



Medical Power Supply

User Configurable 1U size



genSeries



PLUG & PLAY POWER next generation power solution

FEATURES & OPTIONS

- EN60601-1 3rd edition approved
- Less than 300µA leakage current
- 150µA option available
- 4000VAC isolation
- Ultra high efficiency, up to 89%
- Extra low profile: 1U height (40mm)
- Plug & Play Power - allows fast custom configuration
- Individual output control signals
- All outputs fully floating
- Series / Parallel of multiple outputs
- Few electrolytic capacitors (all long life)
- 5V bias standby voltage provided
- Standard Xgen product options include:
Conformal Coating, Low Acoustic Noise, Low Leakage Current, Extra Ruggedisation, Connector, Cabling & Mounting options, Thermal Signals and Reverse Fans. See Section 4.10 for more information

APPLICATIONS INCLUDE

- Radiological imaging
- Clinical diagnostics
- Medical lasers
- Clinical chemistry

The XM family of medically approved power supplies provides up to 750W in a slimline 1U package. The XM family carries the latest safety agency approvals to EN60601-1 and UL60601-1 3rd Edition, meeting the stringent creepage and clearance requirements in this compact package. Providing up to 8 isolated outputs, the XM family is the most flexible power supply in its class and brings affordable configurable power to the 200-750W medical market.

The XM family consists of 4 *powerPac* models in 200W, 400W, 600W and 750W power levels. Each *powerPac* model may be populated with up to 4 *powerMods* selected from the table of *powerMods* shown below. Simply select your appropriate *powerPac* and *powerMods* to get your instant custom power solution.

This slimline product boasts unrivalled power density, providing significant system space savings. Combined with ultra-high efficiencies, the XM family provides system designers with flexible instant solutions that significantly shorten system design-in time.

powerMods

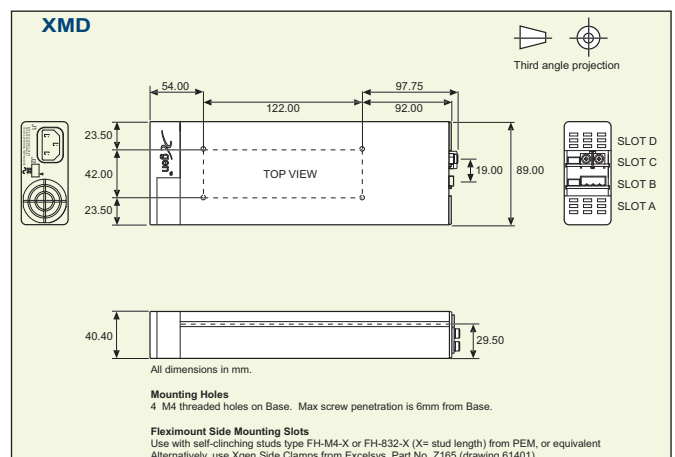
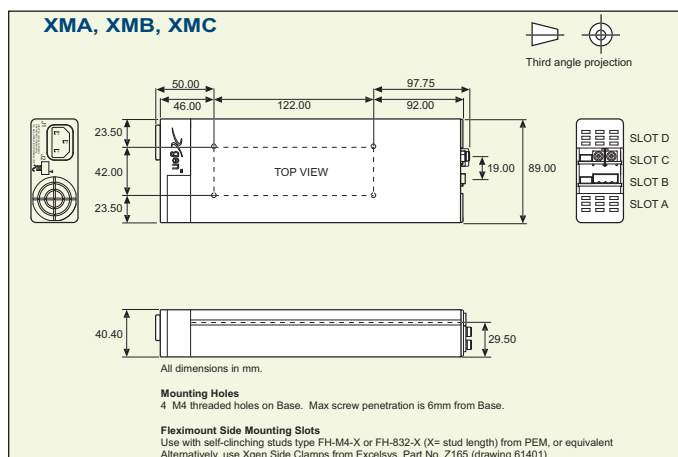
MODEL	Vmin Vtrim	Vnom Vpot	Vmax	Imax	Watts
Xg1	1.0	1.5	2.5	3.6	50A 125W
Xg2	1.5	3.2	5.0	6.0	40A 200W
Xg3	4.0	6.0	12.0	15.0	20A 240W
Xg4	8.0	12.0	24.0	30.0	10A 240W
Xg5	8.0	28	48.0	58.0	6A 288W
Xg7		5.0	24.0	28.0	5A 120W
Xg8 v1		5.0	24.0	28.0	3A 72W
v2		5.0	24.0	28.0	3A 72W

powerPacs

	MODEL	Watts
XM	XMA	200W
	XMB	400W
	XMC	600W
	XMD	750W

MECHANICAL SPECIFICATIONS

Note: See diagrams on pages 34-37



SPECIFICATION applies to configured units consisting of **powerMods** plugged into the appropriate **powerPac**

INPUT					
Parameter	Conditions/Description	Min	Nom	Max	Units
Input Voltage Range	Universal Input 47-440Hz	85 120		264 380	VAC VDC
Power Rating	XMA:200W, XMB:400W, XMC:600W, XMD:750W See Section 4.11 for line voltage deratings				
Input Current	XMA 85VAC in 200W out XMB 85VAC in 400W out XMC 85VAC in 400W out XMD 85VAC in 525W out		4.0 6.0 7.5 7.5		A A A A
Inrush Current	230VAC, 25°C			50	A
Undervoltage Lockout	Shutdown	65		74	VAC
Fusing	XMA 250V 5 x 20mm XMB 250V 5 x 20mm XMC, XMD 250V 5 x 20mm		F5A HRC F6.3A HRC F8A HRC		
OUTPUT					
Parameter	Conditions/Description	Min	Nom	Max	Units
powerMod Power	As per powerMod table				
Output Adjustment Range	Manual: Multi-turn potentiometer. As per powerMod table Electronic: See Section 4.6				
Minimum Load			0		A
Line Regulation	For $\pm 10\%$ change from nominal line			± 0.1	%
Load Regulation	For 25% to 75% load change			± 0.2	%
Cross Regulation				± 0.2	%
Transient Response	For 25% to 75% load change Voltage Deviation Settling Time			10 250	% μ s
Ripple and Noise	20MHz 100mV or 1.0% pk-pk				
Overvoltage Protection	1st level: Vset Tracking. 2nd level: Vmax (Latching)	110		125	%
Overcurrent Protection	Straight line with hiccup activation at $<30\%$ of Vnom See Section 4.6	110		120	%
Remote Sense	Max. line drop compensation. (except Xg7, Xg8)			0.5	VDC
Overshoot				2	%
Turn-on Delay	From AC in and Global Enable / powerMod Enable XMA, XMB, XMC From AC in and Global Enable / powerMod Enable XMD			700 / 6 1000 / 6	ms ms
Rise Time	Monotonic			5	ms
Hold-up Time	For nominal output voltages at full load XMA,XMB, XMC/XMD	20/15			ms
Output Isolation	Output to Output / Output to Chassis	500 / 500			VDC
GENERAL					
Parameter	Conditions/Description	Min	Nom	Max	Units
Isolation Voltage	Input to Output Input to Chassis	4000 1500			VAC VAC
Efficiency	230VAC, 750W @ 24V		89		%
Safety Agency Approvals	EN60601-1, UL60601-1 3rd Edition, CSA601-1 UL File no. E230761				
Leakage Current	250VAC, 60Hz, 25°C 250VAC, 60Hz, 25°C Option 04			300 150	μ A μ A
Signals	See Section 4.9				
Bias Supply	Always on. Current 250mA. 500mA option available	4.8	5.0	5.2	VDC
Reliability	Failures per million hours at 40°C and full load powerMod See Section 4.12. powerPac excludes fans powerPac			0.958 0.92	fpmh fpmh
Parameter	Standard	Level		Units	
Emissions					
Conducted	EN55011, EN55022, FCC		Level B		
Radiated	EN55011, EN55022, FCC		Level B		
Harmonic Distortion	EN61000-3-2 Class A		Compliant		
Flicker & Fluctuation	EN61000-3-3		Compliant		
Immunity					
Electrostatic Discharge	EN61000-4-2		Level 2		
Radiated Immunity	EN61000-4-3		Level 3		
Fast Transients-Burst	EN61000-4-4		Level 3		
Input Line Surges	EN61000-4-5		Level 3		
Conducted Immunity	EN61000-4-6		Level 3		
Voltage Dips	EN61000-4-11		Compliant		
Parameter	Conditions/Description	Min	Nom	Max	Units
Operating Temperature		-20		+70	°C
Storage Temperature		-40		+85	°C
Derating	See Section 4.11 for full temperature deratings				
Relative Humidity	Non-condensing	5		95	%RH
Shock	3000 Bumps, 10G (16ms) half sine				
Vibration	1.5G	10		200	Hz

NOTES

1. This product is not intended for use as a stand alone unit and must be installed by qualified personnel.
2. The specifications contained herein are believed to be correct at time of publication and are subject to change without notice.
3. All specifications at nominal input, full load, 25°C unless otherwise stated.
4. XMD: 800W peak for 1s; Duty cycle 7%. powerMod output power must not exceed normal ratings.
5. When powering inductive or capacitive loads, it is recommended to use a blocking diode on the output.
6. For section references above go to the Xgen Designers Manual.