



FEATURES

- 165 - 264 VAC and 200 - 373VDC input voltage range
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -30℃~ +70℃
- Low standby power consumption, high efficiency
- High I/O isolation test voltage up to 4000VAC
- Low ripple & noise
- Output short circuit, over-current, over-voltage protection
- Safety according to IEC/EN/UL62368/EN60335/GB4943 (CE/CCC pending)
- Withstand 300VAC surge input for 5s
- Over-voltage class III (designed to meet EN61558)
- Operating up to 5000m altitude

LM100-22Bxx series is one of Mornsun's enclosed AC-DC switching power supply. It features AC input and at the same time accepts DC input voltage, cost-effective, low no load power consumption, high efficiency and high reliability. These converters offer excellent EMC performance and meet IEC/EN61000-4, CISPR32/EN55032/IEC/UL/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(V)	Efficiency at 230VAC (%) Typ.	Max. Capacitive Load (μF)
CE/CCC (Pending)	LM100-22B05	90	5V/18A	4.5-5.5	86	10000
	LM100-22B12	102	12V/8.5A	10.2-13.8	87.5	6800
	LM100-22B15	105	15V/7.0A	13.5-18	87.5	3300
	LM100-22B24	108	24V/4.5A	21.6-28.8	90	2200
	LM100-22B36	100.8	36V/2.8A	32.4-39.6	90	1000
	LM100-22B48	110.4	48V/2.3A	43.2-52.8	91	470

Input Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Input Voltage Range	AC input	165	--	264	VAC
	DC input	200	--	373	VDC
Input Voltage Frequency		47	--	63	Hz
Input Current	230VAC	--	--	2.5	A
Inrush Current	230VAC Cold start	--	65	--	
Hot Plug		Unavailable			

Output Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Output Voltage Accuracy	Full load range	5V	--	±2	--
		12V/15V/24V/36V/48V	--	±1	--
Line Regulation	Rated load	--	±0.5	--	%
Load Regulation	0% - 100% load	5V	--	±1	
		12V/15V/24V/36V/48V	--	±0.5	--

Output Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	5V	--	100	--	mV
		12V/15V	--	120	--	
		24V	--	150	--	
		36V/48V	--	200	--	
Temperature Coefficient			--	±0.03	--	%/°C
Minimum Load			0	--	--	%
Stand-by Power Consumption	230VAC	5V/12V/15V/24V	--	--	0.3	W
		36V/48V	--	--	0.5	
Hold-up Time	230VAC		15	25	--	ms
Short Circuit Protection	Recovery time <5s after the short circuit disappear.		Hiccup, continuous, self-recovery			
Over-current Protection			110%-200% Io, self-recovery			
Over-voltage Protection	5V	≤ 7.5VDC (Output voltage turn off re-power on for recovery)				
	12V	≤ 19.2VDC (Output voltage clamp)				
	15V	≤ 24VDC (Output voltage clamp)				
	24V	≤ 38.4VDC (Output voltage clamp)				
	36V	≤ 57.6VDC (Output voltage clamp)				
	48V	≤ 60VDC (Output voltage turn off re-power on for recovery)				
Note: *The "Tip and barrel method" is used for ripple and noise test, please refer to AC-DC Converter Application Notes for specific information.						

General Specifications

Item	Operating Conditions			Min.	Typ.	Max.	Unit
Isolation Test	Input - \perp	Electric strength test for 1min., leakage current <10mA		2000	--	--	VAC
	Input-output			4000	--	--	
	output - \perp			1250	--	--	
Insulation Resistance	Input - \perp	At 500VDC		100	--	--	MΩ
	Input - output			100	--	--	
	output - \perp			100	--	--	
Operating Temperature				-30	--	+70	°C
Storage Temperature				-40	--	+85	
Storage Humidity	Non-condensing			10	--	95	%RH
Switching Frequency				--	65	--	kHz
Power Derating	Operating temperature derating	5V output	+45°C~+70°C	1.6	--	--	% / °C
		Other output	+50°C~+70°C	2.0	--	--	
Safety Standard				Meet IEC/EN/UL62368/EN60335/GB4943			
Safety Class				CLASS I			
MTBF	MIL-HDBK-217F@25°C			>30,000 h			

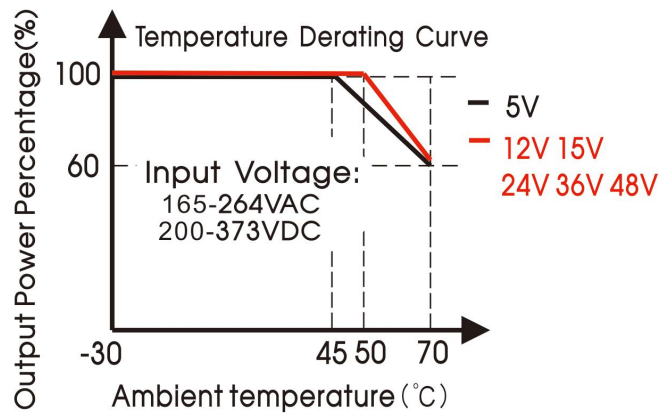
Mechanical Specifications

Case Material	Metal (AL1100, SGCC)		
Dimensions	129.0 x 97.0 x 30.0 mm		
Weight	345g (Typ.)	5V	
	325g (Typ.)	12V/15V/24V/36V/48V	
Cooling Method	Free air convection		

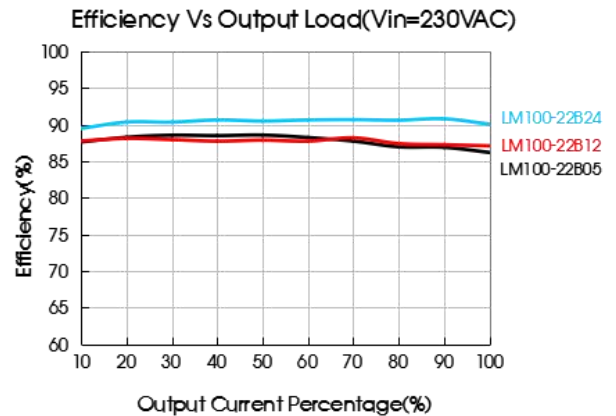
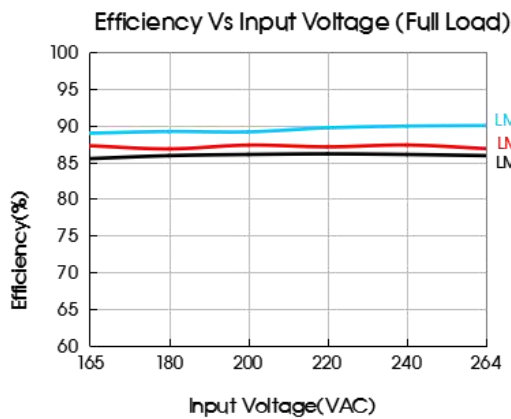
Electromagnetic Compatibility (EMC)

Emissions	CE	CISPR32/EN55032	CLASS B	
	RE	CISPR32/EN55032	CLASS B	
	Harmonic	EN61000-3-2	CLASS A	
Immunity	ESD	IEC/EN 61000-4-2	Contact $\pm 6KV$ /Air $\pm 8KV$	Perf. Criteria A
	RS	IEC/EN 61000-4-3	10V/m	perf. Criteria A
	EFT	IEC/EN 61000-4-4	$\pm 2KV$	perf. Criteria A
	Surge	IEC/EN 61000-4-5	line to line $\pm 2KV$ /line to ground $\pm 4KV$	perf. Criteria A
	CS	IEC/EN61000-4-6	10 Vr.m.s	perf. Criteria A
	Voltage dips, short interruptions and voltage variations	IEC/EN61000-4-11	0%,70%	perf. Criteria B

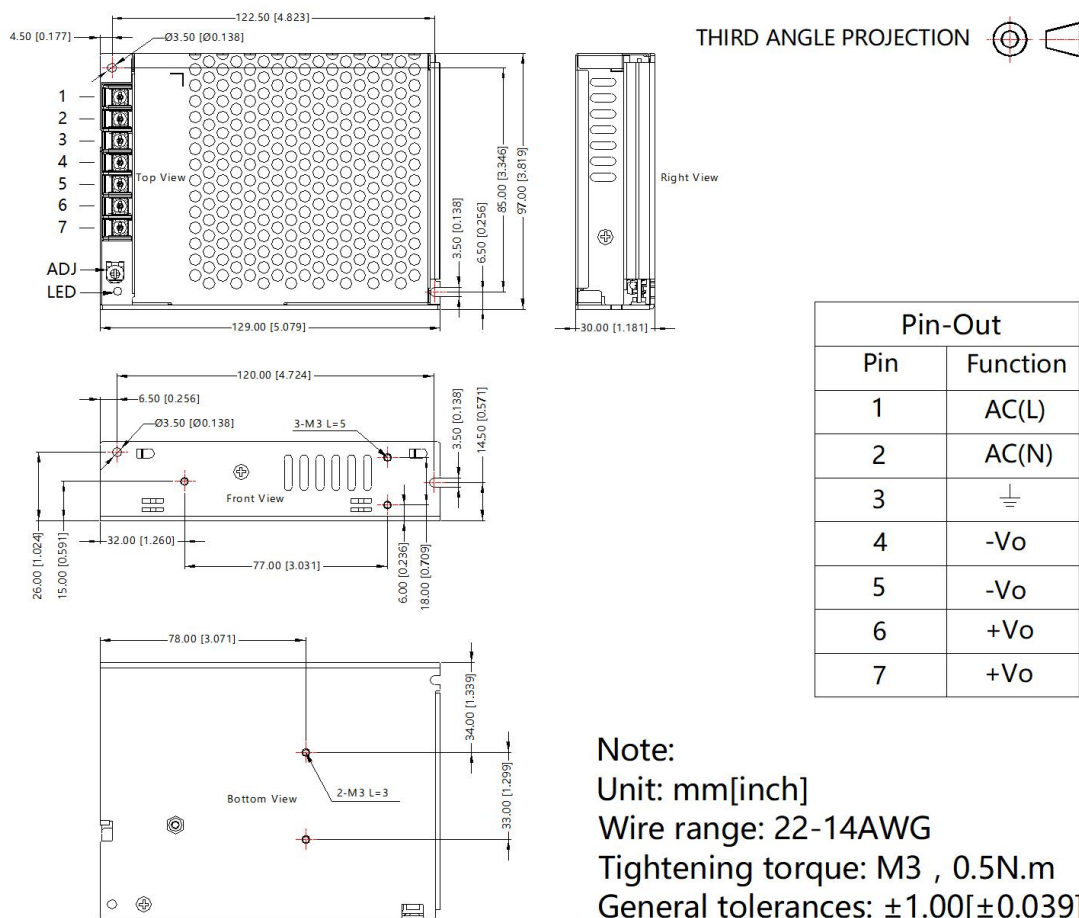
Product Characteristic Curve



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



Dimensions and Recommended Layout



Note:

- For additional information on Product Packaging please refer to www.mornsun-power.com. Packaging bag number: 58220065;
- 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;
- The ambient temperature derating of 5°C/1000m is needed for operating altitude greater than 2000m;
- 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";
- 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 final equipment. All EMC tests should be confirmed with the final equipment. Please consult our FAE for EMC test operation instructions.

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