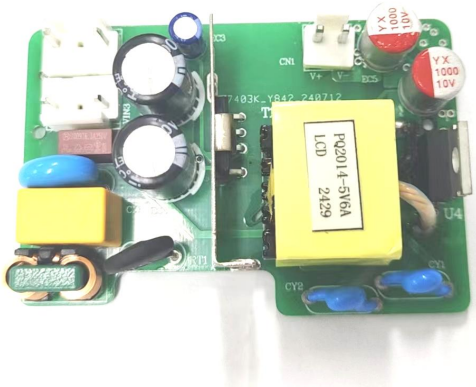
Shenzhen Hi-Link Electronic Co., Ltd.

HLK-30M05Z

User Manual



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1. Ultra-small Series Power Module

The ultra-small power supply module of HLK-30M05Z is a small, high-efficiency module power supply designed by Hi-link Electronics for customers. It has the advantages of global input voltage range, low temperature rise, low power consumption, high efficiency, high reliability, and high safety isolation. It has been widely used in industries such as smart home, automation control, communication equipment, and instrumentation.

2. Product Model

MODEL	Size (mm)	Output watt (W)	Output voltage (V)	Output current (mA)	Notes
HLK-30M05Z	70*45*22.6	30	5	6000	

3. Product features

1. Ultra-thin, ultra-small, smallest volume;
2. Global universal input voltage (100~240Vac)
3. Low power consumption, green environmental protection, no-load loss<0.5W
4. Low ripple, low noise
5. High output short circuit and over-current protection and self recovery
6. High efficiency, high power density
7. Input and output isolation voltage 4000Vac,Surge resistance 4KV
8. 100% full load aging and testing
9. High reliability, long life design, continuous working time is greater than 100,000 hours;
10. Meet UL, CE requirements; product design to meet EMC and safety testing requirement;
11. Using high-quality environmentally friendly waterproof plastic potting, moisture, vibration, water and dust to meet IP65 standards
12. Economic solutions, cost-effective
13. Work without external circuit
14. One year quality guarantee period

4. Environmental conditions

Items	Technical Parameters	Units	Notes
Working temperature	-25—+60	℃	

Storage temperature	-40—+80	℃	
Relative humidity	5—95	%	
Thermal methods	Natural cooling		
Atmospheric pressure	80—106	Kpa	
Altitude	≤2000	m	
Vibration	Vibration coefficient 10~500Hz,2G10min./1cycle, 60min.each along X,Y,Z axes		Meets requirements for secondary road transportation

5. Electrical characteristics

5.1. Input features

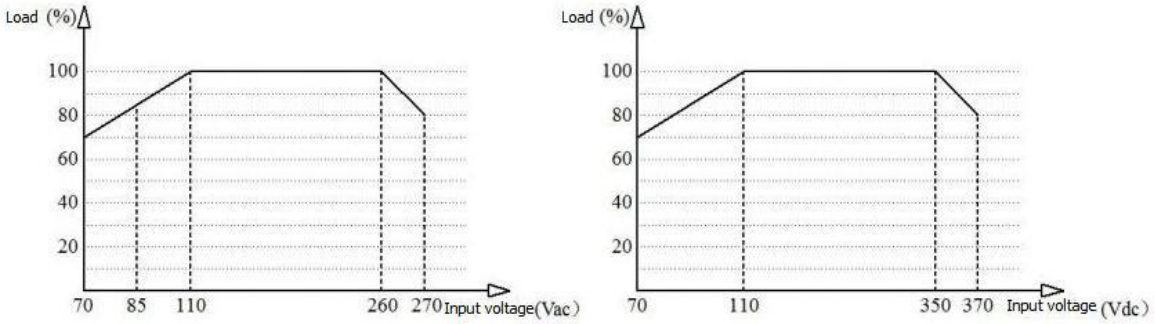
Items	Technical Parameters	Units	Notes
Rated input voltage	100-240	Vac	
Input voltage range	90-264	Vac	Or 120-350Vdc
The maximum input current	≤0.7	A	
Input inrush current	≤50	A	
Input low start	≤3	mS	
Long-term reliability	MTBF≥100, 000	h	
External fuse recommended	2A/250Vac		Slow blow

Note: Tested at room temperature

5.2. Output features (5V/6000mA)

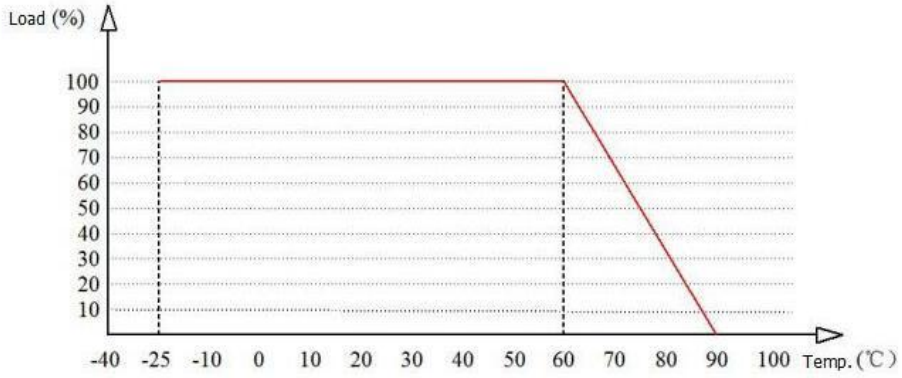
Items	Technical Parameters	Units	Notes
No-load rated output voltage	5±0.1	Vdc	
Full-load rated output voltage	5±0.2	Vdc	
Short time maximum output current	-	mA	
Long time maximum output current	6000	mA	
Voltage regulation	≤±2	%	
Load regulation	≤±5	%	
Input low voltage efficiency	Vin=115Vac, Output full load ≥ 85	%	
Input high voltage efficiency	Vin=230Vac, Output full load ≥ 87	%	
Output ripple and noise (mVp-p)	≤ 120 Rated input voltage, output full load. With 20MHz bandwidth oscilloscope, Load side 10uF and 0.1uF capacitance test.	mV	
Switching on/off overshoot amplitude	(Rated input voltage, output plus 10% load) ≤ 10	%V_O	
Output over-current protection	Output maximum load 110-130%	A	
Output short circuit protection	Direct short circuit in normal output and automatic return to normal operation after removal of short circuit		No-damage to the whole device

6. Input voltage and load characteristics



Input voltage and load characteristic curve

7. Working environment temperature and load characteristics



Environmental temperature and load characteristic curve

8. Safety characteristic

8.1 Certification

Product design meets UL and CE safety certification requirements. (The UL and CE certifications are made by the customer and need to be designed according to the reference circuit.)

8.2 Safety and electromagnetic compatibility

- The input design adopts UL listed 2A fuse
- The PCB board is made of double-sided copper clad foil, and the material fire resistance grade is 94-V0 grade
- Safety standard meets UL1012,EN60950,UL60950
- Insulation voltage I/P-O/P:2500Vac
- Insulation resistance I/P-O/P>100M Ohms/500Vdc 25℃ 70% RH
- Conduction and radiation meet EN55011, EN55022 (CISPR22)
- Electrostatic discharge IEC/EN 61000-4-2 level 4 8kV/15kV
- Radio frequency radiation immunity IEC/EN 61000-4-3

9. Marking, packaging, transportation, storage

9.1 Marking

9.1.1 Product marking

The product's unique bar code mark is attached to the appropriate location of the product to ensure trace ability of the date of manufacture, product batch, etc. of each product. Its content meets the requirements of national standards and industry standards.

9.1.2 Packing marking

Product box marked with the name of the manufacturer, site, zip code, product model, factory year, month, day; Marked with "up", "moisture-proof" and "carefree" and other transport signs, all signs are in line with the provisions of GB 191.

9.2 Packaging

Products using special plastic boxes separated packaging, with anti-vibration function, and in line with the provisions of GB 3873.

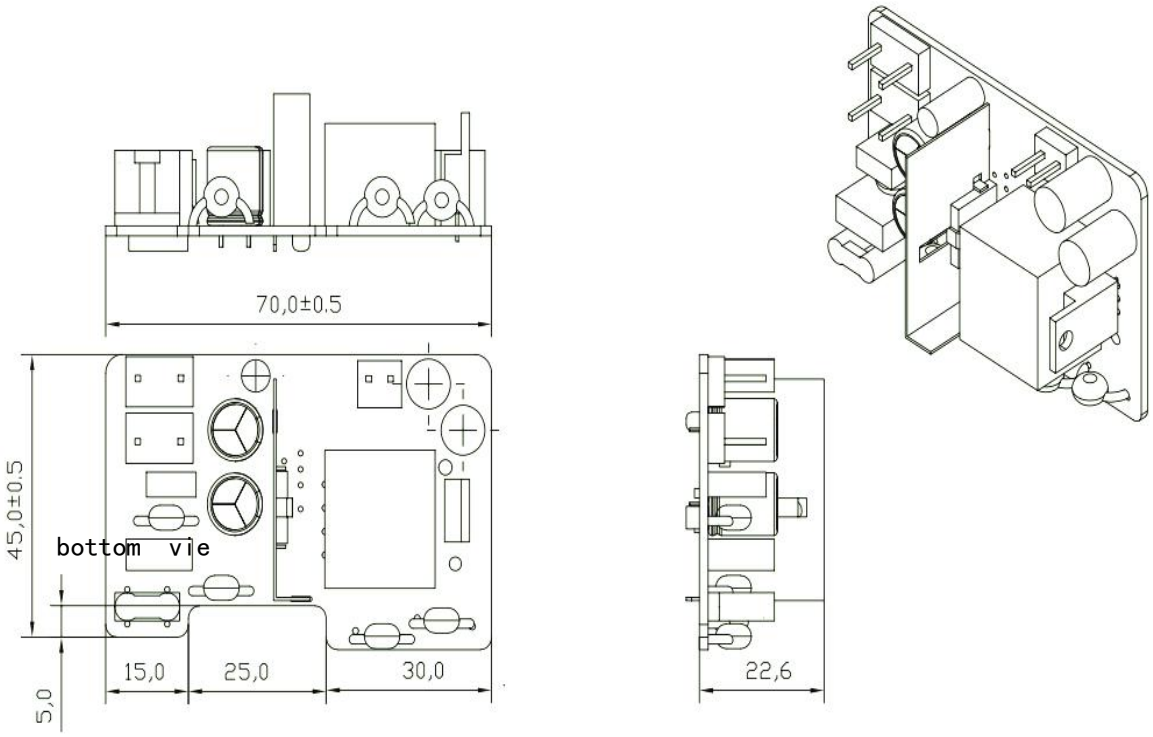
9.3 Transportation

Packaged products can be transported by any means of transportation, should be awning in transit, there should be no violent vibration, impact, etc.

9.4 Storage

Product storage must meet the requirements of GB3873.

10. Dimensions and weight



Dimensional error:

1. Length, width, height, and pin spacing error ± 1mm
2. Pin length error ± 1mm
3. Pin diameter error -0.2mm

Unit: Millimeters