



- **OPTIONAL USB2.0,RS-232 OR RS-485 IS AVAILABLE**
- **50kV ,2 mA,100 WATT MAX**
- **65kV ,2 mA,100 WATT MAX**
- **ADJUSTABLE INTEGRATED FILAMENT SUPPLY**
- **OVER VOLTAGE ,ARC,SHORT CIRCUIT PROTECTION**
- **VOLTAGE & CURRENT PROGRAMMING**
- **LOCAL AND REMOTE CONTROL**
- **SAFETY INTERLOCK**
- **OEM CUSTOMIZATION AVAILABLE**

INTRODUCTION

Wisman's XRW Series of regulated X-ray power supplies offer output voltages 25kV~65kV and incorporate a filament supply which provides regulated dc current adjustable between 0.3A~3.5 A at 0~5.5V. High voltage and filament current can be linearly ramped up. The XRW incorporates local and remote programming, safety interlock. Short-circuit and overload protection. An optional USB 2.0, RS-232 or RS-485 is available.

TYPICAL APPLICATIONS

Grounded cathode X-ray tubes from Kevex, Oxford, RTW, Superior, Varian and Trufocus,ESD,Sulfur-detector, X-ray fluorescence instrument, X-ray imaging, X-ray diffractometer ,Non-destructive testing ,Portable X-ray machine, Rohs detector,Precious metal detector ,Life Science,Medical industry,Science experiment .

XRW SELECTION TABLE

kV	mA	P(W)	MODEL	kV	mA	P(W)	MODEL	kV	mA	P(W)	MODEL	kV	mA	P(W)	MODEL
25	2.00	50	XRW25*50	50	1.00	50	XRW50*50	50	2.00	50	XRW50P50-2	65	1.00	65	XRW65P65
	3.00	75	XRW25*75		1.50	75	XRW50*75		2.00	75	XRW50P75-2		2.00	65	XRW65P65-2
	4.00	100	XRW25*100		2.00	100	XRW50*100		1.00	60	XRW60P60		2.00	75	XRW65P75-2
30	1.67	50	XRW30*50	65	0.77	50	XRW65*50	60	2.00	60	XRW60P60-2		2.00	100	XRW65P100-2
	2.50	75	XRW30*75		1.15	75	XRW65*75		2.00	75	XRW60P75-2				
	3.33	100	XRW30*100		1.54	100	XRW65*100		2.00	100	XRW60P100-2				

XRW SELECTION EXAMPLE

XRW	65	*	100	-	2	VIP	10	VIM	10	TR	AX	/	B0.1
Series Number	Max. Output Voltage (kV)	Output Polarity	Max. Output Power (W)	Max. Output Current (mA)	Option	Option	Option	Option	Option	Option	Option	Option	Option
		Positive			VP:Voltage Programming IP:Current Programming VIP:Voltage and Current Programming	10:0~+10Vdc=0 to max. output 5:0~+5Vdc=0 to max. output	VM:Voltage Monitor IM:Current Monitor VIM:Voltage and Current Monitor	10:0~+10Vdc=0 to max. output 5:0~+5Vdc=0 to max. output	Rs232 RS422 USB2.0 ET	X=0,1,2,3,5,8,N. 0: No arc N :Arc does not shutdown	B : bias output 0.1: -100V (0.02~0.3 Option)		



SPECIFICATIONS

PARAMETER	DESCRIBE
Input Voltage	+24Vdc ± 10% ,5.0A maximum for 70W, 8.0A maximum for 100W.
Output Voltage	25kV, 30kV, 50kV, 60kV, 65kV option.
Stability	0.02% per 8 hours after 1/2 hour warm-up.
Temperature Coefficient	25ppm/ .
Ripple	0.25% p-p of output voltage.
Voltage/Current Monitor	0~+10Vdc , Zout=1kV Accuracy: ± 1%.
Local Voltage Programming	Internal multi-turn potentiometer to set voltage from 0 to full output voltage.
Local Current Programming	Internal potentiometer to set beam current between 0 to full output current.
Remote Voltage Programming	0~+10Vdc proportional from 0 to full output voltage.Zin=10MVV
Remote Current Programming	0~+10Vdc proportional from 0 to full output current.Zin=10MVV
Voltage Load Regulation	0.01% of output current from 0 to rated voltage.
Voltage Line Regulation	± 0.01% for ± 10% change in input voltage.
Current Load Regulation	0.01% of output current from 0 to rated voltage.
Current Line Regulation	± 0.01% for ± 10% change in input voltage.
DC Filament Supply	Current: 0.3~3.5A, adjustable, Voltage: 0~5.5V,Filament Preheat.
Operating Temperature	0 ~+50 .
Storage Temperature	-40 ~+85 .
Humidity	20%~85% RH, non-condensing.
Dimensions	5.51 " H x 3.35 " W x 9.45 " D (140.0mm x 85.0mm x240.0mm)
Weight	3.65kg.

**XRW POWER INPUT/
FILAMENT OUTPUT CONNECTOR**

PIN	SIGNAL	
J2	+24Vdc	+24Vdc Input
	GND	Ground
J3	FIL	Filament output
	FIL RTN	Ground
	BIAS	Spare(option BIAS)
J4	MON RTN	Ground
	kV MON	Voltage Monitor
	mA MON	Current Monitor
	INTLK	Interlock Output

XRW ET DIGITAL INTERFACE ^D

SIGNAL			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

XRW DIGITAL INTERFACE CONNECTOR ^D

J5	SIGNAL	J5	SIGNAL
1	+10Vdc Reference	6	Current Program Input
2	Filament Monitor	7	Local Current Program
3	Voltage Program Input	8	+24Vdc interlock control
4	Local Voltage Program	9	Signal Ground
5	Interlock control return		

RS-232/RS-485 DIGITAL INTERFACE ^D

SIGNAL		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		

ANALOG INTERFACE CONNECTION

J5	SIGNAL	J5	SIGNAL
1	+10Vdc Reference	6	Current Program Input
2	Filament Monitor	7	Local Current Program
3	Voltage Program Input	8	NC
4	Local Voltage Program	9	Signal Ground
5	Spare		

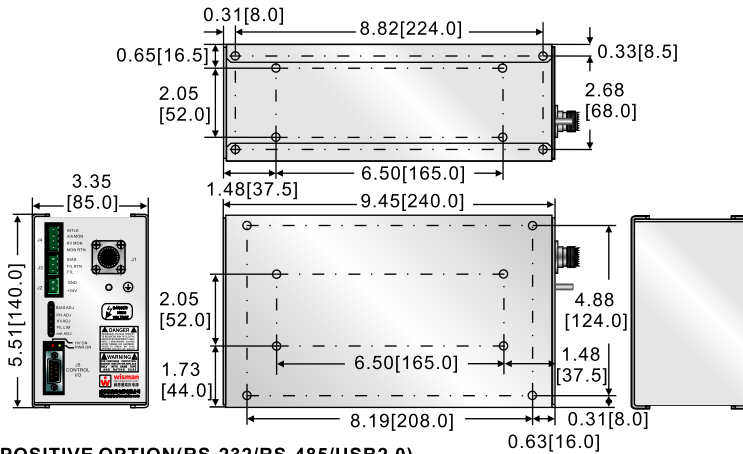
USB DIGITAL INTERFACE ^D

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

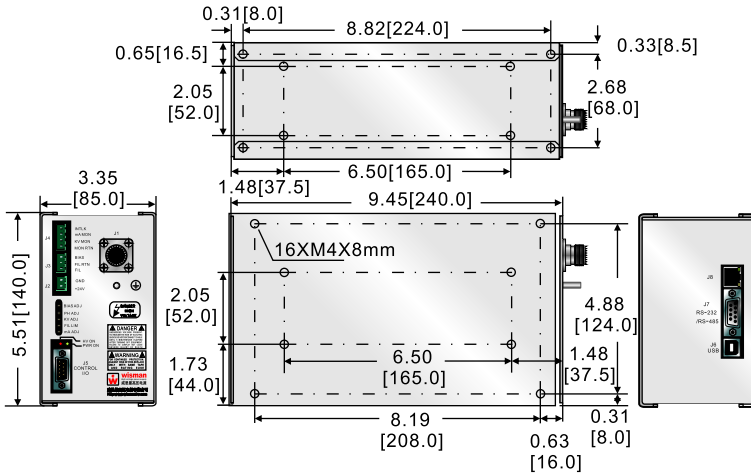
D
X-RAY GENERATOR

DIMENSIONS

STANDARD(POSITIVE):



POSITIVE OPTION(RS-232/RS-485/USB2.0):



Grid Bias Option(GB):

Plug-n-Play compatibility for Oxford's A poguee X-Ray Tube Wisman's Grid Bias Option for the XRW Series is specifically designed for popular commercially available grid bias X-Ray tubes. The Grid Bias voltage is developed via the use of separate integrated high frequency switching circuit, providing maximum flexibility and control. The Grid Bias output is a voltage regulated, current compliant to polylogy ideally suited for wehnelt electrode applications. Arc and short circuit protection of the Grid Bias output prevents any damage due to transient events or installation errors.

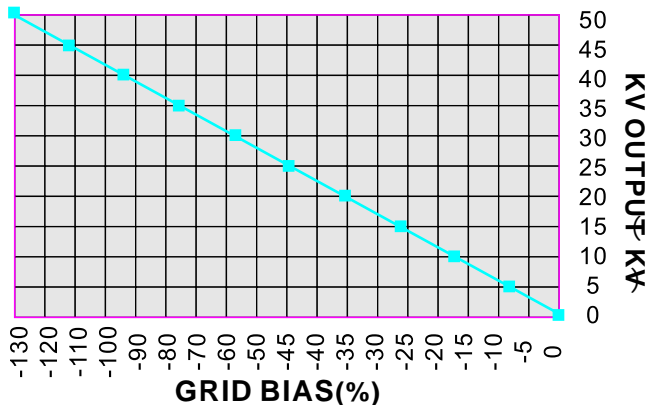
Tracking Mode Operation:

Functioning in tracking mode the voltage monitor (0 ~+10Vdc = 0 ~ 50KV) of the main high voltage output is internally connected to the Grid Bias programming input (0~+10Vdc = 0 ~ -300Vdc of Grid Bias). Connected in this manner the Grid Bias output will track in a linearly proportional fashion the setting of the main KV output.

A front panel accessible multiturn potentiometer limits the maximum magnitude of Grid Bias output applied to the X-Ray tube, providing unparalleled flexibility.

The output of the Grid Bias option is provided via an auxiliary two position Phoenix Contact terminal block, the mating connector is provided

GRID BIAS AND KV OUTPUT



- Output Voltage:** 0 to -300Vdc
- Output Current:** 0.25mA, maximum
- Load Regulation:** 1% of output voltage, no load to full load
- Line Regulation:** 1% for a $\pm 10\%$ change in input voltage
- Ripple:** 1% of maximum rated voltage

The XRW Series is ideal for OEM applications requiring a competitively priced, precision X-ray tube high voltage module.