240W, AC/DC converter

c UL us CE CB RoHS

FEATURES

- Wide input voltage range: 85 - 264VAC/120 - 370VDC
- Active PFC
- Input under-voltage protection, output short circuit, over-current, over-voltage, over-temperature protection
- Remote control
- IEC60950, UL60950, EN60950 approval

LI240-10Bxx series---- 240W converter offered by Mornsun. It features Cost-effective, standard rail mounting, energy efficient. EMC and Safety specifications meet the international IEC61000, UL60950 and EN60950 standards. This series of products can be used in industrial control equipment, machinery, railway transport etc.

Selection Guide

Certification	Part No.	Output Power	Nominal Output Voltage and Current(Vo/Io)	Efficiency (230VAC, %/Typ.)	Max. Capacitive Load(μF)
UL/CE/CB	LI240-10B24	240W	24V/10A	92	4700
	LI240-10B48		48V/5A	93	2700

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	--	--	3.0	A
		230VAC	--	--	1.5	
Inrush Current		115VAC	--	30	--	
		230VAC	--	60	--	
Power Factor		115VAC	--	0.98	--	--
		230VAC	--	0.96	--	
Input Under-voltage Protection	Start-up Voltage	AC input, Full load	75	--	83	VAC
	Shutdown Voltage	AC input, Full load	67	--	74	
Hot Plug			Unavailable			

Output Specifications

Item		Operating Conditions	Min.	Typ.	Max.	Unit
Output Voltage Range	LI240-10B24	Rated max Output Power 240W	24 - 28 Adjustable			V
	LI240-10B48		48 - 52.8 Adjustable			
Output Voltage Accuracy			--	--	±1	%
Line Regulation		Full load	--	--	±0.5	
Load Regulation		5% - 100% load	--	--	±1	
Ripple & Noise*	LI240-10B24	20MHz bandwidth (peak-peak value)	--	--	100	mV
	LI240-10B48		--	--	150	
Temperature Coefficient			--	±0.03	--	%/℃
Stand-by Power Consumption			--	1.0	--	W
Short Circuit Protection			Continuous, self-recovery			
Over-current Protection			110 - 150% Io, self-recovery			
Over-voltage Protection			Continuous automatic restart until the over-voltage condition is removed			

Over-temperature Protection		shut down the output voltage at over-temperature, self-recovery				
Min. Load		0	--	--	%	
Start-up Time		--	--	1500	ms	
Hold-up Time	115VAC input	--	22	--		
	230VAC input	--	22	--		
Note: * Ripple and noise are measured by "rely test" method, please see AC-DC Converter Application Notes for specific operation.						

General Specifications

Item		Operating Conditions	Min.	Typ.	Max.	Unit
Isolation Voltage	Input-output	Test time: 1min	3000	--	--	VAC
	Input- ⏚		1500	--	--	
	Output- ⏚		500	--	--	
Operating Temperature			-25	--	+70	℃
Storage Temperature			-25	--	+85	
Storage Humidity			--	--	95	%RH
Switching Frequency			--	100	--	KHz
Power Derating		+50℃ to +70℃	3.0	--	--	%/℃
Safety Standard			IEC60950/EN60950/UL60950			
Safety Certification			IEC60950/EN60950/UL60950			
Safety Class			CLASS I			
MTBF			MIL-HDBK-217F@25℃ > 300,000 h			

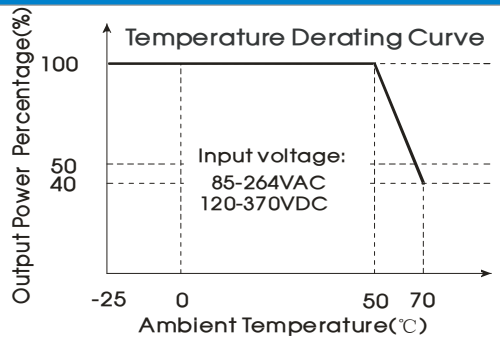
Physical Specifications

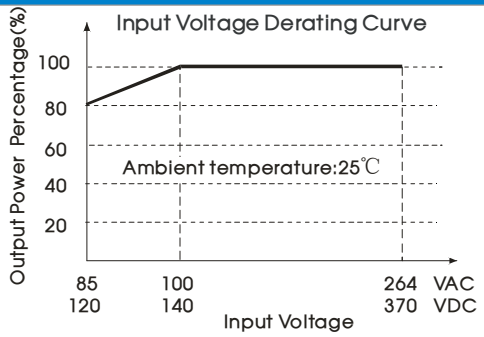
Casing Material	Heat-resistant plastic (UL94V-0) and metal
Dimension	60.00*125.00*120.00 mm (W*H*D)
Weight	820g(Typ.)
Cooling Method	Free air convection

EMC Specifications

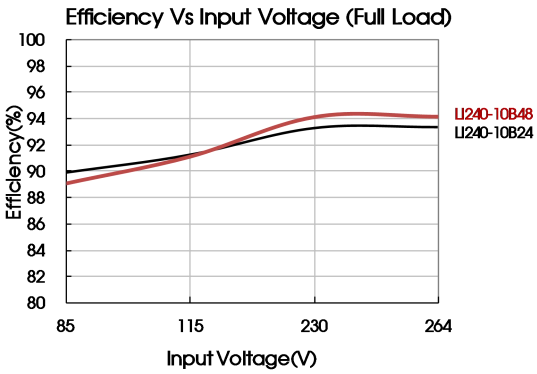
EMI	CE	CISPR22/EN55022	CLASS B	
	RE	CISPR22/EN55022	CLASS B	
EMS	ESD	IEC/EN61000-4-2	Contact ±6KV/Air ±8KV	Perf. Criteria B
	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4	±4KV	perf. Criteria B
	Surge	IEC/EN61000-4-5	line to line ±2KV/line to ground ±4KV	perf. Criteria B
	CS	IEC/EN61000-4-6	10Vr.m.s	perf. Criteria A
	PFM	IEC/EN61000-4-8	10A/m	perf. Criteria A
	Voltage dips, short interruptions and voltage variations immunity	IEC/EN61000-4-11	0%,70%	perf. Criteria B

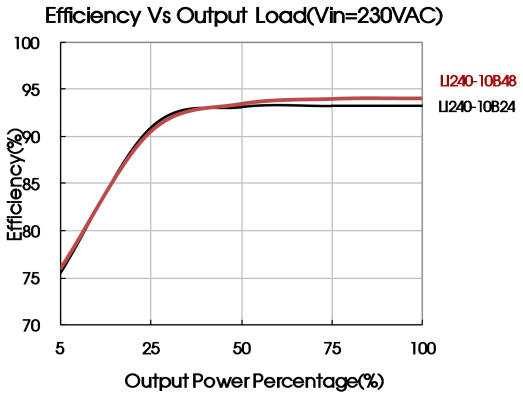
Product Characteristic Curve





Note: ①Input voltage should be derated based on temperature derating when it is 85-100VAC/120-140VDC;
②This product is suitable for use in natural air cooling environments, if in a closed environment, please contact our company's FAE.





Design Reference

1. Typical application circuit

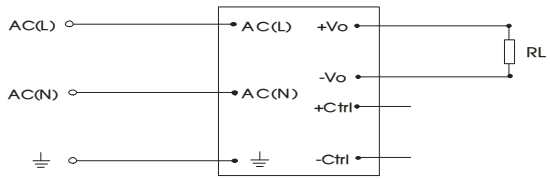


Fig. 1: Typical application circuit

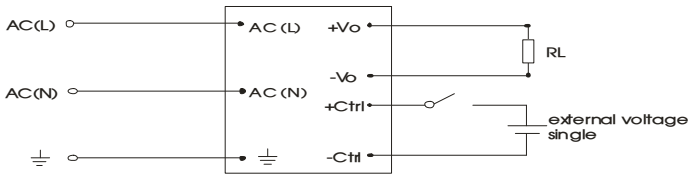
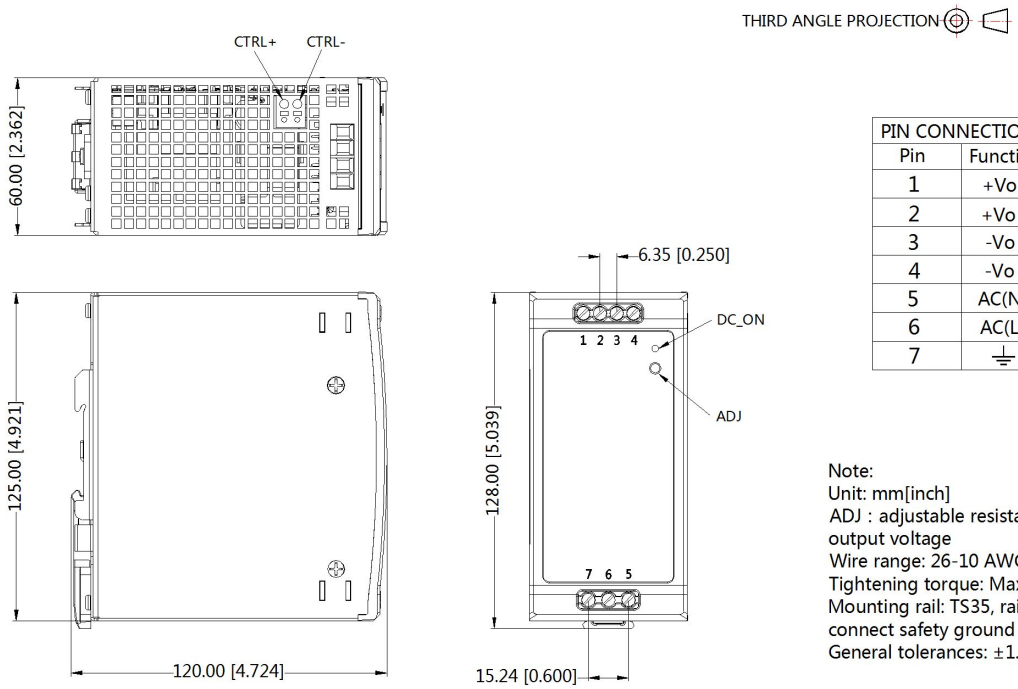


Fig. 2: Remote control Applications circuit

Note: external voltage single range 4.5 - 12.5VDC realize the power off, the single disappears and recovery

2. For more information Please find the application notes on www.mornsun-power.com

Dimensions and Recommended Layout



PIN CONNECTION	
Pin	Function
1	+Vo
2	+Vo
3	-Vo
4	-Vo
5	AC(N)
6	AC(L)
7	⏚

Note:
Unit: mm[inch]
ADJ : adjustable resistance to change output voltage
Wire range: 26-10 AWG
Tightening torque: Max 0.4 N·m
Mounting rail: TS35, rail needs to connect safety ground
General tolerances: ±1.00[±0.039]

Notes:

1. Packing information please refer to Product Packing Information which can be downloaded from www.mornsun-power.com. Packing bag number: 58220024;
2. If the product is not operated within the required load range, the product performance cannot be guaranteed to comply with all parameters in the datasheet;
3. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25℃, humidity<75% with nominal input voltage and rated output load
4. All index testing methods in this datasheet are based on our Company's corporate standards;
5. We can provide product customization service, please contact our technicians directly for specific information;
6. Specifications are subject to change without prior notice

MORNSUN Guangzhou Science & Technology Co., Ltd.
Address: No. 5, Kehui St. 1, Kehui Development Center, Science Ave., Guangzhou Science City, Luogang District, Guangzhou, P. R. China
Tel: 86-20-38601850-8801 Fax: 86-20-38601272 E-mail: info@mornsun.cn