



FEATURES

- Selectable AC input range: 90 ~ 132VAC/180 ~ 264VAC
- DC input range: 240 ~ 373VDC(Switch in position of 230)
- Ultra low standby power consumption: < 0.75W @230VAC
- Operating ambient temperature range: - 30℃ ~ +70℃
- Compact size with 1U low profile
- LED indicator for power on
- Output short circuit, over-current, over-voltage, over-temperature protection
- Safety according to IEC/EN/UL62368, EN60335, GB4943
- Withstand 300VAC surge input for 5s (Switch in position of 230)
- Operating altitude up to 5000m

LM200-10Bxx series is one of Mornsun's enclosed AC-DC switching power supply. It features selectable AC input and at the same time accepts DC input voltage, cost-effective, low no load power consumption, high efficiency and high reliability. These power supply 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, CQC	LM200-10B05	200	5V/40A	4.5 - 5.5	87	10000
	LM200-10B12	204	12V/17A	10.2 - 13.8	87.5	4000
	LM200-10B15	210	15V/14A	13.5 - 18	88	3300
	LM200-10B24	211.2	24V/8.8A	21.6 - 28.8	88.5	1500
	LM200-10B36	212.4	36V/5.9A	32.4 - 39.6	89	1500
	LM200-10B48	211.2	48V/4.4A	43.2 - 52.8	89.5	470

Note: 1.*Use suffix "Q" for conformal coating, which are CE/CQC pending.

Input Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Input Voltage Range	AC input	Low voltage (Switch in position of 115)	90	--	132	VAC
		High voltage (Switch in position of 230)	180	--	264	
	DC input	Switch in position of 230	240	--	373	VDC
Input Voltage Frequency			47	--	63	Hz
Input Current	115VAC		--	--	5	A
	230VAC		--	--	3	
Inrush Current	115VAC		--	60	80	
	230VAC		Cold start	--	60	
Hot Plug			Unavailable			





Output Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	Full load range	5V	--	±3	--	%
		12V	--	±1.5	--	
		15V/24V/36V/48V	--	±1	--	

Line Regulation	Rated load		--	±0.5	--	
Load Regulation	0% - 100% load	5V	--	±2	--	%
		12V	--	±1	--	
		15V/24V/36V/48V	--	±0.5	--	
Output Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	5V/12V/15V/24V	--	150	--	mV
		36V/48V	--	200	--	
Temperature Coefficient			--	±0.03	--	%/°C
Minimum Load			0	--	--	%
Stand-by Power Consumption	230VAC, 25°C		--	--	0.75	W
Hold-up Time	115VAC		--	12	--	ms
	230VAC		--	16	--	
Short Circuit Protection	Recovery time <5s after the short circuit disappear.		Hiccup, continuous, self-recovery			
Over-current Protection			110% - 185% Io, self-recovery			
Over-voltage Protection	5V		5.75V - 8V (Hiccup, self-recovery)			
	12V		13.8V - 18V (Hiccup, self-recovery)			
	15V		18V - 22V (Hiccup, self-recovery)			
	24V		28.8V - 33.6V (Hiccup, self-recovery)			
	36V		41.4V - 46.8V (Hiccup, self-recovery)			
	48V		55.2V - 60V (Hiccup, self-recovery)			
Over-temperature Protection			Hiccup, self-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 - 	Electric strength test for 1min., leakage current <10mA		2000	--	--	VAC
	Input - Output			3000	--	--	
	Output - 	Electric strength test for 1min., leakage current <5mA		500	--	--	
Insulation Resistance	Input - 	At 500VDC		100	--	--	MΩ
	Input - Output			100	--	--	
	Output - 			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	+40°C ~ +70°C	1.66	--	--	% / °C
		Other output	+50°C ~ +70°C	2.5	--	--	
	Input voltage derating	90VAC~100VAC		2	--	--	% / VAC
		100VAC ~132VAC		0	--	--	
		180VAC ~ 264VAC		0	--	--	
Safety Standard				Meet IEC/EN/UL62368, GB4943			
Safety Class				CLASS I			
MTBF	MIL-HDBK-217F@25°C			>300,000 h			

Mechanical Specifications

Case Material	Metal (AL1100, SGCC)
Dimensions	179.00 x 99.00 x 30.00 mm
Weight	600g (Typ.)
Cooling Method	Free air convection

Electromagnetic Compatibility (EMC)

Emissions	CE	CISPR32/EN55032 CLASS A		
	RE	CISPR32/EN55032 CLASS A		
Immunity	ESD	IEC/EN 61000-4-2	Contact ±6KV /Air ±8KV	Perf. Criteria A
	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
	Voltage dips, short interruptions and voltage variations	IEC/EN61000-4-11	0%,70%	perf. Criteria B

Remark:

1. One magnetic bead(nickel-zinc ferrite)should be coupled with the output load line during CE/RE testing;
2. This power supply does not meet the harmonic current requirements specified in EN61000-3-2.

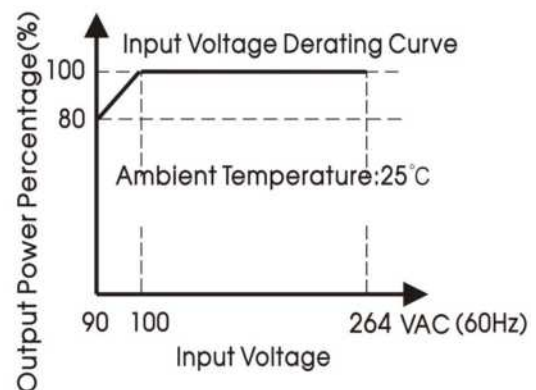
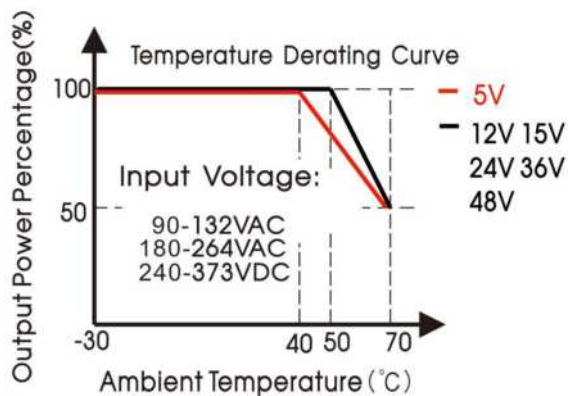
Please do not use this power supply under the following conditions:

- 1) The terminal equipment is used in the European Union.
- 2) Supporting terminals are connected to a public power grid with 220VAC or a higher voltage that comply with the requirements of EN61000-3-2.
- 3) The power supply is installed in terminal equipment with average or continuous input power greater than 75W, and the power supply belongs to a part of lighting system.

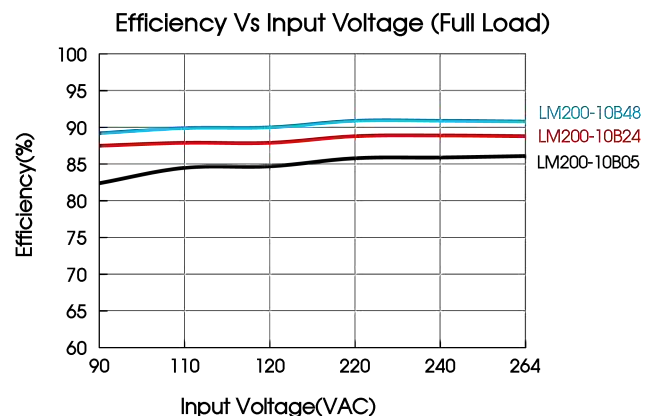
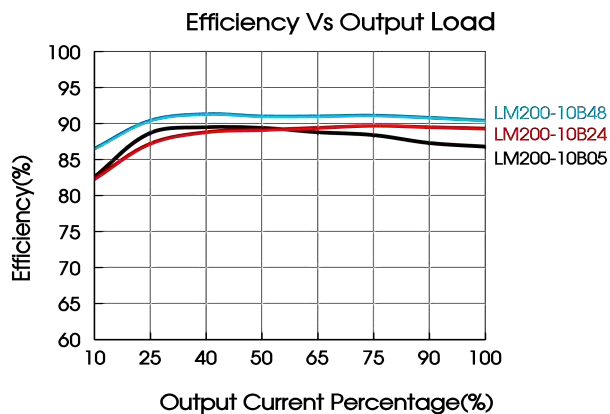
Exception: The power supply used in the following terminal equipment does not need to meet EN61000-3-2.

- 1) Professional equipment with a total rated input power greater than 1000W.
- 2) Symmetrically controlled heating element with a rated power less than or equal to 200W.

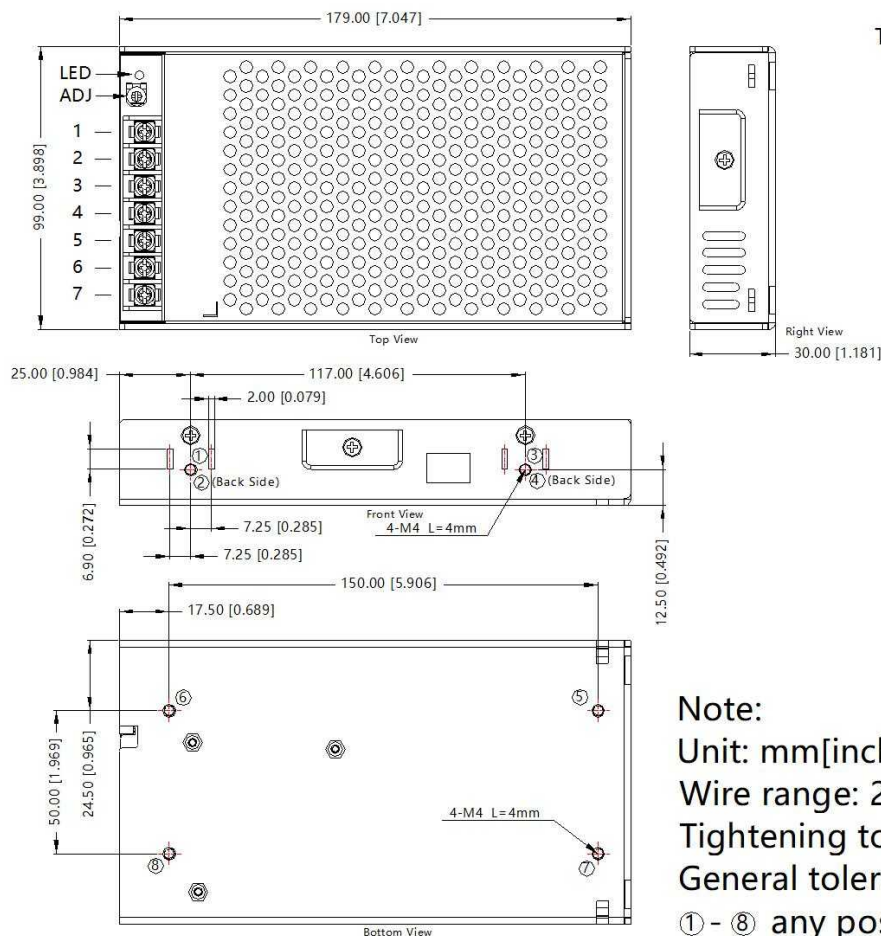
Product Characteristic Curve



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



Dimensions and Recommended Layout



THIRD ANGLE PROJECTION

Pin-Out	
Pin	Function
1	+Vo
2	+Vo
3	-Vo
4	-Vo
5	⏏
6	AC(N)
7	AC(L)

Note:

Unit: mm[inch]

Wire range: 22-12AWG

Tightening torque: M4 , 1.2N·m

General tolerances: ±1.00[±0.039]

① - ⑧ any position must be connected to PE

Note:

- For additional information on Product Packaging please refer to www.mornsun-power.com. Packaging bag number: 58220068;
- Unless otherwise specified, parameters in this datasheet were measured under the conditions of $T_a=25^{\circ}\text{C}$, humidity<75%RH with nominal input voltage and rated output load;
- The ambient temperature derating of $5^{\circ}\text{C}/1000\text{m}$ 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";
- 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 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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