Laboratory UPS Power System



Overview

Due to the sensitive nature of lab instruments, a double-conversion Online UPS is the best choice since it solves the widest spectrum of power problems.

Key Takeaways

Laboratory UPS systems provide clean, uninterrupted, and conditioned power to protect sensitive laboratory instruments from outages, surges, and voltage fluctuations.

Purpose and Importance

Laboratory UP

S (Uninterruptible Power Supply) systems are essential for protecting high-value, sensitive laboratory equipment such as mass spectrometers, chromatography systems, DNA sequencers, and incubators from power anomalies like outages, surges, harmonics, and voltage spikes. These systems ensure continuous operation during power interruptions, prevent data loss, and maintain the integrity of experiments and samples, which is critical in clinical, research, forensic, and industrial laboratories.

Key Features



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Clean and Conditioned Power: Laboratory UPS systems regenerate a stable sinewave output, filtering out transients and voltage fluctuations to provide precise power for sensitive instruments. Surge Protection and Voltage Correction: Built-in surge protection, automatic voltage regulation, and replaceable fuses enhance safety for both personnel and equipment. Battery Backup: Provides minutes to hours of backup power, allowing instruments to complete critical processes or safely shut down during outages.

Compatibility: Many laboratory UPS systems are plug-and-play and compatible with a wide range of instruments from manufacturers like Thermo Fisher, Agilent, Shimadzu, and PerkinElmer.

UPS Topologies

Laboratory UP

S systems typically use double-conversion online (or dual-conversion) topology, which continuously converts incoming AC power to DC and then back to AC, producing tightly regulated, clean power. This is superior to standby or line-interactive UPS systems, which may allow brief voltage drops or rely on crude voltage regulation, potentially harming sensitive lab instruments.

Applications

Laboratory UP

S systems are used in various types of labs, including: Clinical, research, and reference laboratoriesAnalytical and environmental testing labsForensic, pharmaceutical, and biotechnology labsEducational and industrial laboratories They protect devices such as NMR spectrometers, X-ray analyzers, refrigerated centrifuges, PCR instruments, bio-safety cabinets, and freezers.

Benefits

Prevents Equipment Damage: Protects against spikes, surges, and power outages that could damage expensive instruments. Maintains Experiment Integrity: Ensures uninterrupted operation during critical analytical runs, preventing sample loss and costly retesting. Extends Equipment Lifespan: Clean, stable power reduces wear on sensitive electronics, lowering maintenance costs.

Compliance and Safety: Supports laboratory safety standards and OSHA guidelines by preventing unexpected energization of equipment.

Providers and Options

Companies like Franek Technologies and Battery Backup Power, Inc. offer specialized laboratory UPS systems with VRLA or lithium batteries, custom sizing, and consultation services to match UPS capacity to specific instruments and lab workflows. Capacities range from 0. 6 kVA to 20 kVA, depending on the power requirements of the laboratory equipment.

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In summary, a laboratory UPS system is a critical investment for any lab handling sensitive or high-value instruments, ensuring clean, uninterrupted power, protecting equipment, and maintaining operational continuity.

Article Content

How to Select the Right UPS for Scientific and

Due to the sensitive nature of lab instruments, a double-conversion Online UPS is the best choice since it solves the widest spectrum of power problems. Line

Laboratory/Scientific Battery Backup UPS – Battery

Laboratory Battery Backup U ninterruptible Power Supply Systems (Laboratory UPS Systems) are designed to provide clean, conditioned, uninterrupted power

UPS for Laboratory Testing and Analysis Devices

UPS (uninterruptible power supply) is an important component of a laboratory because it helps to protect sensitive devices from damage that can be caused by power outages, surges, or voltage spikes and

Uninterruptible Power Supply Systems

Founded in 1974, Franek Technologies'' knowledgeable team has been providing high-quality UPS systems and customer support for decades.

Laboratory Uninterruptible Power Supply: Ensuring

What is a Laboratory Uninterruptible Power Supply? A Laboratory Uninterruptible Power Supply (UPS) is a backup power system designed to provide continuous

LAB POWER SOLUTIONS

We specialize in configuring power backup solutions for lab instruments including mass spectrometers, scanning electron microscopes and

Laboratory Uninterruptible Power Supply: Ensuring

Modular UPS systems will continue to be a popular choice for their flexibility and ease of expansion. Conclusion A Laboratory Uninterruptible Power Supply is an

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Uninterruptible Power Supply Systems

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Uninterruptible power supply (UPS) systems are designed to deliver a steady stream of high-fidelity power to instruments and protect against spikes, distortion, and outages. Providing

UPS for Laboratory Testing and Analysis Devices

Gooden single phase online UPS to protect Chromatography systems /mass spectrometer/ NMR spectrometer/ Refrigerated centrifuges/ automatic biochemical analyzer/ thermal analyzer/ Scanning

Lab-Grade Uninterruptible Power Supply for Computers

Power dips can corrupt lab data. Our uninterruptible power supply for computers delivers pure sine wave power to protect experiments & equipment.

Uninterruptible Power Supplies | Rack Mount UPS in the Laboratory

Uninterruptible Power Supplies (UPS) and Rack Mount UPS in the Laboratory: Protecting Your Equipment Diagnostics Lab The use of Uninterruptible Power Supplies (UPS) can mitigate the risk of

Laboratory Protection Systems (LPS/UPS) | Power Protection

Our laboratory uninterruptible power supply systems are recommended by the world''s leading manufacturers of medical and scientific equipment. Each of our laboratory UPS products is

Franek Technologies Incorporated

Franek Technologies in Tustin, CA delivers high-quality UPS for laboratory equipment anywhere in the world. Request for a quote today for your custom

Clean, Uninterrupted Power for Uninterrupted Science

Power conditioners, voltage regulators, and battery backup UPS systems are not one-size-fits-all, and it is essential to ensure the unit is compatible with the instrument. Working with a

UPS Fundamentals & FAQs | How to choose the right backup power

Learn everything about UPS systems, including rackmount and floor-standing options. Discover how they provide backup power, absorb surges and ensure clean energy. Explore key components,

Franek Technologies explains on what to look for when Purchasing a UPS ...

TUSTIN, Calif., /PRNewswire/ -- Franek Technologies, Inc. is the leader in Laboratory Power Protection Systems (LPS/UPS), Surge Protector aka Battery Backup Power. Franek

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Laboratory Protection Systems/Uninterruptible Power Supplies (LPS/UPS)

Installing a Franek high-quality Laboratory Protection System (LPS/UPS) with battery power reserves is a simple way of avoiding the risks associated with poor-quality power. Each

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