

AC-DC Enclosed Power Supply **multicomp** PRO

750W

**RoHS
Compliant**



Features

- Universal 85 - 305V AC or 120 - 430V DC input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Semi-potted process, fanless design
- Operating ambient temperature range: -40°C to +85°C
- Low Ripple & Noise, high efficiency
- Active PFC
- 150% peak load output for 1 second
- High I/O isolation test voltage up to 4000VAC
- Output short circuit, over-current, over-voltage, over-temperature protection
- 3 years warranty
- Operating altitude up to 5000m
- Safety according to UL/IEC62368-1, IS13252 (Part1), IEC60335-1, EN61558-1

MPMF750-23BxxUH-C series is one of enclosed fanless semi-potted ultra narrow AC-DC switching power supply, it is suitable for industrial and outdoor occasions where the application environment is relatively harsh. It features 305VAC all operating conditions, universal AC input and at the same time accepts DC input voltage, cost-effective, high PF value, high efficiency, high reliability, 150% peak load output and operating altitude up to 5000m. These converters offer excellent EMC performance and meet UL/EN62368, EN60335, EN61558, GB4943 standards and they are widely used in areas of industrial, lighting, electricity, security, telecommunications, smart home etc.

Selection Guide						
Part Number	Rated Output Power (W)*	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range (V)	Efficiency at 230V AC (%) Typ.	Room Temperature Max. Capacitive Load (uF)	Low Temperature Max. Capacitive Load (uF)
MPMF750-23B12UH-C	720	12V/60A	12-14.4	94	12000	6000
MPMF750-23B24UH-C	751.2	24V/31.3A	24-28.8	95	10000	4000
MPMF750-23B28UH-C	750.4	28V/26.8A	28-33.6	95	9000	3500
MPMF750-23B36UH-C	752.4	36V/20.9A	36-43.2	95	8000	3000
MPMF750-23B48UH-C	753.6	48V/15.7A	48-57.6	96	6000	2000

Note: 1.*Use suffix "C" for terminal with protective cover;
2.*Under any conditions, the total power of the product should not exceed the rated output.

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Input Specifications								
Item	Operating Conditions		Min.	Typ.	Max.	Unit		
Input Voltage Range	AC input		85	--	305	V AC		
	DC input		120		430	V DC		
Input Voltage Frequency			47		63	Hz		
Input Current	115V AC		--		7.5	A		
	230V AC				3.8			
Inrush Current	Cold start				115V AC		20	
				230V AC	40			
Power Factor	Full load, 25°C			115V AC	0.98		--	--
				230V AC	0.95			
Leakage Current	277V AC, 50Hz	Contact leakage current	<0.5mA					
Hot Plug	Unavailable							

Output Specifications





Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	Full load range		--	±1	--	%
Line Regulation	Rated load			±0.5		
Load Regulation	0% - 100% load			±0.5		
Ripple & Noise*	20MHz bandwidth (peak-to-peak value), 25°C	12V	--	150	mV	
		24V/28V/36V/48V	--	200		
Minimum Load			0	--	--	%
Stand-by Power Consumption	25°C, 230V AC input		--	150	5	
Peak Load Output	100 - 277VAC, test for 1s		--	--	--	
Hold-up Time	Room temperature, full load, 115V AC/230V AC		12	--	--	ms
Short Circuit Protection	Recover time <5s after the short circuit disappear		Constant current hiccup protection, continuous, self-recover			
Over-current Protection			>110% - 170% Io, constant current hiccup protection, self-recover			
Over-voltage Protection	5V		14.5V DC to 17V DC		Hiccup, self-recover	
	24V		29V DC to 33V DC			
	28V		33.5V DC to 38V DC			
	36V		43.5V DC to 49V DC			
	48V		59V DC to 63V DC			

Note: *The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor.

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General Specifications

Item		Operating Conditions		Min.	Typ.	Max.	Unit
Isolation Test	Input 	Electric strength test for 1min., leakage current <5mA		2000	--		V AC
	Input - output			4000			
	Output - 			1750			
Insulation Resistance	Input - 	Environment temperature: 25±5°C		50	--		MΩ
	Input - output	Relative humidity: <95%RH, non-condensing					
	Output - 	Testing voltage: 500V DC					
Operating Temperature				-40	--	+85	°C
Storage Temperature				-40		+85	
Operating Humidity		Non-condensing		20		90	%RH
Storage Humidity				10	95		
Power Derating	Operating temperature derating	With aluminum plate or 23.5CFM fan*	12V	-40°C to +45°C	1.667	--	% / °C
				+45°C to +85°C	2		
		24V/28V/36V/48V		-40°C to +50°C	2.5		
				+50°C to +85°C	1		
	Without aluminum plate	12V/24V/28V /36V/48V (70% start derating)		-40°C to +45°C	1.5		
				+45°C to +85°C	1		
Input voltage derating			85VAC - 180VAC	0.33	% / V AC		
			180VAC - 305VAC	0			
Safety Standard				GB4943.1 safety approved & EN62368-1, BS EN 62368-1(Report); Design refer to UL/IEC62368-1, IS13252 (Part1), IEC60335-1, EN61558-1			
Safety Class				CLASS I			
MTBF		MIL-HDBK-217F@25°C		≥300,000 h			
Note: *In order to optimize the heat dissipation performance, when the aluminum plate is used for auxiliary heat dissipation, please note: 1. The size of the aluminum plate is 450mm × 450mm × 3mm; 2. The surface of the aluminum plate must be coated with thermal grease; 3. The product must be tightly attached to the aluminum plate.							

Mechanical Specifications

Case Material	Metal (AL6063, SGCC)
Dimensions	237mm x 100mm x 41mm
Weight	1300g (Typ.)
Cooling Method	Free air convection

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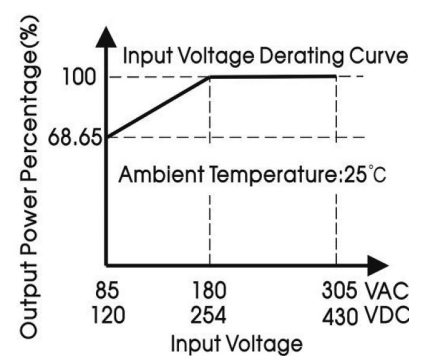
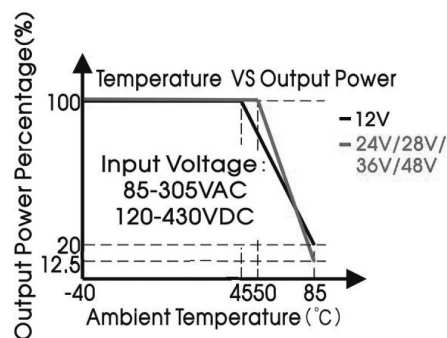
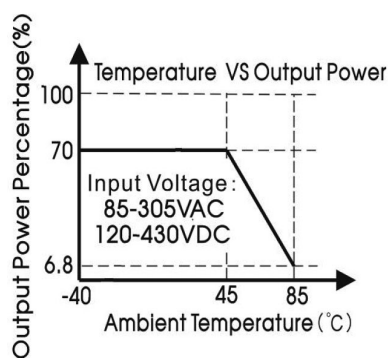
Electromagnetic Compatibility (EMC)

Emissions	CE	CISPR32 EN55032	CLASS B	
	RE	CISPR32 EN55032	CLASS B	
	Harmonic current	IEC/EN61000-3-2	CLASS A	
	Voltage flicker	IEC/EN61000-3-3		
Immunity	ESD	IEC/EN61000-4-2	Contact ±8KV/Air ±15KV	Perf. Criteria A
	RS	IEC/EN61000-4-3	10V/m	
	EFT (Input port)	IEC/EN61000-4-4	±2KV	
	EFT (Output port)	IEC/EN61000-4-4	±2KV	
	Surge (Input port)	IEC/EN61000-4-5	Line to line ±2KV/line to PE ±4KV	
	Surge (Output port)	IEC/EN61000-4-5	Line to line ±0.5KV/line to PE ±1KV	
	CS (Input port)	IEC/EN61000-4-6	10Vr.m.s	
	CS (Output port)	IEC/EN61000-4-6	10Vr.m.s	
	Power frequency magnetic field	IEC/EN61000-4-8	10A/m	
	Voltage dip, short interruption and voltage variation	IEC/EN61000-4-11	0%, 70%	perf. Criteria B
	Intercom interference test	MS-SOP-DQC-007		perf. Criteria B

Product Characteristic Curve

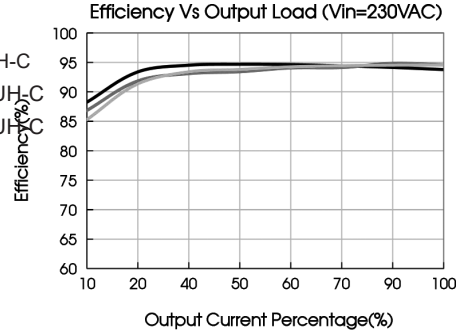
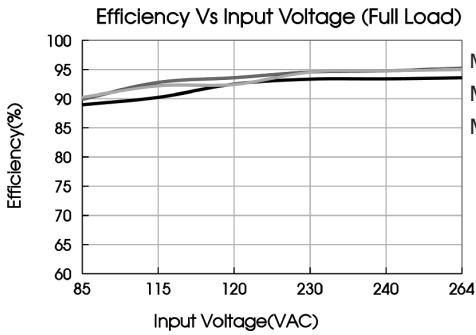
No aluminum plate for heat dissipation

With aluminum plate for heat dissipation or 23.5CFM

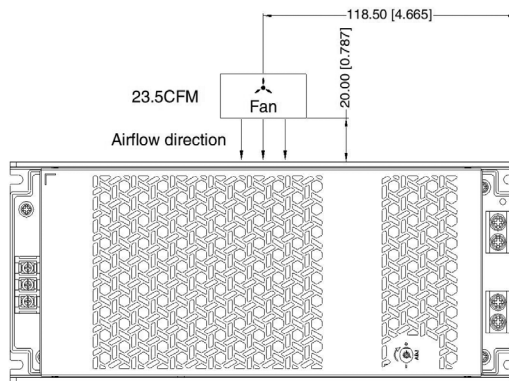
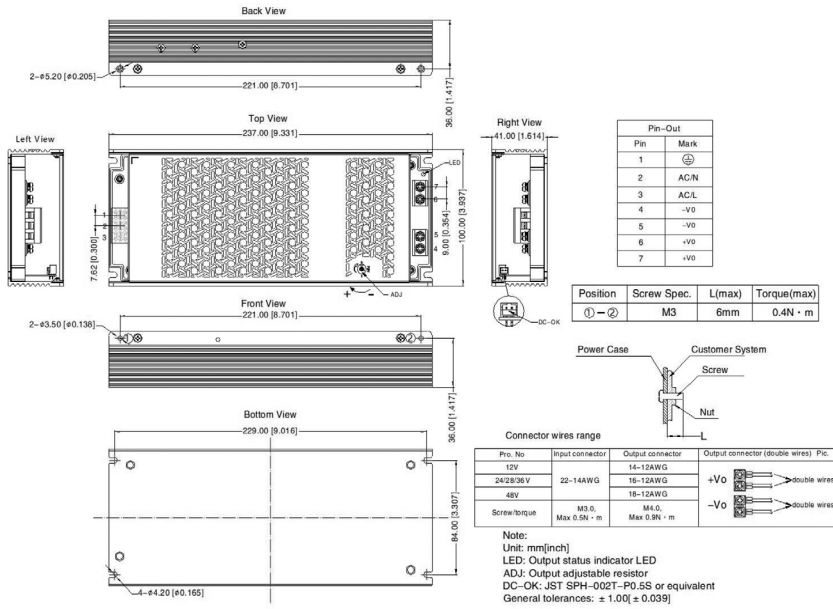


- Note: 1. With an AC input voltage between 85 -180V AC and a DC input between 120 - 254V DC the output power must be derated as per the temperature derating curves;
2. This product is suitable for applications using natural air cooling; for applications in closed environment please consult FAE.

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Dimensions and Recommended Layout

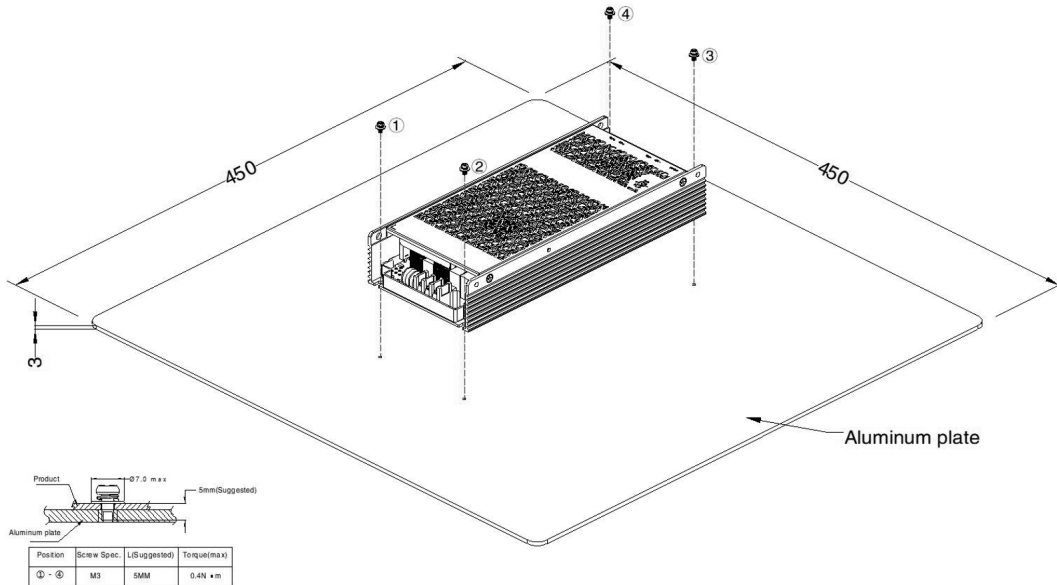


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Installation Diagram



Note: 1. In order to meet the "Derating Curve", the product testing must be installed onto an aluminum plate. The size of the suggested aluminum plate is shown as above. And for optimizing thermal performance, it is necessary to apply thermal grease on the bottom of the product.
2. It is suggested to install the product with M3 x 6 combination screws, and the product must be firmly installed at the center of the aluminum plate.

Note: This is the schematic diagram of the bottom installation, install with M3 × 6 round head screws, it is necessary to apply thermal grease on the bottom of the product, derating refer to with aluminum plate curve.

Notes:

1. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25°C, humidity<75%RH with nominal input voltage and rated output load;
2. The room temperature derating of 3.5°C/1000m is needed for operating altitude greater than 2000m;
3. In order to improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability;
4. The out case needs to be connected to PE (⊕) of system when the terminal equipment in operating;

Part Number Table

Description	Part Number
Enclosed Power Supply, 12V DC, 60A	MPMF750-23B12UH-C
Enclosed Power Supply, 24V DC, 31.3A	MPMF750-23B24UH-C
Enclosed Power Supply, 28V DC, 26.8A	MPMF750-23B28UH-C
Enclosed Power Supply, 36V DC, 20.9A	MPMF750-23B36UH-C
Enclosed Power Supply, 48V DC, 15.7A	MPMF750-23B48UH-C

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