

120W, AC-DC converter



FEATURES

- Wide input voltage range:85~264VAC/100~370VDC
- Active PFC
- AC and DC dual-use(input from the same terminal)
- Low standby power consumption, high efficiency, high isolation voltage up to 3K VAC
- Low ripple & noise
- Input under-voltage protection, output short circuit, over-current, over-voltage, over-temperature protection
- Remote control
- UL60950, EN60950 approval

LI120— 120W converter offered by Mornsun. It features Cost-effective, standard rail mounting, energy efficient. It offers stability and high noise immunity for industrial control equipment, machinery and other harsh environments of industrial equipment. The converter is small, light weight, compact structure, standard rail (35mm) Installation and save a lot of space for customers.

Selection Guide

Certification	Model	Output Power	Nominal Output Voltage and Current(Vo/Io)	Efficiency (230VAC, %/Typ.)	Max. Capacitive Load(μF)
UL/CE	LI120-10B24	120W	24V/5A	92	4700
--	LI120-10B48	120W	48V/2.5A	93	1700

Input Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Input Voltage Range	AC input	85	--	264	VAC
	DC input	100	--	370	VDC
Input frequency		47	--	63	Hz
Input current	115VAC	--	--	1.5	A
	230VAC	--	--	0.75	
Inrush current	115VAC	--	35	--	A
	230VAC	--	70	--	
Power Factor	115VAC	--	0.98	--	--
	230VAC	--	0.96	--	
Input under-voltage protection	Start-up Voltage	76	--	83	VAC
	Shutdown Voltage	67	--	75	
Hot Plug		Unavailable			



Output Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Output Voltage Accuracy		--	--	±1	%
Line Regulation	Full load	--	--	±0.5	
Load Regulation		--	--	±1	
Output Ripple & Noise*	20MHz bandwidth (peak-peak value)	--	--	100	mV
Temperature Drift Coefficient		--	±0.03	--	%/°C
Stand-by Power Consumption		--	--	0.75	W
Short Circuit Protection		Continuous, self-recovery			
Over-current Protection		110-150% Io, start protecting after 3 seconds, 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	--	25	--	
	230VAC	--	25	--	

Note: * Rely test method is adopted test the ripple and noise, please see *AC-DC Converter Application Notes* for specific operation methods.

General Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Isolation Voltage	Input-output	3000	--	--	VAC
	Input- 	1500	--	--	
	Output- 	500	--	--	
Operating Temperature		-25	--	+70	°C
Storage Temperature		-25	--	+85	
Storage Humidity		--	--	95	%RH
Switching Frequency		--	100	--	kHz
Power Derating	+55°C to +70°C	2.5	--	--	%/°C
Safety Standard	EN60950/UL60950				
Safety Certification	EN60950/UL60950				
Safety Class	CLASS I				
MTBF	MIL-HDBK-217F@25°C > 300,000 h				

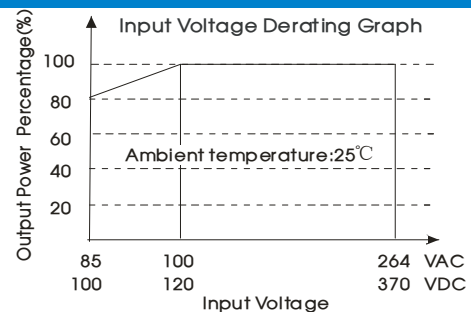
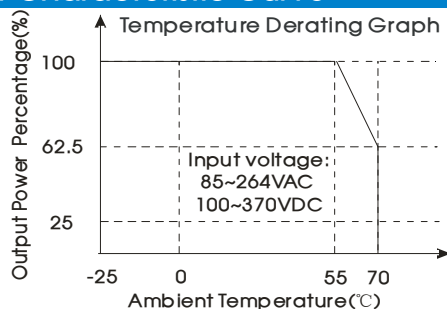
Physical Specifications

Casing Material	heat-resistant plastic (UL94-V0) and metal
Package Dimensions	35.00*125.00*112.70 mm (W*H*D)
Weight	560.0g(Typ.)
Cooling method	Natural cooling

EMC Specifications

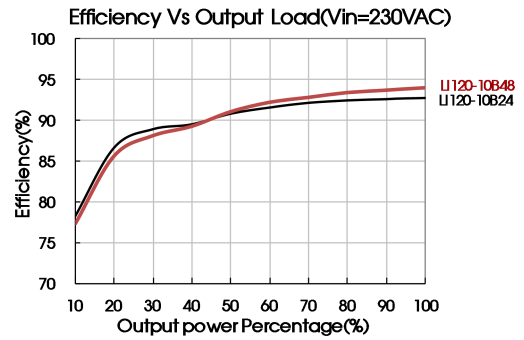
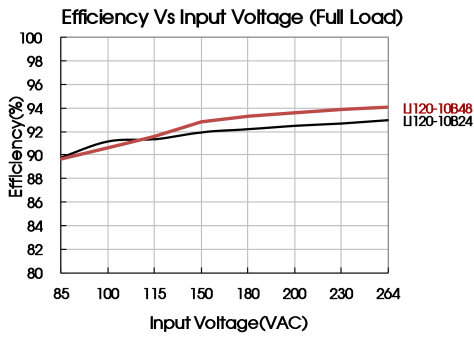
EMI	Conducted Disturbance	CISPR22/EN55022	CLASS B	
	Radiated Emission	CISPR22/EN55022	CLASS B	
EMS	Electrostatic Discharge	IEC/EN61000-4-2	Contact ±6KV/Air ±8KV	Perf. Criteria B
	Radiation Immunity	IEC/EN61000-4-3	10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4	±4KV	perf. Criteria B
	Surge Immunity	IEC/EN61000-4-5	±2KV/±4KV	perf. Criteria B
	Conducted Disturbance immunity	IEC/EN61000-4-6	10 Vr.m.s	perf. Criteria A
	Immunity for Power frequency magnetic field	IEC/EN61000-4-8	10A/m	perf. Criteria A
	Immunities of voltage dip, drop and short interruption	IEC/EN61000-4-11	0%-70%	perf. Criteria B

Product Characteristic Curve



Note: ① Input voltage should be derated based on temperature derating when it is 85~100VAC/100~120VDC;

② This 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

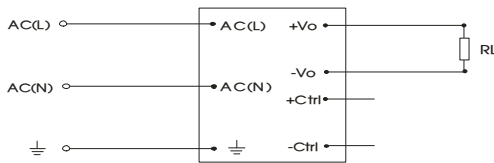


Fig. 1: Typical application circuit

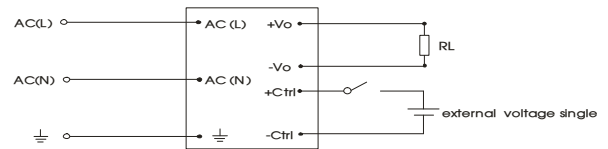


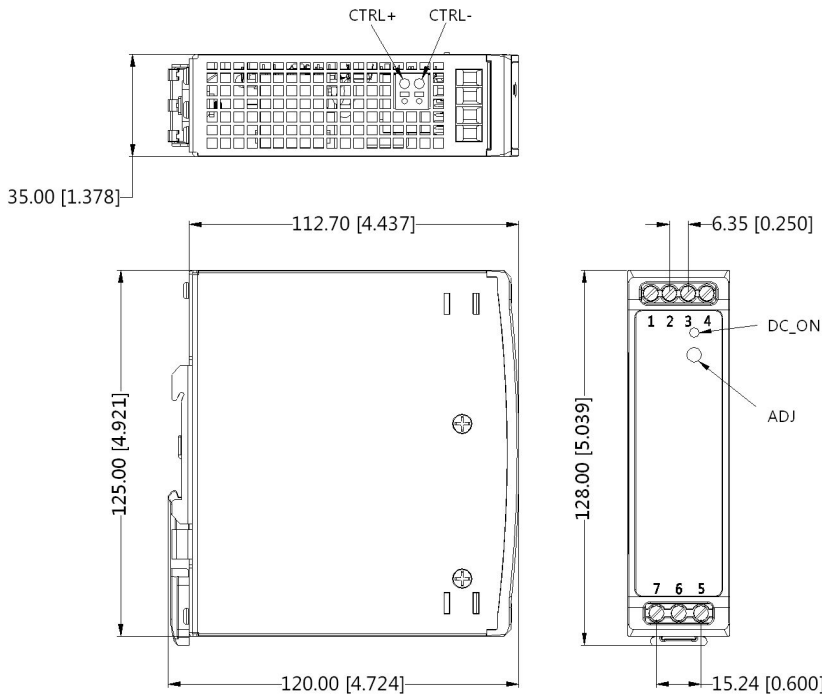
Fig. 2: Remote control Applications circuit

*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

THIRD ANGLE PROJECTION



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

Note:
Unit:mm[inch]
General tolerances:±1.00[±0.040]
Wire range:26~10AWG
Strip length:8.0[0.32]

Note:

1. Packing Information please refer to 'Product Packing Information'. Packing bag number: 58220028;
2. Unless otherwise specified, data in this datasheet should be tested under the conditions of $T_a=25^{\circ}\text{C}$, humidity<75% when inputting nominal voltage and outputting rated load;
3. All index testing methods in this datasheet are based on our Company's corporate standards;
4. The performance indexes of the product models listed in this manual are as above, but some indexes of non-standard model products will exceed the above-mentioned requirements, and please directly contact our technician for specific information;
5. We can provide product customization service;
6. The product specification may be changed at any time without prior notice.

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