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

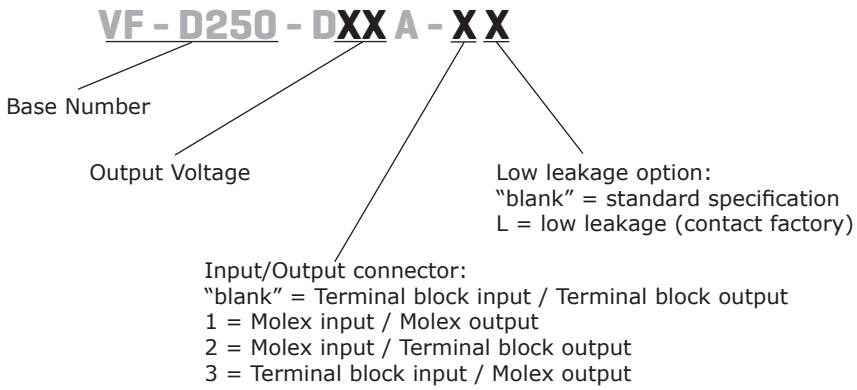
FEATURES

- up to 250 W continuous power w/ 16 CFM forced air
- 600 W peak power within 500 µs 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	12 7	24 12	100	200	50 120	70%
VF-D250-D324A*	3.3 24	12 4	24 6	100	200	50 240	70%
VF-D250-D512A	5 12	12 7	24 12	100	200	50 120	70%
VF-D250-D524A	5 24	12 4	24 6	100	200	50 240	70%
VF-D250-D548A*	5 48	12 2	24 3	100	200	50 480	70%
VF-D250-D1224A	12 24	7 4	12 6	135	250	120 240	70%

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 µF ceramic capacitor and a 22 µF electrolytic capacitor in parallel.
5. * Discontinued model.

PART NUMBER KEY



INPUT

parameter	conditions/description	min	typ	max	units
voltage	auto selectable	90 180		132 264	Vac Vac
frequency		47		63	Hz
current	at 110~120 Vac, cold start at 200~240 Vac, cold start			6 3	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 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 maximim 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

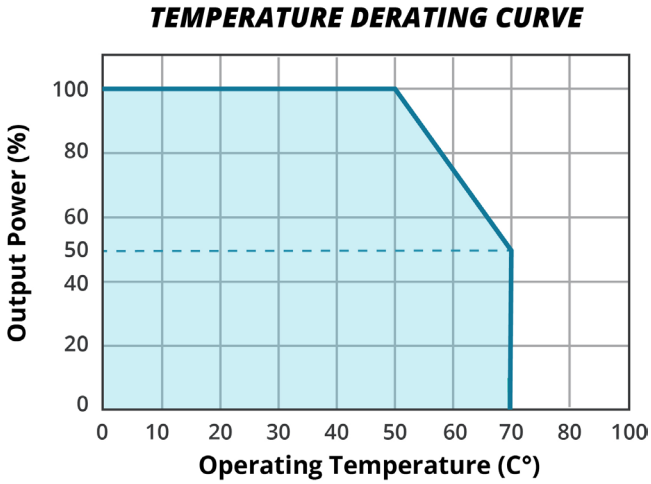
SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	applied for 3 seconds at 10 mA max. primary to secondary primary to transformer core primary to earth chassis	 3,000 1,500 1,500			 Vac Vac 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 low-leakage model at 240 Vac low-leakage model at 120 Vac			1 500 300	mA µA µA
RoHS	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

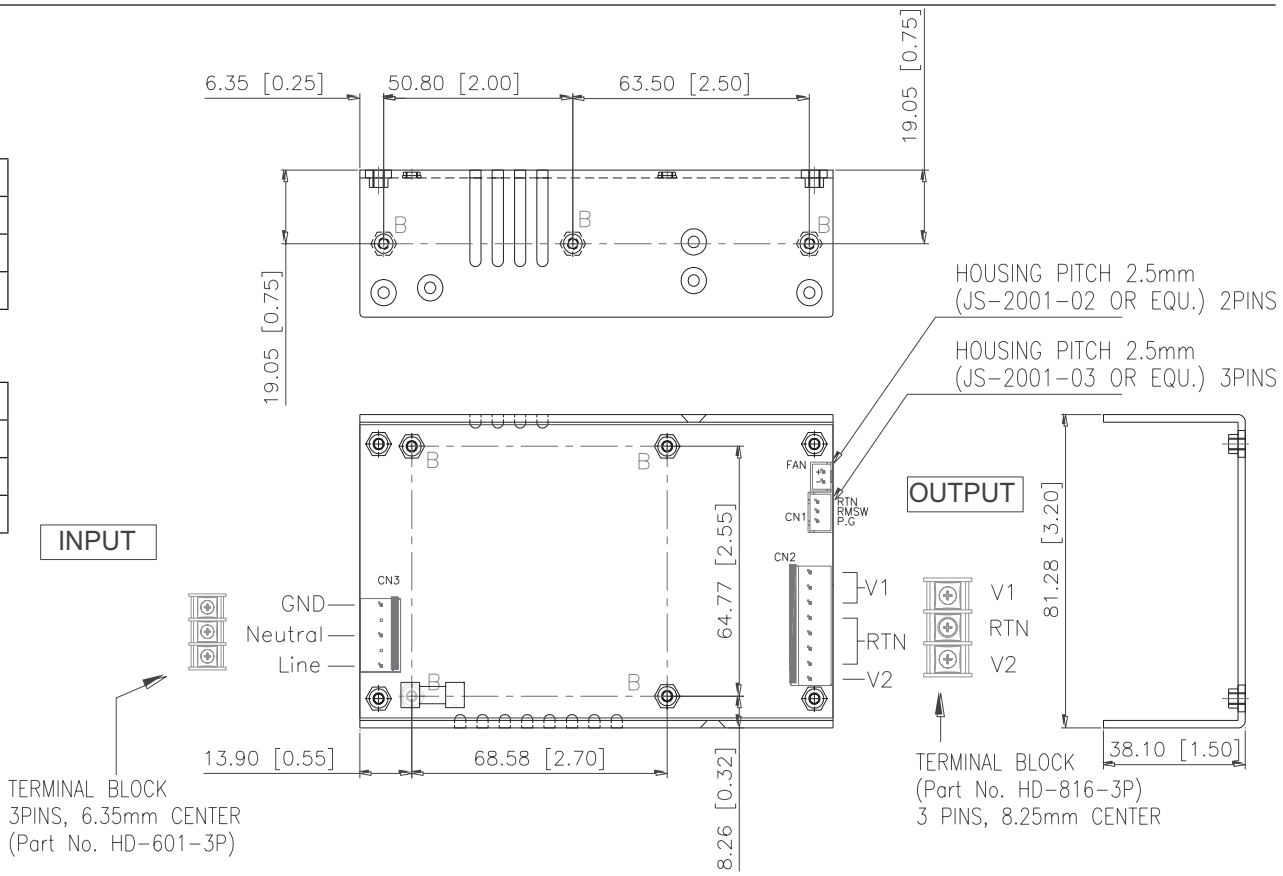
parameter	conditions/description	min	typ	max	units
dimensions	5(L) x 3.2(W) x 1.5(H)				inches
weight				450	g

MECHANICAL DRAWING

units: mm

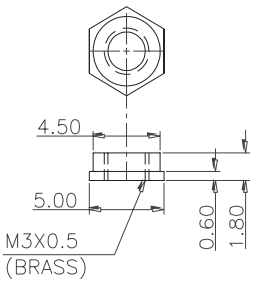
CN1	
1	ground
2	ac neutral
3	ac line

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.

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