

POWER FOR GLASS COATING

PREMIER TECHNOLOGIES | PROVEN CAPABILITIES

Maximize your process power return on investment

Whether you prefer AC or bipolar pulsed DC technology, AE now offers a complete suite of power solutions for all MF cathodes. Take advantage of the wide coverage AE offers, from simple MF to advanced co-sputtering processes.

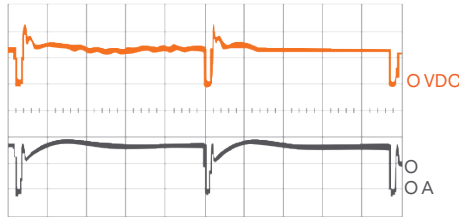
Bipolar pulsed DC and AC power are now available for the same upfront investment.

AE[®] provides complete, cost-effective solutions for glass coating.



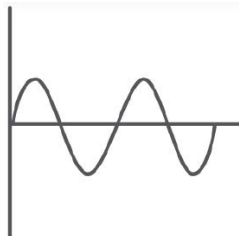
Ascent[®] AMS

DC Power	DC Technology
<ul style="list-style-type: none"> For DC cathodes 	<ul style="list-style-type: none"> Advanced Arc Management System™ (AMS) technology for process stability
<ul style="list-style-type: none"> 30 to 180 kW 	<ul style="list-style-type: none"> Synchronized control for multi-cathode systems
	<ul style="list-style-type: none"> Proven performance in critical applications



Crystal[®]

AC Power	AC Technology
<ul style="list-style-type: none"> For standard MF cathodes 	<ul style="list-style-type: none"> Industry-standard Crystal[®] AC
<ul style="list-style-type: none"> 60 to 180 kW 	<ul style="list-style-type: none"> Proven capabilities
	<ul style="list-style-type: none"> Quick, stable delivery even at high power levels



DUAL-MAGNETRON PRODUCT CAPABILITIES			
	Crystal [®] AC Power Supply	Ascent [®] DMS MF120 Mid-Frequency Dual-Magnetron Sputtering System	Ascent [®] DMS Advanced Dual-Magnetron Sputtering System
Waveform	AC MF	Bipolar MF	Programmable bipolar
Process Frequency	MF (~40 kHz)	25, 30, or 35 kHz (selectable)	500 Hz to 50 kHz (fully programmable)
Cathode Power Delivery	AC MF	50% duty cycle or power balanced	Programmable per cathode
Arc Management	AC arc management	DC-style arc management (lower arc energy)	DC-style arc management (lower arc energy)
Synchronization Between Cathodes		Yes	Yes

With both bipolar and AC options, Advanced Energy® offers the most comprehensive portfolio for dual-magnetron sputtering.

Ascent® DMS MF120

MF Bipolar Power

- For standard MF cathodes
- 120 kW



Ascent® DMS

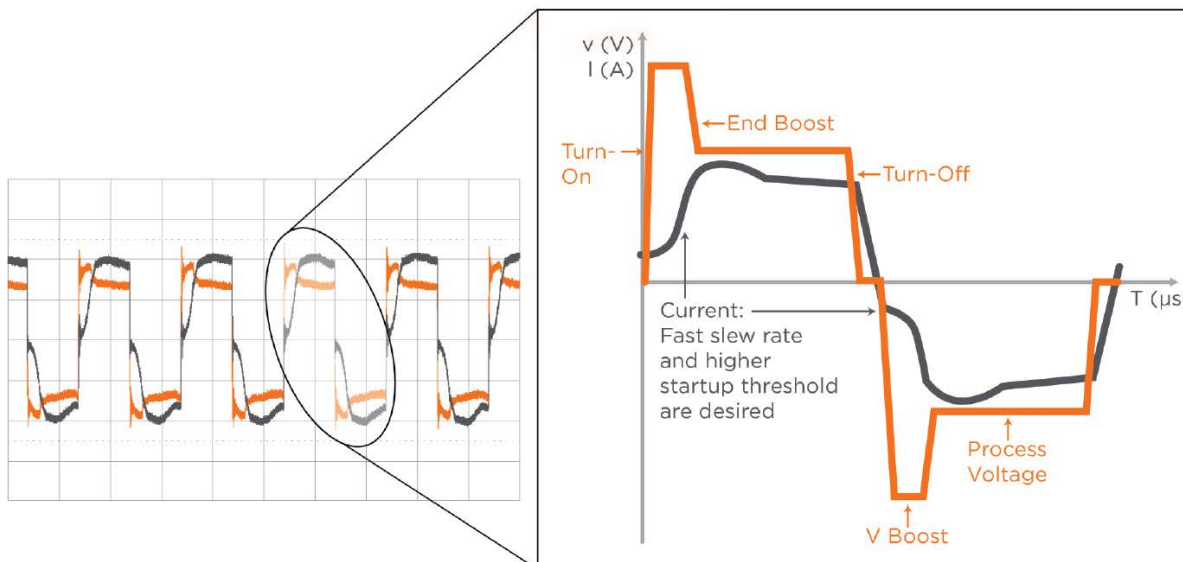
Advanced Bipolar Power

- For advanced processes such as co-sputtering
- 30 to 240 kW



Bipolar Technology

- Industry-proven technology
- Bipolar arc management for higher process stability
- Synchronization across cathodes for multi-zone arc management
- Frequency optimization for higher deposition rates and film quality
- Modularity and scalability for easy integration, configuration, and maintenance
- Power balancing for longer campaign runs and optimized target utilization





For international contact information,
visit advanced-energy.com.

sales.support@aei.com
+1 970 221 0108

ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than three decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

AE's power solutions enable customer innovation in complex semiconductor and industrial thin film plasma manufacturing processes, demanding high and low voltage applications, and temperature-critical thermal processes.

With deep applications know-how and responsive service and support across the globe, AE builds collaborative partnerships to meet rapid technological developments, propel growth for its customers and power the future of technology.

PRECISION | POWER | PERFORMANCE

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