AM21-12W12V Product Specification Manual

12W Low-power AC-DC Buck Power Supply Module



成都亿佰特电子科技有限公司

Chengdu Ebyte Electronic Technology Co.,Ltd.

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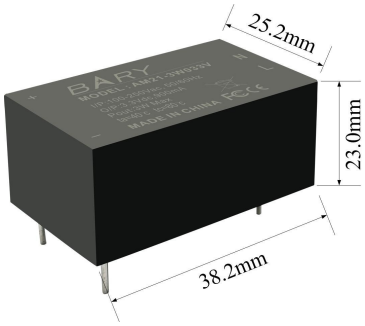
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1.Product introduction

1.1. Brief introduction

AM21-12W12V is a ultra-small volume switching power supply,AC/DC dual use, Input voltage 85~264Vac/100~370Vdc,super low ripple,ultra-low consuming, safe isolation, high reliability; meets IEC60950, EN60950, UL60950 certification standard, needn't add EMI related components at peripherals, which greatly reduces the user design threshold;users do not need to worry about stability, when in complex voltage environment,it also output steadily.



1.2. Module features

- Super-low ripple: Full load ripple< 100mV；
- Input voltage: Global universal voltage85 ~ 264Vac/100~370Vdc；
- Certification standard: Meets IEC60950, EN60950, UL60950 certification standard，needn't add EMI related components at peripherals；
- protective measures: Over-voltage protection, over-current protection, short circuit protection, over-temperature protection;
- High-quality plan: Greatly improved it's work efficiency, average efficiency is 85%;

1.3. Application scenarios

- Vehicle charging pile ;
- Security alarm ;
- Intelligent home ;
- Industry, electricity, instruments ;
- MCU motherboard（MCU）;
- Intelligent street lamps, energy-saving lamps ;
- Intelligent switch, socket ;
- RF communication equipment ;

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2.specification parameters

2.1. Limit parameters

Order number	Main parameter	Minimum	Maximum	Remarks
1	Input voltage（Vdc）	85	264	Vac
2	Input voltage（Vdc）	100	370	Vdc
3	output power (W）	0	12	W
4	working temperature（℃）	-40	+85	ta=40℃, tc=85℃

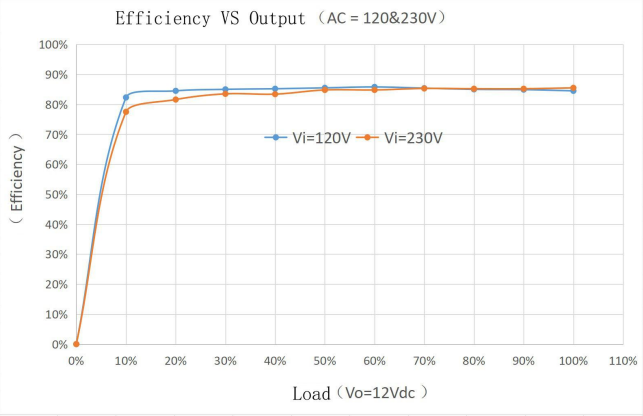
2.2. Work parameters

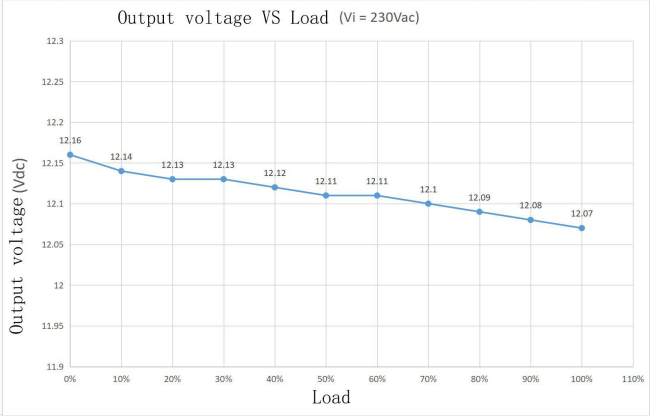
Order number	Main parameter	minimum	Typical value	Maximum	Remarks
1	Input voltage（Vdc）	100	220	250	Vac
2	Input voltage（Vdc）	120	-	350V	Vdc
3	working frequency(Hz)	-	50/60	-	AC/50/60Hz
4	output power(W)	0	-	12	W
5	working temperature (℃)	-40	+25	85	ta=40℃, tc=85℃
6	Power factors	0.4	-	0.55	>0.55 at 120Vac / >0.4 at 230Vac with full load.
7	Static power consumption (mA)	-	-	1.0	< =1 mA / 240Vac
8	output voltage(Vdc)	12.0	12.1	12.16	V

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9	Persistent current(A)	0	-	1	A
10	ripple noise (mV)	30	-	100	Full load<=100mV
11	Average efficiency (n%)	-	-	85	%
12	Over current protection (%)	110	-	150	Constant current limit, automatic recovery.
13	Short-circuit protection	-	-	-	Hiccup mode,can be automatic Recover after eliminating the fault state.
14	Work humidity (RH%)	20	-	90	No-condensing.
15	Storage temperature (℃)	-40	+25	+85	Dry storage in normal temperature.
16	Storage humidity (RH%)	10	-	90	Dry storage in normal temperature.
17	withstand voltage test	-	-	3000	I/P - O/P: 3000 VAC
18	Insulation impedance	-	-	100	I/P - O/P: 100M ohms / 500VDC at 25 ℃

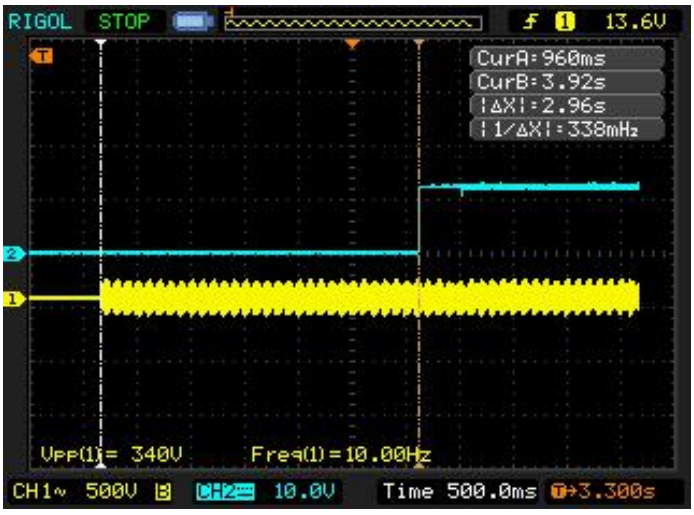
2.3. Work efficiency VS load



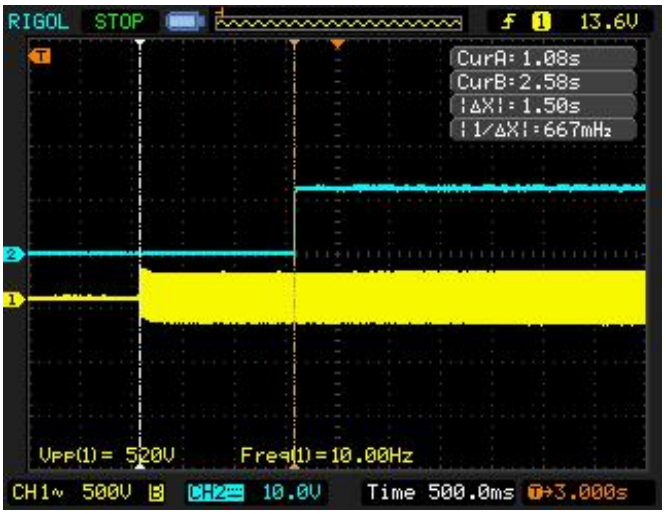


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2.4. Start-up time

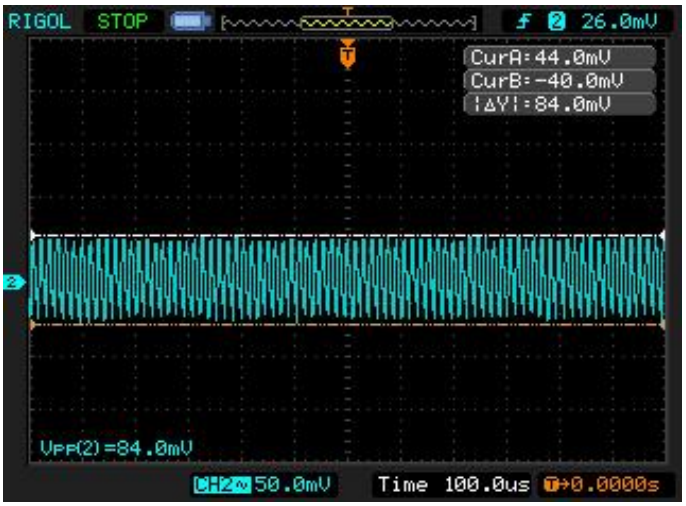


INPUT:AC 120V OUTPUT:12V 1A

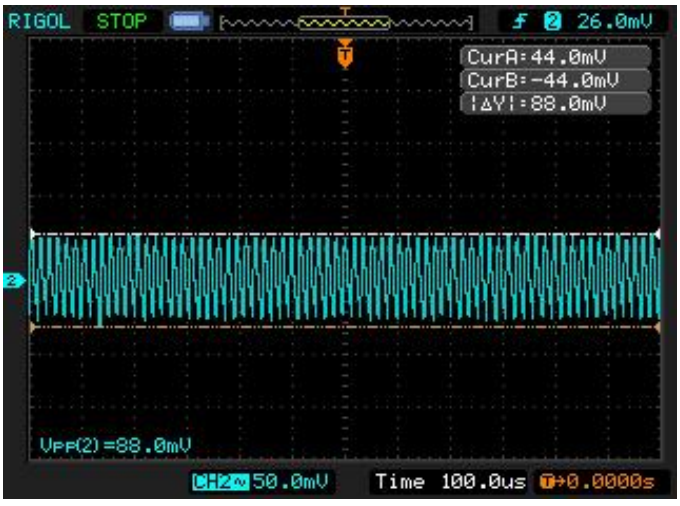


INPUT:AC 230V OUTPUT:12V 1A

2.5. Full-load ripple



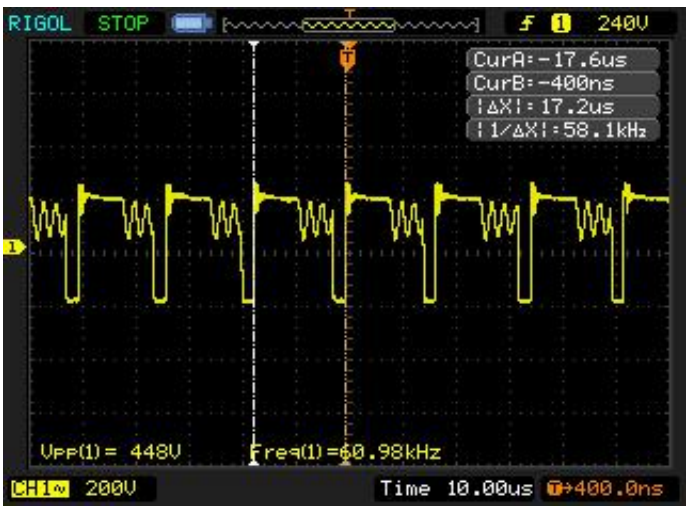
INPUT:AC 120V OUTPUT:12V 1A



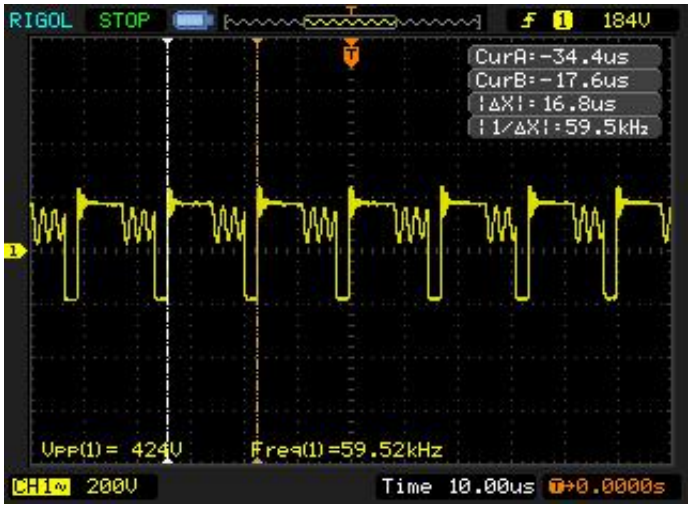
INPUT:AC 230V OUTPUT:12V 1A

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2.6. Working frequency



INPUT:AC 120V OUTPUT:12V 1A



INPUT:AC 230V OUTPUT:12V 1A

3.basic operation

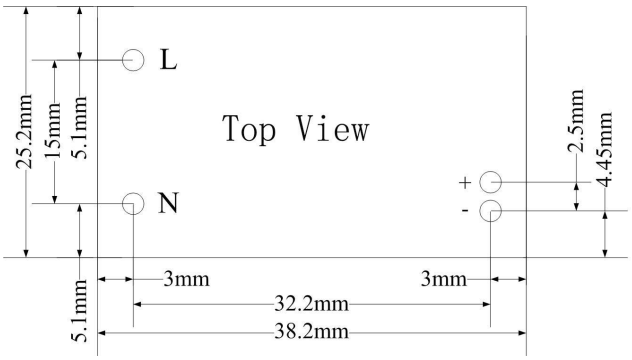
3.1. Matters need attentions

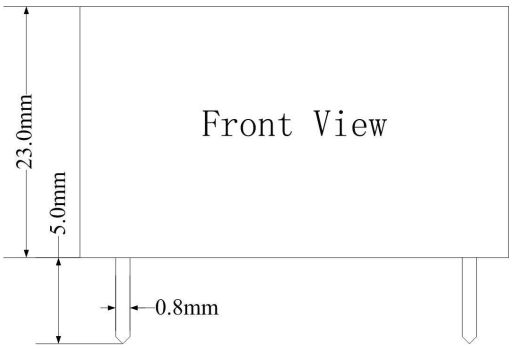
- Operating this module requires certain professional skills, prohibit non-professionals operate on it!
- Before using it, you must study knowledge of safe use carefully.
- Prohibit human body contact with L and N power lines after electrification to prevent accidents caused by electric shock. Recommend input front-end to Increase isolation
- The maximum input voltage shall not exceed 250 Vac, otherwise may occur permanent damage .
- In daily maintenance, the input power should be disconnected to prevent electric shock accidents.

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4.Mechanical Characteristics and Pin Definition

4.1. Product size





5.Product selection

Product model	Input voltage	Output voltage	Output current	Efficiency	Installation mode
AM01-250050024D	100 ~ 250Vac	5Vdc	2.4A	82%	Plastic packaged plug-ins
AM21-12W12V	100 ~ 250Vac	12Vdc	1A	85%	Plastic packaged plug-ins
AM01-250240005D	100 ~ 250Vac	24Vdc	0.5A	87%	Plastic packaged plug-ins

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Revision history

Order number	Vision	Modification date	Revision notes	Maintain person
1	V1.0	20190301	First edition, first public release.	Deng
2	V2.0	20190610	Modified some parameters.	Deng
3	V2.1	20190801	Modified some parameters.	Deng

About us

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