

CUSTOMER

SPECIFICATION

MODEL NO.: W₁P₂-H120-012

DOCUMENT NO.: _____

CUSTOMER NO.: _____

DATE: 2018-11-22

PLEASE RETURN US COPY OF "SPECIFICATION FOR APPROVAL" WITH YOUR APPROVAL SIGNATURES.

CUSTOMER	"√"	CUSTOMER SIGNATURE	NOTE
FULL APPROVAL			
CONDITIONAL APPROVAL			
REJECT			

DRAWED BY	CHECKED BY	SAFETY CHECK	APPROVED BY

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

CONTENT

ONE: APPLICATION OF THIS FILE	2
TWO: PRODUCT FEATURES	2
THREE: ENVIRONMENT	3
FOUR: ELECTRIC CHARACTERISTIC	3
FIVE: SAFETY STANDARDS AND EMC	6
SIX: MECHANICAL SPECIFICATION	7
SEVEN: RELIABILITY REQUIREMENT	8
EIGHT: PRODUCT LABEL	8
NINE: SAFETY USER MANUEL	8
TEN: PACKING, TRANSPORTATION, STORAGE	9

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

W₁P₂-H120-012 is an AC to DC power supply, its main features are as follows:

1. Rated input voltage range 200-240Vac
2. Constant voltage + constant current output mode
3. Built-in active PFC function, PF>0.95
4. High efficiency, low temperature rise, high reliability
5. Built-in EMI filter, lower ripple & noise

6. Protections: output over voltage, over load, short circuit, & over temperature
7. CCC & CE approvals
8. Main parameters are as follows:

Max. Output Power	Rated Input Voltage	Output Voltage	Rated Output Current	Voltage Tolerance	Output Ripple & Noise
120W	200 ~ 240Vac	12Vdc	10A	≤±3%	≤150mVp-p

THREE: ENVIRONMENT

No.	Item	Technical Requirements	Unit	Note
1	Working Temperature	-40~ +70 (Typ. 25)	°C	Refer to “Derating Curve”
2	Max. Case Temperature	90	°C	Tc
3	Storage Temperature	-45~ +85 (Typ. 25)	°C	
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
----------	--------------

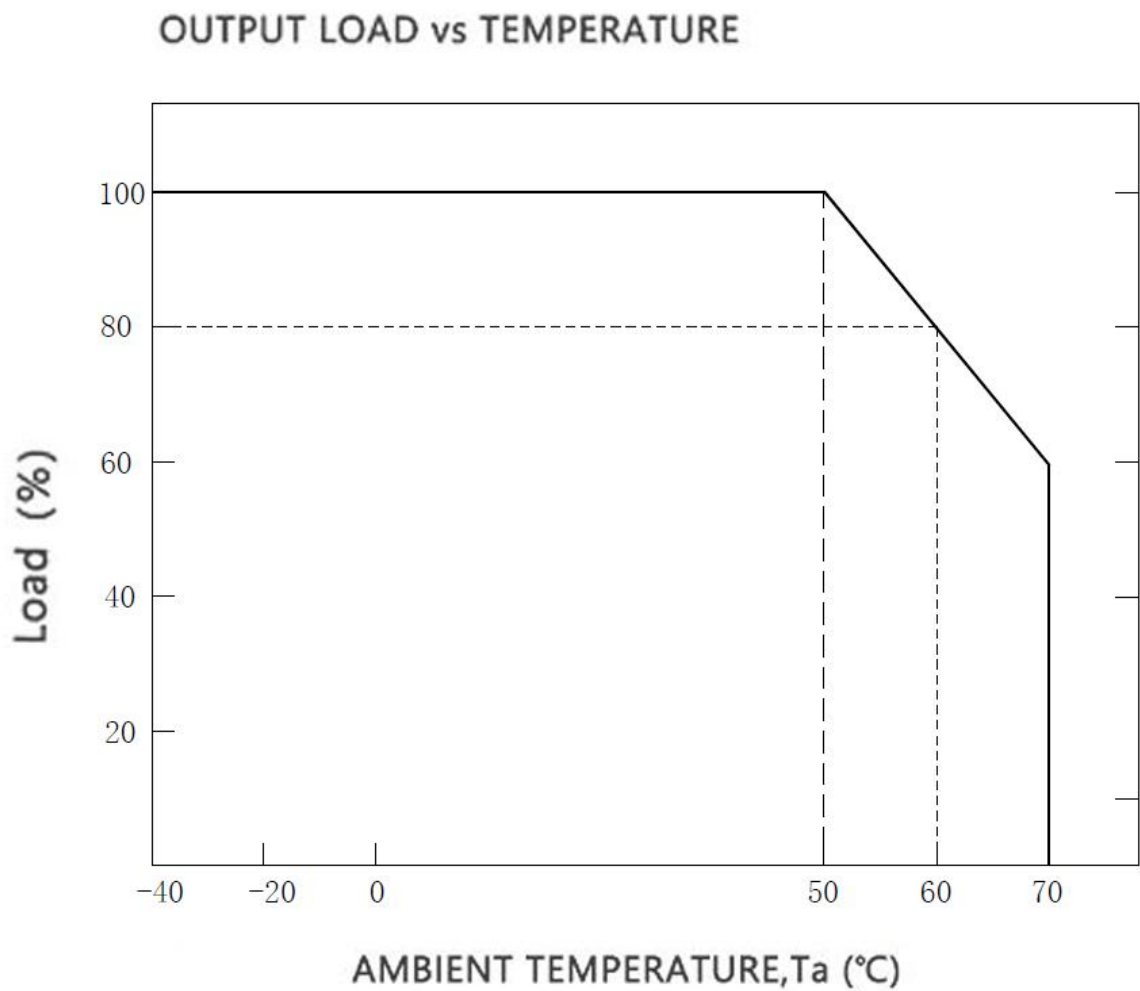
No.	Item	Technical Requirements	Unit	Note
1.1	Rated Input Voltage	200~240	Vac	Typ. 220Vac
1.2	Input Voltage Range	180 ~ 264	Vac	
1.3	Rated Frequency	50/60	Hz	
1.4	Frequency Range	47 ~ 63	Hz	
1.5	Max. Input Current	1.5	A	200Vac, rated load
1.6	Inrush Current	≤90	A	240Vac, 25°C cold start

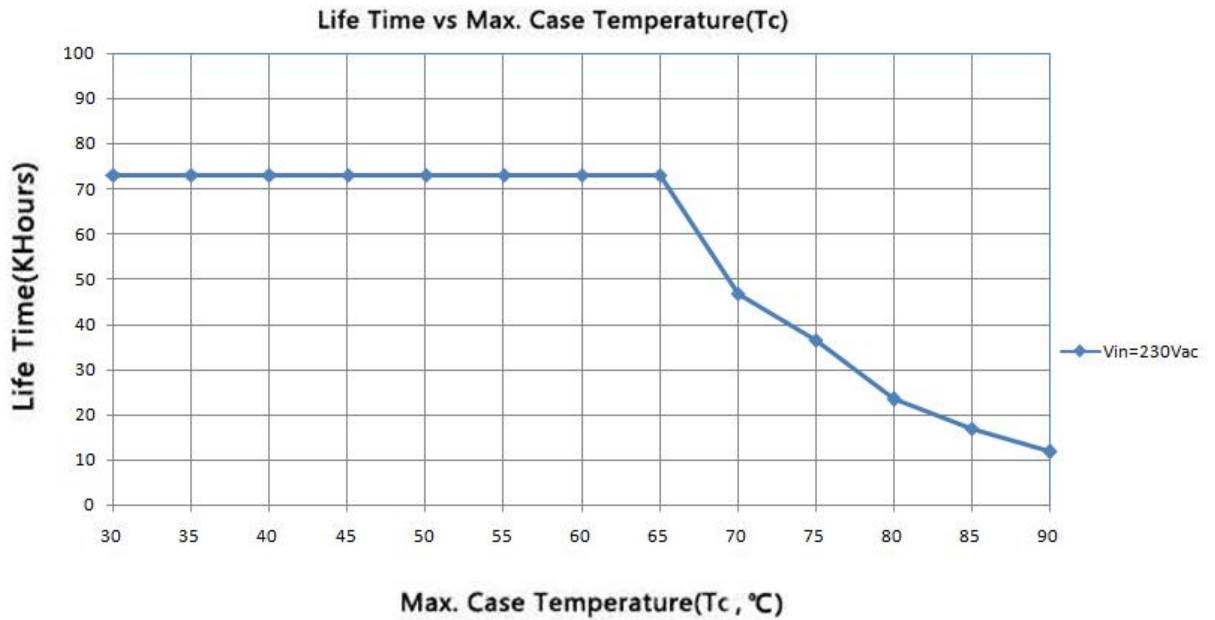
1.7	PF	≥0.95		200-240Vac, rated load
1.8	THD	≤15	%	200-240Vac, rated load
2	Output			
NO	Item	Technical Requirements	Unit	Note
2.1	Rated Output Voltage	12	Vdc	Constant voltage mode
2.2	Output Voltage Range Under Constant Current Area	12~24	Vdc	Refer to “LED drive mode”
2.3	Rated Output Current	9	A	Refer to “Derating Curve”
2.4	Max. Output Current	10	A	
2.4	Max. Output Power	120	W	Refer to “Derating Curve”
2.5	Efficiency	≥87%(Typ. 88.5%)		25°C , 230Vac input, rated load
2.6	Line Regulation	±1%		
2.7	Load Regulation	±2%		
2.8	Voltage Tolerance	±2%		Constant voltage area
2.9	Current Tolerance	±5%		Constant current area
2.10	Output Voltage Rise Time	≤200	ms	200-240Vac, load:resistor, 25°C
2.12	Dynamic Response Overshoot	≤5	%	25%~50%~25%, 50%~75%~50%,Load dynamics, half-wave period is 4mS, current change slope is 0.1A/uS
2.13	Dynamic Response Recovery Time	200	us	
2.14	Turn-On Delay Time	≤3	S	Rated input voltage, rated load
2.15	Turn-On/Off Overshoot	≤±10	%	Constant voltage mode
2.16	Output Voltage Ripple & Noise	≤200	mVp-p	25°C , rated input, rated load, bandwidth of 20MHz, connected a 10uF electrolytic capacitor and a 0.1uF ceramic capacitor in parallel to the output terminals.
2.17	Output Current Ripple	≤300	mAp-p	25°C, constant current area, load: LED lamp

3	Protection			
NO	Item	Technical Requirements	Unit	Note
3.1	Over Voltage Protection	≤ 16	V	
3.2	Over Temperature Protection	60-80	°C	Ambient temperature, full load
3.3	Short Circuit Protection	Long time short-circuit protection without damage, recovers automatically after fault condition is removed.		

Derating Curve:

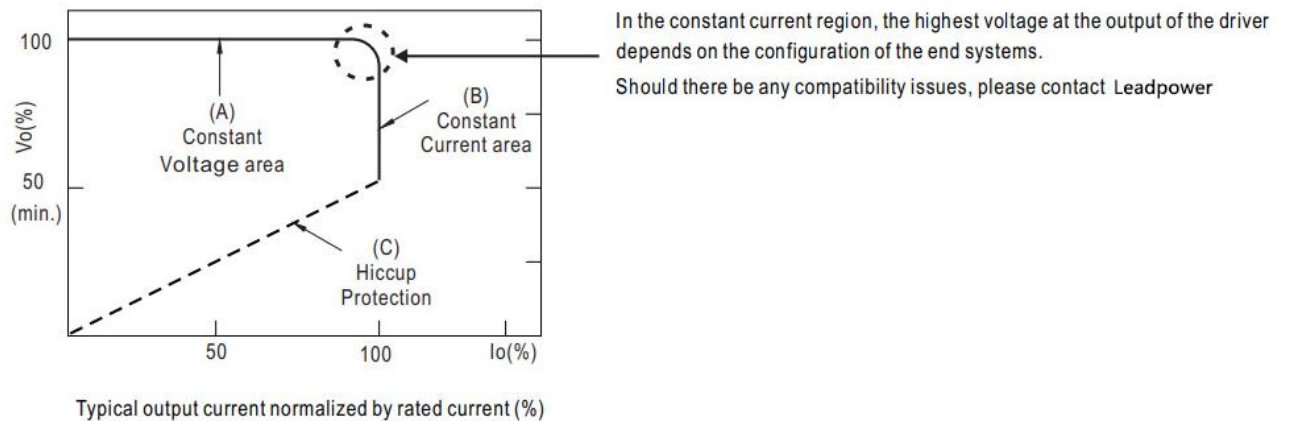
In order to ensure that the product can achieve the expected design service life, please configure the AC supply voltage and load of the power supply according to the derating requirements of the following curve. When the ambient temperature rises to a certain value, the power supply also needs to be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





LED Drive Mode:

This LED Power could work at CV Mode(A Area) and CC Mode(B area) as below:



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	1 atm, 90%RH
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.
-------	-----------------	---

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: ±2kV Common Mode: ±4kV 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	185(L)*50(W)*31(H)	Aluminum case
6.1.2	Three-Core Input Cable	Length:300mm	Brown(L) Blue(N) Yellow-Green (G)
6.1.3	Two-Core Output Cable	Length:300mm	Brown(V+) Blue(V-)

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.