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.

### 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
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

<table>
<thead>
<tr>
<th>Pin</th>
<th>J3</th>
<th>J4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>not used</td>
<td>-Vout</td>
</tr>
<tr>
<td>2</td>
<td>-Vtrim</td>
<td>+Vout</td>
</tr>
<tr>
<td>3</td>
<td>+Vtrim</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Itrim</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>+Inhibit/Enable</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>-Inhibit/Enable</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>+pg</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>-pg</td>
<td></td>
</tr>
</tbody>
</table>

**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.

**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.