

AC/DC Converter

LI100-20BxxPR2 Series

MORNSUN®

100W, AC/DC DIN-Rail Power Supply



FEATURES

- Universal 85-264VAC or 120-370VDC input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -40°C ~ +70°C
- High I/O isolation test voltage up to 4000VAC (Input - Output)
- Industrial product technology design
- Over-voltage class III (Designed to meet EN61558 standards)
- Low standby power consumption, high efficiency
- Low ripple & noise
- Output short circuit, over-current, over-voltage protection
- Withstand 300VAC surge input for 5s
- Designed to meet EN62368 standards (Approval Pending)

LI100-20BxxPR2 is Mornsun's AC-DC series featuring a cost-effective, energy efficient solution for standard DIN-rail mounting. The products offer a high level of stability and immunity to noise, compliant with international IEC62368 standards for EMC are safety approved to IEC/EN61000-4, CISPR32, EN55032, UL62368, IEC62368 and EN62368. These light weight AC-DC converters also have an extremely compact design for space saving and are ideal for applications such as industrial control equipment machinery and all kinds of applications in a harsh environment.

Selection Guide

Certification	Part No.	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range(V) (50% Load)	Efficiency at 230VAC (%) Typ.	Capacitive Load (μF)Max.
CE (Pending)	LI100-20B12PR2	90	12V/7.5A	12.0 - 13.8	88	10000
	LI100-20B15PR2	97.5	15V/6.5A	13.5 - 18.0	89	6400
	LI100-20B24PR2	100.8	24V/4.2A	21.6 - 29.0	90	2500
	LI100-20B48PR2	100.8	48V/2.1A	43.2 - 55.2	90	1100

Input Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Input Voltage Range	AC input	85	--	264	VAC
	DC input	120	--	370	VDC
Input Frequency		47	--	63	Hz
Input Current	115VAC	--	--	3	A
	230VAC	--	--	1.6	
Inrush Current	115VAC	--	35	--	
	230VAC	--	70	--	
Leakage Current	240VAC/50Hz	0.5mA RMS Max.			
Hot Plug		Unavailable			

Output Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit	
Output Voltage Accuracy	0% - 100% load	--	±2	--	%	
Line Regulation	Rated load	--	±0.5	--		
Load Regulation	230VAC	--	±1.5	--		
Output Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	12V Output	--	--	120	mV
		15V Output	--	--	120	
		24V Output	--	--	150	
		48V Output	--	--	240	
Temperature Coefficient		--	±0.03	--	%/°C	

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Stand-by Power Consumption	230VAC Input	12V/15V Output	--	--	0.30	W	
		24V Output	--	--	0.35		
		48V Output	--	--	0.40		
Short Circuit Protection			Hiccup, continuous, self-recovery				
Over-current Protection			110% - 200% Io, self-recovery				
Over-voltage Protection	12V Output		≤20V				
	15V Output		≤25V				
	24V Output		≤35V				
	48V Output		≤60V				
Min. Load			0	--	--	%	
Start-up Time			--	--	3	s	
Hold-up Time	230VAC			--	30	--	ms

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-output	Electric Strength Test for 1min., leakage current < 5mA	4000	--	--	VAC
Operating Temperature			-40	--	+70	°C
Storage Temperature			-40	--	+85	
Storage Humidity			--	--	95	%RH
Operating Altitude			--	--	2000	m
Switching Frequency			--	65	--	kHz
Power Derating	-40°C ~ -30°C	12V /48V Output	3.0	--	--	% / °C
		24V Output	7.0	--	--	
		15V Output	8.0	--	--	
	+45°C ~ +70°C			2.0	--	--
85VAC - 115VAC			0.67	--	--	%/VAC
Safety Standard			UL62368/EN62368/IEC62368			
Safety Certification			EN62368(Pending)			
Safety Class			CLASS II			
MTBF		MIL-HDBK-217F@25°C	> 300,000 h			

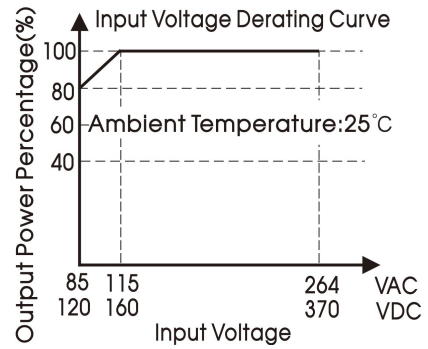
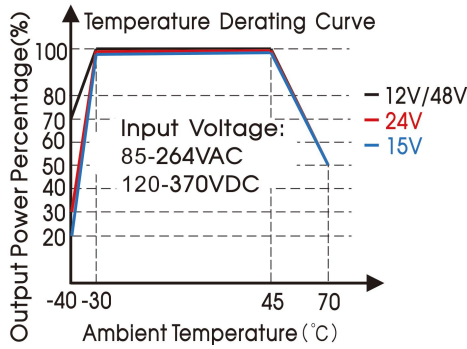
Mechanical Specifications

Case Material	Plastic, heat-resistant (UL94V-0)
Package Dimensions	70.00 x 92.66 x 58.00 mm
Weight	235g (Typ.)
Cooling method	Free air convection

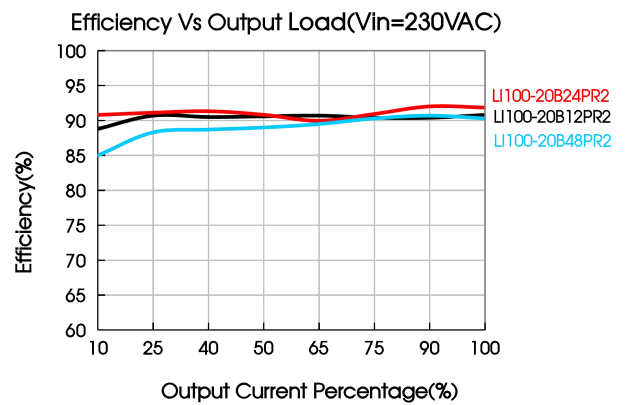
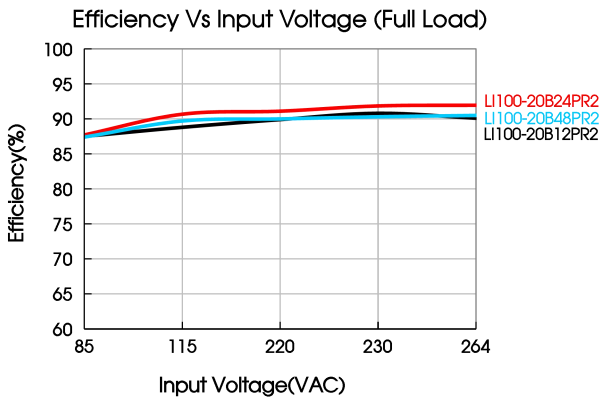
Electromagnetic Compatibility (EMC)

Emissions	CE	CISPR32/EN55032	CLASS B
	RE	CISPR32/EN55032	CLASS B
Immunity	ESD	IEC/EN61000-4-2	Contact ±6KV/ Air ±8KV Perf. Criteria A
	RS	IEC/EN61000-4-3	10V/m perf. Criteria A
	EFT	IEC/EN61000-4-4	±4KV perf. Criteria A
	Surge	IEC/EN61000-4-5	line to line ±2KV perf. Criteria A
	CS	IEC/EN61000-4-6	10Vr.m.s perf. Criteria A
	Voltage dips, short interruptions and voltage variations immunity		IEC/EN61000-4-11

Product Characteristic Curve

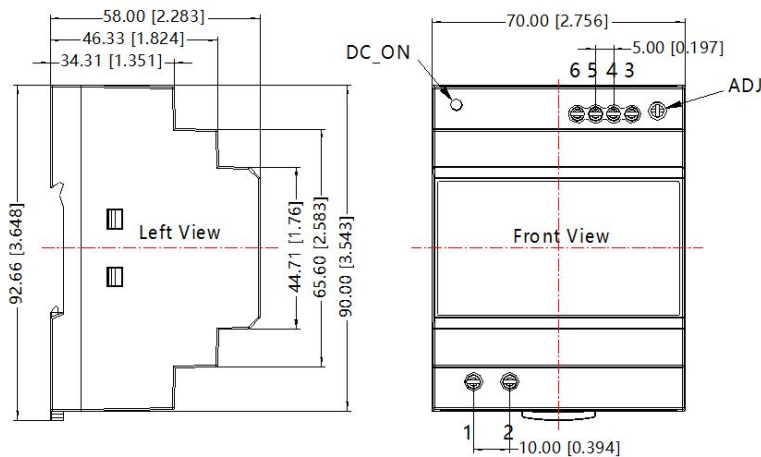


Note: ① With an AC input between 85-115VAC and a DC input between 120-160VDC, the output power must be derated as per temperature derating curves;
② This product is suitable for applications using natural air cooling; for applications in closed environment please consult factory or one of our FAE.



Dimensions and Recommended Layout

THIRD ANGLE PROJECTION



Pin-Out	
Pin	LI100-20B
1	AC(L)
2	AC(N)
3	+Vo
4	+Vo
5	-Vo
6	-Vo

Note:
Unit: mm[inch]
ADJ : adjustable resistance to change output voltage
Wire range: 24-12 AWG
Tightening torque: Max 0.4 N·m
Mounting rail: TS35
General tolerances: ±1.00[±0.039]

Note:

1. For additional information on Product Packaging please refer to www.mornsun-power.com. Packaging bag number: 58220079;
2. Unless otherwise specified, parameters in this datasheet were measured under the conditions of $T_a=25^{\circ}\text{C}$, humidity<75% with nominal input voltage and rated output load;
3. All index testing methods in this datasheet are based on our company corporate standards;
4. We can provide product customization service, please contact our technicians directly for specific information;
5. Specifications are subject to change without prior notice;
6. Products are related to laws and regulations: see "Features" and "EMC";
7. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

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