CUSTOMER

SPECIFICATION

MODEL NO.: W_1P_2-H240-V012 **DOCUMENT NO.:**

CUSTOMER MODEL NO.: **DATE: 2017-03-02**

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CUSTOMER	“√”	CUSTOMER SIGNATURE	NOTE
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Shenzhen Leadpower Technology Co., Ltd.

Address: Unit 401,Block 5B, Skyworth Innovation Valley, Tangtou 1st Road, Shiyan Street, Bao'an District, Shenzhen, China

Phone: (86) 755-23208269

Fax：(86) 755-23208269

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ONE: APPLICATION OF THIS FILE

1.Reference of design, manufacturing and inspection
2.Reference of raw material selection
3.Reference of QC sampling inspection
4.Reference of technical certification

TWO: PRODUCT FEATURES

W_2P_2-H240-V012 is an AC to DC power supply, its main features are as follows:

1.Input voltage range 200~240Vac;
2.Built-in active PFC function;
3.High efficiency, low temperature rise, high reliability;
4.Built-in EMI filter, Lower ripple & noise;
5.Protections: input under voltage, output over current, over voltage, over load, short circuit, & over temperature;
6.CCC & CE approvals;
7.Main parameters are as follows:

Max. Output Power	Rated Input Voltage	Output Voltage	Rated Output Current	Output Voltage Tolerance	Output Ripple & Noise
240W	200～240Vac	12Vdc	20A	≤±2%	≤300mVp-p

THREE: ENVIRONMENT

No.	Item	Technical Requirements	Unit	Note
1	Working Temperature	-40~ +70(Typ. 25)	℃	Refer to “Derating Curve”
2	Max. Case Temperature	90	℃	Tc
3	Storage Temperature	-45~ +85(Typ. 25)	℃	
4	Relative Humidity	10～95	%	No condensing
5	Altitude	0～5000	m	Altitude over 2000 meters, the load is derated by 1.5% for every 100 meters.
6	Protection Rating	IP67		The power supply shall not be immersed in water for more than 0.5 hours (less than 1 meter in depth); It shall not be buried underground for use.
7	Cooling Method	Ventilation Cooling		

FOUR: ELECTRIC CHARACTERISTIC

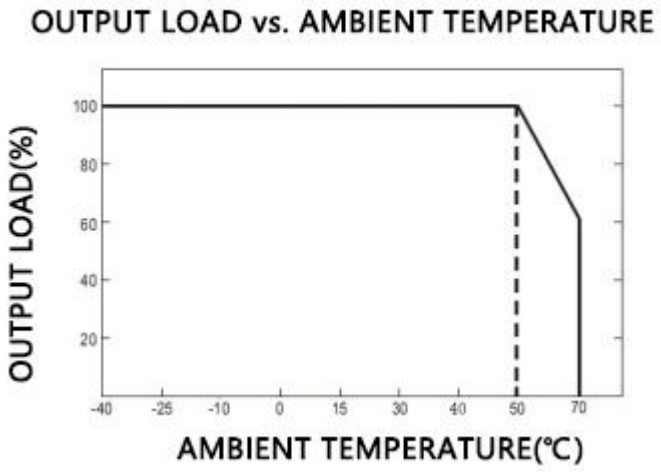
1	Input			
No.	**Item**	**Technical Requirements**	**Unit**	**Note**
1.1	Rated Input Voltage	200～240	Vac	
1.2	Input Voltage Range	176～264	Vac	Refer to “Derating Curve”
1.3	Rated Frequency	50/60	Hz	
1.4	Frequency Range	47～63	Hz	
1.5	Max. Input Current	3	A	200Vac input, rated load
1.6	Inrush Current	≤80	A	240Vac input, 25℃ cold start
1.7	PF	≥0.95		200～240Vac, rated load
1.8	THD	15	%	200～240Vac, rated load

2	Output			
No.	**Item**	**Technical Requirements**	**Unit**	**Note**
2.1	Rated Output Voltage	12	Vdc	
2.2	Rated Output Current	20	A	
2.3	Max. Output Power	240	W	Refer to “Derating Curve”
2.4	Efficiency	≥90%(Typ. 91%)	-	25℃, 230Vac input, rated load
2.5	Line Regulation	±1%		
2.6	Load Regulation	±2%		
2.7	Voltage Tolerance	±2%		
2.8	Ripple & Noise	≤300	mVp-p	25℃, rated input, rated load, bandwidth of 20MHz, connected a 10uF electrolytic capacitor and a 0.1uF ceramic capacitor in parallel to the output terminals.
2.9	Dynamic Response Overshoot	≤5	%	5%~50%~25%, 50%~75%~50 load dynamics, half-wave period is 4mS, current change slope is 0.1A/uS
2.10	Dynamic Response Recovery Time	200	us	
2.11	Turn-On Delay Time	⩽3	S	200~240Vac input, rated load
2.12	Output Voltage Rise Time	⩽50	ms	200~240Vac input, rated load,25℃
2.13	Turn-On/Off Overshoot	⩽±10%		
3	**Protection**			
No.	**Item**	**Technical Requirements**	**Unit**	**Note**
3.1	Over Current Protection	23～30	A	Hiccup model, recovers automatically after fault condition is removed
3.2	Over Temperature Protection	60～70	℃	Ambient temperature, full load

3.3	Over Voltage Protection	≤16	V	
3.4	Short Circuit Protection	Long time short-circuit protection without damage, recovers automatically after fault condition is removed.		
3.5	Input Under-Voltage Protection	130~170	Vac	Test at half load
3.6	Input Under-Voltage Recovery	150~180	Vac	Test at half load

Derating Curve

In order to ensure that the product can achieve the expected design service life, please configure the AC supply voltage and load of the power supply according to the derating requirements of the following curve. When the ambient temperature rises to a certain value, the power supply also needs to be derated.



FIVE: SAFETY STANDARDS AND EMC

5.1 Safety Characteristic

No.	Item		Testing Condition	Note
5.1.1	Dielectric Strength (Hi-Pot)	I/P-O/P	3750Vac 60S, current≤10mA	No arcing, no breakdown
5.1.2		I/P-FG	1750Vac 60S, current≤10mA	
5.1.3		O/P-FG	500Vac 60S, current≤10mA	
5.1.4	Insulation Resistance	I/P-O/P	≧10MΩ@ 500Vdc	90% RH, 1 atm
5.1.5		I/P-FG	≧10MΩ@ 500Vdc	
5.1.6		O/P-FG	≧10MΩ@ 500Vdc	

5.1.7	Leakage Current	＜0.7mA	240Vac/60Hz
5.1.8	Safety Standard	IEC/EN61347-1, EN61347-2-13, GB19510, & UL1310. **CCC, CB+CE(TUV) Passed**	

5.2 EMC Characteristics

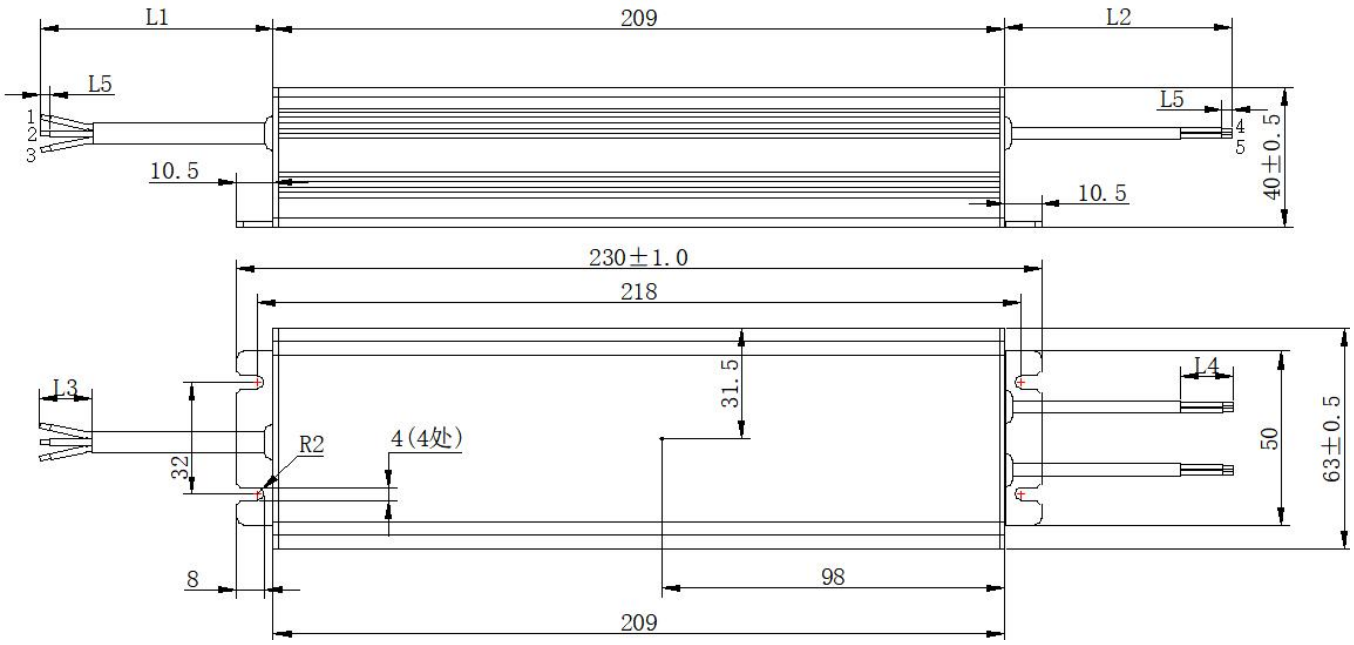
No.	Item	Test Conditions	Note
5.2.1	Harmonic Current	IEC 61000-3-2 Class C (@Load≥50%)	
5.2.2	Conducted Emissions (CE)	EN55015	
5.2.3	Radiated Emissions (RE)	EN55015	
5.2.4	Radiated, Radio-Frequency, Electromagnetic Field Immunity (RS)	IEC 61000-4-3 Level 2, IEC61547, Criterion B	
5.2.5	Conducted Immunity (CS)	IEC 61000-4-6 Level 2, IEC61547, Criterion B	
5.2.6	Electrical Fast Transient (EFT) /Burst	IEC 61000-4-4 Level 2, IEC61547, Criterion B	
5.2.7	Surge	IEC 61000-4-5 Differential Mode: ±4kV Common Mode: ±6kV Criterion B	
5.2.8	Electrostatic Discharge(ESD)	IEC 61000-4-2 Contact Discharge:±4kV, Air Discharge:±8kV, IEC61547, Criterion B	
5.2.9	Voltage Dips, Short Interruptions & Voltage Variations Immunity(DIPS)	IEC 61000-4-11, Criterion C	

Immunity criterion:

A: No degradation of performance is allowed in any way compared to normal conditions.
B: Degradation of performance is allowed, but reset or function interruption in any way is not allowed
C: Automatic reset after temporary function interruption is allowed, and prolonged function interruption or user reset is not allowed.
R: Damage to any device except the protection device is not allowed, and the performance can be restored after the replacement of the damaged protection device.

SIX: MECHANICAL SPECIFICATION

No.	Item	Parameters (Unit: mm)	Note
6.1.1	Overall Dimension	**230(L)*63 (W)*40(H)**	
6.1.2	Three-Core Input Cable	Length: 300	Brown(L) Blue(N) Yellow-Green G)
6.1.3	Two-Core Output Cable	Length: 300	Brown(V+) Blue(V-)



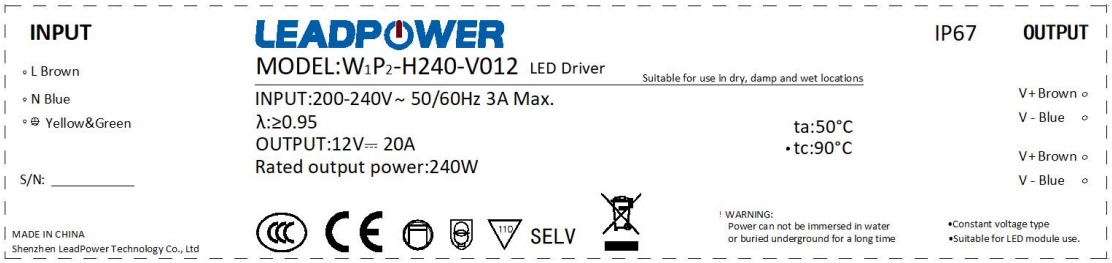
Note: ① L1=300±10mm；L2=300±10mm；L3=35±5mm；L4=35±5mm；L5=5±1mm

② Dual output in parallel. When using and installing, the two output cables must be connected to the load at the same time to reduce the line loss.

SEVEN: RELIABILITY REQUIREMENT

MTBF≥150K hours. Test condition: 25℃, full load, MIL-HDBK-217F Notice 2

EIGHT: PRODUCT LABEL



Material: matte silver polyester(heat resistance up to 85℃, environment friendly, stain & scratch resistance)

NINE: SAFETY USER MANUEL

9.1. Unpacking

Check the device for damage in transit. Keep packing materials until all power supplies have been registered and inspected.

9.2. General

The air passage of the power supply unit shall not be blocked. The distance between any conductive parts of the power supply and metal parts must comply with the relevant safety standards.

9.3. Safety protection matters

Once the safety protection of the equipment is damaged, the equipment must be stopped and dealt with according to the relevant maintenance regulations.

Condensation may cause dangerous problems when the power supply is transferred from a cold environment to a warm environment, so the grounding requirements must be strictly enforced. Only qualified personnel connect it to the grid.

The power supply must be shut down for four minutes before maintenance, so that the capacitors have sufficient discharge time.

9.4. Notes

The power supply should be used under the environmental conditions specified in the specification;

The power supply shall not be immersed in water for more than 0.5 hours (less than 1 meter in depth); It shall not be buried underground for use;

The power supply should be well ventilated and dissipated during use;

During startup or use, if smoke or unpleasant odor is found, turn off the power immediately.

TEN: PACKING, TRANSPORTATION, STORAGE

10.1. Packing

The product name, model number, quantity, manufacturer identifier, inspection certificate issued by the manufacturer's quality department, and manufacturing date shall be printed on the outer box.

10.2. Transportation

It is suitable for transportation by vehicle, ship and plane. During transportation, it should be covered with awning, keeping out of the direct sunlight, civilized loading and unloading.

10.3. Storage

When the product is not in use, it should be placed in the packaging box. The ambient temperature of the warehouse should be between -45 and +85°C, and the relative humidity there should be 10%~95%.

The warehouse is not allowed to have harmful gases, flammable, explosive products and corrosive chemicals and no strong mechanical vibration, shock and strong magnetic field.

The packaging box should be at least 20cm high from the ground, at least 50cm distance from the wall, heat source, window & air inlet. The storage period under above conditions is generally 2 years, re-inspection should be conducted after 2 years.