

# LMF500-23BxxUH Series

**FiDUS**  
power in motion...

## 500 Watts

- 85-305VAC / 120-430 VDC Input
- -40 to 85°C Fan-less operation
- 150% peak for 1 sec
- EN55032 Level B conducted & radiated
- 4000VAC isolation
- Meets EN60335-1 for home appliance



The LMF500-23BxxUH series of industrial enclosed AC-DC power supplies offer 500W of silent power accepting an extended input range from 85-350VAC or 120-430VDC input. The series conforms to the latest ITE/AV safety approval EN/IEC/UL 62368-1 and conforms to EN60335 / EN61558 for home appliance. Outputs are available from 5 to 55V complete with short circuit, over current and over voltage protections. They operate in extended temperatures of -40 to 85°C up to 5000m altitude

Dimensions:

9.13 x 3.19 x 1.22" (232 x 81 x 31mm)

## Models & Ratings

Model Number	Output power	Output voltage	Output voltage adjustable range	Output current	Efficiency <sup>(1)</sup>	Capacitive load 85-0°C / -40-0°C
LMF500-23B05UH	400W	5V	4.5-5.5V	80A	90%	12000uF/6000uF
LMF500-23B12UH	500.4W	12V	11.4-12.6V	41.7A	94%	10000uF/4000uF
LMF500-23B24UH	501.6W	24V	22.8-25.2V	20.9A	94.5%	8000uF/3000uF
LMF500-23B36UH	500.4W	36V	34.2-37.8V	13.9A	95%	6000uF/2000uF
LMF500-23B48UH	501.6W	48V	45.6-50.4V	10.45A	95%	4000uF/1000uF
LMF500-23B55UH	489.5W	55V	45-58V	8.9A	95%	2000uF/600uF

## Notes

1. Typical at 100% load 230VAC.

## Key specifications

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
AC Input range	85		305	VAC	See page 3 for de-rating curve
Operating temperature	-40		85	°C	See page 3 for de-rating curve
Efficiency	90		95	%	See table above
Dimensions	9.134 x 3.189 x 1.22" (232 x 81 x 31mm)				
EMC	EN55032 Level B Conducted and Radiated. EN61000-3 and EN61000-4, harmonics, flicker, Surge, EFT, ESD, conducted and radiated.				
Safety	EN62368-1, designed to meet IEC/UL62368-1, EN61558-1, EN60335-1				

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## Input

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Input voltage	85		305	VAC	See page 3 for de-rating curve, 120-430DC
Input frequency	47		63	Hz	
Input current			5	A	115VAC
			3		230VAC
Inrush current	30		60		60A at 230 VAC and 30A at 115VAC at 25°C
Power factor	0.95		0.95		>0.98At full load 115VAC >0.95 At full load 230VAC
Leakage current			0.75	mA	

## Output

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Output voltage	5		55	VDC	See Model & Ratings table
Set point accuracy		±1	±2	%	±2 at 5V
Line regulation		±0.3	±0.5	%	At rated load. ±0.5 at 5V
Load regulation		±0.5	±1	%	0-100% load 230VAC. ±1 at 5V
Ripple & Noise			200	mVpp	20MHz BW 47uF and 0.1uF cap. 200mV for 5/12V
Hold up time	10	12		mS	115VAC full load room temp
Overload / Short circuit protection	110			%	Trip & restart 1s.
Overvoltage protection	5.75		6.75	VDC	5V automatic recovery
	13.2		15.6		12V automatic recovery
	264		31.2		24V automatic recovery
	39.6		46.8		36V automatic recovery
	52.8		60		48V automatic recovery
	60		69		55V automatic recovery
Over temperature protection					Self recovery after temperature drops

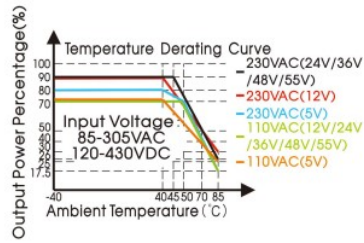
## General

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Isolation: Input to Output	4000			VAC	
Input to Ground	2000			VAC	
Output to Ground	1500			VAC	
Insulation resistance	50			MΩ	500VDC, 25°C and <95RH
Power density			14.07	W/In <sup>3</sup>	
MTBF	200			kHrs	MIL-HDBK-217F, rated load, 25°C
Weight		950		g	
Case material	Metal (AL6063, SGCC)				

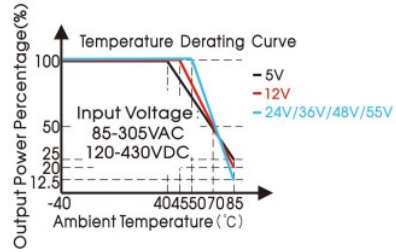
## Environmental

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating temperature	-40		85	°C	See curve above
Storage temperature	-40		85	°C	
Cooling					Base plate or convection cooled
Humidity	20		95	%RH	Non-condensing. 10-95% storage
Operating altitude			5000	M	5°C/1000m derating above 2000m

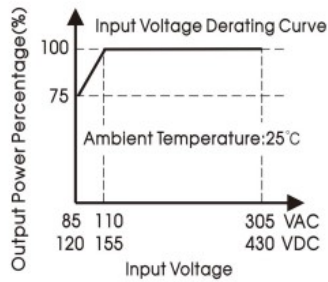
No aluminum plate for heat dissipation



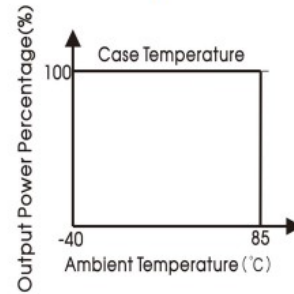
With aluminum plate for heat dissipation



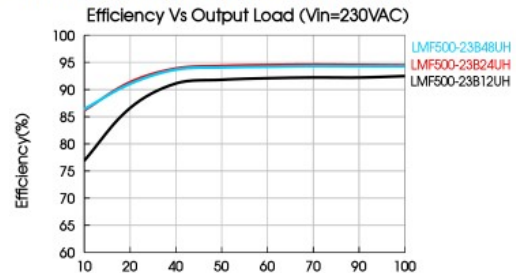
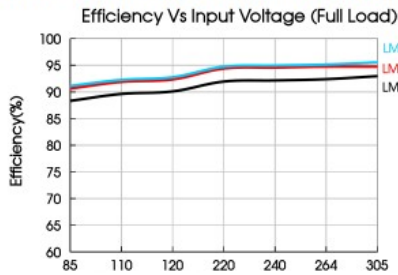
No aluminum plate for heat dissipation



With aluminum plate for heat dissipation



Note: This product is suitable for applications using natural air cooling, for applications in closed environment please consult Mornsun FAE.



## EMC: Emissions

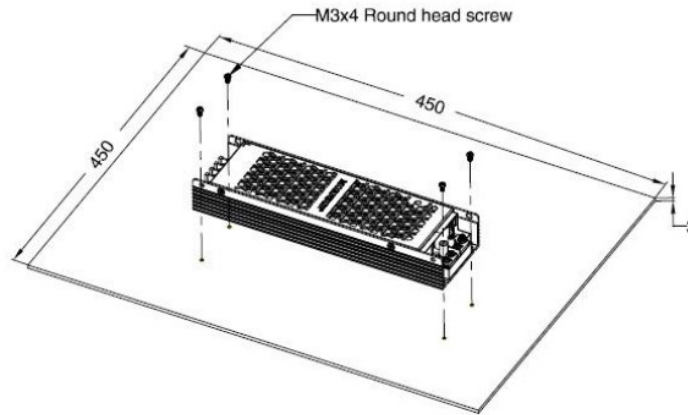
	Standard	Test level	Criteria	Notes & Conditions
Conducted	EN55032	B		
Radiated	EN55032	B		
Harmonic current	EN61000-3-2			Class A and D
Voltage flicker	EN61000-3-3			Compliant

## EMC: Immunity

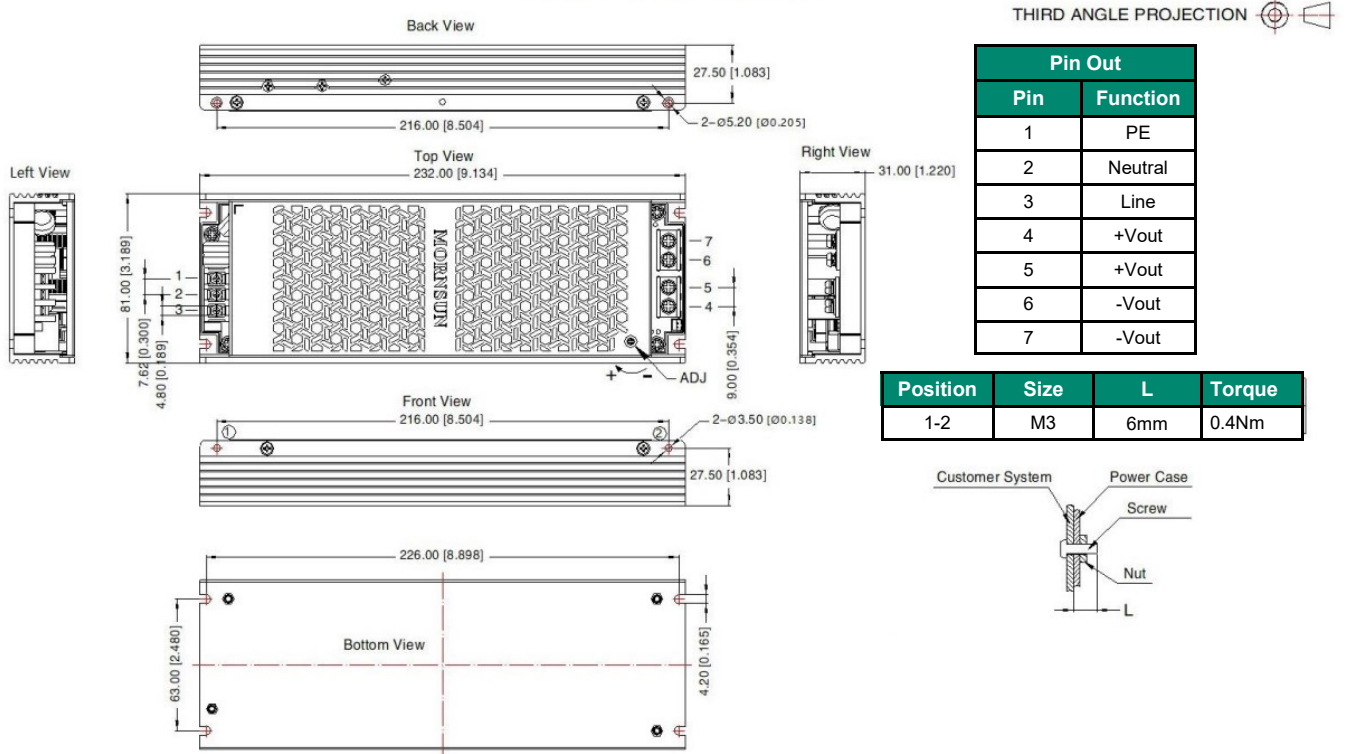
	Standard	Test level	Criteria	Notes & Conditions
ESD	EN61000-4-2	3	A	±8kV contact, ±15kV air
Radiated	EN61000-4-3	3	A	10V/m
EFT	EN61000-4-4	3	A	±2kV
Surges	EN61000-4-5		A	Line to line ±2kV, Common ±4kV
Conducted	EN61000-4-6	3	A	10Vrms
PFMF	EN61000-4-8	3	A	30A/m
Dips and interruptions	EN61000-4-11	0% 70%	B	
Intercom interference test	MS-SOP-DQC-007		B	
EFT (output port)	EN61000-2		A	±2KV
Surge (output port)	EN61000-2		A	Line to line ±0.5kV, Common ±1kV
RS (output port)	EN61000-2		A	10Vrms

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## Conduction plate



## Mechanical Details



## Notes

- Units in mm [inches]
- Wire range 22-14AWG
- Torque M3 max 0.5Nm
- General tolerance  $\pm 1[\pm 0.039]$