V·INFINITY

VPF-S800 Switching Power Supply

Rev. 06-2014

Features

- **Built-in active PFC function**
- **Short Circuit, overload, over voltage, over temperature protected**
- **Current Sharing (Available)**
- **Current Monitoring**
- **Power Good Signal**
- **Built-in Remote Inhibit**
- **Built-in Remote Sense**
- **Extended temperature range: -40 ~ +75 ºC available**

Model[1]	Preset Voltage	Output[2, 3, 4]	Output Current Minimum	Output Current Maximum	Max. Power[5, 6]	Regulation[7]	Ripple & Noise [7, 8] (Vpp)
VPF-S800-12R(I)	12V	12 - 15 V	0 A	62.5 A	750 W	+/- 1%	1%
VPF-S800-16R(I)	16V	16 - 21 V	0 A	50 A	800 W	+/- 1%	1%
VPF-S800-24R(I)	24V	22 - 30 V	0 A	36.36 A	800 W	+/- 1%	1%
VPF-S800-36R(I)	36V	31 - 47 V	0 A	25.8 A	800 W	+/- 1%	1%
VPF-S800-48R(I)	48V	48 - 56 V	0 A	16.66 A	800 W	+/- 1%	1%

Notes:

1 Adding “I” Indicates Current sharing model.
2 Customer must specify output voltage.
3 Output is fully isolated.
4 Output voltage is measured at output power connector.
5 Provides peak power of 900 W within 500 µS for all models. For longer duty duration please contact us.
6 Must use external forced airflow min. 30 CFM to achieve maximum power.
7 1% minimum load is required to maintain the ripple and regulation.
8 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.

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Input

Parameter	Conditions/Description	Min	Nom	Max	Units
Input Frequency		47		63	Hz
Input Voltage		180		264	VAC
Input Current	At 180-264 VAC			6	A
Inrush Current	Peak measured at 230 VAC at full load, cold start			70	A
Power Factor	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	Measured at 230 V and full load 12 V model: All other models:	 80% 82%			
Turn on delay	At 180 VAC			1	second
Hold up time	At 180 VAC and 80% of rated maximim load	20			mS
Adjustability	Adjustable with built-in trim pot.	+/- 5%			
Remote sense	Designated as RS+ and RS- on the CN3. Total voltage compensation for cable losses with respect to the main output. (NOT available for current sharing models.)				
Remote Inhibit	Designated as RSW on the CN3. Requires a low signal to inhibit the output.				
LED display (LED 1)	Green - the power supply is operating normally. Orange - when any protection occurs or when Remote Inhibit is in effect.				
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.				
Current Sharing	Designated as CSH on (CN3), use in parallel for forced current sharing function. Accuracy of shared current with up to 4 parallel units is within 10% at full load.				
Current Monitor	Disignated as CMN on (CN3) for current sense purpose. CMN is a 0.5 to 3VDC output voltage to represent a linear 0% to 100% output current.				

Protection Circuit

Parameter	Conditions/Description
Input Fuse	Built-in ac fuse. A blown fuse usually indicates permanent damage to the power supply serviceable by factory only.
Input under-voltage	Power supply shuts down when ac input is under 80 VAC. When ac line reappears over 86 +/- 5 VAC, the power supply restarts automatically.
Overload	Current limiting starts at 110-140% of the rated output current and recovers automatically.
Short circuit	Short circuit can be continuous. Recovers automatically upon removal of short.
Output Over-voltage	Output is protected agaist 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.	Power supply shuts down when temperature is in excess of 85 ºC. Auto recovery.

General and Safety

Parameter	Conditions/Description	Min	Nom	Max	Units
Operating temp.	Derates linearly from 100% load at 50 ºC to 50% load at 70 ºC.	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.		-20		85	ºC
Optional storage temp.		-40		85	ºC
Operating humid.	Non-condensing	5%		90%	RH
Storage humid.	Non-condensing	5%		95%	RH
EMI	Pass FCC Part 15 Subject J Class B, CISPR 22 class B, CE Mark				
Safety	UL60950-1 (E222889), CSA C22.2 No. 950-95, and CB				
Leakage Current	at 264 VAC			3.5	mA
Isolation Voltage (HI-POT)	Applied for 3 seconds Primary to secondary: Primary to transformer core: Primary to earth ground:	 3000 1500 1500		 	 VAC VAC VAC
Grounding Test	Allowable resistance measured when 25 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-HDBK-217 at 30 ºC	150,000			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	hours

Note: Customer must specify extended temperature on PO.

Mechanical

Parameter	Conditions/Description	Min	Nom	Max	Units
Weight				1450	grams
Enclosure	8.00(L) x 4.33(W) x 2.56(H)				inches
Mounting holes	Two sets of 8 threaded mounting holes available on the enclosure B: 6-32, maximum insertion depth of 0.2 inches. C: M4, maximum insertion depth of 0.2 inches.				

Input Connector - (CN1)

Parameter	Conditions/Description
AC input (Option 1)	Molex Part No. 26-48-1201 or similar (5 pin). **Suggested mating plug: Molex Part No. 09-91-0500 or equivalent (5 pin, 3 used)**
AC Input (Option 2)	Howder Terminal block Part No. HD-121-3P (3 pin, M3 Screw) 9.5mm spacing **Suggested mating connector:** Molex 19198-0045 or similar

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

Output Connector - (CN2)

Parameter	Conditions/Description
Output (Option 1)	Molex Part No. 26-48-1201 or similar.(20 pin)
	Output pin assignment, VO+ (Pins 1-10), VO- (Pins 11-20)
	Suggested mating connector: Molex Part No. 09-91-2000, contact:08-50-0106 or similar.
Output (Option 2)	Howder Terminal block Part No. HD-121-8P (8 pin, M3.5 Screw) 9.5mm spacing
	Output pin assignment, VO+ (Pins 1-4), VO- (Pins 5-8)
	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 B7B-XH-A
	Suggested mating connector: JST XHP-7 or equivalent , Contact: SXH-001T-P0.6.
Pin Assignments:	1. CMN - Current Monitoring
	2. CSH - Current Sharing
	3. RTN - Return / Output Ground
	4. PG - Power Good Signal
	5. RSW - (Remote On-Off / Remote Inhibit)
	6. RS(-) - Remote Sense
	7. RS(+) - Remote Sense
Fan	JST B2B-XH-A
	Suggested mating connector: JST XHP-2 or equivalent, Contact: SXH-001T-P0.6.

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