

IMPULSE™

2kW Pulsed Power Modules for Advanced Magnetron Sputtering



Kurt J. Lesker
Company

PROCESS EQUIPMENT™
DIVISION

Applications

- High-Power Impulse Magnetron Sputtering
- High-Power Pulsed Magnetron Sputtering (HiPIMS/HPPMS)
- Advanced coatings for university, industrial and governmental R&D applications
- Dense, high-hardness materials, non-porous films and superior optical coatings
- Ideal for 2", 3" and 4" circular magnetrons requiring high impulse power and pulse flexibility

Features

- Up to 200 A peak current capability for power handling and high deposition rate
- User selectable pulse width, frequency and peak current
- Real-time discharge voltage and current monitoring; integrated power feedback with touch-screen control
- Arc detection and suppression technology
- Precision master/slave module timing for substrate bias or cathode synchronization for co-deposition

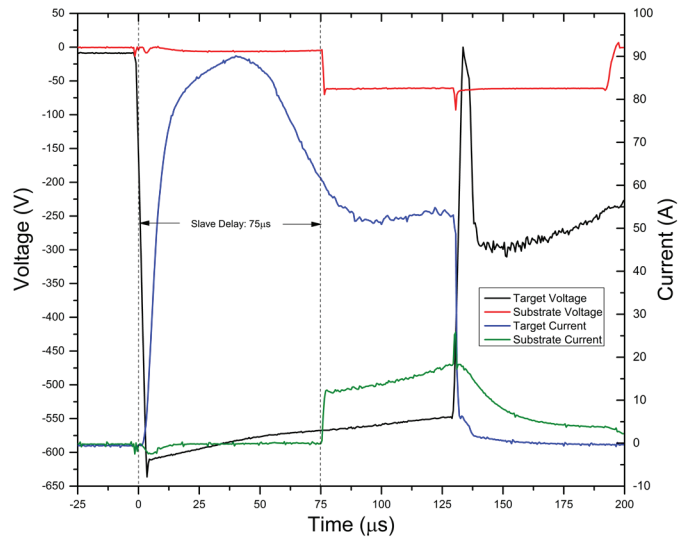
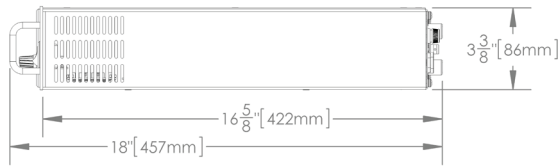
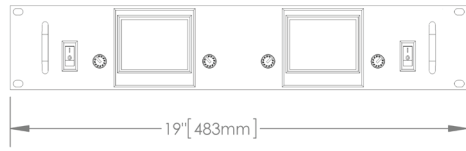
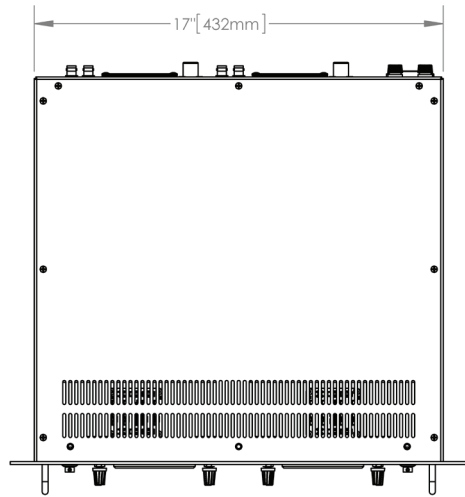
Process

- Easy way to upgrade existing DC sputtering systems for HiPIMS/HPPMS and reactive capability
- Use your existing DC power supply as the charging supply or bias input*

Options

- Available in single or dual module configuration in standard 2U rack enclosure to power multiple magnetron heads, i.e. cluster tools, or a pulsed substrate bias with sub μ s timing
- Touch screen interface with direct parameter entry and tactile knob control, plus rear panel RJ-45 microcontroller interface with external TTL sync pulse and monitor outputs
- Pair with upgraded magnetic pack for higher performance TORUS® PVD tools

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Dimensions Approximate: Shown in MM and (Inches)

Specifications

Input Power Specifications	1 phase, 100-240 VAC, 50/60 Hz, <1 A per
Input Charging Supply	1000 VDC nominal, 1250 VDC tolerant
Time-Average Power	Up to 2 kW
Output Peak Voltage	1000 V nominal, 1250 V tolerant
Output Peak Current	200 A max
Arc Detection Time	<1 µs
Peak Current Limiter	User selectable, up to 200 A
Power Limit Mode	User selectable, up to 2 kW
Pulse Frequency	User selectable, 0.1 kHz to 10 kHz nominal range
Pulse Width	User selectable, 5 µs to 1 ms nominal range
External Communications	RJ-45 control I/O, BNC sync line, BNC I-V monitor out
Pulse Module Sync	<0.1 µs latency
Cabling	N-type HV connector standard, other options available
Configuration Storage	Onboard storage for 5 user selectable presets
Physical Dimensions	2U rack (19" wide); 86 mm (H) x 483 mm (W) x 457 mm (L) with handles
Weight	3.25 kg for single module, 4.65 kg for dual module
Operating Temperature	+5C to +40C, Forced Air Cooling

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