



## FEATURES

- Universal 180-600VAC or 254-848VDC input voltage
- Single/Two phase both available
- Operating ambient temperature range: -25°C to +70°C
- High I/O isolation voltage up to 4000VAC
- Industrial-grade design
- Low ripple & noise, high efficiency, high reliability
- DC OK function
- 150% peak load for 3 seconds
- LED indicator for power on
- Output short circuit, over-current, over-voltage, over-temperature protection
- OVC III, 2000m altitude (UL508, IEC60664 standards)
- Safety according to UL508, UL61010, IEC62368, IEC60664

LI120-26Bxx is Mornsun AC-DC converter series featuring a cost-effective, energy efficient green power supply solution for standard DIN-rail mounting. The products offer a high level of stability and immunity to noise for industrial control equipment, machinery, and other industrial equipment in a variety of harsh environments. These light weight AC-DC converters have an extremely compact design and the standard rail installation for space saving. With good EMC performance, compliant with international UL508, UL61010, EN/IEC62368, IEC60664 standards for EMC and safety.

## Selection Guide

Certification	Part No.	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range ADJ (V)*	Efficiency at 400VAC (%) Typ.	Capacitive Load (µF) Max.
EN	LI120-26B12	120	12V/10.0A	12-14	89.5	15000
	LI120-26B24	120	24V/5.0A	24-28	91	10000
	LI120-26B48	120	48V/2.5A	48-55	92	8000

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		180	--	600	VAC
	DC input		254	--	848	VDC
Input Frequency			47	--	63	Hz
Input Current	230VAC		--	1.2	1.4	A
	400VAC		--	0.7	1.0	
Inrush Current	400VAC	Cold start	--	50	--	
Leakage Current			<3.5mA/rms			
Hot Plug			Unavailable			

## Output Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	0% - 100% load	12V output	--	±1.5	±2.0	
		24V/48V output	--	±1.0	--	
Line Regulation	Rated load		--	±0.5	--	%
Load Regulation	400VAC	12V output	--	±0.5	±1.0	
		24V/48V output	--	±0.5	--	
Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	12V/24V output	--	--	120	mV
		48V output	--	--	150	
Temperature Coefficient			--	±0.03	--	%/°C

# AC/DC 120W DIN-Rail Power Supply

## LI120-26Bxx Series

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Short Circuit Protection			Constant current hiccup, self-recovery			
Over-current Protection			$\geq 150\% I_o$ , hiccup, self-recovery			
Over-voltage Protection	12V output		$\leq 16V$	Output voltage hiccup		
	24V output		$\leq 35V$			
	48V output		$\leq 60V$			
Over-temperature Protection			Shutdown output, recovery after restart			
Minimum Load			0	--	--	%
Start-up Time	400V input	Room temperature, full load (cold start)	--	--	2	s
DC OK Signal			30VDC/1A Max.			
Hold-up Time	230VAC		--	10	--	ms
	400VAC		--	50	--	

Note: \*The "Tip and barrel method" is used for ripple and noise test, output parallel 47 $\mu$ F electrolytic capacitor and 0.1 $\mu$ F 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 < 10mA	4000	--	--	VAC	
	Input - PE		2000	--	--		
	Output - PE		500	--	--		
	Output - DC OK	Electric Strength Test for 1min., leakage current < 2mA	500	--	--		
Insulation Resistance	Input - output	500VDC	100	--	--	M $\Omega$	
	Input - PE						
	Output - PE						
Operating Temperature			-25	--	+70	$^{\circ}$ C	
Storage Temperature			-40	--	+85		
Storage Humidity			--	--	95	%RH	
Altitude			--	--	5000	m	
Power Derating	+50 $^{\circ}$ C to +60 $^{\circ}$ C	LI120-26B12	4.0	--	--	%/ $^{\circ}$ C	
	+60 $^{\circ}$ C to +70 $^{\circ}$ C		3.0	--	--		
	+60 $^{\circ}$ C to +70 $^{\circ}$ C	LI120-26B24/48	4.0	--	--		
	180VAC - 198VAC			2.23	--	--	%VAC
	550VAC - 600VAC			0.8	--	--	
	2000m-5000m			5.0	--	--	%/Km
Safety Standard			EN62368-1, BS EN62368-1 (Report); Design refer to UL508, UL61010-1, UL61010-2-201, IEC62368-1, IEC60664				
Safety Class			CLASS I				
MTBF			MIL-HDBK-217F@25 $^{\circ}$ C > 300,000 h				

## Mechanical Specifications

Case Material	Metal (AL1100, SPCC, SGCC)
Package Dimensions	124.00 x 41.00 x 110.00 mm
Weight	550g (Typ.)
Cooling Method	Free air convection

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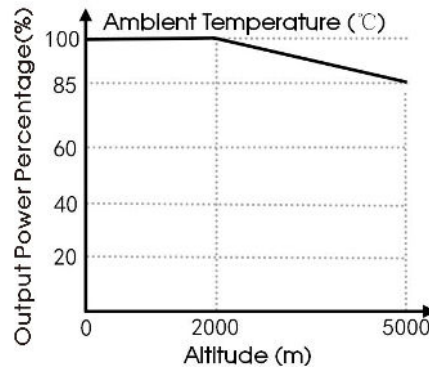
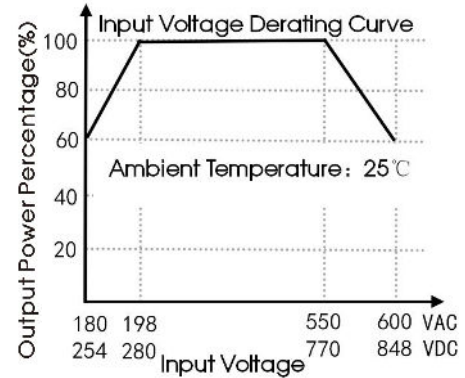
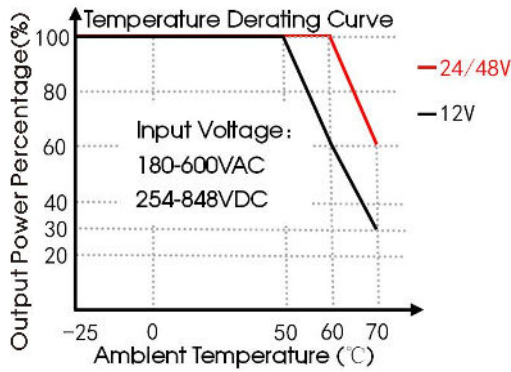
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### Electromagnetic Compatibility (EMC)

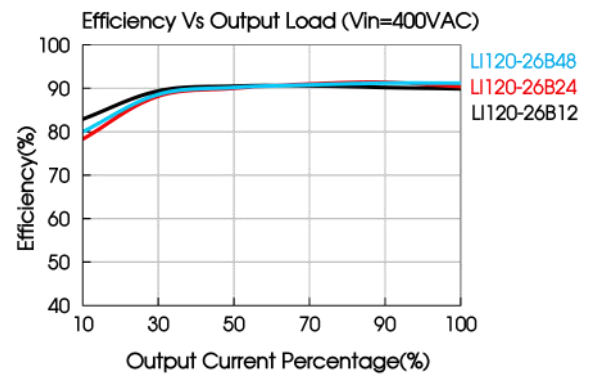
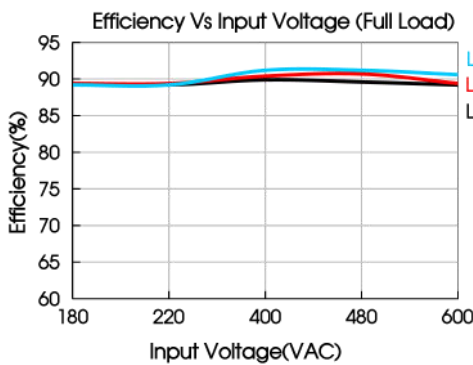
Emissions	CE	CISPR32 EN55032	CLASS B	
	RE	CISPR32 EN55032	CLASS B	
	Harmonic current	IEC/EN61000-3-2	CLASS A	
	Voltage flicker	IEC/EN61000-3-3		
Immunity	ESD	IEC/EN61000-4-2	Contact $\pm 4\text{KV}$ /Air $\pm 8\text{KV}$	Perf. Criteria A
	RS	IEC/EN61000-4-3	10V/m	Perf. Criteria A
	EFT	IEC/EN61000-4-4	$\pm 2\text{KV}$	Perf. Criteria A
	Surge	IEC/EN61000-4-5	Line to line $\pm 2\text{KV}$ /line to ground $\pm 4\text{KV}$	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	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 180-198VAC/550-600VAC and a DC input between 254-280VDC/770-848VDC, 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.




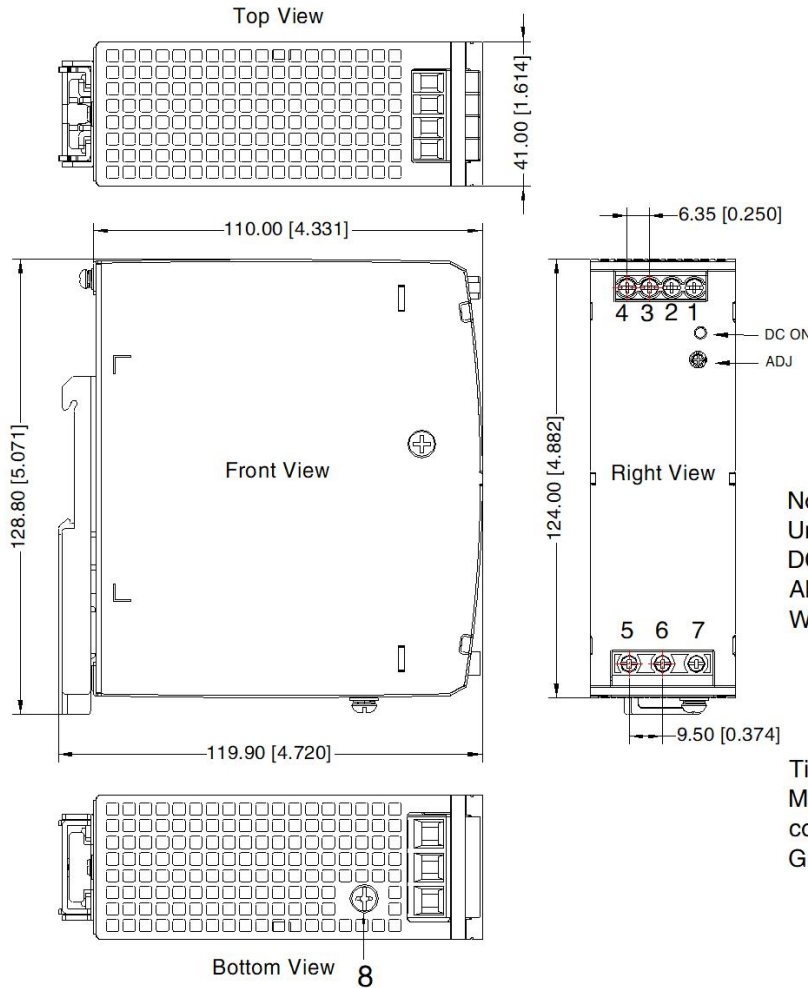
# AC/DC 120W DIN-Rail Power Supply


LI120-26Bxx Series


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## Dimensions and Recommended Layout

THIRD ANGLE PROJECTION 



Pin-Out	
Pin	Mark
1	+Vo
2	-Vo
3	DC OK
4	
5	AC(L1)
6	AC(L2)
7	

7, 8 any position must be connected to the earth()

Note:

Unit: mm[inch]

DC ON: Output status indicator LED

ADJ: Output adjustable resistor

Wire range: Input: 26-10 AWG

Output: 12V: 16-10AWG

24V: 20-10AWG

48V: 22-10AWG


DC OK: 24-16AWG

Tightening torque: Max 0.5 N·m

Mounting rail: TS35, rail needs to connect safety ground

General tolerances:  $\pm 1.00[\pm 0.039]$

Note:

- For additional information on Product Packaging please refer to [www.mornsun-power.com](http://www.mornsun-power.com). Packaging bag number: 58220199;
- Unless otherwise specified, parameters in this datasheet were measured under the conditions of  $T_a=25^\circ\text{C}$ , humidity<75%RH with nominal input voltage and rated output load;
- The room temperature derating of  $5^\circ\text{C}/1000\text{m}$  is needed for operating altitude greater than 2000m;
- All index testing methods in this datasheet are based on our company corporate standards;
- In order to improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability;
- We can provide product customization service, please contact our technicians directly for specific information;
- Products are related to laws and regulations: see "Features" and "EMC";
- The out case needs to be connected to PE () of system when the terminal equipment in operating;
- 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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