



- **OUTPUT VOLTAGE FROM 30kV TO 60 kV**
- **ADJUSTABLE INTEGRATED FILAMENT SUPPLY**
- **OVER VOLTAGE, ARC& SHORT CIRCUIT PROTECTION**
- **VOLTAGE & CURRENT PROGRAMMING**
- **STANDARD ET, RS-232, RS-485 OPTIONAL**
- **LOCAL AND REMOTE CONTROL**
- **SAFETY INTERLOCK**
- **OEM CUSTOMIZATION AVAILABLE**



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X-RAY GENERATOR

INTRODUCTION

The XRF series are dedicated high stability chassis type power supplies, with perfect protection system, features output voltage and current local and remote programming. The front panel has voltage and current monitor. The XRF is provided with safety interlock, short-circuit, arc, over temperature, over voltage and over current protection, adjustable wide range and more optional functions. XRF series can be internally and externally controlled and controlled by computer as well, providing standard RS-232 and ET communication interface.

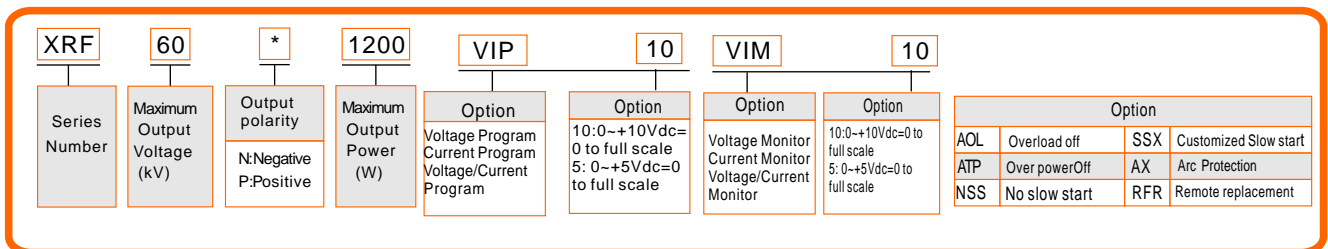
TYPICAL APPLICATIONS

X-ray tubes, X-ray Fluorescence Spectroscopy Analysis, X-ray diffraction analysis Science, Industrial Applications, Laboratory Applications.

XRF SELECTION TABLE

kV	mA	P(W)	MODEL	kV	mA	P(W)	MODEL
30	20	600	XRF30*600	50	12	600	XRF50*600
	40	1200	XRF30*1200		24	1200	XRF50*1200
40	15	600	XRF40*600	60	10	600	XRF60*600
	30	1200	XRF40*1200		20	1200	XRF60*1200

XRF SELECTION EXAMPLE



XRF SPECIFICATIONS

PARAMETER	DESCRIBE
Input	220Vac ± 10%,(110Vdcac option)Maximum 10A
Output	30~60kV Maximum output Voltage option,600~1200W power option
Stability	100ppm per hours after 1/2 hour warm-up
Temperature Coefficient	25ppm/
Ripple	0.1% p-p+1Vrms

Voltage Programming	Front panel: voltage are continuously adjustable from 0 to maximum voltage by internal potentiometers External remote: voltage are continuously adjustable from 0 to maximum voltage by 0 ~+10Vdc External voltage, Zin=10MVV
Current Programming	Front panel: current are continuously adjustable from 0 to maximum current by internal potentiometers External remote: current are continuously adjustable from 0 to maximum current by 0~+10Vdc External voltage, Zin=10MVV
Voltage/Current Monitor	0~+10Vdc corresponds to 0 to maximum output, Zout=4.99kV/accuracy: ± 1%
Output Voltage Remote Programming	Voltage is continuously adjustable from 0 to maximum voltage by External potentiometers
Output Current Remote Programming	Current is continuously adjustable from 0 to maximum voltage by External potentiometers
Voltage Load Regulation	0.005%+500mV (no load to full load change)
Voltage Line Regulation	± 0.005%+500mV (input voltage line change ± 10%)
Current Load Regulation	0.01% ± 100uA (no load to full load change)
Current Line Regulation	± 0.005% (input voltage line change ± 10%)
Filament Supply	12Vdc@5A
Operating Temperature	0 ~+50
Storage Temperature	-40 ~+85
Dimensions	3.46 " H x 19.00 " W x 19.00 " D(44mm x 482.5mm x482.50mm)
Weight	14kg

XRF ANALOG INTERFACE

J2	SIGNAL	PARAMETER	J2	SIGNAL	PARAMETER
1	Ground	Signal ground	14	Remote HV OFF	+15Vdcat Open, Connect to HV OFF for Fp Operation
2	Power Polarity Indicator	Optional	15	HV OFF Indicator	Low=OFF, High=ON
3	External Interlock	+15Vdc at Open, <15mA at Closed	16	Remote HV ON	+15Vdc, maximum current 10mA , HV ON
4	Ground	External interlock ground	17	Remote HV ON Monitor	Low =ON, High=OFF
5	Current Monitor	0~+10Vdc=0 to maximum rated output, Zout=4.99k	18	Reset signal	Low=Reset
6	Voltage Monitor	0~+10Vdc=0 to maximum rated output, Zout=4.99k	19	Voltage Mode	Low
7	+10Vdc Reference	+10Vdc reference voltage, 1mA @ maximum	20	Current Mode	Low
8	Remote Current Input	0~+10Vdc=0 to maximum rated output, Zin=10M	21	Power Mode	Optional
9	Local Current Output	Front panel current output	22	Remote PS Fault	0=Fault, +15Vdc, 0.1mA Max=No Fault
10	Remote Voltage Input	0~+10Vdc=0 to maximum rated output, Zin=10M	23	15Vdc Input/Output	+15Vdc, 100mA @ maximum
11	Local Voltage Output	Front panel voltage output	24	Power monitor	Optional
12	Remote Power Output	Optional	25	Ground	Chassis ground
13	Remote Power Input				

RS-232/RS-485 DIGITAL INTERFACE ^D

J3	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	

HV OUTPUT INTERFACE ^D

	SIGNAL	SIGNAL
1	C(HV OUTPUT)	HV Output
2	S(SMALL)	HV Output
3	L(LARGE)	FILAMENT Output
4	G(GRID)	FILAMENT Output

ET DIGITAL INTERFACE ^D

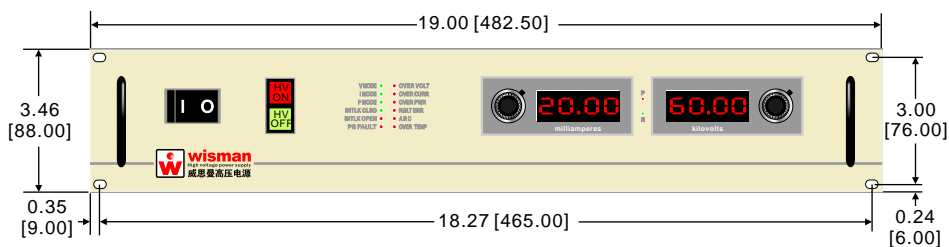
J4	SIGNAL	
1	RX+	Receive data+
2	RX-	Receive data-
3	TX+	Transmit data+
4	N/C	N/C
5	N/C	N/C
6	TX-	Transmit data-
7	N/C	N/C
8	N/C	N/C



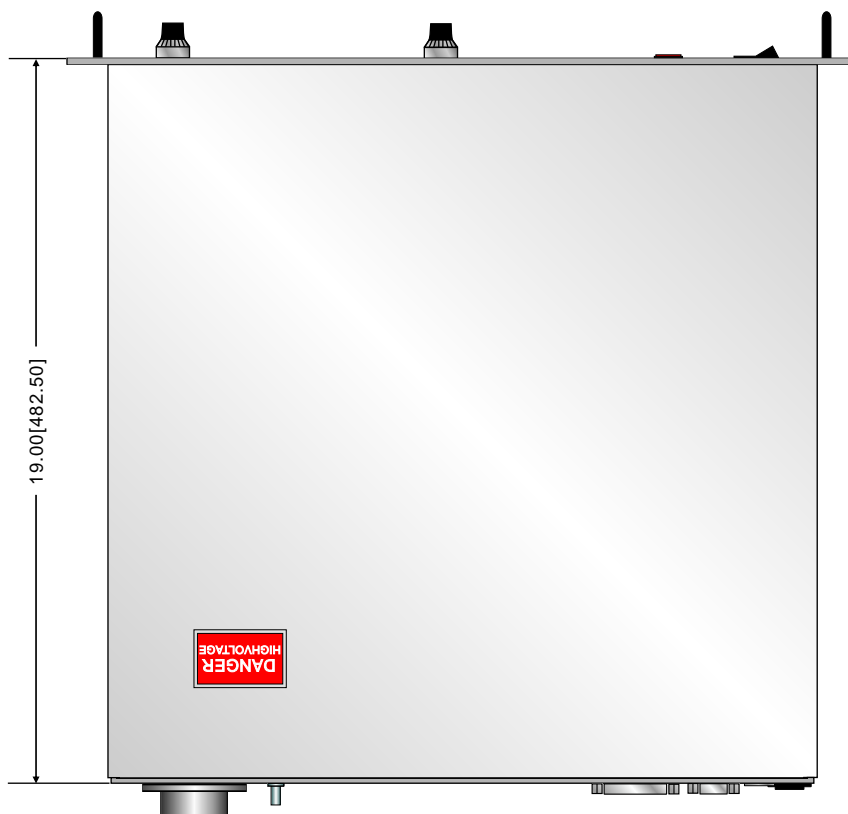
DIMENSIONS

DIMENSIONS: in.[mm]

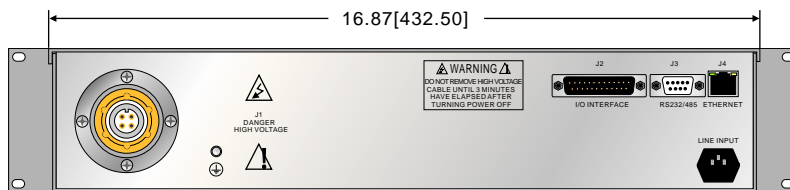
FRONT VIEW



TOP VIEW



BACK VIEW



C

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