V·INFINITY

VUF-D400 Switching Power Supply

Rev. 12-2006

Features

- **Approvals: UL60950-1, CSA C22.2 No. 60950-1-03**
- **Dual Output**
- **Current Monitoring and remote voltage adjustments (margin)**
- **Compact 1U size and high power density:5.56 W/inch^3**
- **Power factor corrected to EN61000-3-2 class D**
- **U-Chassis**
- **Protections: short circuit/overload/over voltage/over temp**
- **Optional IEC320 AC inlet or terminal block**
- **Current Sharing**
- **Extended temperature range: -40 ~ +75 ºC available**

		Output Current			Ripple & Noise[4, 5]
Model	**Output[1, 2, 3]**	**Convection**	**22.95 CFM**	**Regulation[4]**	**(Vpp)**
VUF-D400-D312	3.3/12 V	30 A/16.7 A	40 A/25 A	± 5%	± 1%
VUF-D400-D324	3.3/24 V	30 A/8.34 A	40 A/12.5 A	± 5%	± 1%
VUF-D400-D512	5/12 V	30 A/16.7 A	40 A/25 A	± 5%	± 1%
VUF-D400-D524	5/24 V	30 A/8.34 A	40 A/12.5 A	± 5%	± 1%
VUF-D400-D1224	12/24 V	16.7 A/8.33 A	25 A/12.5 A	± 5%	± 1%

Notes:

1. Outputs are fully isolated
2. Output voltage is measured at output power connector
3. Provides peak power of 700 W within 500 µS for all models.
4. 1% minimum load is required to maintain the ripple and regulation
5. Ripple and noise is measured from 10 KHz to 20 MHz at output terminals with a 0.1 µF ceramic capacitor and a 22 µF electrolytic capacitor in parallel

V·INFINITY

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Rev. 12-2006

Input

Parameter	Conditions/Description	Min	Nom	Max	Units
Input Frequency		47		63	Hz
Input Voltage		90		264	VAC
Input Current	At 90 VAC full load			6.35	Amps
Inrush Current	Peak measured at 230 VAC and full load, cold start			35	Amps
PFC	Active power factor correction meets EN61000-3-2 class D				

Output

Parameter	Conditions/Description	Min	Nom	Max	Units
Transient Response	Output voltage returns to within 1% in less than 2.5 mS for a 50% load change. Peak transient does not exceed 5%				
Overshoot	Turn-on and turn-off overshoot shall not exceed 5% over nominal voltage.				
Efficiency	At 230 V and full load	75%			
Turn on delay	At 120 VAC			1	second
Hold up time	At 120 VAC and 80% of rated maximum load	20			mS
Adjustability	Output user adjustable	± 5%			
Remote sense	Designated as RS+ and RS- on the CN3. Total voltage compensation for cable losses with respect to the main output.				
Remote on-off	Defined RSW on CN3, requiring a low signal to inhibit output				
LED display (LED 1)	Green - the power supply is operating normally. Orange - when any protection occurs or RSW is low.				
Power Good	Designated as PG on the CN3. This signal goes high 100-500 mS after the output reaches regulation. It goes low at least 1 mS before loss of regulation.				
Output rating	Measured at output power connector (see chart above)				

Protection Circuit

Parameter	Conditions/Description
Input circuit (primary)	Built-in ac fuse. A blown fuse usually indicates permanent damage to the power supply serviceable by factory only.
Input-voltage protection	Power supply shuts down when ac input is under 80 ± 5 VAC. When ac line reappears over 86 ± 5 VAC, the power supply restarts automatically.
Overpower protection	Current limiting starts at 110-140% of the rated output current and recovers automatically.
Short circuit protection	Short circuit can be continuous. Recovers automatically upon removal of short.
Overvoltage protection	Output is protected against overvoltage. Unit shuts down and latches when voltage at output terminals exceeds 130%. AC input needs to be reset to restart the power supply.
Over temp. protection	Power supply shuts down when temperature is in excess of 85 ºC. Auto recovery.

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Rev. 12-2006

General and Safety

Parameter	Conditions/Description	Min	Nom	Max	Units
Operating temp.		0		50	ºC
Optional operating temp.	Derates linearly from 100% load at 50 ºC to 37.5% load at 75 ºC.	-40		75	ºC
Storage temp. temp.		-20		85	ºC
Optional storage		-40		85	ºC
Operating humid.	Non-condensing	5%		90%	RH
Storage humid.	Non-condensing	5%		95%	RH
EMI	FCC Part 15, Subject J, Class B, CISPR 22 class B, CE Marked, EN61204-1				
Safety regulation	UL60950-1 (E222889), CSA C22.2 No. 60950-1-03				
Leakage Current	When power supply is connected to a supply voltage equal to the upper limit of the rated voltage range.			1.5	mA
HI-POT	Applied for 3 seconds				
	Primary to secondary:	4000			VAC
	Primary to transformer core:	1500			VAC
	Primary to earth ground:	1500			VAC
Grounding Test	Allowable resistance measured when 40 A current is applied from the ground pin of the three prong plug to the farthest earthed connection point.			0.1	Ohm
Warranty	Standard warranty length			2	years
MTBF	According to MIL-HBK-217F at 30 ºC	100,000			hours
Burn-in	Full load, at 45 +/- 5 ºC, 230 VAC. Burn-in for up to 8 hours in early productions. Time reduced gradually as product matures.	1		8	hour

Note: Customer must specify extended temperature on PO.

Mechanical

Parameter	Conditions/Description	Min	Nom	Max	Units
Weight				1000	grams
Enclosure	8(L) x 5(W) x 1.6(H)				inches
Mounting screws	6-32, 1/4” or shorter				

Input Connector - (CN1)

Parameter	Conditions/Description
AC input (Option 1)	Molex Part No. 26-48-1071 or similar.(7 pin, 5 used)
	Suggested mating plug: Molex Part No. 09-91-0700
AC Input (Option 2)	Howder Terminal block (HD-121-3P)
	Suggested mating connector: Molex 19198-0016 or similar

Note: Input connector needs to be specified on the PO.

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VUF-D400 Switching Power Supply

Rev. 12-2006

Output Connector - (CN2)

Parameter	Conditions/Description
Output (Option 1)	Molex Part No. 26-48-1161 or similar.(16 pin)
	Output pin assignment, VO+ (Pins 1-6), RTN (Pins 7-13), VO- (Pins 14-16)
	Suggested mating connector: Molex Part No. 09-91-1600
Output (Option 2)	Howder Terminal block Part No. HD-121-6P (6 pin, M3.5 Screw) 9.5mm spacing
	Output pin assignment, VO+ (Pins 1-2), RTN (Pins 3-5), VO- (Pin 6)
	Suggested mating connector: Molex 19198-0045 or similar.

Note: Output connector needs to be specified on the PO.

Logic Connector - (CN3)

Parameter	Conditions/Description
Logic	JS B5B-XH-A
	Suggested mating connector: JST XHP-5 or equivalent , Contact: SXH-002T-P0.6.
Pin Assignments:	1. RTN
	2. PG
	3. RSW
	4. RS-
	5. RS+
Fan	JST B2B-XH-A
	Suggested mating connector: JST XHP-2 or equivalent, Contact: SXH-001T-P0.6.

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