LMF1000-23BxxUH SERIES

AC-DC

1000W

DIMENSIONS:

OPEN FRAME:
9.45 x 4.53 x 1.61"
(240 x 115 x 41mm)

EN55032 LEVEL B | **FANLESS DESIGN** | **85-305VAC**

150% 10mS PEAK | **4000VAC ISOLATION** | **-40 to 85°C**

Part numbers

LMF	1000	-	23B	12	UH
Series	Power (W)		Input voltage	Output voltage	Version
			85-305VAC	12 = 12VDC 24 = 24VDC 36 = 36VDC 48 = 48VDC	

Key specifications

Input range	Safety certification	Features	Efficiency	Environmental performance
85-305VAC	Designed to meet: UL/IEC/EN 62368-1 IEC/EN 60335-1 EN61558	Voltage adjust Remote Current limit Remote Voltage adjust Remote on-off DC OK	94-96%	Operational: -40 to 85°C

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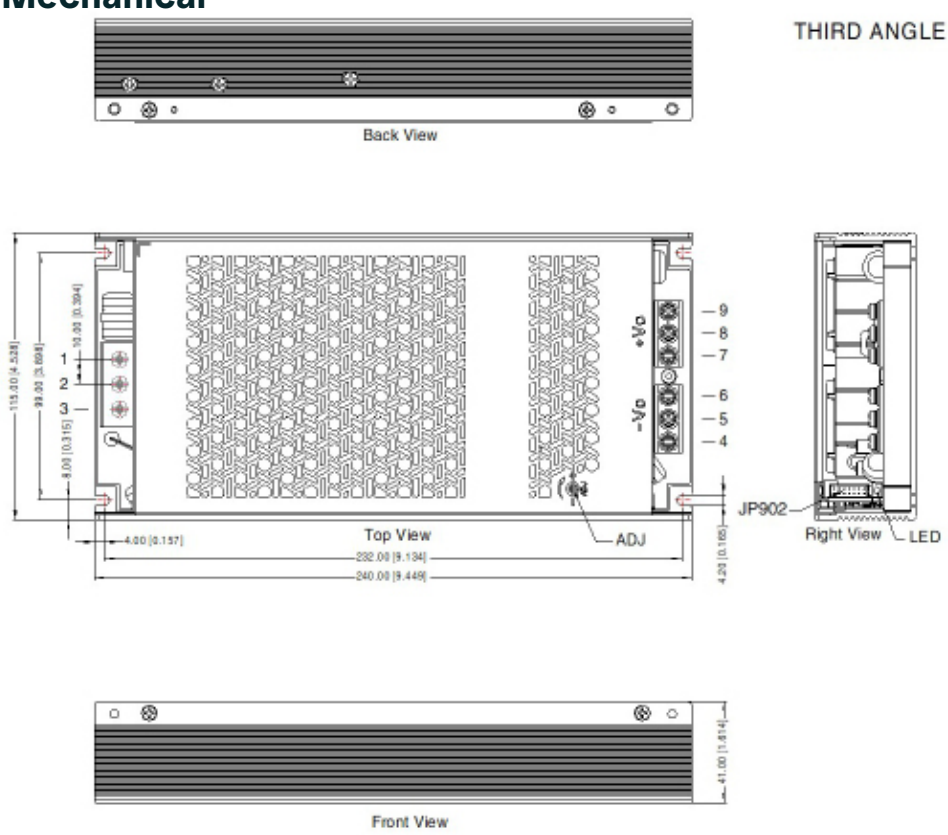
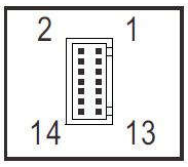
Mechanical



Pin	Function
1	PE
2	N
3	L
4	-Vo
5	-Vo
6	-Vo
7	+Vo
8	+Vo
9	+Vo

Pin	Function	Description
1,3	PV	Output voltage adjust pin
2	PV-DIS	If output voltage programming function is not active short between PV (pin 1) and PV-DIS (pin 2)
4,8,10,12	Signal GND	Negative output voltage signal
5	+12V Aux	Bias output to GND Aux (pin 6) 10.8-13.2V 0.5A max
6	GND Aux	Bias voltage ground. Isolated from main output
7	Remote on-off	Short (0-0.5V) to power on open circuit (2-5V) power off Max output voltage 5.5V
9	DC OK	Low level (-0.1-0.5V) when V out <80%±5% and high level (4.5-5.5V) when Vout >80% ±5%. Max sink current 10mA
11	PC	Constant current value adjust pin
13	Vccs	Positive output voltage signal
14	PC-DIS	If the current programming function is not used, short between Vccs (pin 13) and PC-DIS (pin 14)

JP902



Notes
1. All dimensions shown in mm [Inch] 2. Input: 14AWG Output: 12AWG 12V all 3 pairs 14-12AWG 24V all 3 pairs 3. Tightening torque 0.9Nm max 4. General tolerance ±1.00 [±0.039] 5. JP902 terminal mates with housing Kang Dao PHD-2x7Y

Weight	1625g

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Models & Ratings

Model Number(1)	Output voltage	Voltage adjust	Output Power		Output Current		Efficiency(1)	Max Cap Load
			Continuous	Overload 10ms	Continuous	Overload 10ms		
LMF1000-23B12UH	12V	12-14.4V	960W	1440W	80A	120A	94%	40,000uF
LMF1000-23B24UH	24V	24-28.8V	1008W	1512W	42A	63A	95%	20,000uF
LMF1000-23B36UH	36V	36-43.2V	1008W	1512W	28A	42A	95.5%	16,000uF
LMF1000-23B48UH	48V	48-57.6V	1008W	1512W	21A	31.5A	96%	12,000uF

1. At 100% load, 230VAC.

2. Unless stated, figures are at 25°C <75RH at nom 230VAC input and full nom load.

Input

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Input voltage	85		305	VAC	180-430VDC also accepted. See page 5 for derating curve
Input frequency	47		63	Hz	
Power factor	0.95		0.99		EN61000-3-2 class A. 0.95 at 230VAC and 0.99 at 115VAC
Input current (rms)		10.1/5.3		A	115VAC/230VAC
Inrush current		15/35		A	115/230VAC cold start at 25°C
No load input power			12	W	
Leakage current			<0.75	mA	240VAC

Output

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Output voltage	12		57.6	VDC	See Models & Ratings table
Output voltage adjust					See Models & Ratings table
Set point accuracy		±1		%	
Line regulation		±0.5		%	Rated load
Load regulation		±0.5		%	0-100% load
Minimum load	0			%	
Ripple & noise			120	mV	(120mV 12V, 200mV 24/36V, 240mV for 48V) All models measured with 0.1uF ceramic and 47uF low ESR electrolytic capacitor. 20 MHz bandwidth. At rated line and full load.
			200	mV	
			240	mV	
Hold up time		15		ms	25°C full load 115VAC

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Features

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Output voltage adjust	50		120	%	Rated output voltage
Output current limit	20		100	%	Rated output current
Remote control	0		0.5	VDC	
	2		5	VDC	
DC OK signal	4.5		5.5	VAC	Power on TTL
	-0.1		0.5	VAC	Power off TTL
Aux Power (12V / 5A)	10		10	%	Voltage accuracy
	150		150	mV	Ripple

Protections

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Overload	110			%	Trip and restart. Automatic recovery in 3 sec
Short circuit					Constant current limit
Overvoltage	12V model: 14.5-16.5 24V model: 29 - 33 36V model: 43.5 - 49 48V model: 59 - 66			VDC	Latch off reset
Over temperature	55			°C	Release at 50°C

Safety

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Safety standards	EN60335-1, IEC61558-1, UL/IEC/EN62368-1				Designed to meet
Isolation: Input to output	4000			VAC	Leakage current <5mA
Isolation: Input to ground	2000			VAC	Leakage current <10mA
Isolation: Output to ground	1750			VAC	Leakage current <5mA
Insulation resistance	100			MΩ	Rated load 100MΩ insulation 25°C ±5, RH <95% at 500VDC

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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 80MHz-2.7GHz sine wave 80% AM 1kHz
EFT	EN61000-4-4	3	A	±2kV
Surges	EN61000-4-5	Installation class 3	A	±2kV Live-Neutral, ±4kV Live/Neutral—Earth
Conducted	EN61000-4-6	3	A	10Vrms
PFMF	EN61000-4-8	4	A	30A/m
Voltage dips & interruptions	EN61000-4-11	3	B	10Vrms

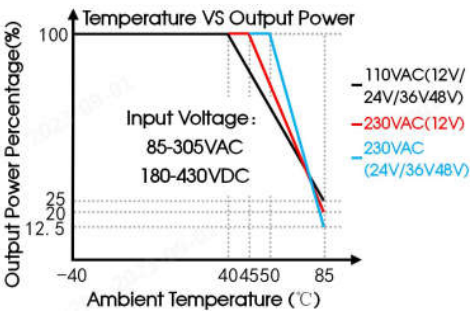
EMC: Emissions

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

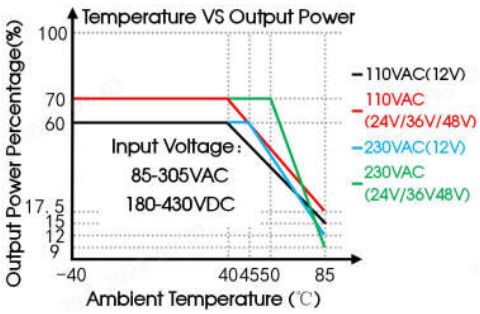
Environmental

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Operating temperature	-40		85	°C	See derating curve
Storage temperature	-40		85	°C	
Cooling					Free air / 23.5CFM or plate
Temperature coefficient		0.03		%/°C	
Humidity	20		90	% RH	Non condensing. Storage 10-95%
MBTF	>300			kHrs	As per MIL-HDBK-217F@25°C

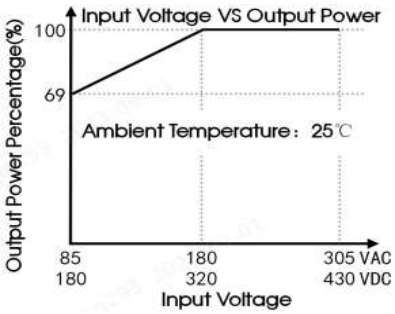
With aluminium 450 x 450 x 3mm plate or 23.5CFM



Convection and no heatsink



AC input derating



12th Dec 2023