

SERIES: VF-D250-DXXA | DESCRIPTION: AC-DC POWER SUPPLY
FEATURES

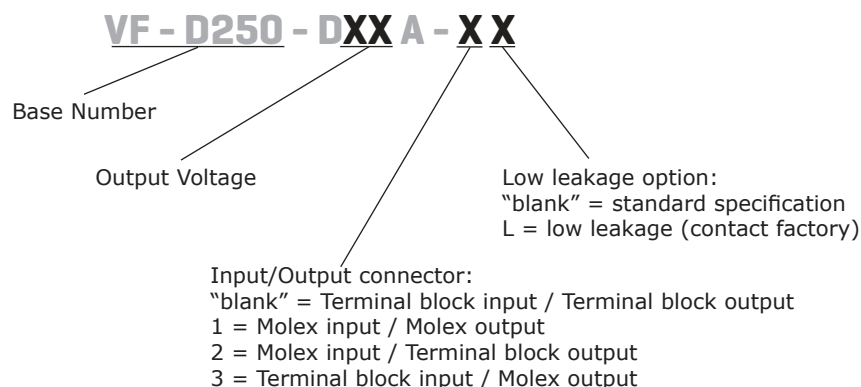
- up to 250 W continuous power w/ 16 CFM forced air
- 600 W peak power within 500 μ s duty duration
- passive power correction
- dual outputs
- power good signal
- remote on/off control
- 3,000 Vac isolation voltage
- over load, over voltage, over temperature, and short circuit protections
- UL/cUL, and TUV 62368-1 safety approvals
- efficiency up to 70%



| 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-D250-D312A* | 3.3 | 12 | 24 | 100 | 200 | 50 | 70% |
| | 12 | 7 | 12 | | | | |
| VF-D250-D324A* | 3.3 | 12 | 24 | 100 | 200 | 50 | 70% |
| | 24 | 4 | 6 | | | | |
| VF-D250-D512A | 5 | 12 | 24 | 100 | 200 | 50 | 70% |
| | 12 | 7 | 12 | | | | |
| VF-D250-D524A | 5 | 12 | 24 | 100 | 200 | 50 | 70% |
| | 24 | 4 | 6 | | | | |
| VF-D250-D548A* | 5 | 12 | 24 | 100 | 200 | 50 | 70% |
| | 48 | 2 | 3 | | | | |
| VF-D250-D1224A | 12 | 7 | 12 | 135 | 250 | 120 | 70% |
| | 24 | 4 | 6 | | | | |

Notes:

1. Maximum total combined power
2. With external 16 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 μ F ceramic capacitor and a 22 μ F electrolytic capacitor in parallel.
5. * Discontinued model.

PART NUMBER KEY


INPUT

| parameter | conditions/description | min | typ | max | units |
|----------------|-----------------------------------------------------------------------------------------------------|-----|-----|-----|-------|
| voltage | auto selectable | 90 | | 132 | Vac |
| | | 180 | | 264 | Vac |
| frequency | | 47 | | 63 | Hz |
| current | at 110~120 Vac, cold start | | | 6 | A |
| | at 200~240 Vac, cold start | | | 3 | A |
| inrush current | at 115 Vac, full load, cold start | | | 35 | A |
| | at 230 Vac, full load, cold start | | | 70 | A |
| power factor | compliant to EN 61000-3-2 class A | | | | |
| remote on/off | designated as RMSW on the CN1, requires a low signal to inhibit output off behavior: hiccup mode | | | | |

OUTPUT

| parameter | conditions/description | min | typ | max | units |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|-------|
| regulation | | | ±5 | | % |
| 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 230 Vac | | | 1 | s |
| hold-up time | at 80% of rated maximum load | 20 | | | ms |
| adjustability | | | ±5 | | % |
| switching frequency | fixed | | 25 | | kHz |
| 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 (open collector). | | | | |
| fan drive | 12 Vdc / 300 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 | automatically recovers | 110 | | 140 | % |
| short circuit protection | short circuit can be continuous, recovers automatically | | | | |
| over temperature protection | auto recovery | | 110 | | °C |

SAFETY & COMPLIANCE

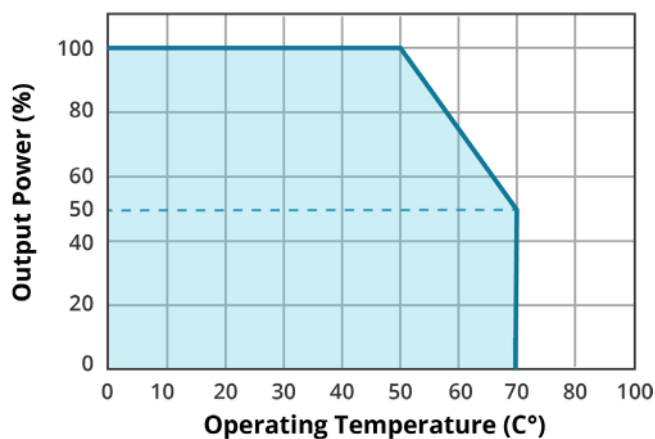
| parameter | conditions/description | min | typ | max | units |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----|-----|-------|
| isolation voltage | applied for 3 seconds at 10 mA max. | | | | |
| | primary to secondary | 3,000 | | | Vac |
| | primary to transformer core | 1,500 | | | Vac |
| | primary to earth chassis | 1,500 | | | Vac |
| safety approvals | IEC/EN/UL 62368-1 | | | | |
| EMI/EMC | EN 55032 Class B conducted / radiated, EN 61000-3-2, EN 61000-3-3, EN 55024 (IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11) | | | | |
| leakage current | standard model at 264 Vac | | | 1 | mA |
| | low-leakage model at 240 Vac | | | 500 | µA |
| | low-leakage model at 120 Vac | | | 300 | µA |
| RoHS | 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

TEMPERATURE DERATING CURVE



MECHANICAL

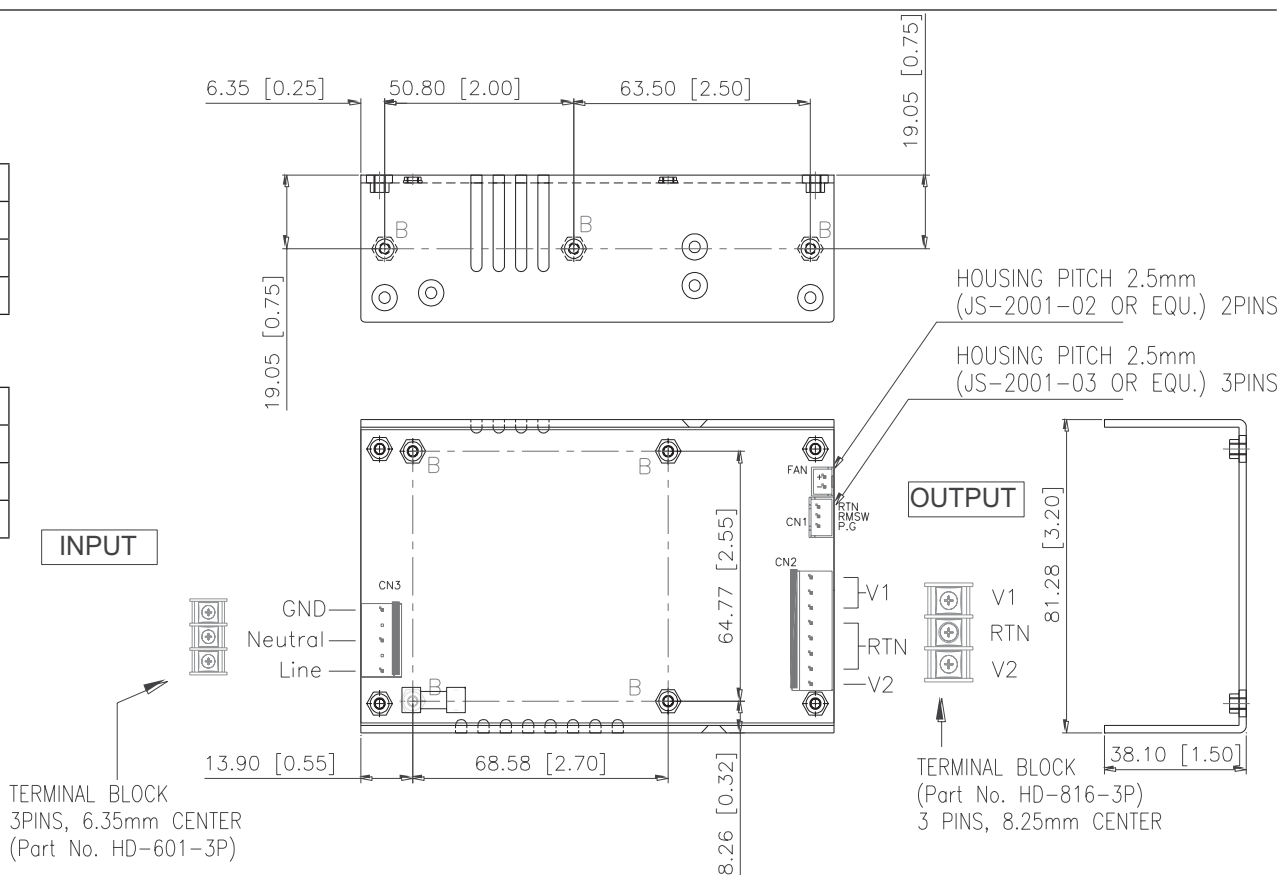
| parameter | conditions/description | min | typ | max | units |
|------------|------------------------|-----|-----|-----|--------|
| dimensions | 5(L) x 3.2(W) x 1.5(H) | | | | inches |
| weight | | | | 450 | g |

MECHANICAL DRAWING

units: mm

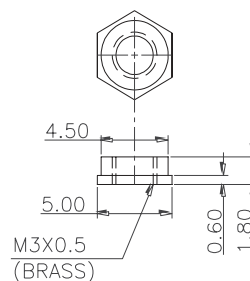
| CN1 | |
|-----|------------|
| 1 | ground |
| 2 | ac neutral |
| 3 | ac line |

| CN3 | |
|-----|---------------|
| 1 | Power Good |
| 2 | remote switch |
| 3 | RTN |



| CN2 | |
|-----|-----|
| 1 | Vo2 |
| 2 | RTN |
| 3 | RTN |
| 4 | RTN |
| 5 | RTN |
| 6 | Vo1 |
| 7 | Vo1 |
| 8 | Vo1 |

B: MOUNTING HOLE 7 PLACES
SACLE4:1
MAXIMUM PENETRATION LENGTH=2.1MM



- Notes:
1. CN1 mates with molex part no. 09-93-0500 or equivalent and molex 2478, 2578, 8818 crimp pins.
 2. CN2 mates with molex part no. 09-93-0800 and molex 2478, 2578, 8818 crimp pins.
 3. CN3 mates with JST part no. 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 maximum M3 screw penetration depth is 2.1 mm.

REVISION HISTORY

| rev. | description | date |
|------|-----------------------------------------------------------------|------------|
| 1.0 | initial release | 05/05/2009 |
| 1.01 | new template applied | 12/17/2011 |
| 1.02 | V-Infinity branding removed | 08/28/2012 |
| 1.03 | updated spec | 03/29/2013 |
| 1.04 | updated spec | 01/19/2018 |
| 1.05 | updated datasheet | 07/10/2018 |
| 1.06 | updated to be certified to 62368-1 safety standard | 07/02/2019 |
| 1.07 | company logo updated | 12/22/2020 |
| 1.08 | updated remote on/off line & derating curve | 04/26/2021 |
| 1.09 | discontinued models VF-D250-D312A, VF-D250-D324A, VF-D250-D548A | 01/10/2022 |
| 1.10 | product image updated | 04/05/2022 |

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



CUI INC

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

Fax 503.612.2383
cui.com
techsupport@cui.com

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