CUI INC
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SERIES: VPM-S500-R | DESCRIPTION: AC-DC POWER SUPPLY

FEATURES

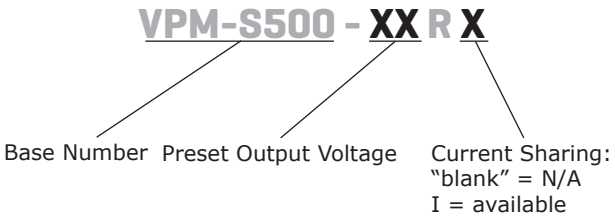
- current monitoring and remote voltage adjustments (margin)
- short circuit, overload, over voltage and over temperature protections
- optional IEC320 AC inlet or terminal block
- current sharing



MODEL	preset voltage	output voltage[1,2,3]		output current	ripple and noise[4,5]	output power[6]	efficiency
		min	max	max	max	max	typ
	(Vdc)	(Vdc)	(Vdc)	(A)	(% Vp-p)	(W)	(%)
VPM-S500-03R	3.3	2	3.3	80	75 mV	264	70
VPM-S500-05R*	5	5	6	80	75 mV	400	75
VPM-S500-12R*	12	12	15	41.67	±1	500	80
VPM-S500-16R*	18	16	21	31.25	±1	500	83
VPM-S500-24R*	24	22	30	22.73	±1	500	83
VPM-S500-36R*	36	31	41	16.13	±1	500	83
VPM-S500-48R*	48	42	55	10.42	±1	500	83

Notes:
1. customer must specify output voltage
2. output is fully isolated
3. output voltage is measured at output power connector
4. 1% minimum load is required to maintain the ripple and regulation
5. Ripple & noise are measured at 20 MHz BW with 0.1 µF ceramic cap and a 22 µF electrolytic capacitors on the output
6. provides peak power of 900 W within 500 µs for all models
7. * Discontinued model.

PART NUMBER KEY



INPUT

parameter	conditions/description	min	typ	max	units
voltage		90		264	Vac
frequency		47		63	Hz
current	at 90-264 Vac, full load			8	A
inrush current	at 230 Vac, full load, cold start			70	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			±1		%
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		%
remote sense	designated as RS+ and RS- on CN3. Total voltage compensation for cable losses with respect to the main output. (NOT available for current sharing models.)				
remote on/off	defined RSW on CN3, requiring 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 surrent 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.				

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				

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	primary to secondary at 10 mA for 3 seconds primary to transformer core at 10 mA for 3 seconds primary to earth ground for at 10 mA 3 seconds	3,000 1,500 1,500			Vac Vac Vac
safety approvals	UL 60950-1				
EMI/EMC	EN 55022 Class B conducted/radiated, EN 61000-3-(2,3), EN 55024, IEC 61000-4-(2,3,4,5,6,8,11)				
leakage current	at 264 VAC			2	mA
grounding test	allowable resistance measured when 25 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

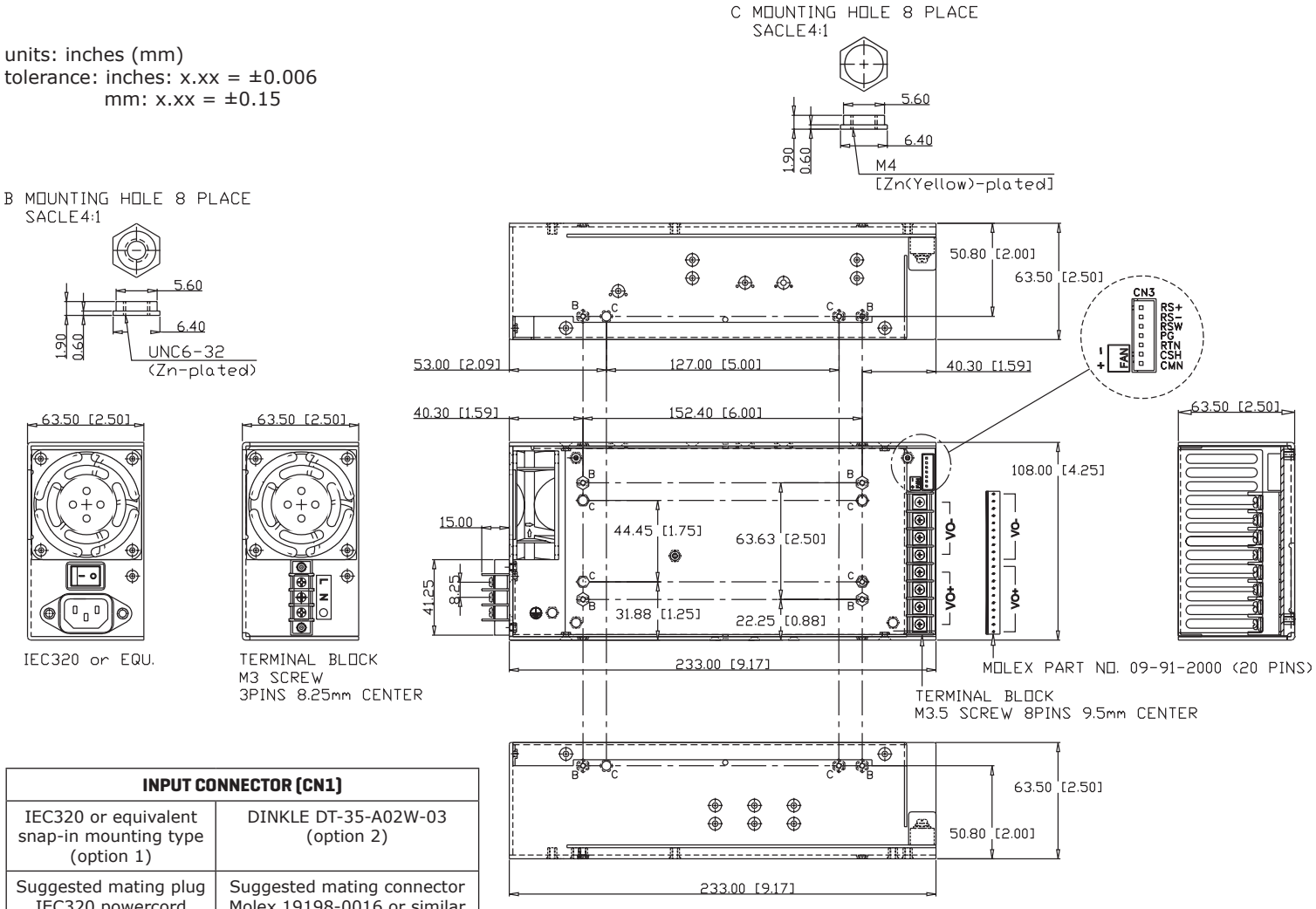
parameter	conditions/description	min	typ	max	units
operating temperature	derating linearly at 2.5% from 50~70°C	0		70	°C
storage temperature		-20		85	°C
operating humidity	non-condensing	5		90	%RH
storage humidity	non-condensing	5		95	%RH

MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	9.17 x 4.25 x 2.5 (232.92 x 107.95 x 63.5 mm)				inch
weight				1.45	kg
Mounting holes	Two sets of 8 threaded mounting holes available on the enclosure. B: 6-32, maximum insertion depth of 0.2 inches. C: M4, maximum insertion depth of 0.2 inches.				

MECHANICAL DRAWING

units: inches (mm)
tolerance: inches: x.xx = ±0.006
mm: x.xx = ±0.15



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

OUTPUT CONNECTOR (CN2)			
Molex 26-48-1201 or similar. (option 1)		Howder HD-121-8P (option 2)	
Suggested mating connector: Molex 09-91-2000 contact:08-50-0106 or similar.		Suggested mating connector Molex 19198-0045 or similar	
PIN	FUNCTION	PIN	FUNCTION
1~10	+Vo	1~4	+Vo
11~20	-Vo	5~8	-Vo

PIN FUNCTION	
PIN	FUNCTION
1	CMN - Current Monitoring
2	CSH - Current Sharing
3	RTN - return
4	PG - power good signal
5	RSW - remote on/off
6	RS- - remote sense (-)
7	RS+ - remote sense (+)

LOGIC CONNECTOR (CN3)
JS B7B-XH-A
Suggested mating connector JST XHP-7 or equivalent Contact: SXH-001T-P0.6

FAN
JST B2B-XH-A
Suggested mating connector JST XHP-2 or equivalent, Contact: SXH-001T-P0.6

REVISION HISTORY

rev.	description	date
1.0	initial release	12/12/2007
1.01	new template applied, V-Infinity branding removed	08/28/2012
1.02	TUV EN 60950-1 safety removed	06/18/2014
1.04	company logo updated	11/02/2020
1.05	discontinued models VPM-S500-05R, VPM-S500-12R, VPM-S500-24R, VPM-S500-36R, VPM-S500-48R	01/13/2022
1.06	discontinued model VPM-S500-16R	01/25/2022
1.07	product image updated	03/25/2022

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

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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.