

LMF200-23BxxUH Series

FIDUS
power in motion...

200 Watts

- 85-305VAC / 120-430 VDC Input
- -40 to 70°C Fan-less operation
- 150% peak for 1 sec
- EN55032 Level B conducted & radiated
- 4000VAC isolation
- Meets EN60335-1 for home appliance



The LMF200-23BxxUH series of industrial enclosed AC-DC power supplies offer up to 200W 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 48V complete with short circuit, over current and over voltage protections. They operate in extended temperatures of -40 to 70°C up to 5000m altitude

Dimensions:

7.638 x 2.165 x 1.024" (194 x 55 x 26mm)

Models & Ratings

Model Number ⁽¹⁾	Output power	Output voltage	Output voltage adjustable range	Output current	Efficiency ⁽¹⁾	Capacitive load
LMF200-23B05UH	200W	5V	4.5-5.5V	40A	91%	10000uF
LMF200-23B12UH	200.4W	12V	11.4-12.6V	16.7A	93%	8000uF
LMF200-23B24UH	201.6W	24V	22.8-25.2V	8.4A	94%	5000uF
LMF200-23B36UH	201.6W	36V	34.2-37.8V	5.6A		3000uF
LMF200-23B48UH	201.6W	48V	45.6-50.4V	4.2A		2000uF

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		70	°C	See page 3 for de-rating curve
Efficiency	91		94	%	See table above
Dimensions	7.638 x 2.165 x 1.024" (194 x 55 x 26mm)				
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 UL62368-1, EN61558-1, EN60335-1				

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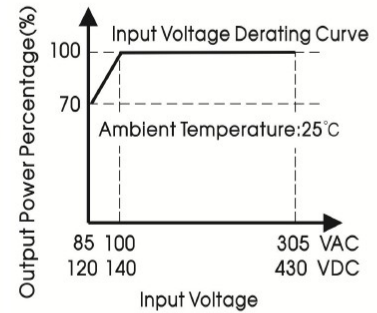
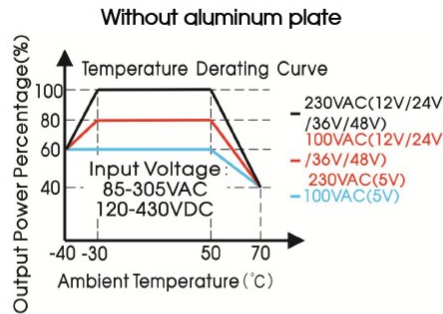
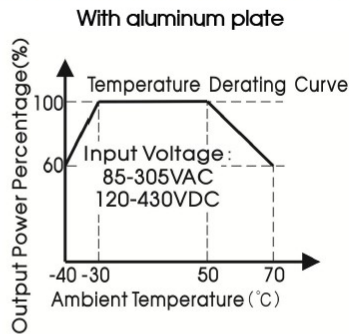
Input					
Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Input voltage	85		305	VAC	See page 3 for de-rating curve, 120-430DC
Input frequency	47		63	Hz	
Input current		2.1	2.5	A	115VAC
		1	1.2		230VAC
Inrush current	40		80		80A at 230 VAC and 40A at 115VAC at 25°C
Power factor		0.98			At full load 115VAC
		0.95			At full load 230VAC
Leakage current			0.5	mA	

Output					
Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Output voltage	5		48	VDC	See Model & Ratings table
Set point accuracy		±1	±2	%	±2 for 5V only
Line regulation		±0.3	±0.5	%	At rated load. ±0.5 for 5V only
Load regulation		±0.5	±1	%	0-100% load 230VAC. ±1 for 5V only
Ripple & Noise 5V 12/24/36V 48V			200	mVpp	20MHz BW 47uF and 0.1uF cap.
			240		
			300		
Hold up time	10			mS	115VAC full load room temp
Short circuit protection 5V 12-48V	200		300	%	Constant current for 200ms. Hiccup every 10sec
					Constant current for 1s. Hiccup every 10sec
Overload protection 0 to 85°C -40 to 0°C	105		200	%	1 sec delay. Self recovery after fault removed
	105				1 sec delay. Self recovery after fault removed
Overvoltage protection			6.3	VDC	5V Latch reset
			16		12V Latch reset
			35		24V Latch reset
			47		36V Latch reset
			60		48V Latch reset
Over temperature protection					Self recovery after temperature drops

General					
Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	91		94	%	See models and ratings table
Isolation: Input to Output	4000			VAC	
Input to Ground	2000			VAC	
Output to Ground	1250			VAC	
Insulation resistance	100			MΩ	500VDC, 25°C and <95RH
Power density			11.81	W/In ³	
MTBF	300			kHrs	MIL-HDBK-217F, rated load, 25°C
Weight		430		g	
Case material	Metal (AL6063, SGCC)				

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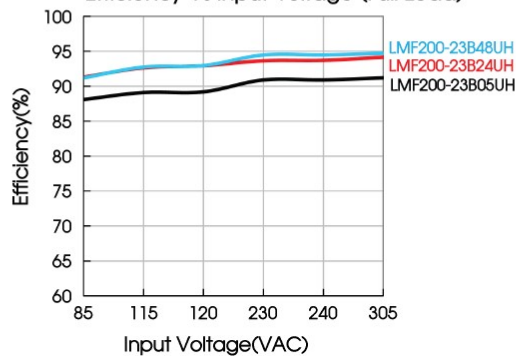
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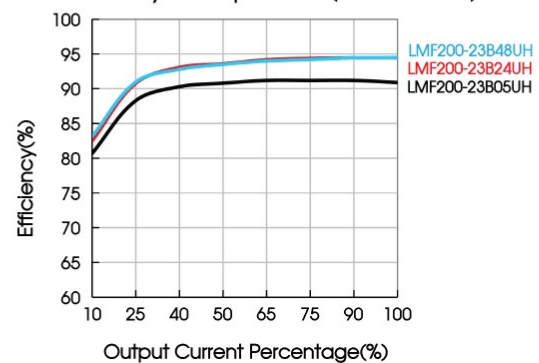
Note: 1. With an AC Input voltage between 85 -100VAC and a DC Input between 120-140VDC the output power must be derated as per the temperature derating curves;

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

Efficiency Vs Input Voltage (Full Load)



Efficiency Vs Output Load (Vin=230VAC)



Environmental

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating temperature	-40		70	°C	See curve above
Storage temperature	-40		85	°C	
Cooling					Base plate or convection cooled
Humidity	10		95	%RH	Non-condensing.
Operating altitude			5000	M	5°C/1000m derating above 2000m

EMC: Emissions

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

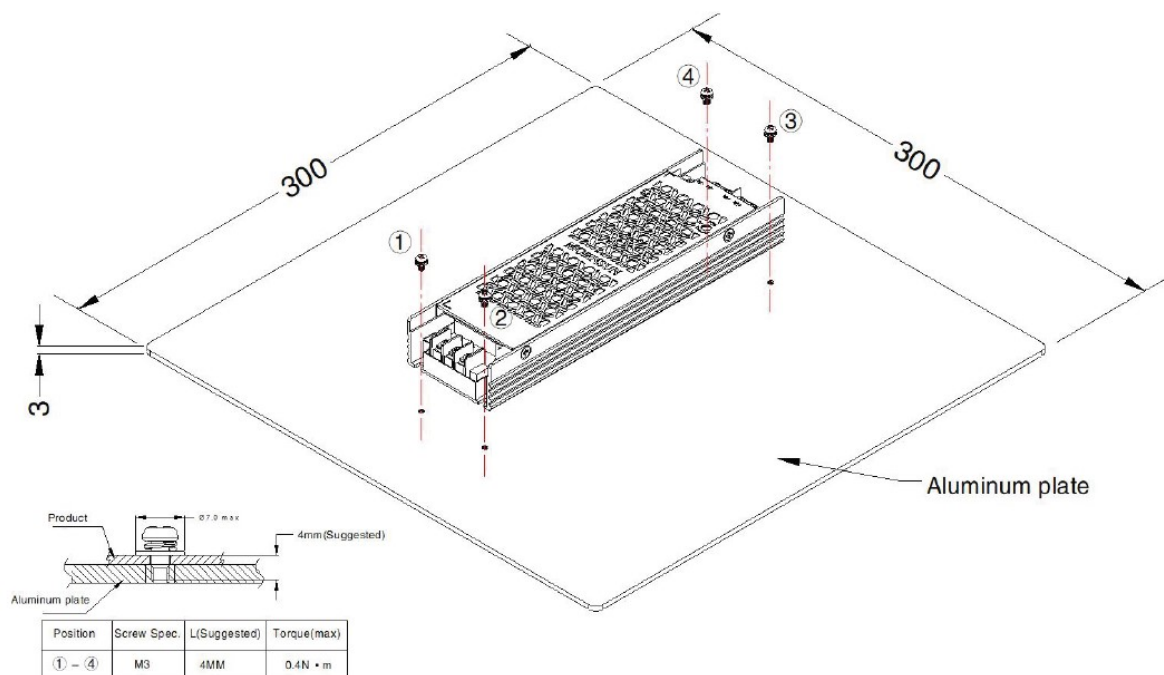
EMC: Immunity

	Standard	Test level	Criteria	Notes & Conditions
ESD	EN61000-4-2	3	A	±6kV contact, ±8kV 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
Dips and interruptions	EN61000-4-11	0% 70%	B	
Intercom interference test	MS-SOP-DQC-007		B	

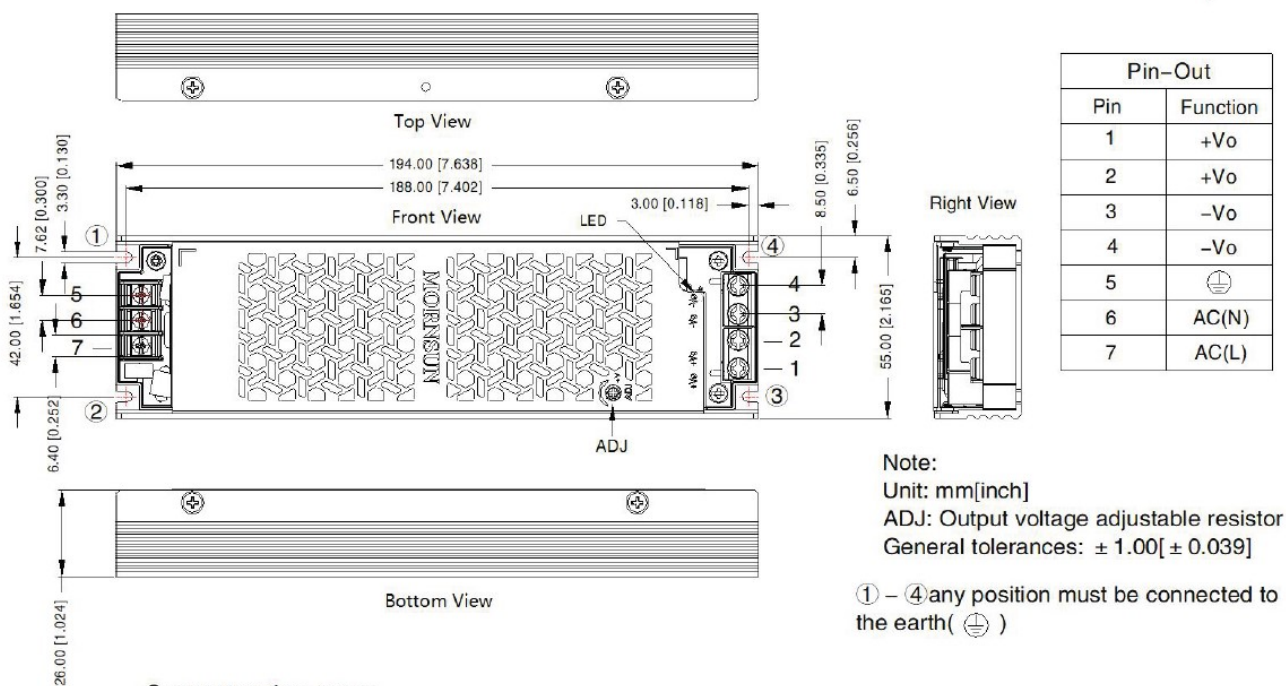
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Application note:



Mechanical Details



Connector wires range

Pro. No	Input connector	Output connector (single wire)	Output connector (double wires)	Output connector (double wires) Pic.
5V	22-14AWG	No suggested	14-12AWG	
12V		14-12AWG	18-12AWG	
24/36/48V		18-12AWG	20-12AWG	
Screw/torque	M3.0, Max 0.5N · m	M3.5, Max 0.8N · m		