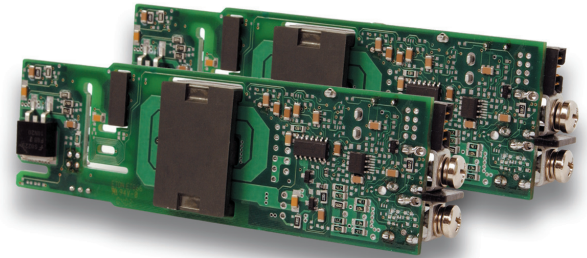


## Wide Trim powerMod Series



### PLUG & PLAY POWER next generation power solution

#### FEATURES & OPTIONS

- Dual Safety Approvals
  - UL/EN60950 2<sup>nd</sup> edition
  - UL/EN60601-1 3<sup>rd</sup> edition
- 1.0V to 58V standard output voltages
- Standard Medical Features
  - Leakage Current <300µA (<150µA optional)
  - 2 MOPP
  - 4KV Isolation
- Highest Efficiency - up to 92%
- SEMI F47 Compliant
- Individual output control signals
- - 40°C Startup Temperature
- Conducted EMI EN 55022 Class B
- OVP, OTP, OCP as standard
- MIL STD-810G: Shock & Vibration
- Adjustable output voltages
- Adjustable current limit
- Output inhibit / enable control
- Parallel / Series of multiple outputs
- All outputs fully floating
- These new powerMods are all 100% interchangeable and compatible with all Excelsys Modular powerPacs & other powerMods

#### TYPICAL APPLICATIONS

- Medical; Clinical diagnostic equipment, Dialysis equipment, Clinical & Cosmetic Lasers, Radiological Imaging, Clinical Chemistry
- Industrial; Test and Measurement, Industrial Machines, Lasers, Automation equipment, Printing, Telecommunications, Audio equipment,
- Hi Rel / MILCOTS; Harsh Industrial Electronics, Radar

The new Wide-Trim *powerMod* family of plug-in DC modules from Excelsys is compatible with all *powerPac* families in the Excelsys range. The *powerMods* convert the intermediate bus voltage provided by the *powerPac* to your specific output DC voltage requirements. The *powerPac* families include UltiMod, Ultra Quiet Xgen, High Power Xgen and Hi-Rel/MILCOTS Xgen available as stand-alone chassis to 1340W, but each can be paralleled for operation above 2KW.

The existing Excelsys *powerMods* provide output voltages from 1.5V to 58V. The feature rich *powerMods* provide a suite of output signals and user configurable functions increasing design-in flexibility. User configurable functions include local and remote adjustment, adjustable current limit, dynamic voltage trim/adjust, alternative current limiting technique and inhibit/enable functions. Existing *powerMods* in this range include XgA-XgL and Xg1-Xg8.

Excelsys now expands this family with four new *powerMods* with each offering extra-wide voltage trim ranges, along with the complete suite of standard control features. The new *powerMods*; XgM, XgN, XgP and XgQ are available with nominal voltages of 5V, 12V, 24V, and 48V respectively, each can be trimmed down to 1.0V. All *powerMods* can be simply plugged into a standard *powerPac* in the normal way, all modules are interchangeable and can be put in series or parallel ensuring that you have the most flexible power supply at your fingertips.

The XgM, XgN, XgP and XgQ *powerMods* continue the Excelsys tradition of providing an instant, no compromise power solution for any application where a unique set of voltage and current requirements is needed.



#### powerMods

MODEL	Vnom	Set Point Adjust Range (V)	Dynamic Vtrim Range (V)	I <sub>max</sub> (A)	Power (W)	I Limit onset	OVP	Remote Sense	Power Good
XgM	5.0	3.2-6.0	1.0 to 6.0	40	200	49.5	7.3	Yes	Yes
XgN	12.0	6.0-15.0	1.0 to 15.0	20	240	27.5	18.0	Yes	Yes
XgP	24.0	12.0-30.0	1.0 to 30.0 <sup>(1)</sup>	10	240	14.5	34.0	Yes	Yes
XgQ	48.0	24.0-58.0	1.0 to 58.0 <sup>(2)</sup>	6	288	7.4	64.0	Yes	Yes

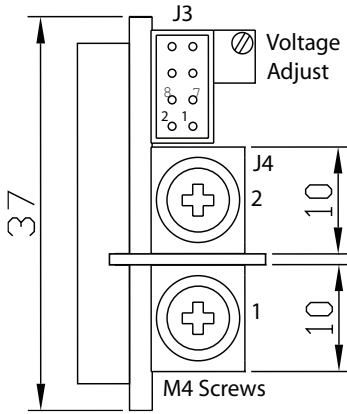
# Wide Trim powerMod Series

## Output Connectors

The output *powerMods* connection details are shown below. The power and signal connectors are as follows:

### Type A: *powerMods*

#### XgM, XgN, XgP, XgQ



### Output Signals and Power Connector Pinout

Pin	J3	J4
1	+Sense	-Vout
2	-Sense	+Vout
3	Vtrim	
4	Itrim	
5	+Inhibit/Enable	
6	-Inhibit/Enable	
7	+pg	
8	-pg	

## 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

J4 (Type B) Connector: Camden 9200/4A; Metz Connect PN ASP0450422; Or Conta-clip PN 11209.1; Or Camden Boss CTB9200/4A; Or Altech SH04-5,00

## Series Connection

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.

## Parallel Connection for *powerMods*

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 for *powerMods* XgM - XgQ
2. Connect Negative Parallel Link.
3. Adjust output voltages of *powerMods* to within 5mV of each other.
4. Connect Positive Parallel Link.

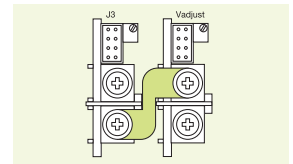
## DIP Switch for Current Share & Inhibit/Enable for *powerMods*



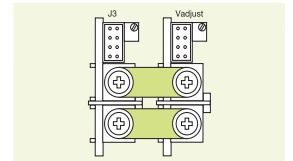
Dip Switch settings above are:  
Current Share: OFF  
Inhibit ON: Normally ON

## DIP Switch Option

*powerMods* can be configured to be normally ON or normally OFF by appropriate setting of the DIP switch on the *powerMod*. (default mode is normally ON). The *powerMod* will deliver output voltage when mains is applied (and the *powerPac* is enabled). The *powerMod* requires an external 5V signal (between +IN/EN and -IN/EN) to disable the output pins. This may be reversed by setting of the dip switch to the OFF position.



Series Links available.  
Part Number XS1



Parallel Links available to order.  
Part Number XP1

## PowerPacs

These *powerMods* can be used in conjunction with any Excelsys Modular *powerPac* for a variety of applications in Medical, Industrial, Communications or Military markets.

## Notes:

- 1) From 1V to 4.5V XgP output ripple and transient response are load dependent. Please consult Excelsys Applications Engineering Team or support@excelsys.com for performance characterisation.
- 2) From 1V to 7V XgQ output ripple and transient response are load dependent. Please consult Excelsys Applications Engineering Team or support@excelsys.com for performance characterisation.
- 3) Refer to the UltiMod Designers Manual for additional information.