



- **Output Voltage 20V to 10kV**
- **Integrated Floating Filament Supply**
- **Low Ripple**
- **Local and Remote Programming**
- **OEM Customization Available**

The XMPF is a modular 10kV @ 5W X-Ray generator designed to drive a floating filament X-Ray tube via closed loop filamentary control of the 0 to 500uA emission current. The floating filament supply is rated at 0 to 0.42 amps @ 3.5Vac. The filament supply features an adjustable 0 to 0.42 amp filament limit.

The high voltage program and emission current program have internal preset capability simplify interfacing to this X-Ray generator. Alternatively, a customer provided 0 to 10Vdc signal can be used to remotely control these two signals. A high voltage monitor signal and emission current monitor signal is provided. Additionally a filament current monitor signal is also provided. A High Voltage Enable input provides control of the high voltage output.

SPECIFICATIONS

Input Voltage:

+24 Vdc, $\pm 10\%$

Input Current:

500mA maximum

Cathode Supply:

Voltage: 10kV, controllable over the range 20V to 10kV
 Accuracy: $< 2\%$
 Polarity: Negative
 Line Regulation: $< 0.05\%$ for input voltage change of $\pm 10\%$
 Load Regulation: $< 0.1\%$ for zero to full load
 Stability: $< 0.1\%$ per 24 hours at constant operating conditions, after 30 minutes warm up
 Temperature Coefficient: < 250 ppm/ $^{\circ}\text{C}$
 Ripple: $< 0.01\%$ p-p of output voltage at full voltage and current
 Output Current Limit: 550 μA $\pm 10\%$
 Ramp Rate: < 20 kV/sec

Current Characteristics:

Maximum Emission Current: 500uA
 Stability: 0.5% using the internal reference and setting potentiometer. For increased stability an external reference can be used.

Filament Supply:

Voltage: 0V to 3.5Vac referenced to Cathode output
 Load Current: 0.42A max, pre set adjustable limit
 Stability: $< 0.1\%$ over a 30 minute period at constant operating conditions.

Environmental:

Temperature Range:
 Operating: 5°C to 40°C
 Storage: -40°C to 70°C
 Humidity:
 Operating: 20% to 80% RH, non-condensing
 Storage: 5% to 95%

High Voltage Output:

Flying leads, Reynolds 18kV rated FEP insulated wire, 1.02mm diameter. Conductors are 19/40 AWG. Overall length is 500mm, the two wires are sleeved together.

Dimensions:

1.18"H x 2.75"W x 6.69"D
 (30mm x 70mm x 170mm)

Regulatory Approvals:

Compliant to CE Safety marking to meet the requirements of EN61010, Installation cat II, safety class 1, poll. degree 2 and UL61010A-1 and CSA 1010. RoHS compliant.

As the unit is designed for incorporation within the users system it is not tested against any specific EMC standards. The user will need to take sensible EMC precautions when designing the unit in and verify the overall system EMC performance against any relevant standards.

CUSTOMER INTERFACE— 15 PIN MALE D CONNECTOR

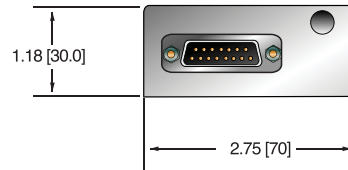
PIN	SIGNAL	SIGNAL PARAMETERS
1	+24Vdc	+24Vdc @ 500mA, max.
2	Power Ground	Power Ground
3	N/C	N/C
4	Signal Ground	Signal Ground
5	HV Enable	0-0.8V = HV ON, 2.4V-12V = HV OFF
6	N/C	N/C
7	HV Program Output	Wiper of multi turn potentiometer
8	HV Program Input	0-10Vdc = 0-10kV, Zin = 10MΩ, accuracy ±2% of FS
9	High Voltage Monitor	0-10Vdc = 0-10kV, Zout = 10kΩ, accuracy ±2% of FS
10	Emission Current Monitor	0-10Vdc = 0-500uA, Zout = 10kΩ, accuracy ±3% of FS
11	Filament Current Monitor	0-10Vdc = 0-500mA, Zout = 10kΩ, accuracy ±5% of FS
12	Emission Current Program Input	0-10Vdc = 0-500uA, Zin = 10MΩ, accuracy ±3% of FS
13	Emission Current Program Output	Wiper of multi turn potentiometer
14	Signal Ground	Signal Ground
15	Filament Current Limit	

The filament current limit is set by internal preset potentiometers accessible through the side of the case.

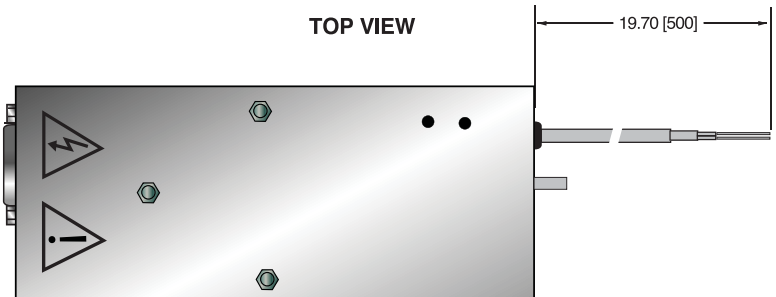
If external high voltage programming is not required link pins 7 and 8.
If external emission current control is not required link pins 12 and 13.

DIMENSIONS: in.[mm]

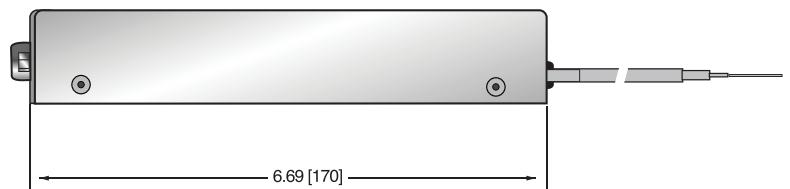
FRONT VIEW



TOP VIEW



SIDE VIEW



BOTTOM VIEW

