

Integrated Power Supply Testing System



Overview

Chroma 8010 PC Power Supply ATS is the test system of choice for PC power testing on the production line.

Key Takeaways

An Integrated Power Supply Testing System is an automated, configurable platform designed to test AC/DC power supplies, converters, and related electronics across multiple industries, offering high accuracy, energy efficiency, and compliance verification.

Integrated power supply testing systems are automated test equipment (ATE) solutions that provide functional, performance, and compliance testing for AC and DC power supplies, generators, converters, and electronic control units. These systems are widely used in aerospace, defense, automotive, telecom, renewable energy, and data center applications to ensure reliability, safety, and regulatory compliance .

Key Features

- **Automated Testing:** Systems can perform a wide range of tests, including voltage, current, efficiency, ripple, transient response, and protection behavior, reducing manual intervention and improving repeatability .
- **Power Range:** Supports low to high-power applications, typically from 100 W to 300 kW, accommodating both niche and high-volume manufacturing needs .
- **Regenerative Load Technology:** Some systems recycle up to 93% of the input power back to the grid, minimizing heat dissipation and energy costs while supporting sustainability objectives .

- **Modular and Scalable Design:** Rack-mount and modular architectures allow flexible configuration, enabling integration of commercial off-the-shelf (COTS) instruments and expansion for higher power or additional channels .
- **High Accuracy and Dynamic Response:** Advanced control architectures provide precise voltage, frequency, and phase control, as well as fast transient response for evaluating DUT stability and efficiency .
- **Compliance and Safety Testing:** Systems can verify adherence to international standards, including EMC, safety, and grid interconnection requirements, particularly important for data centers and renewable energy systems .

Applications

- **Aerospace and Defense:** Functional testing of avionics power supplies, generator control units, and military electronics .
- **Renewable Energy:** Testing photovoltaic inverters, battery storage systems, and hybrid energy solutions with energy recycling capabilities .
- **Data Centers:** Verification of integrated and redundant power systems, including HVDC architectures, UPS, and on-site generation, ensuring uninterrupted operation and compliance with grid codes .
- **Consumer and Industrial Electronics:** Testing chargers, adapters, LED drivers, EV chargers, and telecom power supplies for performance, efficiency, and safety .

Benefits

- **Efficiency:** Reduces energy consumption and heat generation through regenerative loads.
- **Accuracy:** High-resolution measurements and programmable waveforms ensure precise testing.
- **Flexibility:** Customizable for different industries and power ranges.
- **Automation:** Streamlines testing processes, reduces labor, and improves throughput.
- **Compliance Assurance:** Supports certification and regulatory requirements for global markets. Integrated power supply testing systems are essential for manufacturers and service providers aiming to ensure product reliability, optimize energy usage, and meet industry standards while supporting high-volume or specialized testing needs .

Article Content

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Intepro provides turnkey, customizable solutions including test fixtures, Integrated Test Assemblies (ITA's) and test programs for

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Aerospace, defense, and avionics power supply ATE test systems applications include functional testing of

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When it comes to power supply testing software, engineers need a platform that keeps up with complex test requirements without

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Power Infrastructure an automated test system, or automated test equipment (ATE), is different from powering the PC and lamp on

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AC & DC Programmable Power Supplies | All-in-One Power Testing

Dynamic AC & DC electronic loads for exceptionable test insights for power supplies, inverters, batteries, and more with advanced

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Power Supply Test System from Chroma (8010 ATS) is the production-line test system of choice for fast,

Power Supply ATS_Leaflet_EN_20220419

Modular design allows customers to configure test equipment. Connect and control via the Smart 1 ATS system to

UTS-625 High Capacity Power Supply Tester

Housed in standard full size racks, the UTS-625 system may be expanded from a single bay to multiple

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PowerPro is a feature-rich, expandable automated test platform that gives you control without wasting

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