



# AM11-12W12C Product Specification

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



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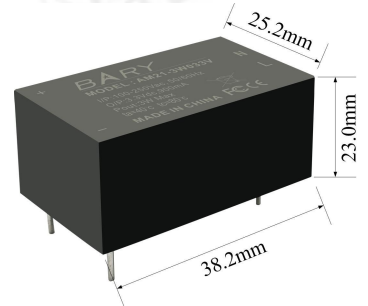
# I Product description

## 1.1. Introduction

AM11-12W12C 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, etc.; this series of products are used in consumer electronics, industrial control equipment.

There are a wide range of applications in many fields such as instrumentation and smart home. Users do not need to consider stability. It can stabilize the output even in the extremely complicated voltage environment.



## 1.2. Product Features

- Ultra-low ripple: full load ripple is less than 150mV;
- Ultra-small size: 38x26x23mm;
- Input voltage: global 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 an average efficiency of 87.3%;
- 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.

## II Specifications

### 2.1. Limit Parameters

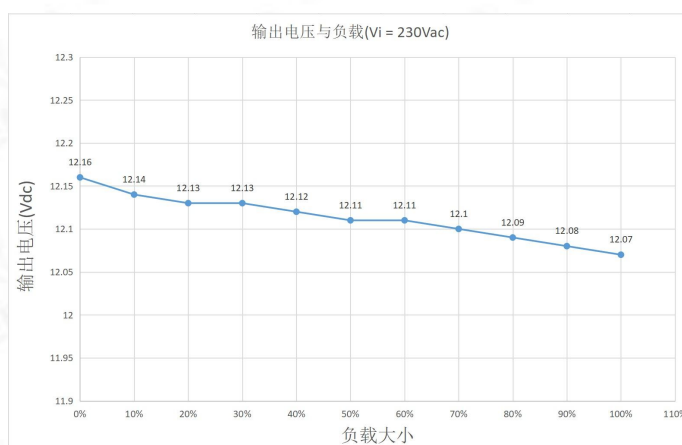
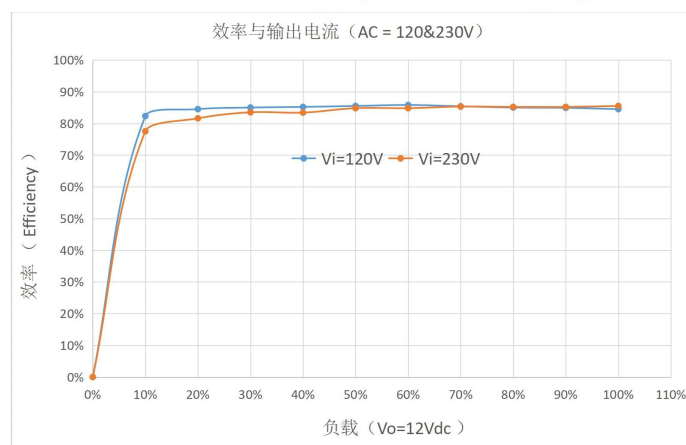
Number	Main parameters	Minimum	Maximum	Remark
1	Input voltage (Vac)	85	264	Vac
2	Input voltage (Vdc)	100	370	Vdc
3	Output power (W)	0	12	W
4	Working temperature (°C)	-40	+85	ta=40°C, tc=85°C

### 2.2. Working Parameters

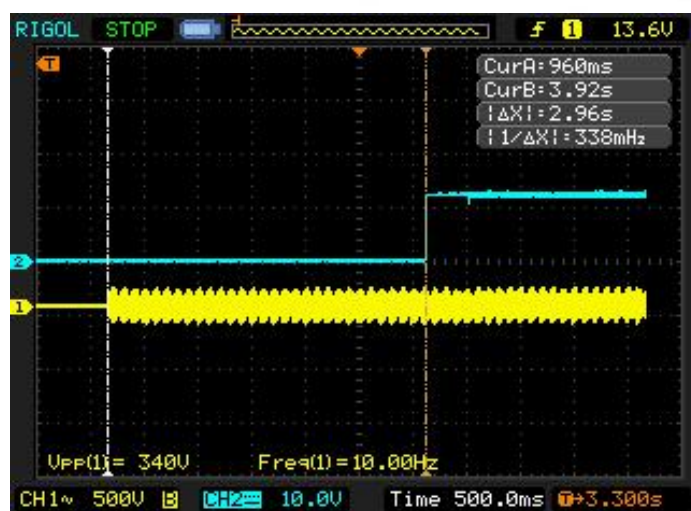
Number	Main parameters	Minimum	Typical value	Maximum	Remark
1	Input voltage (Vac)	100	220	250	Vac
2	Input voltage (Vdc)	120	-	350V	Vdc
3	Working frequency (Hz)	-	50/60	-	AC/50/60Hz
4	Output power (W)	0	-	12	W
5	Output accuracy ( $\pm$ %)	-	$\pm 5$	-	%
6	Working temperature (°C)	-40	+25	85	ta=40°C, tc=85°C
7	Power Factor	0.4	-	0.55	>0.55 at 120Vac / >0.4 at 230Vac with full load
8	Static power consumption (mA)	-	-	1.0	$\leq 1$ mA / 240Vac
9	Output voltage (Vdc)	11.75	12.1	12.25	V
10	Continuous current (A)	0	-	1	A
11	Ripple noise (mV)	30	-	100	full load $\leq 150$ mV
12	Maximum efficiency (n%)	-	-	87.3	%
13	Overcurrent protection (%)	110	-	150	Constant current limit, automatic recovery
14	Short circuit protection	-	-	-	Hiccup mode, automatic recovery after the fault state is eliminated
15	Working humidity (RH%)	20	-	90	No condensation
16	Storage temperature (°C)	-40	+25	+85	Dry and store at room temperature

17	Storage humidity (RH%)	10	-	90	常温干燥存放
18	Withstand voltage	-	-	3000	I/P - O/P: 3000 VAC
19	Insulation resistance	-	-	100	I/P - O/P: 100M ohms / 500VDC at 25 °C

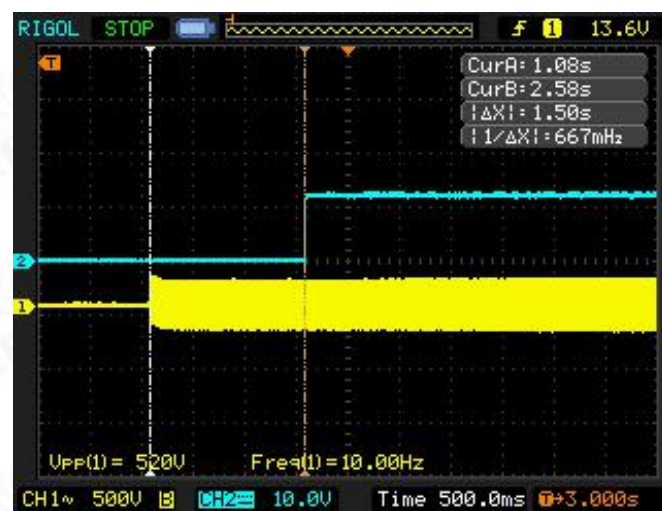
## 2.3. Work Efficiency and Load



## 2.4. Boot Time

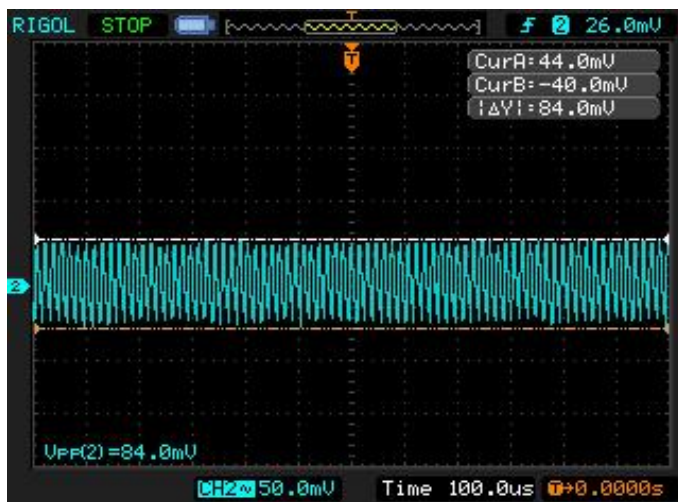


INPUT:AC 120V OUTPUT:12V 1A

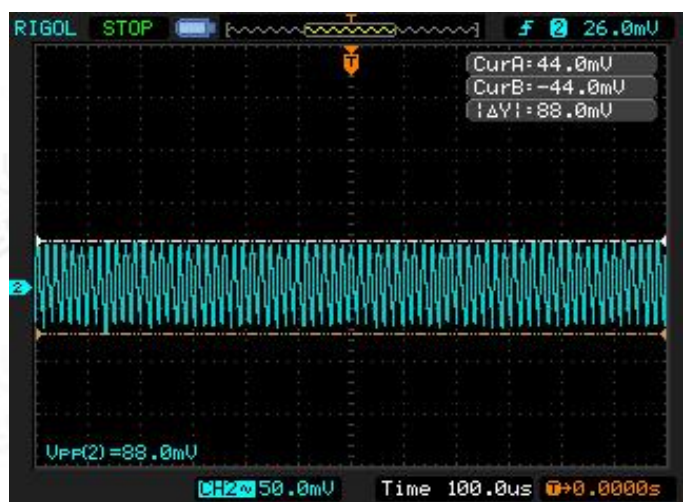


INPUT:AC 230V OUTPUT:12V 1A

## 2.5. Full Load Working Ripple

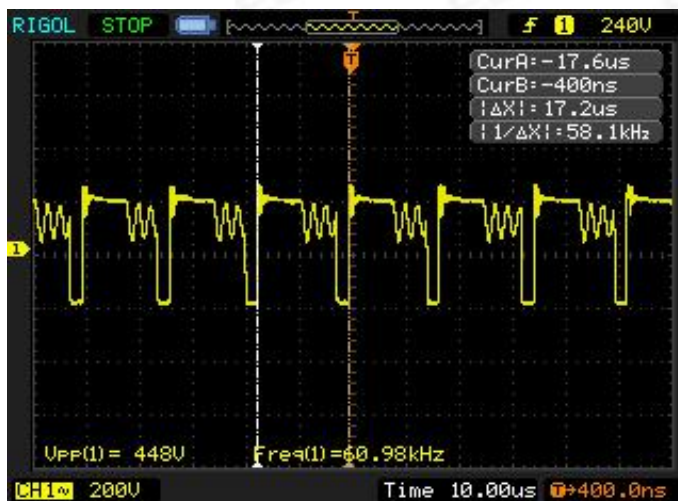


INPUT:AC 120V OUTPUT:12V 1A

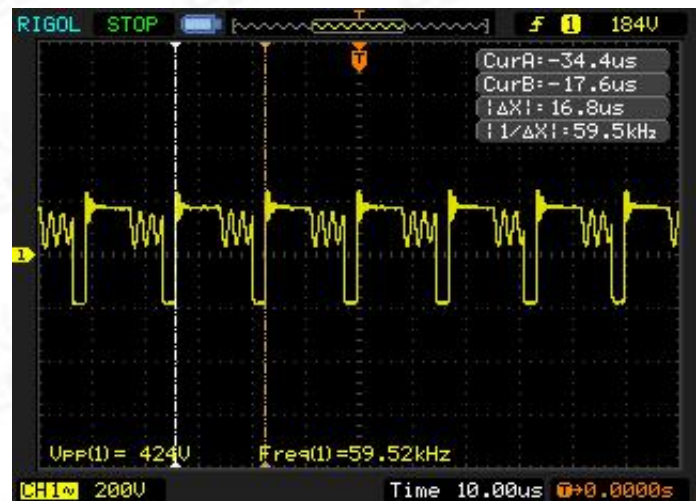


INPUT:AC 230V OUTPUT:12V 1A

## 2.6. Working Frequency



INPUT:AC 120V OUTPUT:12V 1A



INPUT:AC 230V OUTPUT:12V 1A

# III Basic Operation

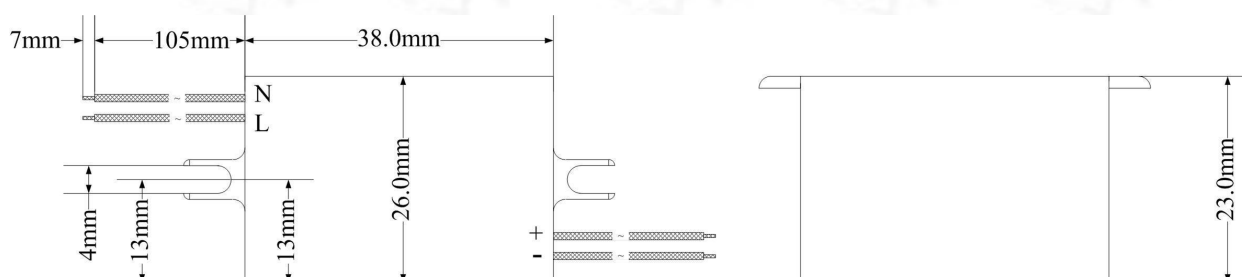
## 3.1. Matters needing attention

- Operating this module requires certain professional skills, and it is strictly forbidden to operate and disassemble it by non-professionals!
- Be sure to study the knowledge of safe use carefully before use.
- It is strictly forbidden to touch the L and N power lines after power-on to prevent accidents caused by electric shock. It is recommended to increase the 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.

## IV Mechanical Characteristics and Pin Definition

### 4.1. Product Size



## V Product Selection

Product Model	Input Voltage	The 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



## Revise History

Number	Version	Revise date	Revision description	Maintainer
1	V1.0	20210331	First edition, first published	Deng



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