



- ONE UNIT CAN BE USED AS THREE SETS
- OPTICAL FIBER COMMUNICATION OPTIONAL
- 24kW's in SINGLE 12U(21") CHASSIS
- MODEL FROM 2kV ~ 300kV
- CURRENT/VOLTAGE CONTROL
- ARCING AND SHORT CIRCUIT PROTECTION
- ETHERNET and RS-232 DIGITAL INTERFACE
- OEM CUSTOMIZATION AVAILABLE



**RACK MOUNT**

## INTRODUCTION

Wisman's SDG series can output positive and negative polarities synchronously and independently. There are 20 different models with outputs ranging from 2kV ~300kV. SDG 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 SDG series into yours system.

Wisman's SDG 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's can be realized by configuring additional chassis in parallel.

One SDG can be used as three, for example: SDG300PN24 can be used as SDG150P12, SDG150N12 and SDG300PN24. SDG series is with control unit and adopts Wisman's unique synchronization technology, which achieves excellent synchronization when the positive and negative high voltage output synchronously.

## TYPICAL APPLICATION

Accelerator, Capacitor charging, Ion beam Implantation, Semiconductor Processing, Electron Beam Welding, High Power RF Transmitters, Electrostatic Precipitator, X-ray Systems, Science experiments, Industrial application.

## SDG SELECTION TABLE

kV	mA	P(kW)	MODEL	kV	mA	P(kW)	MODEL
2	12000	24	SDG2*24	60	400	24	SDG60*24
4	6000	24	SDG4*24	80	300	24	SDG80*24
6	4000	24	SDG6*24	100	240	24	SDG100*24
8	3000	24	SDG8*24	120	200	24	SDG120*24
12	2000	24	SDG12*24	140	171	24	SDG140*24
16	1500	24	SDG16*24	150	150	24	SDG150*24
20	1200	24	SDG20*24	160	150	24	SDG160PN24
24	1000	24	SDG24*24	200	200	24	SDG200PN24
30	800	24	SDG30*24	240	100	24	SDG240PN24
40	600	24	SDG40*24	300	80	24	SDG300PN24

\* Substitute "PN" for bipolarity. 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 units are limited to a maximum output of 20kW.

Parallel operation:

Additional power can be provided in increments of 24kW' by connecting chassis in parallel via the use of the SDG's master/slave configuration.

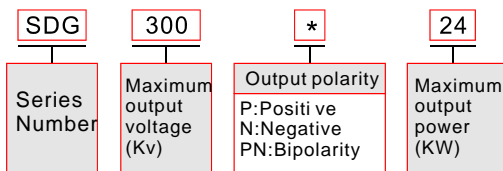
Use the applicable base SDG model number and increment the power's denominated in 24kW steps as required.

SDG10P48 10kV @ 48kW'S

SDG10P72 10kV @ 72kW'S

SDG10P96 10kV @ 96kW'S

## SDG SELECTION EXAMPLE



OPTION			
3PH220	180~264Vac, three phase	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	OPT	Optional fiber communication



## SDG SPECIFICATION

RACK MOUNT

PARAMETER	DESCRIBE
Output Voltage	Standard: 360~528Vac, 50/60 hz, three phase Optional: 180~264Vac, 50/60hz, three phase(220Vac)
Input current	Standard: 360~528Vac, three phase, 50A, Maximum Optional: 180~264Vac, three phase, 100A, Maximum
Output Voltage	Output from 2kv to 300kv, 20 models in total, each model can output positive and negative
Stability	0.02% per hour after 1 hour's warm up
Ripple	0.1% p-p +1Vrms.
Current/Voltage monitor	0~10Vdc = 0~100% rated output
Voltage local programming	Internal potentiometer to set voltage from 0 to 100% rated output
Current local programming	Internal potentiometer to set current from 0 to 100% rated output
Voltage remote programming	External 0~10Vdc control sign can set voltage from 0 to 100% rated output
Current remote programming	External 0~10Vdc control sign can set current from 0 to 100% rated output
Voltage load regulation	0.05%+500mv(no load to rated load)
Voltage line regulation	0.05%+500mv(Input voltage line change ±10%)
Current load regulation	0.05%±100uA(no load to rated load)
Current line regulation	0.05%(voltage line change ±10%)
Temperature coefficient	25ppm/°C, higher stability can be customized(HST:15 ppm/°C)
Operation temperature	0°C~+40°C。
Storage temperature	-40°C~+85°C。
Humidity	10%-90%, RH, non-condensing
Cooling	Forced air, inlet through side panel, outlet at rear panel
Metering	Digital voltage and current meters, accurate to within 1%
HV Output connection	3 meters HV cable can be released from the back panel
Input and Output connection	DB50, including control and monitor signal
Control unit dimension	1.73" H x 19.00" W x 19.00" D(44mm x 482.5mm x 482.5mm)。
HV unit dimension	1kv~120kv: 21"(12U)H×19"W×21"(532mm × 482.5mm × 533mm). 150kv: 21"(12U)H×19"W×23"D(532mm × 482.5mm × 584mm)
Weight	1kv~50kv: <100P(45.36kg) 60kv~120kv: 140P(63.50kg) 150kv: 150P(68.03kg)

### HV OUTPUT(B、C)<sup>D</sup>

J1	HV OUTPUT SIGNAL
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### FIBER INTERFACE(B、C)<sup>D</sup>

JB4	PARAMETERS	
1	TX	Transmit data
2	RX	Receive data

### FIBER INTERFACE(A)<sup>D</sup>

J3	#17 PACK PARAMETERS	
1	TX	Transmit data
2	RX	Receive data

J4	#25 PACK PARAMETERS	
1	TX	Transmit data
2	RX	Receive data



**SDG ANALOG INTERFACE(B,C)**

JB1	SIGNAL	PARAMETER
1	Power Supply Ground	Power Supply Ground
2	Reset/HV Enable	GND= Reset/HV OFF , FLOATING = HV ON
3	External interlock	+24Vdc at open, <25mA at closed
4	External interlock return	External interlock for return
5	Current monitor	0 to 10Vdc = 0 to 100% rated voltage, Zout = 1kΩ, 1%
6	Voltage monitor	0 to 10Vdc = 0 to 100% rated voltage, Zout = 1kΩ, 1%
7	+10Vdc Reference	+10Vdc @ 1mA
8	Remote Current Program Input	0 to 10Vdc = 0 to 100% rated voltage, Zout = 10MΩ
9	Local Current Program Output	0~10Vdc=0~100% rated voltage, front panel potentiometer
10	Remote Voltage Program Input	0 to 10Vdc = 0 to 100% rated voltage, Zout = 10MΩ
11	Local Voltage Program Output	0~10Vdc=0~100% rated voltage, front panel potentiometer
12	Power Supply Ground	Power Supply Ground
13	Remote Power On Return	Return for Remote Power On
14	Remote HV Off	+15Vdc at open, local, connect with 15pin short connect (to the ground), HV Off
15	Remote HV off/HV ON common	Remote HV off/HV ON common
16	Remote HV On	+15Vdc at open, local, connect with 15pin short connect (to the ground), HV off
17	Remote HV OFF Indicator	Low=HV OFF
18	Remote HV ON Indicator	Low=HV ON
19	Power Supply Ground	Power Supply Ground
20	+24Vdc Output	+24Vdc@100mA, Maximum
21	Voltage mode indicator	Open Collector, Low = Voltage mode
22	Current mode indicator	Open Collector, Low = Current mode
23	Power mode indicator	Open Collector, Low = Power mode(Optional)
24	Interlock closed Indicator	Open Collector, Low = Internal closed
25	N/C	N/C
26	N/C	N/C
27	N/C	N/C
28	N/C	N/C
29	Over Power Fault	Open Collector, Low = Over Power Fault
30	Over Voltage Fault	Open Collector, Low = Over Voltage Fault
31	Over Current Fault	Open Collector, Low = Over Current Fault
32	System fault	Open Collector, Low = System Fault
33	RGLT Error Fault	Open Collector, Low = RGLT Error Fault
34	Arc Fault	Open Collector, Low = Arc Fault
35	Over Temp Fault	Open Collector, Low = Over Temp Fault
36	Arc Fault	Open Collector, Low = Arc Fault
37	N/C	N/C
38	N/C	N/C
39	N/C	N/C
40	Alarm indicating collector pull-up voltage	short connect with 44pin or 45
41	N/C	N/C
42	N/C	N/C
43	N/C	N/C
44	+5Vdc output	+5Vdc@100mA, Maximum
45	+15Vdc output	+15Vdc@100mA, Maximum
46	-15Vdc output	-15Vdc@10mA, Maximum
47	RS-232TX	RS-232TX
48	RS-232RX	RS-232RX
49	RS-232 GND	RS-232 GND
50	Power supply Ground	Power supply Ground

**INHIBIT(A)**

J2	PARAMETERS	
6	INHIBIT	REMOTE ENABLE OUTPUT
7	GND	GND
OTHERS	N/C	N/C

**RS-232 DIGITAL INTERFACE(A、B、C)**<sup>ⓐ</sup>

JB3/J5	SIGNAL	
1	N/C	
2	TXD/Transmit data	
3	RXD/Receive	
4	N/C	
5	Digital	
6	N/C	
7	N/C	
8	N/C	
9	N/C	

**ETHERNET DIGITAL INTERFACE(A、B、C)**<sup>ⓐ</sup>

JB2/J6	SIGNAL	
1	RX+	Receive data+
2	RX-	Receive data-
3	TX+	Transmit data+
4	N/C	N/C
5	N/C	N/C
6	TX-	Transmit data-
7	N/C	N/C
8	N/C	N/C

The power supply consists of three parts: A, B and C.

A is for control unit. The customer can realize the high voltage via remote computer control; B is the positive high voltage power supply unit; C is the negative high voltage power supply unit

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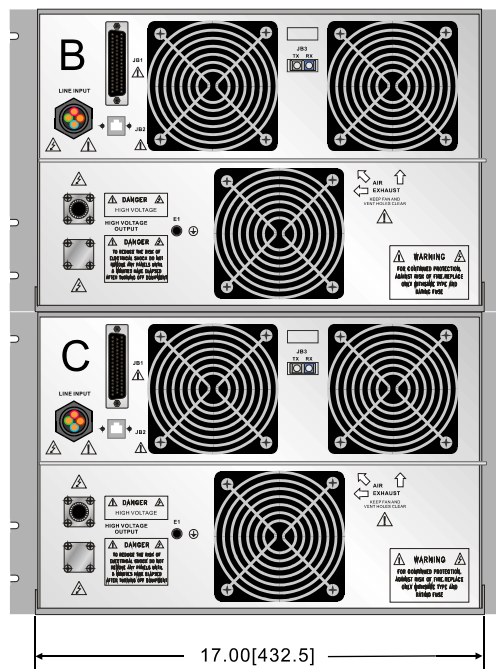
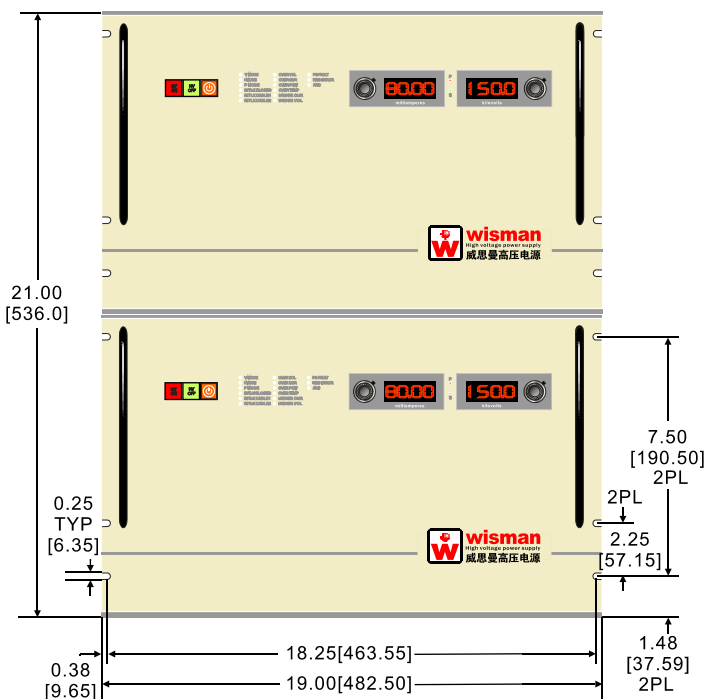
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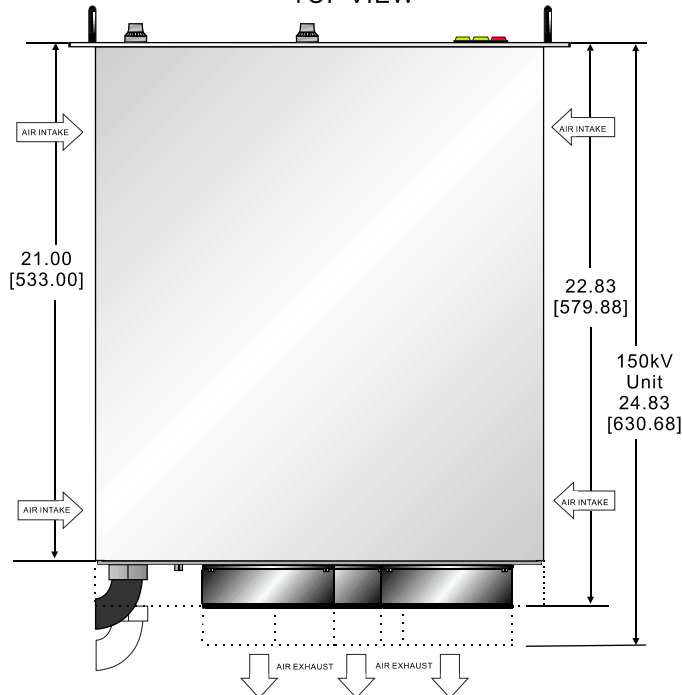
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FRONT VIEW

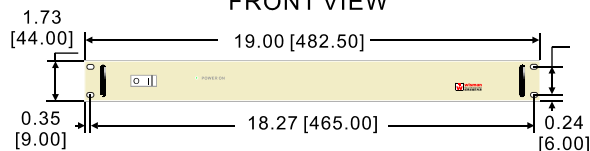
BACK VIEW



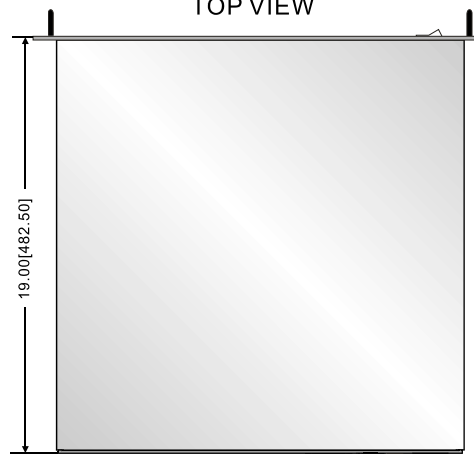
TOP VIEW



FRONT VIEW



TOP VIEW



BACK VIEW

