

SERIES: VUM-D400-D | DESCRIPTION: AC-DC POWER SUPPLY
FEATURES

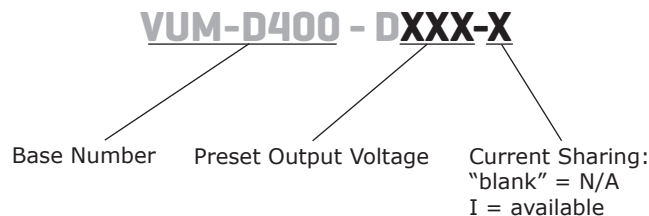
- safety approvals: UL 60950-1, CSA C22.2 No. 60950-1-03
- dual output
- current monitoring and remote voltage adjustments (margin)
- compact 1U size and high power density: 5.56 W/inch³
- power factor corrected to EN 61000-3-2 Class D
- metal enclosed
- short circuit, overload, over voltage and over temperature protections
- optional IEC320 AC inlet or terminal block
- optional current sharing



MODEL	output voltage ^{1,2,3}	output current ⁴	ripple and noise ^{5,6}	efficiency
	(Vdc)	max (A)	max (% Vp-p)	typ (%)
VUM-D400-D312*	3.3 12	40 25	±1	75
VUM-D400-D324	3.3 24	40 12.5	±1	75
VUM-D400-D512*	5 12	40 25	±1	75
VUM-D400-D524*	5 24	40 12.5	±1	75
VUM-D400-D1242	12 24	25 12.5	±1	75

Notes:

1. output is fully isolated
2. output voltage is measured at output power connector
3. provides peak power of 700 W within 500 μs for all models
4. 22.95 CFM cooling
5. 1% minimum load is required to maintain the ripple and regulation
6. 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
7. * Discontinued model.

PART NUMBER KEY


INPUT

parameter	conditions/description	min	typ	max	units
voltage		90		264	Vac
frequency		47		63	Hz
current	at 90 Vac, full load			6.35	A
inrush current	at 230 Vac, full load, cold start			35	A
input fuse	built-in ac fuse. A blown fuse usually indicates permanent damage to the power supply serviceable by factory only.				
active power correction	meets EN 61000-3-2 Class D				

OUTPUT

parameter	conditions/description	min	typ	max	units
total 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%				
overshoot	turn-on and turn-off overshoot shall not exceed 5% over nominal voltage				
turn-on delay	at 230 Vac			1	s
hold-up time	at 80% load	20			ms
adjustment range	output user adjustable		±5		%
switching frequency			30		kHz
remote sense ²	designated as RS+ and RS- on CN3. Total voltage compensation for cable losses with respect to the main output.				
remote on/off	defined RSW on CN3, requiring a low signal to inhibit output.				
LED display (LED 1)	green - the power supply is operating normally. orange - when any protection occurs or RSW is low.				
power good	designated as PG on CN3. This signal goes high 100~500 ms after the output reaches regulation. It goes low at least 1 ms before loss of regulation.				
current sharing	designated as CSH on CN3, optional single wired for forced current sharing function and parallel up to 4 units within 10% accuracy at full load.				
current monitor	designated as CMN on CN3 for for current sense for 0.5~3 Vdc to represent 0~100% output current.				
AC fail (optional) ³	designated as ACF on CN3 to monitor the input voltage when input goes under 80 ±5 Vac the signal will go low (0 V) and then go high (+5 V) once it reappears over 86 Vac.				

Notes: 1. 1% minimum load is required to maintain ripple and regulation
2. Not available for current sharing models
3. Input voltage protection must be disabled when AC Fail is enabled

PROTECTIONS

parameter	conditions/description	min	typ	max	units
input under voltage protection	Power supply shuts down when ac input is under 80 ±5 Vac. When ac line reappears over 86 ±5 Vac, the power supply restarts automatically.				
over voltage protection	shutdown and latches, ac input reset required to restart			130	%
over current protection	auto recovery	110		140	%Io
short circuit protection	continuous, auto recovery upon removal of short				
over temperature protection	shutdown, auto recovery	85			°C

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	primary to secondary for 3 seconds	4,000			Vac
	primary to transformer core for 3 seconds	1,500			Vac
	primary to earth ground for 3 seconds	1,500			Vac
safety approvals	UL 60950-1, CSA C22.2 No. 60950-1-03, TUV EN 60950-1, CE Mark (LVD) EN 61204-3/61000-3-(2,3) & IEC 61000-4 Series Regulations, CB				
EMI/EMC	FCC Part 15, CISPR22 Class B, conducted				
leakage current	at 264 Vac			1.5	mA
grounding test	allowable resistance measured when 40 A current is applied from the ground pin of the three prong plug to the farthest earthed connection point.			0.1	Ω
RoHS compliant	yes				
MTBF	according to MIL-HBK-217F at 30°C	100,000			hours

ENVIRONMENTAL

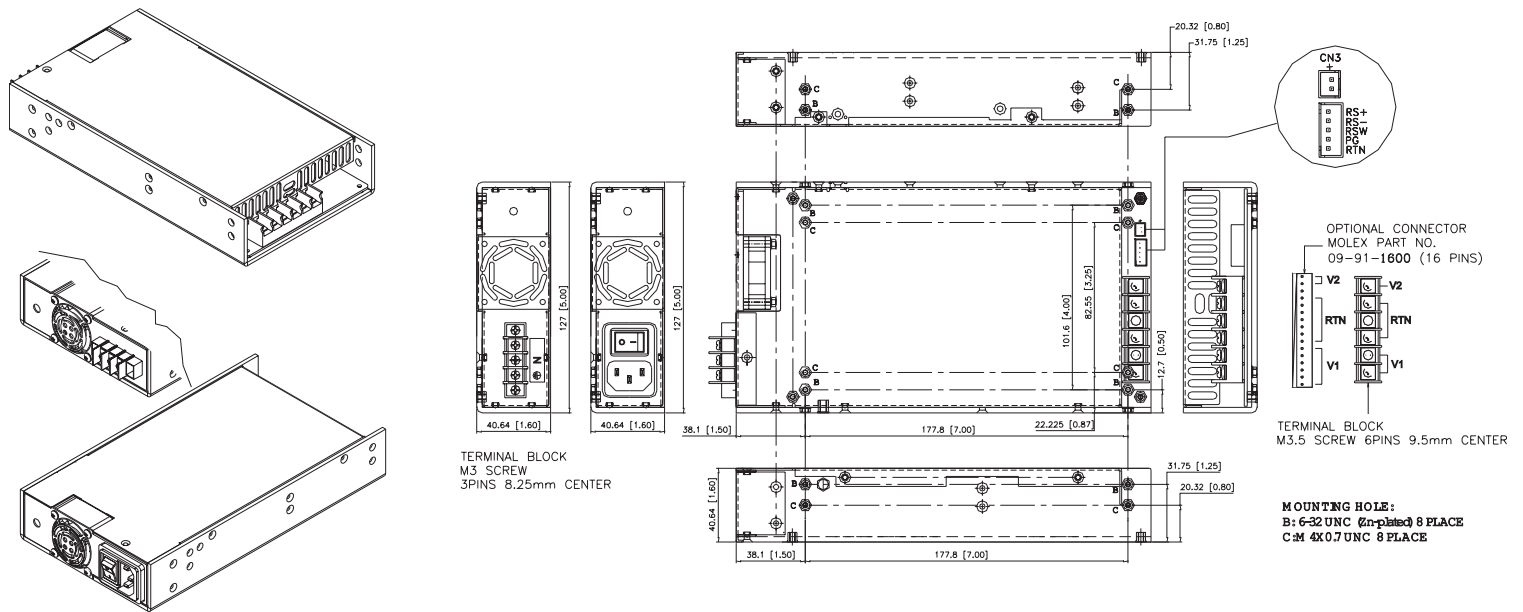
parameter	conditions/description	min	typ	max	units
operating temperature	derating linearly at 2.5% from 50~70°C	0		70	°C
storage temperature		-20		85	°C
operating humidity	non-condensing	5		90	%RH
storage humidity	non-condensing	5		95	%RH

MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	9 x 5 x 1.6 (228.6 x 127 x 40.64 mm)				inch
weight				1.0	kg
Mounting screws	6-32, 1/4" or shorter				

MECHANICAL DRAWING

units: inches (mm)
 tolerance: inches: x.xx = ±0.02
 mm: x.xx = ±0.5



INPUT CONNECTOR (CN1)	
IEC320 or equivalent snap-in mounting type (option 1)	DINKLE DT-35-A02W-03 (option 2)
Suggested mating plug IEC320	Suggested mating connector Molex 19198-0016 or similar

LOGIC CONNECTOR (CN3)	FAN
JS B5B-XH-A	JS B2B-XH-A
Suggested mating connector JST XHP-5 or equivalent Contact: SXH-002T-P0.6	Suggested mating connector JST XHP-2 or equivalent, Contact: SXH-001T-P0.6

OUTPUT CONNECTOR (CN2)			
Howder HD-121-6P (option 1)		Molex 26-48-1161 or similar. (option 2)	
Suggested mating connector Molex 19198-0045 or similar		Suggested mating connector Molex 09-91-1600	
PIN	FUNCTION	PIN	FUNCTION
1~2	+Vo	1~6	+Vo
3~5	RTN	7~13	RTN
6	-Vo	14~16	-Vo

PIN	FUNCTION
1	RTN - return
2	PG - power good signal
3	RSW - remove on/off
4	RS- - remote sense (-)
5	RS+ - remote sense (+)

REVISION HISTORY

rev.	description	date
1.0	initial release	07/10/2006
1.01	new template applied, V-Infinity branding removed	08/28/2012
1.02	company logo updated	10/02/2020
1.03	discontinued model VUM-D400-D312, VUM-D400-D512 & VUM-D400-D524	06/02/2022

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



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