XDF

10kV~60kV
3kW~4kW
X-RAY GENERATOR

wisman®
High voltage power supply
威思曼高压电源

ISO9001:2015

D | X-RAY GENERATOR

- 4kW CHASSIS SINGLE 3U(5.25'')
- OUTPUT VOLTAGE FROM 10kV ~ 60kV
- ADJUSTABLE INTEGRATED FILAMENT SUPPLY
- OVER VOLTAGE, OVER TEMPERATURE, ARC OVER CURRENT & SHORT CIRCUIT PROTECTION
- VOLTAGE & CURRENT PROGRAMMING
- LOCAL AND REMOTE CONTROL
- SAFETY INTERLOCK
- OEM CUSTOMIZATION AVAILABLE

INTRODUCTION

Wisman's XDF series x-ray generator adopts new inverter design, which includes IGBTs for power switching and provides new levels of reliability. Additionally, the audio noise at normal operation status by operating at a higher frequency will be eliminated by re-engineering of the XDF 's internal filament supply. Wisman's XDF series x-ray generator utilize a sine wave current source, produced by phase shifting series resonant circuits at switching frequencies greater than 20kHz to generate high voltage dc. Which can eliminates undesirable electromagnetic radiation normally associated with switching and power control regulators. Wisman's XDF x-ray generator can realize the air cooling in a 5.25" (3U) high chassis by its high efficiency. The digital interface RS-232, RS-485 and ET make it integrate to your x-ray analysis system easily.

TYPICAL APPLICATIONS

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

XDF SELECTION TABLE

kV	mA	P(kW)	MODEL	kV	mA	P(kW)	MODEL
20	150	3	XDF20*3	20	200	4	XDF20*4
30	100	3	XDF30*3	30	133	4	XDF30*4
40	75	3	XDF40*3	40	100	4	XDF40*4
50	60	3	XDF50*3	50	80	4	XDF50*4
60	50	3	XDF60*3	60	67	4	XDF60*4

XDF SELECTION EXAMPLE

XDF	60	*	4000
Series Number	Max. Output Voltage (kV)	Output polarity P:Positive polarity N:Negative polarity	Max. Output Power (W)

Option	
BFP	Blank Front Panel
HST	High stability
3PH220	180-264Vac,three phases
SSX	Slow start

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XDF SPECIFICATIONS

PARAMETER	DESCRIBE
Input	Standard:180Vac~264Vac,50/60Hz(Single) Optional:180Vac~264Vac,50/60Hz three phase(3PH)
Output	Standard:180Vac~264Vac,38A(Maximum) Optional:180Vac~264Vac,17A maximum(three phase)
Stability	0.01% per 8 hours
Temperature Coefficient	≤25ppm/℃.
Ripple	0.03rms＜1kHZ, 0.75%Vrms. ＞1kHZ
Voltage/Current Monitor	0 to +10Vdc corresponds to 0 to maximum output
Voltage Local Programming	Internal potentiometer to set voltage from 0 to maximum output voltage.
Voltage Remote Programming	0 to +10Vdc proportional from 0 to maximum output voltage.
Current Local Programming	Internal potentiometer to set current from 0 to maximum output current.
Current Remote Programming	0 to +10Vdc proportional from 0 to maximum output current.
Voltage Load Regulation	0.005% of rated output for full load change.
Voltage Line Regulation	0.005% of rated output over specified input range.
Current Load Regulation	0.01% of rated output over specified inputs.
Current Line Regulation	0.005% of rated output over specified inputs.
Filament Supply	12Vac(dc option Filament Voltage).5A(12A maximum optional)
Temperature coefficience	25ppm/℃，15ppm/℃ can be customized.
Input/output connector	Db50，contain control and monitor signal.
Operating Temperature	0℃~+40℃.
Storage Temperature	-40℃~+85℃.
Cooling	Convection cooled. Inlet through side panel, outlet at rear panel.
Humidity	10%~90% RH, non-condensing.
Dimensions	5.20”（3U)H×19”W×24”D（132mm×483mm×610mm）.
Weight	40kg

RS-232/RS-485 DIGITAL INTERFACE

	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		

ET INTERFACE

PIN	SIGNAL	PARAMETERS
1	RX+	Receive Data+
2	RX-	Receive Data-
3	TX+	Transmit Data+
4	N/C	No Connection
5	N/C	No Connection
6	TX-	Transmit Data-
7	N/C	No Connection
8	N/C	No Connection

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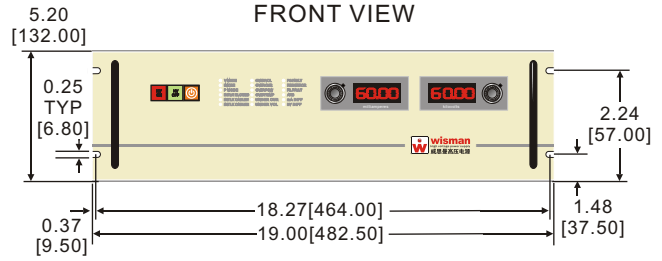
ANALOG INTERFACE CONNECTION

JB1	SIGANAL	PARAMETERS
1	Power Ground	Power ground
2	Reset/HV Enable	Floating,GND=Reset/enable
3	Internal interlock	+24Vdc at Open, <25mA at Closed
4	External Interlock Return	Return for Interlock
5	Current Monitor	0~+10Vdc=0 to 100% Rated Output,Zout=1kΩ,1%
6	Voltage Monitor	0~+10Vdc=0 to 100% Rated Output,Zout=1kΩ,1%
7	+10Vdc Output Reference	+10Vdc @ 1mA
8	Remote Current Program In	0~+10Vdc =0 to 100% Rated Output, Zin=1MΩ
9	Local Current Program Out	0~+10Vdc=0 to 100% Rated Output, Front panel potentiometer
10	Remote Voltage Program In	0~+10Vdc =0 to 100% Rated Output, Zin=1MΩ
11	Local Voltage Program Out	0~+10Vdc =0 to 100% Rated Output, Zin=1MΩ
12	Remote Power Program In	+24Vdc@open,25mA@closed
13	Remote HV On	Remote power on return
14	Remote Filament Off	+15Vdc@open,Connect to Pin15 locally, Filament off
15	Remote Filament Off/ Filament On common	HV off/HV on common
16	Remote Filament On	+15Vdc@open,Connect to Pin15 locally, Filament on.
17	Filament Off indicator	Low level=Filament off
18	Filament On indicator	Low level=Filament on
19	Power GND	Power GND
20	+24Vdc Output	+24Vdc @ 100mA, Maximum
21	N/C	N/C
22	Big and small filament	Optional
23	N/C	N/C
24	Interlock closed indicator	Open collector, low level+interlock closed.
25	N/C	N/C
26	N/C	N/C
27	Filament current indicator	0~+10Vdc=0~100% rated output, Zout=1k , 1%
28	N/C	N/C
29	Power alarm	Open collector,Low level=Power alarm
30	Overvoltage alarm	Open collector,Low level=Overvoltage alarm
31	Overcurrent alarm	Open collector,Low level=Overcurrent alarm
32	System alarm	Open collector,Low level=system alarm
33	Error adjustment alarm	Open collector,Low level=Error adjustment alarm
34	Arc alarm	Open collector,Low level=Arc alarm
35	Overtemperature alarm	Open collector,Low level=Overtemperature alarm
36	AC alarm	Open collector, Low level=AC alarm
37	Interlock GND	+15Vdc@open,Interlock closed connect to GND
38	N/C	N/C
39	Local filament current rated output	0~+10Vdc=0 to 100% Rated Output, Front panel potentiometer
40	Alarm indicating collector pull-up voltage	Connect to pin44 or pin45 optional
41	Filament current rated input	0~+10Vdc = 0~100% rated output, Zin=10M
42	N/C	N/C
43	N/C	N/C
44	+5Vdc input	+5Vdc @ 100mA,Maximum
45	+15Vdc output	+15Vdc @ 100mA, Maximum
46	-15Vdc output	-15Vdc @ 10mA, Maximum
47	N/C	N/C
48	N/C	N/C
49	N/C	N/C
50	Power GND	Power GND

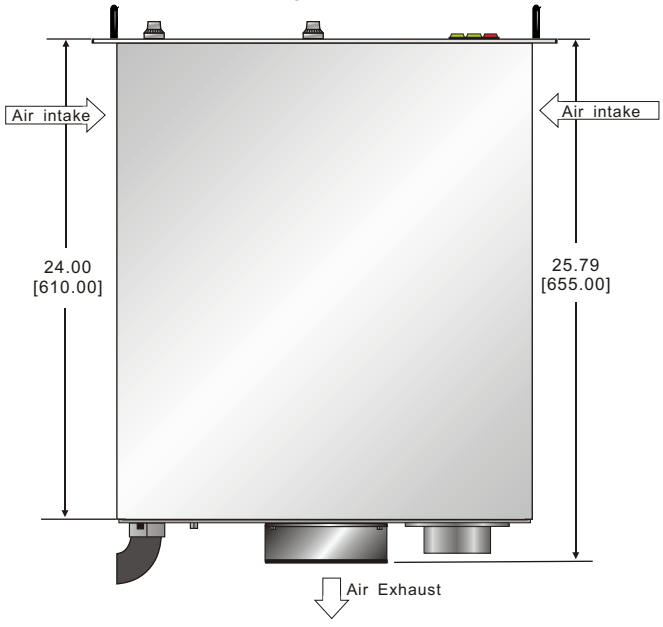
DIMENSIONS

DIMENSIONS: in.[mm]

FRONT VIEW



TOP VIEW



BACK VIEW