

ELECTRICAL CHARACTERISTICS

Input Voltage: 105-125VAC 50 to 400Hz standard input voltage
(195-245VAC) IEC 320-14 (Male Pins)
(24VDC $\pm 10\%$) available

Output Voltage: Continuously adjustable from zero to maximum
rated output voltage

Output Current: See rating of individual models

Emission Current: Continuously adjustable from zero to maximum
Rated mA

Emission Current Regulation: $\pm 0.05\%$ specified current range

Voltage Regulation: Line: $\pm 0.005\%$ over specified input range
Load: $\pm 0.01\%$ for full load change

Ripple: 0.05%

Temp. Coefficient: 100PPM/ $^{\circ}\text{C}$ over the range of 0 to 60°C

Stability: 0.01%/hour, 0.003%/8 hours

Program:

KV Control: Local or Remote (0 to 10V = full scale)

Max mA Control: Local or Remote (0 to 10V = max mA)

Emission Control: Local or Remote (0 to 10V = max emission mA)

Filament Ampere Control: Internally fixed or Remote
(0 to 10V = zero to max rated amperes)

Note: These specifications are after a $\frac{1}{2}$ hour warm-up period and at maximum rated output.

PHYSICAL CHARACTERISTICS

Dimensions: 6.157" (H) x 4.625" (W) x 11" (L)

Weight: 11 lbs. (4.99kg)

Packaging:

Modular construction with high voltage
section encapsulated in a silicone elastomer

J3 HV Output Termination:

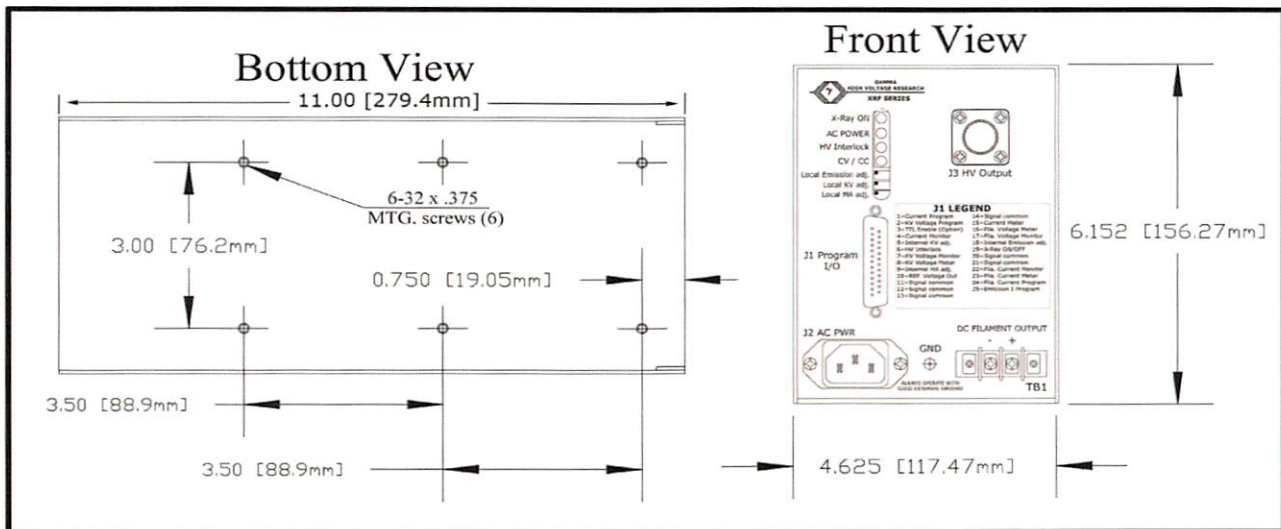
Re-entrant type bushing is standard, with mating
output shielded cable provided. Customer specified
connector can be provided

TB1 Filament Output:

0 to 3.5VDC (Local or Remote adjustable) and
zero to max rated amperes (Fixed or Remote
adjustable) Customer can specified different voltage
and current up to 12W maximum.

J1 25 Pin D-SUBMINIATURE CONNECTOR:

1=Current Program	14=Signal common
2=Voltage Program	15=Current Meter
3=TTL Enable (Option)	16=Fila. Voltage Meter
4=Current Monitor	17=Fila. Voltage Monitor
5=Internal Voltage Control	18=Internal Emission adj.
6=HV Interlock	19=X-Ray ON/OFF
7=Voltage Monitor	20=Signal common
8=Voltage Meter (1ma FS)	21=Signal common
9=Internal Current Control	22=Fila. Current Monitor
10=Ref. Voltage Out	23=Fila. Current Meter
15=Current Meter (1ma FS)	24=Fila. Current Program
11=Signal Common	25=Emission I Program
12=Signal Common	
13=Signal Common	



GAMMA HIGH VOLTAGE RESEARCH INC.

Designers/Manufacturers-High Voltage Power Supplies

1096 NORTH U.S. #1, ORMOND BEACH, FL 32174 * TEL. 386-677-7070, url: gammahighvoltage.com



GAMMA

X-RAY EMISSION CONTROL MODULAR HIGH VOLTAGE POWER SUPPLIES

SERIES XRF

X-Ray Tube Power Supply
30KV to 60KV / 60 to 100 Watts

FEATURES:

- Local and remote Voltage/Current control
- Local and remote emission control
- Local and remote Filament current control
- KV ramp up available (Factory set only)
- KV Voltage and Current Monitoring
- Filament Voltage and Current Monitoring
- X-Ray ON/OFF enable line
- High Voltage Interlock Capability
- Arc & Short Circuit Protected
- 105-125VAC Line Operated

APPLICATIONS:

- X-Ray Systems



MODEL GUIDE

MODEL	OUTPUT VOLTAGE	OUTPUT CURRENT	
		60W	100W
XRF30	0 to 30KV	2mA	3.3mA
XRF40	0 to 40KV	1.5mA	2.5mA
XRF50	0 to 50KV	1.2mA	2mA
XRF60	0 to 60KV	1mA	1.67mA

All units have an integrated DC filament supply. Please contact us for available voltage and current of filament.

DESCRIPTION:

The GAMMA "XRF" series provides a compact, highly stabilized, variable high voltage power source, with ratings to 60KV and power levels to 100 watts. The utilization of switch-mode IGBT technology allows efficiency of greater than 75%, increasing overall reliability. High voltage circuits are vacuum encapsulated in a silicone elastomer providing corona free, long term reliability.

Dual control loops allow independent control of both voltage and emission current as required.

All control circuits are ground referenced allowing for ease of interfacing and control.

The excellent electrical characteristics of the "XRF" series make it an ideal choice for the most demanding low power X-Ray applications.



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GAMMA

SERIES XRM

ELECTRICAL CHARACTERISTICS

Input Voltage: 105-125 VAC 50 to 400 Hz standard input voltage
IEC 320-14 male pins.
(195-245VAC)(24VDC $\pm 10\%$) available

Output Voltage: Continuously adjustable from zero to maximum rated output voltage

Output Current: See ratings of individual models

Voltage Regulation: Line: $\pm 0.005\%$ over specified input range
Load: $\pm 0.01\%$ for full load change

Current Regulation: Better than $\pm 0.005\%$ over specified input range

Load Regulation: Better than 50uA for a 75% change in compliance voltage

Ripple: 0.05%

Temp. Coefficient: 100PPM/ $^{\circ}\text{C}$ over the range of 0 to 60°C

Stability: 0.01%/hour, 0.003%/8 hours

Programming Output Voltage and Output Current: Local or remote from either an external voltage source or external. A zero to +10V source is required for full scale programming.

PHYSICAL CHARACTERISTICS

Dimensions: 6.157" (H) x 4.625" (W) x 11" (L)

Weight: 10 lbs.

Packaging: Modular construction with high voltage section encapsulated in a silicone elastomer.

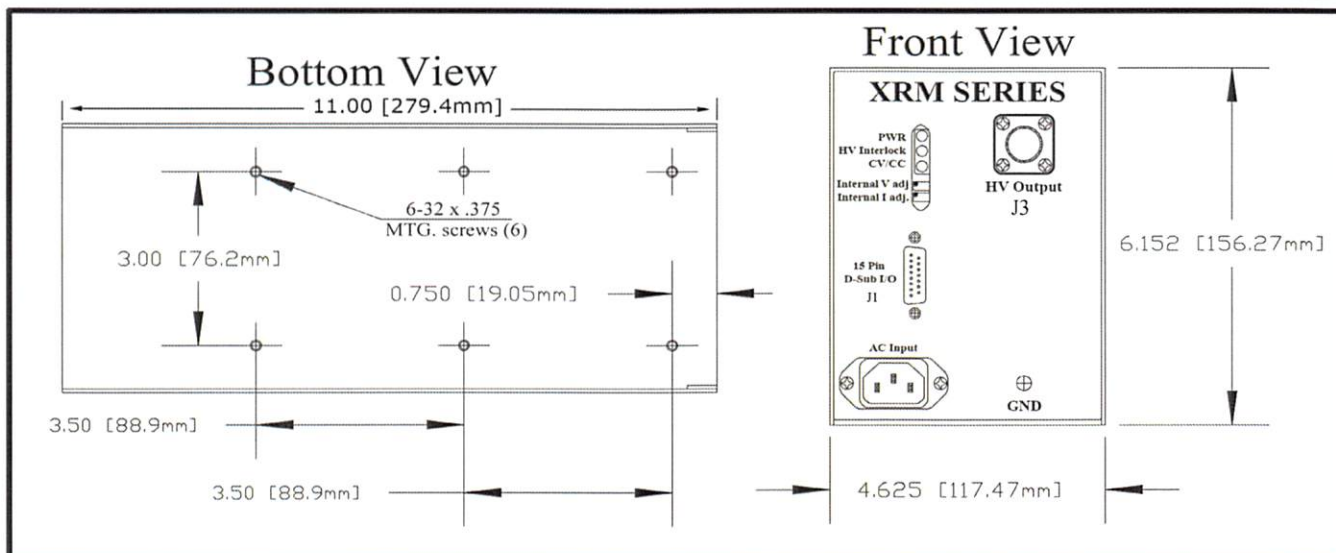
Program I/O: J1 D-Subminiature 15 pin connector

Output Termination: Re-entrant type bushing is standard, with mating output shielded cable provided.

Customer specified connector can be provided

J1 15 Pin D-SUBMINIATURE CONNECTOR:

Current Program:	Pin 1
Voltage Program:	Pin 2
TTL Enable (Option):	Pin 3
Current Monitor:	Pin 4
Internal Voltage Control:	Pin 5
HV Interlock:	Pin 6
Voltage Monitor:	Pin 7
Voltage Meter (1ma FS):	Pin 8
Internal Current Control:	Pin 9
Ref. Voltage:	Pin 10
Current Meter (1ma FS):	Pin 15
Signal Common:	Pin 11, 12, 13, 14



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GAMMA

**REGULATED LINE
OPERATED MODULAR
HIGH VOLTAGE
POWER SUPPLIES**

SERIES XRM

**10 Models Covering the range of
0-1.5 KV to 0-60 KV up to 100 Watts**

FEATURES:

- Voltage/Current Programmable
- Constant Voltage/Constant Current
- Voltage/Current Monitoring
- 105-125VAC Line Operated
- External Interlock Capability
- Arc & Short Circuit Protected

APPLICATIONS:

- X-Ray Systems
- CRT Displays/Projection Systems
- Photomultipliers
- Capacitor Chargers



MODEL GUIDE

MODEL	OUTPUT VOLTAGE	OUTPUT CURRENT	
		60W	100W
XRM 1.5	0 to 1.5KV	40.0mA	66.0mA
XRM 3	0 to 3KV	20.0mA	33.0mA
XRM 5	0 to 5KV	12.0mA	20.0mA
XRM 10	0 to 10KV	6.0mA	10.0mA
XRM 15	0 to 15KV	4.0mA	6.6mA
XRM 20	0 to 20KV	3.0mA	5.0mA
XRM 30	0 to 30KV	2.0mA	3.3mA
XRM 40	0 to 40KV	1.5mA	2.5mA
XRM 50	0 to 50KV	1.25mA	2.0mA
XRM 60	0 to 60KV	1.0mA	1.67mA

All units are available in Positive or Negative polarity. Add P or N as suffix to Model number to indicate polarity desired.

DESCRIPTION:

The GAMMA "XRM" series provides a compact, highly stabilized, variable high voltage power source of either negative or positive polarity, with ratings to 60KV (higher voltage ratings are available, please contact factory) and power levels to 100 watts. The utilization of switch-mode IGBT technology allows efficiency of greater than 75%, increasing overall reliability. High voltage circuits are vacuum encapsulated in a silicone elastomer providing corona free, long term reliability.

Dual control loops allow independent control of both voltage and current where required.

All control circuits are ground referenced allowing for ease of interfacing and control.

The excellent electrical characteristics of the "XRM" series make it an ideal choice for the most demanding high voltage applications.



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