



### 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, IEC62368, IEC60664



UL61010-1  
UL61010-2-201

EN62368-1

BS EN62368-1

RoHS

RoHS

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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 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.
UL/EN/BIS	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	Rated input (certified voltage)	220	--	480	VAC
	AC input	180	--	600	
	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	

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 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 < 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	--	--	%/ $VAC$
	180VAC - 198VAC		2.23	--	--	
	550VAC - 600VAC		0.8	--	--	
	2000m-5000m		5.0	--	--	
Safety Standard			UL61010-1, UL61010-2-201, IS13252 (Part1) safety approved & EN62368-1, BS EN62368-1 (Report); Design refer to UL508, IEC62368-1, IEC60664			
Safety Class			CLASS I			
MTBF	MIL-HDBK-217F@25 $^{\circ}C$		>300,000 h			

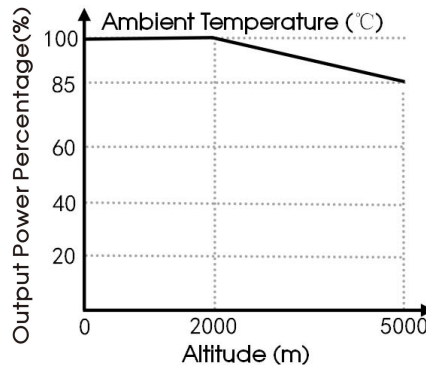
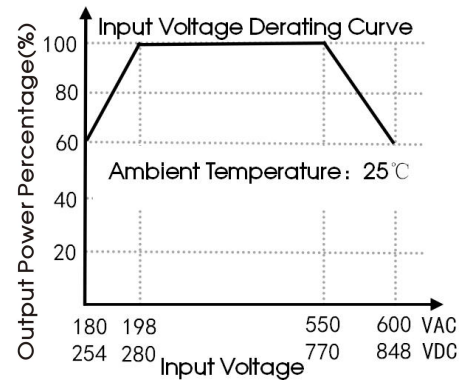
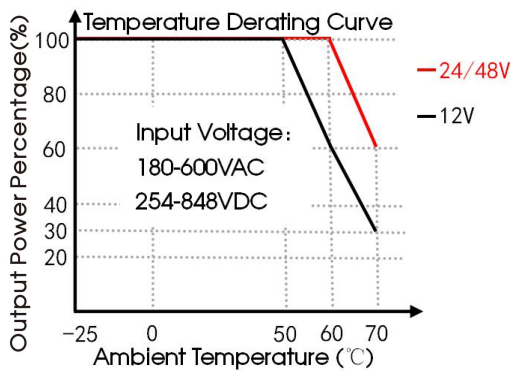
## Mechanical Specifications

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

### Electromagnetic Compatibility (EMC)

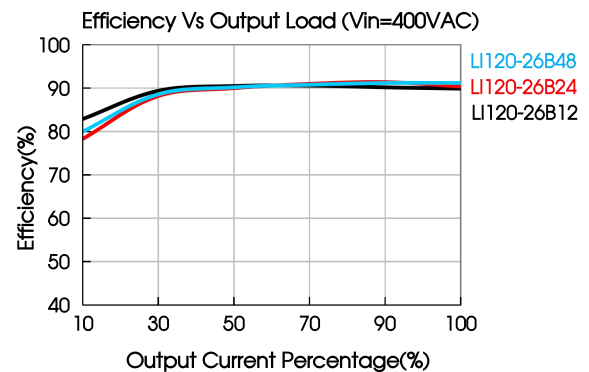
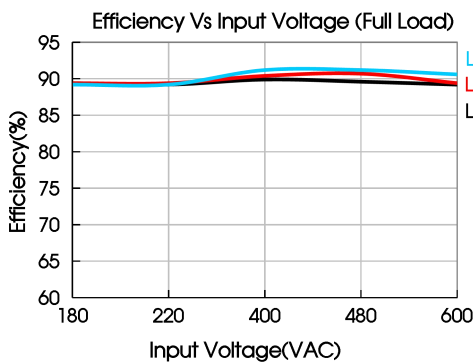
Emissions	CE	CISPR32 EN55032	CLASS B	
	RE	CISPR32 EN55032	CLASS B	
	Harmonic current	IEC/EN61000-3-2	CLASS A	
	Voltage flicker	IEC/EN61000-3-3		
Immunity	ESD	IEC/EN61000-4-2	Contact $\pm 4\text{KV}$ /Air $\pm 8\text{KV}$	Perf. Criteria A
	RS	IEC/EN61000-4-3	10V/m	Perf. Criteria A
	EFT	IEC/EN61000-4-4	$\pm 2\text{KV}$	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




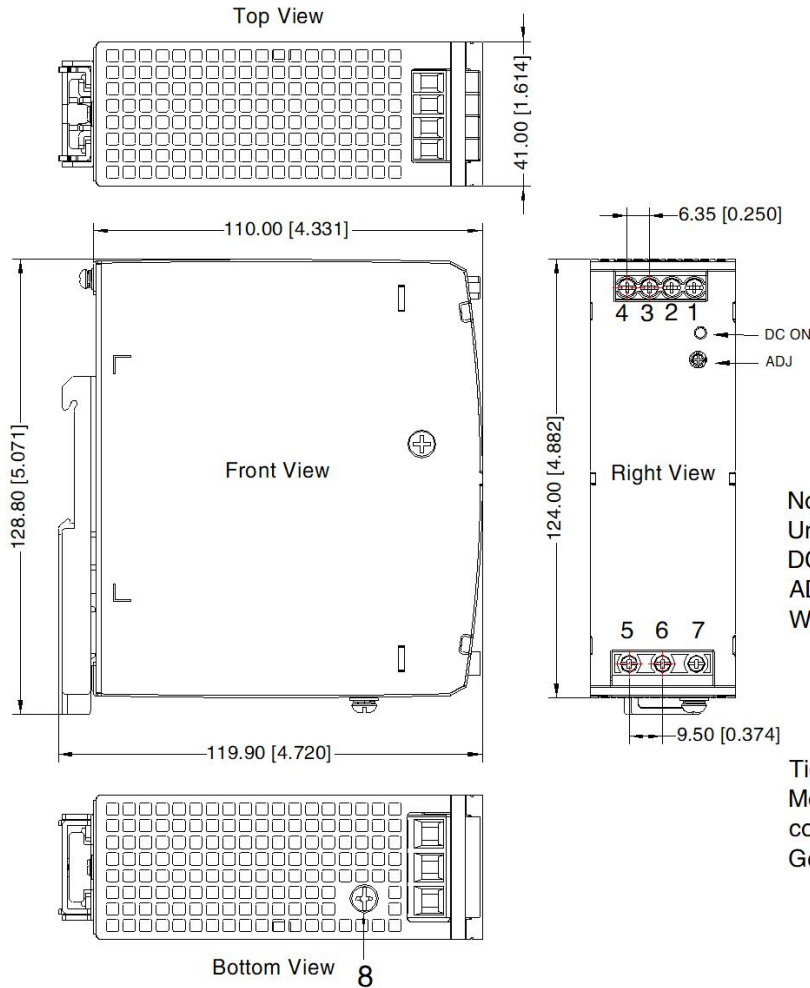
Note: ① With an AC input between 180-198VAC/550-600VAC and a DC input between 254-280VDC/770-848VDC, the output power must be derated as per temperature derating curves;


② This product is suitable for applications using natural air cooling; For applications in closed environment please consult Mornsun FAE.




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: ± 1.00[ ± 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 Ta=25°C, humidity<75%RH with nominal input voltage and rated output load;
- The room temperature derating of 5°C/1000m 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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