

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

FEATURES

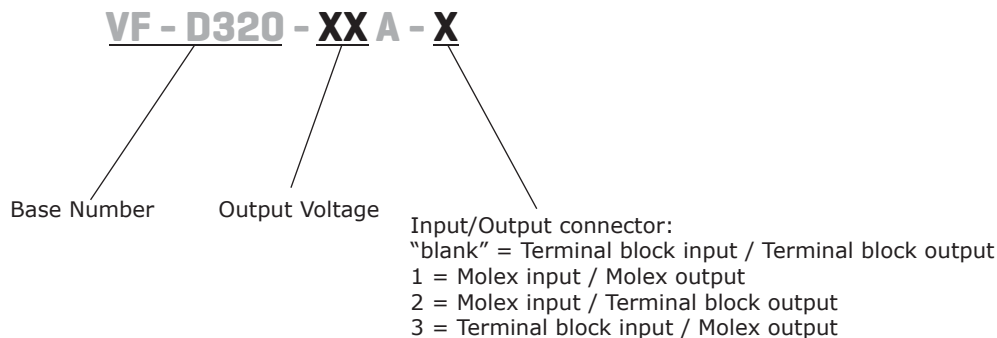
- up to 300 W continuous power w/ 18 CFM forced air
- passive power correction
- dual outputs
- power good signal
- 3000 Vac isolation voltage
- over load, over voltage, over temperature, and short circuit protections
- UL, cUL, and TUV 60950-1 safety approvals
- efficiency up to 75%



| 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 | 15 | 30 | 125 | 250 | 50 | 75% | |
| | 12 | 10.42 | 16.67 | | | 120 | | |
| VF-D320-D524A | 5 | 15 | 30 | 125 | 250 | 50 | 75% | |
| | 24 | 5.2 | 8.33 | | | 240 | | |
| VF-D320-D548A | 5 | 15 | 30 | 125 | 250 | 50 | 75% | |
| | 48 | 2.6 | 4.16 | | | 480 | | |
| VF-D320-D1224A | 12 | 12.5 | 16.67 | 150 | 300 | 120 | 75% | |
| | 24 | 6.25 | 8.33 | | | 240 | | |

- 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



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

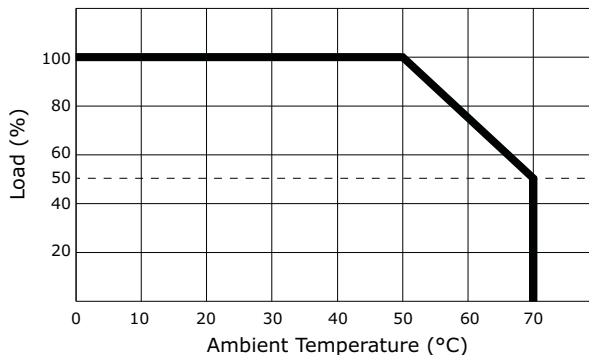
| parameter | conditions/description | min | typ | max | units |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----|------------|-------------------|
| isolation voltage | 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 | UL60950-1, CSA C22.2 No. 60950-1-03, TUV EN60950-1 and CB, CE Mark (LVD) EN61000-3-2, 3 & IEC61000-4 Series regulations and CB | | | | |
| 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 °C | 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 |

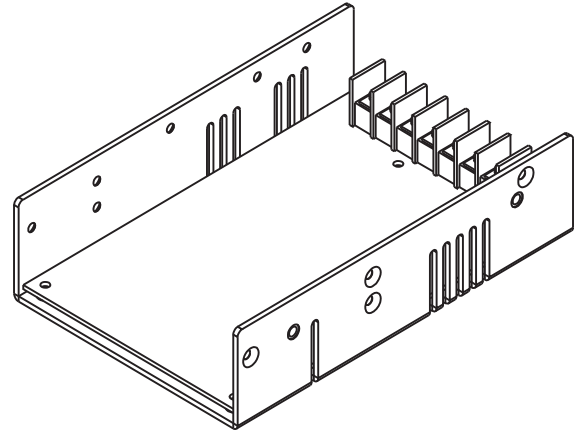
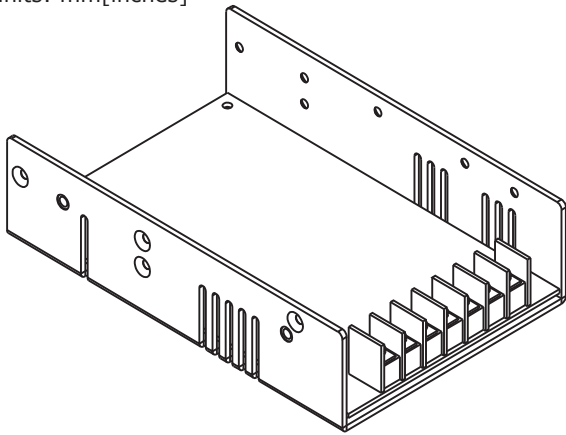
DERATING CURVES

output power vs. ambient temperature



MECHANICAL DRAWING

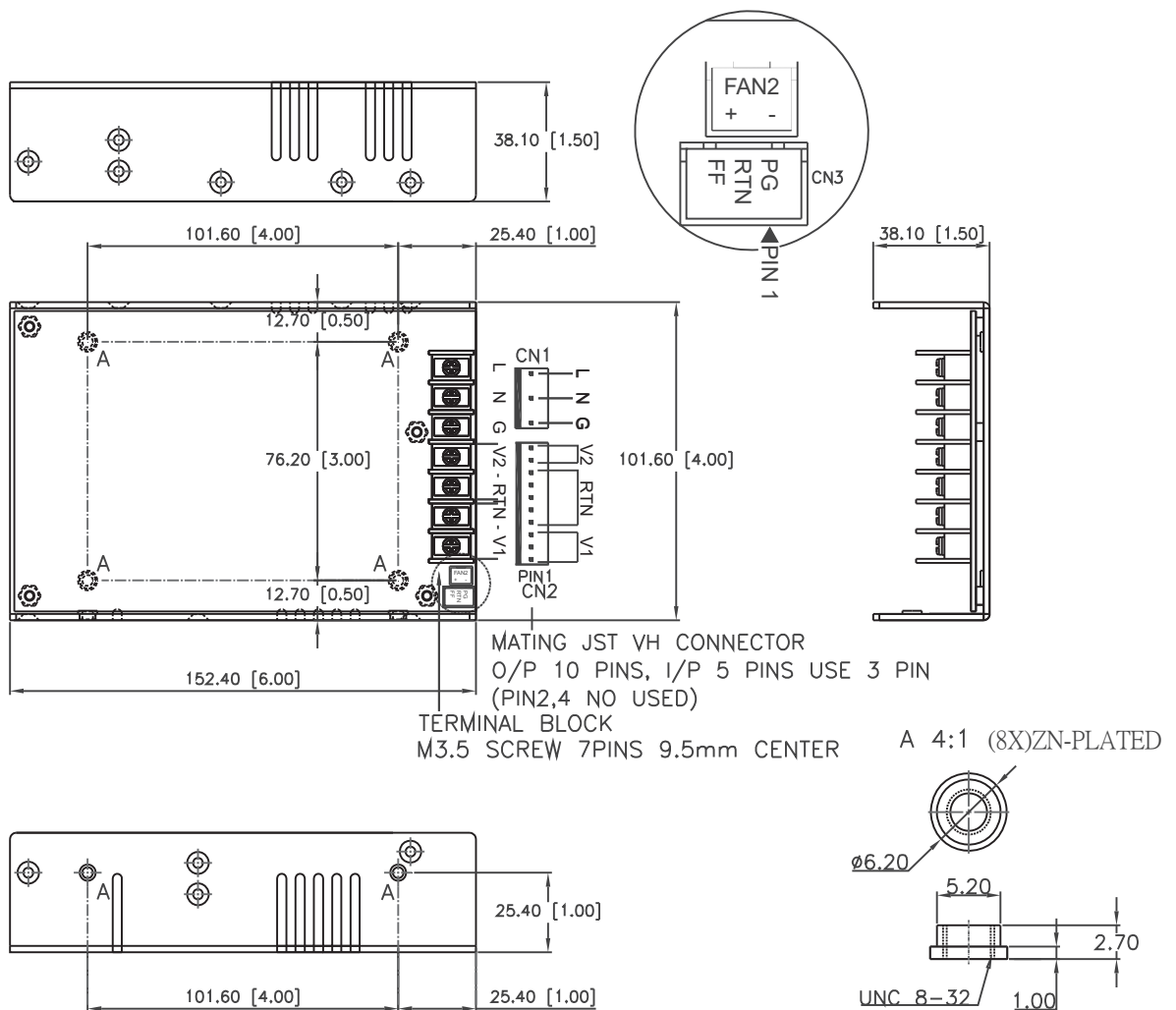
units: mm[inches]



| 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:

- CN1 mates with JST VH series 5-pin connector
- CN2 mates with JST VH series 10-pin connector
- CN3 mates with molex part no. JST XHP-3 or equivalent (CHYAO SHIUNN JS-2001-03) and JST SXH-002T-P0.6 mating pins
- Fan drive connector mates with JST part no. XHP-2 or equivalent (CHYAO SHIUNN JS-2001-02).
- 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 |

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



Headquarters
20050 SW 112th Ave.
Tualatin, OR 97062
800.275.4899

Fax 503.612.2383
cui.com
techsupport@cui.com

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

CUI reserves the right to make changes to the product at any time without notice. Information provided by CUI is believed to be accurate and reliable. However, no responsibility is assumed by CUI for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

CUI products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.