

# AC-DC Enclosed Power Supplies 75W

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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 4000V AC
- Low ripple & noise
- Output short circuit, over-current, over-voltage protection
- IEC/EN/UL62368, EN60335, EN61558, GB4943 safety approved
- Over-voltage class III
- Operating altitude up to 5000m

MPM75-23Bxx 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, high reliability and double or reinforced insulation. These converters offer excellent EMC performance and meet IEC/EN61000-4, CISPR32/EN55032, IEC/UL/EN62368, EN60335, EN61558, GB4943 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)
MPM75-23B05	70	5V/14A	4.5-5.5	85	10000
MPM75-23B12	72	12V/6A	10.2-13.8	87	6000
MPM75-23B15	75	15V/5A	13.5-18	87	5000
MPM75-23B24	76.8	24V/3.2A	21.6-28.8	89	1500
MPM75-23B48	76.8	48V/1.6A	43.2-52.8	90.5	680

## 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		--	--	2	A
	230V AC		--	--	1	
Inrush Current	115V AC	Cold start	--	40	--	
	230V AC		--	75	--	
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/48V	--	±1	--	
Line Regulation	Rated load		--	±0.5	--	
Load Regulation	0%-100% load	5V	--	±1	--	
		12V/15V/24V/48V	--	±0.5	--	
Ripple & Noise*	20MHz bandwidth (peak-peak value)	5V	--	100	--	mV
		12V/15V	--	120	--	
		24V	--	150	--	
		48V	--	200	--	
Temperature Coefficient			--	±0.03	--	%/°C
Minimum Load			0	--	--	%
Stand-by Power Consumption			--	--	0.5	W
Hold-up Time	115V AC		8	--	--	ms
	230V AC		55	--	--	
Short Circuit Protection	Recovery time < 5s after the short circuit disappear.		Hiccup, continuous, self-recovery			
Over-current Protection	230V AC, Rated load	Normal temperature, High temperature	110%-200% Io, self-recovery			
		Low temperature	≥110% Io, self-recovery			
Over-voltage Protection	5V		≤6.3V DC (Clamp, self-recovery)			
	12V		≤16.2V DC (Hiccup, self-recovery)			
	15V		≤21.75V DC (Hiccup, self-recovery)			
	24V		≤33.6V DC (Hiccup, self-recovery)			
	48V		≤60V DC (Hiccup, self-recovery)			

Note: \*The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor, please refer to Enclosed Switching Power Supply Application Notes for specific information.

## General Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Isolation	Input - 	Electric strength test for 1min., leakage current <10mA	2000	--	--	V AC
	Input-output		4000	--	--	
	Output - 		1250	--	--	
Insulation Resistance	Input - 	At 500V DC	100	--	--	MΩ
	Input-output		100	--	--	
	Output - 		100	--	--	

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Item	Operating Conditions		Min.	Typ.	Max.	Unit	
Operating Temperature			-30	--	+70	°C	
Storage Temperature			-40	--	+85		
Operating Humidity	Non-condensing		20	--	90	%RH	
Storage Humidity			--	--	95		
Switching Frequency			--	65	--	kHz	
Power Derating	Operating temperature derating	5V output	+40°C to +70°C	1.3	--	--	%°C
		Other output	+50°C to +70°C	2	--	--	
	Input voltage derating	85V AC-100V AC		1.33	--	--	%V AC
		277V AC - 305V AC		0.71	--	--	
Safety Standard	5V/12V/15V/24V/48V		IEC/UL62368-1, GB4943.1 safety approved & EN62368-1, EN60335-1, EN61558-1 (Report) Design refer to IEC/EN/UL62368-1, EN60335-1, EN61558-1, GB4943.1				
Safety Certification			IEC/EN/UL62368/EN60335/EN61558/GB4943				
Safety Class			CLASS I				
MTBF	MIL-HDBK-217F@25°C		>300,000 h				

Mechanical Specifications	
Case Material	Metal (AL1100, SGCC)
Dimensions	99mm × 97mm × 30mm
Weight	220g (Typ.)
Cooling Method	Free air convection

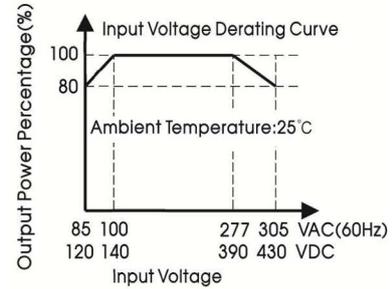
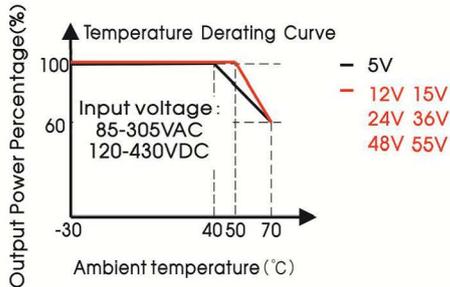
## EMC Specifications

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 dips, short interruptions and voltage variations immunity	IEC/EN61000-4-11	0%, 70% perf. Criteria B

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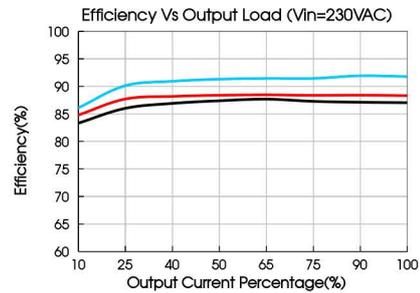
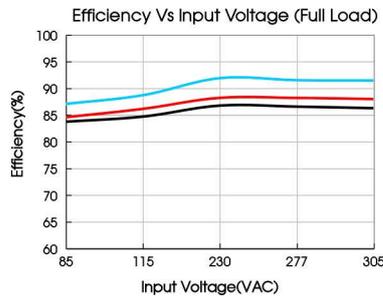


## Product Characteristic Curve

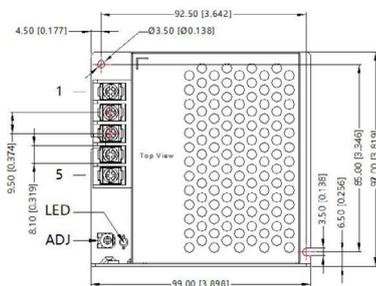


Note: 1. With an AC input voltage between 85-100VAC and a DC input between 120-140VDC the output power must be derated as per the temperature derating curves;

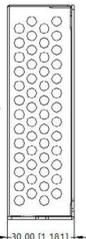
2. This product is suitable for applications using natural air cooling; for applications in closed environment please consult FAE.



## Dimensions and Recommended Layout

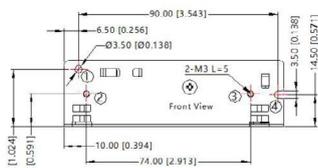


THIRD ANGLE PROJECTION

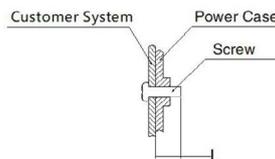
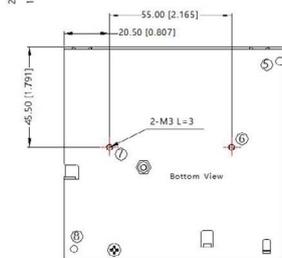


Pin-Out	
Pin	Function
1	AC(L)
2	AC(N)
3	⊕
4	-Vo
5	+Vo

①-⑧ any position must be connected to the earth(⊕)



Position	Screw Spec.	L(max)	Torque(max)
② - ③	M3	5mm	0.4N·m
⑥ - ⑦	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 room 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.

## Part Number Table

Description	Part Number
Enclosed Power Supply, 75W, 5V DC, 14A	MPM75-23B05
Enclosed Power Supply, 75W, 12V DC, 6A	MPM75-23B12
Enclosed Power Supply, 75W, 15V DC, 5A	MPM75-23B15
Enclosed Power Supply, 75W, 24V DC, 3.2A	MPM75-23B24
Enclosed Power Supply, 75W, 48V DC, 1.6A	MPM75-23B48

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