

Reactive Load PowerMod Series



PLUG & PLAY POWER next generation power solution

FEATURES & OPTIONS

- Dual Safety Approvals
 - UL/EN60950 2nd edition
 - UL/EN60601-1 3rd edition
- 8.0V 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 current limit
- Output inhibit / enable control
- Parallel / Series of multiple outputs
- All outputs fully floating
- Or-ing FET protection on output
- Reverse Voltage Protection on output

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,
- Hi Rel / MILCOTS; Harsh Industrial Electronics, Radar

Excelsys Technologies new Reactive Load *powerMod* series of plug-in DC modules is optimised for driving reactive loads, such as DC motors. These *powerMods* offer complete protection where loads can generate high levels of reverse energy thereby increasing system robustness and reliability.

These *powerMods* are compatible with all Excelsys UltiMod, XF, and Xgen *powerPacs* and can deliver output voltages from 8.0V 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. Modules can be connected in series or parallel ensuring that any voltage/current requirements can be achieved.

The new XgR and XgT additions to the *powerMod* series come equipped with in-built ORing function and an anti-reversal diode. The ORing circuit (utilising a MOSFET to maintain high efficiency) offers N+1 redundancy to the user when the *powerMods* are used in parallel operation and increases the ruggedness of the system in reactive load applications. The anti-reversal diode across the output, which is rated for the full current of the module, offers increased ruggedness when the modules are used in reactive load applications.

Used in conjunction with the broad range of existing *powerMods* (XgA-XgL and Xg1-Xg8), the XgR and XgT *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 _{max} (A)	Power (W)	I Limit onset	OVP	Power Good
XgR	24.0	12.0-30.0	8.0 to 30.0	10	240	14.5	34.0	Yes
XgT	48.0	28.0-58.0	8.0 to 58.0	6	288	7.4	64.0	Yes

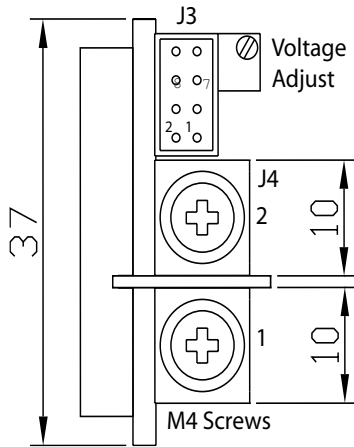
Reactive Load PowerMod Series

Output Connectors

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

Type A: *powerMods*

XgR & XgT



Output Signals and Power Connector Pinout

Pin	J3	J4
1		-Vout
2		+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.

J4: M4 Screw

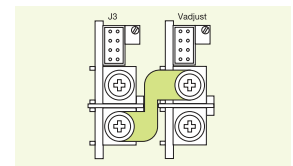
Series Connection

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.

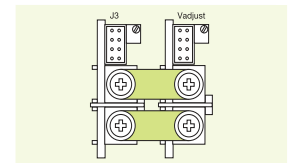
Parallel Connection for *powerMods*

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* XgR & XgT
2. Connect Negative Parallel Link.
3. Adjust output voltages of *powerMods* to within 5mV of each other. (To ensure accurate current share between modules, it is necessary to load the modules with at least 100 mA during this step. A simple resistor can be used for this load)
4. Connect Positive Parallel Link.



Series Links available.
Part Number XS1



Parallel Links available to
order. Part Number XP1

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



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.

Dip Switch settings above are:

Current Share: OFF

Inhibit ON: Normally ON

PowerPacs

These *powerMods* are used in conjunction with Excelsys Modular *powerPacs*. This *powerPac* family provides power from 200W to 1340W and is used throughout various industries including Medical, Industrial, Communications and Military. Consult Excelsys for details.