



- 12kW IN SINGLE 6U (10.5" ) CHASSIS
- MODELS FROM 1kV ~ 225kV
- CURRENT AND VOLTAGE PROGRAMMING
- ARC AND SHORT CIRCUIT PROTECTED
- ETHERNET INTERFACE AND RS-232 DIGITAL INTERFACE
- OEM CUSTOMIZATION AVAILABLE.

## INTRODUCTION

Wisman's DG Series of 12kW high voltage power supplies can output positive or negative polarities in 20 different models with output voltages ranging from 1kV to 225kV. DG series' front panel can realize local control easily, while the analog interface of the back panel can realize remote control. The standard Ethernet and digital interfaces RS-232 can be designed to integrate the DG series into yours system.

Wisman's DG series adopts IGBT inverter, which is suitable for all kinds of harsh applications like semiconductor processing and vacuum deposition. Most operational functions of Wisman's DG series can be configured by the user to meet their particular requirements. Power >100kW can be realized by configuring additional chassis in parallel.

## TYPICAL APPLICATIONS

Accelerator, Capacitor Charging, Electron Beam /Ion Beam, Ion Impouring, Semiconductor fabrication, Lithography Technology, Electronic Component Aging, High Voltage Insulation Test, Electrostatics Applications, Laser, High Power Radio Frequency Transmitter, X-ray system, Science Laboratory ,Industrial applications.

## DG SELECTION TABLE

kV	mA	P(kW)	MODEL	kV	mA	P(kW)	MODEL
1	12000	12	DG1*12	30	400	12	DG30*12
2	6000	12	DG2*12	40	300	12	DG40*12
3	4000	12	DG3*12	50	240	12	DG50*12
4	3000	12	DG4*12	60	200	12	DG60*12
6	2000	12	DG6*12	70	171	12	DG70*12
8	1500	12	DG8*12	80	150	12	DG80*12
10	1200	12	DG10*12	100	120	12	DG100*12
12	1000	12	DG12*12	120	100	12	DG120*12
15	800	12	DG15*12	150	67	10	DG150*10
20	600	12	DG20*12	<b>200</b>	<b>50</b>	10	<b>DG200*10</b>
				225	45	10	DG225*10

\*Substitute "P" or positive polarity and "N" for negative polarity. Polarity must be specified at time of order. 1-10kV units are inherently reversible by design requiring an internal wiring change to swap polarities. Intermediate voltage units are available by special order. 150kV~225kV units are limited to a maximum output of 10kW.

### Parallel operation:

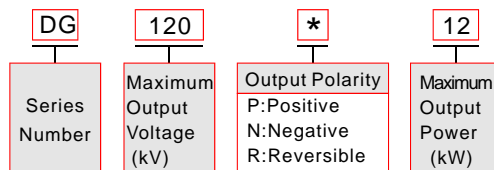
Additional power can be provided in increments of 12kW's by connecting chassis in parallel via the use of the DG's master/slave configuration. Use the applicable base DG model number and increment the power denominated in 12kW steps as required.

DG10P24 10kV @ 24kW's

DG10P36 10kV @ 36kW's

DG10P48 10kV @ 48kW's

## DG SELECTION EXAMPLE



OPTION			
3PH220	180~264Vac, three phases	BFP	Front panel
AX	Arc protection	CP	constant power control mode
AQX	Arc Quench time	LX	Unshield cable optional
ARX	Arc Re-ramp time	HST	High stability
AOL	Adjustable overload HV off	SSX	customized slow start
APT	Adjustable overpower HV Off		



## DG SPECIFICATIONS

ISO9001:2015

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RACK MOUNT

PARAMETER	DESCRIBE
Input Voltage	Standard: 360-528Vac 50/60Hz, three phase. Optional: 180-264Vac, 50/60Hz, three phase.(3PH220)
Input Current	Standard: 360-528Vac, three phase; 25 amps, maximum. Optional: 180-264Vac, three phase; 50 amps, maximum.
Output Voltage	20 models from 1kV to 225kV. Each model is available with positive or negative outputs. 1kV to 10kV units are internally reversible.
Stability	0.02% hr. after 1 hour warm-up.
Ripple	0.1% p-p +1Vrms. Lower ripple available via special order
Voltage/Current Monitor	0~+10Vdc corresponds to 0 to maximum output.
Voltage Local Programming	Internal potentiometer to set voltage from 0 to maximum output voltage.
Current Local Programming	Internal potentiometer to set current from 0 to maximum output current.
Voltage Remote Programming	0~+10Vdc proportional from 0 to maximum output voltage.
Current Remote Programming	0~+10Vdc proportional from 0 to maximum output current.
Voltage Load Regulation	0.05%+500mV ( no load to full load change).
Voltage Line Regulation	0.05%+500mV (input voltage line change ±10%).
Current Load Regulation	0.05%±100uA ( no load to full load change).
Current Line Regulation	0.05% (input voltage line change ±10%).
Temperature Coefficient:	25ppm/°C. Higher stability (15ppm/°C) available on special order via the HS option.
Operating Temperature	0°C ~ +40°C.
Storage Temperature	-40°C ~ +85°C.
Humidity	10% to 90% RH, non-condensing.
Cooling	Forced air; inlet through side panels, outlet at rear panel.
Metering	Digital voltage and current meters, accurate to within 1%.
HV Output Connector	A detachable (3m) long shielded HV cable is provided.
Input/Output Connector	DB50, contain control and monitor signal.
Dimensions	1kV to 120kV: 10.5" (6U)H X 19" W X 21" D (266mm x 482.5mm x 533mm) 150kV: 10.5" (6U)H X 19" W X 23" D (266mm x 482mm x 584mm) 225kV: 20.55" H X 17" W X 29.7" D (521mm x 432mm x 754mm)
Weight	1kV to 50kV: <100 pounds (45.36kg) 60kV to 120kV: <140 pounds (63.50kg) 150kV: <150 pounds (68.03kg) 225kV: <260 pounds (117.9kg) Individual kV models may vary.

## ETHERNET DIGITAL INTERFACE <sup>D</sup>

JB2	SIGNAL				
1	RX+	Receive data +	5	N/C	N/C
2	RX-	Receive data -	6	TX-	Transmit data -
3	TX+	Transmit data+	7	N/C	N/C
4	N/C	N/C	8	N/C	N/C



## ANALOG INTERFACE

RACK MOUNT

JB1	SIGNAL	PARAMETERS
1	Power Supply Common	Power Supply Ground
2	Reset/HV Inhibit	Normally open, Low = Reset/Inhibit
3	External Interlock	+24Vdc @ open, <25mA @ closed
4	External Interlock Return	Return for External Interlock
5	mA Test Point	0~10Vdc=0~100% rated output, Zout=1kΩ, 1%
6	kV Test Point	0~10Vdc=0~100% rated output, Zout=1kΩ, 1%
7	+10Vdc Reference Output	+10Vdc @ 1mA
8	mA Program Input	0~10Vdc = 0~100% rated output, Zin=10MΩ
9	Local mA Program Output	0~10Vdc = 0~100% rated output, front panel pot
10	kV Program Input	0~10Vdc = 0~100% rated output, Zin=10MΩ
11	Local kV Program Output	0~10Vdc = 0~100% rated output, front panel pot
12	Remote Power On Output	+24Vdc @ open, <25mA @ closed
13	Remote Power On Return	Return for Remote Power On
14	Remote HV Off	+24Vdc @ open, <25mA @ closed, connect to pin15 for front panel operation
15	Remote HV Off/On Common	HV On/Off Common
16	Remote HV On	+24Vdc @ open, <25mA @ closed, connect to pin15 for front panel operation
17	HV Off Indicator	Low = HV Off
18	HV On Indicator	Low = HV On
19	Power Supply Common	Supply Ground
20	+24Vdc Output	+24Vdc @ 100mA, maximum
21	Voltage Mode Status	Open Collector, Low = Active
22	Current Mode Status	Open Collector, Low = Active
23	Power Mode Status	Open Collector, Low = Active(Option)
24	Interlock Closed Status	Open Collector, Low = Active
25	Spare	Spare
26	Spare	Spare
27	Spare	Spare
28	Spare	Spare
29	Over Power Fault	Open Collector, Low = Active
30	Over Voltage Fault	Open Collector, Low = Active
31	Over Current Fault	Open Collector, Low = Active
32	System Fault	Open Collector, Low = Active
33	RGLT Error Fault	Open Collector, Low = Active
34	Arc	Open Collector, Low = Active
35	Over Temp Fault	Open Collector, Low = Active
36	AC Fault	Open Collector, Low = Active
37	Spare	Spare
38	Spare	Spare
39	Spare	Spare
40	Pull Voltage	Option connect to pin 44 or pin 45
41	Spare	Spare
42	Spare	Spare
43	Spare	Spare
44	+5Vdc Output	+5Vdc @ 100mA, maximum
45	+15Vdc Output	+15Vdc @ 100mA, maximum
46	-15Vdc Output	-15Vdc @ 10mA, maximum
47	RS232 Tx	RS232 Tx
48	RS232 Rx	RS232 Rx
49	RS232 GND	RS232 GND
50	Power Supply Common	Power Supply Ground

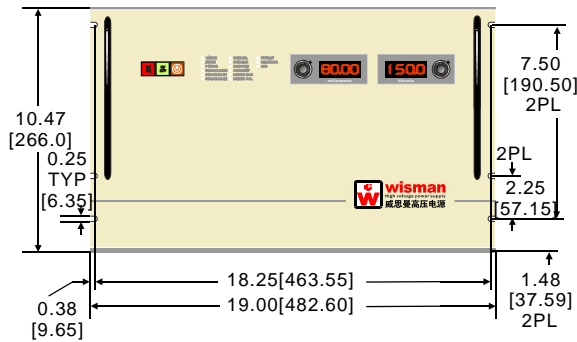


**DG DIMENSIONS**

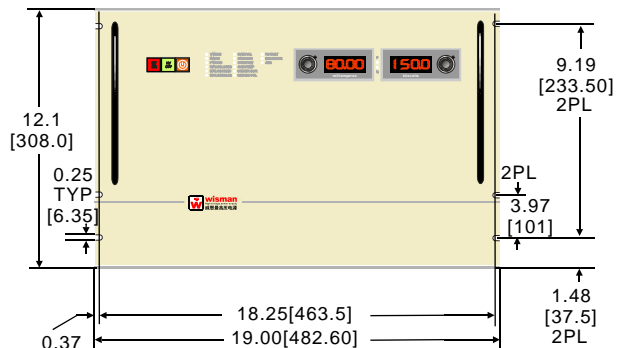
DIMENSIONS: in.[mm]

FRONT VIEW

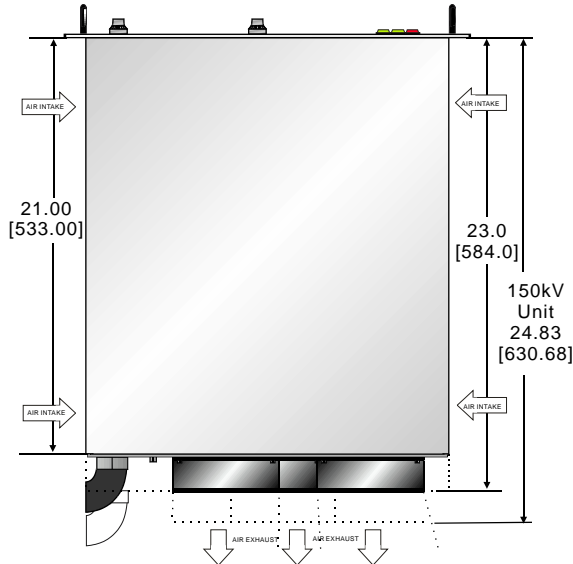
0~150kV:



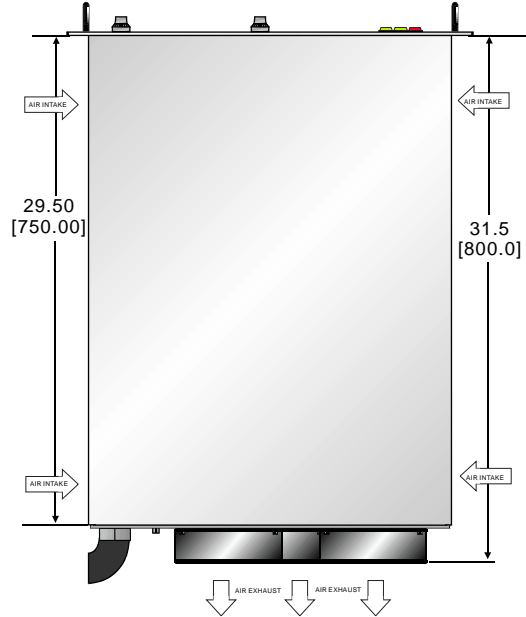
160kV~200kV:



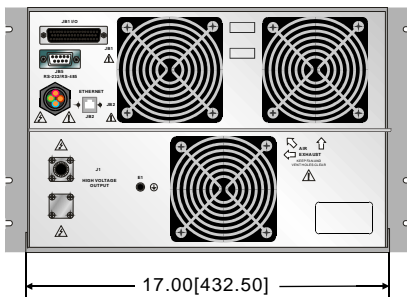
TOP VIEW



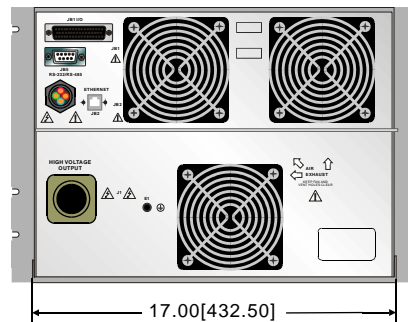
TOP VIEW



BACK VIEW



BACK VIEW



**RACK MOUNT**

