



The XFN Series is designed to power floating filament X-ray tubes from various manufacturers. It features a 0 to 50kV (or 0 to 65kV) high voltage output, and up to 2mA of emission current limited to 50, 65, 75 or 100 Watts, operating from a +24Vdc input. The XFN utilizes a closed loop filamentary beam control circuit to provide a highly regulated beam current. The floating filament supply operates between 0.3 and 5 amps. Offering tight regulation, high stability and low ripple, the XFN provides users both local and remote analog control to set beam voltage, emission current and filament current limit. An optional USB, RS-232 and RS-422 interface is available.

TYPICAL APPLICATIONS:

Grounded anode X-ray tubes from Keveex, Oxford, RTW, Superior, Varian and Trufocus.....

OPTIONS:

USB USB Interface
Rs232 RS-232C Interface
Rs422 RS-422 Interface
NAT ARC, does not shut down
AT(X) ARC shut down (option 1-20 arc)

SPECIFICATIONS:

Input:

24Vdc \pm 10% , 5.0A maximum .

Output:

0 to 50KV at 0 to 2mA, limited to a maximum of 100 Watts. 0-65KV at 2mA limited to 100 Watts. Negative output polarity.

Voltage Control:

Local: Internal multi-turn potentiometer to set voltage from 0 to full output voltage.
Remote: 0 to +10Vdc proportional from 0 to full output voltage.

Emission Control:

- **OPTIONS USB2.0. RS-232 OR RS-422 IS AVAILABLE.**
- **50KV AT 2 MA. 100 WATT MAX.**
- **65KV AT 2MA. 100 WATT MAX.**
- **FLOATING FILAMENT SUPPLY.**
- **ARC, OVERVOLTAGE & SHORT CIRCUIT PROTECTION.**
- **VOLTAGE & CURRENT PROGRAMMING.**
- **LOCAL AND REMOTE CONTROL.**
- **SAFETY INTERLOCK.**
- **OEM CUSTOMIZATION AVAILABLE.**

Local: Internal potentiometer to set beam current between 0 and full output current.

Remote: 0 to +10Vdc proportional from 0 to full output current.

Filament Supply:

Current: 0-5A, adjustable limit.

Voltage: 5.0 volt limit.

Voltage Regulation:

Load: 0.01% of output voltage no load to full load.

Line: \pm 0.01% for \pm 10% change in input voltage.

Current Regulation:

Load: 0.01% of output current from 0 to rated voltage.

Line: \pm 0.01% for \pm 10% change in input voltage.

Ripple:

0.1% p-p of maximum rated output voltage.

Environmental:

Operational: 0° C to +50° C

Storage: -40° C to +85° C

Humidity: 0% to 90%, non-condensing

Temperature Coefficient:

0.01% per ° C, voltage and current.

Stability:

0.05% per 8 hours after 1/2 hour warm-up.

Voltage and Current Monitors:

0 to +10Vdc proportional from 0 to rated output. Accuracy \pm 1%

Dimensions:

Standard unit: 7.28" H x 2.95" W x 8.07" D
(185.00mm x 75.00mm x 205.00mm)
PC50KV Option: 8.03" H x 2.95" W x 8.07" D
(204.00mm x 75.00mm x 205.00mm)
HV65KV Option: 7.28" H x 2.95" W x 8.98" D
(185.00mm x 75.00mm x 228.00mm)
PC65KV Option: 8.03" H x 2.95" W x 8.98" D
(204.00mm x 75.00mm x 228.00mm)

XFN SELECTION TABLE - 10W 30W 50W

10W			30W		50W	
KV	mA	MODEL	mA	MODEL	mA	MODEL
6	1.67	XFN6N10	5.00	XFN6N30	8.33	XFN6N50
10	1.00	XFN10N10	3.00	XFN10N30	5.00	XFN10N50
20	0.50	XFN20N10	1.50	XFN20N30	2.50	XFN20N50
30	0.33	XFN30N10	1.00	XFN30N30	1.67	XFN30N50
40	0.25	XFN40N10	0.75	XFN40N30	1.25	XFN40N50
50	0.20	XFN50N10	0.60	XFN50N30	1.00	XFN50N50
60	0.17	XFN60N10	0.50	XFN60N30	0.83	XFN60N50
65	0.15	XFN65N10	0.46	XFN65N30	0.77	XFN65N50

XFN SELECTION TABLE - 65W 75W 100W

65W			75W		100W	
KV	mA	MODEL	mA	MODEL	mA	MODEL
6	10.83	XFN6N65	12.50	XFN6N75	16.67	XFN6N100
10	6.50	XFN10N65	7.50	XFN10N75	10.00	XFN10N100
20	3.25	XFN20N65	3.75	XFN20N75	5.00	XFN20N100
30	2.17	XFN30N65	2.50	XFN30N75	3.33	XFN30N100
40	1.63	XFN40N65	1.88	XFN40N75	2.50	XFN40N100
50	1.30	XFN50N65	1.50	XFN50N75	2.00	XFN50N100
60	1.08	XFN60N65	1.08	XFN60N75	1.67	XFN60N100
65	1.00	XFN65N65	1.00	XFN65N75	1.53	XFN65N100

XFN POWER INPUT CONNECTOR

SIGNAL		
1	+24V Input	+24 Volts @ 5A, max
2	24V Return(Gnd)	Power Ground

ANALOG INTERFACE CONNECTOR

I/O	SIGNAL	
1	Monitor Return	Signal Ground
2	Voltage Monitor	0-10 volts=0 to full scale, Zout=1KΩ
3	Current Monitor	0-10 volts=0 to full scale, Zout=1KΩ
4	Interlock Output	+12Vdc in = Interlock Closed
5	+10 Volt Reference	+10 Volts @ 1mA, maximum
6	Filament Monitor	1 volt = 1 amp, Zout = 1KΩ
7	Voltage Program Input	0-10 volts = 0 to full scale, Zin=10MΩ
8	Local Voltage Program	10 turn pot, screwdriver adjust
9	Filament Limit Setpoint	1 volt = 1amp, screwdriver adjust
10	Current Program Input	0-10 volts = 0 to full scale, Zin=10MΩ
11	Local Current Program	10 turn pot, screwdriver adjust
12	Not used(+24VOut for Interlock)	(Optional Interlock configuration)
13	Not used(Interlock Coil)	(Optional Interlock configuration)
14	Filament Preheat Setpoint	1 volt = 1amp, screwdriver adjust
15	Interlock Return	Interlock Ground

RS-232, RS-422 DIGITAL INTERFACE

J2	SIGNAL	
1	N/C	No Connection
2	TXD	Transmit Data
3	RXD	Receive Data
4	N/C	No Connection
5	SGND	Signal Ground
6	RA+	RA+ Input
7	RB-	RB- Input
8	TB-	TB- Output
9	TA+	TA+ Output

USB DIGITAL INTERFACE

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

LED INDICATORS

SIGNAL		
1	ARC	Arc fault occurs
2	OT	Over temperature occurs
3	OC	Over current occurs
4	UC	Low current occurs
5	OV	Over voltage occurs
6	UV	Low voltage occurs
7	HV	HV ON

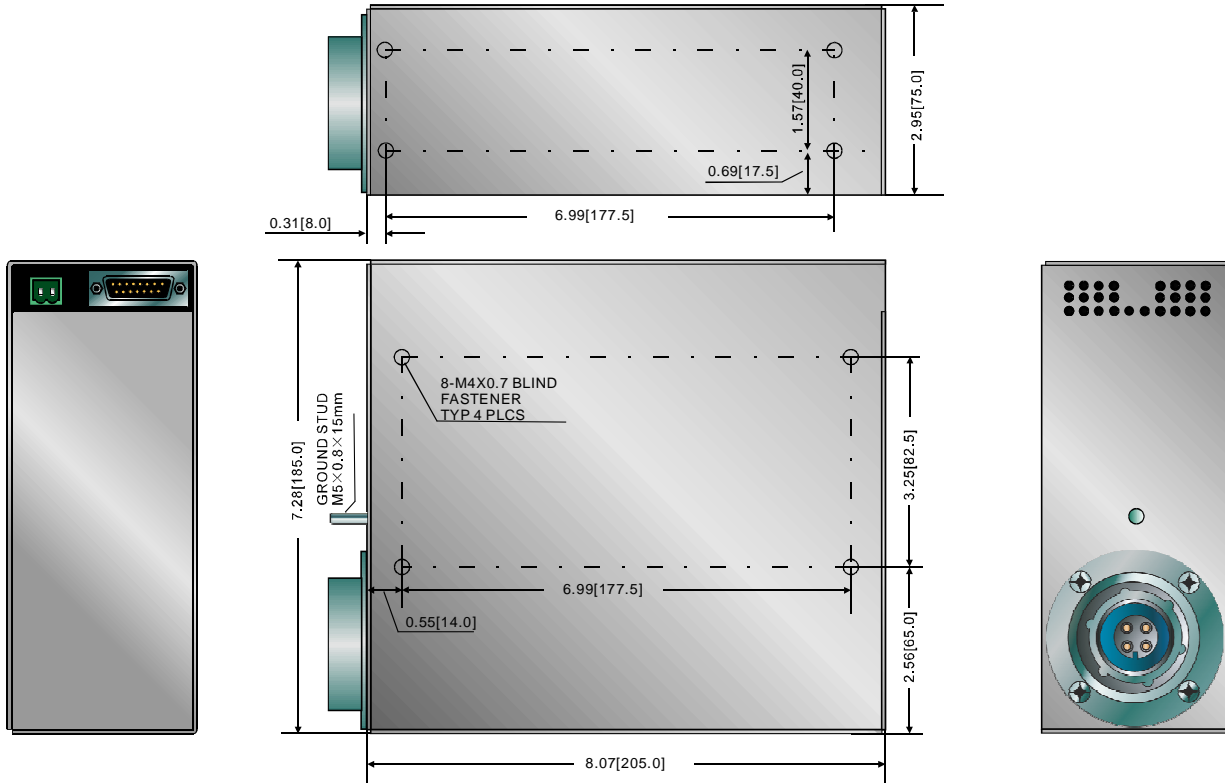
OPTION MODEL

KV	mA	MODEL	W	KV	mA	MODEL	W
50	1	XFN50N50	50	60	2	XFN60N100-2	100
50	2	XFN50N50-2	50	65	1	XFN65N65	65
50	2	XFN50N75-2	75	65	2	XFN65N65-2	65
60	1	XFN60N60	60	65	2	XFN65N75-2	75
60	2	XFN60N60-2	60	65	2	XFN65N100-2	100
60	2	XFN50N75-2	75				

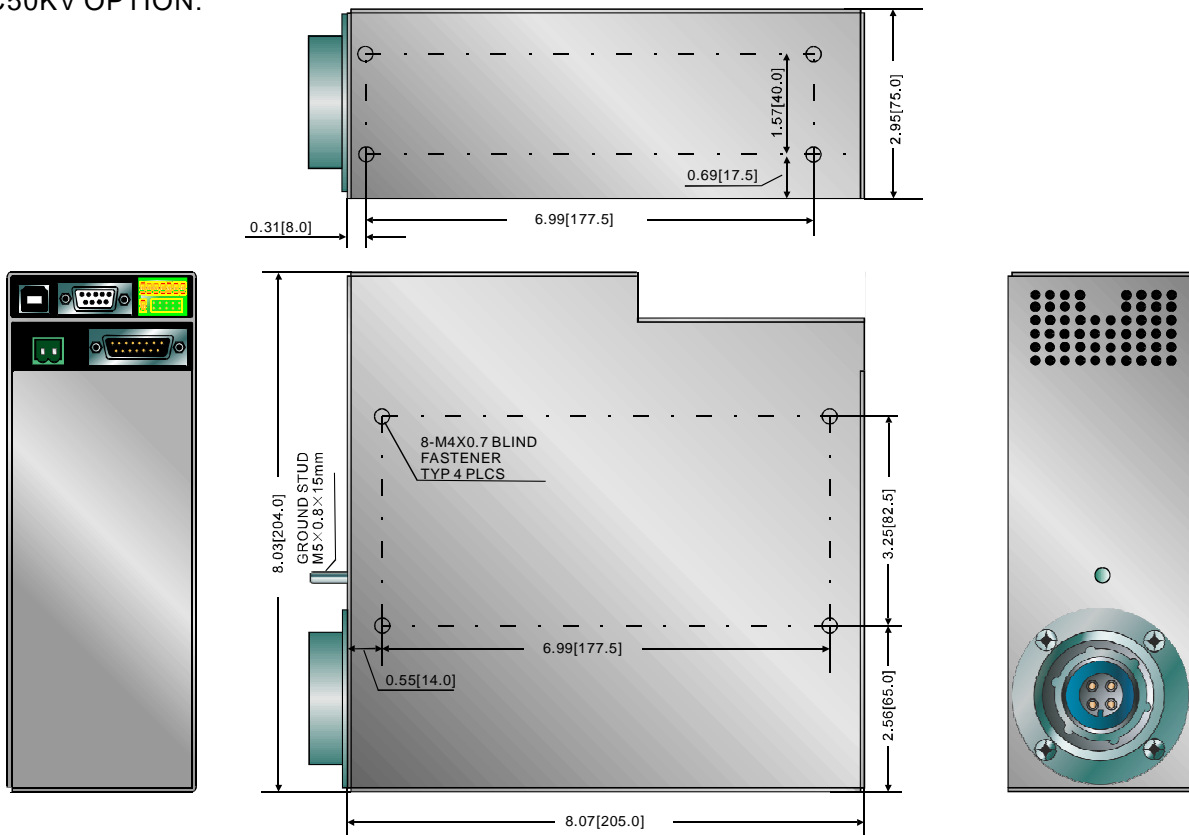
EXAMPLE:
 XFN50N75-2/USB/RS232
 XFN Series, 50KV,N Negative high voltage,-2 2mA,
 USB USB Interface,RS232 RS-232 Interface

STANDARD:

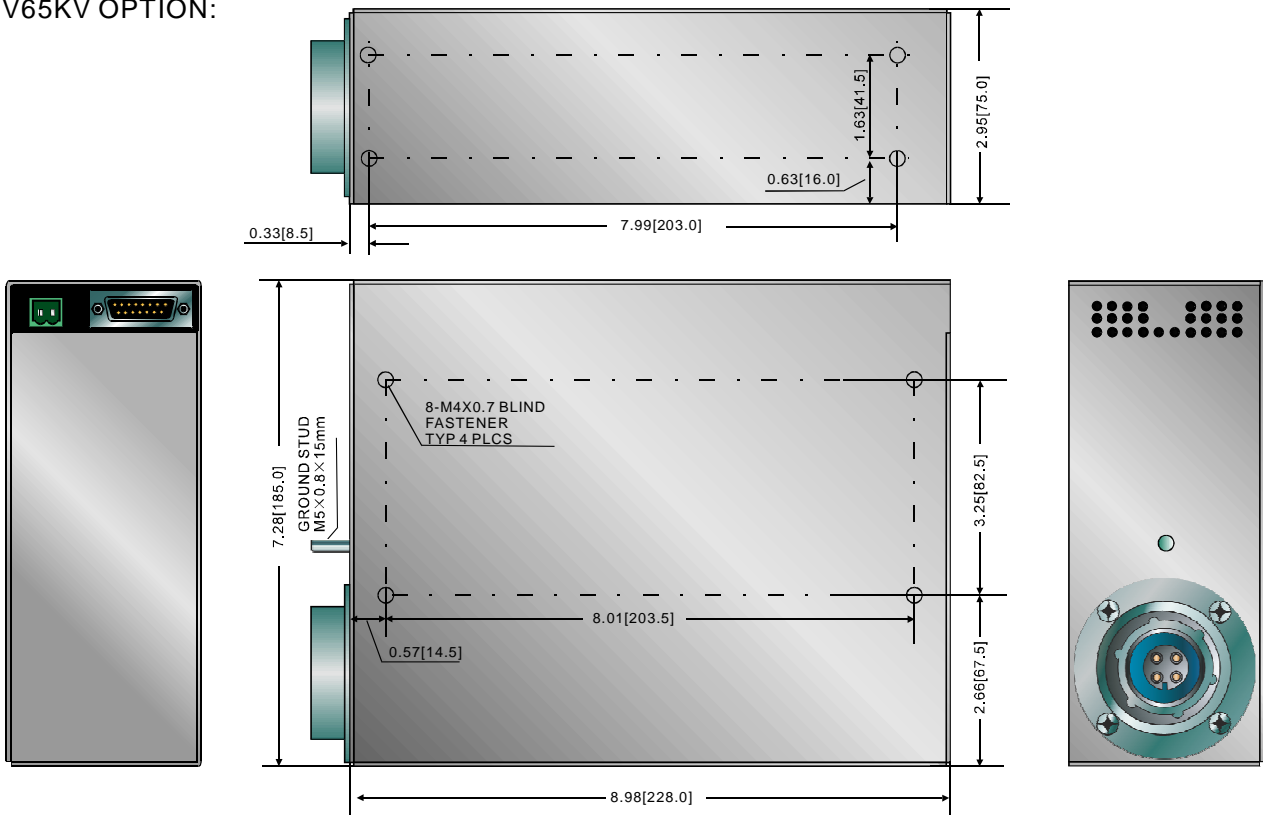
DIMENSIONS:in.[mm]



PC50KV OPTION:



HV65KV OPTION:



PC65KV OPTION:

