Medical

patents pending

Medically Approved

Ultra-high efficiency 1U size

PLUG & PLAY POWER
next generation power source

FEATURES

- UL2601-1 and EN60601-1 approved
- Less than 300µA leakage current
- 4000VAC isolation
- 1340W available (See XVE datasheet)
- Extra low profile: 1U height (40mm)
- Ultra high efficiency up to 90%
- Plug & Play Power
  - allows fast custom configuration
  - allow easy logistics
- Reduced system heat dissipation
- Few electrolytic capacitors (all long life)
- Visual LED indicators
- Series / Parallel of multiple outputs
- 5V bias standby voltage provided
- Individual output control signals

APPLICATIONS INCLUDE

- Clinical diagnostic equipment
- Medical lasers
- Dialysis equipment

The Xvite family of medically approved power supplies provides up to an incredible 1200W in an extremely compact 1U x 260 x 127mm package. Providing up to 12 isolated DC outputs, the Xvite family employs innovative plug & play architecture allowing users to instantly configure a custom power solution in less than 5 minutes!

The Xvite family consists of 4 *powerPacs* ranging in power levels from 400W to 1200W and 7 *powerMod* DC output modules. Simply select the appropriate *powerPac* and up to 6 powerMods from the tables below to complete your custom power supply.

The Xvite family boasts an industry leading power density of 15W/in^3 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 UL2601-1and EN60601-1 and are CE marked. For alternative power interfaces contact **support@excelsys.com**

powerMods

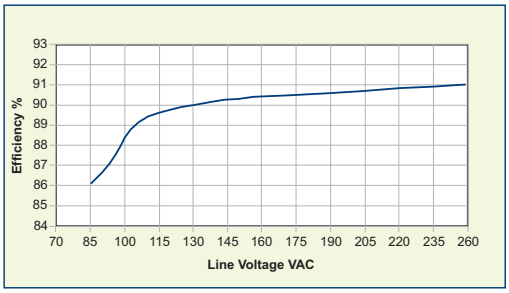
MODEL	Vmin	Vnom	Vmax	Imax	Watts
Xg1	1.5	2.5	3.6	50A	125W
Xg2	3.2	5.0	6.0	40A	200W
Xg3	6.0	12.0	15.0	20A	240W
Xg4	12.0	24.0	30.0	10A	240W
Xg5	28.0	48.0	58.0	6A	288W
Xg7	5.0	24.0	28.0	5A	120W
Xg8 V1	5.0	24.0	28.0	3A	72W
V2	5.0	24.0	28.0	3A	72W

powerPacs

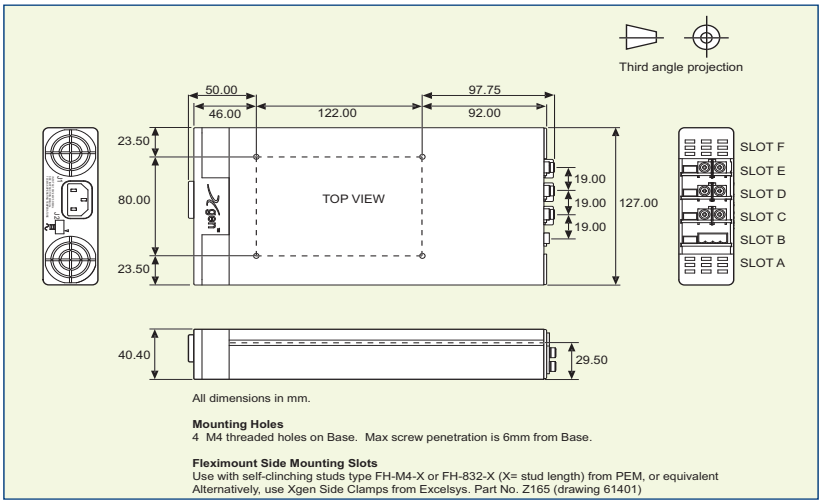
	MODEL	Watts
Xvite	XVA	400W
	XVB	700W
	XVC	1000W
	XVD	1200W
	XVE	**1340W**

See XVE datasheet

EFFICIENCY (typical)



MECHANICAL SPECIFICATIONS



Xgen Series

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

INPUT

Parameter	Conditions/Decription	Min	Nom	Max	Units
Input Voltage Range	Universal Input	85 120		264 380	VAC VDC
Input Frequency Range		47		63	Hz
Power Rating XVA				400	W
XVB				700	W
XVC	Derate linearly from 1000W at 100VAC to 850W at 85VAC			1000	W
XVD	Derate linearly from 1200W at 120VAC to 850W at 85VAC			1200	W
Input Current XVA	85VAC in 400W out		7.5		A
XVB	85VAC in 700W out		9.5		A
XVC, XVD	85VAC in 850W out		11.5		A
Inrush Current	230VAC @ 25°C			25	A
Undervoltage Lockout	Shutdown	65		74	VAC
Fusing XVA	250V		F8A HRC		
XVB	250V		F10A HRC		
XVC, XVD	250V		F12A 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 Xgen Designers' Manual				
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			10	%
	Settling Time			250	µs
Ripple and Noise	20MHz Bandwidth			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 Designer's Manual for full details	110		120	%
Remote Sense	Max. line drop compensation. (except Xg7, Xg8)			0.5	VDC
Overshoot				2	%
Turn-on Delay	From AC In / Enable signal			600 / 30	ms
Rise Time	Monotonic			5	ms
Hold-up Time	For nominal output voltages at full load. XCA,XCB,XCC / XCD	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, 1200W @ 24V		90		%
Safety Agency Approvals	EN60601-1, UL2601-1, CSA601-1 UL File No. E230761				
Earth Leakage Current	250VAC, 60Hz, 25°C			300	µA
Signals	See Xgen Series datasheet				
Bias Supply	Always ON. Current 250mA	4.8	5.0	5.5	VDC
Reliability	Failures per million hours at 25°C and full load *powerMod*			0.98	fpmh
	See Designers' Manual. *powerPac* excludes fans *powerPac*			0.92	fpmh

EMC

Parameter	Standard	Level	Units
Emissions			
Conducted	EN55011, EN55022, FCC	Level B	
Radiated	EN55011, EN55022, FCC	Level B	
Harmonic Distortion	EN61000-3-2	Compliant	
Flicker and Fluctuation	EN61000-3-3	Compliant	
Immunity			
Electrostatic Discharge	EN61000-4-2	Level 4	
Radiated RFI	EN61000-4-3	Level 3	
Fast Transients - burst	EN61000-4-4	Level 4	
Input Line Surges	EN61000-4-5	Class 4	
Conducted RFI	EN61000-4-6	10	V/m
Voltage Dips	EN61000-4-11 (EN55024)	10	ms

ENVIRONMENTAL

Parameter	Conditions/Description	Min	Nom	Max	Units
Operating Temperature		-20		+70	℃
Storage Temperature		-40		+85	℃
Derating	1.6% per °C above 40°C. See Designers Manual for full 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. When powering inductive or capacitive loads, it is recommended to use a blocking diode on the output.

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Voltage Adjustment - Local

The multi-turn potentiometer that adjusts each output within the specified range may be accessed via the output panel of the power supply. Clockwise rotation increases output voltage. Resolution is approximately 5% of nominal voltage (Vnom) per turn.

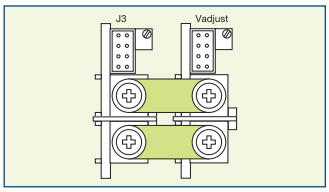
Voltage Adjustment - Remote (resistive / electronic)

The output voltage may be adjusted or trimmed by means of an external resistor or potentiometer network connected to the Vtrim pin. Linear Electronic programming is also possible and may be implemented according to the formula Vout = K Vcontrol. See Xgen series Designers' Manual for full details.

Paralleling

To achieve increased current capacity, simply parallel outputs using the standard parallel links. Excelsys 'wireless' sharing ensures that current hogging is not possible. To parallel connect outputs:

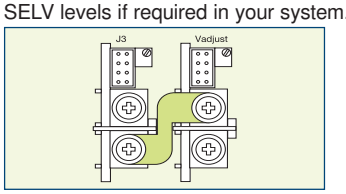
1. Switch on IShare switch to ON on powerMods.
2. Connect Negative parallel link.
3. Adjust output voltages of powerMods to within 5mV of eachother.
4. Connect Positive Parallel Link.



Parallel Links available to order. Part Number XP1

Seriesing

To achieve increased output voltages, simply series outputs using standard series links, paying attention to the requirements to maintain SELV levels if required in your system.



Series Links available. Part Number XS1

Remote Sensing

When the load is remote from the power supply, the remote sense pins may be used to compensate for drops in the power leads. Where the power cabling contributes significant dynamic impedance, see Xgen series Designers' Manual.

Bias Voltage

A SELV isolated 5V (always on) bias voltage rated at 250mA is provided on J2 to facilitate miscellaneous control functions.

Current Limit Adjustment

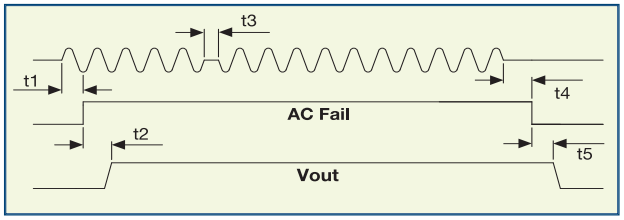
The output current limit setting may be adjusted (downwards only) by means of an external resistor connection to the I trim pin.

Inhibit/Enable

Inhibiting may be implemented either globally or on a per module basis (*powerPac* or *powerMod* inhibiting). Reverse logic (Enabling) may also be implemented, see Xgen series Designers' Manual.

AC Fail

Open collector signal indicating that the input voltage has failed or is less than 80Vac. This signal changes state giving 5mS of warning before loss of output regulation. See Xgen series Designers' Manual for full specifications.

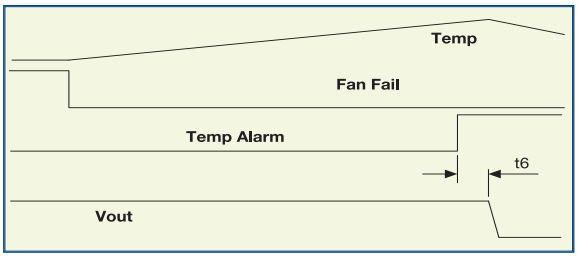


Temperature Alarm (Option 01)

Open collector signal indicating excessive *powerPac* temperatures due to fan failure or operation beyond ratings. This signal is activated at least 10ms prior to system shutdown.

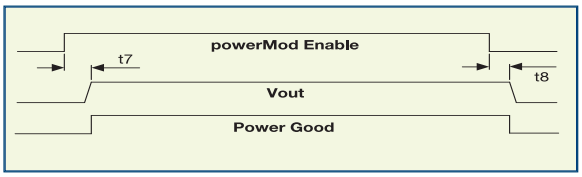
Fan Fail (Option 01)

Open collector signal indicating that at least one of the system fans have failed. This does not cause system shutdown.



Power Good

Opto-isolated output signal indicates that the *powerMod* is operating correctly and output voltage is within normal band.
Opto transistor ON = Good.



Indication LEDs

Each powerMod has a visual indicator to identify that it is operating within normal ratings. Very useful for system diagnosis.

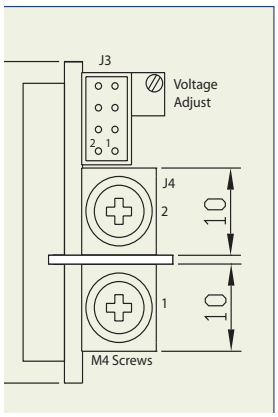
Signal Connector Pinout

Pin	J2 (*powerPac*)	J3 (*powerMod*) Type A	J3 (*powerMod*) Type B)
1	common	+sense	+pg (V2)
2	+5V bias	-sense	-pg (V2)
3		V trim	inhibit (V2)
4	ac fail	I trim	common (V2)
5	fan fail*	+inhibit/enable	+pg (V1)
6	global enable	-inhibit/enable	-pg (V1)
7	temp alarm*	+power good	inhibit (V1)
8	global inhibit	-power good	common (V1)

*Option 01 only

Signal Connector Pinout

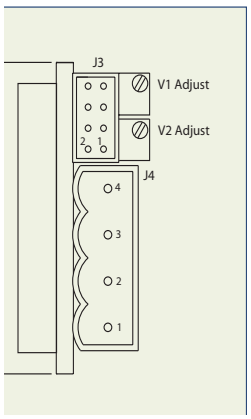
TYPE A Xg1-Xg7



J4 Connector : M4 Screw

J3 Connector Mating Connector
Housing: Locking Molex 51110-0860
Non Locking Molex 51110-0850
Crimp Termnal: Molex p/n 50394

TYPE B : Xg8



J4Connector : Camden 9200/4A

J3 Connector Mating Connector
Housing: Locking Molex 51110-0860
Non Locking Molex 51110-0850
Crimp Termnal: Molex p/n 50394

See Xgen series Designers' Manual for full signal connector details.

Xgen Series

powerPacs (4slot package, 89mm wide)

	Family	MODEL	Watts
Standard	Xlite	XLA	200W
		XLB	400W
		XLC	600W
		XLD	750W
Low Noise	Xkite	XKA	200W
		XKB	400W
		XKC	600W

	Family	MODEL	Watts
Med	Xmite	XMA	200W
		XMB	400W
		XMC	600W
		XMD	750W
Low Noise Med	Xrite	XRA	200W
		XRB	400W
		XRC	600W

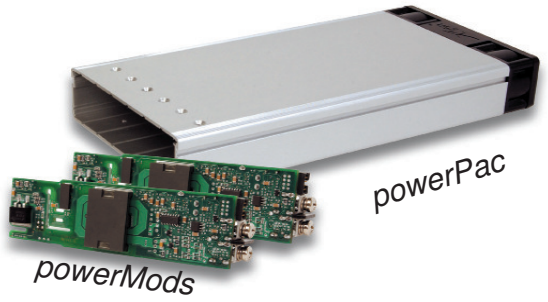
powerPacs (6slot package, 127mm wide)

	Family	MODEL	Watts
Standard	Xcite	XCA	400W
		XCB	700W
		XCC	1000W
		XCD	1200W
		XCE	1340W
High Temp	Xhite	XHA	400W
		XHB	600W
Low Noise	Xqite	XQA	400W
		XQB	900W
		XQC	1200W

	Family	MODEL	Watts
Med	Xvite	XVA	400W
		XVB	700W
		XVC	1000W
		XVD	1200W
		XVE	1340W
Low Noise Med	Xzite	XZA	400W
		XZB	900W
		XZC	1200W

powerMods (for use with all *powerPac* models)

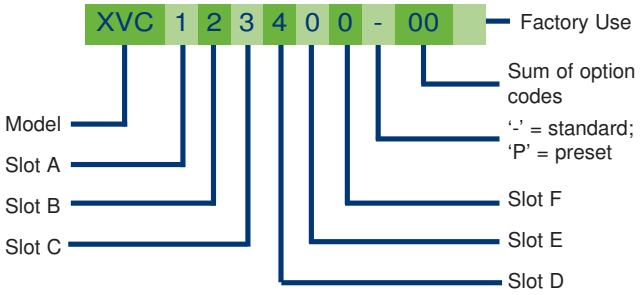
MODEL	Vmin(4) Vtrim	Vpot	Vnom	Vmax(4)	Imax	Watts
Xg1	1.0	1.5	2.5	3.6	50A	125W
Xg2	1.5	3.2	5.0	6.0	40A	200W
Xg3	4.0	6.0	12.0	15.0	20A	240W
Xg4	8.0	12.0	24.0	30.0	10A	240W
Xg5	8.0	24.0	48.0	58.0	6A	288W
Xg7	5.0	5.0	24.0	28.0	5A	120W
Xg8 V1	5.0	5.0	24.0	28.0	3A	72W
V2	5.0	5.0	24.0	28.0	3A	72W



Part Numbering

Configured Units may be specified and ordered using the part numbering system shown opposite. For example, part number XVC123400-00 specifies the following 1000W medical power supply.

- XVC-00 powerPac 1000W medically approved powerPac
- Xg1 2.5V @ 50A powerMod
- Xg2 5V @ 40A powerMod
- Xg3 12V @ 20A powerMod
- Xg4 24V @ 10A powerMod



Accessories .

PowerMods can be parallel connected for higher current and series connected for higher voltages. Configured units will have parallel and series links fitted as required.

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