



# RPDG-50 & RPDG-100

**PULSED DC GENERATORS**  
**5KW AND 10KW HIGH FREQUENCY ASYMMETRIC BIPOLAR**  
**PULSED DC POWER**

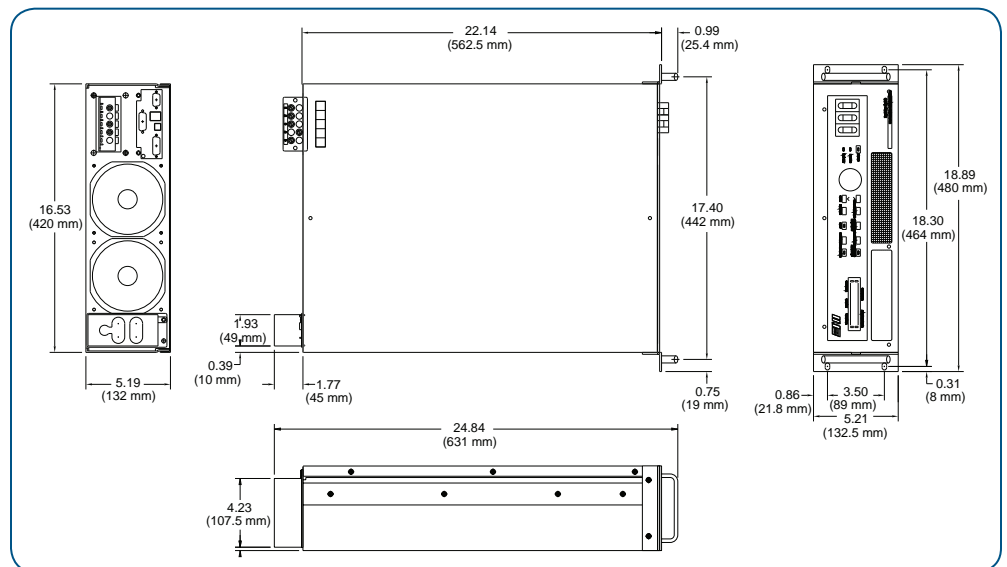
## Description

The RPDG-50 and RPDG-100 are 5,000W and 10,000W Asymmetric Bipolar Pulsed DC generators which enable the deposition of a wide variety of low defect films including  $Al_2O_3$ , BST, PZT,  $Ta_2O_5$ , TaN, TiN, ITO,  $SiO_2$ , ZnO and SiN.

## Features & Benefits

- For Reactive\* PVD, CVD Bias and Hard Coating
- Programmable Frequency, Duty Cycle

\* 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

<b>Frequency</b>	Programmable from 25 to 125 kHz or 50 to 250 kHz (Range set by factory)	
<b>Duty Cycle</b>	Programmable from 0 to 40% (Reverse Bias)	
<b>Power Output</b>	5kW and 10kW	
<b>Power and Current Limits</b>		
Power	5.25kW and 10.5kW for rated 5kW and 10kW output respectively; proportional at other power levels	
Current	10.5A and 21A	
<b>Regulation Modes</b>	Volts, Amps, Watts	
<b>Output Control Modes</b>	Ramping, Run Time, Joule, Sequence, Constant Run	
<b>DC Linearity/Accuracy</b>		
Independent of Regulation Mode	±0.1%: 10-100% of rated output	
In Watts Mode	±0.25%: 1-10% of rated output	
<b>Line Regulation</b>	±0.1% for ±10% line voltage change ±2% line frequency change	
<b>Load Regulation</b>	±0.1% for a 4:1 load impedance range	
<b>Line Voltage and Current</b>	<b>5kW</b>	<b>10kW</b>
AC Input (3-phase)/Nom/Max	200-208V (-7.5%+10%)/19A/25A	200-208V (-7.5%+10%) / 35A / 45A
	400V (±10%)/11A/14A	400V (±10%) / 19A / 25A
	480V (±10%)/9A/11A	480V (±10%) / 16A / 21A
<b>Line Frequency</b>	50 and 60 Hz, ±2%	
<b>Line-to-Output Efficiency</b>	>85%	
<b>Input Power Factor</b>	>0.7 at maximum power output	
<b>Front Panels</b>		
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	
<b>Cooling System</b>	Forced air; front panel and right side in, rear panel out	
<b>Weight</b>	55 lbs (25kg)	
<b>Dimensions (H x W x D)</b>	5.22" x 18.9" x 24.8" (132.5 x 480 x 631 mm) including rack mount and handles	
<b>Environmental Conditions</b>		
Operating Temperature	5 to 40°C	
Relative Humidity (operational)	80% RH maximum at up to 31°C (decreasing linearly to 50% RH maximum at 40°C)	
Max. Operating Altitude	+3500 meters above sea level	
<b>Standard Connectors</b>		
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	
<b>Rack Mounting</b>	EIA (Standard) Universal JIS Bracket (optional)	
<b>Compliance</b>	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	



## MKS Instruments, Inc. Global Headquarters

2 Tech Drive, Suite 201  
Andover, MA 01810  
Tel: 978.645.5500  
Tel: 800.227.8766 (in USA)  
Web: www.mksinst.com

## MKS Instruments, Inc. Power Solutions

100 Highpower Road  
Rochester, NY 14623  
Tel: 585.427.8300