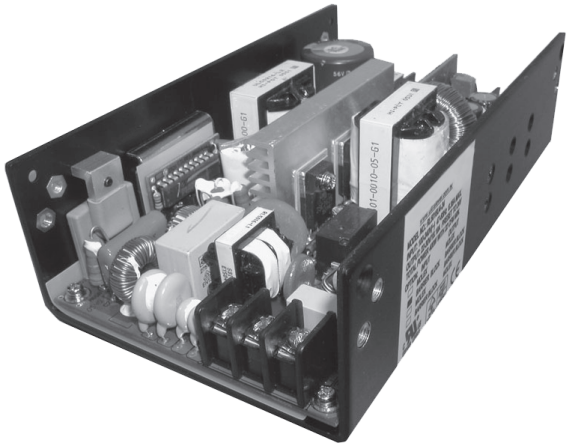
PART NUMBER: VPF-S300 **DESCRIPTION:** switching power supply

Features

- **Universal AC Input / Full Range**
- **Remote Sense & Remote On/Off**
- **High power density: 7.15 watts/inch^3**
- **Power factor corrected to EN61000-3-2 class D**
- **Approved to UL/CUL/TUV/CB/CE & Class B Emissions**
- **U-Chassis**
- **Protections: short circuit/overload/over voltage/over temp**
- **Extended temperature range: -40 ~ +75 ºC available**



Model	Preset Voltage	Output[1, 2, 3]	Output Current (22 CFM required for all loading conditions) Minimum	Maximum[4]	Regulation	Ripple & Noise[5, 6] (Vpp)	Max Power[7]
VPF-S300-12	12V	12 - 15 V	0 A	25 A	+/- 1%	1%	300 W
VPF-S300-18	18V	16 - 21 V	0 A	18.75 A	+/- 1%	1%	300 W
VPF-S300-24	24V	22 - 30 V	0 A	13.64 A	+/- 1%	1%	300 W
VPF-S300-36	36V	31 - 41 V	0 A	9.68 A	+/- 1%	1%	300 W
VPF-S300-48	48V	42 - 55 V	0 A	7.15 A	+/- 1%	1%	300 W

Notes:

1 Customer must specify output voltage.

2 Output is fully isolated.

3 Output voltage is measured at output power connector.

4 Output current limited by max. power.

5 1% Minumum load is required to maintain the ripple and regulation.

6 Ripple and noise is measured from 10KHz to 20 MHz at output terminals with a 0.1 µF ceramic capacitor and a 22 µF electrolytic capacitor in parallel.

7 Must use 22 CFM for ANY loading conditions.

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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			5	Amps
Inrush Current	Peak measured at 230 VAC and full load, cold start			35	Amps
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	At 230 V and full load	80%			
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 inhibit	Defined RSW on CN3, requiring a TTL 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.				

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-voltage	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.
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 overvoltage	Output is protected against overvoltage. Unit shuts downa and latches when voltage at output terminals exceeds 130%. AC input needs to be reset to restart the powers supply.
Over temp.	Power supply shuts down when temperature is in excess of 85 ºC. Auto recovery.

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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	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	FCC Part 15, CISPR 22 class B, Conducted.				
Safety (LVD)	Approved to UL60950-1(E222889), CSA C22.2 No.60950-1-03, TUV EN60950-1, CE Mark EN61000-3-2,3 and IEC61000-4 Series Regulations 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-HBK-217 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				950	grams
Enclosure	7(L) x 4(W) x 2(H)				inches
Mounting screws	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)	DINKLE Terminal block Part No. DT-35-A02W-03 (3 pin, M3 Screw) 8.25mm spacing

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Output Connector - (CN2)

Parameter	Conditions/Description
Output (Option 1)	Molex Part No. 09-91-2000 or similar. (14 pin)
	Output pin assignment, VO+ (Pins 1-7), VO- (Pins 8-14)
	Suggested mating connector: Molex 14 pin (part No. 09-91-1400)
Output (Option 2)	Howder Terminal block Part No. HD-121-8P (8 pin, M3.5 Screw) 9.5mm spacing
	Output pin assignment, VO+ (Pins 1-3), VO- (Pins 4-6)
	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. PG
	2. INH
	3. RTN
	4. VIS-
	5. VIS+
Fan	JST B2B-XH-A
	Suggested mating connector: JST XHP-2 or equivalent, Contact: SXH-001T-P0.6.

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