



# **AM11-12W05C Product Specification Manual**

**12W low power AC-DC step-down power supply module**



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# 1.Product introduction

## 1.1. Brief introduction

AM11-12W05C is an ultra-small switching power supply module, AC and DC dual purpose, input voltage 85~264Vac/100~370Vdc, ultra-low ripple, ultra-low power consumption, high efficiency, safe isolation, high reliability and other advantages; This series of products have a wide range of applications in many fields such as consumer electronics, industrial control equipment, instrumentation and smart home. Users do not need to consider the stability, even in the extremely complex voltage environment, the output can be stabilized



## 1.2. Product features

- Ultra-low ripple: full load ripple is less than 100mV;
- Ultra-small size: 38x26x23mm.
- Input voltage: universal voltage 85 ~ 264Vac/100~370Vdc;
- Protection measures: over voltage protection, over current protection, short circuit protection, over temperature protection;
- High-quality solution: greatly improve its work efficiency, with a maximum efficiency of 86.2%;
- AM11 series is aimed at economical ultra-low cost;

## 1.3. Application scenarios

- Car charging pile;
- Security alarm;
- Smart home;
- Industry, electric power, instrumentation;
- Single-chip microcomputer main board (MCU);
- Smart street lights, energy-saving lamps;
- Smart switch, socket;
- RF communication equipment;

## 2.Specification parameters

### 2.1. Limit parameters

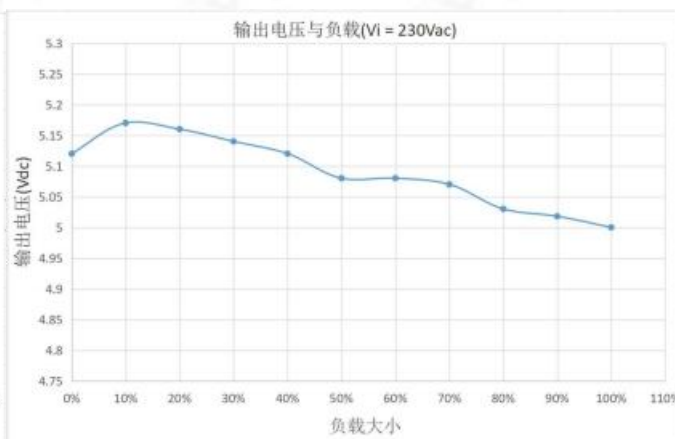
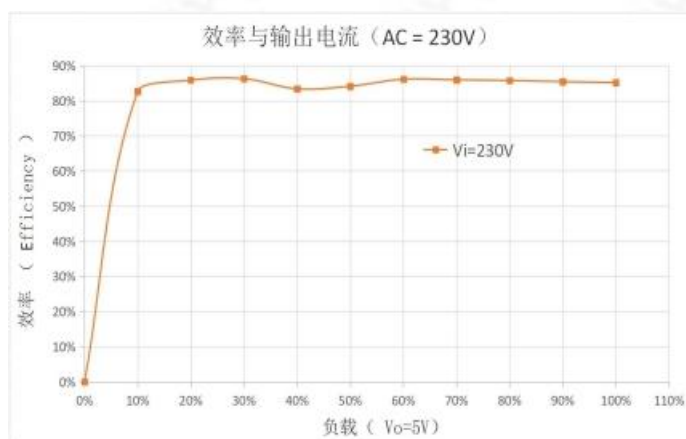
Serial number	Main parameter	Minimum	Maximum	Remarks
1	Input voltage (Vac)	85	264	Vac
2	Input power (W)	100	370	Vdc
3	Output power (W)	0	12	W
4	Working temperature (°C)	-40	+85	ta=40°C,tc=85°C

### 2.2. Work parameters

Serial number	Main parameter	Minimum	Typical value	Maximum	Remarks
1	Input voltage(Vac)	100	220	250	Vac
	Input voltage(Vdc)	120		350	Vdc
2	working frequency (Hz)	-	50/60	-	Hz
3	output power(W)	0	-	12	W
4	Output accuracy (±%)		±5		%
5	working temperature (°C)	-40	+25	85	ta=40°C,tc=85°C
6	Power Factor	0.4	-	0.55	>0.55 at 120Vac / >0.4 at 230Vac with full load
7	Static Power Consumption (mA)	-	-	1.0	<=1 mA / 240Vac
8	Output voltage(Vdc)	4.75	5.1	5.25	V

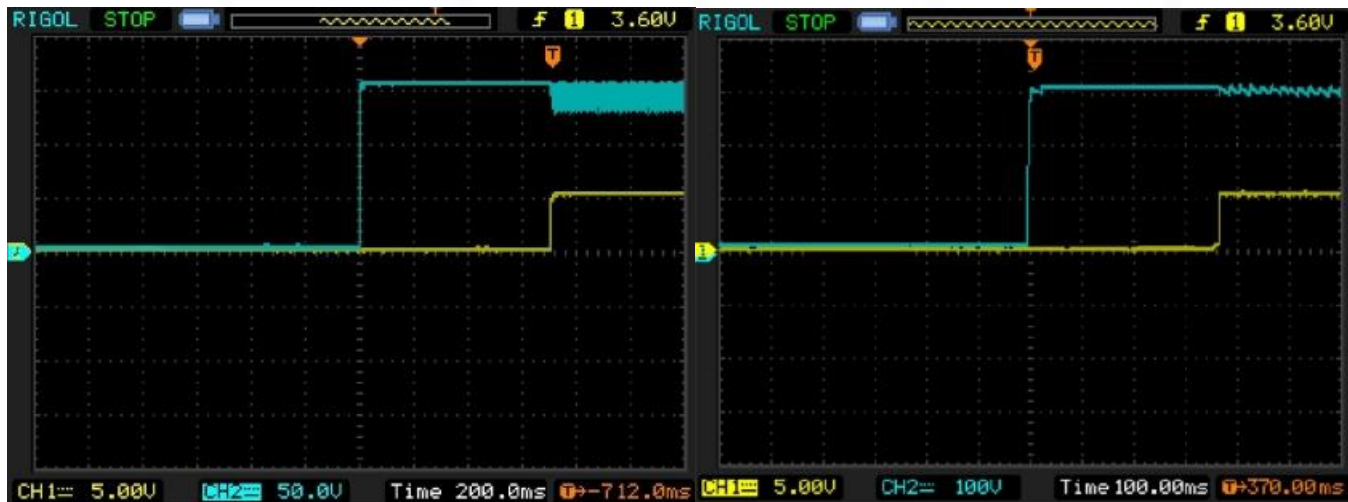
9	Persist current(A)	0	-	2.4	A
10	ripple noise(mV)	27	-	50	Full load $\leq$ 120mV
11	Maximum efficiency (n%)	-	-	85.6	%
12	Over current protection(%)	2.43	2.48	2.55	A Constant current limit, automatic recovery
13	Short circuit protection	-	-	-	Hiccup mode, automatic recovery after the fault state is eliminated
14	Working humidity (RH%)	20	-	90	No-condensing
15	Storage temperature (°C)	-40	+25	+85	Dry storage at normal temperature
16	Storage humidity (RH%)	10	-	90	Dry storage at normal temperature
17	Withstand voltage	-	-	3000	I/P - O/P: 3000VAC
18	Insulation resistance	-	-	100	I/P - O/P: 100M ohms / 500VDC at 25 °C

## 2.3. Work efficiency VS load



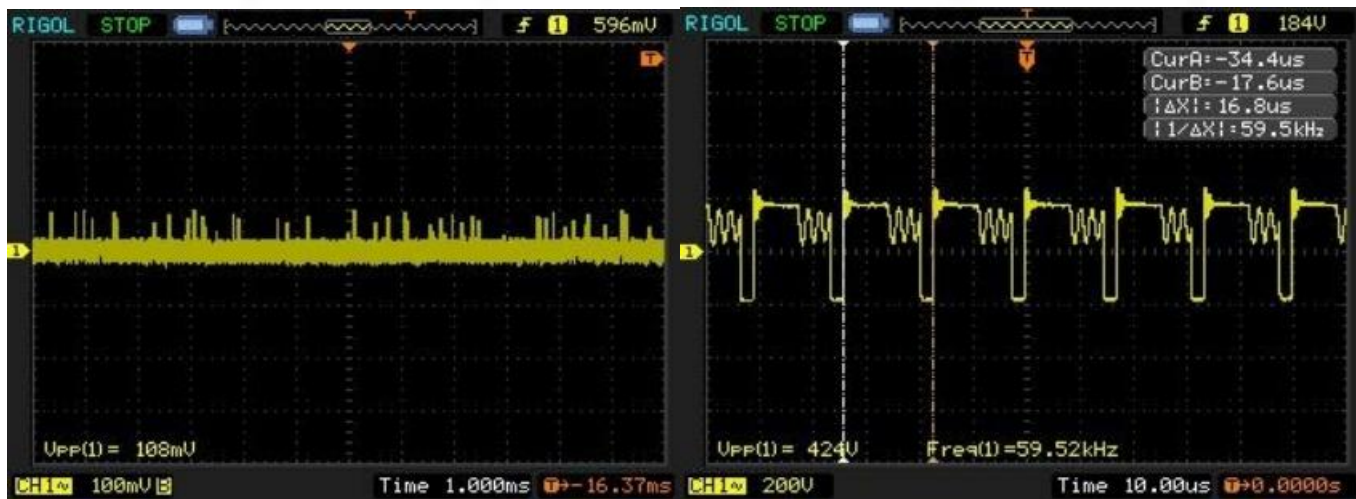


## 2.4. Boot time



## 2.5. Full load working ripple and working frequency

7mm



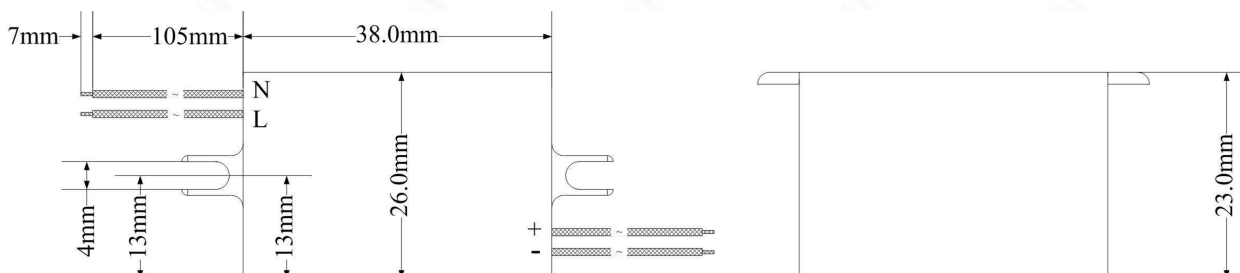
## 3.Basic operation

### 3.1. Notices for using models

- Operating this module requires certain professional skills, rigorous non-professional life to operate and disassemble it!
- Be sure to study the knowledge of safe use carefully before use.
- Strict human contact with the L and N power lines after power-on to prevent accidents due to electric shock, it is recommended to increase isolation at the input front end.
- The maximum input voltage must not exceed 250Vac, otherwise it may cause permanent damage to the module.
- During daily maintenance, the input power should be disconnected to prevent accidents caused by electric shock.

## 4.Mechanical characteristics and pin definition

### 4.1. Product size



### 4.2. Pin definition

Serial number	Pin name	direction	use
1	L	input	AC power input
2	N	input	AC power input
3	0V	output	DC output, power ground
4	+5V	output	DC output, power supply is positive



## 5.Product selection

SKU	Input voltage	Output voltage	Output accuracy	Output current	Conversion efficiency	Installation method
AM11-5W05C	100 ~ 250Vac	5Vdc	±5%	1A	72.5%	Screw fixation
AM11-5W12C	100 ~ 250Vac	12Vdc	±5%	0.416A	78%	Screw fixation
AM11-12W05C	100 ~ 250Vac	5Vdc	±5%	2.4A	86.27%	Screw fixation
AM11-12W12C	100 ~ 250Vac	12Vdc	±5%	1.0A	87.3%	Screw fixation

## Revision history

Serial number	vision	modification date	Revision notes	Maintain person
1	V1.0	20210331	First edition, first public release	Long Jun

## About us

Technical support: [support@cdebyte.com](mailto:support@cdebyte.com)

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Thank you for using Ebyte products! Please contact us with any questions or suggestions: [info@cdebyte.com](mailto:info@cdebyte.com)

Phone: +86 028-61399028

Web: [www.ebyte.com](http://www.ebyte.com)

Address: B5 Mould Park, 199# Xiqu Ave, High-tech District, Sichuan, China