



## Medically Approved Ultra Low Noise Power Supply

Ultra-high efficiency 1U size



genSeries

### PLUG & PLAY POWER next generation power solution

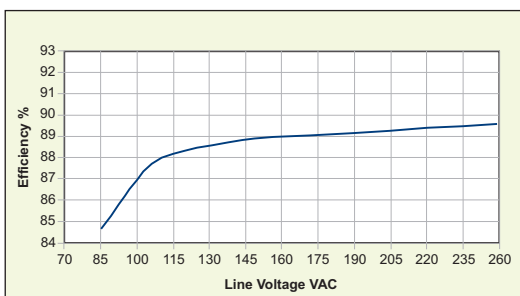
#### FEATURES & OPTIONS

- Low Acoustic noise 37.3dBA
- 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

- Clinical diagnostic equipment
- Medical lasers
- Dialysis equipment
- For Standard applications see XT

#### EFFICIENCY (typical)



The XN family of medically approved Ultra Low Noise power supplies provides up to 400W in an extremely compact 1U package. Providing up to 8 isolated DC outputs, the XN family employs innovative plug & play architecture allowing users to instantly configure a custom power solution in less than 5 minutes!

The XN family consists of 3 *powerPacs* ranging in power levels from 200W to 400W peak and 7 *powerMods* DC output modules. Simply select the appropriate *powerPac* and up to 4 *powerMods* from the tables below to complete your custom power supply.

The XN family boasts ultra-high efficiencies (up to 90%). The significant system space savings and reduced heat dissipation radically simplify system design.

All configurations carry full safety agency approvals including UL60601-1, EN60601-1 3rd Edition and are CE marked.

#### powerMods

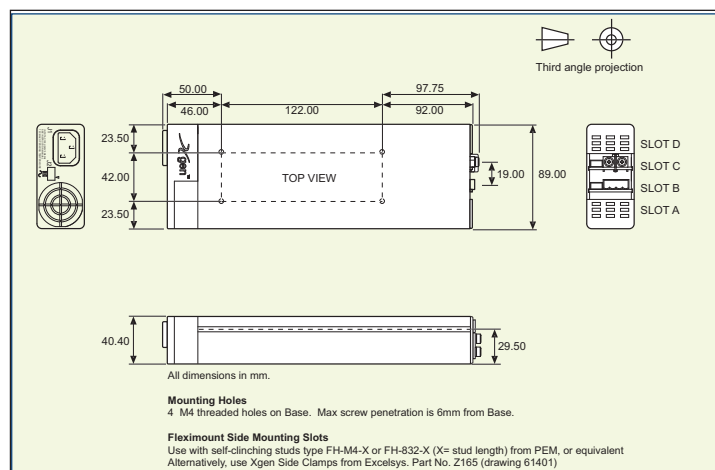
MODEL	Vmin Vtrim	Vnom Vpot	Vmax	Imax	Watts
Xg1	1.0	1.5	2.5	3.6	41.6A 104W
Xg2	1.5	3.2	5.0	6.0	33.2A 166W
Xg3	4.0	6.0	12.0	15.0	16.67A 200W
Xg4	8.0	12.0	24.0	30.0	8.33A 200W
Xg5	8.0	28	48.0	58.0	5A 240W
Xg7		5.0	24.0	28.0	4.17A 100W
Xg8 v1		5.0	24.0	28.0	2.5A 60W
v2		5.0	24.0	28.0	2.5A 60W

#### powerPacs

	MODEL	Watts
	XNA	200W
	XNB	400W

*powerMod* Maximum Power Outputs (W) have been derated to operate with XN range of Ultra Low-Noise Power Supplies. See Section 4.11 Xgen Designers' Manual for full derating details.

#### MECHANICAL SPECIFICATIONS



**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	XNA:200W, XNB:400W See Section 4.11 for line voltage deratings				
Input Current XNA XNB	85VAC in 200W out 85VAC in 283W out		4.5 5.0		A A
Inrush Current	230VAC, 25°C			50	A
Undervoltage Lockout	Shutdown	65		74	VAC
Fusing XNA XNB	250V 250V		F5A HRC F6.3A 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 ±10% change from nominal line			±0.1	%
Load & Cross Regulation	For 25% to 75% load change			±0.2	%
Transient Response	For 25% to 75% load change Voltage Deviation Settling Time			10 250	% µs
Ripple and Noise	220MHz 100mV or 1.0% pk-pk				
Overvoltage Protection	Two-level. 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			700 / 6	ms
Rise Time	Monotonic			5	ms
Hold-up Time	For nominal output voltages at full load. XNA & XNB	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, 400W @ 24V		90		%
Safety Agency Approvals	EN60601-1 3rd Edition, UL60601-1, CSA601-1 UL File No. E230761				
Leakage Current	250VAC, 60Hz, 25°C 250VAC, 60Hz, 25°C option 04			300 150	µA µA
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
EMC					
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		
ENVIRONMENTAL					
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
Acoustic Noise	Measured from distance on 1m		37.3		dBA
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. When powering inductive or capacitive loads, it is recommended to use a blocking diode on the output.
5. For section references above go to the Xgen Designers Manual.