



- **Single / Dual AC supply**
- **N+1 redundant operation**
- **1 to 3 Pluggable power shuttles**
- **Voltages from 5 to 48V**
- **Current up to 160 Amps**

Configurable output 2U rack solution

INPUT

Input Voltage	90 - 264Vac
Input Frequency	47 - 63Hz (440Hz with reduced PFC - consult factory)
Input Harmonics	EN61000-3-2 compliant

OUTPUT

Voltage / Current	See module table	
Turn on Delay	1.5s max	1.5s max at 90Vac & 100% rated output power
Rise time	<10mS	to 90% of voltage, monotonic rise above 10%
Turn on overshoot	<5% or 250mV	Load type dependant, no overshoot with resistive load
Efficiency	75%	typical at 230Vac & 100% rated power, configuration dependent
Hold up	16ms min	at 90Vac & 100% rated output power
Ripple & Noise	<1% or 50mV	Pk-Pk, using EIAJ test method & 20MHz bandwidth
Voltage Accuracy	<1%	of set voltage
Remote Sense	Yes	Max 0.75V total line drop
Minimum Load	None	on any output
Temperature Coefficient	<0.02%	of rated voltage per °C
Load Regulation	<0.5% or 25mV	for 0-100% load change
Line Regulation	<0.1%	For 90 - 264Vac Input change
Cross Regulation	<0.2%	for 100% load change on any other output
Transient Response	<6% or 300mV	of set voltage for 50% load change (above 25% load)
Recovery	500µs	for recovery to 1% or 100mV of set voltage
Over Voltage Protection	120 - 130%	of set voltage for o/p's >4.1V, (Tracking O/V)
	140 - 150%	of set voltage for o/p's <4.1V, (Tracking O/V)
	120 - 150%	of max rated o/p, (Fixed OV)
Over Current Protection	105 - 125%	of rated current, constant current characteristic
Short Circuit Protection	<150%	of rated current, when output voltage <1%
Over Temperature Protection	Yes	Cycle ac off / on to re set
		Note 1 shutdown temp varies according to ambient, o/p power & i/p V
		2 ac fail signal (if fitted) provides 5ms warning of thermal shutdown

ISOLATION

INSULATION

Input to Output	Reinforced	5.3 kV (dc)
Input to Earth	Basic	2.3 kV (dc)
Output to Earth	Operational	200 V (dc)
Output to Output	Operational	200 V (dc)

EMISSIONS EN50081-1 (Domestic, Commercial & Light Industrial Supply)

Radiated Electric Field	EN55022	Class A (as per CISPR.22)
Conducted Emissions	EN55022	Class A (as per CISPR.22)
Conducted Harmonics	EN61000-3-2	Compliant
Flicker	EN61000-3-3	Compliant

IMMUNITY EN50082-2 (Heavy Industrial Supply)

				Criteria*
Electrostatic Discharge	EN61000-4-2	Level 4	Air discharge 15kV Contact discharge 8kV	B
Electro Magnetic Field	EN61000-4-3	Level 3	(10V/m)	B
Fast / Burst Transient	EN61000-4-4	Level 4	(4kV, tested to 4.4kV)	B
Surge Immunity	EN61000-4-5	Level 3	Common mode to 3.4kV Differential mode to 2.4kV	B
Conducted RF Immunity	EN61000-4-6	Level 3	(10V)	B
Power Frequency Magnetic Field	EN61000-4-8	Level 3	(10A/m)	B
Voltage Dips, Variations, Interruptions	EN61000-4-11	Pass		B

* Criteria B is transient degradation or loss of performance or function, below specification

SAFETY COMPLIANCE

	Date	Amendments
EN 60950-1	2001	
UL 60950-1	2003	
CSA 22.2 No 60950-1	2003	
IEC 60950-1*	2001	
EN 60601-1		
UL 2601-1	1997 Ed2	A2:1999
IEC 60601-1	1988	A1:1991, A2:1995
EN 61010-1	1993	
UL 3101-1	1993 Ed1	
IEC 61010-1	1990	A1:1992, A2:1995
CE Mark	LV Directive 73/23/EEC (EN60950-1:2001)	

* CB certificate and Report available on request

ENVIRONMENT

Temperature	0 to 50°C operational, -40°C to 85°C storage (max 12 months)
Derating	50 to 65°C derate each output by 2.5% per °C
Low Temperature Start	-20°C
Humidity	5 - 95% RH non condensing
Shock	+ / - 3 x 20G shocks in each plane, total 18 shocks 20G shock = 11ms (+/-0.5ms), half sine Conforms to EN60068-2-7, IEC68-2-27, IEC68-2-47, JIS C0041-1987.
Vibration	Sweep Test = 10 cycles, 10 - 500 - 10Hz at 2G, plus Resonance search Endurance = 2 hours at resonance in each plane Conforms to EN60068-2-6, IEC68-2-6
Altitude	3,000 metres operational, (15,000 metres non operational)
Pollution	Degree 2, Material group 3
IP Rating	IP10

Output Ratings					
Output Voltage	Adjustment Range	Number of Outputs	Maximum Current per output	Maximum Output Power	Part Number
5V	3.8V - 7.45V	1	81 A	600 W	2U1-5N
		2	81 A	1200 W	2U2-5N
		3	81 A	1800 W	2U3-5N
		1	162 A (81A for N+1)	1200 W	2U2-5P
		1	243 A (162A for N+1)	1800 W	2U3-5P
12V	7.6V - 15.1V	1	51A	612 W	2U1-12N
		2	51 A	1224 W	2U2-12N
		3	51 A	1836 W	2U3-12N
		1	102 A (51A for N+1)	1224 W	2U2-12P
		1	153 A (102A for N+1)	1836 W	2U3-12P
24V	24.0V - 27.3V	1	25 A	630 W	2U1-24N
		2	25 A	1260 W	2U2-24N
		3	25 A	1890 W	2U3-24N
		1	50 A (25A for N+1)	1260 W	2U2-24P
		1	75 A (50A for N+1)	1890 W	2U3-24P
28V	16.0V - 32.3V	1	22.5 A	630 W	2U1-28N
		2	22.5 A	1260 W	2U2-28N
		3	22.5 A	1890 W	2U3-28N
		1	45 A (22.5A for N+1)	1260 W	2U2-28P
		1	77.5 A (45A for N+1)	1890 W	2U3-28P
48V	42.0V - 55.1V	1	13 A	630 W	2U1-48N
		2	13 A	1260 W	2U2-48N
		3	13 A	1890 W	2U3-48N
		1	26 A (13A for N+1)	1260 W	2U2-48P
		1	39 A (26A for N+1)	1890 W	2U3-48P

