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Data Sheet

August 15, 2026

ADVANCED ENERGY

Advanced Energy MDX-5K DC Magnetron 5 kW Power Supply

The Advanced Energy MDX-5K is a solid DC magnetron power supply delivering 5 kW of power for thin film deposition and other industrial applications. It features precise arc management, stable output, and a compact design for seamless integration. Ideal for demanding environments requiring reliable and consistent power delivery.



MODEL

**Advanced Energy
MDX-5K**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

MDX-5K

LISTING

<https://aumictechlabs.com/products/mdx-5k-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Advanced Energy MDX-5K is a 5 kW DC magnetron power supply engineered for thin film deposition and precision coating applications requiring stable, regulated power delivery. It delivers 0 to 1000 V output with 0 to 10 A current capability, maintaining 0.25% regulation across power, voltage, and current modes. The supply incorporates proprietary Arc-Out™ circuitry that senses and quenches arcs in real time, minimizing target damage and process contamination while maintaining continuous operation into any load mismatch. Output ripple is held to 5% rms at 50 kHz with low stored output energy that limits energy discharge during arc events. Technical Specifications Output: 5 kW, 0-1000 V, 0-10 A Regulation: 0.25% in power, voltage, and current modes Output Ripple: 5% rms at 50 kHz Ignition Voltage: 1550 V Striking Voltage: 1500 V (standard Z version); 800 V (low Z units) Efficiency: >90% line-to-load Input: 208-415 V ±10%, 3

phase, 50/60 Hz; 17 A nominal (MDX-5K) Power Factor: 0.92 Dimensions: 88.63 mm (H) × 215.9 mm (W) × 406.4 mm (D) Weight: 11 kg Operating Temperature: 0–40 °C Storage Temperature: –25 to +55 °C Humidity: 0–92% non-condensing

Key Features Arc-Out™ active arc detection and quenching reduces splatter and substrate damage Three selectable regulation modes (power, current, voltage) with no output shutdown required Programmable ramp and run timers (0–99 minutes) Low output energy storage minimizes arc energy release Forced air cooling with maximum ambient temperature of 45 °C UHF-type output connector with RG-8U coaxial cable

Control & Integration Front panel control with setpoint lock RS-232 ASCII-coded remote interface Analog/digital user port for system integration Full voltage and current digital readback User I/O for interlocks and output status monitoring

Typical Applications DC magnetron sputtering for physical vapor deposition, thin film coatings, and industrial coating systems.

MDX5K Characteristics / Specifications

PARAMETER	VALUE
Model	MDX-5K
Instrument Type	DC magnetron power supply
Rated Output Power	5 kW
Regulation Accuracy	0.25 percent in power current and voltage modes
Ripple 5 kW Unit	5 percent rms at 50 kHz
Ignition Voltage	1550 V
Ramp Timer	0 to 99.0 minutes programmable
Run Timer	continuous or 0 to 99.0 programmable
Input Voltage Options	208 V 380 V 415 V plus or minus 10 percent 3 phase 50/60 Hz
Tap Example 0 to 600 V	10 A
Tap Example 0 to 800 V	8 A
Tap Example 0 to 1000 V	6.25 A
Output Connector	UHF type
Cooling	forced air
Maximum Ambient	45 C
Maximum Relative Humidity	92 percent noncondensing
Typical Height	7 in
Typical Width	19 in
Typical Depth	19 in
Typical Weight	55 to 66 lb
Control Interfaces	front panel RS-232 analog DB-25
Series Family	Advanced Energy MDX
Related Models	MDX-10K MDX-L12M
Load Mismatch Behavior	continuous operation with automatic limiting
Humidity	92 percent noncondensing

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Notes

Numeric rows from Advanced Energy MDX Series DC Magnetron Drives literature and MDX-5K product specifications. Exact tap voltages depend on high/standard/low-Z transformer configuration.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.