

FEATURES

- Universal 85 - 305V AC or 120 - 430VDC Input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating temperature range -30°C to +70°C
- Built-in active PFC function
- High I/O isolation test voltage up to 4000VAC
- High efficiency, high reliability
- Output short circuit, over-current, over-voltage, over-temperature protection (Built-in constant current limiting circuit)
- Remote ON-OFF control
- Designed to meet IEC/EN/UL62368, EN60335, GB4943
- EN62368 safety approval
- Over-voltage class III (designed to meet EN61558)
- Emissions meets CISPR32/EN55032 CLASS B



LMF75-23Bxx series is one of Mornsun's enclosed AC-DC switching power supply. It features universal AC input and at the same time accepts DC input voltage, cost-effective, built-in active PFC function, high efficiency and high reliability. These converters offer excellent EMC performance and meet IEC/EN61000-4, CISPR32/EN55032, IEC62368, UL62368, EN62368, EN60335, GB4943 standards and they are widely used in areas of industrial, LED, street light control, electricity, security, telecommunications, smart home etc.

Selection Guide

Certification	Part No.*	Output Power(W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range ADJ(V)	Efficiency at 230VAC (%) Typ.	Max. Capacitive Load (µF)
CE	LMF75-23B05	75	5V/15A	4.75-5.5	81	10000
	LMF75-23B12	75.6	12V/6.3A	11.4-13.2	84	6000
	LMF75-23B15	75	15V/5A	14.3-16.5	85	5000
	LMF75-23B24	76.8	24V/3.2A	22.8-26.4	86	1500
	LMF75-23B48	76.8	48V/1.6A	45.6-52.8	88	680

Note: \*Use suffix "C" for terminal with protective cover and suffix "Q" for conformal coating.

Input Specifications





Item	Operating Conditions		Min.	Typ.	Max.	Unit
Input Voltage Range	AC input		85	--	305	VAC
	DC input		120	--	430	VDC
Input Voltage Frequency			47	--	63	Hz
Input Current	115VAC		--	--	1.0	A
	230VAC		--	--	0.6	
Inrush Current	115VAC		Cold start	--	20	--
	230VAC			--	35	
Power Factor	115VAC		At full load	0.98	--	--
	230VAC			0.93	--	
Leakage Current	277VAC/60Hz		2mA			
Hot Plug			Unavailable			

Output Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	Full load range		--	±2.0	--	%
Line Regulation	Rated load		--	±0.5	--	
Load Regulation	0% - 100% load	5V	--	±1.0	--	
Output Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	12V/15V/24V/48V	--	±0.5	--	mV
		5V/12V/15V/24V	--	--	120	
		48V	--	--	200	
Temperature Coefficient			--	±0.03	--	%/°C
Minimum Load			0	--	--	%
Hold-up Time	230VAC		--	16	--	ms
Start-up Delay Time	Full load range		--	--	3	s
Short Circuit Protection	Recovery time <3s after the short circuit disappear.		Constant current, continuous, self-recover			
Over-current Protection			≥105%Io, self-recovery			
Over-voltage Protection	5V		≤ 7.0V (Output voltage clamp or hiccup)			
	12V		≤20V (Output voltage clamp or hiccup)			
	15V		≤ 25V (Output voltage clamp or hiccup)			
	24V		≤ 32.4V (Output voltage clamp or hiccup)			
	48V		≤ 60V (Output voltage clamp or hiccup)			
Over-temperature Protection**	Over-temperature Protection Activation		--	--	85	°C
	Over-temperature Protection Deactivation		50	--	--	
Remote Control	0-0.8VDC Power ON		0	--	0.8	VDC
	4-10VDC Power OFF		4	--	10	

Note: \*The "Tip and barrel method" is used for ripple and noise test, ( 47uF electrolytic capacitor and 104 ceramic capacitor) please refer to enclosure and guide rail Converter Application Notes for specific information.  
\*\*Over-temperature Protection needs to be tested under rated full load conditions.

General Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit	
Isolation	Input - 	Electric Strength Test for 1min., leakage current <10mA	2000	--	--	VAC	
	Input-output	Electric Strength Test for 1min., leakage current <10mA	4000	--	--		
	output - 	Electric Strength Test for 1min., leakage current <5mA	500	--	--		
Insulation Resistance	Input - 	Environment Temperature: 25±5°C,	100	--	--	MΩ	
	Input - output	Relative Humidity: < 95%RH, non-condensing	100	--	--		
	output - 	Testing Voltage: 500VDC	100	--	--		
Operating Temperature	5V		-30	--	+60	°C	
	others		-30	--	+70		
Storage Temperature			-40	--	+85		
Storage Humidity	Non-condensing		--	--	95	%RH	
Switching Frequency			--	65	--	kHz	
Power Derating	Operating Temperature Derating	-30°C to -20°C	85V-230VAC	4.0	--	--	%/°C
		+40°C to +60°C	5V	2.0	--	--	
		+50°C to +70°C	others	2.0	--	--	
	Input Voltage Derating	85VAC-100VAC		1.33	--	--	%/VAC
		100VAC-305VAC		0	--	--	
Altitude Derating	2000m-5000m		5	--	--	%/Km	
Safety Standard			Meet UL/EN/IEC62368, EN60335, GB4943				
Safety Certification			EN62368				
Safety Class			CLASS I				
MTBF	MIL-HDBK-217F@25°C		>300,000 h				

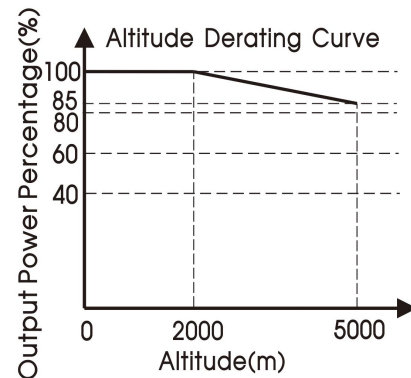
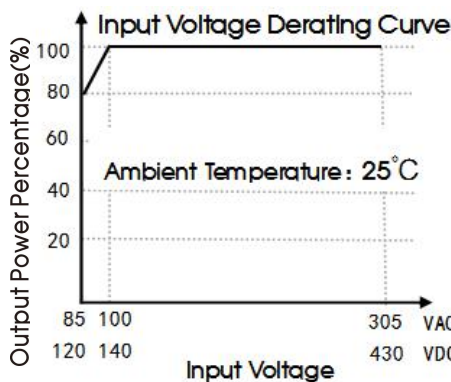
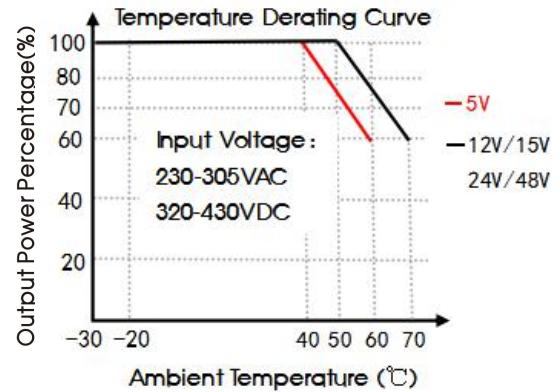
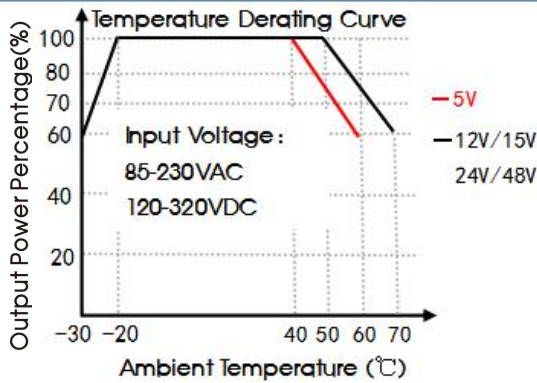
**Mechanical Specifications**

Case Material	Metal (AL1100, SGCC)
Dimensions	159.00 x 97.00 x 30.00mm
Weight	380g (Typ.)
Cooling Method	Free air convection

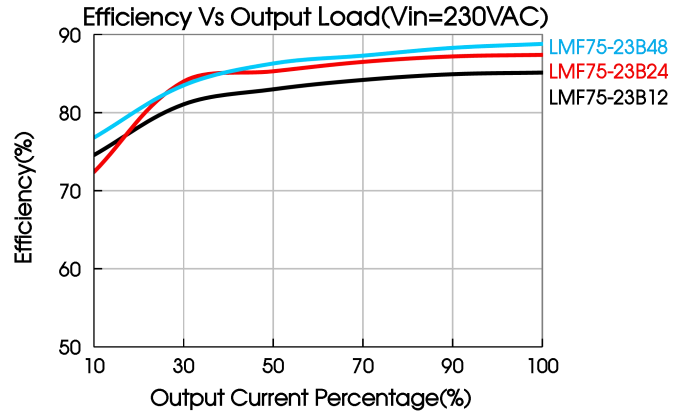
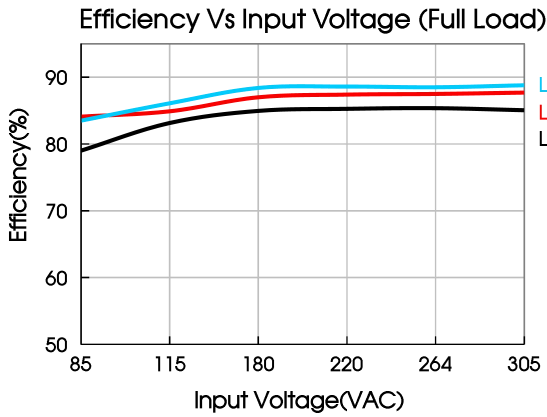
**Electromagnetic Compatibility (EMC)**

Emissions	CE	CISPR32/EN55032	CLASS B	
	RE	CISPR32/EN55032	CLASS B	
	Harmonic Current	IEC/EN61000-3-2	CLASS A	
	Flicker	IEC/EN61000-3-3		
Immunity	ESD	IEC/EN 61000-4-2	Contact ±6KV /Air ±8KV	Perf. Criteria B
	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
	DIP	IEC/EN61000-4-11	0%, 70%	perf. Criteria B

**Product Characteristic Curve**

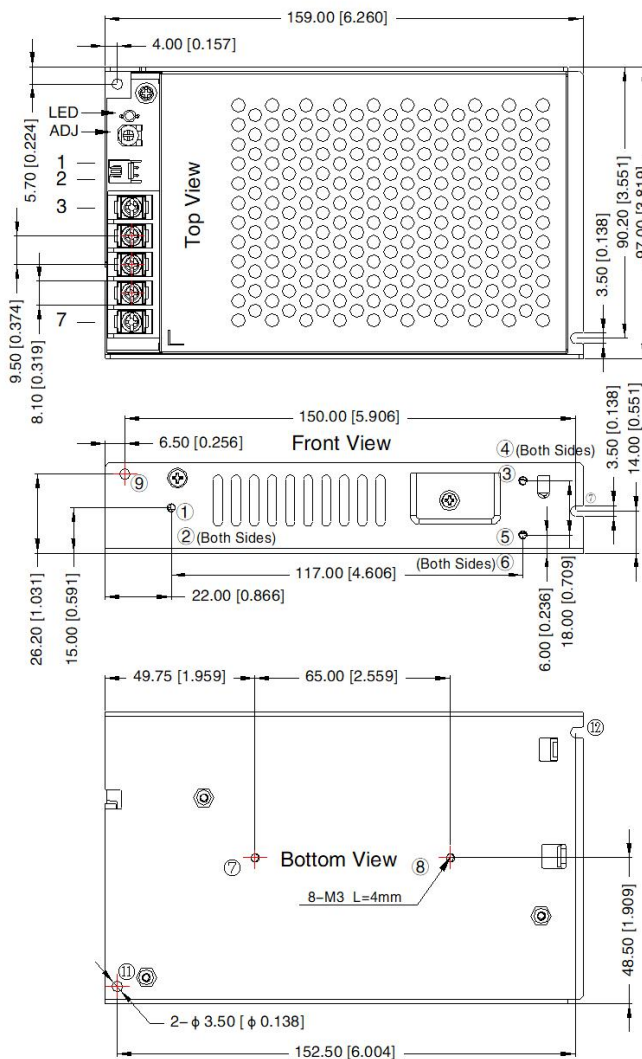


Note: ①With an input voltage between 85-100VAC and a DC input between 120-140VDC the output power must be derated as per the temperature derating curves;  
②This product is suitable for applications using natural air cooling; for applications in closed environment please consult Mornsun FAE.

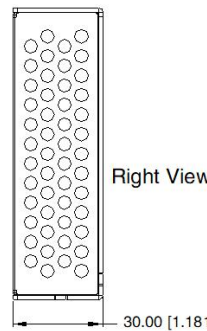


Dimensions and Recommended Layout

LMF75-23Bxx, LMF75-23Bxx-Q Series



THIRD ANGLE PROJECTION

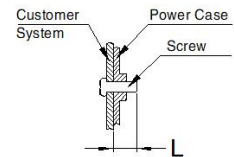


Pin-Out	
Pin	Mark
1	RC+
2	RC-
3	+Vo
4	-Vo
5	⊥
6	AC(N)
7	AC(L)

CN1: JST S2B-XH-A or equivalent			
Pin	Mark	Connector	Terminal
1	RC+	JST: XHP-2 or equivalent	JST: SXH-001T/SXH-002T or equivalent
2	RC-		

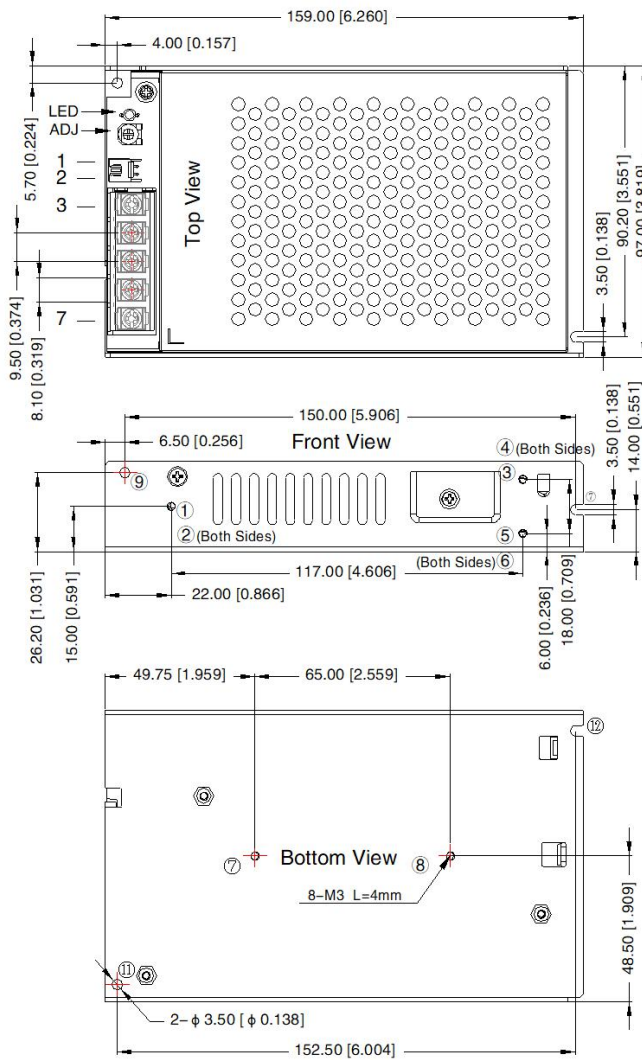
① - ⑩ any position must be connected to the earth (⊥)

Position	Screw Spec.	L(max)	Torque(max)
① - ⑧	M3	4mm	0.4N · m

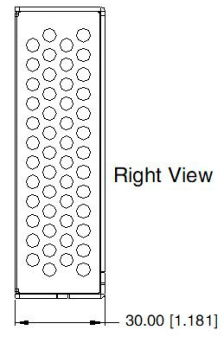


Note:  
Unit: mm[inch]  
ADJ: Output adjustable resistor  
Wire range: 22-12AWG  
Tightening torque: M3.5, 0.8N · m(Max)  
General tolerances: ± 1.00[± 0.039]

LMF75-23Bxx-C Series



THIRD ANGLE PROJECTION

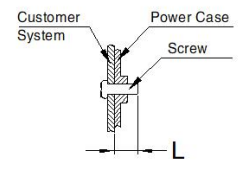


Pin-Out	
Pin	Mark
1	RC+
2	RC-
3	+Vo
4	-Vo
5	⊥
6	AC(N)
7	AC(L)

CN1: JST S2B-XH-A or equivalent			
Pin	Mark	Connector	Terminal
1	RC+	JST: XHP-2 or equivalent	JST: SXH-001T/SXH-002T or equivalent
2	RC-		

① - ⑫ any position must be connected to the earth (⊥)

Position	Screw Spec.	L(max)	Torque(max)
① - ⑧	M3	4mm	0.4N · m



**Note:**  
 Unit: mm[inch]  
 ADJ: Output adjustable resistor  
 Wire range: 22-12AWG  
 Tightening torque: M3.5, 0.8N · m(Max)  
 General tolerances: ± 1.00 [± 0.039]

**Note:**

- For additional information on Product Packaging please refer to [www.mornsun-power.com](http://www.mornsun-power.com). Packaging bag number: 58220111;
- 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;
- All index testing methods in this datasheet are based on our company corporate standards;
- 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;
- We can provide product customization service, please contact our technicians directly for specific information;
- Products are related to laws and regulations: see "Features" and "EMC";
- The out case needs to be connected to PE of system when the terminal equipment in operating;
- Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units;
- The power supply is considered a component which will be installed into a terminal equipment. All EMC tests should be confirmed with the final equipment. Please consult our FAE for EMC test operation instructions.

Mornsun Guangzhou Science & Technology Co., Ltd.

Address: No. 5, Kehui St. 1, Kehui Development Center, Science Ave., Guangzhou Science City, Huangpu District, Guangzhou, P. R. China  
 Tel: 86-20-38601850 Fax: 86-20-38601272 E-mail: info@mornsun.cn www.mornsun-power.com