



RoHS



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 to +70°C
- High I/O isolation voltage up to 4000VAC
- Industrial-grade design
- OVC III, 2000m altitude (Designed to meet EN62477 standards)
- Low standby power consumption, high efficiency
- Low ripple & noise
- Output short circuit, over-current, over-voltage protection
- Withstand 300VAC surge input for 5s
- DIN rail TS35X7.5/ TS35X15 mountable
- Safety according to UL/EN/BS EN62368, EN60335, EN61558, EN62477, EN61010

LI100-20BxxPR3 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 and safety specifications meet IEC/EN61000-4, CISPR32/EN55032, UL/EN/BS EN62368, EN60335, EN61558, EN62477 and EN61010. 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, smart home 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 ADJ (V)*	Efficiency at 230VAC (%) Typ.	Capacitive Load (µF) Max.
/	LI100-20B12PR3	90.0	12V/7.5A	10.2-13.8	89.0	10000
	LI100-20B15PR3	97.5	15V/6.5A	13.5-18.0	89.0	6400
	LI100-20B24PR3	100.8	24V/4.2A	21.6-29.0	90.5	2500
	LI100-20B48PR3	100.8	48V/2.1A	43.2-55.2	91.0	1100

Note: *The actual adjustment range may extend outside the values stated, care should be exercised to ensure that the output voltage and power levels remain within the published maximum values.

Input Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Input Voltage Range	AC input	85	--	264	VAC
	DC input	120	--	370	VDC
Input Voltage Frequency		47	--	63	Hz
Input Current	115VAC	--	--	3.0	A
	230VAC	--	--	1.6	
Inrush Current	115VAC	--	35	--	A
	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	--	±2.0	--	%	
Line Regulation	Rated load	--	±0.5	--		
Load Regulation	230VAC	--	±1.5	--		
Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	12V/15V output	--	--	120	mV
		24V output	--	--	150	
		48V output	--	--	240	

Stand-by Power Consumption	230VAC input	12V/15V/24V output	--	--	0.5	W
		48V output	--	--	0.8	
Short Circuit Protection			Hiccup, continuous, self-recovery			
Over-current Protection	≥110% Io, self-recovery	Hiccup mode or constant current limiting when output voltage <50%, recovers automatically after fault condition is removed				
		Constant current limiting within 50% -100% rated output voltage, recovers automatically after fault condition is removed				
Over-voltage Protection	12V output	≤20V	Hiccup, recovers automatically after fault condition is removed			
	15V output	≤25V				
	24V output	≤35V				
	48V output	≤64.8V				
Minimum 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, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor, please refer to Enclosed Switching Power Supply Application Notes for specific information.						

General Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Isolation	Input - output	Electric Strength Test for 1min., leakage current <5mA	4000	--	--	VAC
Insulation Resistance	Input - output	500VDC	100	--	--	MΩ
Operating Temperature			-40	--	+70	°C
Storage Temperature			-40	--	+85	
Storage Humidity			--	--	95	%RH
Operating Humidity			--	--	90	
Altitude			--	--	5000	m
Power Derating	-40°C to -30°C	12V/15V output	3.0	--	--	% / °C
		24V/48V output	7.0	--	--	
	+45°C to +70°C		2.0	--	--	
	85VAC - 115VAC		0.67	--	--	%/VAC
2000m - 5000m		5.0	--	--	%/Km	
Safety Standard			Design refer to UL/EN/BS EN62368-1, EN60335-1, EN61558-1, EN62477-1, EN61010-1			
Safety Class			CLASS II			
MTBF			MIL-HDBK-217F@25°C > 300,000 h			

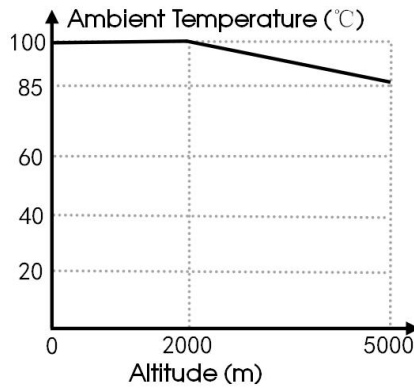
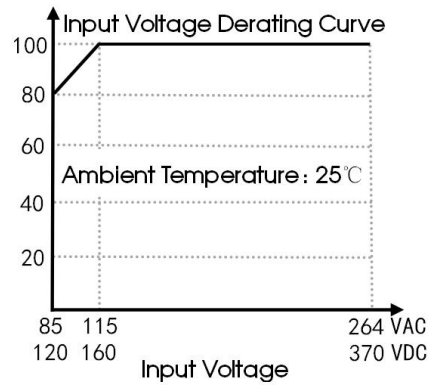
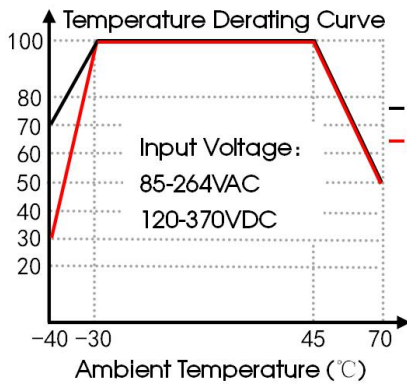
Mechanical Specifications

Case Material	White plastic, flame-retardant and heat-resistant (UL94V-0)
Package Dimensions	70.00 x 92.66 x 58.00 mm
Weight	215g (Typ.)
Cooling Method	Free air convection

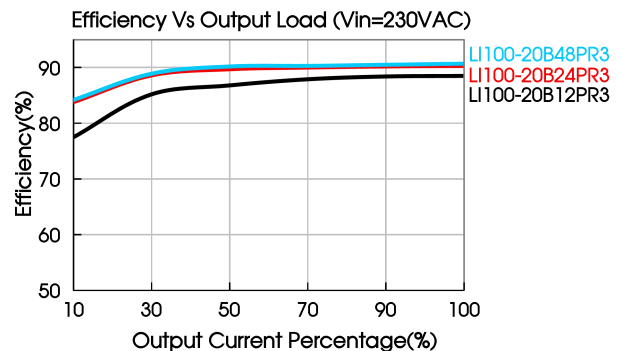
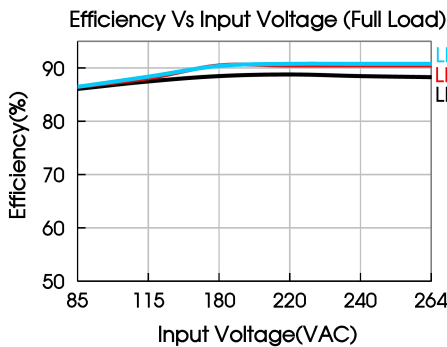
Electromagnetic Compatibility (EMC)

Emissions	CE	CISPR32/EN55032	CLASS B	
	RE	CISPR32/EN55032	CLASS B	
	Harmonic current	IEC/EN61000-3-2	CLASS A	
Immunity	ESD	IEC/EN61000-4-2	Contact ± 6 KV/Air ± 8 KV	Perf. Criteria A
	RS	IEC/EN61000-4-3	10V/m	Perf. Criteria A
	EFT	IEC/EN61000-4-4	± 4 KV	Perf. Criteria A
	Surge	IEC/EN61000-4-5	Line to line ± 2 KV	Perf. Criteria A
	CS	IEC/EN61000-4-6	10Vr.m.s	Perf. Criteria A
	PFMF	IEC/EN61000-4-8	30A/m	Perf. Criteria A
	Voltage dips, short interruptions and voltage variations immunity	IEC/EN61000-4-11	100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods	Perf. Criteria A

Product Characteristic Curve

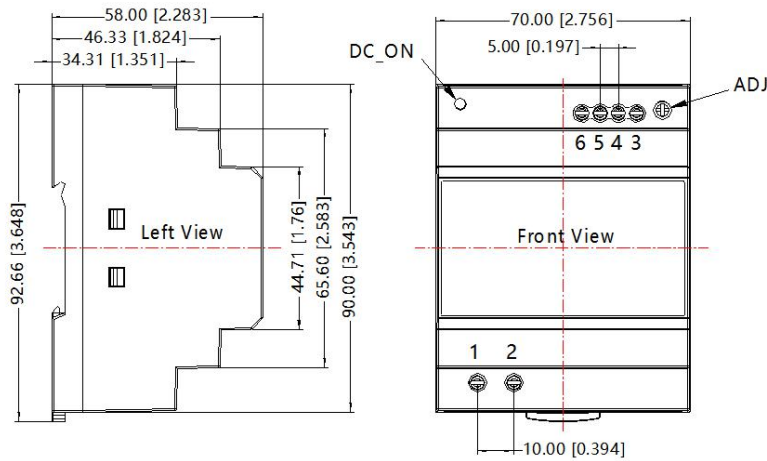


Note: ① With an AC input between 85-115VAC and a DC input between 120-160VDC, the output power must be derated as per temperature derating curves;
② This product is suitable for applications using natural air cooling; for applications in closed environment please consult Mornsun FAE.



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: $\pm 1.00[\pm 0.039]$

Note:

1. For additional information on Product Packaging please refer to www.mornsun-power.com. Packaging bag number: 58220197;
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.

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