

Datasheet

LI30-20BxxPR2

30W, 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
- Industrial product technology design
- Over-voltage class III (Designed to meet EN61558 safety 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
- UL/EN/IEC62368 safety approved

LI30-20BxxPR2 is a cost-effective, energy efficient DIN-rail mount AC-DC converter. The products offer a high level of stability and immunity to noise, tested in accordance with international immunity standards IEC/EN61000-4 parts 2,3,5,6 and 11, EMC standards CISPR32, EN55032 and safety approved to EN62368, UL62368 and IEC62368. These lightweight AC-DC converters also have an extremely compact design for space saving and are ideal for applications such as building/household automation, industrial control equipment and electronic systems of all kinds.

Selection Guide

Certification	RS Stock no. (Standard Pack)	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.
UL/CE/CB	1904190	LI30-20B05PR2	15	5V/3A	4.9-5.5	82	12000
	1904191	LI30-20B12PR2	24	12V/2A	10.8-13.8	88	6000
	1904192	LI30-20B15PR2	30	15V/2A	13.5-18.0	89	5000
	1904193	LI30-20B24PR2	36	24V/1.5A	21.6-29.0	89	1400
	1904194	LI30-20B48PR2	36	48V/0.75A	43.2-55.2	90	600

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	--	--	0.9	A
	230VAC	--	--	0.5	
Inrush Current	115VAC	--	25	--	
	230VAC	--	45	--	
Leakage Current	264VAC	0.25mA RMS max.			
Hot Plug		Unavailable			

AC/DC Converter

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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)	5V Output	--	--	80	mV
		12V Output	--	--	120	
		15V Output	--	--	120	
		24V Output	--	--	150	
		48V Output	--	--	240	
Temperature Coefficient			--	±0.02	--	%/°C
Stand-by Power Consumption	230VAC input	5V/12V/15V/24V Output	--	--	0.3	W
		48V Output	--	--	0.4	
Short Circuit Protection			Hiccup, continuous, self-recovery			
Over-current Protection			≥120 % Io, self-recovery			
Over-voltage Protection	5V Output		≤7.5V (Output voltage clamp or hiccup)			
	12V Output		≤16V (Output voltage clamp or hiccup)			
	15V Output		≤20V (Output voltage clamp or hiccup)			
	24V Output		≤36V (Output voltage clamp or hiccup)			
	48V Output		≤60V (Output voltage clamp or hiccup)			
Minimum Load			0	--	--	%
Start-up Time			--	--	3	s
Hold-up Time	115VAC		--	12	--	ms
	230VAC		--	60	--	

Note: * The "parallel cable" 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	5V/48V Output	3.0	--	--	% / °C
		12V/15V Output	7.0	--	--	
		24V Output	5.0	--	--	
	+50°C ~ +70°C		2.5	--	--	
85VAC - 100VAC		1.0	--	--	% / VAC	
Safety Certification			UL62368/IEC62368/EN62368			
Safety Class			CLASS II			
MTBF	MIL-HDBK-217F@25°C		> 300,000 h			

Mechanical Specifications

Case Material	Plastic, heat-resistant (UL94V-0)
Package Dimensions	92.66 x 35.00 x 58.00 mm
Weight	115g (Typ.)
Cooling method	Free air convection

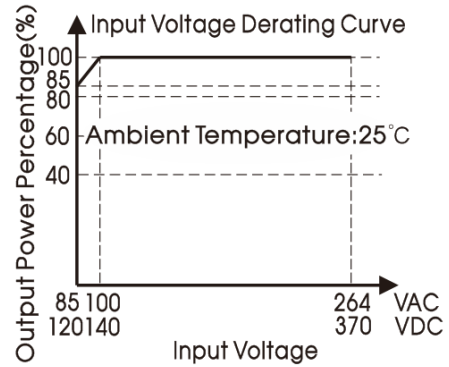
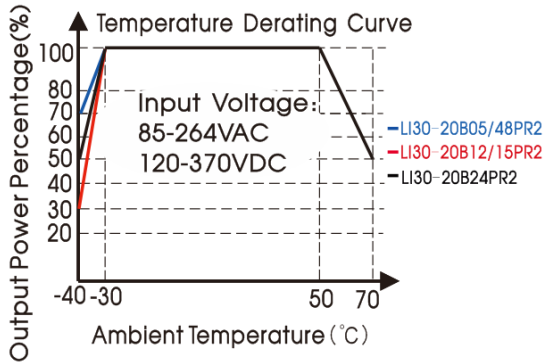
AC/DC Converter

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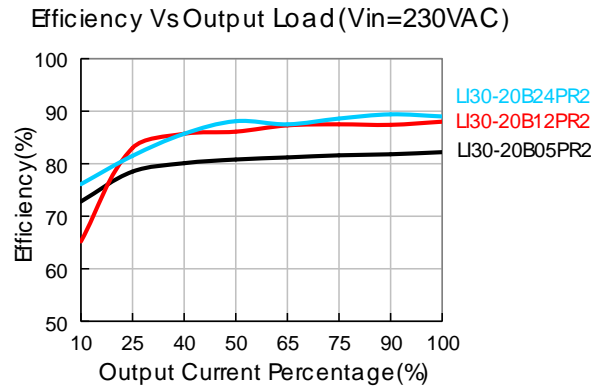
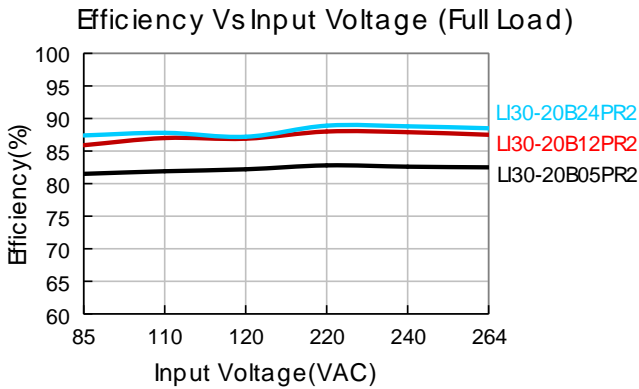
Electromagnetic Compatibility (EMC)

Emissions	CE	CISPR32/EN55032	CLASS B	
	RE	CISPR32/EN55032	CLASS B	
Immunity	ESD	IEC/EN61000-4-2	Contact $\pm 6\text{KV}$ /Air $\pm 8\text{KV}$	Perf. Criteria A
	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4	$\pm 2\text{KV}$	perf. Criteria A
	Surge	IEC/EN61000-4-5	line to line $\pm 2\text{KV}$	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	0%, 70%	perf. Criteria A

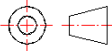
Product Characteristic Curve

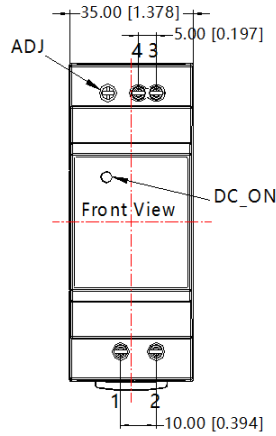
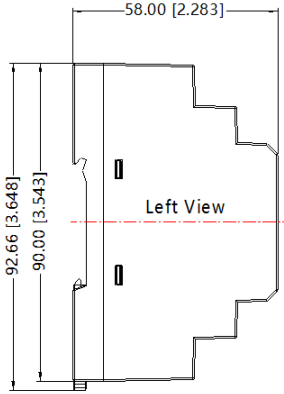


Note: ① With an AC input between 85-100VAC and a DC input between 120-140VDC, the output power must be derated as per temperature derating curves;
 ② This product is suitable for applications using natural air cooling; for applications in closed environment please consult factory or one of our FAE.



Dimensions and Recommended Layout

THIRD ANGLE PROJECTION 



Pin-Out	
Pin	LI30-20B
1	AC(N)
2	AC(L)
3	-Vo
4	+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. 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;
2. All index testing methods in this datasheet are based on our company corporate standards;
3. We can provide product customization service, please contact our technicians directly for specific information;
4. Specifications are subject to change without prior notice.
5. Products are related to laws and regulations: see "Features" and "EMC";
6. Our products shall be classified according to ISO14001 and related environmental laws and regulations and shall be handled by qualified units.