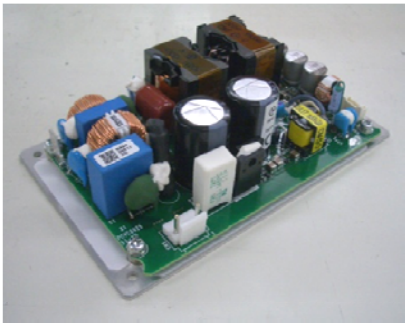
PRELIMINARY

MVAB150-56

168W AC/DC Power Supply Converter



ORDERING GUIDE

Model Number	Natural Convection Cooling(@ta=50℃)	Conduction Cooling (@Base plate and Ta =85℃, dissipate to main chassis)	Main Output (V1)
MVAB150-56	120W	168W	56V

INPUT CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Operating Range	Single phase	85	100-240	264	Vac
Input Frequency		47	50/60	63	Hz
Input Current	90Vac input, 100%Load			2.2	A
Power Factor	220Vac input, 100% Load	0.9			
Inrush Current	At 264Vac, at 25℃ cold start		40		A

OUTPUT CHARACTERISTICS

Model Number	Main Output Voltage (V1)	Load Current	Load Capacitance	Line, Load, Cross Regulation	Typical Efficiency @230Vac full load*3
MVAB150-56	56V	3.0A	0 to 330μF	± 2%	92%

FEATURES

- ■ 168W Wide Operating Temperature range AC/DC Power Supply“
- ■ IT(2nd) safety approval
- ■ High efficiency up to 92%
- ■ Universal AC input
- ■ Class 1 equipment
- ■ Convection and Conduction cooled operation
- ■ Comply with 5000m altitude
- ■ RoHS compliant

Main Output Characteristics*3

Parameter	Conditions	Min.		Max.	Units
Transient Response	50% load step, min.5% load, 1A/μsec slew rate			± 5	%V1
Settling Time to 1% of Nominal	50% load step, min.5% load, 1A/μsec slew rate			500	μsec
Turn On Delay	After application of input power			2	sec
Output Voltage Rise	Monotonic, 0 to 100% load			100	msec
Setpoint Accuracy	120Vac, 110W load, 25°C			± 0.5	%V1
Output Holdup	100% load	20			msec
Temperature Coefficient				0.02	%/°C
Ripple Voltage & Noise *2				500	mVpp

*2. Ripple and noise are measured with 0.1 uF of ceramic capacitance and 47 uF of electrolytic capacitance on each of the power supply outputs. The output noise requirements apply over a 0 Hz to 20 MHz bandwidth.
A short coaxial cable with 50ohm scope termination is used.
*3. Unless other specified all readings are taken at 120Vac input and 25 °C ambient temperature.

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ENVIRONMENTAL CHARACTERISTICS					
Parameter	Conditions	Min.	Typ.	Max.	Units
Storage Temperature Range		-40		85	°C
Operating Temperature Range		-40		85	
Operating Humidity	Non-condensing	10		95	%
Operating Altitude	Without derating	-200		5000	m
MTBF	Telcordia SR-332 M1C3 25°C	1M			Hours
Shock	Operating, IEC60068-2-27, half-sine 5G, 6ms, 3 times per face, 6 faces				Complies
	Non-operating, IEC60068-2-27, half-sine, 30G, 18ms, 3 times per face, 6 faces				Complies
Vibration	Operating, IEC60068-2-6, 1.0G, 10-150Hz, 10minutes per axis, on all 3 axes				Complies
	Non-operating, IEC60068-2-6, 2.0G, 10-150Hz, 10minutes per axis, on all 3 axes				Complies
Safety	IEC60950-1:2005 2nd Ed. ; Am1:2009 + Am2:2013				
	UL60950-1,2nd Ed., 2014-10-14 & CSA C22.2 No.60950-1-07,2nd Ed., 2014-10				
	CE Marking per LVD				
Warranty	2 years *5				
Outside Dimensions	2.7" x 4.4" x 1.34" (68.3mm x 112.0mm x 34.0mm): OPEN FRAME 3.0" x 5.0" x 1.42" (76.2mm x 127.0mm x 36.0mm):WITH BASE PLATE				
Weight	290g: WITH BASE PLATE				

*5. at Ta<50℃

PROTECTION CHARACTERISTICS					
Parameter	Conditions	Min.	Typ.	Max.	Units
Overvoltage Protection	Hiccup mode, Auto Recovery	105		115	%V1
Overcurrent Protection	Hiccup mode, Auto Recovery	110		150	%Amax

ISOLATION CHARACTERISTICS					
Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation	Primary to Earth Ground	2000			Vac
	Primary to Secondary	3000			Vac
	Secondary to Earth Ground	1500			Vac
Touch current	264Vac, 60Hz, 25°C			3.5	mA

EMISSIONS AND IMMUNITY		
Characteristic	Standard	Compliance
Input Current Harmonics	IEC/EN 61000-3-2	Class D
Voltage Fluctuation and Flicker	IEC/EN 61000-3-3	Complies
Conducted Emissions	EN 55022	Class B
	FCC Part 15	Class B
ESD Immunity	IEC/EN 61000-4-2	Level 3, Criterion A
Radiated Field Immunity	IEC/EN 61000-4-3	Level 2, Criterion A
Electrical Fast Transient Immunity	IEC/EN 61000-4-4	Level 2, Criterion A
Surge Immunity	IEC/EN 61000-4-5	Level 4, Criterion A
RF Conducted Immunity	IEC/EN 61000-4-6	Level 2, Criterion A
Magnetic Field Immunity	IEC/EN 61000-4-8	Level 2, Criterion A
Voltage dips,interruptions	IEC/EN 61000-4-11	Level 3, Criterion B

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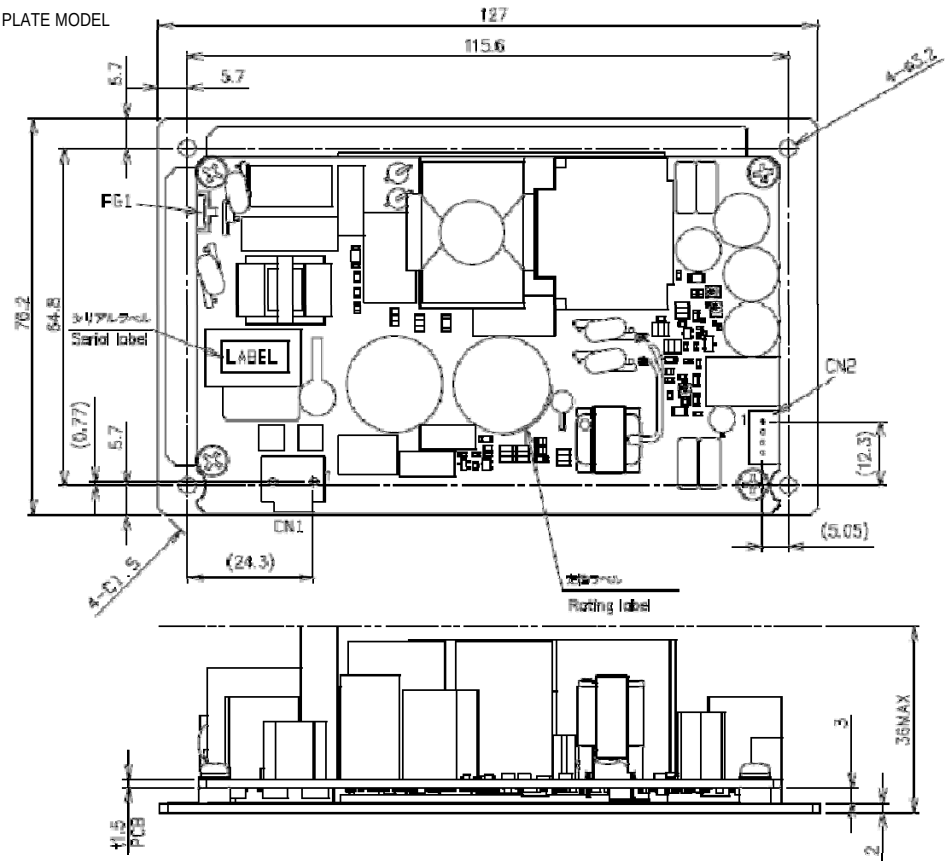
MECHANICAL DIMENSIONS

WITH BASE PLATE MODEL



All dimensions in mm tolerance is +/-0.5

3.0” x 5.0” x 1.42” (76.2mm x 127.0mm x 36.0mm):WITH BASE PLATE

INPUT/OUTPUT CONNECTOR AND SIGNAL SPECIFICATION AND MATING CONNECTORS

PIN	Description	Mating Housing	Crimp terminal/pins
Input Connector : B2P3-VH		VHR-3N	SVH-21T-P1.1
1	Line		
2	Neutral		
Base plate / FG1: SPADE CONNECTOR #250			
GND	Earth Ground		
Output Connector: B04B-PASK		PAP-04V-S	SVH-21T-P1.1
1,2	V1 Return		
3,4	V1		

EMI CONSIDERATIONS

For optimum EMI performance, the power supply should be mounted to a metal plate grounded to all 4 mounting holes of the power supply. To comply with safety standards, this plate must be properly grounded to protective earth (see mechanical dimension notes). Pre-compliance testing has shown the standalone power supply to comply with EN55022 class B radiated emissions. Radiated emission results vary with system enclosure and cable routing paths.

PERFORMANCE DATA

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