XGEN400-1300 SERIES

AC / DC Modular 6 Slot Power Supplies: 400 ~ 1300 Watts

HELIOS POWER SOLUTIONS

Features

- Extra low profile: 1U height (40mm)
- Plug & Play power, allows for fast custom configurations.
- Series / Parallel connections of output modules for flexibility
- Eight isolated output modules to choose from: 1.5V to 58V
- All output modules wide voltage adjustment range
- Five power levels: 400, 700, 1000, 1200 & 1300 watts
- Ultra high efficiency, up to 89%
- LED Indicator for each output
- IEC mains input connector for world wide use.
- Industrial & Medical safety approved options
- See XGEN 200-750 series for lower power solutions

Specifications

Input Voltage	85-264VAC (120-380VDC)
Frequency	47-63Hz
Input Current (at 90VAC)	XCA-400W @ 7.5A, XCB-700W @ 9.5A XCC-1000W @ 11.5A, XCD-1200W @ 11.5A XCE-1340W @ 14.0A.
Undervoltage Lockout	Unit will shutdown @ approximately 74VAC
Output Power (6 slot chassis)	**XCA**=400W, **XCB**=700W, **XCC**=1000W **XCD**= 1200W, **XCE** = 1340W
Isolation	Input-Output / Chassis: 3000VAC / 1500VAC Output-Chassis: 500VDC,
Efficiency	Typically 89% at 230VAC input and full load
Safety Approvals	EN60950, UL60950,
Leakage Current	1.5mA @ 250VAC , 60Hz
Inhibit / Enable	Inhibit / Enable Signal on output modules, refer to Signals page
Power Good	Power Good Signal on output modules, refer to Signals page
Bias Supply	5vdc 250mA Always ON
EMC	Conducted: EN55011, EN55022 Lev B Radiated: EN55011, EN55022 Lev B
Immunity	Harmonics: EN61000-3-2 Flicker & Fluctuation: EN61000-3-3 Electrostatic Discharge: EN61000-4-2 Radiated RFI: EN61000-4-3 Fast Transients: EN61000-4-4 Input Line Surges: EN61000-4-5 Conducted RFI: EN61000-4-6 Voltage Dips: EN61000-4-11 (EN55024)
Operating Temp:	-20ºC to +70ºC. Refer to manual for derating above 50ºC.
Humidity	5-95% RH Non-Condensing
Shock	3000 Bumps. 10G (16ms) half sine
Vibration	1.5G 10-200Hz
Dimensions	6 slot chassis: 270 x 127 x 40mm
Weight	2 – 3kg

For more details on the X-GEN series, visit our website

Description

The **X-GEN** DC power supply is the most flexible power supply range on the market.
It comes in two **Power Pacs: 6 Slot** and **4 Slot**, that allows for six or four individual **Output Modules** to be inserted into each Power Pac.

There are eight output modules to choose from, each having a wide output voltage range adjustment. These output modules can be connected in parallel or series with each other, allowing for an endless selection of voltage settings from 1.5 - 120VDC.

In addition, these modules can be replaced, changed in the field, thus allowing the end user to reconfigure the output voltages on site.
There are seven power levels to choose from, providing added flexibility from 200 - 1200W units.
Complete units can be ordered and shipped within the same day, totally configured to customer specifications.

Specifications: Output Modules.

Output Voltage	Refer to table
Output Adjustment Range	Refer to table Manual: Multi-turn potentiometer on front of output modules. Electronic: Refer to user manual
Minimum Load	zero
Line Regulation	±0.1% for ±10% on input
Load Regulation	±0.2% for 25% to 75% load change
Cross Regulation	±0.2%
Transient Response	10% voltage deviation settling time 250µs
Ripple & Noise	10% pk-pk 200MHz Bandwith
Overvoltage Protection	Set at approx 125%. 1st Level: Vset tracking. 2nd Level Vmax latching.
Overcurent protection	Straight line with hiccup activation at <30% of Vnom. Refer to manual for more details
Remote Sense	Maximum line drop 0.5V compensation. (except Xg7, Xg8 modules
Overshoot	2%
Turn-on Delay	Refer to manual
Hold up time	Typically 15ms
Output Isolation	Output-Output / Chassis: 500VDC

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Output Power Module Selection

Output Module P/N	Output V	A	Voltage Range	No. of Slots	Power W
1	2.5V	50A	1.5 - 3.6V	1	125W
2	5.0V	40A	3.2 - 6.0V	1	200W
3	12.0V	20A	6.0 - 15.0V	1	240W
4	24.0V	10A	12.0 - 30.0V	1	240W
5	48.0V	6A	28.0 - 58.0V	1	288W
7	24.0V	5A	5.0 - 28.0V	1	120W
8	V1 = 24V V2 = 24V	3A 3A	5.0 - 28.0V 5.0 - 28.0V	1 1	72W 72W

Model Configuration:

1. Use the output module rating to configure the V outputs required and current rating.
2. Any number of different modules can be connected in series to obtain the desired output voltage.
3. Any number of the same module type can be connected in parallel for increased output current for specific V out.
4. Then select the appropriate 6 slot chassis and appropriate Power Level Front End.
5. When powering highly inductive or capacitive loads it is recommended to use a blocking diode on the output of modules .

X	CB	2245	Kxxx	

X = Series

Power:
- CA = 400W 6 slot
- CB = 700W 6 slot
- CC = 1000W 6 slot
- CD = 1200W 6 slot
- CE = 1340W 6 slot

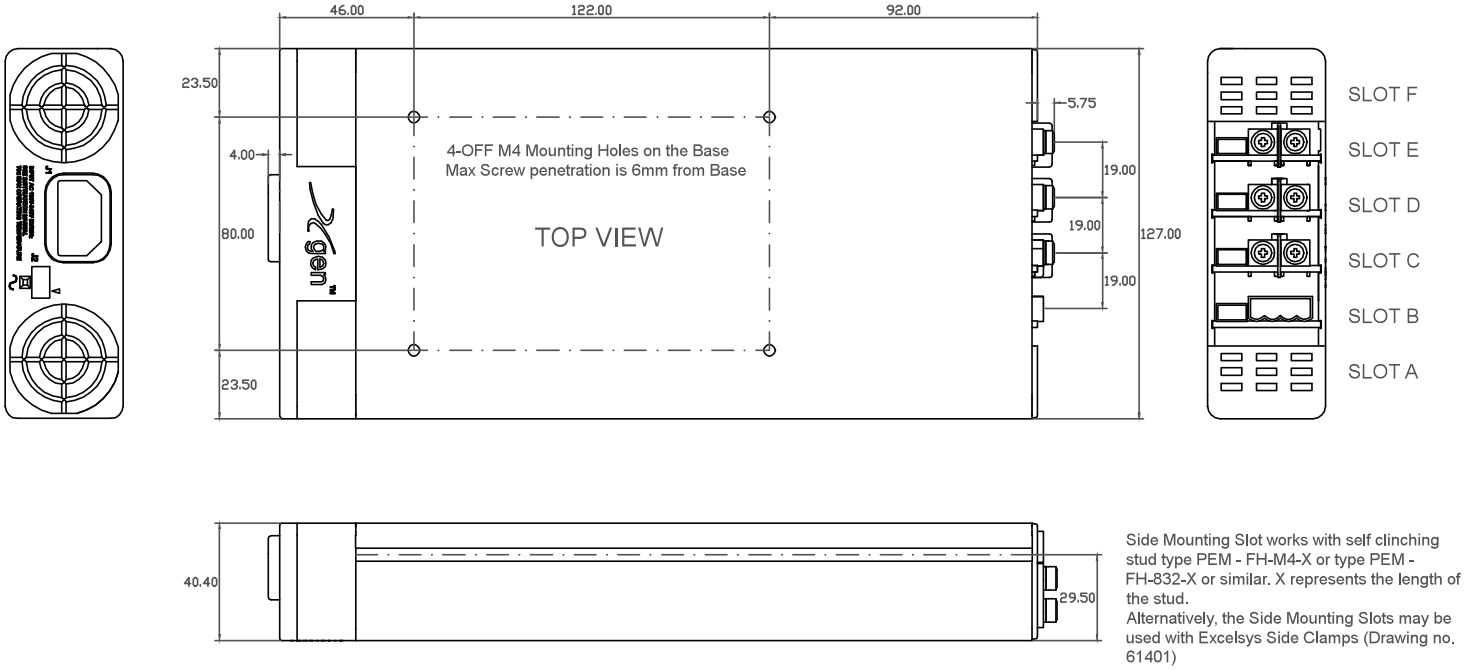
Output Module Type
- 1 = 2.5V
- 2 = 5V
- 3 = 12V
- 4 = 24V
- 5 = 48V
- 7 = 24V
- 8 = Dual 24V

Factory Allocated

Model Example

XC B- 2245
6-slot 700W package:
5V, 5V, 24V, 48V, (nominal)

6 SLOT CHASSIS



Side Mounting Slot works with self clinching stud type PEM - FH-M4-X or type PEM - FH-832-X or similar. X represents the length of the stud.
Alternatively, the Side Mounting Slots may be used with Excelsys Side Clamps (Drawing no. 61401)

Xgen Flexabilty and Signals

For detailed infomation please refer to the Xgen Designers' Manual which is available on-line or contact Excelsys.

Voltage Adjustment

Output Voltage can be adjusted in a number of ways:

1. On board multi turn potentiometer
2. Remote resistive programming (via Vtrim pin)
3. Remote voltage programming (via Vtrim pin)

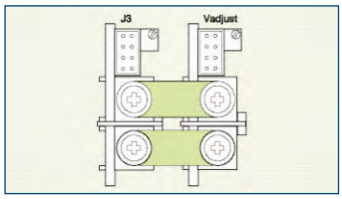
Current Limit Adjustment

Output current limit can be Straight line or Foldback and can be adjusted via Itrim pin.

Parallel Connection

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 each other.
4. Connect Positive Parallel Link.

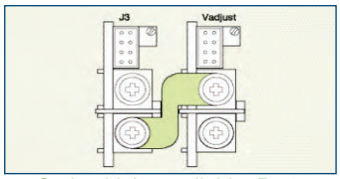


Parallel Links available to order. Part Number XP1

*Certain applications may require military grade potentiometer or fixed resistors - consult Excelsys for details.

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.



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

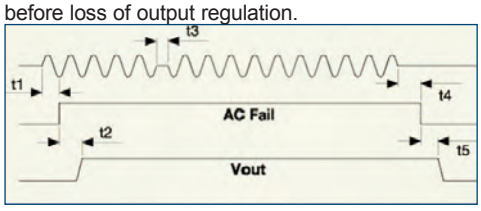
A SELV isolated bias (always on) voltage of 5V @ 250mA (30mA on XCE and XVE models) is provided on J2 pin 2 relative to J2 pin 1 (common) and may be used for miscellaneous control functions. 5V @ 500mA available on request. .

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.

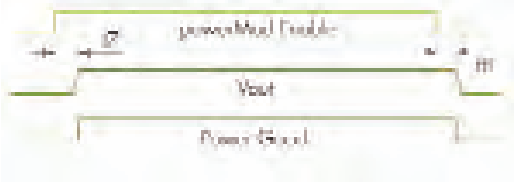
AC Fail

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.



Power Good

Opto-Isolated output signal indicates that the *powerMod* is operating correctly and output voltage is within normal band.



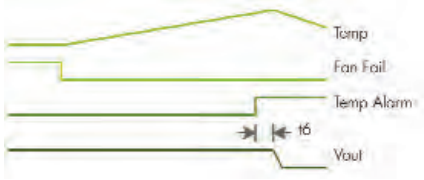
powerPac Options

Temperature Alarm (Option 01)

Open collector signal indicating excessive temperature has been reached 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 *powerPacs* fans has failed. This does not cause power supply shutdown. The power supply will continue to operate until 10ms after the temperature alarm signal is generated.



Reverse Fan (Option 02)

The Xgen Series is available with reverse air flow direction. Contact Excelsys for derating details.

Ultra Low Leakage Current (Option 04)

The Xgen is availabe with the option of Ultra Low Earth Leakage Current of <150µA and is approved to EN60601-1 and UL60601-1 2nd and 3rd Editions

Conformal Coating (Option C)

The Xgen is available with conformal coating for harsh environments and MIL-COTs applications.

Ruggedised Option (Option R)

The Xgen is available with extra ruggedisation for applications that are subject to extremes in shock and vibration.

Input Cable Option (Option D)

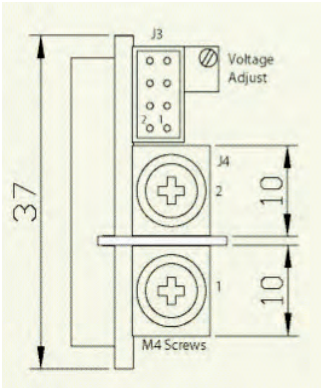
3 Wire input mains cable. Input cables are 300mm in length and come supplied with fast connectors.

Signal Connector Pinout

Pin	J2 *(powerPac)*	J3 *(powerMod)* Xg1-Xg5 Type A	J3 *(powerMod)* Xg7 Type A	J3 *(powerMod)* Xg8 Type B
1	common	+sense	not used	-pg (V2)
2	+5V bias	-sense	not used	+pg (V2)
3		V trim	not used	inhibit (V2)
4	ac fail	I trim	common	common (V2)
5	fan fail*	+inhibit/enable	-pg	-pg (V1)
6	global enable	-inhibit/enable	+pg	+pg (V1)
7	temp alarm*	+power good	inhibit	inhibit (V1)
8	global inhibit	-power good	common	common (V1)

*Option 01 only

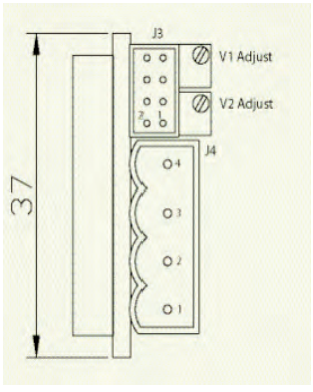
TYPE A Xg1-Xg7



J4 Connector : M4 Screw

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