CUI INC®

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

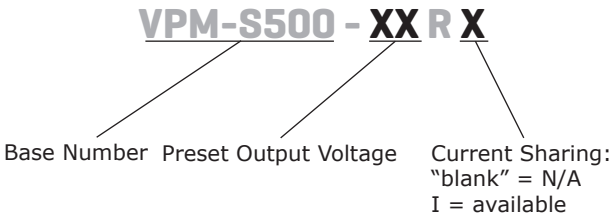
FEATURES

- 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-S500-18R	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

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

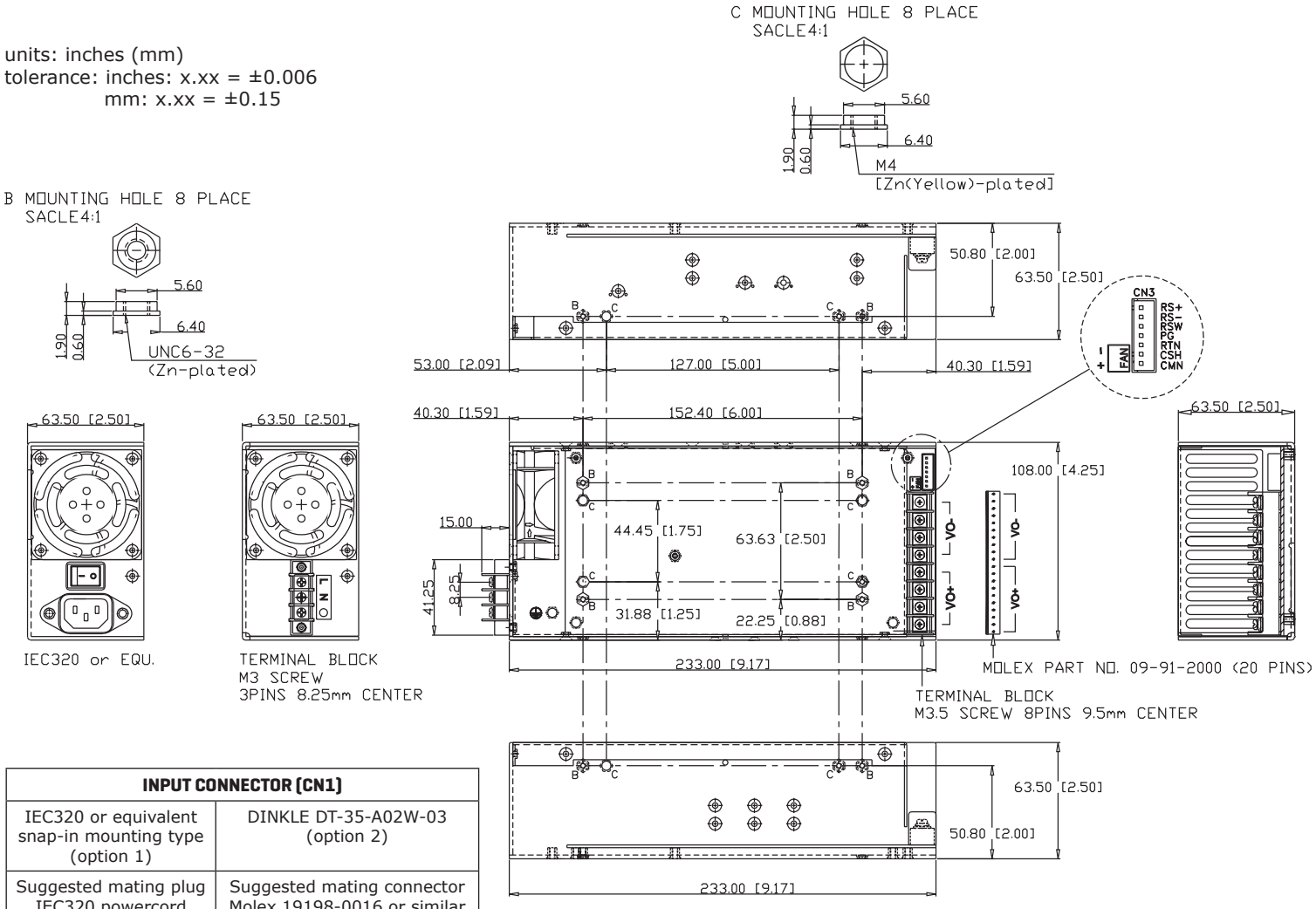
parameter	conditions/description	min	typ	max	units
operating temperature	derating linearly at 2.5% from 50~70°C	0		70	°C
storage temperature		-20		85	°C
operating humidity	non-condensing	5		90	%RH
storage humidity	non-condensing	5		95	%RH

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

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

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