



## Medically Approved

Ultra-high efficiency 1U size



### PLUG & PLAY POWER next generation power solution

#### FEATURES & OPTIONS

- EN60601-1 3rd edition approved
- Less than 300 $\mu$ A leakage current
- 150 $\mu$ A 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

The XV family of medically approved power supplies provides up to an incredible 1340W in an extremely compact 1U package. Providing up to 12 isolated DC outputs, the XV family employs innovative plug & play architecture allowing users to instantly configure a custom power solution in less than 5 minutes!

The XV family consists of 5 *powerPacs* ranging in power levels from 400W to 1450W peak and 7 *powerMods* DC output modules. Simply select the appropriate *powerPac* and up to 6 *powerMods* from the tables below to complete your custom power supply.

The XV family boasts an industry leading power density of 17W/in<sup>3</sup> and 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 3<sup>rd</sup> Edition and are CE marked.

#### powerMods

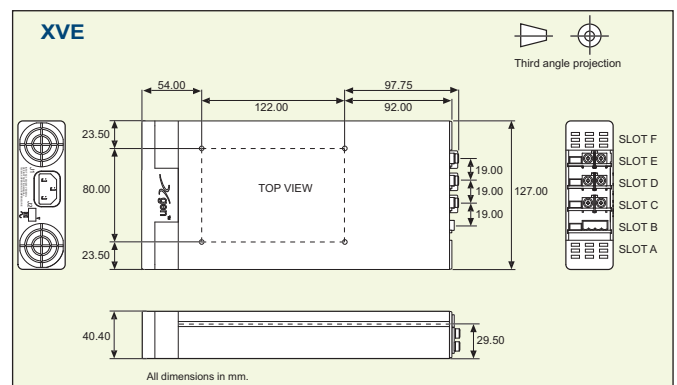
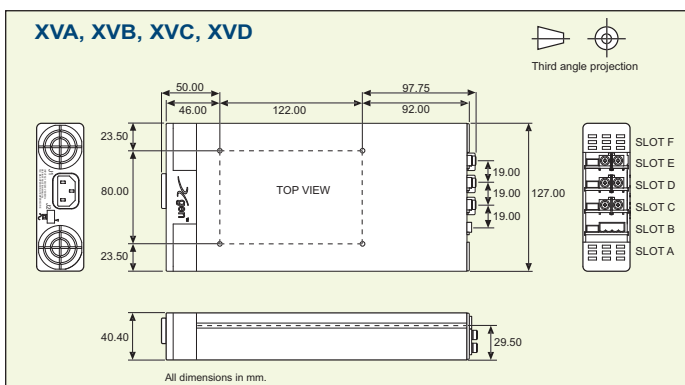
MODEL	V <sub>trim</sub>	V <sub>min</sub> V <sub>pot</sub>	V <sub>nom</sub>	V <sub>max</sub>	I <sub>max</sub>	Watts
Xg1	1.0	1.5	2.5	3.6	50A	125W
Xg2	1.5	3.2	5.0	6.0	40A	200W
Xg3	4.0	6.0	12.0	15.0	20A	240W
Xg4	8.0	12.0	24.0	30.0	10A	240W
Xg5	8.0	28	48.0	58.0	6A	288W
Xg7		5.0	24.0	28.0	5A	120W
Xg8 v1		5.0	24.0	28.0	3A	72W
v2		5.0	24.0	28.0	3A	72W

#### powerPacs

MODEL	Watts
XVA	400W
XVB	700W
XVC	1000W
XVD	1200W
XVE	1340W

#### 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	XVA:400W, XVB:700W, XVC:1000W, XVD:1200W, XVE:1340W See Section 4.11 for line voltage deratings				
Input Current	XVA 85VAC in 400W out XVB 85VAC in 700W out XVC, XVD 85VAC in 850W out XVE 85VAC in 1000W out		7.5 9.5 11.5 14.0		A A A A
Inrush Current	230VAC @ 25°C			25	A
Undervoltage Lockout	Shutdown	65		74	VAC
Fusing	XVA 250V XVB 250V XVC, XVD 250V XVE 250V		F8A HRC F10A HRC F12A HRC F15A 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	20MHz 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 XVA,XVB,XVC,XVD From AC in and Global Enable / powerMod Enable XVE			700 / 6 1000 / 6	ms ms
Rise Time	Monotonic			5	ms
Hold-up Time	For nominal output voltages at full load. XVA,XVB,XVC / XVD,XVE	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, 1340W @ 24V		90		%
Safety Agency Approvals	EN60601-1, UL2601-1, 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. (30mA for XVE) 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 0.946	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
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. XVE: 1450W peak for 10s; Duty cycle 8%. 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.