X-RAY GENERATOR

- BIPOLAR OUTPUTS IN A SINGLE UNIT
- MODELS FROM 80kV~140kV,80W ~ 300W
- OVER VOLTAGE & SHORT CIRCUIT PROTECTION
- LOCAL AND REMOTE PROGRAMMING
- RS232,RS485 AND USB2.0 OPTIONAL
- SAFETY INTERLOCK
- OEM CUSTOMIZATION AVAILABLE

INTRODUCTION

Wisman's XRB series of bipolar x-ray generators are designed for all kinds of x-ray tubes from different manufacturers. It is the best choice of OEM applications, with output voltage 140kV(±70kV), max output power 300Watts. Wisman's XRB series x-ray generator adopts universal input, small package size and three standard digital interfaces which makes it easier to integrate the XRB series into your x-ray analysis system. DSP (digital signal processor) makes high voltage power supply could be controlled more flexibly, stably and exactly.Wisman's XRB series are with multiple protection functions like overvoltage, overcurrent and arc,incorporating local, remote and computer programming. RS232,USB2.0 and RS485 optional.

TYPICAL APPLICATIONS

X-Ray Fluorescence, X-Ray Diffraction, Plating Measurement , Crystal Inspection, Diamond Inspection, Mineral Analysis, Plastics Sorting.X-ray tubes ,Capacitor Charging,Industrial applications,Electronic component aging, Insulation Test, Electrophoresis, Electrostatics Applications, Laser, Science, Laboratory Applications.ESD, Sulfur-detector,X-ray imaging, Non-destructive testing , Portable X-ray machine, Rohs detector, Life Science, Precious metal detector , Industry.

XRB SELECTION TABLE

kV	mA	P(W)	MODEL	kV	mA	P(W)	MODEL
80	1.12	90	XRB80PN90	120	0.63	75	XRB120PN75
	1.25	100	XRB80PN100		0.75	90	XRB120PN90
	1.88	150	XRB80PN150		0.83	100	XRB120PN100
	2.5	200	XRB80PN200		1.25	150	XRB120PN100
	3.5	280	XRB80PN280		1.67	200	XRB120PN200
	3.75	300	XRB80PN300		2.33	280	XRB120PN280
100	1	90	XRB100PN90	140	0.54	75	XRB140PN75
	0.9	100	XRB100PN100		0.64	90	XRB140PN90
	1.5	150	XRB100PN150		0.71	100	XRB140PN100
	2	200	XRB100PN200		1.07	150	XRB140PN150
	2.8	280	XRB100PN280		1.43	200	XRB140PN200
	3	300	XRB100PN300		2	280	XRB140PN280

XRB SELECTION EXAMPLE

XRB	140	PN	280	VIP	10	VIM	10	TR	AX
Series Number	Maximum Output Voltage (kV)	Output polarity PN: Bipolarity output	Maximum Output Power (W)	Option Voltage/Current Program	Option 10:0-+10Vdc =0 to full scale 5:0-+5Vdc =0 to full scale	Option Voltage/Current Monitor	Option 10:0-+10Vdc =0 to full scale 5:0-+5Vdc =0 to full scale	Option USB: USB2.0 Interface RS232: RS-232 Interface RS422: RS-485 Interface	Option X=0,1,2,3,5,8,N arc(N=ARC,does not shutdown. 0= No ARC)

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XRB SPECIFICATIONS

PARAMETER		DESCRIBE		
Input		100kV: +24Vdc±10%,12.5A maximum.140kV:+48Vdc±10%, 6.0A maximum.		
Output		80kV, 100kV, 120kV,140kV Maximum Output Voltage Option. 80W, 100W,150W, 200W, 280W,300W Output Power Option.		
Stability		0.01% per hours, 0.02% per 8 hours after 1/2 hour warm-up.		
Temperature Coefficient		≤25ppm/℃.		
Ripple		0.1% p-p of maximum rated output voltage.		
Voltage/Current Monitor		0~+10Vdc corresponds to 0 to maximum output, Zout=10kW, accuracy:±1%.		
Voltage Local Programming		Internal potentiometer to set voltage from 0 to maximum output voltage.		
Voltage Remote Programming		0~+10Vdc proportional from 0 to maximum output voltage, Zin=10MW.		
Current Local Programming		Internal potentiometer to set beam current between from 0 to full output voltage.(OPTION)		
Current Remotel Programming		0~+10Vdc proportional from 0 to full.(OPTION)		
Voltage Load Regulation		0.01% (no load to full load change).		
Voltage Line Regulation		±0.01% (input voltage line change±10%).		
Current Load Regulation		0.01% (no load to full load change).		
Current Line Regulation		±0.01% (input voltage line change±10%).		
DC Filament Supply		Current: 0.3~3.5A, adjustable Voltage: 0~5.5Vdc		
Operating Temperature		0℃~+40℃.		
Storage Temperature		-40℃~+85℃.		
Cooling		Free convection for P≤100W, Fan (30CFM) assisted for P≥100W.		
Humidity		20% to 85% RH, non-condensing.		
DIMENSIONS	100kV	5.31" H x 7.47" W x 9.83" D (135mm x 190mm x250mm).	Weight	8.05kg
	140kV	6.29" H x 8.25" W x13.17" D (160mm x 210mm x335mm).		14.2kg

XRB POWER INPUT/ CONNECTOR

PIN	SIGNAL	
1	GND	Power Ground
2	POWER IN	+24Vdc/+48Vdc@ 12.5A/6.0A max
3	GND	Power Ground
4	POWER IN	+24Vdc/+48Vdc@ 12.5A/6.0A max

ANALOG INTERFACE CONNECTOR

J3	SIGNAL	PARAMETER
1	GND	GND
2	Voltage Monitor	0 ~ +10Vdc=0 to full scale, Zout=10kΩ
3	Current Monitor	0 ~ +10Vdc=0 to full scale, Zout=10kΩ
4	Interlock Output	Connect to pin 1 to HV enable supply
5	+10Vdc Reference	+10Vdc at 1mA ,maximum
6	Filament Monitor	1Vdc=1A, Zout=10kΩ
7	Voltage Program In	0 ~ +10Vdc=0 to full scale, Zin=10MΩ
8	Local Voltage Program	0 ~ +10Vdc,screwdriver adjust
9	Power Supply Fault	0=Fault
10	Reset	Reset=0
11	Interlock output	Interlock output+24Vdc(48V power+15V
12	Interlock coil	Connect to pin 12 to HV enable supply
13	Local Current Program	10 turn pot, screwdriver adjust
14	Current Program In	0 ~+10Vdc=0 to full scale, Zin=10MΩ
15	Interlock Return	Ground

RS-232/RS-485 DIGITAL INTERFACE Ⓓ

PIN	SIGNAL	PIN	SIGNAL
1	N/C	6	N/C
2	TXD/Transmit Data	7	RS-485B
3	RXD/Receive Data	8	N/C
4	N/C	9	RS-485A
5	SGND		

USB DIGITAL INTERFACE Ⓓ

USB		SIGNAL	USB		SIGNAL
1	VBUS	+5Vdc	3	D+	Data+
2	D-	Data-	4	GND	USB GND

XRB HV CONNECTOR PINOUT

PIN	OUTPUT CONNECTION	
1	C (common)	High Voltage Output
2	S (small)	High Voltage Output
3	L (large)	Filament Output
4	G (grid)	Filament Output

D | X-RAY GENERATOR

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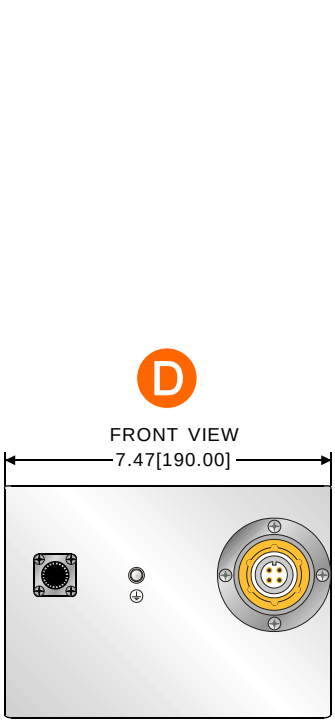
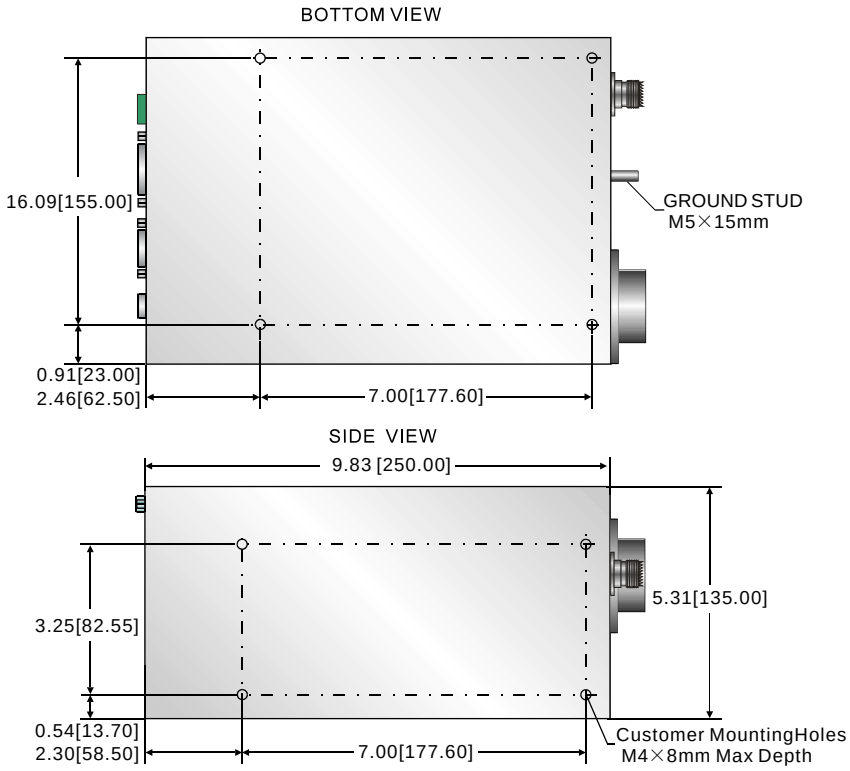
DIMENSIONS

150W(USB2.0/RS232/RS485):

DIMENSIONS:in.[mm]





280W(USB2.0/RS232/RS485):