

MPM AC-DC Enclosed Power Supplies 100W

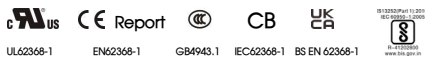
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**RoHS
Compliant**



Features

- Universal 85 - 305V AC or 120 - 430V DC Input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -30°C to +70°C
- Low standby power consumption, high efficiency
- High I/O isolation test voltage up to 4000VAC
- Low ripple & noise
- Output short circuit, over-current, over-voltage protection
- Over-voltage class III (designed to meet EN61558)
- Operating up to 5000m altitude
- 3 years warranty



MPM100-23Bxx series is an enclosed AC-DC switching power supply. It features universal AC input and at the same time accepts DC input voltage, cost-effective, low no load power consumption, high efficiency and high reliability. These converters offer excellent EMC performance and meet IEC/EN61000-4, CISPR32/EN55032, IEC/UL/EN62368, EN60335, GB4943, EN61558 standards and they are widely used in areas of industrial, LED, street light control, electricity, security, telecommunications, smart home etc.

Selection Guide

Part Number	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range (V)	Efficiency at 230VAC (%) Typ.	Max. Capacitive Load (µF)
MPM100-23B05	90	5V/18A	4.5-5.5	85.5	10000
MPM100-23B12	102	12V/8.5A	10.2-13.8	87	6800
MPM100-23B15	15	15V/7.0A	13.5-18	87	3300
MPM100-23B24	108	24V/4.5A	21.6-28.8	89.5	2200
MPM100-23B36	100.8	36V/2.8A	32.4-39.6	89.5	1000
MPM100-23B48	110.4	48V/2.3A	43.2-52.8	90.5	470

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		--	--	3	A
	230V AC		--	--	1.5	
Inrush Current	115V AC	Cold start	--	35	--	A
	230V AC		--	65	--	
Leakage Current	277V AC		<0.75mA			
Hot Plug			Unavailable			

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Output Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	Full load range	5V		±2	--	
		12V/15V/24V/36V/48V	--	±1	--	
Line Regulation	Rated load		--	±0.5	--	%
Load Regulation	0% - 100% load	5V		±1		
Output Ripple & Noise*	20MHz bandwidth (peak-peak value)	5V	--	100	--	mV
		12V/15V	--	120	--	
		24V	--	150	--	
		36V/48V	--	200	--	
Temperature Coefficient			--	±0.03	--	%/°C
Minimum Load			0	--	--	%
Stand-by Power Consumption	230V AC	5V/12V/15V/24V	--	--	0.3	W
		36V/48V	--	--	0.5	
Hold-up Time	115V AC		--	10	--	ms
	230V AC		--	55	--	
Short Circuit Protection	Recovery time < 10s after the short circuit disappear.		Hiccup, continuous, self-recovery			
Over-current Protection			110%-160% I _o , self-recovery			
Over-voltage Protection	5V		≤7.5V DC (Output voltage turn off, hiccup or clamp)			
	12V		≤19.2V DC (Output voltage turn off, hiccup or clamp)			
	15V		≤24V DC (Output voltage turn off, hiccup or clamp)			
	24V		≤38.4V DC (Output voltage turn off, hiccup or clamp)			
	36V		≤57.6V DC (Output voltage turn off, hiccup or clamp)			
	48V		≤60V DC (Output voltage turn off, hiccup or clamp)			
Note: *The "Tip and barrel method" is used for ripple and noise test, output parallel 47µF electrolytic capacitor and 0.1µF ceramic capacitor, please refer to Enclosed Switching Power Supply Application Notes for specific information.						

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General Specifications							
Item		Operating Conditions		Min.	Typ.	Max.	Unit
Isolation	Input - \perp	Electric strength test for 1min., leakage current <10mA		2000	--	--	V AC
	Input - output			4000	--	--	
	Output - \perp			1250	--	--	
Insulation Resistance	Input - \perp	At 500V DC		100	--	--	MΩ
	Input - output			100	--	--	
	Output - \perp			100	--	--	
Operating Temperature				-30	--	+70	°C
Storage Temperature				-40	--	+85	
Storage Humidity		Non-condensing		10	--	95	%RH
Operating Humidity				20	--	95	
Switching Frequency				--	65	--	kHz
Power Derating	Operating temperature derating	5V output	+45°C to +70°C	16	--	--	%/ ^o C
		Other output	+50°C to +70°C	2	--	--	
	Input voltage derating		85VAC-100VAC		1		--
Safety Standard				Meet IEC/EN/UL62368/EN60335/GB4943 / EN61558			
Safety Certification				IEC/EN/UL62368/EN60335/GB4943/EN61558			
Safety Class				CLASS I			
MTBF		MIL-HDBK-217F@25°C		>30,000 h			

Mechanical Specifications		
Case Material	Metal (AL1100, SGCC)	
Dimensions	129mm × 97mm × 30mm	
Weight	325g (Typ.)	5V
	305g (Typ.)	12V/15V/24V/36V/48V
Cooling Method	Free air convection	

EMC Specifications

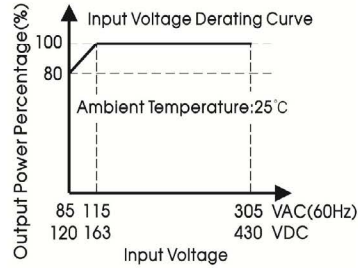
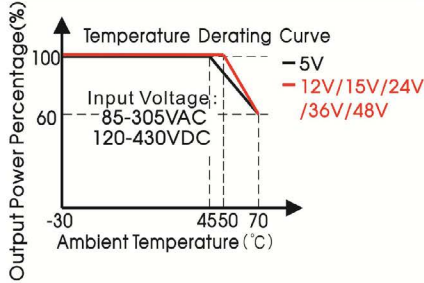
Emissions	CE	CISPR32/EN55032 CLASS B		
	RE	CISPR32/EN55032 CLASS B		
	Harmonic current	IEC/EN61000-3-2 CLASS A		
Immunity	ESD	IEC/EN 61000-4-2	Contact ±6KV/Air ±8KV	perf. Criteria A
	RS	IEC/EN 61000-4-3	10V/m	perf. Criteria A
	EFT	IEC/EN 61000-4-4	±2KV	perf. Criteria A
	Surge	IEC/EN 61000-4-5	line to line ±2KV/line to ground ±4KV	perf. Criteria A
	CS	IEC/EN61000-4-6	10 Vr.m.s	perf. Criteria A
	Voltage dip, short interruption and voltage variation	IEC/EN61000-4-11	0%, 70%	perf. Criteria B

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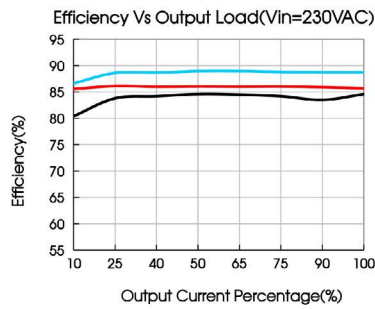
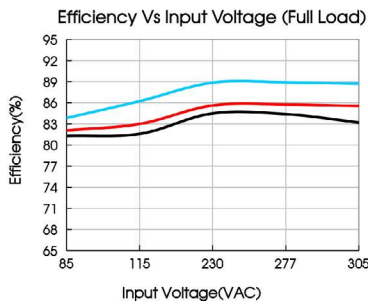
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Product Characteristic Curve

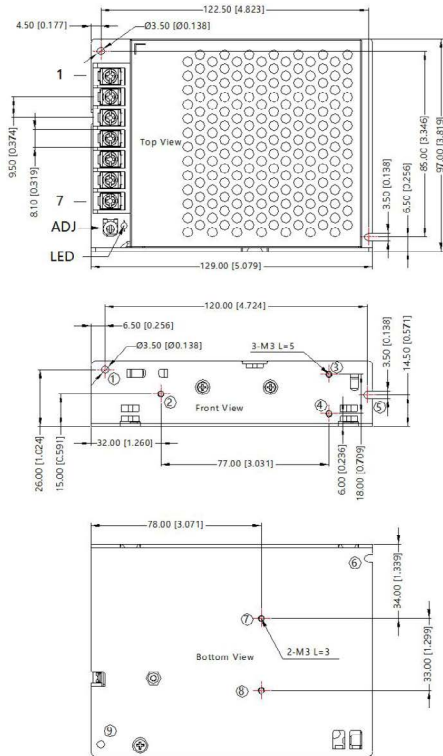


Note: 1. With an AC input voltage between 85-115VAC and a DC input between 120-163VDC the output power must be derated as per the temperature derating curves;

2. This product is suitable for applications using natural air cooling; for applications in closed environment please consult factory or one of our FAE.



Dimensions and Recommended Layout

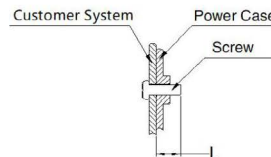


THIRD ANGLE PROJECTION

Pin-Out	
Pin	Function
1	AC(L)
2	AC(N)
3	⊕
4	-Vo
5	-Vo
6	+Vo
7	+Vo

①-⑨ any position must be connected to the earth (⊕)

Position	Screw Spec.	L(max)	Torque(max)
② - ④	M3	5mm	0.4N·m
⑦ - ⑧	M3	3mm	0.4N·m



Note:
 Unit: mm[inch]
 Wire range: 22-12AWG
 Connector tightening torque: M3.5, 0.8N·m
 General tolerances: ± 1.00[± 0.039]

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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 ambient temperature derating of 5°C/1000m is needed for operating altitude greater than 2000m;
3. All index testing methods in this datasheet are based on our company corporate standards;
4. 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;
5. We can provide product customization service, please contact our technicians directly for specific information;
6. Products are related to laws and regulations: see "Features" and "EMC";
7. The out case needs to be connected to the earth of system when the terminal equipment in operating;
8. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.
9. The power supply is considered a component which will be installed into a final equipment. All EMC tests should be confirmed with the final equipment. Please consult our FAE for EMC test operation instructions.

Part Number Table

Description	Part Number
Enclosed Power Supply, 100W, 5V DC, 18A	MPM100-23B05
Enclosed Power Supply, 100W, 12V DC, 8.5A	MPM100-23B12
Enclosed Power Supply, 100W, 15V DC, 7A	MPM100-23B15
Enclosed Power Supply, 100W, 24V DC, 4.5A	MPM100-23B24
Enclosed Power Supply, 100W, 36V DC, 2.8A	MPM100-23B36
Enclosed Power Supply, 100W, 48V DC, 2.3A	MPM100-23B48

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