CUI INC
a bel group

SERIES: VF-D320-DXXA | DESCRIPTION: AC-DC POWER SUPPLY

FEATURES

- up to 300 W continuous power w/ 18 CFM forced air
- passive power correction
- dual outputs
- power good signal
- 3000 Vac isolation voltage
- over load, over voltage, over temperature, and short circuit protections
- IEC/EN/UL 62368 certified
- efficiency up to 75%



MODEL	output voltage	output current		output power[1]		ripple and noise [3,4]	efficiency
	(Vdc)	max (A)	max w/ airflow[2] (A)	max (W)	max w/ airflow[2] (W)	max (mVp-p)	typ (%)
VF-D320-D512A	5 12	15 10.42	30 16.67	125	250	50 120	75%
VF-D320-D524A	5 24	15 5.2	30 8.33	125	250	50 240	75%
VF-D320-D548A	5 48	15 2.6	30 4 .16	125	250	50 480	75%
VF-D320-D1224A	12 24	12.5 6.25	16.67 8.33	150	300	120 240	75%

Notes:
1. Maximum total combined power
2. With external 18 CFM fan
3. 10% minimum load is required to maintain the ripple and regulation.
4. 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.

PART NUMBER KEY

VF - D320 - XX A - X

- VF - D320 : Base Number
- XX : Output Voltage
- X : Input/Output connector:
  "blank" = Terminal block input / Terminal block output
  1 = Molex input / Molex output
  2 = Molex input / Terminal block output
  3 = Terminal block input / Molex output

INPUT

parameter	conditions/description	min	typ	max	units
voltage	90-132/180-264 auto selectable	90/180		132/264	Vac
frequency		47		63	Hz
current	at 100-120 Vac, cold start at 200-240 Vac, cold start			8 4	A A
inrush current	at 115 Vac, full load, cold start at 230 Vac, full load, cold start			35 70	A A
power factor	Compliant to EN61000-3-2 class A				

OUTPUT

parameter	conditions/description	min	typ	max	units
line regulation	low line to high line		±5		%
load regulation	all other outputs		±5		%
temperature coefficient			0.25		mV/°C
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%.				
start-up time	At 120 Vac			1	s
hold-up time	At 120 VAC and 80% of rated maximum load	20			ms
adjustability			±5		%
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 / 400 mA for external fan				

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	AC input needs to be reset to restart the power supply.			130	%
over current protection	Foldback mode, automatically recovers		110	140	%
short circuit protection	Short circuit can be continuous. Recovers automatically upon removal of short.				
over temp. protection	Auto recovery	85			°C

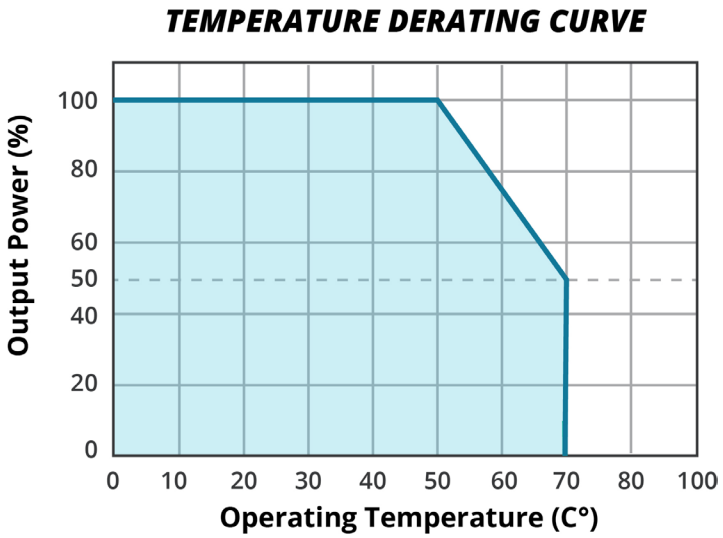
SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	Applied for 3 seconds at 10 mA max. Primary to secondary: Primary to transformer core: Primary to earth chassis:	 3,000 1,500 1,500			 Vac Vac Vac
safety approvals	certified to 62368: IEC/EN/UL				
EMI/EMC	Pass FCC Part 15, CISPR 22 class B, Conducted				
leakage current	at 240 Vac at 120 Vac			500 300	µA µA
RoHS compliant	yes				
MTBF	According to MIL-HDBK-217 at 30 ºC	100,000			hrs

ENVIRONMENTAL

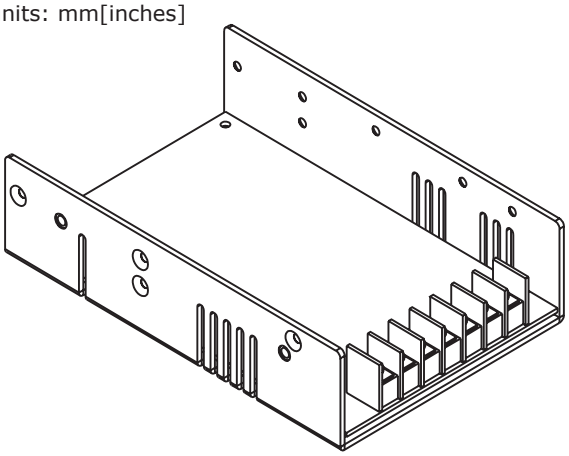
parameter	conditions/description	min	typ	max	units
operating temperature	see derating curve	0		70	°C
storage temperature		-20		85	°C
operating humidity	non-condensing	5		90	%
storage humidity	non-condensing	5		95	%
vibration	Acceleration ± 7.35 M/(SxS), on X, Y and Z Axis	5		50	Hz

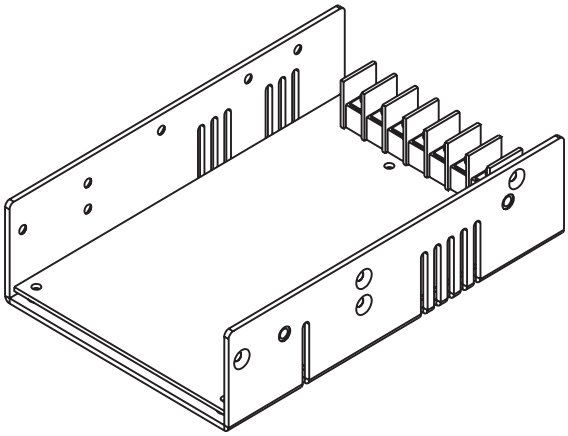
DERATING CURVES



MECHANICAL DRAWING

units: mm[inches]

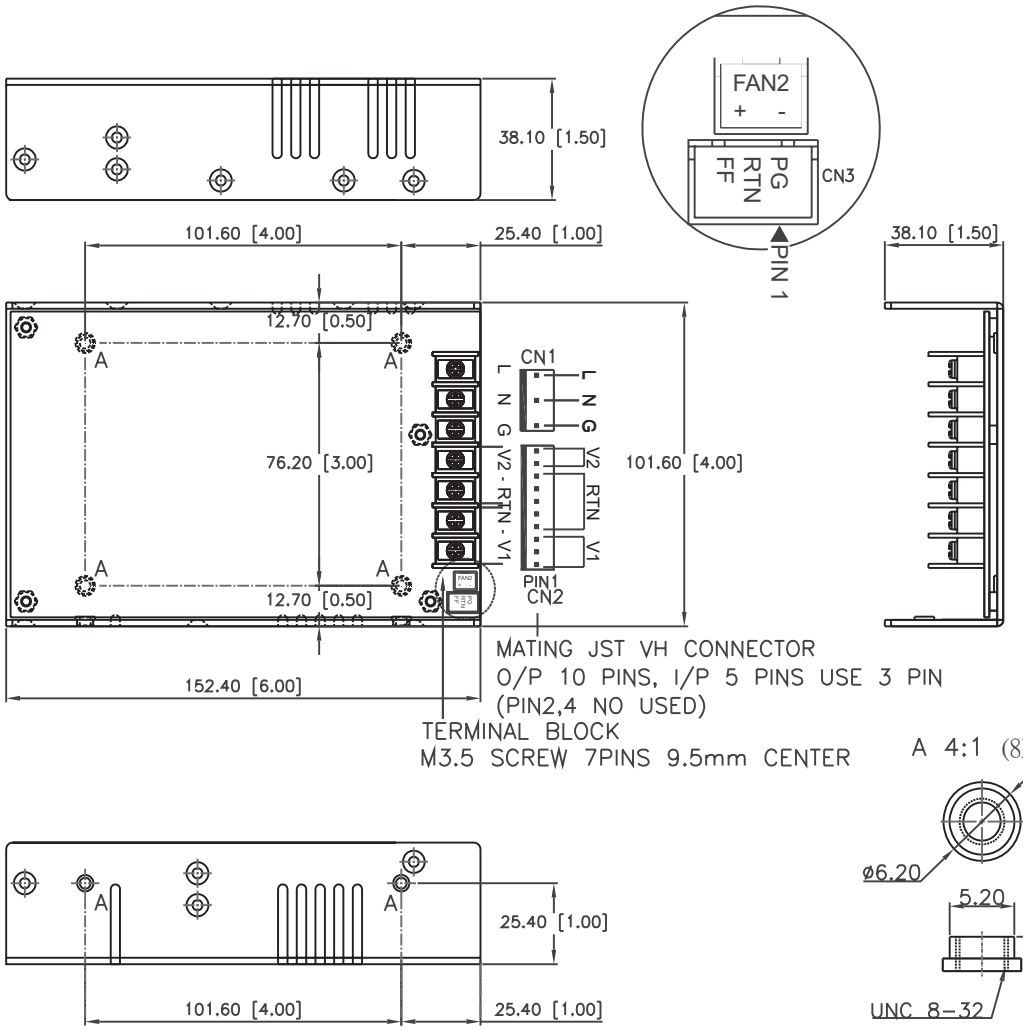




CN1	
1	ground
2	ac neutral
3	ac line

CN2	
1	Vo1
2	Vo1
3	Vo1
4	RTN
5	RTN
6	RTN
7	RTN
8	RTN
9	Vo2
10	Vo2

CN3	
1	power good
2	RTN
3	fan fail



Notes:
1. CN1 mates with JST VH series 5-pin connector
2. CN2 mates with JST VH series 10-pin connector
3. CN3 mates with molex part no. JST XHP-3 or equivalent (CHYAO SHIUNN JS-2001-03) and JST SXH-002T-P0.6 mating pins
4. Fan drive connector mates with JST part no. XHP-2 or equivalent (CHYAO SHIUNN JS-2001-02).
5. Mounting hole max depth 4.00mm

REVISION HISTORY

rev.	description	date
1.0	initial release	05/5/2009
1.01	new template applied	12/17/2011
1.02	V-Infinity branding removed	08/28/2012
1.03	removed on/off information, removed low leakage option, updated spec	05/08/2013
1.04	safeties updated	11/10/2020
1.05	derating curve updated	04/21/2021

The revision history provided is for informational purposes only and is believed to be accurate.

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CUI offers a two (2) year limited warranty. Complete warranty information is listed on our website.

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