

PART NUMBER: VF-S320-XXA-CFS

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**DESCRIPTION:** Switching Power Supply

#### features

- · power factor correction
- · power good signal
- · short circuit protection
- · over load protection
- · over voltage protection
- · over temperature protection
- providing Peak Power 700W within 500uS duty
- approved to UL, CUL, TUV, CE with CB scheme
- · high power density: 8.9 watts/inch<sup>3</sup>







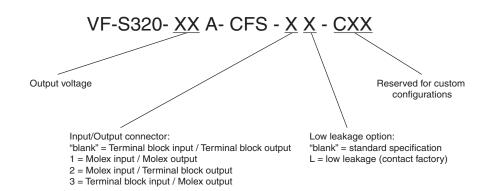


		preset	output o	urrent	rip	ple & noise <sup>4, 5</sup>
Model	output <sup>1, 2, 3</sup>	voltage	minimum	22 CFM	regulation <sup>4</sup>	(Vpp)
VF-S320-05A-CFS	2 - 5.5 V	5 V	0 A	50 A	±1%	50 m
VF-S320-09A-CFS	6 - 10 V	9 V	0 A	32 A	±1%	±1%
VF-S320-12A-CFS	12 - 13.5 V	12 V	0 A	26.37 A	±1%	±1%
VF-S320-15A-CFS	13.6 - 15 V	15 V	0 A	23.53 A	±1%	±1%
VF-S320-18A-CFS	16 - 20 V	18 V	0 A	20 A	±1%	±1%
VF-S320-24A-CFS	21 - 26 V	24 V	0 A	15.24 A	±1%	±1%
VF-S320-28A-CFS	27 - 34 V	28 V	0 A	11.85 A	±1%	±1%
VF-S320-36A-CFS	35 - 42 V	36 V	0 A	9.14 A	±1%	±1%
VF-S320-48A-CFS	43 - 50 V	48 V	0 A	7.44 A	±1%	±1%
VF-S320-54A-CFS	51 - 60 V	54 V	0 A	6.27 A	±1%	±1%

#### notes:

- 1 Customer must specify output voltage on PO.
- 2 Output is fully isolated.
- 3 Output voltage is measured at output power connector.
- 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.

#### **CUSTOM CONFIG KEY**





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### **INPUT**

parameter	conditions/description	min	nom	max	units
input frequency		47		63	Hz
input voltage	90-132 / 180-264 auto-selectable	90		264	VAC
input current	At 100-120 VAC			8	A
	At 200-240 VAC			4	A
inrush current	Peak measured at 230 VAC at full load, cold start			70	Α
inrush current	Peak measured at 115 VAC at full load, cold start			35	A
power factor	Passive power factor correction meets EN61000-3-2 class A				

# **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				
	3.3 model:	70%			
	5 V model:	75%			
	12 V model:	80%			
	All other models:	83%			
turn on delay	At 120 VAC			1	second
hold up time	At 120 VAC and 80% of rated maximim load		20		mS
adjustability	Adjustable with built-in trim pot.		+/- 5%		
LED display	When green (LED1) is on the power supply is operating norr	nally.			
power good	Designated as PG on the CN1. This signal				
	goes high 100-500 mS after the output reaches regulation.				
	It goes low at least 1 mS before loss of regulation.				
fan drive	12 VDC/300mA for external fan				

### **PROTECTION CIRCUIT**

conditions/description
Built-in ac fuse. A blown fuse usually indicates permanent
damage to the power supply serviceable by factory only.
Current limiting starts at 110-140% of the rated output current in foldback mode and
recovers automatically.
Short circuit can be continuous. Recovers automatically upon removal of short.
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.
Power supply shuts down when temperature is in excess of 85 °C. Auto recovery.



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**PART NUMBER:** VF-S320-XXA-CFS **DESCRIPTION:** Switching Power Supply

#### **GENERAL AND SAFETY**

parameter	conditions/description	min	nom	max	units
operating temp.	Derates linearly from 100% load at 50 °C to 50%	0		50	°C
	load at 70 °C.				
storage temp.		-20		85	°C
optional storage		-40		85	°C
temp.					
operating humid.	Non-condensing	5%		90%	RH
storage humid.	Non-condensing	5%		95%	RH
EMI	Pass FCC Part 15, CISPR 22 class B, Conducted				
safety	UL60950-1, CSA C22.2 No. 60950-1-03, TUV EN60950-	1 and CB, CE	Mark (LV	D)	
	EN61000-3-2, & IEC61000-4 Series regulations and CB				
leakage current	at 264 VAC			1.5	mA
vibration	Acceleration ± 7.35 M/(SxS), on X, Y and Z Axis	5		50	Hz
isolation voltage	Applied for 3 seconds				
(HI-POT)	Primary to secondary:	3000			VAC
	Primary to transformer core:	1500			VAC
	Primary to earth ground:	1500			VAC
grounding test	Allowable resistance measured when 25 A current is			0.1	Ω
	applied from the ground pin of the three prong plug				
	to the farthest earthed connection point.				
warranty	Standard warranty length			2	years
MTBF	According to MIL-HDBK-217 at 30 °C	100,000			hours
burn-in	Full load, at 45 ± 5 °C, 230 VAC.			1	hours
cooling	Built-in DC fan speed control.				

note: Customer must specify extended temperature on PO.

#### **MECHANICAL**

parameter	conditions/description	min	nom	max	units
weight				750	grams
enclosure	7(L) x 4(W) x 1.6(H)				inches

# **LOGIC SIGNAL CONNECTOR - (CN1)**

parameter	conditions/description
CN1	JST B2B-XH-4 or equivalent (CHYAO SHIUNN JS-1001-04)
	Suggested mating connector: JST XHP-4 or equivalent (CHYAO SHIUNN JS-2001-04)

# **FAN DRIVER CONNECTOR - (FAN2)**

parameter	conditions/description
FAN2	Suggested mating connector: JST XHP-2 (2 pins 0.98 pitch) or equivalent (CHYAO SHIUNN JS-2001-02)



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## **INPUT / OUTPUT CONNECTOR - (CN2)**

parameter	conditions/description
option 1	AC INPUT JST VH series (5 pin with pins 2 and 5 removed) or equivalent (Chyao Shiunn JS-1120-05)
	Suggested mating plug: JST VHR-5N (5 pin) or equivalent (Chyao Shiunn JS-1121-05)
	contact: JST SVH series or similar
	DC OUTPUT JST VH series (10 pin) or equivalent (Chyao Shiunn JS-1120-10)
	Suggested mating plug: JST VHR-10N (10 pin) or equivalent (Chyao Shiunn JS-1121-10)
	contact: JST SVH series or similar
option 2	Howder Terminal block Part No. HB-95-7P (7 pin, M3.5 Screw) 9.5mm spacing
	Suggested mating connector: Molex 19198-0045 or similar

note: Input / output connector needs to be specified on the PO.

