

#### DESCRIPTION: Switching Power Supply





		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.

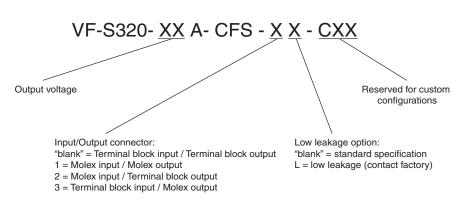
2 Output is fully isolated.

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**



- · 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>



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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	А
	At 200-240 VAC			4	А
inrush current	Peak measured at 230 VAC at full load, cold start			70	А
inrush current	Peak measured at 115 VAC at full load, cold start			35	А
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	mally.			
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**

parameter	conditions/description
input fuse	Built-in ac fuse. A blown fuse usually indicates permanent
	damage to the power supply serviceable by factory only.
overload	Current limiting starts at 110-140% of the rated output current in foldback mode 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 °C. 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 °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 (LVD)		
	EN61000-3-2, & IEC61000-4 Series regulations and CE	3			
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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<b>INPUT / OUTPUT CONNECTOR</b>	- (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.

