Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

excelsys

UltiMod

The UltiMod series from Excelsys - the Ultimate range of Modular Configurable Power Supplies

- *Unique in Flexibility*
- *Unrivalled in Performance*
- *Ultra Cost Competitive*

UltiMod

5 YEAR Warranty

Unique in Flexibility, Unrivalled in Performance, Ultra Cost Competitive

FEATURES & OPTIONS

- Dual Safety Approvals
  - UL/EN60950 2nd edition
  - UL/EN60601-1 3rd edition
- Highest Efficiency - up to 91%
- User & Field Configurable
- Standard Medical Features
  - Leakage Current <300µA (<150µA optional)
  - 2 MOPP
  - 4KV Isolation
- Lowest Acoustic Noise
- -40°C Startup Temperature
- Extra Ruggedised Optional
  - Shock: >60G's
  - Vibration: MIL STD-810G
- No Minimum Load
- Extra low profile <1U height
- All outputs fully floating
- Series / Parallel of multiple outputs
- 5V Isolated standby voltage
- Active PFC (Power Factor Correction)
- Product Options: Conformal Coating, Low Leakage Current, Connector, Cabling & Mounting options and Reverse Fans Additional Ruggedisation

TYPICAL APPLICATIONS

- Medical; Clinical diagnostic equipment, Medical lasers, Dialysis equipment, Radiological Imaging, Clinical Chemistry
- Industrial; Test and Measurement, Industrial Machines, Automation equipment, Printing, Telecommunications, Audio equipment

The UltiMod Series from Excelsys - the **Ultimate** range of Modular Configurable Power Supplies provides up to 1200W output power in a compact 1U form factor. The series is designed for **highest efficiencies** and consists of two Input AC front ends (*powerPacs*), UX4 and UX6 and a wide range of DC output modules (XgA-XgL & Xg1-Xg8).

Both *powerPacs* carry **dual safety certification**, EN60950 for Industrial Applications and EN60601-1 3rd Edition for Medical Applications. The UX4 delivers up to 600W and can be populated with up to 4 *powerMods*, the UX6 delivers up to 1200W and can be populated with up to 6 *powerMods*.

The *powerMods* provide up to 12 fully isolated DC outputs ranging from 1.15V to 58V. Users can select the modules most suitable for their application based on power level and/or desired control feature set. The series provides **unique levels of flexibility** and is completely user field configurable. Customers can configure any combination of *powerMods* in series/parallel. This unique flexibility combined with our Industry leading **5 Year Warranty** minimises the total cost of ownership for our customers.

The UltiMod Series of modular configurable power supplies provides global leadership in product reliability, efficiency and cost effectiveness.
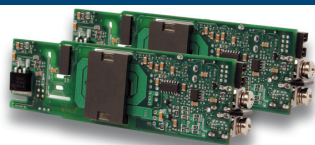
UltiMod powerPacs

	Model	Slots	Power	Medical Approval UL/EN60601-1 3rd edition	Industrial Approval UL/EN60950 2nd edition
UX	UX4	4	600W	Yes	Yes
	UX6	6	1200W	Yes	Yes

powerMods

Model	Vnom (V)	Set Point Adjust Range (V)	Dynamic Vtrim Range (V)	Imax (A)	Power (W)	Remote Sense	Power Good
XgA	12.0	10.8-15.6	-	12.5	150	-	-
XgB	24.0	19.2-26.4	-	8.3	200	-	-
XgC	36.0	28.8-39.6	-	5.6	200	-	-
XgD	48.0	38.5-50.4	-	4.2	200	-	-
XgE/Xg7	24.0	5.0-28.0	-	5.0	120	-	Yes
XgF/Xg8	24.0	5.0-28.0	-	3.0	72	-	Yes
	24.0	5.0-28.0	-	3.0	72	-	Yes
XgG	2.5	1.5-3.6	1.15-3.6	40.0	100	Yes	Yes
XgH	5.0	3.2-6.0	1.5-6.0	36.0	180	Yes	Yes
XgJ	12.0	6.0-15.0	4.0-15.0	18.3	220	Yes	Yes
XgK	24.0	12.0-30.0	8.0-30.0	9.2	220	Yes	Yes
XgL	48.0	28.0-58.0	8.0-58.0	5.0	240	Yes	Yes
Xg1	2.5	1.5-3.6	1.15-3.6	50.0	125	Yes	Yes
Xg2	5.0	3.2-6.0	1.5-6.0	40.0	200	Yes	Yes
Xg3	12.0	6.0-15.0	4.0-15.0	20.0	240	Yes	Yes
Xg4	24.0	12.0-30.0	8.0-30.0	10.0	240	Yes	Yes
Xg5	48.0	28.0-58.0	8.0-58.0	6.0	288	Yes	Yes

excelsys

INPUT

Parameter	Conditions/Decription	Min	Nom	Max	Units
Input Voltage Range	Universal Input 47-440Hz	85		264	VAC
		120		380	VDC
Power Rating	UX4: See derating curves		600		W
	UX6: See derating curves		1200		W
Input Current UX4	85VAC in 400W out		7.5		A
UX6	85VAC in 850W out		11.5		
Inrush Current	230VAC @ 25°C UX6/UX4			25/50	A
Undervoltage Lockout	Shutdown	65		74	VAC
Power Factor	110 VAC @ Full Load	0.98	0.99		
Fusing UX4	250V		F8A HRC		
UX6	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				
	Dynamic: As per *powerMod* table				
Minimum Load			0		A
Load & Cross Regulation	For 25% to 75% load change			±0.2	%
Transient Response	For 25% to 75% load change: Voltage Deviation; XgA-XgD			2.5	%
	Settling Time: XgA-XgD			500	µs
	Voltage Deviation: XgE-XgL, Xg1-Xg8			10	%
	Settling Time: XgE-XgL			250	µs
Ripple and Noise	20MHz 100mV or 1.0% pk-pk (except 150mV XgA)				
Overvoltage Protection	Latching	105		170	%
Overcurrent Protection	Straight line with hiccup activation at <30% of Vnom.	105		170	%
Line Regulation	For ±10% change from nominal line			±0.1	%
Remote Sense	Max. line drop compensation (except XgA, B, C, D, E, F)			0.5	VDC
Overshoot				2	%
Rise Time	Monotonic		15		ms
Turn-on Delay	From AC in and Global Enable		700		ms
	powerMod Enable		2		ms
Hold-up Time	For nominal output voltages at full load.	15		20	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	4000			VAC
	Input to Chassis	1500			VAC
Efficiency	230VAC, 1200W @ 24V		90	91	%
Safety Agency Approvals	EN60601-1 3rd Edition, UL60601-1, CSA601, UL File No. E230761				
	EN60950 2nd Edition, CSA C22.2 No. 60950-1, UL File No.E181875				
Leakage Current	250VAC, 60Hz, 25°C			300	µA
	250VAC, 60Hz, 25°C (Option 04)			150	µA
Weight	See weight calculators on Excelsys website				
Signals	See section 4.9 of catalogue				
Bias Supply	Always on, current 500mA	4.8	5.0	5.2	VDC
Reliability	Failures per million hours at 40°C and full load *powerMod*			0.958	fpmh
	See Section 7.1 . *powerPac* excludes fans *powerPac*			0.92	fpmh
MTBF	UX4 with two XgA's @ full load.Telecordia SR-332 , Issue 1 May 2001, ground benign, ambient temperature of 40°C	670			kHours

EMC

Parameter	Standard			Level	Units
Emissions					
Conducted	EN55011, EN55022, FCC			Class B	
Radiated	EN55011, EN55022, FCC			Class 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, SEMI F47 Compliant [1]			Compliant	

ENVIRONMENTAL

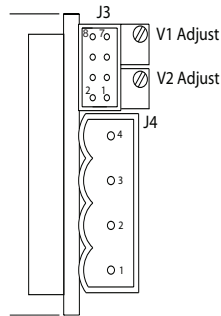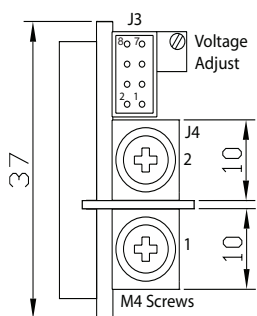| Parameter	Conditions/Description	Min	Nom	Max	Units
Operating Temperature	Operates to specification below -20°C after 10 min warm-up	-40		+70	°C
Storage Temperature		-40		+85	°C
Derating	See Page 8 for full temperature deratings				
Relative Humidity	Non-condensing	5		95	%RH
Acoustic Noise	Measured from distance of 1m; UX4/UX6. See Page 58 of catalogue		39.8/42.7		dBA
Shock		60			G
Vibration	MIL-STD810G				
Altitude	Operational: 2000m, Storage: 8000m				

NOTES   1. SEMI F47 compliant at input voltages >160VAC. Consult Excelsys for details.
2. Visit www.excelsys.com for configuration and ordering and contact information.
3. Product is not UL/EN certified for 120-380VDC input operation. Consult Excelsys for details.

Output Connectors

The output *powerMods* connection details are shown below. Type A connectors are for single output *powerMods* XgA-XgT and Xg1-Xg7. The Type B connector is for the dual output XgF/Xg8 *powerMod*. The power and signal connectors are as follows:

Type A: *powerMods*
XgA to XgE
XgG to XgT
Xg1 to Xg7

Type B: *powerMod*
XgF/Xg8

Output Signals and Power Connector Pinout

Pin Module	J3 (XgA to XgD)	J3 (XgG-XgT) (Xg1-Xg5)	J3 (XgE) (Xg7)	J3 (XgF) (Xg8)	J4 (Type A)	J4 (Type B)
1	not used	+Sense*	not used	-pg (V2)	-Vout	-V2
2	Common	-Sense*	not used	+pg (V2)	+Vout	+V2
3	not used	Vtrim	not used	Inhibit V2)		-V1
4	not used	Itrim	Common	Common (V2)		+V1
5	+Inhibit	+Inhibit/Enable	-pg	-pg (V1)		
6	-Inhibit	-Inhibit/Enable	+pg	+pg (V1)		
7	not used	+pg	Inhibit	Inhibit (V1)		
8	not used	-pg	Common	Common (V1)		

*remote sense not present on XgR and XgT *powerMods*.

Output Mating Connectors

J3: Locking Molex 51110-0860; Non Locking Molex 51110-0850; Crimp Terminal: Molex p/n 50394. Or Molex 51110-0856, includes Locking Tab & Polarization Keying,
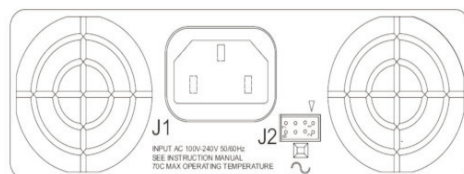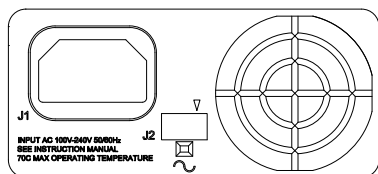J4 (Type A): M4 Screw (8mm)
J4 (Type B) Connector(s): Camden CTB9200/4A

Input Connectors

The UltiMod series has a variety of input connector options to ease system integration. These include IEC, Input cables (3-wire) and IEC to Screw Terminal Adaptor.

J1 & J2 Connectors UX4

J1 & J2 Connectors UX6

Pin	J1	J2
1	Line	Common
2	Neutral	+5V Bias
3	Earth	not used
4		AC Fail
5		Fan Fail
6		Global Enable
7		Temp Alarm
8		Global Inhibit

Input Mating Connectors

J1: IEC320 type female plug rated 13, Locking IEC cable and connector: Schaffner EMC part number IL13-US1-SVT-3100-183.
J2: Locking Molex 51110-0860; Non Locking 51110-0850; Crimp Terminal: Molex p/n 50394: Or Molex 51110-0856, includes Locking Tab & Polarization Keying
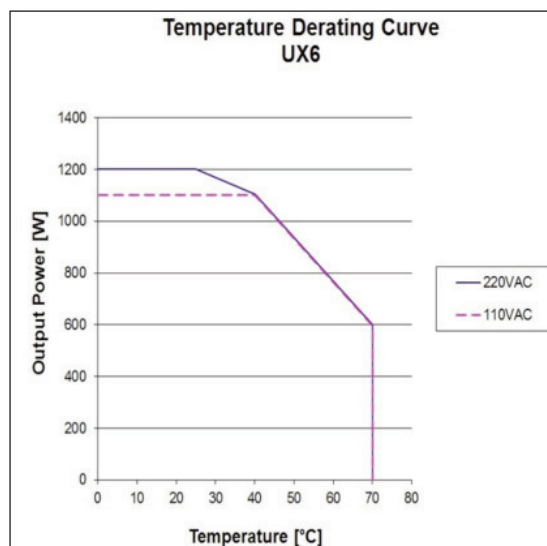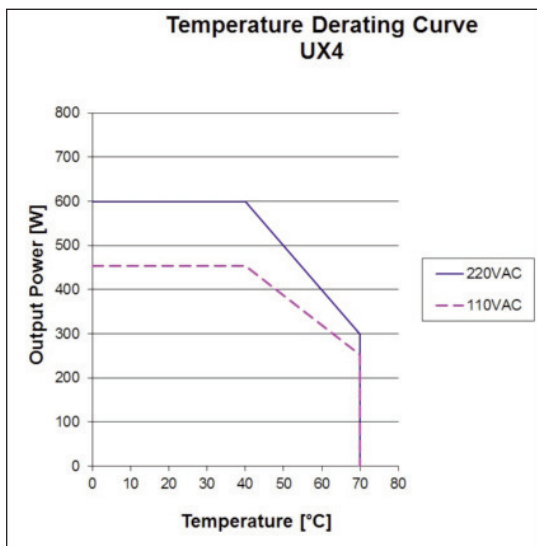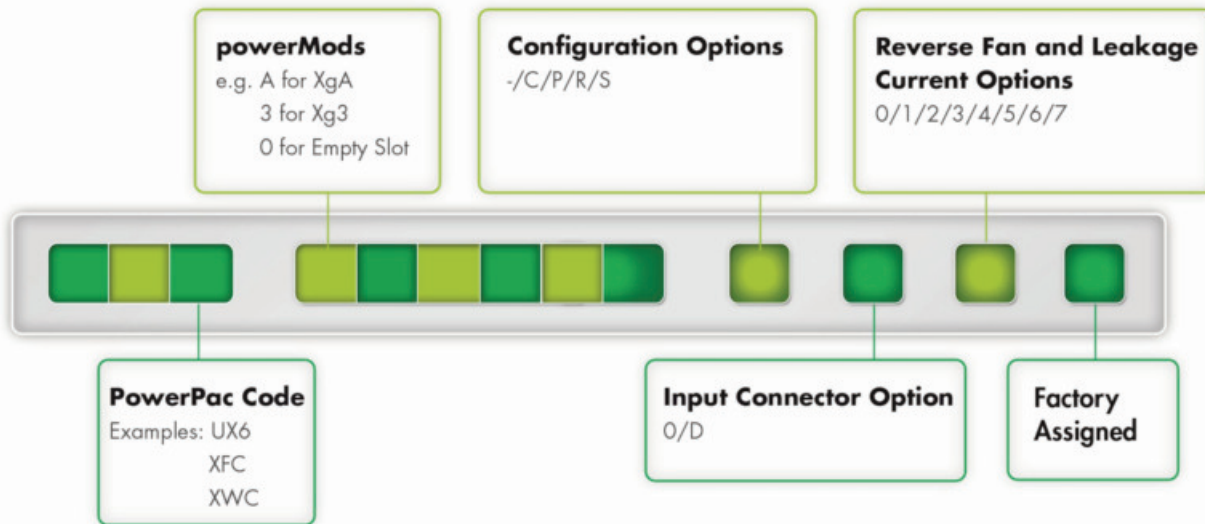
Input Cable (Option D)

The UltiMod Series is also available with an input cable connection option allowing greater flexibility when mounting the UltiMod in the system. Individually insulated input cables are 300mm in length and come supplied with Faston connectors.

IEC to Screw Terminal Adaptor

Some applications may require a screw terminal input rather than the standard IEC320 connector provided with the UltiMod. For such applications, Excelsys can offer the XE1, the IEC to Screw terminal adaptor accessory plug. This is a press fit connector that plugs securely into the UltiMod *powerPac* and provides the system integrator with screw terminals for mains connection. Recommended IEC to Faston/Terminal Lugs Schurter P/N 4788.8000

Derating Curves

excelsys

powerMods
e.g. A for XgA
3 for Xg3
0 for Empty Slot

Configuration Options
-/C/P/R/S

Reverse Fan and Leakage Current Options
0/1/2/3/4/5/6/7

PowerPac Code
Examples: UX6
XFC
XWC

Input Connector Option
0/D

Factory Assigned

Section 3.4
Configuring your Modular Power Supply

The Xgen and UltiMod series of user configurable power supplies combine feature rich AC input front-ends *(powerPacs)* with slide-in DC output modules *(powerMods)*. The plug and play architecture allows system designers to define and build 'instant' custom power solutions with industry leading 17W/in^3 power density and up to 92% efficiency.

Configured units may be specified and ordered using the part

OPTION CODES EXPLAINED

CONFIGURATION OPTIONS

"-"   Standard. No additional configuration
Nominal output voltages and no options

"C"   Conformal Coating

"P"   Preset. Voltage Adjustments, Series, Parallel Outputs

"R"   Extra Ruggedisation for Shock and Vibration

"S"   Conformal Coating and Extra Ruggedisation for Shock and Vibration

INPUT CONNECTOR CONFIGURATOR OPTIONS

"0"   Standard IEC Input Connector

"D"   Input Cable Option

REVERSE FAN AND LEAKAGE CURRENT OPTIONS

"0"   Standard Thermal Signals + Fan Fail Signal Included

"1"   Standard Thermal Signals + Fan Fail Signal Included (Xgen models only)

"2"   Reverse Fan (Includes "0")

"3"   Reverse Fan, Standard Thermal Signals + Fan Fail Signal Included (Xgen models only)

"4"   150uA Leakage Current*(medical models only, Includes"0")

"5"   150uA Leakage Current*, Standard Thermal Signals + Fan Fail Signal Included (Xgen models only)

"6"   150uA* + Reverse Fan (medical versions only, Includes"0")

"7"   150uA Leakage Current*, Reverse Fan, Standard Thermal Signals + Fan Fail Signal Included (Xgen models only)

Specifying & Ordering Configured Power Supplies

Configured Units may be specified and ordered using the part numbering system shown opposite. At our configuration centre we will assemble the Power Supply as specified by you accounting for slot preferences and also for preferred settings (Voltage/Series/Parallel etc), and also incorporating any Options required.

Configuration example for UltiMod: part number UX4CGD0-D4 specifies the following product;
- UX4 powerPac – 600W (Medical & Industrial)
- Slot 1: XgC: 36V/5.6A powerMod
- Slot 2: XgG: 2.5V/40A powerMod
- Slot 3: XgD: 48V/4.2A powerMod
- Slot 4: empty
- Option D (input cable) & Option 4 (150uA Leakage current)

Configuration example for XF: part number XFC2DK4BHS01 specifies the following product;
- XFCS01 powerPac - 1000W (includes options S & 1 as standard)
- Slot 1: Xg2C 5V/40A powerMod
- Slot 2: XgDC 48V/4.2A powerMod
-           Slot 3: XgKC 24V/9.2A powerMod
- Slot 4: Xg4C 24V/10A powerMod
- Slot 5: XgBC 24V/8.3A powerMod
- Slot 6: XgHC 5V/36A powerMod

Configuration example for Xgen: part number XVD2345F0-D4 specifies the following product;
- XVD powerPac - 1200W (Medical)
- Slot 1: Xg2:5V/40A powerMod
- Slot 2: Xg3:12V/20A powerMod
- Slot 3: Xg4:24V/10A powerMod
- Slot 4: Xg5:48V/6A powerMod
- Slot 5: XgF:24V/3A, 24V/3A powerMod
- Slot 6: empty
- Option D (input cable) & Option 4 (150uA Leakage current)

*UltiMod comes with Thermal and Fan Fail signals as standard

*With 150uA Leakage Current (0ption 4) some external filtering may in certain cases be needed to meet system level EMC specifications. Consult Excelsys for support.

excelsys