



- **3DA' s IN SINGLE 3U (5.25") CHASSIS**
- **MODELS FROM 30kV TO -150kV**
- **REMOTE ANALOG AND REMOTE ETHERNET INTERFACE**
- **ARC AND SHORT CIRCUIT PROTECTED**
- **INTEGRATED SINGLE CHASSIS SOLUTION**
- **CUSTOMER CONFIGURABLE FEATURES VIA ETHERNET INTERFACE**
- **OEM CUSTOMIZATION AVAILABLE.**

INTRODUCTION

Wisman's 3DA Series of high voltage power an integrated High Voltage Power , Filament, Grid multiple output high voltage power supply specifically designed, With outputs ranging from 30kV to -150kV . Max Output Power is 3kW~100kW. A full featured front panel allows easy local control, while an extensive analog interface provides comprehensive remote capability. The standard Ethernet and RS-232 digital interfaces simplify integrating the 3DA into your system design.

A rack mount design. Interface, logic and control circuitry utilizes surface mount technology, minimizing cost and size. Individual supplies(High Voltage Power , Filament, Grid)are designed to exacting application specific standards, with excellent regulation, stability, temperature coefficient, drift and accuracy specifications. Isolation and control of the respective floating sources are provided via Wisman' s proprietary high voltage isolation techniques.

The 3DA' s robust IGBT inverter is inherently fault tolerant and is ideal for demanding applications like 3D printer, Many operational features can be configured by the user to suit their particular requirements.

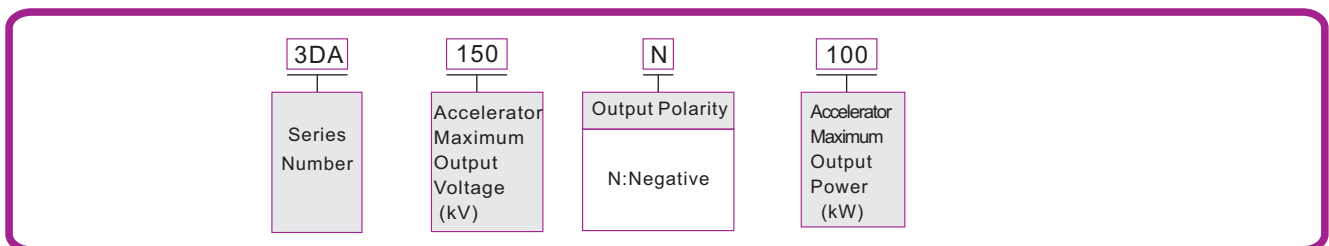
TYPICAL APPLICATIONS

Scanning Electron Microscopes, Electron Guns, Ion Guns, Vacuum Guns, Semiconductor Analysis, Ion Beam Etching, Focused ion-beam lithography, Life Sciences, Medical, chemical Applications, Science, Laboratory Applications, Industrial Applications.

3DA SELECTION TABLE

High Voltage Output	Grid Output			Filament Output		
Output Voltage 30kV ~ 150kV, Output Power 3kW~100kW	kV	mA	P(W)	V	A	P(W)
	-2	25	50	10	40	300

3DA SELECTION EXAMPLE





3DA SPECIFICATIONS

CUSTOM APPLICATION

PARAMETER		SPECIFICATION
Input Voltage		180-264Vac ,50/60Hz, Single phase.
Input Current		180-264Vac ,Single phase,10A,Maximum.
Hv power	Output	Output from -30kV to -150kV.
	Load Regulation	<0.01% (no load to rated load).
	Line Regulation	<0.01%(input voltage line change ± 10%).
	Ripple	≤0.1%.
	Temperature Coefficient	25ppm/°C.
	Stability	0.01% hr. after 1 hour warm-up.
Grid	Output	Output Voltage 0 ~ -2000Vdc, Output Current 0~25mA.
	Load Regulation	≤0.2% (no load to rated load).
	Line Regulation	≤0.2%(input voltage line change ± 10%).
	Ripple	≤0.1%.
	Temperature Coefficient	25ppm/°C.
	Stability	0.1% hr. after 1 hour warm-up.
Filament	Output	Output Voltage 0~+10Vdc, Output Current 0~40A.
	Load Regulation	±0.1% (no load to rated load).
	Line Regulation	100mA(input voltage line change ± 10%).
	Ripple	≤0.1%.
	Temperature Coefficient	25ppm/°C.
	Stability	100mA hr. after 1 hour warm-up.
Operating Temperature		0°C ~ +40°C.
Storage Temperature		-40°C ~ +85°C.
Cooling		Forced air; inlet through side panels, outlet at rear panel.
Humidity		10% to 90% RH, non-condensing.
Dimensions		5.19" (3U)H X 19" W X 19" D (132mm x 482.6mm x 482.6mm)
Weight		40kg.

ETHERNET DIGITAL INTERFACE ^D

JB2	SIGNAL	JB2	SIGNAL
1	RX+	6	N/C
2	RX-	7	TX-
3	TX+	8	N/C
4	N/C	9	N/C
5	N/C		

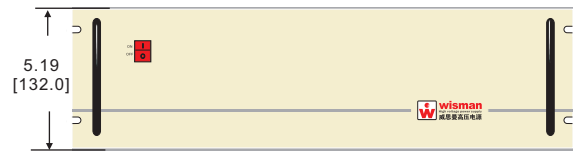


ANALOG INTERFACE CONNECTION

JP1	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	Remote 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	Remote 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 Grid Close/Open control	+15Vdc =open Low =closed
15	Remote X-ray Off/On Common	X-ray Off/On Common
16	Remote X-ray Off/On	+15Vdc =X-ray Off Low =X-ray On
17	Grid Close/Open Status	+15Vdc =open, Low =closed.
18	X-ray Off/On Indicator	+15Vdc =X-ray Off; Low =X-ray On
19	Power Supply Common	Supply Ground
20	+24Vdc Output	+24Vdc @ 100mA, maximum
21	Spare	Spare
22	Spare	Spare
23	Spare	Spare
24	Interlock Closed Status	Open Collector, Low = Active
25	Spare	Spare
26	Spare	Spare
27	Filament Current Test Point	0~10Vdc=0~100% rated output, Zout=1kΩ, 1%
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	Grid Voltage Test Point	0~10Vdc=0~100% rated output, Zout=1kΩ, 1%
39	Local Filament Current Program Output	0~10Vdc = 0~100% rated output, front panel pot
40	Pull Voltage	Option connect to pin 44 or pin 45
41	Filament Current Program Input	0~10Vdc = 0~100% rated output, Zin=10MΩ
42	Grid Voltage Program Input	0~10Vdc = 0~100% rated output, Zin=10MΩ
43	Local Grid Voltage Program Output	0~10Vdc = 0~100% rated output, front panel pot
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

3DA DIMENSIONS

DIMENSIONS: in.[mm]
FRONT VIEW



TOP VIEW

