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mks

Power Solutions

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RPDG-200

PULSED DC GENERATORS
20kW HIGH FREQUENCY ASYMMETRIC BIPOLAR PULSED DC POWER

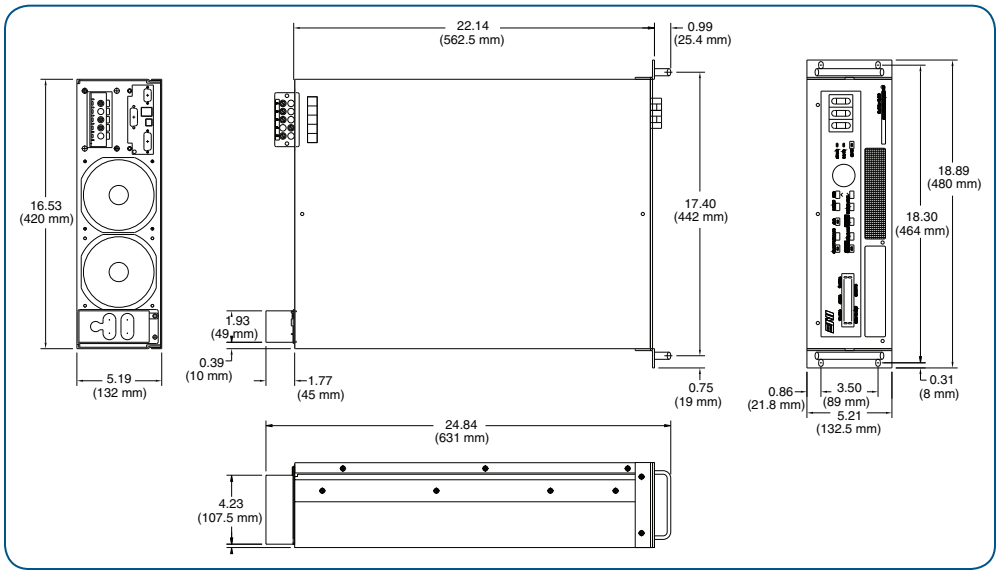
Description

The RPDG-200 is a 20,000W Asymmetric Bipolar Pulsed DC system which enables the deposition of a wide variety of low defect insulating films including Al_2O_3, BST, PZT, Ta_2O_5, TaN, TiN, ITO, SiO_2, ZnO and SiN. The RPG-200 system is comprised of a pulse master unit driving a 20kW DC slave providing up to 20kW in a single output.

Features & Benefits

- For Reactive* PVD, CVD Bias and Hard Coating
- Programmable Frequency, Duty Cycle
- Independent Bias Power Supply for Superior Management of Reverse Excursion

** This power supply may not be used in the United States to supply direct current power to the plasma in a reactive sputtering system used for depositing electrically insulating materials on a substrate, and where the direct current power is periodically reversed to clear or neutralize charge build-up for the purpose of arc prevention as claimed in U.S. Patent Nos. 5,718,813 and 6,001,224.*



Dimensional Drawing —

Note: Unless otherwise specified, dimensions are nominal values in inches (mm referenced).

Specifications

Frequency	Programmable from 25 to 125 kHz or 50 to 250 kHz (Range set by factory)		
Duty Cycle	Programmable from 0 to 40% (Reverse Bias)		
Power Output	20kW		
Power and Current Limits			
Power	21kW for rated 20kW output; proportional at other power levels		
Current	42A		
Regulation Modes	Volts, Amps, Watts		
Output Control Modes	Ramping, Run Time, Joule, Sequence, Constant Run		
DC Linearity/Accuracy			
Independent of Regulation Mode	±0.1%: 10-100% of rated output		
In Watts Mode	±0.25%: 1-10% of rated output		
Line Regulation	±0.1% for ±10% line voltage change ±2% line frequency change		
Load Regulation	±0.1% for a 4:1 load impedance range		
Line Voltage and Current		**Pulse**	**Slave**
AC Input (3-phase) Max	200-208V (-7.5%+10%)	12A	85A
400V	(±10%)	6A	45A
480V	(±10%)	5A	40A
Line Frequency	50 and 60 Hz, ±2%		
Line-to-Output Efficiency	>85%		
Input Power Factor	>0.7 at maximum power output		
Front Panels			
Fully Functional	Provides complete control and monitoring from the master unit		
Remote	Provides complete remote control and monitoring functions		
Blank	Three LED's indicate AC On, DC On, and Fault		
Cooling System	Forced air; front panel and right side in, rear panel out		
Weight	55 lbs (25kg) per 3U unit		
Dimensions (H x W x D)	5.22" x 18.9" x 24.8" (132.5 x 480 x 631 mm) including rack mount and handles		
Environmental Conditions			
Operating Temperature	5 to 40°C		
Relative Humidity	<95% non-condensing		
Max. Operating Altitude	+3500 meters above sea level		
Standard Connectors			
Digital and Analog Interface	9-pin Type D with RS232/422 ENI Protocol, 25-pin Analog		
Optional Interface	PROFIBUS®, DeviceNet™		
Output	UHF female or Terminal Block		
AC Input	5 terminal barrier strip		
Interlock	2 terminal PC header		
Rack Mounting	EIA (Standard) Universal JIS Bracket (optional)		
Compliance	CE, CAN/CSA-C22.2 No. 61010-1, UL 61010-1 IEC 68-2-9 test for bump, IEC 68-2-6 test for vibration, IEC 68-2-23 test for bump		

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