X-ray high voltage module



Overview

Advanced Energy''s X-Ray Modules, bolstered by an expert team, deliver superior quality and customer satisfaction.

Key Takeaways

X-ray high voltage modules provide precise, stable high-voltage power to X-ray tubes, enabling safe and reliable X-ray generation for imaging and analysis applications.

Overview

An X-ray high voltage module is a specialized power supply designed to deliver the high voltage and controlled filament current required to operate X-ray tubes. These modules are critical for generating X-rays with consistent intensity and quality, ensuring accurate imaging and analysis in medical, industrial, and scientific applications (Matsusada Precision, IMI).

Key Features

Voltage Range and Power Output: Modules typically cover a wide range of voltages, from 1 kV up to 130 kV, with power outputs from tens to hundreds of watts depending on the application (Advanced Energy, Matsusada Precision, IMI). Control Interfaces: Many modules offer analog or digital control, allowing remote adjustment of output voltage and current. Some include microprocessor control and internal diagnostics for enhanced reliability (Advanced Energy, IMI).

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Stability and Noise Reduction: High voltage modules are engineered for low ripple, minimal low-frequency noise, and precise voltage regulation, which improves image clarity and diagnostic accuracy (IMI). Integration: Some modules are integrated into compact X-ray generator units that combine the X-ray tube, high-voltage supply, and filament supply, reducing wiring complexity and enhancing safety (Matsusada Precision).

Applications

Medical Imaging: X-ray modules power diagnostic imaging systems, ensuring consistent exposure and high-resolution images.

Non-

Destructive Testing (NDT): Used in industrial inspection to detect defects in materials without damaging them. X-ray Fluorescence (XRF) Analysis: Provides stable X-ray output for elemental analysis in research and quality control. Security Screening: Powers X-ray systems for baggage and cargo inspection (Matsusada Precision).

Examples of Products

Advanced Energy MH100 and XRG70 Series: Offer high reliability, analog control, and microprocessor-based diagnostics, with voltage ranges up to 70 kV (Advanced Energy). Matsusada Precision X-ray Generator Units: Compact modules integrating tube, high-voltage supply, and filament supply, supporting voltages from 60 kV to 130 kV and continuous stable operation (Matsusada Precision).

IMI H

W Series: High-frequency switching modules with 1–50 kV output, 100 W power, and short-circuit protection, suitable for precision X-ray applications (IMI).

Safety and Reliability

High voltage modules are designed with safety in mind, including short-circuit protection, controlled filament heating, and isolation features. Integrated modules reduce external cabling, minimizing risk and simplifying system integration (Matsusada Precision, IMI). ConclusionX-ray high voltage modules are essential components for precise, reliable, and safe X-ray generation.

They provide controlled high voltage and filament current, support a range of applications from medical imaging to industrial inspection, and are available as standalone modules or integrated generator units for simplified system design and enhanced safety.

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Article Content

X-RAY High Voltage Power Supply

24V-input X-ray high voltage power supplies, 10–50kV at 1mA, integrated filament supply, local/remote voltage & current programming, arc & short-circuit

High Voltage Power Supply Solutions for OEM

Advanced Energy''s X-Ray Modules, bolstered by an expert team, deliver superior quality and customer satisfaction. The versatile MH100 HV modules are suitable

High Voltage Power Supply Solutions for OEM | Compact, High

Find reliable high voltage power supplies for precision applications. Choose from custom, PCB, modular, and low- to high-power units engineered to meet your needs.

High Voltage Power Supply for X-ray

By offering high-speed switching, low ripple, excellent voltage stability, and minimal low-frequency noise, they enhance image clarity, resolution, and diagnostic accuracy. The HW series of high voltage

Integrated X-Ray Sources & High Voltage X-Ray Generator | VJ X-Ray

It combines the X-ray tube, high-voltage generator, control electronics, and thermal management components into a single compact module. This design eliminates the need for multiple separate

100W X-Ray Generator | uXHP Series | Spellman High

The uXHP Series is the result of Spellman''s exceptional high voltage packaging and surface mount fabrication techniques coupled with proprietary encapsulation

X-Ray Sources and High Voltage Power Supplies Manufacturer | VJ X

VJ X-Ray is the global leader in developing and manufacturing integrated X-ray sources and high voltage generators for next-generation X-ray systems. Our engineering team has over three decades

XRG70 Series

Specifically developed for high-performance, compact X-ray applications, the XRG70 grounded filament power supply module is exceptionally small and reliable, yet offers superior high voltage stability,

Genvolt XRG High Voltage X-Ray Generator Power Supply

The XRG is a superior performance high voltage X-Ray generator power supply that provides a dependable source for tomography systems. Genvolts high frequency

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X-Ray Power Supply | XRR series | Matsusada Precision

The XRR series is a compact high-voltage power supply module designed for analytical 50 kV X-ray tubes. It integrates a high-voltage beam supply and a

High-Voltage X-ray Generators | All Products | Source-Ray

Find the perfect X-ray generator for your needs with our comprehensive selection of integrated and modular options. We also offer custom-built solutions.

X-Ray Power Supply | XRT series | Matsusada Precision

The XRT series is a compact 50kV 50W high voltage power supply module ideal for X-ray fluorescence analysis X-ray tubes. The XRT series has a variable range

Integrated X-Ray Sources & High Voltage X-Ray Generator | VJ X-Ray

An integrated X-ray source is essentially a self-contained X-ray system. It combines the X-ray tube, high-voltage generator, control electronics, and thermal management components into a single

High-Voltage X-ray Generators | Integrated Products | Source-Ray

Discover our ready-made integrated X-ray generators with up to 250kV and 800W. Customizable solutions available. Contact us to learn more.

X-Ray Power Supplies

X-Ray Power Supplies The Excelitas family of high-voltage X-ray power supplies are highly regulated designs created for the demanding requirements of X-ray systems. These power supplies provide

High-Voltage X-ray Generators | Standard & Custom

Custom & standard x-ray generators up to 250KV & 3000W+. Made in the USA. Explore our range for OEM applications or contact us for custom designs.

X-ray Power Supplies | Matsusada Precision

Matsusada Precision offers a lineup of high-voltage power supplies designed exclusively for X-ray tubes, leveraging over 30 years of expertise in high-voltage technology. These dedicated power supplies

High Voltage Generators, X-Ray Generators and X-Ray

Gulmay is a world leader in the design and manufacture of high frequency, high voltage generators, x-ray generators and x-ray systems and controllers.

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