

## FEATURES

- Selectable AC input range: 90 - 132VAC/180 - 264VAC
- DC input range: 240 - 373VDC
- Ultra low standby power consumption < 0.75W @230VAC
- Operating ambient temperature range: - 30°C to +70°C
- 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)
- Built-in DC fan
- Operating up to 5000m altitude



LM350-10Bxx 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	LM350-10B05	300	5V/60A	4.5-5.5	83.5	10000
	LM350-10B12	348	12V/29A	10.2-13.8	85	4000
	LM350-10B15	348	15V/23.2A	13.5-18	86	3300
	LM350-10B24	350.4	24V/14.6A	21.6-28.8	87	1500
	LM350-10B36	349.2	36V/9.7A	32.4-39.6	88	1500
	LM350-10B48	350.4	48V/7.3A	43.2-52.8	88.5	470

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	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		--	6.8	8	A
	230VAC		--	3.4	4	
Inrush Current	115VAC		--	60	--	
	230VAC		--	60	--	
Leakage Current	240VAC		--	--	2	mA
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	--	

# AC/DC 350W Enclosed Switching Power Supply

## LM350-10Bxx, LM350-10Bxx-C, LM350-10Bxx-Q Series

# MORNSUN®

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			--	±0.02	--	%/°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 <8s after the short circuit disappear.		Hiccup, continuous, self-recovery			
Over-current Protection			110% - 180% Io, self-recovery			
Over-voltage Protection	5V		5.75V-6.75V (Hiccup, self-recovery)			
	12V		13.8V-16.2V (Hiccup, self-recovery)			
	15V		18V-21V (Hiccup, self-recovery)			
	24V		28.8V-33.6V (Hiccup self-recovery)			
	36V		41.4V-46.8V (Hiccup, self-recovery)			
	48V		55.2V-59.5V (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 - $\perp$	Electric strength test for 1min., leakage current <10mA	2000	--	--	VAC
	Input - output		3000	--	--	
	output - $\perp$		500	--	--	
Insulation Resistance	Input - $\perp$	At 500VDC	100	--	--	MΩ
	Input - output		100	--	--	
	output - $\perp$		100	--	--	
Operating Temperature			-30	--	+70	°C
Storage Temperature			-40	--	+85	
Fan On/Off Control	Fan On		50	--	--	
	Fan Off		--	--	40	
Storage Humidity	Non-condensing		--	--	95	%RH
Switching Frequency			--	65	--	kHz
Power Derating	Operating temperature derating	+50°C to +70°C	2	--	--	% / °C
	Input voltage derating	90VAC - 100VAC	2	--	--	
		100VAC - 132VAC	0	--	--	
		180VAC - 264VAC	0	--	--	
		240VDC - 373VDC	0	--	--	
Safety Standard			Meet IEC/EN/UL62368/EN60335/GB4943			
Safety Class			CLASS I			
MTBF	MIL-HDBK-217F@25°C		>300,000 h			

## Mechanical Specifications

Case Material	Metal (AL1100, SGCC)
Dimensions	215.00 x 115.00 x 30.00mm
Weight	700g (Typ.)
Cooling Method	Free air convection

Notice: there is built-in fan inside product, so it can't be shipped by air.

## Electromagnetic Compatibility (EMC)

Emissions	CE	CISPR32/EN55032	CLASS A	
	RE	CISPR32/EN55032	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
	DIP	IEC/EN61000-4-11	0%,70%	perf. Criteria B

Remark A:

1. One magnetic bead 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.

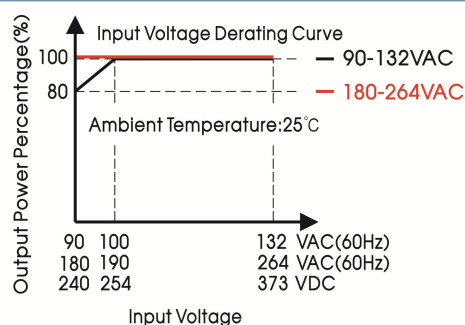
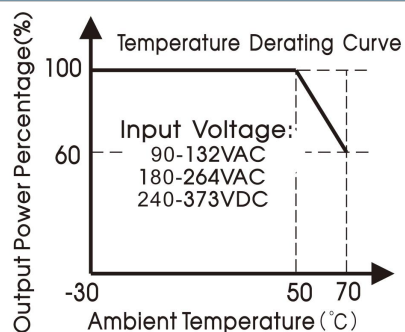
Please do not use this power supply under the following conditions:

- 1) The terminal equipment is used in the European Union.
- 2) The terminal equipment is connected to public mains supply with 220VAC or greater rated nominal voltage.
- 3) The power supply is installed in terminal equipment with average or continuous input power greater than 75W.
- 4) The power supply belongs to a part of lighting system.

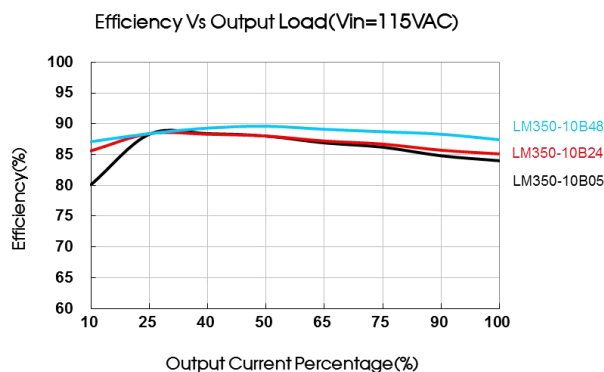
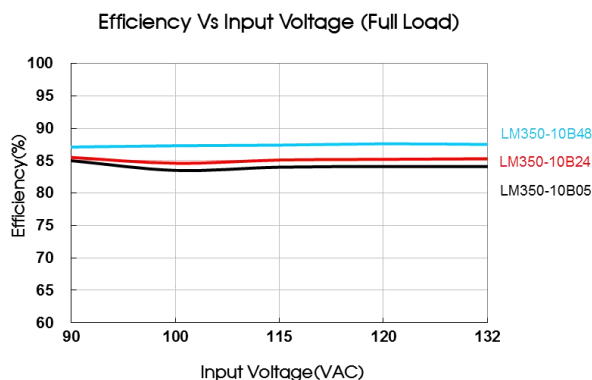
Exception: The power supply used in the following terminal equipment does not need to meet EN61000-3-2.

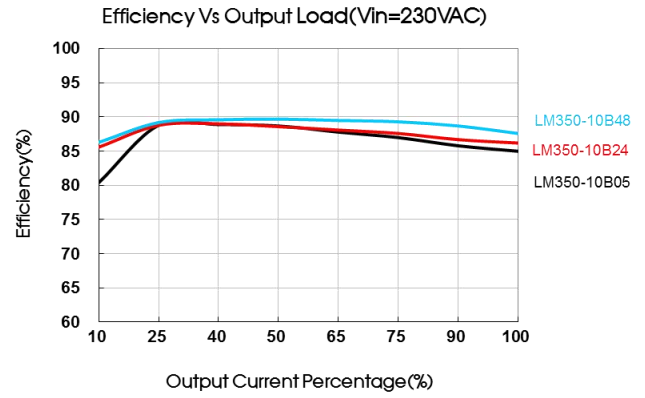
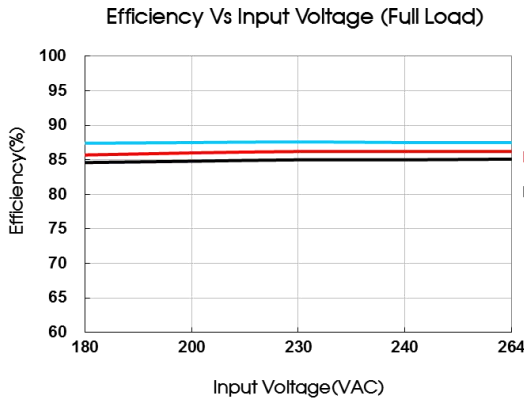
- 1) Professional equipment with a total rated input power greater than 1000W.
- 2) Symmetrically controlled heating element with a rated power less than or equal to 200W.

## Product Characteristic Curve



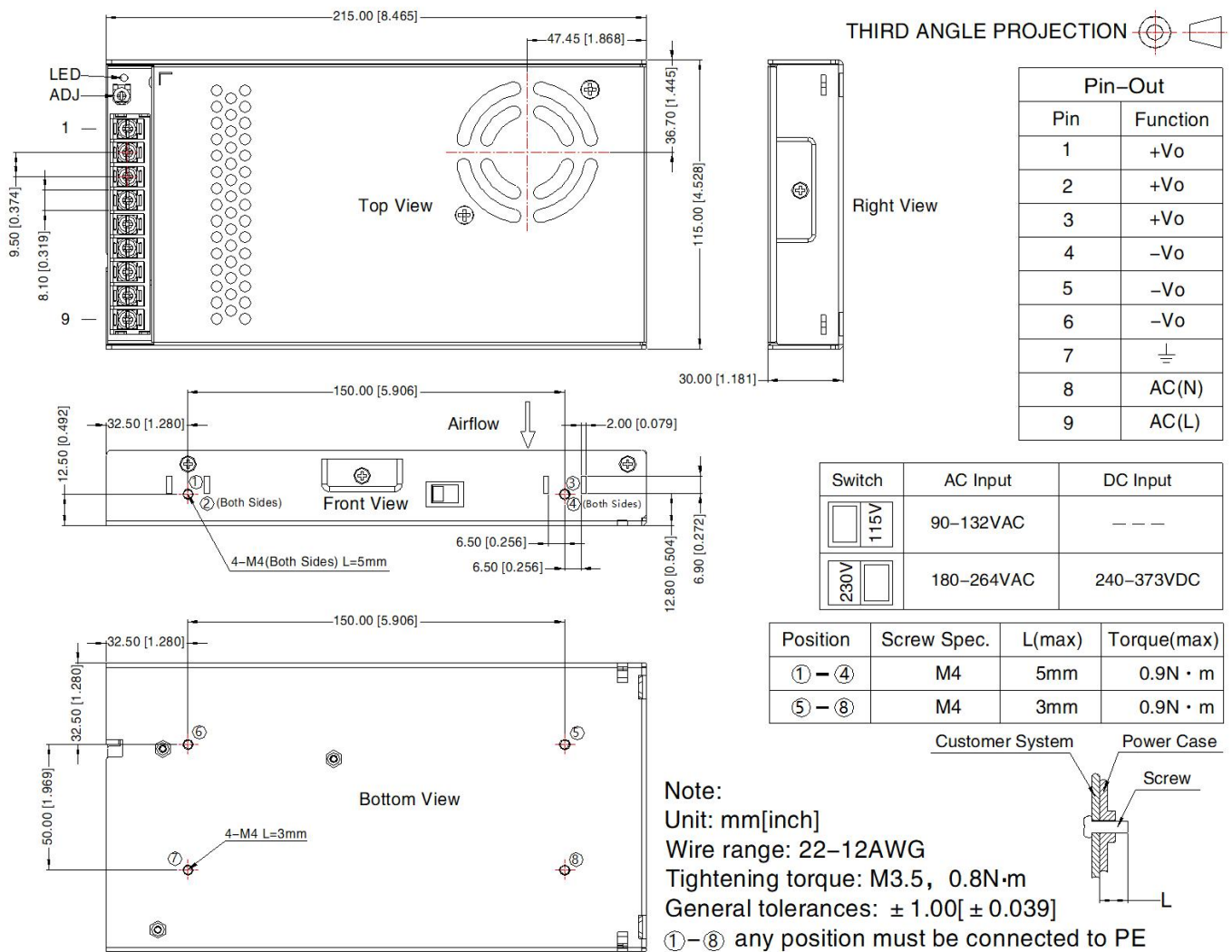
Note: This product is suitable for applications using forced air cooling; for applications in closed environment please consult our FAE.



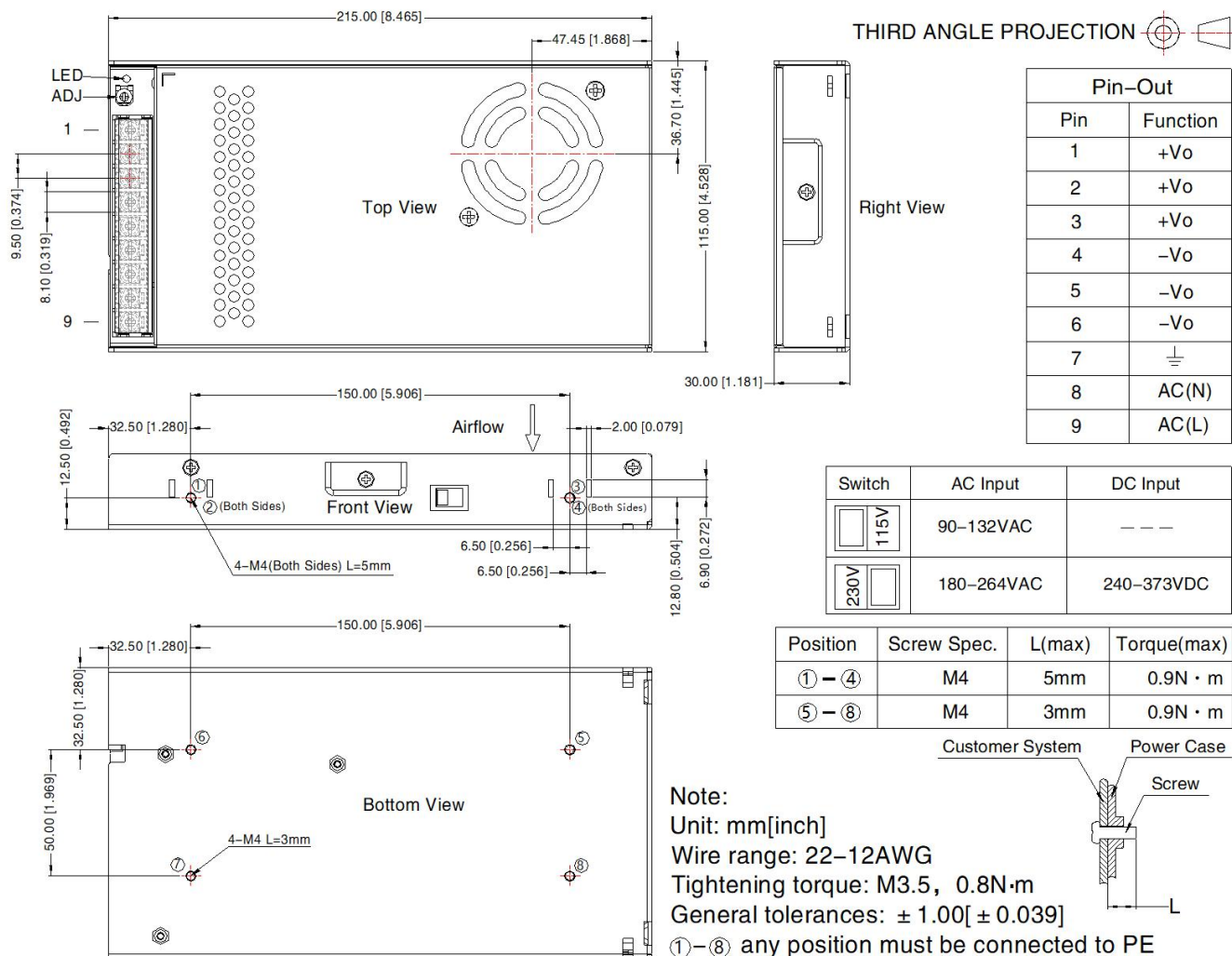


## Dimensions and Recommended Layout

### LM350-10Bxx, LM350-10Bxx-Q Series



### LM350-10Bxx-C Series



**Note:**

- For additional information on Product Packaging please refer to [www.mornsun-power.com](http://www.mornsun-power.com). Packaging bag number: 58220115;
- 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( $\perp$ ) 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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