



FEATURES

- Universal 90 - 264VAC or 120 - 370VDC Input voltage
- Operating ambient temperature range: -30℃ to +70℃
- High efficiency, high reliability, long service life
- LED indicator for power on
- Output short circuit, over-current, over-voltage protection
- High I/O isolation test voltage up to 3000VAC
- Emissions compliant to CISPR32/EN55032 CLASS B
- Meet IEC/UL62368-1, EN60335-1, GB4943.1 safety standards
- Operating altitude up to 5000m
- 3 years warranty

LM75-10Axx series of power converter design features two non isolated output versions, The products can be used in harsh working environments with an ambient temperature range from -30℃ to +70℃, without the need of a fan for further heat dissipation. In addition, the converters EMC immunity performance meets the requirements of IEC61000 standard and meet emission standard CISPR32/EN55032, class B without any external components, thus providing excellent EMC protection. The products also meet IEC/EN/UL62368, EN60335, GB4943 safety standards. The converters integrate a variety of protection features and offer a high-performance to low-cost ratio providing the best power solution for a variety of industries such as industrial control equipment, instrumentation and smart home and building equipment application.

Selection Guide

Certification	Part No.	Output Power	Nominal Output Voltage and Current (Vo/Io)*		Output Voltage Adjustable Range (V) Vo1	Efficiency at 230VAC (%) Typ.	Max. Capacitive Load (uF)	
			Vo1/Io1	Vo2/Io2			Vo1	Vo2
EN	LM75-10A0512-30	71W	+5VDC/7.0A	+12VDC/3.0A	4.75-5.5V	80	7000	3000
	LM75-10A0512-40	68W	+5VDC/4.0A	+12VDC/4.0A	4.75-5.5V	80	7000	3000
	LM75-10A0524-20	73W	+5VDC/5.0A	+24VDC/2.0A	4.75-5.5V	81	5000	2000

Note: 1. *Working current range: If any one of the 2 outputs arrive at the maximum current, the total output power cannot exceed the rated power and working time < 3s.

2. The product picture is for reference only. For details, please refer to the actual product.

Input Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Input Voltage Range	AC input		90	--	264	VAC
	DC input		120	--	370	VDC
Input Frequency			47	--	63	Hz
Input Current	115VAC		--	--	1.7	A
	230VAC		--	--	0.9	
Inrush Current	115VAC		--	30	--	
	230VAC		--	45	50	
leakage Current	240VAC		<2.0mA			
Hot Plug			Unavailable			

Output Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	Full load range (balanced load)	Vo1	--	±2	--	%
		Vo2	LM75-10A0512-30		±6.0	
			LM75-10A0512-40		±6.0	
			LM75-10A0524-20		±8.0	
Line Regulation	Rated load	Vo1	--	±0.5	±1.0	
		Vo2	LM75-10A0512-30		±1.5	
			LM75-10A0512-40		±1.5	
			LM75-10A0524-20		±1.5	

AC/DC 75W Enclosed Switching Power Supply

LM75-10Axx Series

MORNSUN®

Load Regulation	0% - 100% load (Balanced load)	Vo1		--	±0.5	--	
		Vo2	LM75-10A0512-30	--	±3.0	--	
			LM75-10A0512-40		±3.0		
			LM75-10A0524-20	--	±6.0	--	
Ripple & Noise*	20MHz bandwidth (peak-peak value)	Vo1		--	80	--	mV
		Vo2	LM75-10A0512-30	--	120	--	
			LM75-10A0512-40	--	120	--	
			LM75-10A0524-20	--	150	--	
Temperature Coefficient	Vo1			--	±0.03	--	%/°C
Air cooling*	Rated input voltage			4.75	--	5.50	VDC
Switching Delay Time	Rated input voltage			--	--	3.0	s
Output Voltage Rise Time	115/230VAC			--	--	30	ms
Hold-up Time	115VAC			5	--	--	
	230VAC			30	--	--	
Short Circuit Protection	Recovery time <5s after the short circuit disappear			Hiccup, continuous, self-recover			
Over-current Protection	2 outputs with equal-scale load			110% - 200%Io, self-recover			
Over-voltage Protection				5.75VDC ≤ Vo1 ≤ 6.75VDC, Hiccup, self-recover			
Note: 1.*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.							
2.*When Vo1 working in the adjustable range, the output power please refer to power derating curve and should not be exceed the rated output power.							

General Specifications

Item		Operating Conditions		Min.	Typ.	Max.	Unit
Isolation	Input - Output	Electric Strength Test for 1min., leakage current <10mA		3000	--	--	VAC
	Input -⊕			2000	--	--	
	Output -⊕			500	--	--	
Insulation Resistance	Input - Output	Environment temperature: 25±5℃, Relative humidity: <95%RH, non-condensing Testing voltage: 500VDC		100	--	--	MΩ
	Input -⊕			100	--	--	
	Output -⊕			100	--	--	
Operating Temperature		Refer to derating curve		-30	--	+70	℃
Storage Temperature				-40	--	+85	
Storage Humidity		Non-condensing		10	--	95	%RH
Operating Humidity				20	--	90	
Power Derating	Input voltage derating	90VAC -115VAC	0.8	--	--	%VAC	
		115VAC - 264VAC	0	--	--		
		120VDC -160VDC	0.5	--	--	%VDC	
		160VDC - 370VDC	0	--	--		
	Operating temperature derating	-30℃ to +40℃	0	--	--	%℃	
		+40℃ to +70℃	2.0	--	--		
Safety Standard				EN/BS EN 62368-1(Report) safety approved; Design refer to IEC/UL62368-1, EN60335-1, GB4943.1			
Safety Class				CLASS I			
MTBF		MIL-HDBK-217F@25℃		>300,000 h			

Physical Specifications

Case Material	Metal (AL1100, SGCC)
Dimension	129.00 x 97.00 x 30.00 mm
Weight	310g (Typ.)
Cooling Method	Free air convection

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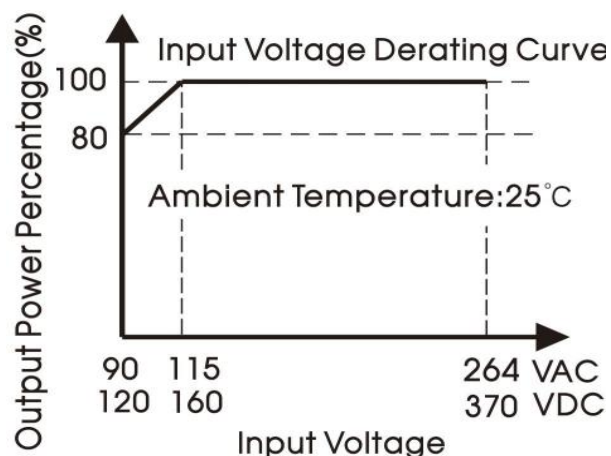
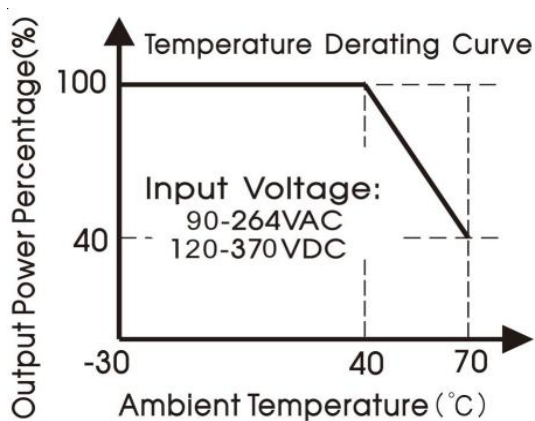
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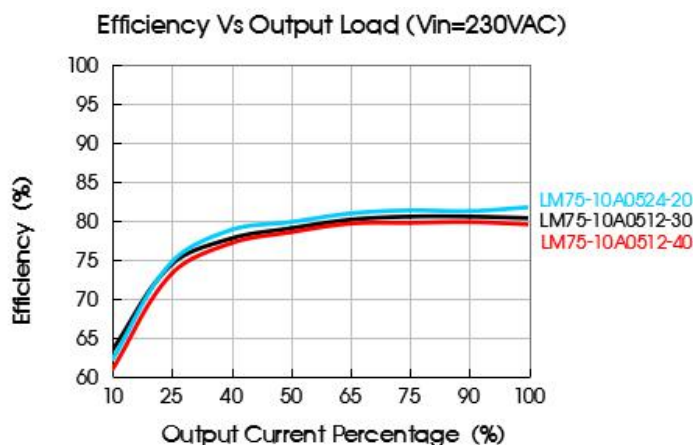
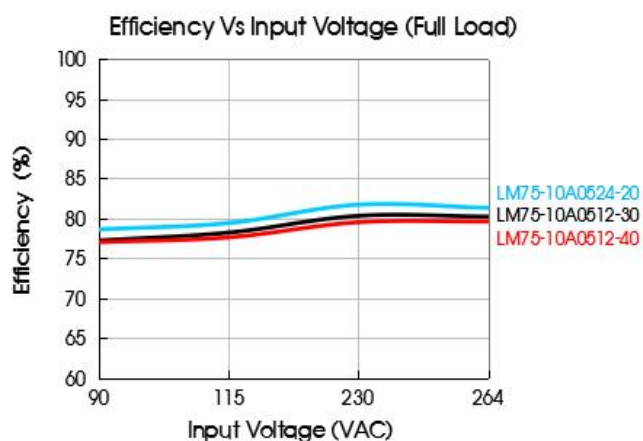
Electromagnetic Compatibility (EMC)

Emissions	CE	CISPR32/EN55032	CLASS B	
	RE	CISPR32/EN55032	CLASS B	
	Harmonic current	IEC/EN61000-3-2	CLASS A	
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 $\pm 2\text{KV}$ /Line to PE $\pm 4\text{KV}$	perf. Criteria A
	CS	IEC/EN61000-4-6	10 Vr.m.s	perf. Criteria A
	Voltage dip, short interruption and voltage variation	IEC/EN61000-4-11	0%,70%	perf. Criteria B

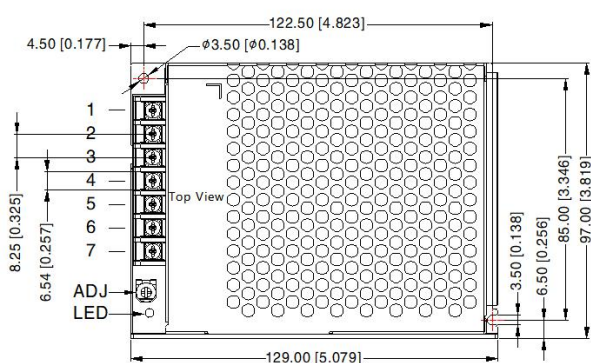
Product Characteristic Curve



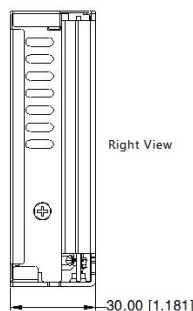
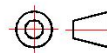
Note: 1. With an input voltage between 90 - 115VAC and a DC input between 120 - 160VDC the output power must be derated as per the temperature derating curves;
2. This product is suitable for applications using natural air cooling; for applications in closed environment please consult Mornsun FAE.



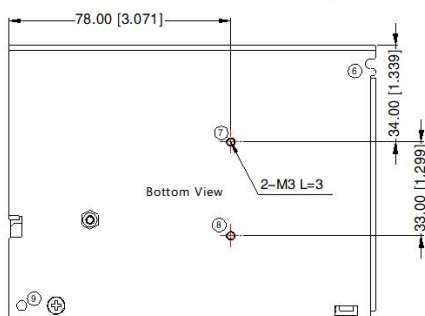
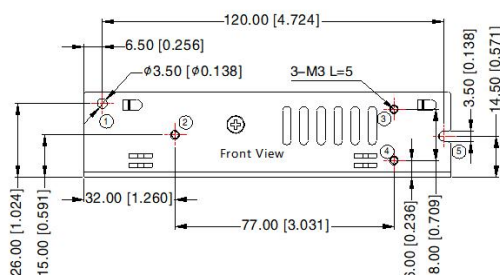
Dimensions and Recommended Layout



THIRD ANGLE PROJECTION



Pin-Out	
Pin	Mark
1	AC(L)
2	AC(N)
3	
4	-Vo2
5	+Vo2
6	-Vo1
7	+Vo1



①-⑨ any position must be connected to the earth ()

Position	Screw Spec.	L(max)	Torque(Recommend)
②-④	M3	5mm	0.4N · m ± 10%
⑦-⑧	M3	3mm	0.4N · m ± 10%

Note:

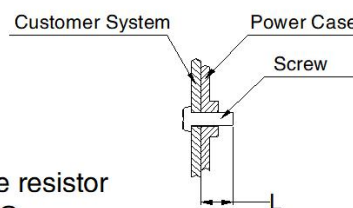
Unit: mm[inch]

ADJ: Output adjustable resistor

Wire range: 22-14AWG

Connector tightening torque: M3 0.5N · m ± 10%

General tolerances: ± 1.00[± 0.039]



Note:

- For additional information on Product Packaging please refer to www.mornsun-power.com. Packaging bag number: 58220065;
- 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;
- 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;
- The output voltage can be adjusted by the ADJ, clockwise to decrease;
- Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units;
- The power supply is considered a component which will be installed into a terminal equipment. All EMC tests should be confirmed with the final equipment. Please consult our FAE for EMC test operation instructions.

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