ITECH

YOUR POWER TESTING SOLUTION

ITECH TEST SOLUTION

- Academic Education

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TESTING

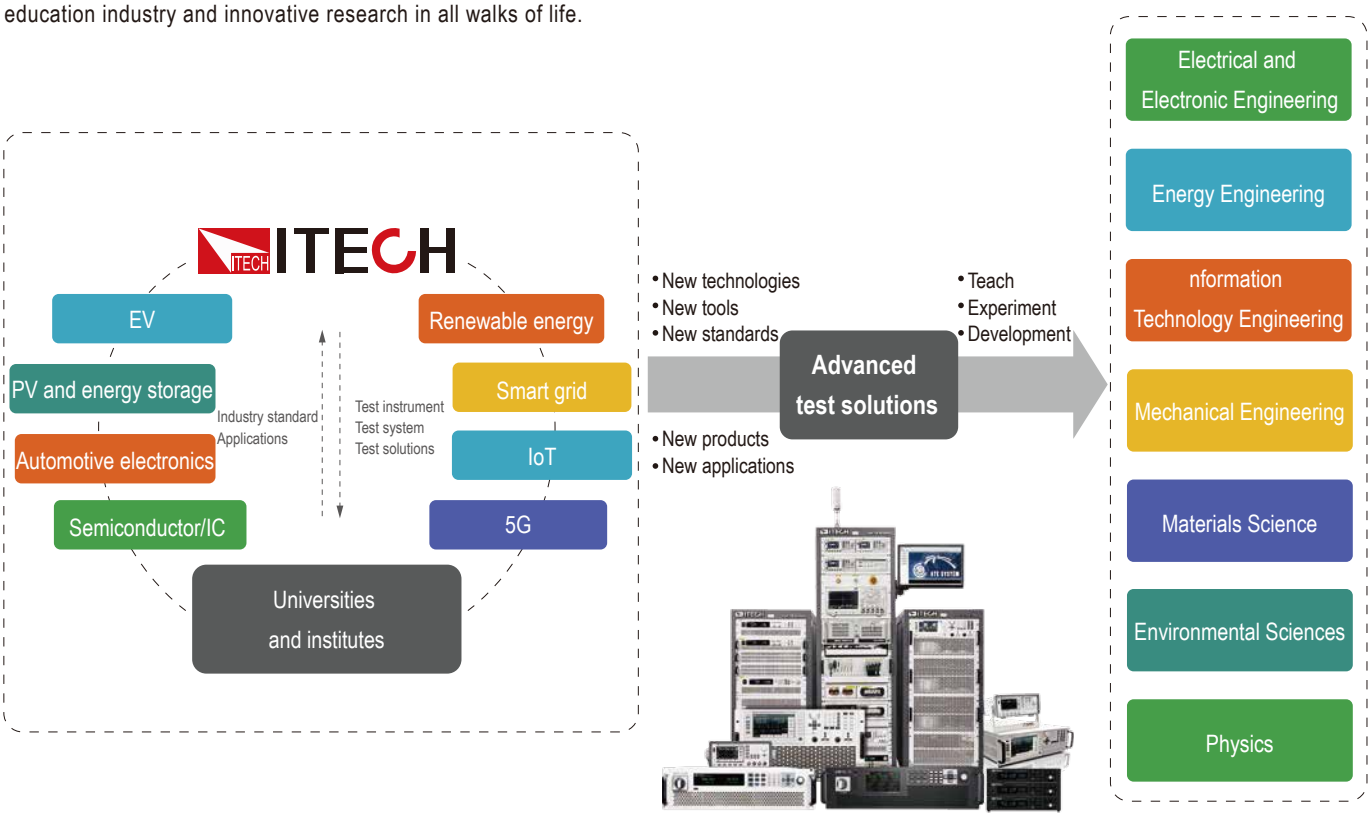
SOLUTION

ITECH TEST SOLUTION - Academic Education

With years of expertise in the power electronics industry, ITECH brings advanced power testing solutions to both basic education and cutting-edge technology research in academic education filed. These solutions are widely used in the research and teaching practice of electrical and Electronic engineering, energy engineering, information technology engineering, mechanical engineering, materials science, physics, medical and other subjects in colleges and universities.

In addition, ITECH can also provide innovative testing solutions for new industries such as renewable energy and energy storage, smart manufacturing, IoT, 5G communications that have emerged and boomed in recent years.

At present, ITECH products have entered many TOP science and engineering universities all over the world. While tailoring testing solutions for users, we actively carry out industry-university-research cooperation with colleges and universities, and contribute to the development of the education industry and innovative research in all walks of life.



Research on electrified transportation

ITECH focuses on the process of transportation electrification and provides one-stop power testing solutions covering EV power battery,power-train system and EVSE for all the related researches in universities and institutes.

EVSE

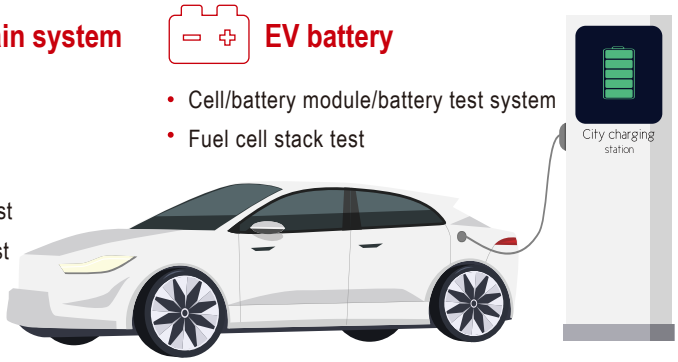
- AC/DC charging station test and simulation
- Portable charging device testing
- OBC/BOBC test
- DC-DC test
- Charging gun test
- Wireless charging device test

Powertrain system

- Motor drive test
- E-axle test
- Motor test
- Start-stop motor test
- Fuel cell engine test

EV battery

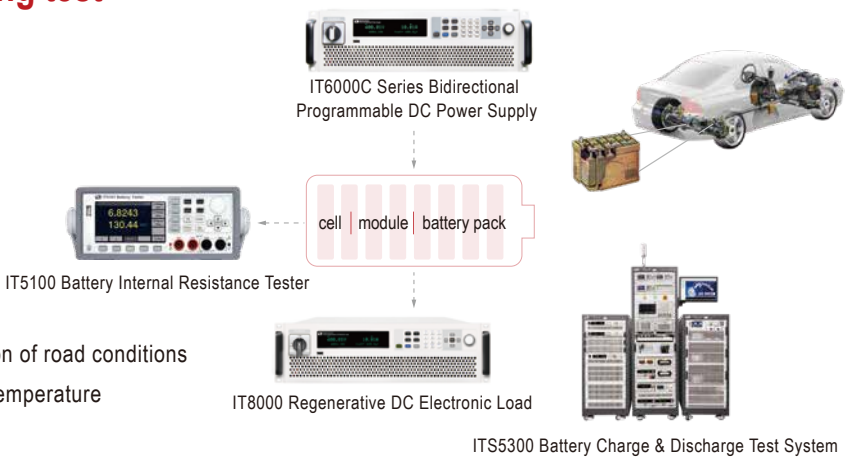
- Cell/battery module/battery test system
- Fuel cell stack test



EV battery charing and discharging test

Recommended Products

- IT6000C bidirectional DC power supply
- IT8000 DC electronic load
- IT5100 battery IR tester
- BSS2000 battery simulation software
- ITS5300 battery charge and discharge test system



Test items

- Battery capacity/energy
- Battery life (dynamic and static)
- Overcharge and overdischarge rate
- Charge and discharge efficiency
- Simulation of road conditions
- Battery temperature
- HPPC
- BMS

Automotive electronics testing

The basis of the car control system is the electronic equipment. Their reliability is directly related to the safety of the vehicle. Therefore, the testing tends to be very strict. The tests include burn-in tests, voltage fluctuations, and voltage shock tests.

Recommended Products

- IT6000B regenerative power system
- IT6500 DC power supply
- IT8000 regenerative DC electronic load
- IT8800 DC electronic load

Test items

- Generator
- Junction box
- Relay
- DC motor / DC-DC converter
- Fuse

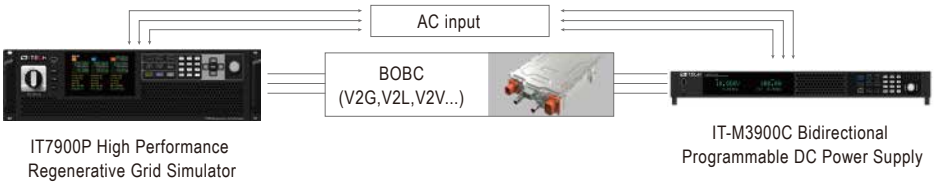
EV charging devices test solutions

The charging device for electric vehicles should be able to both provide safe and reliable AC and DC power and be easy to operate.

Application 1: BOBC and DC-DC test

Recommended Products

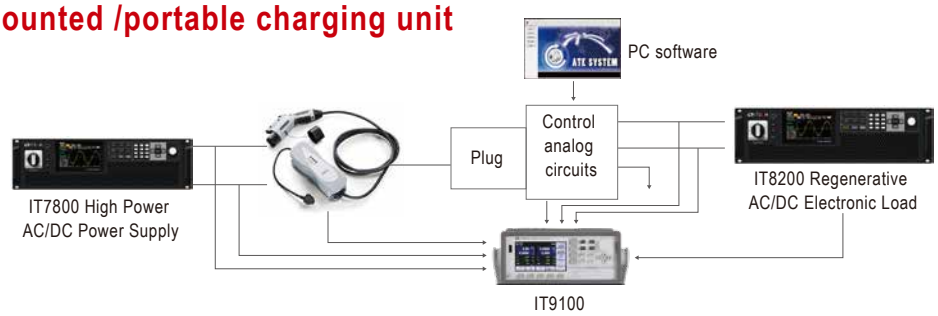
- IT7900P regenerative grid simulator
- IT-M3900C bidirectional DC power supply



Application 2: Test of wall mounted /portable charging unit

Recommended Products

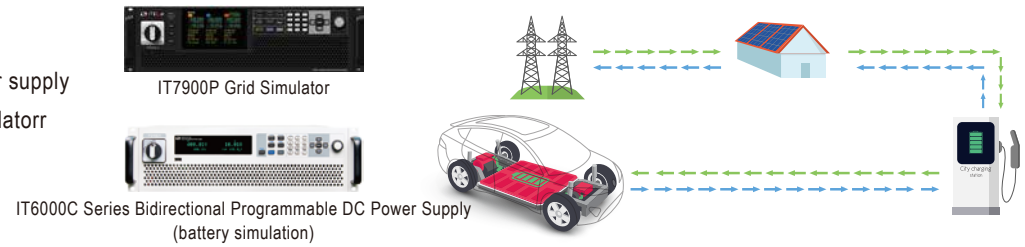
- IT7800 high power AC/DC power supply
- IT8200 regenerative electronic load
- IT9100 power analyzer



Application 3: Test of bidirectional DC charging station

Recommended Products

- IT6000C bidirectional DC power supply
- IT7900P regenerative grid simulatorr



EV powertrain system testing

Efficiency, integration, and digitization are the technical trends of EV powertrains. ITECH persists in innovation, creating advanced instruments and solutions to assist in the design, testing and verification of EV powertrains.

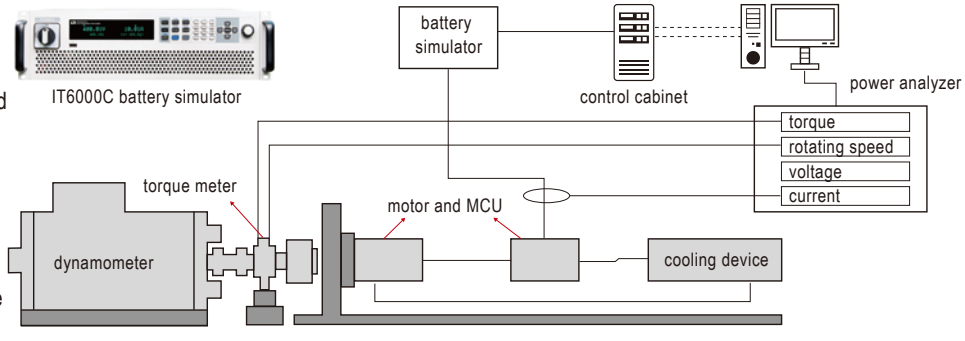
Application 1: E-axle test

Recommended Product

- IT6000C bidirectional DC power supply

Highlight

- Fast dynamic response (<2ms)
- High-power battery simulator, source and load 2 in 1
- High power density
- Standard CAN communication interface, providing CANOpen protocol
- Modular design, power extended to MW scale
- Communication baud rate up to 1000K

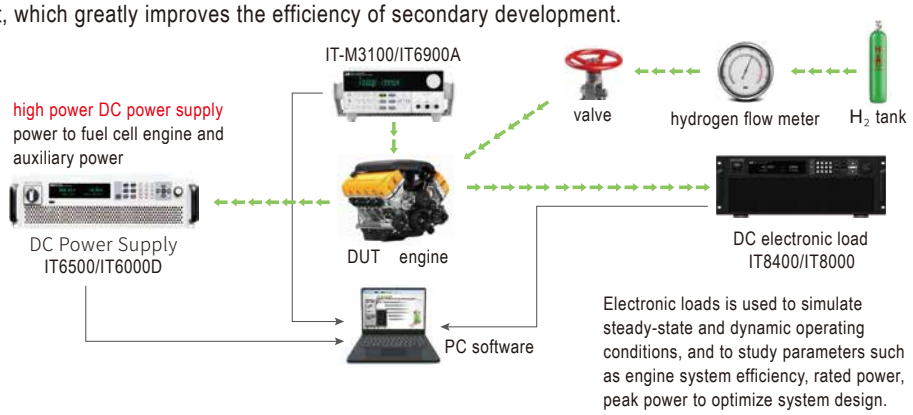


Application 2: Fuel cell engine test

ITECH power supply and electronic load have rich programming functions, which can simulate the steady-state working condition, acceleration working condition and driving condition curve of various road conditions. A variety of models can meet the diverse testing requirement of high-voltage high-power fuel stacks and low-voltage high-current discharges, so they are ideal fuel cell engine system testing instrument. Standard size and high power density design ensure easy integration and space saving. It also provides CAN/LAN/USB communication interfaces and CANOpen protocol in dbc format, which greatly improves the efficiency of secondary development.

Recommended Products

- IT6000D high power DC power supply
- IT9100 power analyzer (uA level)
- IT8400 DC electronic loadr



Green energy and energy storage

The greenhouse effect brings about climate change, which seriously affects the living environment of human beings. Reducing carbon emissions has become a global consensus. The energy structure of various countries is gradually changing from fossil energy to renewable energy such as wind power, photovoltaic and hydrogen energy. Since photovoltaic, wind power and other renewable energy power generation has the characteristics of seasonality, intermittency and volatility, and cannot output electricity continuously and stably for a long time, it is necessary to use energy storage technology to store the electricity generated by renewable energy.

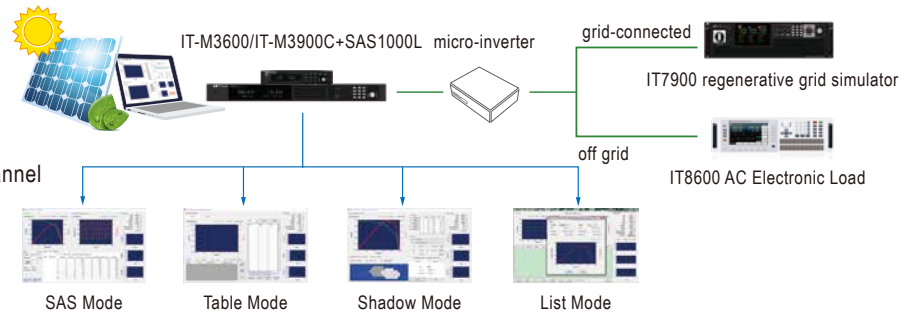
ITECH provides professional testing solutions for new energy development, including high power density, high speed, bidirectional and energy regenerative grid simulator, battery simulator, PV simulator, AC/DC electronic load, bidirectional DC power supply, etc. Equipped with the SAS1000 solar array simulation software and BSS2000 battery simulation software, they can reproduce the PV power generation curves in the real environment in the laboratory. Modular design makes it easy for power extension which largely saves cost for you.

Application 1: PV inverter test

As a core equipment of PV power generation system, the PV inverter is to convert the variable DC voltage generated by PV modules into AC power, which is one of the important system balances in solar array system. The ITECH PV simulator can simulate 24-hour real output of solar cell, fully verify the MPPT efficiency of the PV inverter under various conditions, which help you to complete the experiment related to solar power generation technology.

Recommended Products

- IT-M3600/IT-M3900C SAS low power PV simulator
- SAS1000L single channel/SAS1000M multi-channel solar array simulation software
- IT8600 AC/DC electronic load

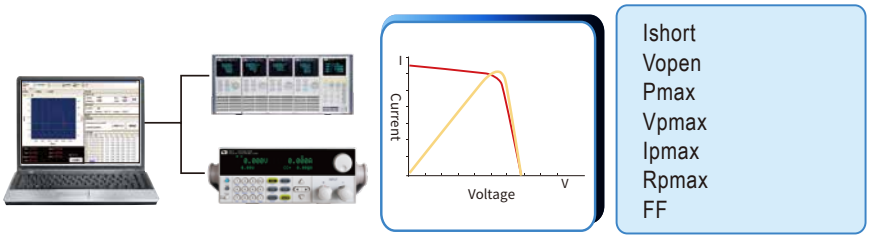


Application 2: Test of I-V curves of solar panel

Temperature, irradiation, sunlight will affect the I-V characteristics, conversion efficiency of solar cells. As the temperature increases, the I-V curve changes, the fill factor decreases, and the conversion efficiency decreases along with it. The sunlight increases, the output power increases, and the conversion efficiency increases too. Therefore, the I-V characteristics of solar cells must be captured at multiple points in a short period of time to ensure the accuracy of the test results.

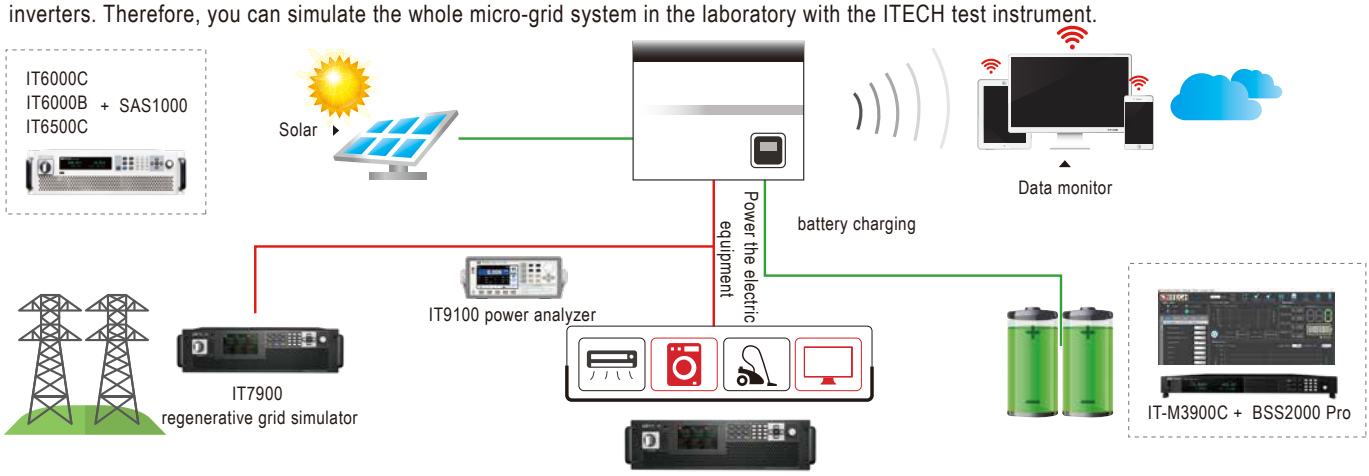
Recommended Products

- IT9380 solar cell test software
- IT8900A/E high power DC electronic load
- IT8800 high precision DC electronic load
- IT8700 multi-channel DC electronic load



Application 3: Micro-grid and grid connection experiment

The basis of PV micro-grid is distributed generation technology. It consists of distributed energy, energy management system, power transmission and distribution system and various electrical equipment. ITECH provides you with PV simulators, battery simulators and grid simulators. They can simulate solar arrays and evaluate the conversion efficiency of PV inverters. Also, they can test the AC power converted by PV inverters. Therefore, you can simulate the whole micro-grid system in the laboratory with the ITECH test instrument.



Recommended Products

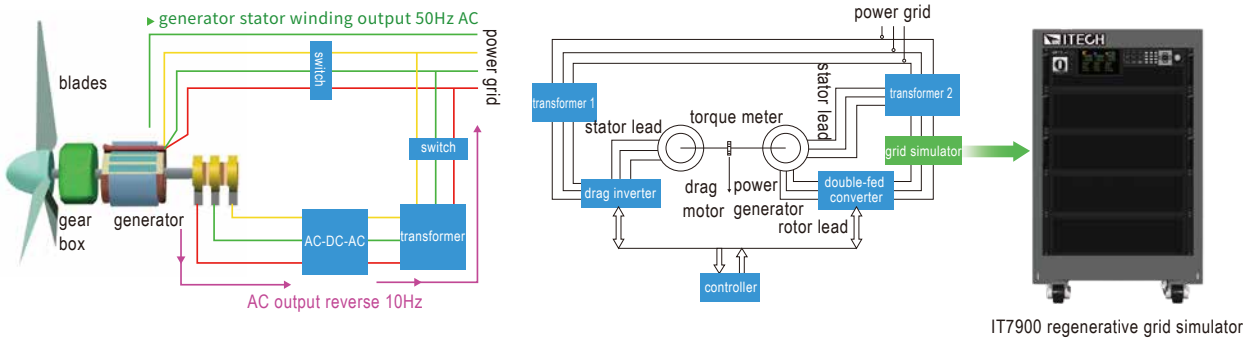
- IT7900 regenerative grid simulator
- IT8200 regenerative AC/DC electronic load
- IT6500C wide range DC power supply
- IT9100 power analyzer
- SAS1000 solar array simulation software

Wind power generation technology experiment

Wind power technology converts the kinetic energy of wind into electrical energy. The development of energy storage technology provides an effective solution for the large-scale grid connection of wind power and the improvement of wind power performance. At present, improving the energy conversion efficiency and reducing the cost is still an important research direction of wind power generation technology. ITECH provides universities and institutes with testing experiments and research equipment for the core components of wind power generation technology.

Application 1: Test of wind power converter

The function of the wind energy converter is to ensure that the generated constant frequency electricity can go to the power grid when the rotational speed of the turbine changes. ITECH IT7900 regenerative grid simulator can be used for phase angle jumping test, HVRT test, three-phase unbalance test and other grid-connected regulations compliance test of wind power converters.



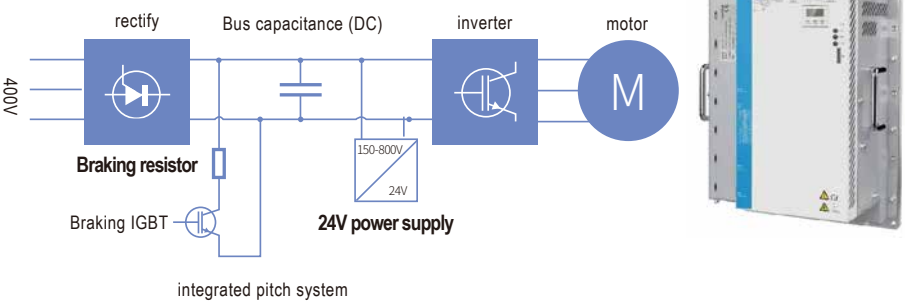
Application 2: Pitch servo drive test

The voltage of the fan pitch servo driver during normal operation is 320V~540V, and the frequency range is 45Hz~66Hz. It can be safely retracted under the condition of 1.7Un voltage. ITECH IT7800 high performance AC/DC power supply adopts high power density design (15kVA in 3U). Its maximum power can be extended to 960kVA through optical fiber paralleling, which can fully meet the tests of high voltage, low voltage, grid fluctuation range, frequency fluctuation range of the pitch drive. And its brief GUI makes it easy to check the test results.

Recommended Product

- IT7800 high performance AC/DC power supply

IT7800 High performance AC/DC power supply



integrated pitch system

Application3: Three-level power conversion system

The three-level PCS has gradually become the new technology trend these years. Compared with two-level PCS, three-level PCS have lower output harmonic content and higher power conversion efficiency. It helps to increase the grid-connected voltage, thereby reducing cable costs and improving system conversion efficiency.

Three-level PCS testing challenges include grid adaptability testing and DC power supply up to several kilovolts. ITECH high-voltage DC power supply can provide a solution up to 4500V for three-level PCS testing, helping you to complete the test easily.

Permanent magnet direct drive wind power generation system based on 3L-NPC

Hydrogen Energy Science and Engineering Project Research

Hydrogen energy has the characteristics of renewable, long-term storage, and large-capacity conversion. It is one of the new energy sources that can help to achieve green and low-carbon goals.

ITECH provides well-matched power test solutions for the manufacturers in the supply chain of the hydrogen energy industry, incldluing the hydrogen energy production, storage and transportation in the upstream, hydrogen fuel cells and components in the mid-stream and the hydrogen fuel cell vehicles in the downstream.

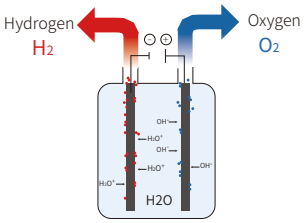
Application 1:Hydrogen production test with alkaline electrolyte

Hydrogen production by electrolysis of water has potential for development. ITECH IT6500D DC power supply has ultra-wide voltage and current output. It also features high performance and ultra-low ripple, which can provide a stable output in this experiment.

Recommended Product

- IT6500 Wide-range High-power DC Power Supply

IT6500



Application 2:Fuel cell stack test

Test items: stack activation test, fuel cell polarization characteristic curve test, fuel cell dynamic condition test, low temperature startup characteristic test, fuel cell stack rated power/peak power test, stack durability/life test, etc.

Recommended Products

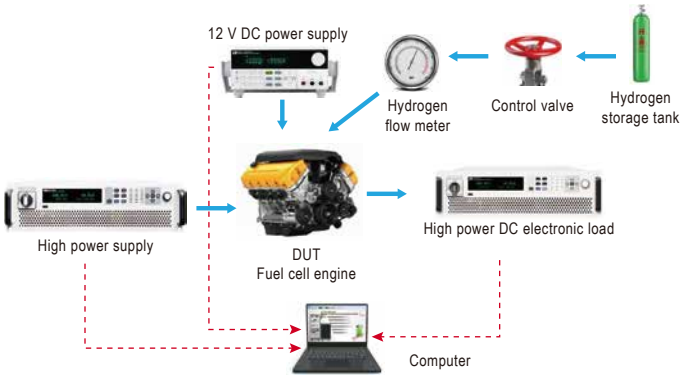
- IT8000 Regenerative DC Electronic Load
- IT8900A/E High Performance High Power DC Electronic Load

Application 3: Fuel cell system test

Test items: starting characteristic test, rated power characteristic test, peak power characteristic test, dynamic response characteristic test, dynamic cycle operation test, steady state characteristic test

Recommended Products

- IT6000D High Power Programmable DC Power Supply
- IT8900A High Performance High Power DC Electronic Load
- IT8000 Regenerative DC Electronic Load



High power DC power supply
-power the engine auxiliary system

12 V DC power supply
-power FCU

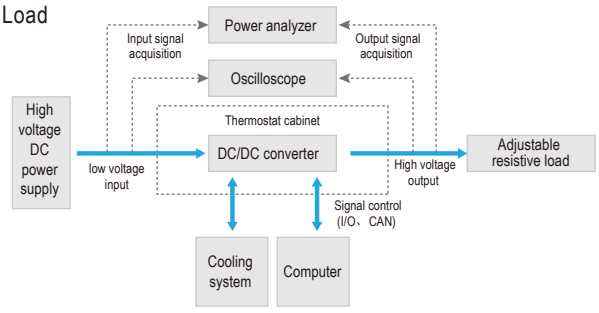
Electronic load
-Simulation of steady-state and dynamic operating conditions, research on engine system efficiency, rated power, peak power and other parameters to optimize system design

Application 4: Fuel cell DC-DC boost converter test

Test items: input and output characteristic test, output control accuracy, protection function test, cycle durability test, peak power and duration, dynamic response time, cycle condition curve test, residual voltage discharge.

Recommended Products

- IT6000C Series Bidirectional Programmable DC Power Supply
- IT8000 Regenerative DC Electronic Load
- IT9100 power analyzer/uA level test



High voltage DC power supply
-Output simulation of fuel cell stack

Power analyzer
-Measure input and output voltage, current and power

E-load
-Simulate different roading conditions

Oscilloscope
-Measure output ripple and noise

Thermostat cabinet
-High/low temperature simulation

Application 5: Air compressor test

Test items: overload capacity test, response time test, durability life test, environmental adaptability test.

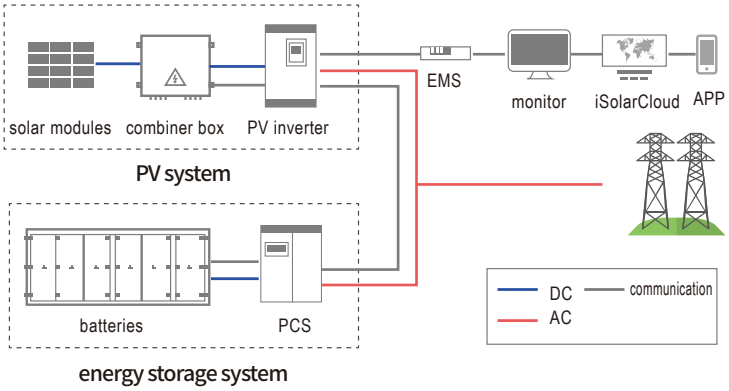
Recommended Product

- IT6000C Series Bidirectional Programmable DC Power Supply

Practice of energy storage science and engineering major

The energy storage industry and energy storage technology cover the needs of power supply, power grid, users, residents, and social functional energy storage facilities. At present, colleges and universities should strengthen training and technical reserves in the energy storage industry and accelerate the development and innovation of the fields such as physics, chemistry, materials, energy, electric and electronics.

ITECH has rich solutions in the fields of energy storage which can help colleges and universities to speed up the training process of energy storage science and engineering.

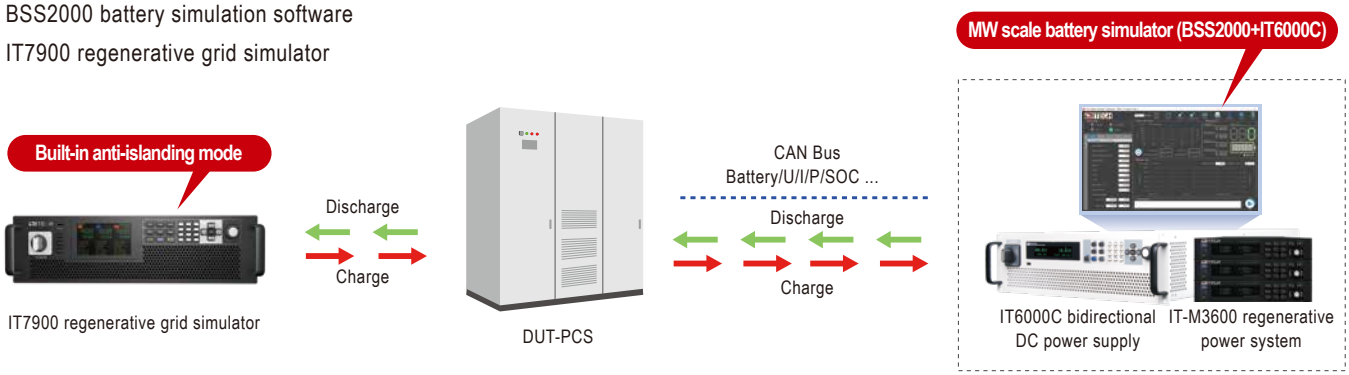


Application 1: Test of power conversion system (PCS)

The tests include: overload capacity test, frequency adaptability test, AC voltage adaptability test, DC over/under voltage protection test, low voltage ride-through test, anti-islanding protection test, grid-connected current harmonic detection, PCS input and output characteristic test.

Recommended Products

- IT6000C high power bidirectional DC power supply
- BSS2000 battery simulation software
- IT7900 regenerative grid simulator

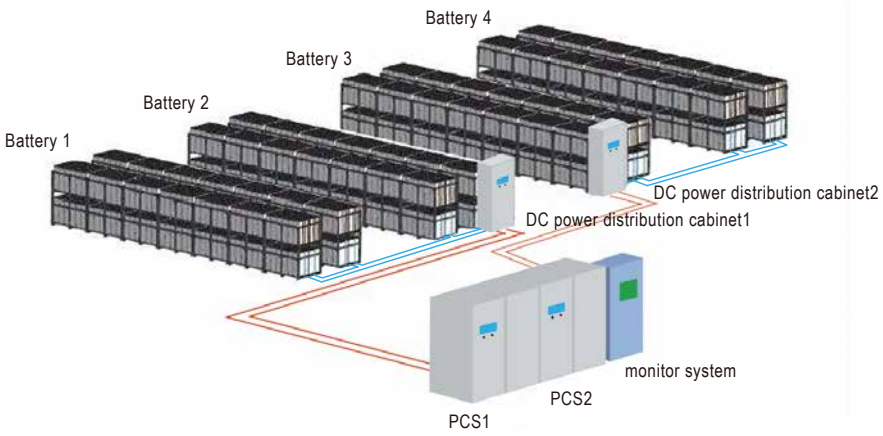


Application 2: Test of storage battery system

With advanced bidirectional regenerative DC power modules and flexible master-slave parallel technology, ITECH can provide you with high-power test solutions up to 1152kW for energy storage battery system testing. With professional software, it can realize stable and reliable charge-discharge cycle life test.

Recommended Products

- ITS5300 battery charge and discharge test system
- IT6000C high power bidirectional DC power supply



Semiconductor/IC innovation lab

With the popularization of mobile communication concept such as mobile phones and the IoT, IC technology has become the basic of all information technology industries today.

ITECH works closely with leading semiconductor companies to provide semiconductor/power IC testing solutions, covering a wide range of fields like automotive electronics, optical communications, renewable energy, industrial automation, LED and so on. In order to meet the experimental teaching and scientific research needs in colleges and universities, ITECH can provide testing solutions for discrete semiconductor devices, power semiconductor devices, optoelectronic devices, sensors, power management chips and products in downstream industries . We help to accelerate the cultivation of talents that are in the design, testing and process of integrated circuit industry in universities.

Semiconductor discrete device performance experiment

Semiconductor discrete devices generally include diodes, transistors, and thyristors, which are core devices that constitute power electronic devices. They have the functions of rectification, voltage stability,switching, frequency adjusting in the power electronic equipment.

It is widely used in many fields such as consumer electronics, automotive electronics, electronic instrumentation, industrial and automatic control, computer, telecommunications, etc.

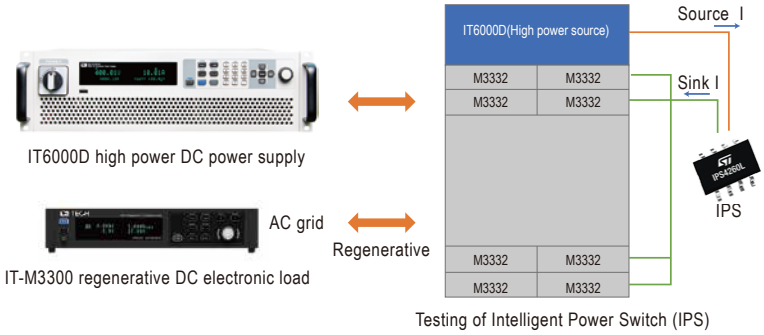
Power semiconductors such as IGBTs and MOSFETs are widely used in brushless DC motors, high-power DC-DC power supplies, home appliances, stepper drives, inverters and so on.

Test items

Cycle aging test and double pulse test - IT6000D high-power DC power supply/IT-M3900 DC power (high voltage and high current test requirement)
Static current test, driving current test, high temperature and high voltage reverse bias test, high temperature gate reverse bias test - IT-M3200 high-precision DC power supply/IT-M3100 DC power supply/ IT-M3300 regenerative electronic load/IT2800 high-precision SMU.

Recommended Products

- IT6000D high power DC power supply
- IT-M3900 bidirectional DC power supply
- IT-M3100 DC power supply
- IT-M3200 high precision DC power supply
- IT-M3300 regenerative DC electronic load
- IT2800 high precision SUM



Testing of Intelligent Power Switch (IPS)

IT-2800 Source Meter Coming soon

- Set five equipment in one: voltage source, current source, voltmeter, ammeter and ohmmeter
- High precision 4 quadrant output, support 2 line and 4 line measurement
- Resolution up to 100fA, 6 1/2 Settings and display resolution
- Pulse output capacity (200V and 40V models)

Principle and application experiment of semiconductor optoelectronic devices

Semiconductor optoelectronic devices include LEDs, laser semiconductors, light receiving devices, optocouplers (optocoupler relays, optocoupler circuit breakers), optical communication devices, etc.

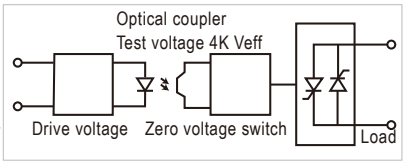
Experiment 1: Optocoupler Relay Test

The optocoupler relay is a non-contact switching device with relay characteristics that uses semiconductor components instead of electrical contacts as a switch. It is widely used in computer peripheral interface devices, numerical control machinery, remote control systems, industrial automation equipment, precision instruments, etc. When testing optocoupler relays, high current is the main cause of damage to its internal components. Some products will generate a large surge current at the moment of switching on, so it is very important to ensure a certain current redundancy during the experiment.

Test items

Lighting test, burn-in test,
power supply test

IT-M3900 High Power DC Power Supply



Functional Modules of Solid State Relays

IT8400 High Performance DC Electronic Load

Recommended Products

- IT-M3900C Bidirectional Programmable DC Power Supply
- IT6000C high power bidirectional DC power supply

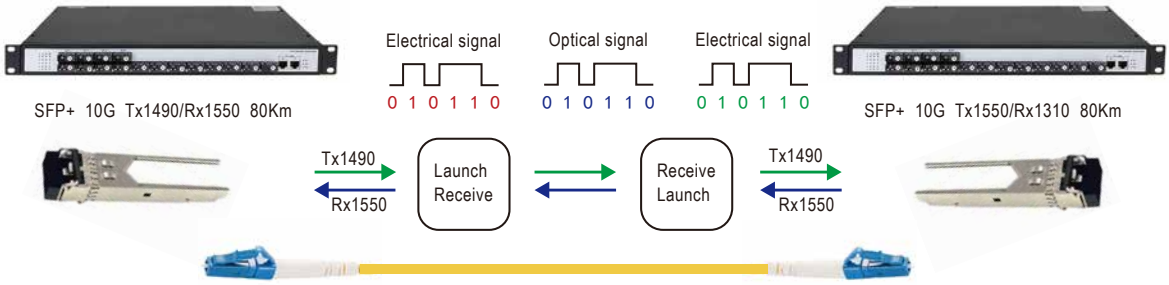
Experiment 2: 5G Optical Module Test

Optical modules are the basic component of 5G communication networks. ITECH provides testing solutions including power performance testing, protocol analysis, reliability testing, EMC testing for the research and development of high-speed optical modules and related high-precision equipment.

It requires: the dynamic response of the power supply is less than 20us, the voltage rise and fall time is less than 5ms, and the current accuracy is at the mA level.

Recommended Products

- IT6341C dual-channel high precision DC power supply （ 5V/16A 16V/5A ）
- IT2800 high precision SMU



Application 3: Laser test

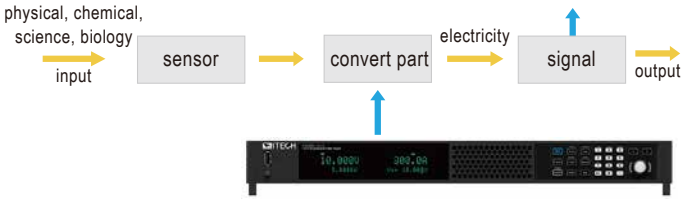
The laser test has extremely high requirements on the power supply, which is a constant current power supply. The traditional power supply defaults to the CV loop priority, and the speed of suppressing the current overshoot at the moment of startup is slow. ITECH's programmable DC power supplies have CC/CV priority function. Users can adjust the loop speed according to the test requirements, and choose the test of high voltage in CV mode, or the CC priority mode without current overshoot.

Recommended Products

- IT-M3100D dual-channel programmable DC power supply
- IT6900A DC power supply(model special for no current overshoot, switch+line structure, low ripple, low noise)

Sensor principle verification and detection experiment

A sensor refers to a device or device that converts non-electricity into electricity that has a definite relationship with it. It usually consists of sensitive parts and conversion parts. When the active sensor is applied and detected, it needs an power supply to complete the detection experiment.



Auxiliary power :
IT-M3900C bidirectional DC power supply

Recommended Products

- IT-M3900C Bidirectional Programmable DC Power Supply

Rail transport, intelligent medical engineering, robotics engineering innovation Lab

Facing the majors of rail transport, electrical engineering and automation, smart grid, robotics engineering, etc., ITECH has presented several products to meet the needs in the fields of rail transport, power equipment and power transmission infrastructure industries which help on the teaching and research of cutting-edged technologies in universities worldwide.

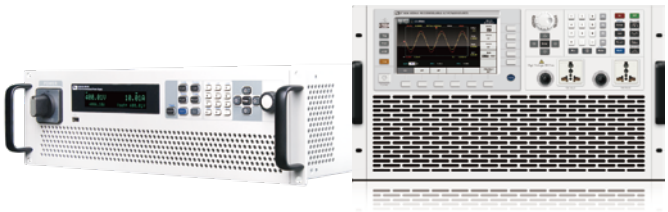
Experiment 1: Performance test of track and train electrical equipment

For the performance test of the basic electrical equipment of the train, ITECH provides stable, safe and high-performance power supply. They can assist in the completion of the track electrification characteristic test experiment, the train auxiliary power supply system test, the train power electronic device test, and the door control system test in the practical teaching of the university.

The IT6000C bidirectional DC power supply has a built-in function generator, which can freely generate arbitrary waveforms. You can also import the acquired abnormal signal LIST file via a USB to efficiently reproduce problematic waveforms. In addition, IT6000C has built-in ARB function. When analyzing the characteristics of the rail under the condition of low-frequency DC power supply, it can quickly simulate the low-frequency sinusoidal waveform of different frequencies by selecting the sinusoidal signal and setting the peak-to-peak, offset, frequency, and repetition times.

Recommended Products

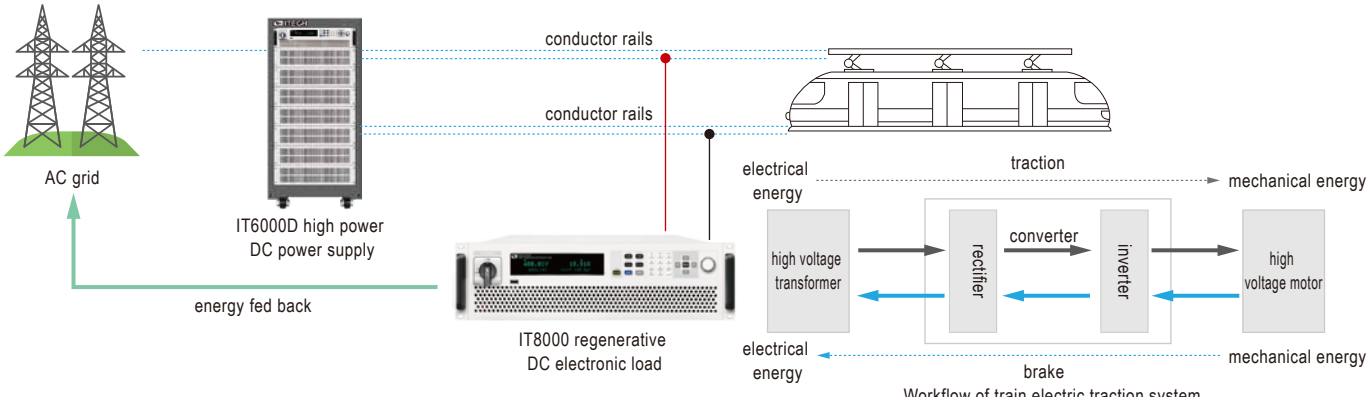
- IT7600 high performance AC power supply
- IT6000C bidirectional DC power supply



Experiment 2: Traction power supply system test

The basic function of the train electric traction system is to absorb electrical energy and convert it into the mechanical energy required to drive the train, or convert the mechanical energy of the train into electrical energy, thereby implementing electric braking of the train. The form of traction power supply for city rail train is commonly DC750V, 500A or DC1500V, 250A. During electric traction, the DC power is converted into three-phase AC power by the inverter to supply power to the AC traction motor. At this point electrical energy is converted into mechanical energy. During electrical braking, the mechanical energy of the traction motor is converted into electrical energy, which is converted into DC by the three-phase inverter and fed back to the grid.

For rail transit conductor rail current carrying capacity and traction power supply system, ITECH builds a power supply system with a total power of up to 152KW by simply paralleling multiple power supplies of the same specification to meet high-power testing requirements. At the same time, it is equipped with an energy feedback type DC electronic load, which can not only simulate various load characteristics, but also feed excess electric energy back to the grid. It reduces the cost of electricity and heat dissipation for users, and saves energy and protects the environment.



Workflow of train electric traction system

Conductor rail current carrying performance test ▲

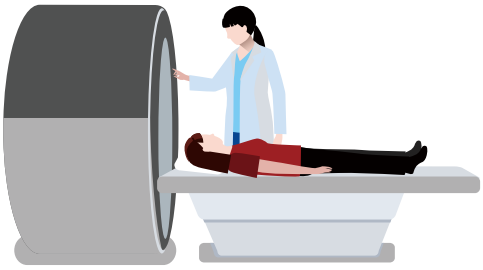
Recommended Products

- IT6000D Series High Power Programmable DC Power Supply
- IT8000 Regenerative DC Electronic Load

Experiments in intelligent medical engineering

Application1: Medical imaging equipment

Imaging diagnostic equipment and imaging therapeutic equipment are the two types of medical imaging equipment. It includes X-ray imaging equipment, MRI, nuclear medicine imaging equipment, ultrasonic imaging equipment, radiation simulator, medical electron linear accelerator, proton therapy cyclotron, etc.



MRI

High voltage generator test

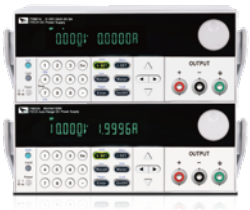
The working principle of the high-voltage generator is to convert the low-frequency and low-voltage AC power into high-frequency and high-voltage power, which can generate high frequency of 500~25000Hz. After rectification and smoothing, the voltage fluctuation range is less than 1%. The fluctuation range of conventional three-phase and twelve-pulse generators is 4%. Therefore, equipment such as radiation simulators and CTs have high requirements on the stability of high-voltage power supplies. High-precision voltage stabilization feedback measures are used in high-voltage systems. For example, the inverter module of the high-voltage generator in the CT equipment must be tested with a stable DC high-voltage high-power power supply. Its voltage needs to between 450V and 550V, and the power is about 50kW.

Recommended Products

- IT6000D High power DC power supply
- Voltage: 80V ~ 2250V Current: 30A ~ 2040A
- Power extended to 1.152MW after parallel connection
- High power density, 18kW in 3U height
- Power efficiency is up to 92% max.
- Full protection(OVP、OCP、OPP、OTP, power-off and input under voltage

X-ray tube testing

The core of many medical imaging equipment is X-ray and high-voltage generators, such as linear accelerators, radiation simulators, CT, etc. Thehigh-voltage generator can boost the AC grid power to 140kV through rectification, inverter, and high frequency, and supply it to the cathode and anode ofthe X-ray tube. There is a filament inside the X-ray tube, which needs to be heated in advance. The DC voltage of the power supply for heating it needs to be 12V and the power is within 200W, so you need a low-power power supply for it.



Recommended Products

- IT6900A Wide range DC power supply
- IT6800A/B Programmable DC power supply

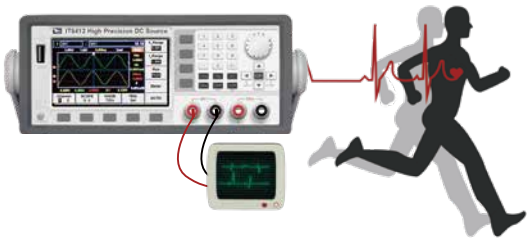
Application2: Testing of portable/Wearable Medical Device

The aging of population, the improvement of people's living and the increasing demand for medical services in remote areas have brought about changes in the way of medical care.

Mobility and portability have gradually become the key words in the research and development of medical electronic equipment.

Portable medical devices are like blood glucose meters, continuous glucose monitors, blood pressure monitors, pulse oximeters, insulin pumps, and heart monitoring systems. The wearable medical device refers to a portable medical electronic device that can be directly worn on the body. These devices are mainly used in health monitoring, disease treatment, tele-rehabilitation, etc.

Low power consumption is one of the key test items of portable medical devices.



IT6412 can simulate battery power supply and measure the power consumptionof wearable devices in various modes and functions, which is helpful for product verification and improvement.

Recommended Products

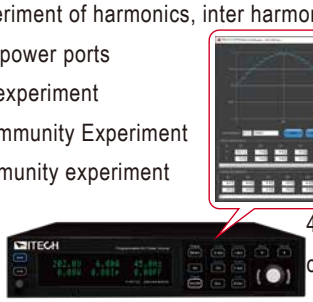
- IT6400 bipolar DC power supply
- IT-M3200 high precision DC power supply

EMC design and test experiment

Electrical and electronic devices widely used in daily life are likely to emit electromagnetic fields and are easily affected by electromagnetic fields. We want all kinds of communication, electrical and electronic devices to coexist and perform their respective functions in a common electromagnetic environment, so EMC testing is required to be done at all levels of the products design.

Test items

- Voltage transients, short-term interruptions and voltage variation immunity experiments
- Low-frequency immunity experiment of harmonics, inter harmonic waves and power grid signals of AC power ports
- Voltage fluctuation immunity experiment
- DC Power Input Port Ripple Immunity Experiment
- Power frequency variation immunity experiment



40th order harmonic components

IT-M7700 AC/DC power supply

- Only 1U half rack
- AC, DC, AC+DC, DC+AC
- Built-in AC power meter
- The output waveform start/stop phase angle can be set
- Customized 30 harmonic curves

Recommended Products

- IT7800 high power AC/DC power supply
- IT6100B high speed high precision DC power supply
- IT-M7700 high performance AC power supply

Robotics design

The development of robotics will have impact on smart manufacturing and smart services. With years of industry experience, ITECH provides testing solutions for the core components of robots for leading manufacturers and scientific research institutions of industrial robots, service robots, medical robots, drones, unmanned vehicles and so on.

Robotic component

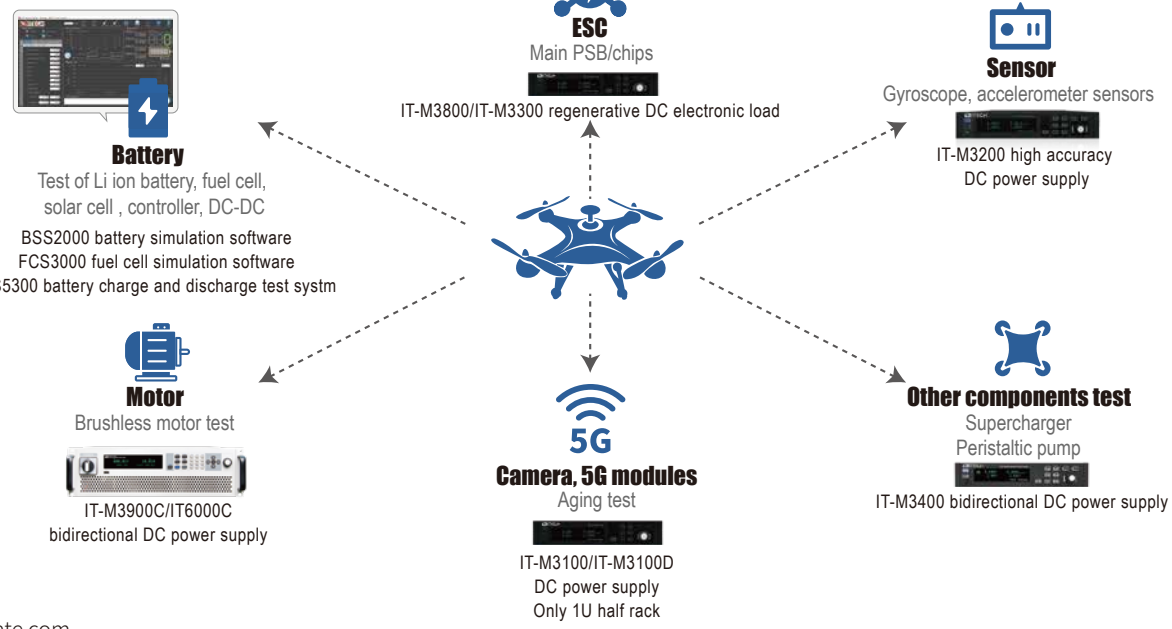
- Internal and external perception system circuit: sensor
- System circuit: stabilized power supply, battery, motor, drive, manipulator
- Human-computer interaction system: display screen, electrical energy, embedded system

Test items

- Power Board Performance Verification
- Motor performance verification: motor stall test, motor aging test
- Battery performance verification: battery simulation, battery charge and discharge test, battery life test
- Sensor test
- Module test

Recommended Products

- IT-M3900C/IT-M3400 bidirectional DC power supply
- IT-M3900B/IT-M3600 regenerative power system
- IT6000C high power bidirectional DC power supply
- IT-M3100 DC power supply
- IT8800/IT8500+ DC electronic load
- BSS2000 battery simulation software



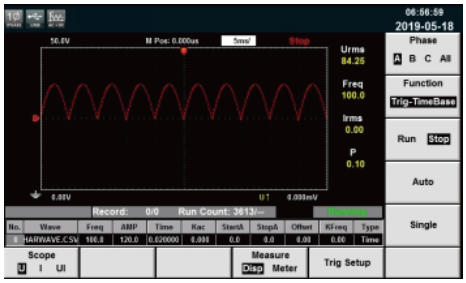
Environmental engineering

Soil Pollution Physicochemical Remediation Experiment

Soil remediation is a technical measure to restore the normal function of contaminated soil.

Experiment 1: Treatment of soil pollutants by electrothermal remediation

Electrothermal restoration is a technology that uses high-frequency voltage to generate electromagnetic wave heating to separate some volatile heavy metals from the soil, so as to achieve the purpose of restoration. The waveform required for this experiment is not a normal AC waveform, which is difficult to achieve with ordinary AC power. ITECH IT7600 high-performance AC power supply has built-in arbitrary waveform generator, which can simulate harmonics and various arbitrary waveform outputs, and has AC measurement and analysis functions. With the free IT9000-PV7600 software, you can easily import and export waveform data.



Recommended Products

- IT7600 high performance AC power supply

Experiment 2: Electric remediation method to treat soil pollutants

Electrokinetic repair is to transport heavy metal ions (such as Pb, Cd, Cr, Zn, etc.) and inorganic ions in the soil to the electrode by means of electroosmosis and electromigration under the action of an electric field. They are then collected and processed centrally. The DC power supply connected in the experiment should meet the following requirements: it can be connected to multiple reactors, the output power is high, the output voltage range is 0-100V, the output current is 0-3A, the voltage regulation and current regulation output, programmable, etc.

Recommended Products

- IT-M3400 bidirectional DC power supply

Experiment of Electrolysis Treatment of Industrial Wastewater

The electrolytic treatment of industrial wastewater utilizes the electrochemical properties of metals. Metal ions can be separated from relatively high concentration solutions during electrolysis and then removed. This experiment requires a DC power supply with CC priority mode so that the output current has no overshoot.

Recommended Products

- IT6500 high power DC power supply
- IT6400 bipolar DC power supply

Circuits, electronic technology, power electronics technology

In order to meet the teaching requirements of power electronics, ITECH can provide safe, stable and high-performance power electronic test instruments. We help students obtain accurate measurement data and analyze it, so that they can effectively verify the theoretical and practical knowledge they have learned. ITECH's wide range of power supplies and electronic loads can meet diverse practice and teaching needs, and vigorously promote technological innovation and development in universities and scientific research institutions.

Recommended Products

- IT6300 triple-channel DC power supply
- IT8800 DC electronic load
- IT7800 high power AC/DC power supply

ITECH

YOUR POWER TESTING SOLUTION

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

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