

PM SERIES

High Voltage Power Supply



The PM Series of proportional DC to DC high voltage power supply modules provides designers a miniature low cost PCB mount solution with a nominal performance isolated HV output.

The PM Series operates from an input voltage of 5VDC to 12VDC with either positive or negative polarity to ground. By proportionally controlling the input voltage to the module over this input range an output range of 40% to 100% is generated. The 5 models in the PM Series range from 400V to 1kV through 1.6kV to 4kV output voltage with 0 to 3W of output power.

The isolation of the HV output from the LV input is rated at 2kV allowing the designer to ground either terminal to set the HV polarity as well as to ground the HV output at a remote point. Low noise models deliver 50% lower ripple through the use of a shielded enclosure with a polarity dependent filter therefore these models have a fixed HV output polarity.

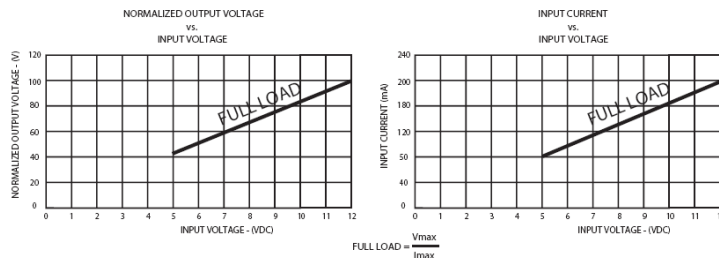
PM Series units are protected against reversed polarity inputs, output short circuit and open circuit conditions. These converters are fully encapsulated in UL listed GE RTV627 and 100% tested before shipment.

Typical applications for this series include the following:

Drivers for pulse generators, PZT actuators, MEMS devices, laser & electro-optic modulation, Ink Jet printing and Electrophoresis.

Bias Supply for general purposes, Detectors, Geiger-Muller tubes, APD, Photo multiplier tube (PMT), SiD, beam deflection and focusing in mass spectrometry (Ion Beam) and electron microscopes (E-Beam).

TYPICAL PERFORMANCE @ 25°C



- 5 models from 0 to 1kV DC to 4kV DC
- Proportional – HV output tracks the input to within 10%
- Output power of 0 to 3 watts - No minimum load!
- Output ripple of $\leq 0.5\%$ Vpk-pk, $< 0.25\%$ with "-F-M" Option
- Output regulation TBD% typical, TBD% max
- 2,000V of isolation from input to output
- No heat sink or electrical derating required
- Efficiency > TBD% at full load
- See the PXS & RS Series for higher performance.
- TBD hour MTBF @40°C per Mil-HDBK-217F-N2
- UL/cUL Recognized Component; CE Mark (LVD & RoHS)

PARAMETER	CONDITIONS	MODELS					UNITS
INPUT							
Voltage Range	Full Power	5 to 12					VDC
Current	No Load, Max Eout	Typically 40mA to 60mA					mA
Current	Max Load, Max Eout / Nominal	200					mA
OUTPUT		1000	1500	2000	3000	4000	
Voltage	Nominal Input	400 to 1,000	600 to 1,500	800 to 2,000	1,200 to 3,000	1,600 to 4,000	VDC
Power	Nominal Input, Max Eout	3	3	3	3	3	W
Current	out Entire Output Voltage Range	3	2	1.5	1	0.75	mA
OUTPUT		ALL TYPES					
Voltage Adjust	Proportional	Input Voltage of 40% to 100% programs the Output Voltage 40% to 100% $\pm 10\%$ full scale					V
Ripple	Full Load, Max Eout	0.5%					%V p-p
Ripple with "-F-M" Option	Full Load, Max Eout, 300pF bypass cap, 25% to 50% reduction	0.25%					%V p-p
Line Regulation	Nom. Input, Max Eout, Full Power	Output is proportional to input over a 40% to 100% input range, with a variation of +10% of rated output voltage					VDC
Static Load Regulation	No Load to Full Load, Max Eout	Typically 5% 1/2 Load to Full Load, < 10% (for a zero to 3W Load Change) maximum 20%					VDC
Stability	30 Min. warmup, per 8 hr/ per day	< 0.10%					VDC
ENVIRONMENTAL		ALL TYPES					
Operating	Full Load, Max Eout, Case Temp.	-20 to +85					°C
Temperature Coefficient	Over the Specified Temperature	250					PPM/°C
Storage	Non-Operating, Case Temp.	-40 to +85					°C
Humidity	Non-Condensing	0 to 90% Non-Condensing					-
Vibration	Mil-Std-810, Method 514.5, Fig.14.5C-3	20					G's
Shock	Mil-Std-810, Method 516.5, Proc. IV	40					G's

Specifications subject to change without notice.



Making High Voltage Easier!®

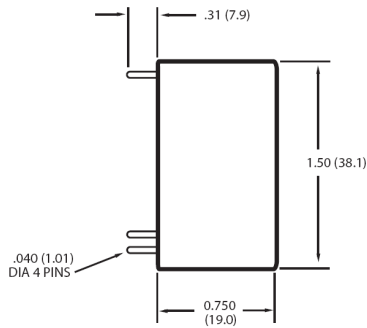
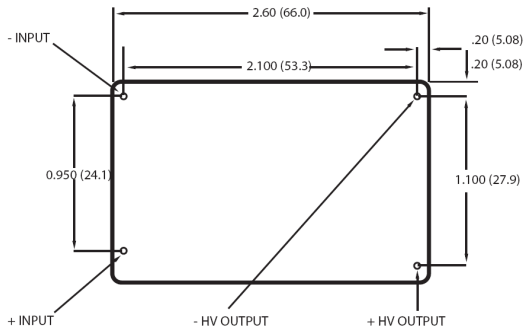
Higher Service, Higher Performance, Higher Reliability

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Drawing dimensions are in inches (mm)



CONSTRUCTION

Black ABS case
Insulation: Fully Encapsulated in RTV silicon.

SIZE

Dimensions (L x W x H):
1.5" x 2.5" x 0.75" [38mm x 63.5mm x 19mm]

Volume: 2.8 in³ [45.884 CC]
Weight: 4oz [114g]

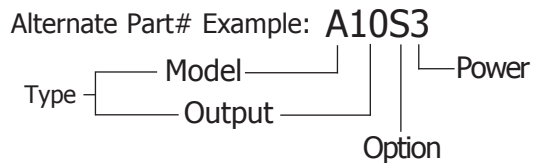
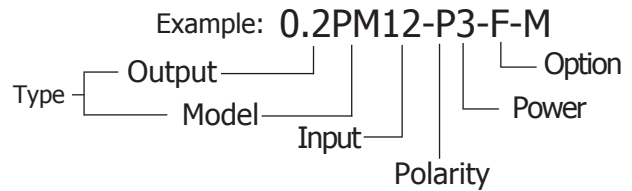
Tolerance

NOTES

CONNECTIONS	
PIN	FUNCTION
I/P	Input Power
I/P 0V	Input Power Ground
O/P 0V	Output Power Ground
O/P	Output Power

ORDERING INFORMATION		P/N	ALT P/N
Output	0 to 1,000 VDC	1	10
	0 to 1,500 VDC	1.5	15
	0 to 2,000 VDC	2	20
	0 to 3,000 VDC	3	30
	0 to 4,000 VDC	4	40
Model	Series Name	PM	A
Input	5V to 12V	12	
Polarity	Positive Output	-P	
	Negative Output	-N	
Power	0 to 3W Output	3	3
Option	Ripple Stripper Output Filter & Shielded Case	-F-M	S

Contact the factory for other output requirements!



These component power supplies meet the requirements of EC Directive 73/23/EEC (LVD)



Non-RoHS compliant units are available. Please contact the factory for more information.

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