UXD Instruction Manual

PLEASE READ THIS INSTRUCTION MANUAL CAREFULLY BEFORE INSTALLATION OR USE OF THIS PRODUCT, AND KEEP IT IN A SAFE PLACE FOR FUTURE REFERENCE. FOLLOW ALL WARNINGS AND INSTRUCTIONS MARKED ON THE PRODUCT.

HIGH VOLTAGE WARNING!

Dangerous voltages are present within these power supplies. These products should only be worked on by qualified personnel.

powerPac		
UXD	**Medical**	**1200W**
powerMods		
Xg1, Xg2, Xg3, Xg4, Xg5, Xg7, Xg8, **XgA, XgB, XgC, XgD, XgE, XgF, XgG, XgH, XgJ, XgK, XgL, XgM, XgN, XgP, XgQ, XgR, XgT**		**1.0V to 58V**

UXD products are comprised of:

powerPac **Chassis Converters** intended for use in Xgen and UlitMod Series ONLY. These must NOT be used for any other purpose.

and

powerMod **Plug-In Modules** intended for use in Xgen and UlitMod series ONLY. These must NOT be used for any other purpose.

UXD products are designed for use within other equipment or enclosures, which restrict access to **authorised competent personnel only**. The unit covers are designed only to protect skilled personnel from hazards. They must not be used as part of the external covers of any equipment where they may be accessible to operators, since, under full load conditions, part or parts of the unit may reach temperatures in excess of those considered safe for operator access.

IMPORTANT CONSIDERATIONS

The *powerPac* should be supplied only by a power source of the type indicated on its label. A socket outlet shall be installed near the equipment and shall be easily accessible. The unit should only be used with a suitably rated mains cord and appropriate IEC320 type connector, sourced by the end user, and in accordance with the requirements of Table 3B of IEC60950-1 (latest edition). If in doubt, contact Excelsys Engineering Department for assistance. Double pole / neutral fusing is used. If the instalation is not completely disconected from power, parts may remain live even if one of the two mains fuses has blown.

When adding or removing *powerMods* from the *powerPac*, care must be taken to handle the *powerMods* by the output terminals ONLY, ensuring that all other surface mount components are not unduly damaged.

When securing the product, do not use screws which infringe the maximum penetration depth of 6mm. Customer fixings are provided on the base of the unit in addition to the Excelsys 'fleximount' system which allows the unit to be mounted on either side of the *powerPac* chassis. The Xgen and UltiMod series of power supplies have integral fans and may be mounted in any orientation provided that the air intake and air outlet areas are not impeded with particular regard paid to provide ventilation holes in any chassis on which or near which the unit is mounted.

AFTER DISCONNECTING THE AC SOURCE, ALLOW 4 MINUTES BEFORE DISASSEMBLY TO ALLOW CAPACITORS WITHIN THE UNIT TO DISCHARGE.

INPUT SPECIFICATIONS (*powerPac* only)

Input Voltage Range	100 to 240Volts AC
Input Frequency	50/60 Hz
Earth Leakage Current	300µA

Input Fusing

WARNING! To protect against risk of fire, replace only with fuses of same rating and type. Fuses must be replaced by qualified service personnel only.

Line	*Reference*	*Fuse*	*Type*	*Voltage*	*Size*
Live	FS1	12A	F	250V	6.25 X 32mm
Neutral	FS2	12A	F	250V	6.99 X 32.72mm Axial Leads

OUTPUT SPECIFICATIONS (*powerMod* only)

See *powerMod* table below, with more detail in Designers' Manual. Each module may be adjusted over the full voltage range shown in the table **subject to not exceeding the maximum rated Voltage and Power shown in the table.**

SAFETY

The UXD when correctly installed in a limited access environment is designed to comply with the following requirements ANSI/AAMI ES60601-1, CAN/CSA C22.2 No. 60601-1, IEC 60601-1, EN60601-1 and EN61010.

For current approval status, please contact Excelsys Sales. Equipment manufacturers must protect service personnel against inadvertent contact with the module output terminals.

Environmental Parameters

The products are designed for the following parameters:
- Pollution Degree 2
- Installation Category 2
- Class I
- For use as part of another piece of equipment such that unit is accessible to service engineers only
- Altitude: -155 metres to +2000 metres from sea level
- Humidity: 10 to 95% non-condensing
- Operating temperature 0°C to 70°C
- Derate at 1.67% per °C above 40°C and up to 70°C
- Derating applies to both *powerPacs* and *powerMods*

Approval Limitations

Use In North America
When this product is used on 180 to 253 Volts AC mains with no neutral, connect one live wire to L (live) terminal and the other live wire to N (neutral) terminal on the input connector.

The attachment plug shall be rated to a current not less than 125% of the rated current of the equipment.

Levels Of Insulation

Subject to the limitations above.
- Primary mains circuits to earth: 4mm spacing
- Primary mains circuits to secondary: 8mm spacing

Dielectric strength testing is carried out as follows:
- Primary mains circuits to chassis: 1500V AC
- Primary mains circuits to secondary: 4000V AC.

Earth Terminal Marking IMPORTANT

If in the end use equipment the incoming mains cable earth wire connects directly to the UXD "GND" connection without being interrupted or junctioned on its way to that connection, then this connection forms the main protective earth of the system. To comply with IEC60950-1 or IEC60601-1 requirements this must be marked with the symbol defined in IEC60417 No. 5019a. The customer should therefore affix an adhesive label which will pass the 15 Second rub test (IEC60950 section 1.7.13) showing the symbol adjacent to the earth connection. This symbol must only be used at the first interruption / connection of the incoming earth wire.

Health And Safety At Work Act (UK only)

To protect service personnel and users and to comply with section 6 of the Health And Safety Acts, a clearly visible label should be fitted warning that surfaces of these units may be hot and must not be touched when the units are in operation.

Receipt And Unpacking

On receipt a unit should be unpacked carefully and checked for transit damage. If the unit is damaged, do not apply power or install the unit. SEEK SPECIALIST ADVICE!

Warranty

Warranty conditions are contained in our standard terms and conditions. Contact your authorised outlet for repair.

Unused Slots

UNUSED SLOTS MUST ALWAYS BE FITTED WITH APPROPRIATE SLOT COVERS XB1,XB2 or XB3. Units must NOT be operated with empty slots.

Options

Thermal Signals (Option 00 - Standard on UXD)
Temperature Alarm & Fan Fail and Open Collector signal indicators.

Reverse Fan (Option 02)
UXD model with Reverse Fan derate from 1000W at 100VAC to 850W at 85VAC

Low Leakage Current (Option 04)
See Designers' Manual for details.

Input Cable
Input Cable and Connector Option

powerMods

powerMod maximum power ratings must not be exceeded

Model	*Vmin*	*Vnom*	*Vmax*	*Imax*	*Watts*
Xg1	1.5	**2.5**	3.6	50	**125**
Xg2	3.2	**5.0**	6.0	40	**200**
Xg3	6.0	**12.0**	15.0	20	**240**
Xg4	12.0	**24.0**	30.0	10	**240**
Xg5	28.0	**48.0**	58.0	6	**288**
Xg7	5	**24.0**	28.0	5	**120**
Xg8	5/5	**24/24**	28/28	3/3	**72/72**
XgA	10.8	**12**	15.6	12.5	**150**
XgB	19.2	**24**	26.4	8.33	**200**
XgC	28.8	**36**	39.6	5.56	**200**
XgD	38.4	**48**	50.4	4.17	**200**
XgE	5	**24**	28	5	**120**
XgF	5/5	**24/24**	28/28	3/3	**72/72**
XgG	1.5	**2.5**	3.6	40	**100**
XgH	3.2	**5**	6	36	**180**
XgJ	6	**12**	15	18.3	**220**
XgK	12	**24**	30	9.16	**220**
XgL	28	**48**	58	5	**240**
XgM	1	**5**	6	40	**200**
XgN	1	**12**	15	20	**240**
XgP	1	**24**	30	10	**240**
XgQ	1	**48**	58	6	**288**
XgR	12	**24**	30	10	**240**
XgT	28	**48**	58	6	**288**

Permitted Power Ratings for Reliable Operation

powerPacs and *powerMods* are operating within their power ratings as listed above, taking care to factor in the appropriate derating if the ambient temperature exceeds 40°C.

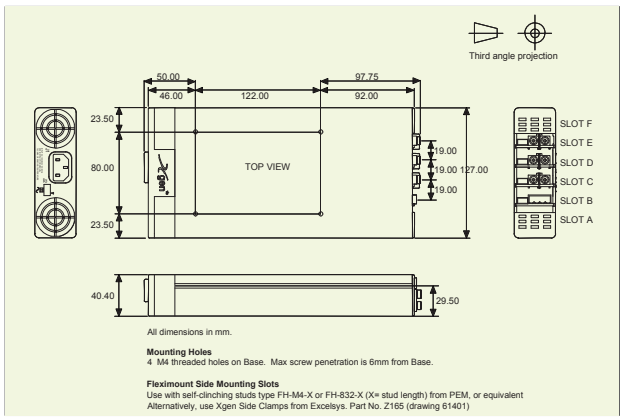
Model	*Watts*	*L x H x W (mm)*
UXD	1200W	260 x 40.4 x 127

Derate linearly from 1200W at 134Vac to 900W at 100Vac nom.

Note

A French translation of this Instruction Manual is also available; document number 40116. Contact sales@excelsys.com for a copy of this.

Connectors and Pin-Outs



J1: Input Mains Connector

IEC320

Note: For use in ambient temperatures >60C, a hot condition mating connector and cable must be used.

Input Cable and Connector

input cable optional
Line: Connector Faston Receptacle 6.3 x 0.8mm
Neutral: Connector Faston Receptacle 6.3 x 0.8mm
Earth: Connector Crimp Terminal Ring M3

J2: *powerPac* Signal Connector

Pin	*J2 powerPac*
1	Common
2	+5V Bias
3	
4	AC Fail
5	Fan Fail
6	Global Enable
7	Temp Alarm
8	Global Inhibit

Mating parts:
HousingMolex p/n 51110
Crimp Terminal Molex p/n 50394

J3: *powerMod* Signal Connector

Pi	Type A	Type A	Type B
	Xg1-Xg5XgA-XgD		Xg7 & XgE - V1 only
	XgG-XgT		Xg8 & XgF - V1 & V2
1	+Sense	Not Used	- PG (V2)
2	-Sense	Common	+PG (V2)
3	Vtrim	Not Used	Inhibit (V2)
4	Itrim	Not Used	Common (V2)
5	+Inhibit/Enable	Inhibit+	-PG (V1)
6	-Inhibit/Enable	Inhibit-	+PG (V1)
7	+Power Good	Not Used	Inhibit (V1)
8	- Power Good	Not Used	Common (V1)

Mating parts:
Housing Molex p/n 51110
Crimp Terminal Molex p/n 50394

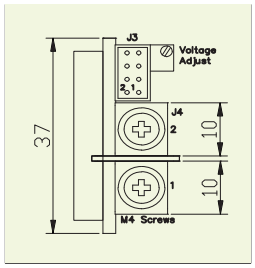
J4: powerMod Output Connector

Pin	Type A	Type B
1	-Vout	- V2
2	+Vout	+V2
3		-V1
4		+V1

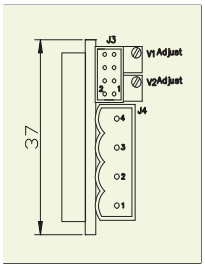
Type A : M4 Screw Terminals
Type B : Mating part:
Camden - CTB9200/4A

Note: Cables must be rated 105°C minimum.

powerMod Type A



powerMod Type B



Labeling and Model Numbers

powerMod

powerMod labels contain:
..Minimum, Nominal & Maximum voltage adjustment range.
..Maximum current (Imax)
..Maximum power (Watts)
..Model number
Model numbers are easily identified by the number marked on the top of signal connector J3.

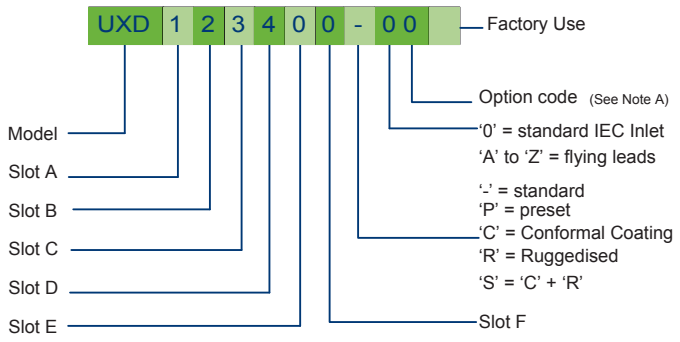
powerPac

powerPac labels contain:
..Input Freq
..Input Voltage
..Fuse rating
..Serial Number
..Maximum combined power rating of inserted *powerMods*
..Maximum Line current under rated conditions
..Model Number in the format UXD [] [] [] [] [] [] - 01 as an example with optional Thermal Signals.

When the powerPac has no powerMods inserted, its Model number is simply UXD-01.

When the powerPac has one or more powerMods inserted, its model number may be easily read to be UXD012340-01 as an example, where powerMods Xg1, Xg2, Xg3, Xg4 are inserted in Slots B,C,D,E respectively with slot covers in the remaining slots A and F.

UXD Part Numbering System



Note A: Option Codes
0 = Standard Model
1 = Thermal Signals
2 = Reverse Fan
3 = Thermal Signals & Reverse Fan
4 = Low Leakage Model
5 = Low Leakage & Thermal Signals
6 = Low Leakage & Reverse Fan
7 = Low Leakage, Thermal Signals & Reverse Fan

Configuration Considerations

1. When parallel connecting outputs, refer to Section 4.6 of Product catalogue for set-up, including Vtrim adjust and I-Share switch.
2. When connecting outputs in series to achieve voltages in excess of 59VDC (SELV), ensure that appropriate safety precautions are taken in the system.
3. Before removing and replacing output modules, remove input power for 2 minutes.
4. For proper connection to Inhibit, Enable, Fan Fail, Over Temp alarm, and Output Signals Power Good refer section 4.7 and 4.9 of Product Catalogue.
5. For power derating, refer to Section 4.11 of Product Catalogue.
6. For motor loads, high inductance, and high capacitance: blocking diode may be needed. Contact Excelsys for support.

Refer to the Product Series Catalogue for information on all the above and additional information regarding the set, installation and operation of the Xgen and UltiMod Series.

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