


SERIES: VUMM-D400-D | **DESCRIPTION:** MEDICAL AC-DC POWER SUPPLY

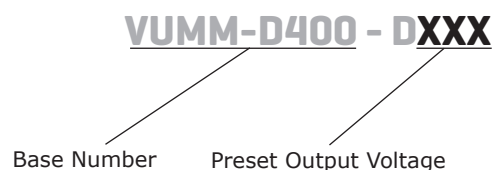
FEATURES

- medical approvals: EN/IEC/UL 60601-1 3rd edition
- universal input (90~264 Vac)
- 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



MODEL ¹	output voltage ^{1,2,3}	output current ⁴	ripple and noise ^{5,6}	efficiency
	(Vdc)	max (A)	max (% Vp-p)	typ (%)
VUMM-D400-D312	3.3 12	40 25	±1	75
VUMM-D400-D324	3.3 24	40 12.5	±1	75
VUMM-D400-D512	5 12	40 25	±1	75
VUMM-D400-D524	5 24	40 12.5	±1	75
VUMM-D400-D1224	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 μ s for all models
 4. must use external forced airflow min. 23 CFM to achieve maximum current
 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 μ F ceramic capacitor and a 22 μ F electrolytic capacitor in parallel

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.				
power factor correction	at 230 Vac, full load		0.98		

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.				
start-up time	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 ¹	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.				

Notes: 1. Not available for current sharing models

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 at 2 mA for 3 seconds	4,000			Vac
	primary to transformer core at 2 mA for 3 seconds	1,500			Vac
	primary to earth ground at 2 mA for 3 seconds	1,500			Vac
safety approvals	EN/IEC/UL 60601-1 3rd edition				
EMI/EMC	EMI/EMC, EN 60601-1, EN 61204-3 Class B conducted/radiated, EN 61000-3-(2,3), IEC 61000-4-(2,3,4,5,6,8,11)				
leakage current				200	μA
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

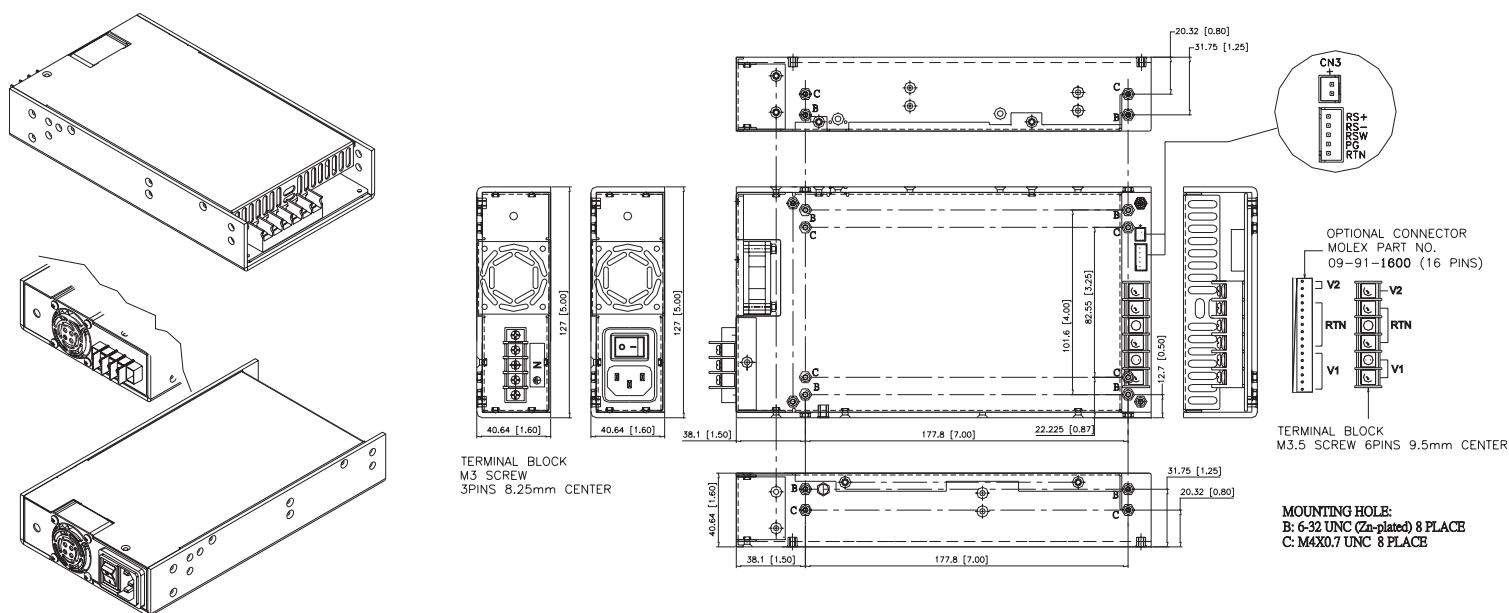
parameter	conditions/description	min	typ	max	units
operating temperature	derating linearly at 2.5% from 50~70°C	0		70	°C
storage temperature		-20		85	°C
operating humidity	non-condensing	5		90	%RH
storage humidity	non-condensing	5		95	%RH

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

OUTPUT CONNECTOR (CN2)			
Howder HD-121-6P (option 1)		Molex 26-48-1161 (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

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-002T-P0.6
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	updated spec	03/22/2013

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

**CUI INC[®]**

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.